SAR TEST REPORT

Test Report No. : 10517786S-A

Applicant	:	**Toshiba Corporation**
Type of Equipment	:	**WLAN and BT Module installed on Toshiba Computer PT15A series**
Model No.	:	**7265NGW**
FCC ID	:	**CJ6UPA5193WB**
Test regulation	:	**FCC47CFR 2.1093**
Test Result	:	**Complied**
Reported SAR(1g) Value		**The highest reported SAR(1g)**
		WLAN 11b/g/n Body : 1.18W/kg
		WLAN 11a/n/ac Body : 1.17W/kg

The highest reported SAR(1g) Value for the device is 1.18 W/kg.
Simultaneous transmission test was excluded.
The highest sum of SAR(1g) for the simultaneous transmitting antennas Value for the device is 1.427 W/kg.
SAR to peak location separation ratio ≤ 0.04.

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Date of test: October 16 to 24, 2014

Representative test engineer:

Shuichi Ohyama
Engineer
Consumer Technology Division

Approved by :

Takahiro Hatakeda
Leader
Consumer Technology Division

NVLAP LAB CODE: 200572-0

This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation.
*As for the range of Accreditation in NVLAP, you may refer to the WEB address, http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap

REVISION HISTORY

Original Test Report No.: 10517786S-A

Revision	Test report No.	Date	Page revised	Contents
- (Original)	10517786S-A	October 31, 2014	-	-

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SECTION 1: Customer information

Company Name	:	Toshiba Corporation
Address	:	2-9, Suehiro-cho, Ome-shi Tokyo 198-8710 Japan
Telephone Number	:	+81-428-34-1051
Facsimile Number	:	+81-428-30-7346
Contact Person	:	Toru Kawasaki

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment	:	WLAN and BT Module installed on Toshiba Computer PT15A series
Model No.	:	7265NGW
Serial No.	:	Installed on PT15A series of Serial No: 9E037647H (used for Antenna typeA) 9E036575H (used for Antenna typeB)
Receipt Date of Sample	:	October 8, 2014
Country of Mass-production	:	China
Condition of EUT	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No Modification by the test lab

2.2 Product Description

Model: 7265NGW (referred to as the EUT in this report) is WLAN and BT Module installed on Toshiba Computer PT15A series.

General Specification

<EUT>

Feature of EUT	:	WLAN and BT Module installed on Toshiba Computer PT15A series.

<Host device>

Feature of Host device	:	12.5 inch display's 2-in-1 Convertible PC
Clock frequency(ies) in the system	:	SATA 3GHz (max)
Rating	:	Li-ion battery DC 11.4V 36Wh/3060mAh
Option battery	:	None
Body-worn Accessories	:	None

Radio Specification

Q'ty of Antenna	**2 pcs (Antenna #1 and Antenna #2)**				
Type of Antenna	**Antenna typeA (P/N: 48.EL41J.SGA(Antenna1) and 48.EL41K.SGA(Antenna2) made by WNC)** **Antenna typeB (P/N: D-APP5P-GFC200(Antenna1) and D-APP5P-GFC201 (Antenna2) made by ACON)**				
Mode	**IEEE802.11b**	**IEEE802.11g**	**IEEE802.11a**	**IEEE802.11n**	**IEEE802.11ac**
Frequency of operation	2412-2462MHz		5180-5320MHz (5GHz-L) 5500-5700MHz (5GHz-M) 5745-5825MHz (5GHz-H)	2412-2462MHz (20Mband) 2422-2452MHz (40Mband) 5180-5320MHz (20Mband: 5GHz-L) 5500-5700MHz (20Mband: 5GHz-M) 5745-5825MHz (20Mband: 5GHz-H) 5190-5310MHz (40Mband: 5GHz-L) 5510-5670MHz (40Mband: 5GHz-M) 5755-5795MHz (40Mband: 5GHz-H)	5180-5320MHz (20Mband: 5GHz-L) 5500-5720MHz (20Mband: 5GHz-M) 5745-5825MHz (20Mband: 5GHz-H) 5190-5310MHz (40Mband: 5GHz-L) 5510-5710MHz (40Mband: 5GHz-M) 5755-5795MHz (40Mband: 5GHz-H) 5210, 5290MHz (80MBand: 5GHz-L) 5530, 5610, 5690MHz (80M Band: 5GHz-M) 5775MHz (80M Band; 5GHz-H)
Clock frequencies in the system (radio part)	Controller clock 40MHz, Baseband clock 22MHz				Controller clock 40MHz, Baseband clock 20MHz
Type of modulation	(DSSS) DBPSK, DQPSK, CCK, BPSK	(OFDM) 64QAM, 16QAM, QPSK			(OFDM) 256QAM, 64QAM, 16QAM, QPSK
Bandwidth & Channel spacing	20MHz, 5MHz/CH		20MHz, 20MHz/CH	**2.4GHz** [20MHz, 5MHz/CH] or [40MHz, 5MHz/CH] **5GHz** [20MHz, 20MHz/CH] or [40MHz, 40MHz/CH] (FAT)	[20MHz, 20MHz/CH] or [40MHz, 40MHz/CH] or [80MHz, 80MHz/CH]
Antenna type	PIFA				
Antenna Connector type	W-FL connector				
Antenna Gain	-1.36dBi max: 2.4-2.5GHz (Antenna typeA #1) / 1.41dBi max: 2.4-2.5GHz (Antenna typeA #2) 2.33dBi max: 5.15-5.35GHz (Antenna typeA #1) / -0.91dBi max: 5.15-5.35GHz (Antenna typeA #2) 2.35dBi max: 5.47-5.725GHz (Antenna typeA #1) / -0.04dBi max: 5.47-5.725GHz (Antenna typeA #2) 1.84dBi max: 5.725-5.875GHz (Antenna typeA #1) / -0.20dBi max: 5.725-5.875GHz (Antenna typeA #2) 2.19dBi max: 2.4-2.5GHz (Antenna typeB #1) / 1.09dBi max: 2.4-2.5GHz (Antenna typeB #2) 0.70dBi max: 5.15-5.35GHz (Antenna typeB #1) / 0.84dBi max: 5.15-5.35GHz (Antenna typeB #2) 1.91dBi max: 5.47-5.725GHz (Antenna typeB #1) / -0.14dBi max: 5.47-5.725GHz (Antenna typeB #2) 0.89dBi max: 5.725-5.875GHz (Antenna typeB #1) / -1.58dBi max: 5.725-5.875GHz (Antenna typeB #2)				
Power Supply	DC3.3V				

	Bluetooth
Frequency of operation	2402-2480MHz
Clock frequencies in the system (radio part)	Baseband clock 26MHz
Type of modulation	GFSK: π/4 – DQPSK, 8DPSK: Bluetooth v4.0
Bandwidth & Channel spacing	79MHz, 1MHz/CH [BT] 79MHz, 2MHz/CH [LE]
Antenna type	PIFA
Antenna Connector type	W-FL connector
Antenna Gain	1.41dBi max (Antenna typeA) 1.09dBi max (Antenna typeB)
Power Supply	DC3.3V

SECTION 3 : Test standard information

3.1 Test Specification

Title : **FCC47CFR 2.1093**
Radiofrequency radiation exposure evaluation: portable devices.
: **IEEE Std 1528-2003:**
IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices.

: Published RF exposure KDB procedures

☑	**KDB447498D01(v05r02)**	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
☐	**KDB447498D02(v02)**	SAR Measurement Procedures for USB Dongle Transmitters
☐	**KDB648474D04(v01r02)**	SAR Evaluation Considerations for Wireless Handsets
☐	**KDB941225D01(v02)**	SAR Measurement Procedures for 3G Devices
☐	**KDB941225D02(v02r02)**	3GPP R6 HSPA and R7 HSPA+ SAR Guidance
☐	**KDB941225D03(v01)**	Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE
☐	**KDB941225D04(v01)**	Evaluating SAR for GSM/IGPRS Dual Transfer Mode
☐	**KDB941225D05(v02r03)**	SAR for LTE Devices
☐	**KDB941225D06(v01r01)**	SAR test procedures for devices incorporating SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities (Hot Spot SAR)
☐	**KDB941225D07(v01r01)**	SAR Evaluation Procedures for UMPC Mini-Tablet Devices
☑	**KDB616217D04(v01r01)**	SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers
☑	**KDB865664D01(v01r03)**	SAR Measurement Requirements for 100MHz to 6 GHz
☑	**KDB248227D01(v01r02)**	SAR Measurement Procedures for 802.11a//b/g Transmitters

Reference
[1]SPEAG uncertainty document (AN 15-7/AN19-17) for DASY 5 System from SPEAG (Schmid & Partner Engineering AG).
[2] IEEE Std 1528-2013: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
(The reference for Uncertainty in SAR correction for deviations in permittivity and conductivity, in clause E.3.2.)

3.2 Procedure

Transmitter	**WLAN**
Test Procedure	Published RF exposure KDB procedures
	SAR
Category	FCC47CFR 2.1093
Note: UL Japan, Inc. 's SAR Work Procedures 13-EM-W0429 and 13-EM-W0430	

3.3 Exposure limit

(A) Limits for Occupational/Controlled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.4	8.0	20.0

(B) Limits for General population/Uncontrolled Exposure (W/kg)

Spatial Average (averaged over the whole body	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.08	1.6	4.0

Occupational/Controlled Environments: are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments: are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

NOTE:GENERAL POPULATION/UNCONTROLLED EXPOSURE
SPATIAL PEAK(averaged over any 1g of tissue) LIMIT
1.6 W/kg

3.4 Test Location

*Shielded room for SAR testings
UL Japan, Inc. Ise EMC Lab. *NVLAP Lab. Code: 200572-0
4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN
Telephone : +81 596 24 8999 Facsimile : +81 596 24 8124

SECTION 4 : Test result

4.1 Stand-alone SAR result

Reported SAR

Measured SAR is scaled to the maximum tune-up tolerance limit by the following formulas.

Reported SAR= Maximum tune-up tolerance limit [mW] / Measured power [mW] · Measured SAR [W/kg]

Maximum tune-up tolerance limit is by the specification from a customer.

Mode	Frequency	Measured power [mW]*1	Maximum tune-up tolerance limit [mW]	Measured SAR [W/kg]	Reported SAR [W/kg]
WLAN 11b	2437MHz	27.86	31.62	1.04	1.18
WLAN 11a	5520MHz	20.80	22.39	1.09	1.17

Note

*1 The sample used by the SAR test is within the tune-up tolerance but not more than 2 dB lower than the maximum tune-up tolerance limit. That is, measured power is included the tune-up tolerance range.

WLAN Maximum tune-up tolerance limit

Mode	Maximum tune-up tolerance limit [dBm]	Maximum tune-up tolerance limit [mW]
WLAN 11b	15	31.62
WLAN 11g	15	31.62
WLAN 11n (2.4G)	15	31.62
WLAN 11a	13.5	22.39
WLAN 11n (5G)	13.5	22.39
WLAN 11ac	13.5	22.39
Bluetooth	7.78	6.00

SECTION 5 : Description of the operating mode

5.1 Output power operating modes

Mode	Frequency Band	Test Frequency	Modulation
IEEE802.11b	2412-2462MHz	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	DSSS (DBPSK.DQPSK.CCK)
IEEE802.11g IEEE802.11n20 (2.4G)	2412-2462MHz	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	OFDM (BPSK.QPSK.16QAM, 64QAM,256QAM)
IEEE802.11n40 (2.4G)	2422-2452MHz	2422MHz (3ch) 2437MHz(6ch) 2452MHz(9ch)	
IEEE802.11a IEEE802.11n20 (5G) IEEE802.11ac20	5180-5240MHz	5180MHz (36ch) 5200MHz (40ch) 5220MHz (44ch) 5240MHz (48ch)	
	5260-5320MHz	5260MHz (52ch) 5280MHz (56ch) 5300MHz (60ch) 5320MHz (64ch)	
	5500-5700MHz	5500MHz (100ch) 5520MHz (104ch) 5540MHz (108ch) 5560MHz (112ch) 5580MHz (116ch) 5600MHz (120ch) 5620MHz (124ch) 5640MHz (128ch) 5660MHz (132ch) 5680MHz (136ch) 5700MHz (140ch) 5720MHz (144ch)	
	5745-5825MHz	5745MHz (149ch) 5765MHz (153ch) 5785MHz (157ch) 5805MHz (161ch) 5825MHz (165ch)	
IEEE802.11n40 (5G) IEEE802.11ac40	5180-5240MHz	5190MHz (38ch) 5230MHz (46ch)	
	5260-5320MHz	5270MHz (54ch) 5310MHz (62ch)	
	5500-5700MHz	5510MHz (102ch) 5550MHz (110ch) 5590MHz (118ch) 5630MHz (126ch) 5670MHz (134ch) 5710MHz (142ch)	
	5745-5825MHz	5755MHz (151ch) 5795MHz (159ch)	

Mode	Frequency Band	Test Frequency	Modulation
IEEE802.11ac80	5180-5240MHz	5210MHz (42ch)	OFDM (BPSK.QPSK.16QAM, 64QAM,256QAM)
	5260-5320MHz	5290MHz (58ch)	
	5500-5700MHz	5530MHz (106ch) 5610MHz (122ch) 5690MHz (138ch)	
	5745-5825MHz	5775MHz (155ch)	
WLAN			
*Power of the EUT was set by the software as follows; Software / version: DRTU / 1.7.3-955 Power control setting: Refer to Section 5.2 *The above setting is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.			

5.2 Output power measurement results

Output power measurement for WLAN

1) WLAN (11b/g/n (2.4G))

[IEEE802.11b] Rate Check (Antenna 1)

Rate [Mbps]	Freq. [MHz]	Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1.0	2437	2.74	1.74	10.02	14.50	28.18	15.0
2.0	2437	2.65	1.74	10.02	14.41	27.61	15.0
5.5	2437	2.63	1.74	10.02	14.39	27.48	15.0
11.0	2437	2.60	1.74	10.02	14.36	27.29	15.0

:Worst data rate

IEEE802.11b 1Mbps (Antenna 1)

Ch	Frequency [MHz]	Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1	2412	2.37	1.73	10.02	14.12	25.82	15.0
6	2437	2.74	1.74	10.02	14.50	28.18	15.0
11	2462	2.55	1.76	10.02	14.33	27.10	15.0

IEEE802.11b 1Mbps (Antenna 2)

Ch	Frequency [MHz]	Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1	2412	2.62	1.73	10.02	14.37	27.35	15.0
6	2437	2.69	1.74	10.02	14.45	27.86	15.0
11	2462	2.64	1.76	10.02	14.42	27.67	15.0

[IEEE802.11g] Rate Check (Antenna 1)

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
6.0	2437	2.66	1.74	10.02	14.42	27.67	15.0
9.0	2437	2.65	1.74	10.02	14.41	27.61	15.0
12.0	2437	2.65	1.74	10.02	14.41	27.61	15.0
18.0	2437	2.62	1.74	10.02	14.38	27.42	15.0
24.0	2437	2.65	1.74	10.02	14.41	27.61	15.0
36.0	2437	2.53	1.74	10.02	14.29	26.85	15.0
48.0	2437	2.64	1.74	10.02	14.40	27.54	15.0
54.0	2437	2.65	1.74	10.02	14.41	27.61	15.0

:Worst data rate

IEEE802.11g 6Mbps (Antenna 1)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1	2412	2.39	1.73	10.02	14.14	25.94	15.0
6	2437	2.66	1.74	10.02	14.42	27.67	15.0
11	2462	2.50	1.76	10.02	14.28	26.79	15.0

IEEE802.11g 6Mbps (Antenna 2)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1	2412	2.74	1.73	10.02	14.49	28.12	14.5
6	2437	2.79	1.74	10.02	14.55	28.51	14.5
11	2462	2.71	1.76	10.02	14.49	28.12	14.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

[IEEE802.11n-20] Rate Check (Antenna 1)

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
MCS0	2437	2.64	1.74	10.02	14.40	27.54	15.0
MCS1	2437	2.56	1.74	10.02	14.32	27.04	15.0
MCS2	2437	2.60	1.74	10.02	14.36	27.29	15.0
MCS3	2437	2.62	1.74	10.02	14.38	27.42	15.0
MCS4	2437	2.62	1.74	10.02	14.38	27.42	15.0
MCS5	2437	2.63	1.74	10.02	14.39	27.48	15.0
MCS6	2437	2.60	1.74	10.02	14.36	27.29	15.0
MCS7	2437	2.56	1.74	10.02	14.32	27.04	15.0

:Worst data rate

IEEE802.11n-20 MCS0 (Antenna 1)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1	2412	2.44	1.73	10.02	14.19	26.24	15.0
6	2437	2.64	1.74	10.02	14.40	27.54	15.0
11	2462	2.54	1.76	10.02	14.32	27.04	15.0

IEEE802.11n-20 MCS0 (Antenna 2)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
1	2412	2.66	1.73	10.02	14.41	27.61	14.5
6	2437	2.72	1.74	10.02	14.48	28.05	14.5
11	2462	2.68	1.76	10.02	14.46	27.93	14.0

[IEEE802.11n-40] Rate Check (Antenna A)

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
MCS0	2437	2.51	1.74	10.02	14.27	26.73	15.0
MCS1	2437	2.46	1.74	10.02	14.22	26.42	15.0
MCS2	2437	2.48	1.74	10.02	14.24	26.55	15.0
MCS3	2437	2.45	1.74	10.02	14.21	26.36	15.0
MCS4	2437	2.49	1.74	10.02	14.25	26.61	15.0
MCS5	2437	2.47	1.74	10.02	14.23	26.49	15.0
MCS6	2437	2.48	1.74	10.02	14.24	26.55	15.0
MCS7	2437	2.48	1.74	10.02	14.24	26.55	15.0

:Worst data rate

IEEE802.11n-40 MCS0 (Antenna A)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
3	2422	2.34	1.73	10.02	14.09	25.64	15.0
6	2437	2.49	1.74	10.02	14.25	26.61	15.0
9	2452	2.38	1.76	10.02	14.16	26.06	15.0

IEEE802.11n-40 MCS0 (Antenna B)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
3	2422	2.49	1.73	10.02	14.24	26.55	14.5
6	2437	2.57	1.74	10.02	14.33	27.10	14.5
9	2452	2.54	1.76	10.02	14.32	27.04	14.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

2) WLAN (11a/n (5G))

5.2GHz

[IEEE802.11a] Rate Check (Antenna 1)

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
6.0	5200	0.59	2.61	10.05	13.25	21.13	13.5
9.0	5200	0.50	2.61	10.05	13.16	20.70	13.5
12.0	5200	0.57	2.61	10.05	13.23	21.04	13.5
18.0	5200	0.57	2.61	10.05	13.23	21.04	13.5
24.0	5200	0.47	2.61	10.05	13.13	20.56	13.5
36.0	5200	0.53	2.61	10.05	13.19	20.84	13.5
48.0	5200	0.57	2.61	10.05	13.23	21.04	13.5
54.0	5200	0.54	2.61	10.05	13.20	20.89	13.5

:Worst data rate

IEEE802.11a 6Mbps (Antenna 1)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
36	5180	0.52	2.61	10.05	13.18	20.80	13.0
40	5200	0.59	2.61	10.05	13.25	21.13	13.5
44	5220	0.58	2.60	10.05	13.23	21.04	13.5
48	5240	0.56	2.60	10.05	13.21	20.94	13.5

IEEE802.11a 6Mbps (Antenna 2)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
36	5180	0.17	2.61	10.05	12.83	19.19	12.0
40	5200	0.52	2.61	10.05	13.18	20.80	12.5
44	5220	0.37	2.60	10.05	13.02	20.04	13.0
48	5240	0.29	2.60	10.05	12.94	19.68	12.5

[IEEE802.11n-20] Rate Check (Antenna 1)

Rate [Mbps]	Freq. [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
MCS0	5200	0.43	2.61	10.05	13.09	20.37	13.5
MCS1	5200	0.42	2.61	10.05	13.08	20.32	13.5
MCS2	5200	0.42	2.61	10.05	13.08	20.32	13.5
MCS3	5200	0.39	2.61	10.05	13.05	20.18	13.5
MCS4	5200	0.41	2.61	10.05	13.07	20.28	13.5
MCS5	5200	0.42	2.61	10.05	13.08	20.32	13.5
MCS6	5200	0.40	2.61	10.05	13.06	20.23	13.5
MCS7	5200	0.41	2.61	10.05	13.07	20.28	13.5

:Worst data rate

IEEE802.11n-20 MCS0 (Antenna 1)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
36	5180	0.36	2.61	10.05	13.02	20.04	13.0
40	5200	0.43	2.61	10.05	13.09	20.37	13.5
44	5220	0.40	2.60	10.05	13.05	20.18	13.5
48	5240	0.39	2.60	10.05	13.04	20.14	13.5

IEEE802.11n-20 MCS0 (Antenna 2)

Ch	Frequency [MHz]	P/M Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
36	5180	0.25	2.61	10.05	12.91	19.54	13.0
40	5200	0.29	2.61	10.05	12.95	19.72	13.0
44	5220	0.21	2.60	10.05	12.86	19.32	13.0
48	5240	0.25	2.60	10.05	12.90	19.50	13.0

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

[IEEE802.11n-40] Rate Check (Antenna A)

Rate	Freq.	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
[Mbps]	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
MCS0	5230	0.46	2.60	10.05	13.11	20.46	13.5
MCS1	5230	0.45	2.60	10.05	13.10	20.42	13.5
MCS2	5230	0.42	2.60	10.05	13.07	20.28	13.5
MCS3	5230	0.15	2.60	10.05	12.80	19.05	13.0
MCS4	5230	0.10	2.60	10.05	12.75	18.84	13.0
MCS5	5230	0.14	2.60	10.05	12.79	19.01	13.0
MCS6	5230	0.08	2.60	10.05	12.73	18.75	13.0
MCS7	5230	0.11	2.60	10.05	12.76	18.88	13.0

:Worst data rate

IEEE802.11n-40 MCS0 (Antenna A)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
38	5190	0.39	2.61	10.05	13.05	20.18	13.0
46	5230	0.46	2.60	10.05	13.11	20.46	13.5

IEEE802.11n-40 MCS0 (Antenna B)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
38	5190	0.14	2.61	10.05	12.80	19.05	13.0
46	5230	0.16	2.60	10.05	12.81	19.10	13.0

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

[IEEE802.11ac-20] Rate Check (Antenna 1)

Rate	Freq.	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
[Mbps]	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
VHT0	5200	0.43	2.61	10.05	13.09	20.37	13.5
VHT1	5200	0.01	2.61	10.05	12.67	18.49	13.0
VHT2	5200	-0.04	2.61	10.05	12.62	18.28	13.0
VHT3	5200	-0.06	2.61	10.05	12.60	18.20	13.0
VHT4	5200	0.01	2.61	10.05	12.67	18.49	13.0
VHT5	5200	-0.02	2.61	10.05	12.64	18.37	13.0
VHT6	5200	0.04	2.61	10.05	12.70	18.62	13.0
VHT7	5200	0.17	2.61	10.05	12.83	19.19	13.0
VHT8	5200	0.07	2.61	10.05	12.73	18.75	13.0

:Worst data rate

IEEE802.11ac-20 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
36	5180	0.35	2.61	10.05	13.01	20.00	13.5
40	5200	0.43	2.61	10.05	13.09	20.37	13.5
44	5220	0.43	2.60	10.05	13.08	20.32	13.5
48	5240	0.42	2.60	10.05	13.07	20.28	13.5

IEEE802.11ac-20 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
36	5180	0.37	2.61	10.05	13.03	20.09	13.0
40	5200	0.41	2.61	10.05	13.07	20.28	13.0
44	5220	0.28	2.60	10.05	12.93	19.63	13.0
48	5240	0.23	2.60	10.05	12.88	19.41	13.0

[IEEE802.11ac-40] Rate Check (Antenna 1)

Rate	Freq.	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
[Mbps]	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
VHT0	5230	0.47	2.60	10.05	13.12	20.51	13.0
VHT1	5230	0.39	2.60	10.05	13.04	20.14	13.0
VHT2	5230	0.32	2.60	10.05	12.97	19.82	13.0
VHT3	5230	0.40	2.60	10.05	13.05	20.18	13.0
VHT4	5230	0.46	2.60	10.05	13.11	20.46	13.0
VHT5	5230	0.43	2.60	10.05	13.08	20.32	13.0
VHT6	5230	0.46	2.60	10.05	13.11	20.46	13.0
VHT7	5230	0.45	2.60	10.05	13.10	20.42	13.0
VHT8	5230	0.46	2.60	10.05	13.11	20.46	13.0
VHT9	5230	0.45	2.60	10.05	13.10	20.42	13.0

:Worst data rate

IEEE802.11ac-40 VHT 0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
38	5190	0.41	2.61	10.05	13.07	20.28	13.0
46	5230	0.47	2.60	10.05	13.12	20.51	13.0

IEEE802.11ac-40 VHT 0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
38	5190	0.31	2.61	10.05	12.97	19.82	13.5
46	5230	0.34	2.60	10.05	12.99	19.91	13.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

[IEEE802.11ac-80] Rate Check (Antenna 1)

Rate	Freq.	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
[Mbps]	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
VHT0	5210	-0.23	2.60	10.05	12.42	17.46	13.5
VHT1	5210	-0.29	2.60	10.05	12.36	17.22	13.5
VHT2	5210	-0.27	2.60	10.05	12.38	17.30	13.5
VHT3	5210	-0.49	2.60	10.05	12.16	16.44	13.0
VHT4	5210	-0.41	2.60	10.05	12.24	16.75	12.0
VHT5	5210	-0.42	2.60	10.05	12.23	16.71	12.0
VHT6	5210	-0.54	2.60	10.05	12.11	16.26	12.0
VHT7	5210	-0.49	2.60	10.05	12.16	16.44	12.0
VHT8	5210	-0.35	2.60	10.05	12.30	16.98	12.0
VHT9	5210	-0.34	2.60	10.05	12.31	17.02	12.0

:Worst data rate

IEEE802.11ac-80 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
42	5210	-0.23	2.60	10.05	12.42	17.46	13.5

IEEE802.11ac-80 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
42	5210	-0.37	2.60	10.05	12.28	16.90	13.0

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

5.3GHz

IEEE802.11a 6Mbps (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
52	5260	0.49	2.60	10.06	13.15	20.65	13.5
56	5280	0.53	2.60	10.06	13.19	20.84	13.5
60	5300	0.49	2.61	10.06	13.16	20.70	13.0
64	5320	0.46	2.61	10.06	13.13	20.56	13.0

IEEE802.11a 6Mbps (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
52	5260	0.46	2.60	10.06	13.12	20.51	12.5
56	5280	0.48	2.60	10.06	13.14	20.61	12.5
60	5300	0.46	2.61	10.06	13.13	20.56	12.5
64	5320	0.25	2.61	10.06	12.92	19.59	12.5

IEEE802.11n-20 MCS0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
52	5260	0.46	2.60	10.06	13.12	20.51	13.5
56	5280	0.50	2.60	10.06	13.16	20.70	13.5
60	5300	0.47	2.61	10.06	13.14	20.61	13.5
64	5320	0.42	2.61	10.06	13.09	20.37	13.0

IEEE802.11n-20 MCS0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
52	5260	0.59	2.60	10.06	13.25	21.13	13.5
56	5280	0.61	2.60	10.06	13.27	21.23	13.5
60	5300	0.54	2.61	10.06	13.21	20.94	13.5
64	5320	0.42	2.61	10.06	13.09	20.37	13.0

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

IEEE802.11n-40 MCS0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
54	5270	0.49	2.60	10.06	13.15	20.65	13.5
62	5310	0.63	2.66	10.06	13.35	21.63	13.5

IEEE802.11n-40 MCS0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
54	5270	0.45	2.60	10.06	13.11	20.46	13.0
62	5310	0.53	2.66	10.06	13.25	21.13	13.0

IEEE802.11ac-20 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
52	5260	0.48	2.60	10.06	13.14	20.61	13.0
56	5280	0.50	2.60	10.06	13.16	20.70	13.5
60	5300	0.28	2.61	10.06	12.95	19.72	13.0
64	5320	0.39	2.61	10.06	13.06	20.23	13.0

IEEE802.11ac-20 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
52	5260	0.46	2.60	10.06	13.12	20.51	13.0
56	5280	0.50	2.60	10.06	13.16	20.70	13.5
60	5300	0.48	2.61	10.06	13.15	20.65	13.0
64	5320	0.28	2.61	10.06	12.95	19.72	13.0

IEEE802.11ac-40 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
54	5270	0.51	2.60	10.06	13.17	20.75	13.5
62	5310	0.62	2.66	10.06	13.34	21.58	13.5

IEEE802.11ac-40 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
54	5270	0.67	2.60	10.06	13.33	21.53	13.0
62	5310	0.55	2.66	10.06	13.27	21.23	13.0

IEEE802.11ac-80 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
58	5290	0.56	2.61	10.06	13.23	21.04	13.5

IEEE802.11ac-80 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
58	5290	0.67	2.61	10.06	13.34	21.58	13.0

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

5.6GHz

IEEE802.11a 6Mbps (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
100	5500	0.34	2.68	10.08	13.10	20.42	12.5
104	5520	0.36	2.68	10.08	13.12	20.51	12.5
108	5540	0.34	2.71	10.08	13.13	20.56	13.0
112	5560	0.35	2.72	10.08	13.15	20.65	13.0
116	5580	0.42	2.72	10.08	13.22	20.99	13.0
120	5600	0.38	2.72	10.08	13.18	20.80	13.5
124	5620	0.37	2.72	10.08	13.17	20.75	13.5
128	5640	0.29	2.70	10.08	13.07	20.28	13.5
132	5660	0.21	2.71	10.08	13.00	19.95	13.5
136	5680	0.26	2.70	10.08	13.04	20.14	13.5
140	5700	0.28	2.74	10.08	13.10	20.42	13.5

IEEE802.11a 6Mbps (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
100	5500	0.34	2.68	10.08	13.10	20.42	13.0
104	5520	0.42	2.68	10.08	13.18	20.80	13.0
108	5540	0.24	2.71	10.08	13.03	20.09	13.0
112	5560	0.45	2.72	10.08	13.25	21.13	13.5
116	5580	0.51	2.72	10.08	13.31	21.43	13.5
120	5600	0.50	2.72	10.08	13.30	21.38	13.5
124	5620	0.50	2.72	10.08	13.30	21.38	13.5
128	5640	0.47	2.70	10.08	13.25	21.13	13.5
132	5660	0.44	2.71	10.08	13.23	21.04	13.5
136	5680	0.43	2.70	10.08	13.21	20.94	13.5
140	5700	0.34	2.74	10.08	13.16	20.70	13.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

IEEE802.11n-20 MCS0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
100	5500	0.36	2.68	10.08	13.12	20.51	13.0
104	5520	0.30	2.68	10.08	13.06	20.23	13.0
108	5540	0.27	2.71	10.08	13.06	20.23	13.0
112	5560	0.31	2.72	10.08	13.11	20.46	13.0
116	5580	0.40	2.72	10.08	13.20	20.89	13.5
120	5600	0.43	2.72	10.08	13.23	21.04	13.5
124	5620	0.40	2.72	10.08	13.20	20.89	13.5
128	5640	0.28	2.70	10.08	13.06	20.23	13.5
132	5660	0.31	2.71	10.08	13.10	20.42	13.5
136	5680	0.19	2.70	10.08	12.97	19.82	13.5
140	5700	0.23	2.74	10.08	13.05	20.18	13.5

IEEE802.11n-20 MCS0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
100	5500	0.57	2.68	10.08	13.33	21.53	13.0
104	5520	0.51	2.68	10.08	13.27	21.23	13.0
108	5540	0.46	2.71	10.08	13.25	21.13	13.0
112	5560	0.38	2.72	10.08	13.18	20.80	13.0
116	5580	0.52	2.72	10.08	13.32	21.48	13.5
120	5600	0.53	2.72	10.08	13.33	21.53	13.5
124	5620	0.49	2.72	10.08	13.29	21.33	13.0
128	5640	0.47	2.70	10.08	13.25	21.13	13.0
132	5660	0.36	2.71	10.08	13.15	20.65	13.0
136	5680	0.11	2.70	10.08	12.89	19.45	13.0
140	5700	0.08	2.74	10.08	12.90	19.50	13.0

IEEE802.11n-40 MCS0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
102	5510	0.27	2.68	10.08	13.03	20.09	13.0
110	5550	0.33	2.71	10.08	13.12	20.51	13.0
118	5590	0.52	2.72	10.08	13.32	21.48	13.5
126	5630	0.45	2.72	10.08	13.25	21.13	13.5
134	5670	0.43	2.70	10.08	13.21	20.94	13.5

IEEE802.11n-40 MCS0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
102	5510	0.35	2.68	10.08	13.11	20.46	13.0
110	5550	0.35	2.71	10.08	13.14	20.61	13.0
118	5590	0.37	2.72	10.08	13.17	20.75	13.5
126	5630	0.34	2.72	10.08	13.14	20.61	13.5
134	5670	0.33	2.70	10.08	13.11	20.46	13.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

IEEE802.11ac-20 VHT0 (Antenna A)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
100	5500	0.32	2.68	10.08	13.08	20.32	13.0
104	5520	0.35	2.68	10.08	13.11	20.46	13.0
108	5540	0.29	2.71	10.08	13.08	20.32	13.0
112	5560	0.24	2.72	10.08	13.04	20.14	13.0
116	5580	0.42	2.72	10.08	13.22	20.99	13.5
120	5600	0.45	2.72	10.08	13.25	21.13	13.5
124	5620	0.38	2.72	10.08	13.18	20.80	13.5
128	5640	0.34	2.70	10.08	13.12	20.51	13.5
132	5660	0.34	2.71	10.08	13.13	20.56	13.5
136	5680	0.30	2.70	10.08	13.08	20.32	13.5
140	5700	0.21	2.74	10.08	13.03	20.09	13.0
144	5720	0.19	2.74	10.08	13.01	20.00	13.0

IEEE802.11ac-20 VHT0 (Antenna B)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
100	5500	0.38	2.68	10.08	13.14	20.61	13.0
104	5520	0.39	2.68	10.08	13.15	20.65	13.0
108	5540	0.28	2.71	10.08	13.07	20.28	13.0
112	5560	0.25	2.72	10.08	13.05	20.18	13.0
116	5580	0.36	2.72	10.08	13.16	20.70	13.5
120	5600	0.38	2.72	10.08	13.18	20.80	13.5
124	5620	0.34	2.72	10.08	13.14	20.61	13.5
128	5640	0.33	2.70	10.08	13.11	20.46	13.0
132	5660	0.32	2.71	10.08	13.11	20.46	13.0
136	5680	0.16	2.70	10.08	12.94	19.68	13.0
140	5700	0.32	2.74	10.08	13.14	20.61	13.5
144	5720	0.30	2.74	10.08	13.12	20.51	13.5

IEEE802.11ac40 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
102	5510	0.37	2.68	10.08	13.13	20.56	13.0
110	5550	0.41	2.71	10.08	13.20	20.89	13.5
118	5590	0.51	2.72	10.08	13.31	21.43	13.5
126	5630	0.52	2.72	10.08	13.32	21.48	13.5
134	5670	0.46	2.70	10.08	13.24	21.09	13.5
142	5710	0.44	2.70	10.08	13.22	20.99	13.5

IEEE802.11ac40 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
102	5510	0.37	2.68	10.08	13.13	20.56	13.0
110	5550	0.40	2.71	10.08	13.19	20.84	13.5
118	5590	0.44	2.72	10.08	13.24	21.09	13.5
126	5630	0.39	2.72	10.08	13.19	20.84	13.5
134	5670	0.34	2.70	10.08	13.12	20.51	13.5
142	5710	0.32	2.70	10.08	13.10	20.42	13.5

IEEE802.11ac-80 VHT0 (Antenna 1)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
106	5530	0.25	2.68	10.08	13.01	20.00	13.0
122	5610	0.47	2.72	10.08	13.27	21.23	13.5

IEEE802.11ac-80 VHT0 (Antenna 2)

Ch	Frequency	P/M Reading [dBm]	Cable Loss	Atten.	Result		Power control
					[dBm]	[mW]	
	[MHz]	AVG	[dB]	[dB]	AVG	AVG	setting[dBm]
106	5530	0.33	2.68	10.08	13.09	20.37	13.0
122	5610	0.37	2.72	10.08	13.17	20.75	13.0

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

5.8GHz

IEEE802.11a 6Mbps (Antenna 1)

Ch	Frequency [MHz]	Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
149	5745	-0.26	2.77	10.08	12.59	18.16	12.0
153	5765	-0.12	2.77	10.08	12.73	18.75	13.5
157	5785	-0.03	2.79	10.08	12.84	19.23	13.5
161	5805	-0.10	2.79	10.08	12.77	18.92	13.5
165	5825	-0.11	2.79	10.08	12.76	18.88	13.0

IEEE802.11a 6Mbps (Antenna 2)

Ch	Frequency [MHz]	Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
149	5745	-0.15	2.77	10.08	12.70	18.62	13.5
153	5765	0.29	2.77	10.08	13.14	20.61	13.5
157	5785	0.46	2.79	10.08	13.33	21.53	13.5
161	5805	0.35	2.79	10.08	13.22	20.99	13.5
165	5825	0.37	2.79	10.08	13.24	21.09	13.5

IEEE802.11n-20 MCS0 (Antenna 1)

Ch	Frequency [MHz]	Reading [dBm] AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
149	5745	0.05	2.77	10.08	12.90	19.50	13.5
153	5765	0.05	2.77	10.08	12.90	19.50	13.5
157	5785	0.09	2.79	10.08	12.96	19.77	13.5
161	5805	0.43	2.79	10.08	13.30	21.38	13.5
165	5825	0.38	2.79	10.08	13.25	21.13	13.5

IEEE802.11n-20 MCS0 (Antenna 2)

Ch	Frequency [MHz]	P/M Reading AVG	Cable Loss [dB]	Atten. [dB]	Result [dBm] AVG	Result [mW] AVG	Power control setting[dBm]
149	5745	-0.02	2.77	10.08	12.83	19.19	13.5
153	5765	0.41	2.77	10.08	13.26	21.18	13.5
157	5785	0.45	2.79	10.08	13.32	21.48	13.5
161	5805	0.44	2.79	10.08	13.31	21.43	13.5
165	5825	0.44	2.79	10.08	13.31	21.43	13.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

IEEE802.11n-40 MCS0 (Antenna 1)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
151	5755	0.25	2.77	10.08	13.10	20.42	13.5
158	5795	0.33	2.79	10.08	13.20	20.89	13.5

IEEE802.11n-40 MCS0 (Antenna 2)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
151	5755	0.30	2.77	10.08	13.15	20.65	13.5
158	5795	0.34	2.79	10.08	13.21	20.94	13.5

IEEE802.11ac20 VHT0 (Antenna 1)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
149	5745	0.00	2.77	10.08	12.85	19.28	13.5
153	5765	0.01	2.77	10.08	12.86	19.32	13.5
157	5785	0.04	2.79	10.08	12.91	19.54	13.5
161	5805	0.02	2.79	10.08	12.89	19.45	13.5
165	5825	-0.09	2.79	10.08	12.78	18.97	13.5

IEEE802.11ac20 VHT0 (Antenna 2)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
149	5745	-0.04	2.77	10.08	12.81	19.10	13.5
153	5765	0.40	2.77	10.08	13.25	21.13	13.5
157	5785	0.43	2.79	10.08	13.30	21.38	13.5
161	5805	0.41	2.79	10.08	13.28	21.28	13.5
165	5825	0.40	2.79	10.08	13.27	21.23	13.5

IEEE802.11ac-40 VHT0 (Antenna 1)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
151	5755	0.18	2.77	10.08	13.03	20.09	13.5
158	5795	0.25	2.79	10.08	13.12	20.51	13.5

IEEE802.11ac-40 VHT0 (Antenna 2)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
151	5755	0.05	2.77	10.08	12.90	19.50	13.5
158	5795	0.13	2.79	10.08	13.00	19.95	13.5

IEEE802.11ac-80 VHT0 (Antenna 1)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
155	5775	-0.27	2.79	10.08	12.60	18.20	13.5

IEEE802.11ac-80 VHT0 (Antenna 2)

Ch	Frequency	Reading [dBm]	Cable Loss	Atten.	Result		Power control
	[MHz]	AVG	[dB]	[dB]	[dBm] AVG	[mW] AVG	setting[dBm]
155	5775	0.11	2.79	10.08	12.98	19.86	13.5

Sample Calculation:
Result = Reading + Cable Loss + Attenuator

5.3 SAR testing operating modes

The operating mode for SAR testing was decided by the output power

5) **SAR measurement for WLAN**

Decision of SAR test channel
The operating mode for SAR testing was decided by the output power

Mode		GHz	Channel	"Default Test Channel"			
				FCC 15.247		UNII	
				802.11b	802.11g		
802.11 b/g/n20		2.412	1	√	Δ		
		2.437	6	√	Δ		
		2.462	11	√	Δ		
802.11a/n20	UNII	5.18	36			√	
		5.20	40				*
		5.22	44				*
		5.24	48			√	
		5.26	52			√	
		5.28	56				*
		5.30	60				*
		5.32	64			√	
		5.50	100				*
		5.52	104			√	
		5.54	108				*
		5.56	112				*
		5.58	116			√	
		5.60	120				*
		5.62	124			√	
		5.64	128				*
		5.66	132				*
		5.68	136			√	
		5.70	140				*
	UNII or FCC 15.247	5.745	149	√		√	
		5.765	153		*		*
		5.785	157	√			*
		5.805	161		*	√	
	FCC 15.247	5.825	165	√			

√ = "default test channels"
* = Possible 802.11a channels with maximum average output > the "default test channels"
Δ = Possible 802.11g channels with maximum average output ¼ dB ≥ the "default test channels"
= when output power is reduced for channel 1 and/or 11 to meet restricted band requirements the highest output channels closest to each of these channels should be tested

Mode	Test Frequency	Modulation	Crest factor	Note
IEEE802.11b	2412MHz (1ch) 2437MHz(6ch) 2462MHz(11ch)	DBPSK(1Mbps)	1	
IEEE802.11g IEEE802.11n20 (2.4G)	Not required			*1
IEEE802.11n40 (2.4G)	2422MHz (3ch) 2437MHz(6ch) 2452MHz(9ch)	BPSK(MCS0)	1	*4
IEEE802.11a	5200MHz(40ch)	BPSK(6Mbps)	1	*3
	5280MHz(56ch) 5300MHz(60ch)	BPSK(6Mbps)	1	
	5520MHz(104ch) 5580MHz(116ch) 5620MHz(124ch) 5660MHz(132ch)	BPSK(6Mbps)	1	
	5785MHz(157ch)	BPSK(6Mbps)	1	*3
IEEE802.11n20 (5G) IEEE802.11ac20 IEEE802.11ac40	Not required			*2
IEEE802.11n40 (5G)	5230MHz(46ch)	BPSK(MCS0)	1	*3*4
	5270MHz(54ch) 5310MHz(62ch)	BPSK(MCS0)	1	*4
	5590MHz(118ch)	BPSK(MCS0)	1	*3*4
	5775MHz(155ch)	BPSK(MCS0)	1	*3*4
IEEE802.11ac80	5210MHz(42ch)	256QAM(VHT0)	1	*4
	5290MHz(58ch)	256QAM(VHT0)	1	*4
	5610MHz(122ch)	256QAM(VHT0)	1	*3*4
	5775MHz(155ch)	256QAM(VHT0)	1	*3*4
Bluetooth	Not required			*5
WLAN				
*Power of the EUT was set by the software as follows; Software / version: DRTU / 1.7.3-955 Power control setting: Refer to Section 5.2 *The above setting is the worst case. Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.				

*1 The 11b mode was maximum average power. According to KDB248227D01, the 11g and 11n SAR is not required for other mode because the maximum average output power for other mode is less than 1/4dB higher than that measured 11b mode.
*2 The 11a mode was maximum average power. According to KDB248227D01, the 11n and 11ac SAR is not required for other mode because the maximum average output power for other mode is less than that measured 11a mode.
*3 The other channel was not required since maximum average output power channel SAR value is less than 0.8W/kg.
*4 Because 11n40 and 11ac80 modes are maximum band width, SAR test of 11n40 and 11ac80 modes were measured.
*5 Bluetooth test was not required according with Section 6.1.

5.4 Confirmation after SAR testing

It was checked that the power drift [W] is within +/-5%.The verification of power drift during the SAR test is that DASY5 system calculates the power drift by measuring the e-filed at the same location at beginning and the end of the scan measurement for each test position.

DASY5 system calculation Power drift value[dB] =20log(Ea)/(Eb)
Before SAR testing : Eb[V/m]
After SAR testing : Ea[V/m]

Limit of power drift[W] =+/-5%
X[dB]=10log[P]=10log(1.05/1)=10log(1.05)-10log(1)=0.212dB

from E-filed relations with power.
p=E^2/η=E^2/
Therefore, The correlation of power and the E-filed
XdB=10log(P)=10log(E)^2=20log(E)

Therefore,
The calculated power drift of DASY5 System must be the less than +/-0.212dB.

SECTION 6 SAR test exclusion considerations

6.1 Standalone SAR test exclusion considerations

According to KDB 447498 § 4.1.5 if the antenna is at close proximity to user then the outer surface of the EUT should be treated as the radiating surface. The test separation distance is then determined by the smallest distance between the outer surface of the device and the user. For the purposes of this report close proximity has been defined as closer than 50 mm. For antennas <50 mm from the rear or edge the separation distance used for the SAR exclusion calculations is 0mm.

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation
The result is rounded to one decimal place for comparison
The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

WLAN 2.4GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (2.4GHz band)	☑	Top	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	5 [mm]	10.0
WLAN (2.4GHz band)	☑	Rear	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	5 [mm]	10.0
WLAN (2.4GHz band)	☑	Left	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	5 [mm]	10.0

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (2.4GHz band)	☑	Top	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	5 [mm]	10.0
WLAN (2.4GHz band)	☑	Rear	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	5 [mm]	10.0

WLAN 5.2GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1
WLAN (5GHz band)	☑	Left	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1

WLAN 5.3GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1
WLAN (5GHz band)	☑	Left	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.1

WLAN 5.6GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.5
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.5
WLAN (5GHz band)	☑	Left	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.5

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.5
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.5

WLAN 5.8GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.6
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.6
WLAN (5GHz band)	☑	left	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.6

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
WLAN (5GHz band)	☑	Top	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.6
WLAN (5GHz band)	☑	Rear	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	5 [mm]	10.6

Bluetooth
Antenna 2

Standalone SAR tested	Positiom	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of exclusion *3
☐	Top	2480 [MHz] (79ch)	7.78 [dBm] 6.00 [mW] 6 [mW]*6	5 [mm]	1.9
☐	Rear	2480 [MHz] (79ch)	7.78 [dBm] 6.00 [mW] 6 [mW]*6	5 [mm]	1.9

2) At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following.
a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

WLAN 2.4GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (2.4GHz band)	☐	Bottom	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	187 [mm]	1466 [mW]
WLAN (2.4GHz band)	☐	Right	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	284 [mm]	2436 [mW]

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (2.4GHz band)	☐	Left	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	93 [mm]	526 [mW]
WLAN (2.4GHz band)	☐	Right	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	201 [mm]	1606 [mW]
WLAN (2.4GHz band)	☐	Bottom	11b DBPSK(1Mbps)	2462 [MHz] (11ch)	15 [dBm] 31.62 [mW] 32 [mW]*6	187 [mm]	1466 [mW]

WLAN 5.2GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1436 [mW]
WLAN (5GHz band)	☐	Right	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	284 [mm]	2406 [mW]

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (5GHz band)	☐	Left	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	93 [mm]	496 [mW]
WLAN (5GHz band)	☐	Right	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	201 [mm]	1576 [mW]
WLAN (5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5240 [MHz] (48ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1436 [mW]

WLAN 5.3GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1435 [mW]
WLAN (5GHz band)	☐	Right	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	284 [mm]	2405 [mW]

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (5GHz band)	☐	Left	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	93 [mm]	495 [mW]
WLAN (5GHz band)	☐	Right	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	201 [mm]	1575 [mW]
WLAN (5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5320 [MHz] (64ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1435 [mW]

WLAN 5.6GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN(5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1433 [mW]
WLAN(5GHz band)	☐	Right	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	284 [mm]	2403 [mW]

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN(5GHz band)	☐	Left	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	93 [mm]	493 [mW]
WLAN(5GHz band)	☐	Right	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	201 [mm]	1573 [mW]
WLAN(5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5700 [MHz] (140ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1433 [mW]

WLAN 5.8GHz
Antenna 1

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1432 [mW]
WLAN (5GHz band)	☐	Right	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	284 [mm]	2402 [mW]

Antenna 2

Band	Standalone SAR tested	Positiom	Mode	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
WLAN (5GHz band)	☐	Left	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	93 [mm]	492 [mW]
WLAN (5GHz band)	☐	Right	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	201 [mm]	1572 [mW]
WLAN (5GHz band)	☐	Bottom	11a BPSK(6Mbps)	5825 [MHz] (165ch)	13.5 [dBm] 22.39 [mW] 22 [mW]*6	187 [mm]	1432 [mW]

Bluetooth
Antenna 2

Standalone SAR tested	Positiom	Upper frequency of band *1	Maximum tune-up tolerance limit *5	Min distance *2	Calculation of threshold*4
☐	Left	2480 [MHz] (79ch)	7.78 [dBm] 6.00 [mW] 6 [mW]*6	93 [mm]	525 [mW]
☐	Right	2480 [MHz] (79ch)	7.78 [dBm] 6.00 [mW] 6 [mW]*6	201 [mm]	1605 [mW]
☐	Bottom	2480 [MHz] (79ch)	7.78 [dBm] 6.00 [mW] 6 [mW]*6	187 [mm]	1465 [mW]

*1 The upper frequency of the frequency band was used in order to calculate standalone SAR test exclusion considerations.
*2 When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
Refer to Appendix 4.
*3 [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0
If it is Calculation of exclusion ≤ 3.0 standalone SAR test is excluded.
*4 $[(3\cdot50)/(\sqrt{f_{(GHz)}}))$ + (test separation distance - 50 mm)·(f(MHz)/150)] mW at > 100 MHz and ≤ 1500 MHz
$[(3\cdot50)/(\sqrt{f_{(GHz)}}))$ + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz
If it is maximum tune-up tolerance limit < Threshold, standalone SAR test is excluded.
*5 Maximum tune-up tolerance limit is by the specification from a customer.
*6 Maximum tune-up tolerance limit(mW) is rounded to one decimal place.

SECTION 7: Description of the Body setup

7.1 Test position for Body setup

i) Procedure for SAR testing

-The tested procedure was performed according to the KDB447498 D01 (Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies)

ii) Test mode

WLAN 2.4G	**Data transmission mode (11b/n-40)**
WLAN 5G	**Data transmission mode (11a/n-40/ac-80)**

iii) Test position

No.	Position	Test distance	WLAN		
			Tested	Antenna	Separation from antenna to edge
1	Top	0mm	☑	1	3.8mm
2	Rear	0mm	☑	1	3.1mm
3	Left	0mm	☑	1	9.5mm

No.	Position	Test distance	WLAN		
			Tested	Antenna	Separation from antenna to edge
1	Top	0mm	☑	2	3.8mm
2	Rear	0mm	☑	2	3.1mm

SECTION 8 : Test surrounding

8.1 Measurement uncertainty

This measurement uncertainty budget is suggested by IEEE Std 1528(2013)[2] and determined by Schmid & Partner Engineering AG (DASY5 Uncertainty Budget[1]). Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r01 Section 2.8.1., when the highest measured SAR(1g) within a frequency band is < 1.5W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std.1528 (2013) is not required in SAR reports submitted for equipment approval.
<0.3 – 3GHz range Body>

Error Description	Uncertai value ±	Probability distribution	divisor	(ci) 1g	Standard (1g)	vi or veff
Measurement System						
Probe calibration	± 6.00	Normal	1	1	± 6.00	∞
Axial isotropy of the probe	± 4.7	Rectangular	√3	0.7	± 1.9	∞
Spherical isotropy of the probe	± 9.6	Rectangular	√3	0.7	± 3.9	∞
Boundary effects	± 1.0	Rectangular	√3	1	± 0.6	∞
Probe linearity	± 4.7	Rectangular	√3	1	± 2.7	∞
Detection limit	± 1.0	Rectangular	√3	1	± 0.6	∞
Modulation response	± 2.4	Rectangular	√3	1	± 1.4	∞
Readout electronics	± 0.3	Normal	1	1	± 0.3	∞
Response time	± 0.8	Rectangular	√3	1	± 0.5	∞
Integration time	± 2.6	Rectangular	√3	1	± 1.5	∞
RF ambient Noise	± 3.0	Rectangular	√3	1	± 1.7	∞
RF ambient Reflections	± 3.0	Rectangular	√3	1	± 1.7	∞
Probe Positioner	± 0.4	Rectangular	√3	1	± 0.2	∞
Probe positioning	± 2.9	Rectangular	√3	1	± 1.7	∞
Max.SAR Eval.	± 2.0	Rectangular	√3	1	± 1.2	∞
Test Sample Related						
Device positioning	± 2.9	Normal	1	1	± 2.9	15
Device holder uncertainty	± 3.6	Normal	1	1	± 3.6	4
Power drift	± 5.0	Rectangular	√3	1	± 2.9	∞
Power Scaling	+ 0.0	Rectangular	√3	1	± 0.0	∞
Phantom and Setup						
Phantom uncertainty	± 6.1	Rectangular	√3	1	± 3.5	∞
Algorithm for correcting SAR for deviations in permittivity and conductivity	± 1.9	Normal	1	1	± 1.9	∞
Liquid conductivity (meas.)	+ 1.9	Rectangular	1	0.78	+ 1.5	∞
Liquid permittivity (meas.)	- 3.1	Rectangular	1	0.23	- 0.7	∞
Liquid conductivity - temp.unc (below 2deg.C.)	± 5.2	Rectangular	√3	0.78	± 2.3	∞
Liquid permittivity - temp.unc (below 2deg.C.)	± 0.8	Rectangular	√3	0.23	± 0.1	∞
Combined Standard Uncertainty					± **11.380**	
Expanded Uncertainty (k=2)					± **22.8**	

*. Table of uncertainties are listed for ISO/IEC 17025.

<3 – 6GHz range Body>

Error Description	Uncertai value ±	Probability distribution	divisor	(ci) 1g	Standard (1g)	vi or veff
Measurement System						
Probe calibration	± 6.55	Normal	1	1	± 6.55	∞
Axial isotropy of the probe	± 4.7	Rectangular	√3	0.7	± 1.9	∞
Spherical isotropy of the probe	± 9.6	Rectangular	√3	0.7	± 3.9	∞
Boundary effects	± 2.0	Rectangular	√3	1	± 1.2	∞
Probe linearity	± 4.7	Rectangular	√3	1	± 2.7	∞
Detection limit	± 1.0	Rectangular	√3	1	± 0.6	∞
Modulation response	± 2.4	Rectangular	√3	1	± 1.4	∞
Readout electronics	± 0.3	Normal	1	1	± 0.3	∞
Response time	± 0.8	Rectangular	√3	1	± 0.5	∞
Integration time	± 2.6	Rectangular	√3	1	± 1.5	∞
RF ambient Noise	± 3.0	Rectangular	√3	1	± 1.7	∞
RF ambient Reflections	± 3.0	Rectangular	√3	1	± 1.7	∞
Probe Positioner	± 0.8	Rectangular	√3	1	± 0.5	∞
Probe positioning	± 6.7	Rectangular	√3	1	± 3.9	∞
Max.SAR Eval.	± 4.0	Rectangular	√3	1	± 2.3	∞
Test Sample Related						
Device positioning	± 2.9	Normal	1	1	± 2.9	54
Device holder uncertainty	± 3.6	Normal	1	1	± 3.6	4
Power drift	± 5.0	Rectangular	√3	1	± 2.9	∞
Power Scaling	+ 0.0	Rectangular	√3	1	± 0.0	∞
Phantom and Setup						
Phantom uncertainty	± 6.6	Rectangular	√3	1	± 3.8	∞
Algorithm for correcting SAR for deviations in permittivity and conductivity	± 1.9	Normal	1	1	± 1.9	∞
Liquid conductivity (meas.)	- 4.0	Rectangular	1	0.78	+ 3.1	∞
Liquid permittivity (meas.)	– 4.5	Rectangular	1	0.23	- 1.0	∞
Liquid conductivity - temp.unc (below 2deg.C.)	± 2.4	Rectangular	√3	0.78	± 1.1	∞
Liquid permittivity - temp.unc (below 2deg.C.)	± 0.8	Rectangular	√3	0.23	± 0.1	∞
Combined Standard Uncertainty					± **12.636**	
Expanded Uncertainty (k=2)					± **25.3**	

*. Table of uncertainties are listed for ISO/IEC 17025.

SECTION 9 : Measurement results

9.1 WLAN Body SAR (2.4G)

(1)Method of measurement

Step.1 The searching for the worst antenna and position
The test was performed at the worst transmit rate and channel of 11b mode.
Step.2 The changing to 11n-40 mode
The test was performed at the worst antenna and position of Step.1
Step.3 The changing to the other channels
The test was performed at the worst SAR value of test mode and test channel of Step.1 and Step.2.
Step.4 The repeat measurement
The test was performed at the worst measurement SAR value > 0.8W/kg of test mode and test channel of Step.1 to Step.3.

Note:
1)The other channel was not required since maximum average output power channel SAR value is less than 0.8W/kg.
2) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg.
When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

(2)Simulated Tissue Liquid Parameter confirmation

The dielectric parameters were checked prior to assessment using the HP85070D dielectric probe kit.
The dielectric parameters measurement is reported in each correspondent section.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS											
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value	Measured	Deviation [%]	Limit [%]	Remark
-	-	-	-	-	2000	εr	53.3	-	-	-	*1
						σ [mho/m]	1.52	-	-	-	
22-Oct	24	50	MSL 2450	23.5	2412	εr	52.8	51.2	-2.9	+/-5	*2
						σ [mho/m]	1.91	1.88	-1.8	+/-5	
22-Oct	24	50	MSL 2450	23.5	2422	εr	52.7	51.2	-2.9	+/-5	*2
						σ [mho/m]	1.92	1.89	-1.9	+/-5	
22-Oct	24	50	MSL 2450	23.5	2437	εr	52.7	51.1	-3.0	+/-5	*2
						σ [mho/m]	1.94	1.91	-1.4	+/-5	
24-Oct	24	53	MSL 2450	23.5	2437	εr	52.7	51.3	-2.8	+/-5	*2
						σ [mho/m]	1.94	1.98	1.9	+/-5	
22-Oct	24	50	MSL 2450	23.5	2450	εr	52.7	51.1	-3.1	+/-5	*1
						σ [mho/m]	1.95	1.93	-1.2	+/-5	
24-Oct	24	53	MSL 2450	23.5	2450	εr	52.7	51.1	-3.0	+/-5	*1
						σ [mho/m]	1.95	1.99	2.0	+/-5	
22-Oct	24	50	MSL 2450	23.5	2452	εr	52.7	51.1	-3.1	+/-5	*2
						σ [mho/m]	1.95	1.93	-1.3	+/-5	
22-Oct	24	50	MSL 2450	23.5	2462	εr	52.7	51.0	-3.1	+/-5	*2
						σ [mho/m]	1.97	1.94	-1.3	+/-5	
-	-	-	-	-	3000	εr	52.0	-	-	-	*1
						σ [mho/m]	2.73	-	-	-	

εr: Relative Permittivity / σ : Coductivity
*1 The Target value is a parameter defined in KDB 865664D01.
*2 The dielectric parameters should be linearly interpolated between the closest pair of target frequencies to determine the applicable dielectric parameters corresponding to the device test frequency.

(3)SAR correction for deviations of complex permittivity from target

$\Delta SAR = c\varepsilon\ \Delta\varepsilon r + c\sigma\ \Delta\sigma$

<1g>

$C\varepsilon = -7.854\times10^{-4}f^3 + 9.402\times10^{-3}f^2 - 2.742\times10^{-2}f - 0.2026$

$C\sigma = 9.804\times10^{-3}f^3 - 8.661\times10^{-2}f^2 + 2.981\times10^{-2}f + 0.7829$

<10g>

$C\varepsilon = 3.456\times10^{-3}f^3 - 3.531\times10^{-2}f^2 + 7.675\times10^{-2}f - 0.1860$

$C\sigma = 4.479\times10^{-3}f^3 - 1.586\times10^{-2}f^2 - 0.1972f + 0.7717$

'f ' is the frequency in GHz.

The measured SAR results are not corrected because ⊿SAR has a positive sign.
When ⊿SAR is positive sign, SAR value will become small if corrected calculation of SAR is performed.
Therefore, corrected calculation is not performed.

Date		22-Oct
	f(GHz)=	2.437
	⊿εr(%)=	-3.00
	⊿σ(%)=	-1.40
1g	Cε=	-0.2250
	Cσ=	0.4831
	⊿SAR(%)=	0.00
10g	Cε=	-0.1586
	Cσ=	0.2618
	⊿SAR(%)=	0.11

Date		24-Oct
	f(GHz)=	2.437
	⊿εr(%)=	-2.80
	⊿σ(%)=	1.90
1g	Cε=	-0.2250
	Cσ=	0.4831
	⊿SAR(%)=	1.55
10g	Cε=	-0.1586
	Cσ=	0.2618
	⊿SAR(%)=	0.94

Date		22-Oct
	f(GHz)=	2.452
	⊿εr(%)=	-3.10
	⊿σ(%)=	-1.30
1g	Cε=	-0.2249
	Cσ=	0.4798
	⊿SAR(%)=	0.07
10g	Cε=	-0.1592
	Cσ=	0.2588
	⊿SAR(%)=	0.16

Date		22-Oct
	f(GHz)=	2.462
	⊿εr(%)=	-3.10
	⊿σ(%)=	-1.30
1g	Cε=	-0.2248
	Cσ=	0.4776
	⊿SAR(%)=	0.08
10g	Cε=	-0.1595
	Cσ=	0.2569
	⊿SAR(%)=	0.16

The measured SAR results are corrected because ⊿SAR has a negative sign.

Date		22-Oct
	f(GHz)=	2.412
	⊿εr(%)=	-2.90
	⊿σ(%)=	-1.80
1g	Cε=	-0.2251
	Cσ=	0.4885
	⊿SAR(%)=	-0.23
10g	Cε=	-0.1578
	Cσ=	0.2666
	⊿SAR(%)=	-0.02

Corrected SAR(1g) = Measured SAR(1g) *1.0023

Date		22-Oct
	f(GHz)=	2.422
	⊿εr(%)=	-2.90
	⊿σ(%)=	-1.90
1g	Cε=	-0.2250
	Cσ=	0.4863
	⊿SAR(%)=	-0.27
10g	Cε=	-0.1581
	Cσ=	0.2647
	⊿SAR(%)=	-0.04

Corrected SAR(1g) = Measured SAR(1g) *1.0027

(4)Result of Body SAR

Antenna Type A

Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
6	2437	11b 1Mbps	14.50	28.18	15.00	31.62	Flat	1	Top	0	**0.184**	**N/A**	**0.206**
6	2437	11b 1Mbps	14.50	28.18	15.00	31.62	Flat	1	Rear	0	**0.758**	**N/A**	**0.850**
6	2437	11b 1Mbps	14.50	28.18	15.00	31.62	Flat	1	Left	0	**0.603**	**N/A**	**0.677**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
6	2437	11b 1Mbps	14.45	27.86	15.00	31.62	Flat	2	Top	0	**0.153**	**N/A**	**0.174**
6	2437	11b 1Mbps	14.45	27.86	15.00	31.62	Flat	2	Rear	0	**1.04**	**N/A**	**1.18**
Step.2 Mode change at the worst position													
6	2437	11n40 MCS0	14.33	27.10	15.00	31.62	Flat	2	Rear	0	**1.00**	**N/A**	**1.17**
Step.3 Channel change (SAR level in Step.1 to 2 > 0.8 W/kg)													
1	2412	11b 1Mbps	14.37	27.35	15.00	31.62	Flat	2	Rear	0	**0.981**	**0.983**	**1.137**
11	2462	11b 1Mbps	14.42	27.67	15.00	31.62	Flat	2	Rear	0	**1.02**	**N/A**	**1.17**
3	2422	11n40 MCS0	14.24	26.55	15.00	31.62	Flat	2	Rear	0	**0.831**	**0.833**	**0.993**
9	2452	11n40 MCS0	14.32	27.04	15.00	31.62	Flat	2	Rear	0	**0.993**	**N/A**	**1.161**
Step.4 Repeat measurement of worst mode (Measured SAR level in Step.1 to Step.2 > 0.8 w/kg)													
6	2437	11b 1Mbps	14.45	27.86	15.00	31.62	Flat	2	Rear	0	**0.988**	**N/A**	**1.121**

Antenna Type B

Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
6	2437	11b 1Mbps	14.50	28.18	15.00	31.62	Flat	1	Top	0	**0.281**	**N/A**	**0.315**
6	2437	11b 1Mbps	14.50	28.18	15.00	31.62	Flat	1	Rear	0	**0.893**	**N/A**	**1.002**
6	2437	11b 1Mbps	14.50	28.18	15.00	31.62	Flat	1	Left	0	**0.250**	**N/A**	**0.281**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
6	2437	11b 1Mbps	14.45	27.86	15.00	31.62	Flat	2	Top	0	**0.167**	**N/A**	**0.190**
6	2437	11b 1Mbps	14.45	27.86	15.00	31.62	Flat	2	Rear	0	**0.706**	**N/A**	**0.801**

*1 Refer to clause 9.1 (3).

*2 Reported SAR= Maximum tune-up tolerance limit [mW] / Measured power [mW] · Measured SAR(⊿SAR correct) [W/kg]

9.2 WLAN Body SAR (5G)

(1)Method of measurement

Step.1 The searching for the worst antenna and position
The test was performed at the worst transmit rate and channel of 11a mode.
Step.2 The changing to 11n-40 and 11ac80 mode
The test was performed at the worst antenna and position of Step.1
Step.3 The changing to the other channels
The test was performed at the worst SAR value of test mode and test channel of Step.1 and Step.2.
Step.4 The repeat measurement
The test was performed at the worst measurement SAR value > 0.8W/kg of test mode and test channel of Step.1 to Step.3.

Note:
1)
a) In case of 5180-5240MHz, 5260-5320MHz and 5745-5825MHz frequency range.
The other channel was not required since maximum average output power channel SAR value is less than 0.8W/kg.
b) In case of 5500-5700MHz frequency range of 11a mode.
The other channel was not required since maximum average output power channel SAR value is less than 0.4W/kg
c) In case of 5500-5700MHz frequency range of 11n40 and 11ac80 mode.
The other channel was not required since maximum average output power channel SAR value is less than 0.8W/kg

2) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg.
When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

(2)Simulated Tissue Liquid Parameter confirmation

The dielectric parameters were checked prior to assessment using the HP85070D dielectric probe kit.
The dielectric parameters measurement is reported in each correspondent section.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS											
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value	Measured	Deviation [%]	Limit [%]	Remark
-	-	-	-	-	3000	εr	52.0	-	-	-	*1
						σ [mho/m]	2.73	-	-	-	
16-Oct	24	50	MBBL 3.5-5.8	23.5	5200	εr	49.0	47.7	-2.7	+/-5	*2
						σ [mho/m]	5.30	5.33	0.6	+/-5	
22-Oct	24	50	MBBL 3.5-5.8	23.5	5200	εr	49.0	48.4	-1.2	+/-5	*2
						σ [mho/m]	5.30	5.34	0.8	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5200	εr	49.0	48.5	-1.0	+/-5	*2
						σ [mho/m]	5.30	5.28	-0.4	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5210	εr	49.0	48.3	-1.4	+/-5	*2
						σ [mho/m]	5.31	5.30	-0.2	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5220	εr	49.0	47.9	-2.3	+/-5	*2
						σ [mho/m]	5.32	5.16	-3.1	+/-5	
22-Oct	24	50	MBBL 3.5-5.8	23.5	5230	εr	49.0	47.8	-2.3	+/-5	*2
						σ [mho/m]	5.34	5.12	-4.0	+/-5	
17-Oct	24	48	MBBL 3.5-5.8	23.5	5270	εr	48.9	48.1	-1.7	+/-5	*2
						σ [mho/m]	5.38	5.59	3.8	+/-5	
17-Oct	24	48	MBBL 3.5-5.8	23.5	5280	εr	48.9	47.3	-3.3	+/-5	*2
						σ [mho/m]	5.40	5.54	2.7	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5280	εr	48.9	46.9	-4.2	+/-5	*2
						σ [mho/m]	5.40	5.26	-2.5	+/-5	
17-Oct	24	48	MBBL 3.5-5.8	23.5	5290	εr	48.9	48.1	-1.6	+/-5	*2
						σ [mho/m]	5.41	5.51	1.8	+/-5	
17-Oct	24	48	MBBL 3.5-5.8	23.5	5300	εr	48.9	47.6	-2.7	+/-5	*2
						σ [mho/m]	5.42	5.59	3.1	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5300	εr	48.9	48.7	-0.4	+/-5	*2
						σ [mho/m]	5.42	5.59	3.1	+/-5	
17-Oct	24	48	MBBL 3.5-5.8	23.5	5310	εr	48.9	48.0	-1.9	+/-5	*2
						σ [mho/m]	5.43	5.51	1.4	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5520	εr	48.6	47.9	-1.4	+/-5	*2
						σ [mho/m]	5.67	5.82	2.5	+/-5	
18-Oct	24	51	MBBL 3.5-5.8	23.5	5580	εr	48.5	46.3	-4.5	+/-5	*2
						σ [mho/m]	5.75	5.74	-0.1	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5580	εr	48.5	47.8	-1.4	+/-5	*2
						σ [mho/m]	5.75	5.79	0.7	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5590	εr	48.5	47.8	-1.5	+/-5	*2
						σ [mho/m]	5.76	5.84	1.3	+/-5	
17-Oct	24	48	MBBL 3.5-5.8	23.5	5600	εr	48.5	46.3	-4.5	+/-5	*2
						σ [mho/m]	5.77	5.77	0.0	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5600	εr	48.5	47.8	-1.4	+/-5	*2
						σ [mho/m]	5.77	5.88	1.9	+/-5	

24-Oct	24	53	MBBL 3.5-5.8	23.5	5610	εr	48.5	47.9	-1.1	+/-5	*2
						σ [mho/m]	5.78	5.84	1.0	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5620	εr	48.5	47.8	-1.5	+/-5	*2
						σ [mho/m]	5.79	5.85	1.0	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5660	εr	48.4	47.9	-1.1	+/-5	*2
						σ [mho/m]	5.84	5.98	2.4	+/-5	
20-Oct	24	46	MBBL 3.5-5.8	23.5	5775	εr	48.2	47.4	-1.7	+/-5	*2
						σ [mho/m]	5.97	5.96	-0.2	+/-5	
20-Oct	24	46	MBBL 3.5-5.8	23.5	5785	εr	48.2	46.8	-2.9	+/-5	*2
						σ [mho/m]	5.98	5.93	-0.9	+/-5	
23-Oct	24	50	MBBL 3.5-5.8	23.5	5785	εr	48.2	47.9	-0.6	+/-5	*2
						σ [mho/m]	5.98	5.87	-2.0	+/-5	
20-Oct	24	46	MBBL 3.5-5.8	23.5	5795	εr	48.2	47.4	-1.8	+/-5	*2
						σ [mho/m]	5.99	5.95	-0.8	+/-5	
20-Oct	24	46	MBBL 3.5-5.8	23.5	5800	εr	48.2	47.2	-2.2	+/-5	*1
						σ [mho/m]	6.00	5.92	-1.4	+/-5	
23-Oct	24	50	MBBL 3.5-5.8	23.5	5800	εr	48.2	46.9	-2.7	+/-5	*1
						σ [mho/m]	6.00	5.86	-2.3	+/-5	

(3)SAR correction for deviations of complex permittivity from target

ΔSAR = cε Δεr+ cσ Δσ
<1g>
$C\varepsilon=-7.854\times10^{-4}f^3+9.402\times10^{-3}f^2-2.742\times10^{-2}f-0.2026$
$C\sigma=9.804\times10^{-3}f^3-8.661\times10^{-2}f^2+2.981\times10^{-2}f+0.7829$

<10g>
$C\varepsilon=3.456\times10^{-3}f^3-3.531\times10^{-2}f^2+7.675\times10^{-2}f-0.1860$
$C\sigma=4.479\times10^{-3}f^3-1.586\times10^{-2}f^2-0.1972f+0.7717$
'f ' is the frequency in GHz.

The measured SAR results are not corrected because ⊿SAR has a positive sign.
When ⊿SAR is positive sign, SAR value will become small if corrected calculation of SAR is performed.
Therefore, corrected calculation is not performed.

Date		16-Oct
	f(GHz)=	5.2
	⊿εr(%)=	-2.70
	⊿σ(%)=	0.60
1g	Cε=	-0.2014
	Cσ=	-0.0255
	⊿SAR(%)=	0.53
10g	Cε=	-0.2557
	Cσ=	-0.0528
	⊿SAR(%)=	0.66

Date		22-Oct
	f(GHz)=	5.2
	⊿εr(%)=	-1.20
	⊿σ(%)=	0.80
1g	Cε=	-0.2014
	Cσ=	-0.0255
	⊿SAR(%)=	0.22
10g	Cε=	-0.2557
	Cσ=	-0.0528
	⊿SAR(%)=	0.26

Date		24-Oct
	f(GHz)=	5.2
	⊿εr(%)=	-1.00
	⊿σ(%)=	-0.40
1g	Cε=	-0.2014
	Cσ=	-0.0255
	⊿SAR(%)=	0.21
10g	Cε=	-0.2557
	Cσ=	-0.0528
	⊿SAR(%)=	0.28

Date		24-Oct
	f(GHz)=	5.21
	⊿εr(%)=	-1.40
	⊿σ(%)=	-0.20
1g	Cε=	-0.2013
	Cσ=	-0.0263
	⊿SAR(%)=	0.29
10g	Cε=	-0.2558
	Cσ=	-0.0528
	⊿SAR(%)=	0.37

Date		24-Oct
	f(GHz)=	5.22
	⊿εr(%)=	-2.30
	⊿σ(%)=	-3.10
1g	Cε=	-0.2013
	Cσ=	-0.0270
	⊿SAR(%)=	0.55
10g	Cε=	-0.2559
	Cσ=	-0.0528
	⊿SAR(%)=	0.75

Date		22-Oct
	f(GHz)=	5.23
	⊿εr(%)=	-2.30
	⊿σ(%)=	-4.00
1g	Cε=	-0.2012
	Cσ=	-0.0277
	⊿SAR(%)=	0.57
10g	Cε=	-0.2560
	Cσ=	-0.0527
	⊿SAR(%)=	0.80

Date		17-Oct
	f(GHz)=	5.27
	⊿εr(%)=	-1.70
	⊿σ(%)=	3.80
1g	Cε=	-0.2009
	Cσ=	-0.0305
	⊿SAR(%)=	0.23
10g	Cε=	-0.2564
	Cσ=	-0.0525
	⊿SAR(%)=	0.24

Date		17-Oct
	f(GHz)=	5.28
	⊿εr(%)=	-3.30
	⊿σ(%)=	2.70
1g	Cε=	-0.2009
	Cσ=	-0.0311
	⊿SAR(%)=	0.58
10g	Cε=	-0.2564
	Cσ=	-0.0524
	⊿SAR(%)=	0.70

Date		24-Oct
	f(GHz)=	5.28
	⊿εr(%)=	-4.20
	⊿σ(%)=	-2.50
1g	Cε=	-0.2009
	Cσ=	-0.0311
	⊿SAR(%)=	0.92
10g	Cε=	-0.2564
	Cσ=	-0.0524
	⊿SAR(%)=	1.21

Date		17-Oct
	f(GHz)=	5.29
	⊿εr(%)=	-1.60
	⊿σ(%)=	1.80
1g	Cε=	-0.2008
	Cσ=	-0.0318
	⊿SAR(%)=	0.26
10g	Cε=	-0.2565
	Cσ=	-0.0523
	⊿SAR(%)=	0.32

Date		17-Oct
	f(GHz)=	5.3
	⊿εr(%)=	-2.70
	⊿σ(%)=	3.10
1g	Cε=	-0.2008
	Cσ=	-0.0324
	⊿SAR(%)=	0.44
10g	Cε=	-0.2566
	Cσ=	-0.0521
	⊿SAR(%)=	0.53

Date		17-Oct
	f(GHz)=	5.31
	⊿εr(%)=	-1.90
	⊿σ(%)=	1.40
1g	Cε=	-0.2007
	Cσ=	-0.0330
	⊿SAR(%)=	0.34
10g	Cε=	-0.2566
	Cσ=	-0.0520
	⊿SAR(%)=	0.41

Date		24-Oct
	f(GHz)=	5.52
	⊿εr(%)=	-1.40
	⊿σ(%)=	2.50
1g	Cε=	-0.1996
	Cσ=	-0.0426
	⊿SAR(%)=	0.17
10g	Cε=	-0.2570
	Cσ=	-0.0468
	⊿SAR(%)=	0.24

Date		18-Oct
	f(GHz)=	5.58
	⊿εr(%)=	-4.50
	⊿σ(%)=	-0.10
1g	Cε=	-0.1993
	Cσ=	-0.0441
	⊿SAR(%)=	0.90
10g	Cε=	-0.2567
	Cσ=	-0.0443
	⊿SAR(%)=	1.16

Date		24-Oct
	f(GHz)=	5.58
	⊿εr(%)=	-1.40
	⊿σ(%)=	0.70
1g	Cε=	-0.1993
	Cσ=	-0.0441
	⊿SAR(%)=	0.25
10g	Cε=	-0.2567
	Cσ=	-0.0443
	⊿SAR(%)=	0.33

Date		24-Oct
	f(GHz)=	5.59
	⊿εr(%)=	-1.50
	⊿σ(%)=	1.30
1g	Cε=	-0.1993
	Cσ=	-0.0443
	⊿SAR(%)=	0.24
10g	Cε=	-0.2567
	Cσ=	-0.0439
	⊿SAR(%)=	0.33

Date		24-Oct
	f(GHz)=	5.61
	⊿εr(%)=	-1.10
	⊿σ(%)=	1.00
1g	Cε=	-0.1992
	Cσ=	-0.0447
	⊿SAR(%)=	0.17
10g	Cε=	-0.2565
	Cσ=	-0.0429
	⊿SAR(%)=	0.24

Date		24-Oct
	f(GHz)=	5.62
	⊿εr(%)=	-1.50
	⊿σ(%)=	1.00
1g	Cε=	-0.1992
	Cσ=	-0.0448
	⊿SAR(%)=	0.25
10g	Cε=	-0.2565
	Cσ=	-0.0425
	⊿SAR(%)=	0.34

Date		24-Oct
	f(GHz)=	5.66
	⊿εr(%)=	-1.10
	⊿σ(%)=	2.40
1g	Cε=	-0.1990
	Cσ=	-0.0453
	⊿SAR(%)=	0.11
10g	Cε=	-0.2561
	Cσ=	-0.0404
	⊿SAR(%)=	0.18

Date		20-Oct
	f(GHz)=	5.775
	⊿εr(%)=	-1.70
	⊿σ(%)=	-0.20
1g	Cε=	-0.1987
	Cσ=	-0.0452
	⊿SAR(%)=	0.35
10g	Cε=	-0.2548
	Cσ=	-0.0334
	⊿SAR(%)=	0.44

Date		20-Oct
	f(GHz)=	5.785
	⊿εr(%)=	-2.90
	⊿σ(%)=	-0.90
1g	Cε=	-0.1986
	Cσ=	-0.0451
	⊿SAR(%)=	0.62
10g	Cε=	-0.2546
	Cσ=	-0.0327
	⊿SAR(%)=	0.77

Date		23-Oct
	f(GHz)=	5.785
	⊿εr(%)=	-0.60
	⊿σ(%)=	-2.00
1g	Cε=	-0.1986
	Cσ=	-0.0451
	⊿SAR(%)=	0.21
10g	Cε=	-0.2546
	Cσ=	-0.0327
	⊿SAR(%)=	0.22

Date		20-Oct
	f(GHz)=	5.795
	⊿εr(%)=	-1.80
	⊿σ(%)=	-0.80
1g	Cε=	-0.1986
	Cσ=	-0.0450
	⊿SAR(%)=	0.39
10g	Cε=	-0.2545
	Cσ=	-0.0320
	⊿SAR(%)=	0.48

(4)Result of Body SAR

5.2GHz Band

Antenna Type A

Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
40	5200	11a 6Mbps	13.25	21.13	13.50	22.39	Flat	1	Top	0	**0.357**	**N/A**	**0.378**
40	5200	11a 6Mbps	13.25	21.13	13.50	22.39	Flat	1	Rear	0	**0.560**	**N/A**	**0.593**
40	5200	11a 6Mbps	13.25	21.13	13.50	22.39	Flat	1	Left	0	**0.092**	**N/A**	**0.097**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
40	5200	11a 6Mbps	13.18	20.80	13.50	22.39	Flat	2	Top	0	**0.450**	**N/A**	**0.484**
40	5200	11a 6Mbps	13.18	20.80	13.50	22.39	Flat	2	Rear	0	**0.499**	**N/A**	**0.537**

Antenna Type B

Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
40	5200	11a 6Mbps	13.25	21.13	13.50	22.39	Flat	1	Top	0	**0.157**	**N/A**	**0.166**
40	5200	11a 6Mbps	13.25	21.13	13.50	22.39	Flat	1	Rear	0	**0.720**	**N/A**	**0.763**
40	5200	11a 6Mbps	13.25	21.13	13.50	22.39	Flat	1	Left	0	**0.528**	**N/A**	**0.559**
Step.2 Mode change at the worst position													
46	5230	11n40 MCS0	13.11	20.46	13.50	22.39	Flat	1	Rear	0	**0.693**	**N/A**	**0.758**
42	5210	11ac80 VHT0	12.42	17.46	13.50	22.39	Flat	1	Rear	0	**0.696**	**N/A**	**0.893**
Step.3 Channel change (SAR level in Step.1 to 2 > 0.8 W/kg or measured maximum value of SAR > 1.6W/kg)													
44	5220	11a 6Mbps	13.23	21.04	13.50	22.39	Flat	1	Rear	0	**0.506**	**N/A**	**0.538**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
40	5200	11a 6Mbps	13.18	20.80	13.50	22.39	Flat	2	Top	0	**0.292**	**N/A**	**0.314**
40	5200	11a 6Mbps	13.18	20.80	13.50	22.39	Flat	2	Rear	0	**0.496**	**N/A**	**0.534**

*1 Refer to clause 9.2 (3).

*2 Reported SAR= Maximum tune-up tolerance limit [mW] / Measured power [mW] · Measured SAR(⊿SAR correct) [W/kg]

5.3GHz Band
Antenna Type A
Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
56	5280	11a 6Mbps	13.19	20.84	13.50	22.39	Flat	1	Top	0	**0.258**	**N/A**	**0.277**
56	5280	11a 6Mbps	13.19	20.84	13.50	22.39	Flat	1	Rear	0	**0.407**	**N/A**	**0.437**
56	5280	11a 6Mbps	13.19	20.84	13.50	22.39	Flat	1	Left	0	**0.051**	**N/A**	**0.055**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
56	5280	11a 6Mbps	13.14	20.61	13.50	22.39	Flat	2	Top	0	**0.700**	**N/A**	**0.760**
56	5280	11a 6Mbps	13.14	20.61	13.50	22.39	Flat	2	Rear	0	**0.767**	**N/A**	**0.833**
Step.2 Mode change at the worst position													
62	5310	11n40 MCS0	13.25	21.13	13.50	22.39	Flat	2	Rear	0	**0.779**	**N/A**	**0.825**
58	5290	11ac80 VHT0	13.34	21.58	13.50	22.39	Flat	2	Rear	0	**0.798**	**N/A**	**0.828**
Step.3 Channel change (SAR level in Step.1 to 2 > 0.8 W/kg)													
60	5300	11a 6Mbps	13.16	20.70	13.50	22.39	Flat	2	Rear	0	**0.787**	**N/A**	**0.851**
54	5270	11n40 MCS0	13.11	20.46	13.50	22.39	Flat	2	Rear	0	**0.650**	**N/A**	**0.711**

Antenna Type B
Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
56	5280	11a 6Mbps	13.19	20.84	13.50	22.39	Flat	1	Top	0	**0.228**	**N/A**	**0.245**
56	5280	11a 6Mbps	13.19	20.84	13.50	22.39	Flat	1	Rear	0	**0.721**	**N/A**	**0.774**
56	5280	11a 6Mbps	13.19	20.84	13.50	22.39	Flat	1	Left	0	**0.435**	**N/A**	**0.467**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
56	5280	11a 6Mbps	13.14	20.61	13.50	22.39	Flat	2	Top	0	**0.173**	**N/A**	**0.188**
56	5280	11a 6Mbps	13.14	20.61	13.50	22.39	Flat	2	Rear	0	**0.583**	**N/A**	**0.633**

*1 Refer to clause 9.2 (3).
*2 Reported SAR= Maximum tune-up tolerance limit [mW] / Measured power [mW] · Measured SAR(⊿SAR correct) [W/kg]

5.6GHz Band
Antenna Type A
Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
116	5580	11a 6Mbps	13.22	20.99	13.50	22.39	Flat	1	Top	0	**0.072**	**N/A**	**0.077**
116	5580	11a 6Mbps	13.22	20.99	13.50	22.39	Flat	1	Rear	0	**0.231**	**N/A**	**0.246**
116	5580	11a 6Mbps	13.22	20.99	13.50	22.39	Flat	1	Left	0	**0.070**	**N/A**	**0.075**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
116	5580	11a 6Mbps	13.31	21.43	13.50	22.39	Flat	2	Top	0	**0.276**	**N/A**	**0.288**
116	5580	11a 6Mbps	13.31	21.43	13.50	22.39	Flat	2	Rear	0	**0.495**	**N/A**	**0.517**

Antenna Type B
Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
116	5580	11a 6Mbps	13.22	20.99	13.50	22.39	Flat	1	Top	0	**0.301**	**N/A**	**0.321**
116	5580	11a 6Mbps	13.22	20.99	13.50	22.39	Flat	1	Rear	0	**0.650**	**N/A**	**0.693**
116	5580	11a 6Mbps	13.22	20.99	13.50	22.39	Flat	1	Left	0	**0.251**	**N/A**	**0.268**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
116	5580	11a 6Mbps	13.31	21.43	13.50	22.39	Flat	2	Top	0	**0.326**	**N/A**	**0.341**
116	5580	11a 6Mbps	13.31	21.43	13.50	22.39	Flat	2	Rear	0	**0.873**	**N/A**	**0.912**
Step.2 Mode change at the worst position													
118	5590	11n40 MCS0	13.17	20.75	13.50	22.39	Flat	2	Rear	0	**0.664**	**N/A**	**0.716**
122	5610	11ac80 VHT0	13.17	20.75	13.50	22.39	Flat	2	Rear	0	**0.677**	**N/A**	**0.730**
Step.3 Channel change (SAR level in Step.1 to 2 > 0.4 W/kg (11a) or 0.8 W/kg (11n40, 11ac80))													
104	5520	11a 6Mbps	13.18	20.80	13.50	22.39	Flat	2	Rear	0	**1.09**	**N/A**	**1.17**
124	5620	11a 6Mbps	13.30	21.38	13.50	22.39	Flat	2	Rear	0	**0.726**	**N/A**	**0.760**
132	5660	11a 6Mbps	13.23	21.04	13.50	22.39	Flat	2	Rear	0	**0.727**	**N/A**	**0.774**
Step.4 Repeat measurement of worst mode (Measured SAR level in Step.1 to Step.3 > 0.8 w/kg)													
104	5520	11a 6Mbps	13.18	20.80	13.50	22.39	Flat	2	Rear	0	**0.994**	**N/A**	**1.070**

*1 Refer to clause 9.2 (3).
*2 Reported SAR= Maximum tune-up tolerance limit [mW] / Measured power [mW] · Measured SAR(⊿SAR correct) [W/kg]

5.8GHz Band
Antenna Type A
Antenna 1

BODY SAR MEASUREMENT RESULTS														
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
157	5785	11a 6Mbps	12.84	19.23	13.50	22.39	Flat	1	Top	0	**0.226**	**N/A**	**0.263**
157	5785	11a 6Mbps	12.84	19.23	13.50	22.39	Flat	1	Rear	0	**0.418**	**N/A**	**0.487**
157	5785	11a 6Mbps	12.84	19.23	13.50	22.39	Flat	1	Left	0	**0.198**	**N/A**	**0.230**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
157	5785	11a 6Mbps	13.33	21.53	13.50	22.39	Flat	2	Top	0	**0.522**	**N/A**	**0.543**
157	5785	11a 6Mbps	13.33	21.53	13.50	22.39	Flat	2	Rear	0	**0.629**	**N/A**	**0.654**
Step.2 Mode change at the worst position													
159	5795	11n40 MCS0	13.21	20.94	13.50	22.39	Flat	2	Rear	0	**0.734**	**N/A**	**0.785**
155	5775	11ac80 VHT0	12.98	19.86	13.50	22.39	Flat	2	Rear	0	**0.646**	**N/A**	**0.728**

Antenna Type B
Antenna 1

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
157	5785	11a 6Mbps	12.84	19.23	13.50	22.39	Flat	1	Top	0	**0.224**	**N/A**	**0.261**
157	5785	11a 6Mbps	12.84	19.23	13.50	22.39	Flat	1	Rear	0	**0.254**	**N/A**	**0.296**
157	5785	11a 6Mbps	12.84	19.23	13.50	22.39	Flat	1	Left	0	**0.293**	**N/A**	**0.341**

Antenna 2

BODY SAR MEASUREMENT RESULTS													
Frequency		Modulation	Measured power		Maximum tune-up tolerance limit		Phantom Section	EUT Set-up Conditions			Measured SAR(1g) [W/kg]	Measured SAR(1g) ⊿SAR correct [W/kg] *1	Reported SAR(1g) *2 [W/kg]
Channel	[MHz]		[dBm]	[mW]	[dBm]	[mW]		Antenna	Position	Separation [mm]			
Step.1 Position searching													
157	5785	11a 6Mbps	13.33	21.53	13.50	22.39	Flat	2	Top	0	**0.162**	**N/A**	**0.168**
157	5785	11a 6Mbps	13.33	21.53	13.50	22.39	Flat	2	Rear	0	**0.506**	**N/A**	**0.526**

*1 Refer to clause 9.2 (3).
*2 Reported SAR= Maximum tune-up tolerance limit [mW] / Measured power [mW] · Measured SAR(⊿SAR correct) [W/kg]

SECTION 10 Simultaneous Transmission

10.1 Possible simultaneous transmission combination

Usage Scenario	Modes	Mode of Operation	BAND	802.11b/g/n WLAN Antenna1	802.11b/g/n WLAN Antenna2	802.11a/n/ac WLAN Antenna1	802.11a/n/ac WLAN Antenna2	BT 2.4 GHz
Body SAR	2.4GHz WLAN SISO + BT (WLAN 1 Tx)	802.11b/g/n WLAN Antenna1	2.4 GHz	YES	No	No	No	YES
		802.11b/g/n WLAN Antenna2	2.4 GHz	No	YES	No	No	No
	5 GHz Bands WLAN SISO + BT (WLAN 1 Tx)	802.11a/n/ac WLAN Antenna1	5 GHz Bands	No	No	YES	No	YES
		802.11a/n/ac WLAN Antenna2	5 GHz Bands	No	No	No	YES	No
	2.4GHz WLAN MIMO (WLAN 2 Tx)	802.11n WLAN Antenna1	2.4 GHz	YES	YES	No	No	No
		802.11n WLAN Antenna2	2.4 GHz	YES	YES	No	No	No
	5 GHz Bands WLAN MIMO (WLAN 2 Tx)	802.11n/ac WLAN Antenna1	5 GHz Bands	No	No	YES	YES	No
		802.11n/ac WLAN Antenna2	5 GHz Bands	No	No	YES	YES	No

1. Bluetooth transmits using the WLAN Antenna2
2. Bluetooth can transmit simultaneously with the WLAN Antenna1, in either of the WLAN bands.
3. Bluetooth cannot transmit simultaneously with the WLAN Antenna2, in either of the WLAN bands; this also precludes the transmission of Bluetooth when WLAN is in MIMO mode.
4. With a maximum output power of 6.0 mW (7.78 dBm), Bluetooth qualifies for Standalone SAR test exclusion based on the formula for Standalone SAR test exclusion considerations outlined in KDB 447498 D01 . For the exact value that this formula yields, please refer to Section 6 of this report.

10.2 Estimated SAR for simultaneous transmission SAR analysis

Considerations for using estimated SAR values:

1. According to KDB 447498 § 4.1.5 if the antenna is at close proximity to user then the outer surface of the DUT should be treated as the radiating surface. The test separation distance is then determined by the smallest distance between the outer surface of the device and the user. For the purposes of this report close proximity has been defined as closer than 50 mm. For antennas <50 mm from the rear or edge the separation distance used for the estimated SAR calculations is 0mm.
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
3. Output power is the maximum rated power (including tune-up or manufacturing tolerances) and includes source-based averaging.
4. If the antenna separation distance is > 50mm then the estimated SAR value is 0.4 W/Kg.
5. Formulas round separation distance to nearest mm and power to nearest mW before calculating estimated SAR

Estimated SAR for WLAN 1 Tx (SISO) and Bluetooth

Antenna	Tx	Frequency	Output power		Separation distances(mm)						Estimated SAR Value					
		(MHz)	dBm	mW	Top	Rear	Left	Right	Bottom	Front	Top	Rear	Left	Right	Bottom	Front
WLAN - Antenna 1																
WLAN Ant.1	WiFi	2462	15.00	32	0.00	0.00	0.00	283.5	187.2		Measure	Measure	Measure	>200 mm	0.400	N/A
WLAN Ant.1	WiFi	5240	13.50	22	0.00	0.00	0.00	283.5	187.2		Measure	Measure	Measure	>200 mm	0.400	N/A
WLAN Ant.1	WiFi	5320	13.50	22	0.00	0.00	0.00	283.5	187.2		Measure	Measure	Measure	>200 mm	0.400	N/A
WLAN Ant.1	WiFi	5700	13.50	22	0.00	0.00	0.00	283.5	187.2		Measure	Measure	Measure	>200 mm	0.400	N/A
WLAN Ant.1	WiFi	5825	13.50	22	0.00	0.00	0.00	283.5	187.2		Measure	Measure	Measure	>200 mm	0.400	N/A
Bluetooth / WLAN - Antenna 2																
WLAN Ant.2	WiFi	2462	15.00	32	0.00	0.00	92.5	200.5	187.2		Measure	Measure	0.400	>200 mm	0.400	N/A
WLAN Ant.2	WiFi	5240	13.50	22	0.00	0.00	92.5	200.5	187.2		Measure	Measure	0.400	>200 mm	0.400	N/A
WLAN Ant.2	WiFi	5320	13.50	22	0.00	0.00	92.5	200.5	187.2		Measure	Measure	0.400	>200 mm	0.400	N/A
WLAN Ant.2	WiFi	5700	13.50	22	0.00	0.00	92.5	200.5	187.2		Measure	Measure	0.400	>200 mm	0.400	N/A
WLAN Ant.2	WiFi	5825	13.50	22	0.00	0.00	92.5	200.5	187.2		Measure	Measure	0.400	>200 mm	0.400	N/A
WLAN Ant.2	Bluetooth	2480	7.78	6	0.00	0.00	92.5	200.5	187.2		0.252	0.252	0.400	>200 mm	0.400	N/A

- Estimated SAR for 2 Tx (MIMO) was not assessed as the higher 1 Tx (SISO) SAR values were used for simultaneous transmission analysis.
- As Simultaneous Transmission SAR of the EUT was compliant under the higher power conditions of WLAN 1 Tx, it was judged that such analyses would be unnecessary for WLAN 2 Tx (MIMO), given the substantially lower MIMO power levels and considerable separation distance between WLAN Antenna1 and the WLAN Antenna2.
- Wherever appropriate, WLAN 1 Tx (SISO) SAR values were used to represent those of WLAN 2 Tx (MIMO); if compliance can be shown with the more conservative WLAN 1 Tx values, then there is no need to perform separate assessment for WLAN 2 Tx.

10.3 Simultaneous transmission SAR analysis

(1) Top position for WLAN 2 Tx (MIMO)

Test Position	WLAN Antenna1	WLAN Antenna2	Bluetooth	∑ 1-g SAR (mW/g)
Top, 2.4 GHz	0.206	0.174		0.380
Antenna typeA	0.206		0.252	0.458
Top, 2.4 GHz	0.315	0.190		0.505
Antenna typeB	0.315		0.252	0.567
Top, 5.2 GHz	0.378	0.484		0.862
Antenna typeA	0.378		0.252	0.630
Top, 5.2 GHz	0.166	0.314		0.480
Antenna typeB	0.166		0.252	0.418
Top, 5.3 GHz	0.277	0.760		1.037
Antenna typeA	0.277		0.252	0.529
Top, 5.3 GHz	0.245	0.188		0.433
Antenna typeB	0.245		0.252	0.497
Top, 5.6 GHz	0.077	0.288		0.365
Antenna typeA	0.077		0.252	0.329
Top, 5.6 GHz	0.321	0.341		0.662
Antenna typeA	0.321		0.252	0.573
Top, 5.8 GHz	0.263	0.543		0.806
Antenna typeA	0.263		0.252	0.515
Top, 5.8 GHz	0.261	0.168		0.429
Antenna typeB	0.261		0.252	0.513

- Bluetooth and WLAN Ant.2 cannot simultaneously transmit
- Values shaded green are estimated SAR

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

(2) Rear position for WLAN 2 Tx (MIMO)

Test Position	WLAN Antenna1	WLAN Antenna2	Bluetooth	∑ 1-g SAR (mW/g)
Rear, 2.4 GHz	0.850	1.180		2.030
Antenna typeA	0.850		0.252	1.102
Rear, 2.4 GHz	1.002	0.801		1.803
Antenna typeB	1.002		0.252	1.254
Rear, 5.2 GHz	0.593	0.537		1.130
Antenna typeA	0.593		0.252	0.845
Rear, 5.2 GHz	0.893	0.534		1.427
Antenna typeB	0.893		0.252	1.145
Rear, 5.3 GHz	0.437	0.851		1.288
Antenna typeA	0.437		0.252	0.689
Rear, 5.3 GHz	0.774	0.633		1.407
Antenna typeB	0.774		0.252	1.026
Rear, 5.6 GHz	0.246	0.517		0.763
Antenna typeA	0.246		0.252	0.498
Rear, 5.6 GHz	0.693	1.170		1.863
Antenna typeB	0.693		0.252	0.945
Rear, 5.8 GHz	0.487	0.785		1.272
Antenna typeA	0.487		0.252	0.739
Rear, 5.8 GHz	0.296	0.526		0.822
Antenna typeB	0.296		0.252	0.548

- Bluetooth and WLAN Ant.2 cannot simultaneously transmit
- Values shaded green are estimated SAR

SAR to Peak Location Separation Ratio (SPLSR)

Case #	Test Position	Worst-case combination		∑ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR	Figure
		WLAN 2.4GHz Antenna1 typeA	WLAN 2.4GHz Antenna2 typeA				
1	Rear	0.850	1.180	2.030	73.7	0.039	1

Case #	Test Position	Worst-case combination		∑ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR	Figure
		WLAN 2.4GHz Antenna1 typeB	WLAN 2.4GHz Antenna2 typeB				
2	Rear	1.002	0.801	1.803	102.1	0.024	2

Case #	Test Position	Worst-case combination		∑ 1-g SAR (mW/g)	Calculated distance (mm)	SPLSR	Figure
		WLAN 5.6GHz Antenna1 typeB	WLAN 5.6GHz Antenna2 typeB				
3	Rear	0.693	1.17	1.863	84.0	0.030	3

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

(3) Left position for WLAN 2 Tx (MIMO)

Test Position	WLAN Antenna1	WLAN Antenna2	Bluetooth	∑ 1-g SAR (mW/g)
Left, 2.4 GHz Antenna typeA	0.677	0.400		1.077
	0.677		0.400	1.077
Left, 2.4 GHz Antenna typeB	0.281	0.400		0.681
	0.281		0.400	0.681
Left, 5.2 GHz Antenna typeA	0.097	0.400		0.497
	0.097		0.400	0.497
Left, 5.2 GHz Antenna typeB	0.559	0.400		0.959
	0.559		0.400	0.959
Left, 5.3 GHz Antenna typeA	0.055	0.400		0.455
	0.055		0.400	0.455
Left, 5.3 GHz Antenna typeB	0.467	0.400		0.867
	0.467		0.400	0.867
Left, 5.6 GHz Antenna typeA	0.075	0.400		0.475
	0.075		0.400	0.475
Left, 5.6 GHz Antenna typeA	0.268	0.400		0.668
	0.268		0.400	0.668
Left, 5.8 GHz Antenna typeA	0.230	0.400		0.630
	0.230		0.400	0.630
Left, 5.8 GHz Antenna typeB	0.341	0.400		0.741
	0.341		0.400	0.741

- Bluetooth and WLAN Ant.2 cannot simultaneously transmit
- Values shaded green are estimated SAR

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

(4) Bottom position for WLAN 2 Tx (MIMO)

Test Position	WLAN Antenna1	WLAN Antenna2	Bluetooth	∑ 1-g SAR (mW/g)
Bottom, 2.4 GHz	0.400	0.400		0.800
Antenna typeA	0.400		0.400	0.800
Bottom, 2.4 GHz	0.400	0.400		0.800
Antenna typeB	0.400		0.400	0.800
Bottom, 5.2 GHz	0.400	0.400		0.800
Antenna typeA	0.400		0.400	0.800
Bottom, 5.2 GHz	0.400	0.400		0.800
Antenna typeB	0.400		0.400	0.800
Bottom, 5.3 GHz	0.400	0.400		0.800
Antenna typeA	0.400		0.400	0.800
Bottom, 5.3 GHz	0.400	0.400		0.800
Antenna typeB	0.400		0.400	0.800
Bottom, 5.6 GHz	0.400	0.400		0.800
Antenna typeA	0.400		0.400	0.800
Bottom, 5.6 GHz	0.400	0.400		0.800
Antenna typeA	0.400		0.400	0.800
Bottom, 5.8 GHz	0.400	0.400		0.800
Antenna typeA	0.400		0.400	0.800
Bottom, 5.8 GHz	0.400	0.400		0.800
Antenna typeB	0.400		0.400	0.800

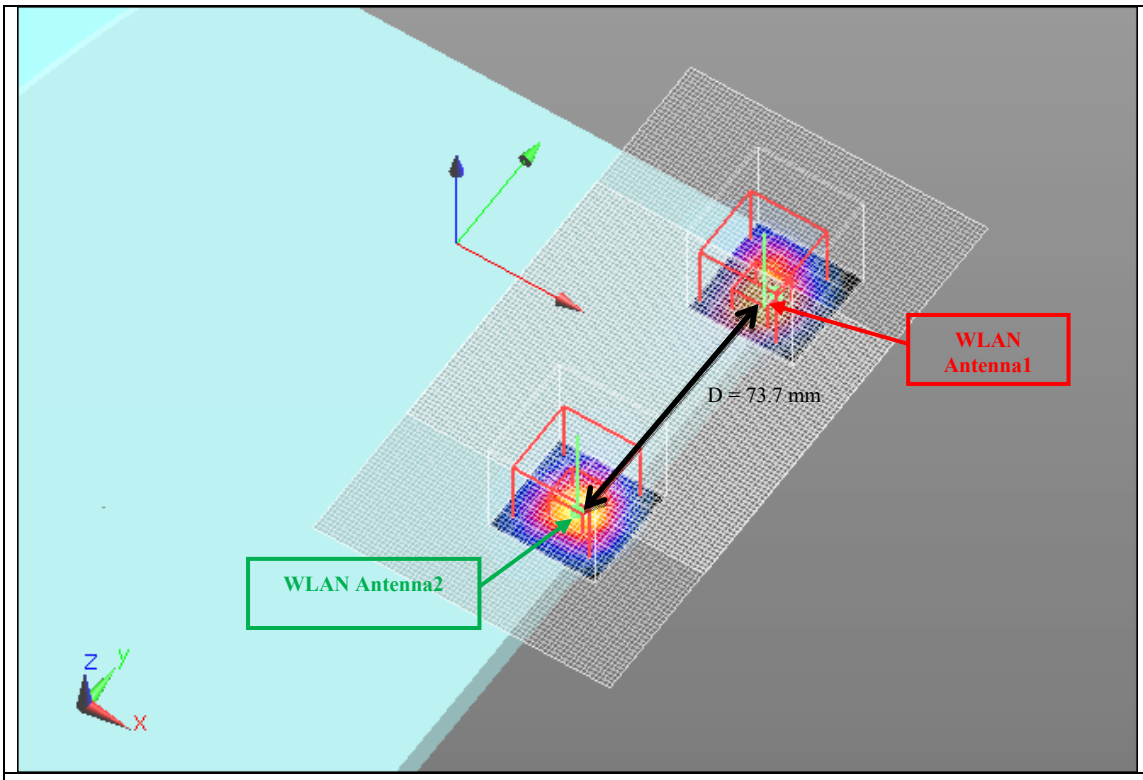
- Bluetooth and WLAN Ant.2 cannot simultaneously transmit
- Values shaded green are estimated SAR

Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

10.4 Separation Distance Calculations and Figures

WLAN Antenna1 typeA 2.4GHz + WLAN Antenna2 typeA 2.4GHz
Figure (1)

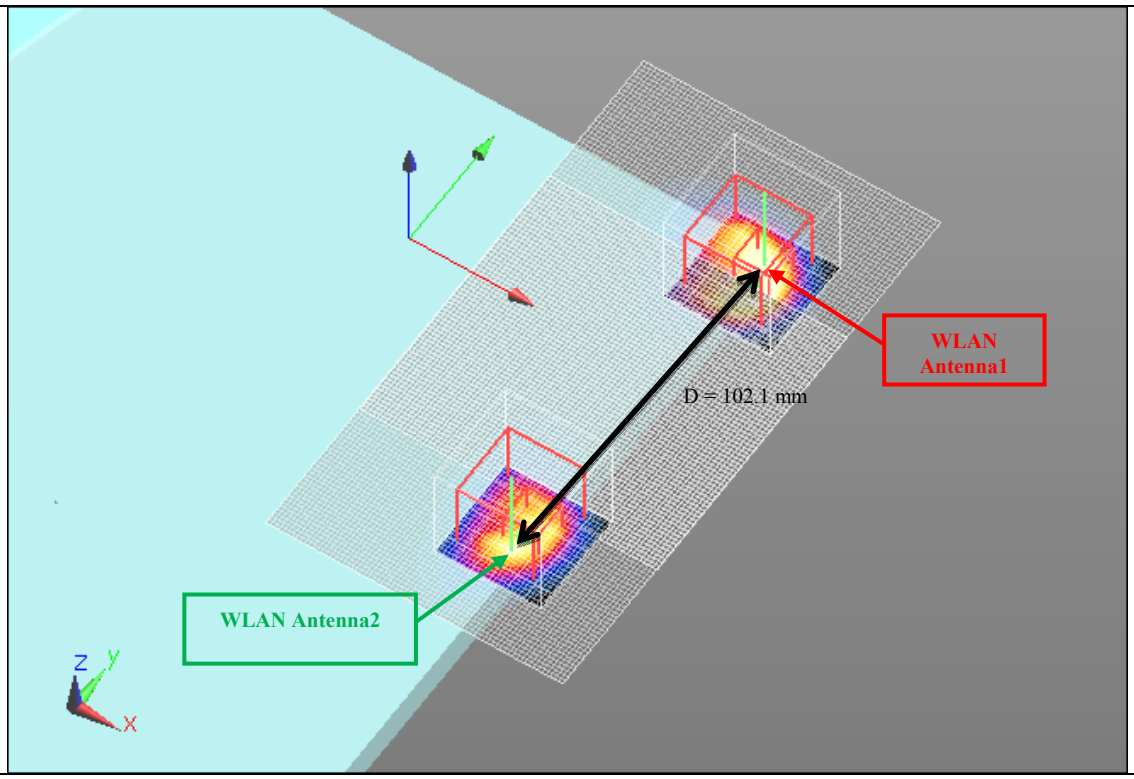


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
WLAN Antenna1 typeA 2.4 GHz	1.92	-0.0048	0.0584	-0.181
WLAN Antenna2 typeA 2.4 GHz	1.57	-0.0012	0.132	-0.181

d: Calculated distance (mm)
73.7

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

WLAN Antenna1 typeB 2.4GHz + WLAN Antenna2 typeB 2.4GHz
Figure (2)

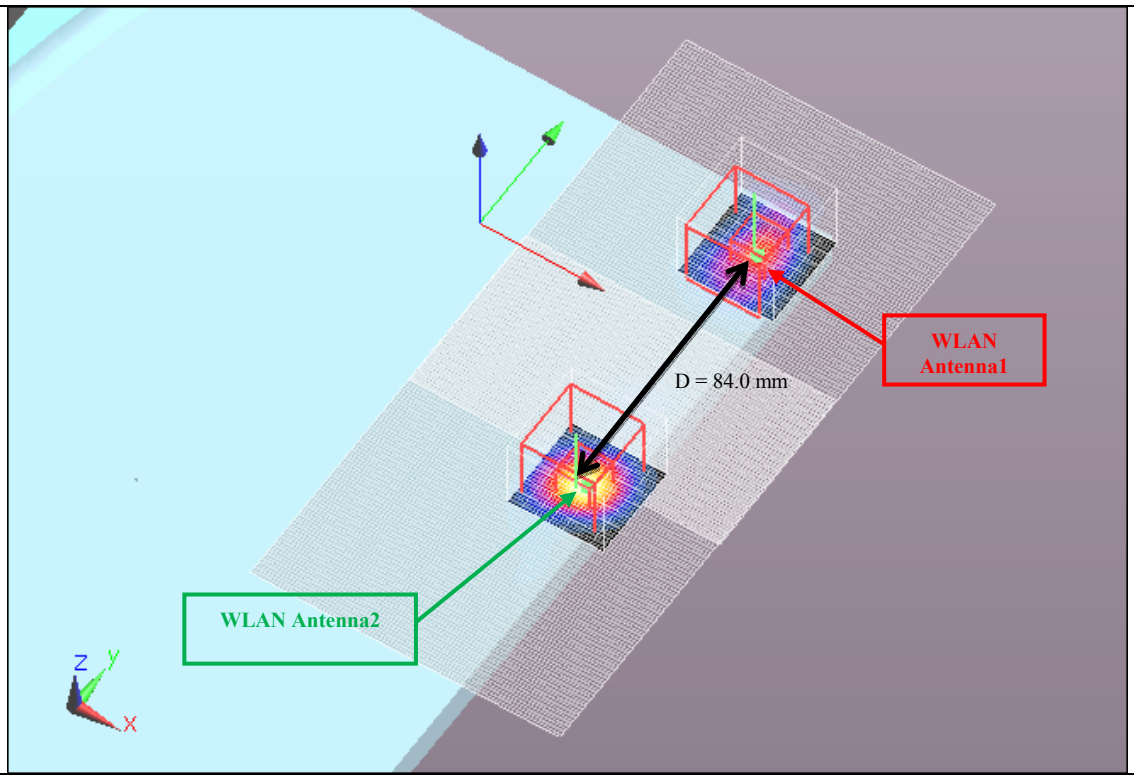


Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
WLAN Antenna1 typeB 2.4 GHz	1.69	0.0024	0.147	-0.181
WLAN Antenna2 typeB 2.4 GHz	1.26	-0.0012	0.045	-0.182

d: Calculated distance (mm)
102.1

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

WLAN Antenna1 typeB 5.6GHz + WLAN Antenna2 typeB 5.6GHz
Figure (3)



Mode	Peak SAR	X	Y	Z
	mW/g	m	m	m
WLAN Antenna1 typeB 5.6 GHz	1.34	-0.008	0.138	-0.177
WLAN Antenna2 typeB 5.6 GHz	2.29	-0.008	0.054	-0.178

d: Calculated distance (mm)
84.0

The Peak Location Separation Distance is computed by using the formula below:
SQRT((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)

SECTION 11 Test instruments

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MVNA-01	Vector Network Analyzer	Schmid&Partner Engineering AG	PLANAR R140	0030913	SAR	2014/01/09 * 12
MOS-37	Digital thermometer	LKM electronic	DTM3000	-	SAR	2014/07/06 * 12
MDPK-03	Dielectric assessment kit	Schmid&Partner Engineering AG	DAK-3.5 Probe	0008	SAR	2014/03/04 * 12
COTS-MSAR-04	Dielectric assessment kit	Schmid&Partner Engineering AG	DAK		SAR	-
MPM-15	Power Meter	Agilent	N1914A	MY53060017	SAR	2014/06/20 * 12
MPSE-20	Power sensor	Agilent	N8482H	MY53050001	SAR	2014/06/20 * 12
MPSE-21	Power sensor	Agilent	N8482H	MY52460010	SAR	2014/07/02 * 12
MHDC-22	Directional Coupler	Agilent	87300B	14893A	SAR	Pre Check
MRFA-24	Pre Amplifier	R&K	R&K CGA020M602-2633R	B30550	SAR	2014/06/19 * 12
MSG-13	Signal Generator	Rohde & Schwarz	SMA 100A	103764	SAR	2014/06/19 * 12
MDA-07	Dipole Antenna	Schmid&Partner Engineering AG	D2450V2	713	SAR(D2450)	2013/09/10 * 24
MDA-08	Dipole Antenna	Schmid&Partner Engineering AG	D5GHzV2	1020	SAR(D5G)	2014/01/17 * 12
MDAE-02	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	1369	SAR	2014/05/14 * 12
MPB-08	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3917	SAR	2014/05/14 * 12
MPF-04	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1207	SAR	2014/06/03 * 12
MDH-04	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-30	Thermo-Hygrometer	Custom	CTH-201	3001	SAR	2014/07/06 * 12
MOS-35	Digital thermometer	HANNA	Checktemp 4	-	SAR	2014/07/06 * 12
COTS-MSAR-03	Dasy5	Schmid&Partner Engineering AG	DASY5	-	SAR	-
MRBT-03	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F13/5PP1D1/A/01	SAR	2014/06/24 * 12
MDAE-01	Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE4	509	SAR	2014/07/28 * 12
MPB-07	Dosimetric E-Field Probe	Schmid&Partner Engineering AG	EX3DV4	3825	SAR	2013/12/13 * 12
MPF-02	2mm Oval Flat Phantom	Schmid&Partner Engineering AG	QDOVA001BB	1045	SAR	2014/05/30 * 12
MDH-01	Device holder	Schmid&Partner Engineering AG	Mounting device for transmitter	-	SAR	Pre Check
MOS-10	Digtal thermometer	HANNA	Checktemp-2	MOS-10	SAR	2014/08/06 * 12
MOS-26	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q29	SAR	2014/05/20 * 12
MRBT-02	SAR robot	Schmid&Partner Engineering AG	TX60 Lspeag	F10/5E3LA1/A/01	SAR	2014/05/09 * 12
MSL2450					Daily check	Target value ± 5%
MBBL3.5-5.8					Daily check	Target value ± 5%
SAR Room					Daily check	Ambient Noise<0.012W/kg

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

APPENDIX 1 : SAR Measurement data

1. Evaluation procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the E-field at a fixed location above the ear point or central position of flat phantom was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of head or body position was measured at a distance of each device from the inner surface of the shell. The area covered the entire dimension of the antenna of EUT and the horizontal grid spacing was 15 mm x 15 mm, 12 mm x 12 mm or 10mm x 10mm. Based on these data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point found in the Step 2 (area scan), a volume of 30mm x 30mm x 30mm or more was assessed by measuring 7 x 7 x 7 points at least for below 3GHz and a volume of 28 mm x 28mm x 22.5mm or more was assessed by measuring 8 x 8 x 6(ratio step method (*1)) points at least for 5GHz band.

And for any secondary peaks found in the Step2 which are within 2dB of maximum peak and not with this Step3 (Zoom scan) is repeated. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

(1). The data at the surface were extrapolated, since the center of the dipoles is 1mm(EX3DV4) away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm [4]. A polynomial of the fourth order was calculated through the points in z-axes.
This polynomial was then used to evaluate the points between the surface and the probe tip.

(2). The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 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) [4], [5]. The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

(3). All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the E-field at the same location as in Step 1.

***1. Ratio step method parameters used;**
The first measurement point: 2mm from the phantom surface, the initial grid separation: 2mm, subsequent graded grid ratio: 1.5
These parameters comply with the requirement of the KDB 865664D01.

2. Measurement data

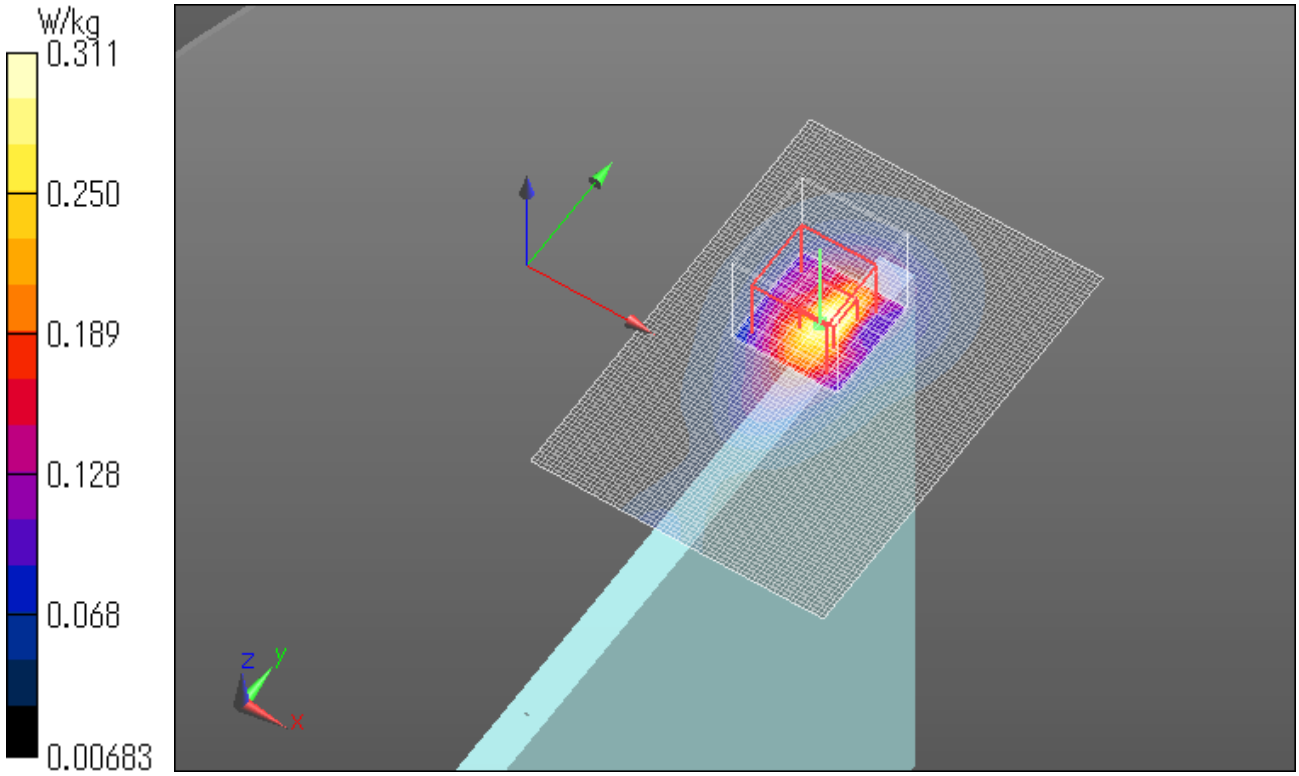
i) WLAN Body 2.4GHz Band

WLAN 11b 1Mbps Ant.1 Top 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.344 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.80 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.542 W/kg
SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.082 W/kg
Maximum value of SAR (measured) = 0.311 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

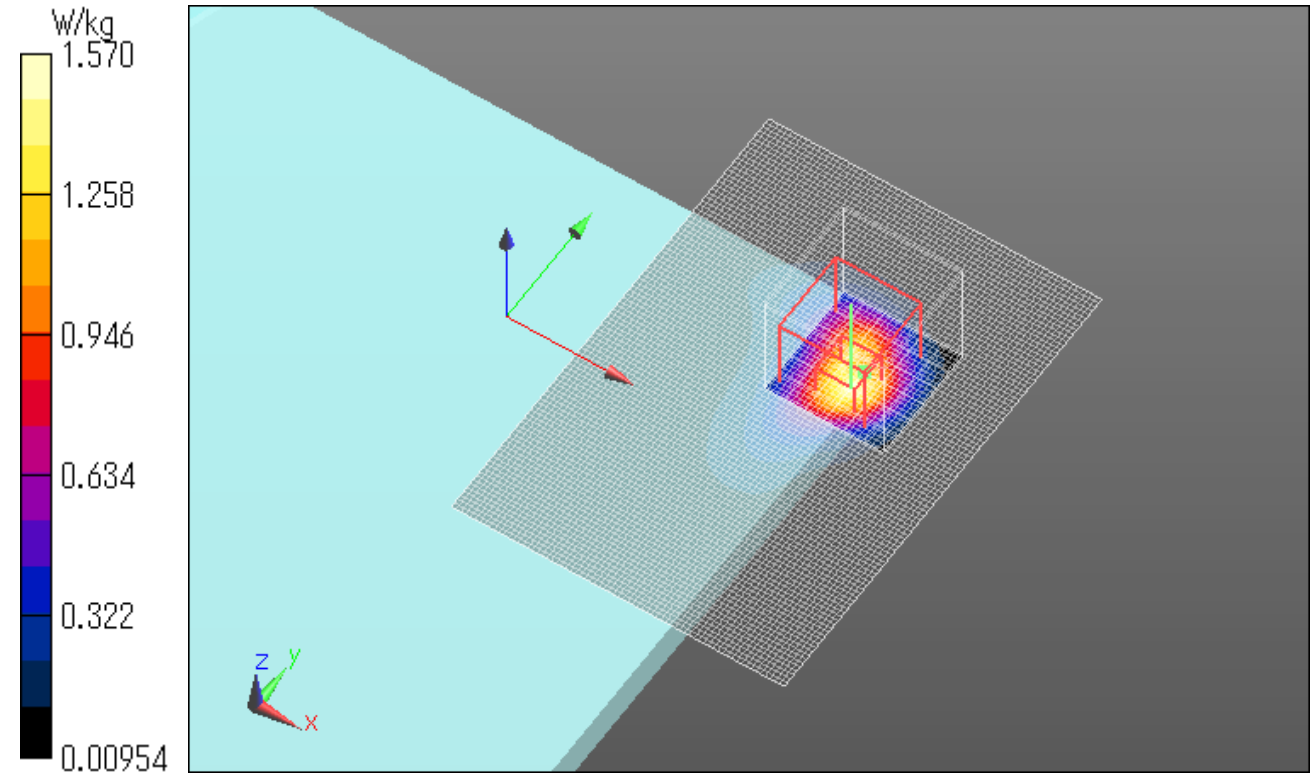


WLAN 11b 1Mbps Ant.1 Rear 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.81 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.70 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.43 W/kg
SAR(1 g) = 0.758 W/kg; SAR(10 g) = 0.342 W/kg
Maximum value of SAR (measured) = 1.57 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

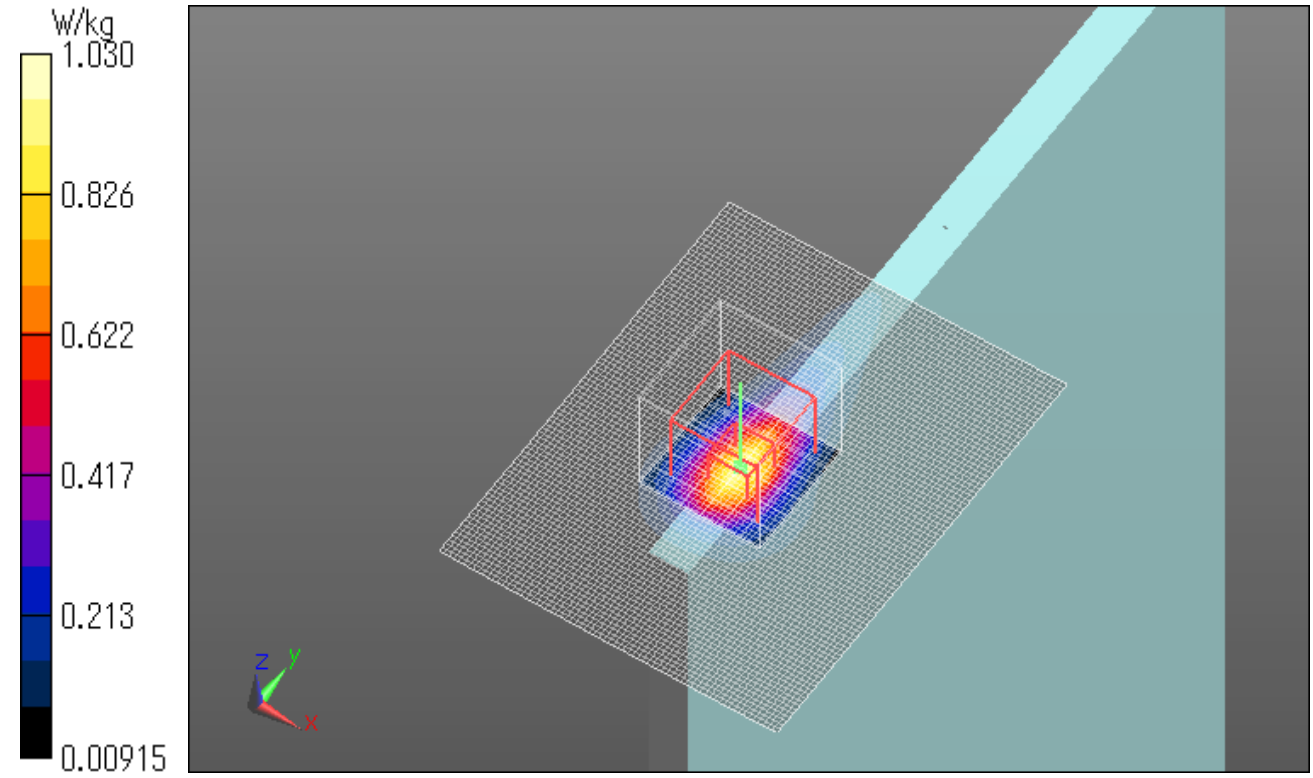


WLAN 11b 1Mbps Ant.1 Left 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.992 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.59 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.603 W/kg; SAR(10 g) = 0.249 W/kg
Maximum value of SAR (measured) = 1.03 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

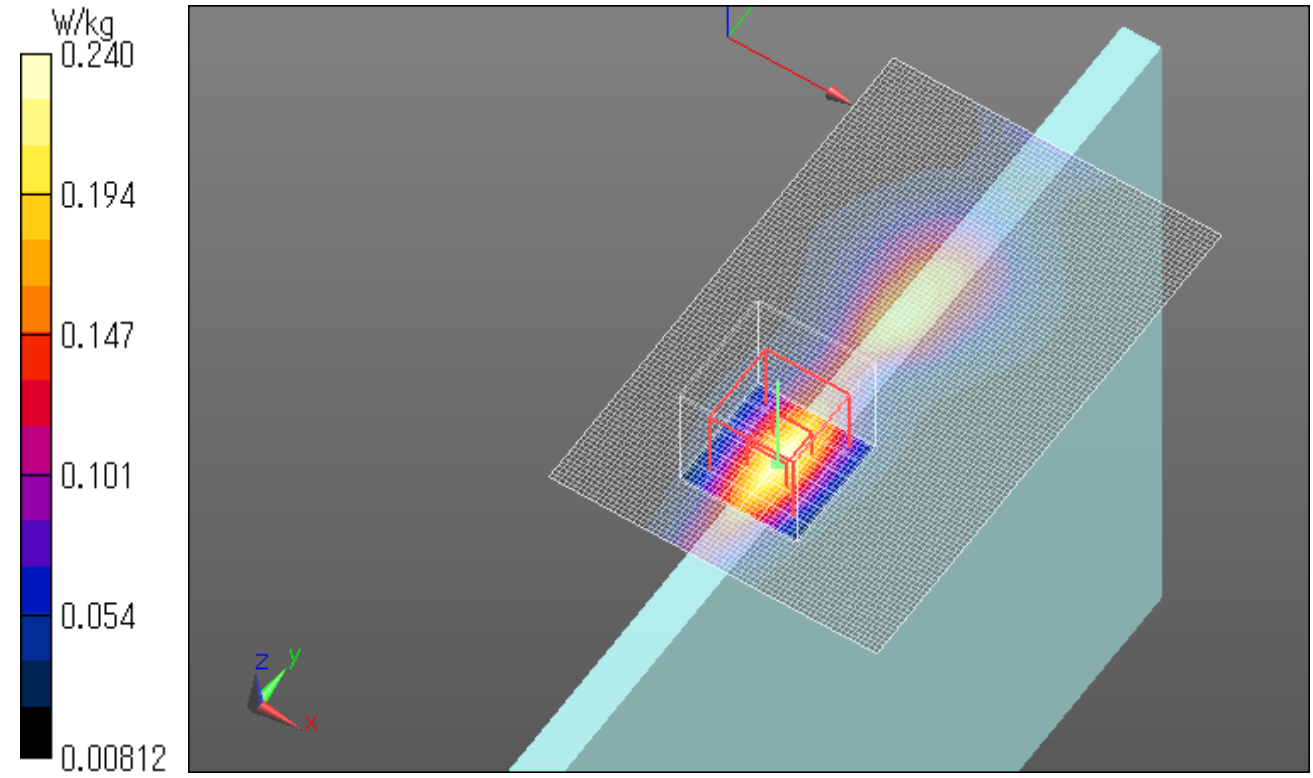


WLAN 11b 1Mbps Ant.2 Top 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x111x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.251 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.38 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.073 W/kg
Maximum value of SAR (measured) = 0.240 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

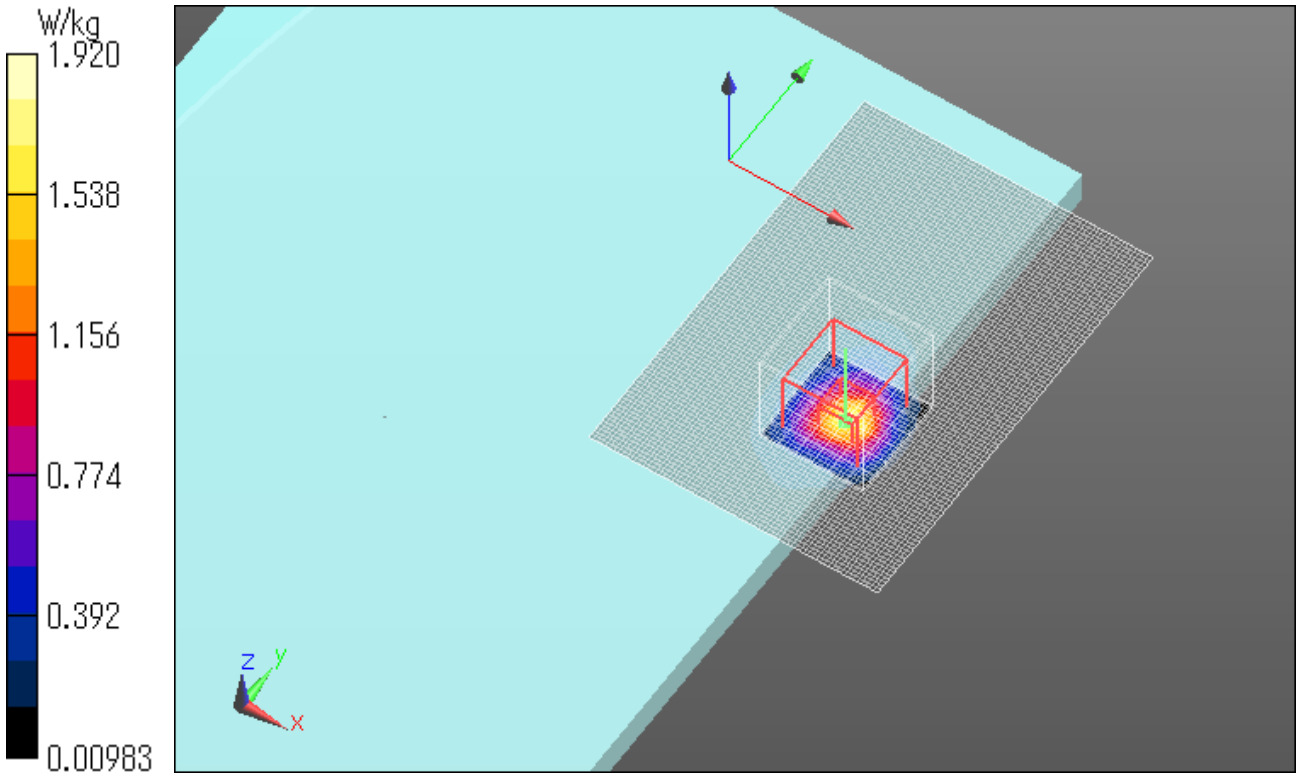


WLAN 11b 1Mbps Ant.2 Rear 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.77 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.14 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 2.85 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.417 W/kg
Maximum value of SAR (measured) = 1.92 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

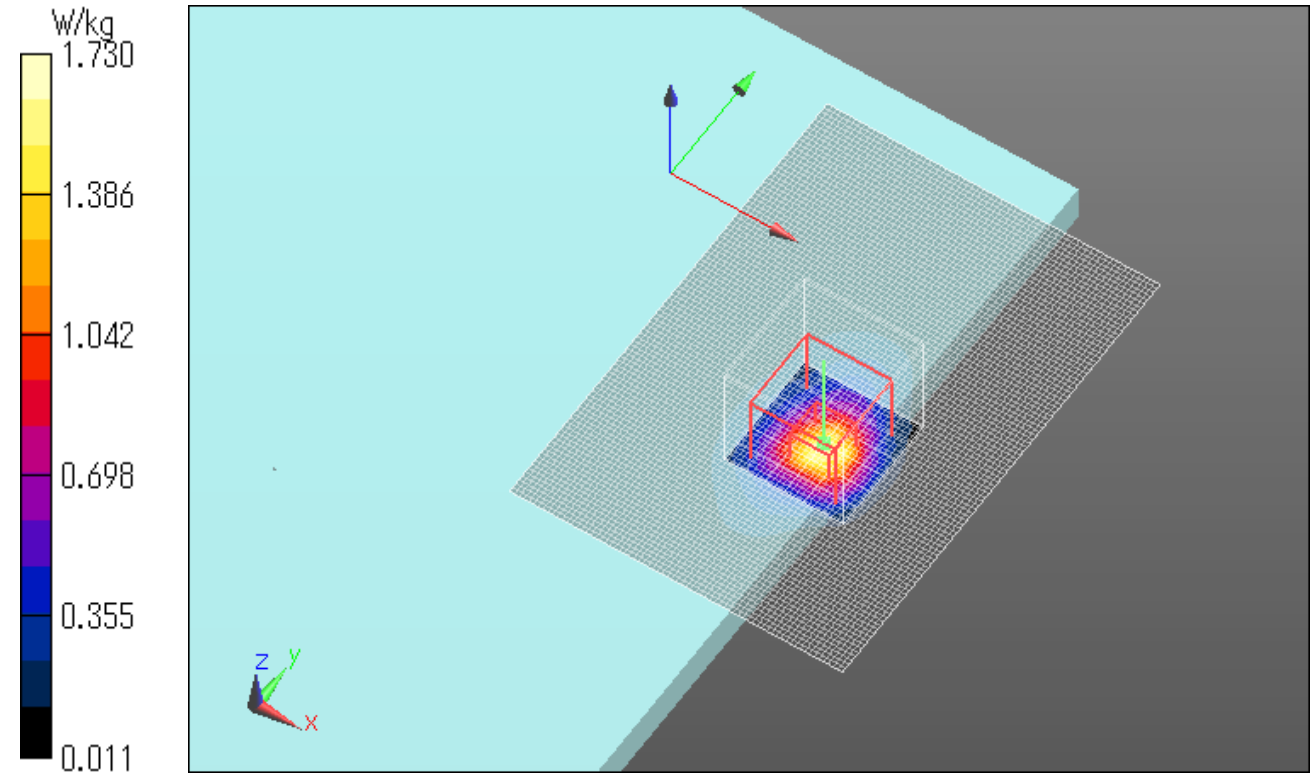


WLAN 11n40 MCS0 Ant.2 Rear 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.68 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.56 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 2.70 W/kg
SAR(1 g) = 1.00 W/kg; SAR(10 g) = 0.394 W/kg
Maximum value of SAR (measured) = 1.73 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

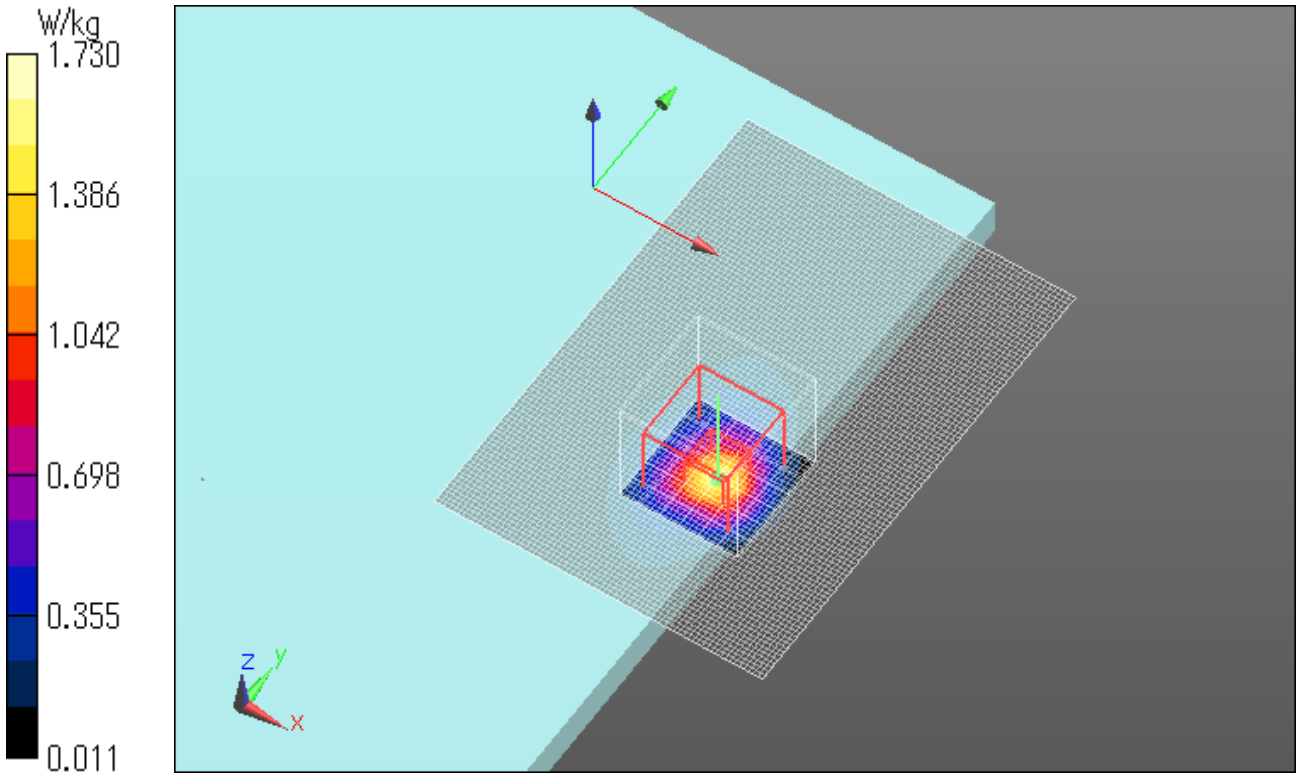


WLAN 11b 1Mbps Ant.2 Rear 0mm 2412MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2412 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.879 S/m; ε_r = 51.209; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.79 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.61 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 2.54 W/kg
SAR(1 g) = 0.981 W/kg; SAR(10 g) = 0.380 W/kg
Maximum value of SAR (measured) = 1.73 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

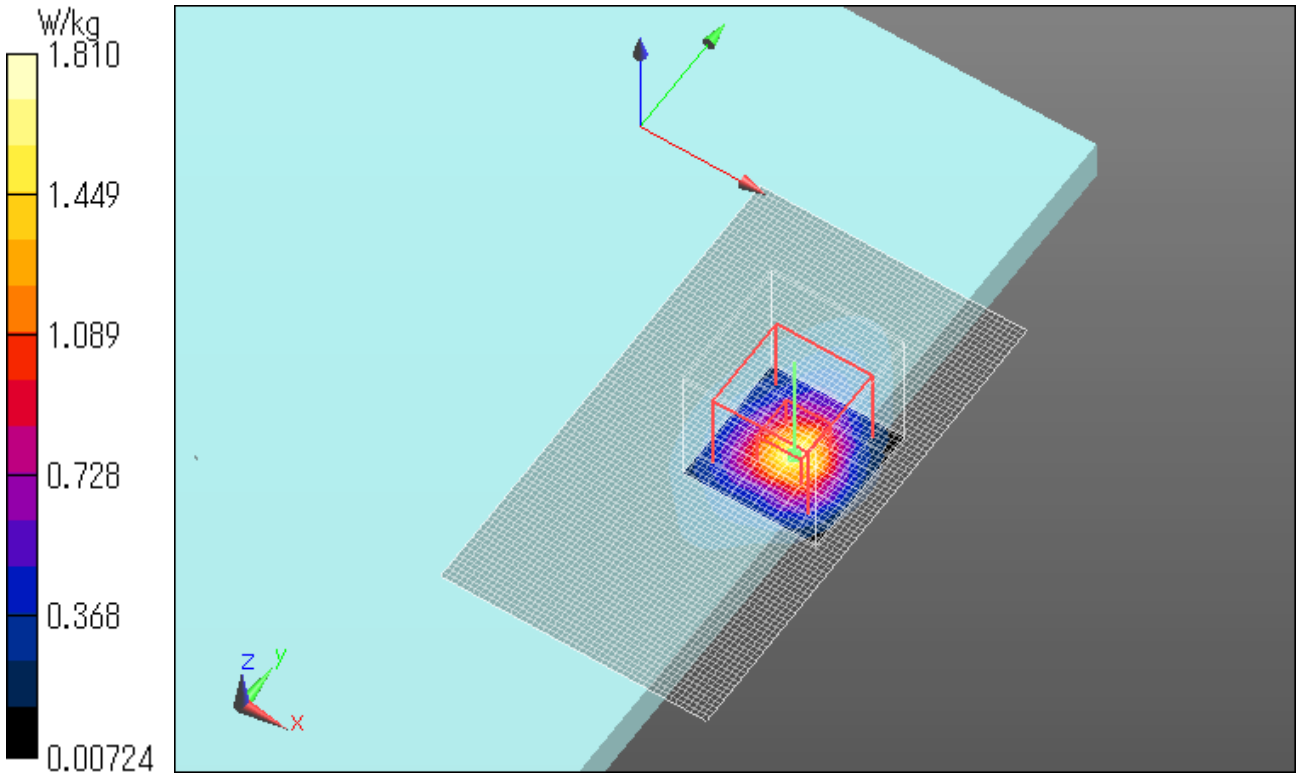


WLAN 11b 1Mbps Ant.2 Rear 0mm 2462MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2462 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.944 S/m; ε_r = 51.041; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (51x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.64 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.07 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.68 W/kg
SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.387 W/kg
Maximum value of SAR (measured) = 1.81 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

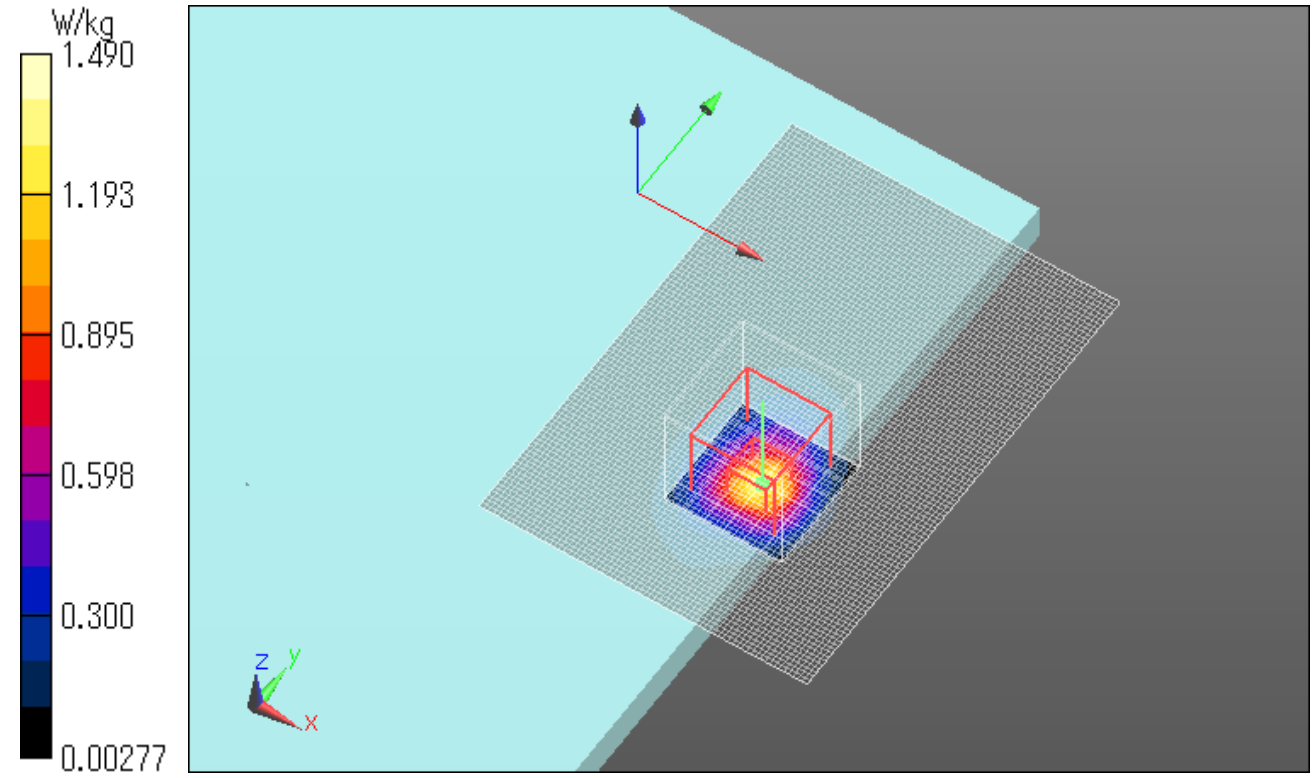


WLAN 11n40 MCS0 Ant.2 Rear 0mm 2422MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2422 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2422 MHz; σ = 1.887 S/m; ε_r = 51.19; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.54 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.50 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 2.25 W/kg
SAR(1 g) = 0.831 W/kg; SAR(10 g) = 0.313 W/kg
Maximum value of SAR (measured) = 1.49 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

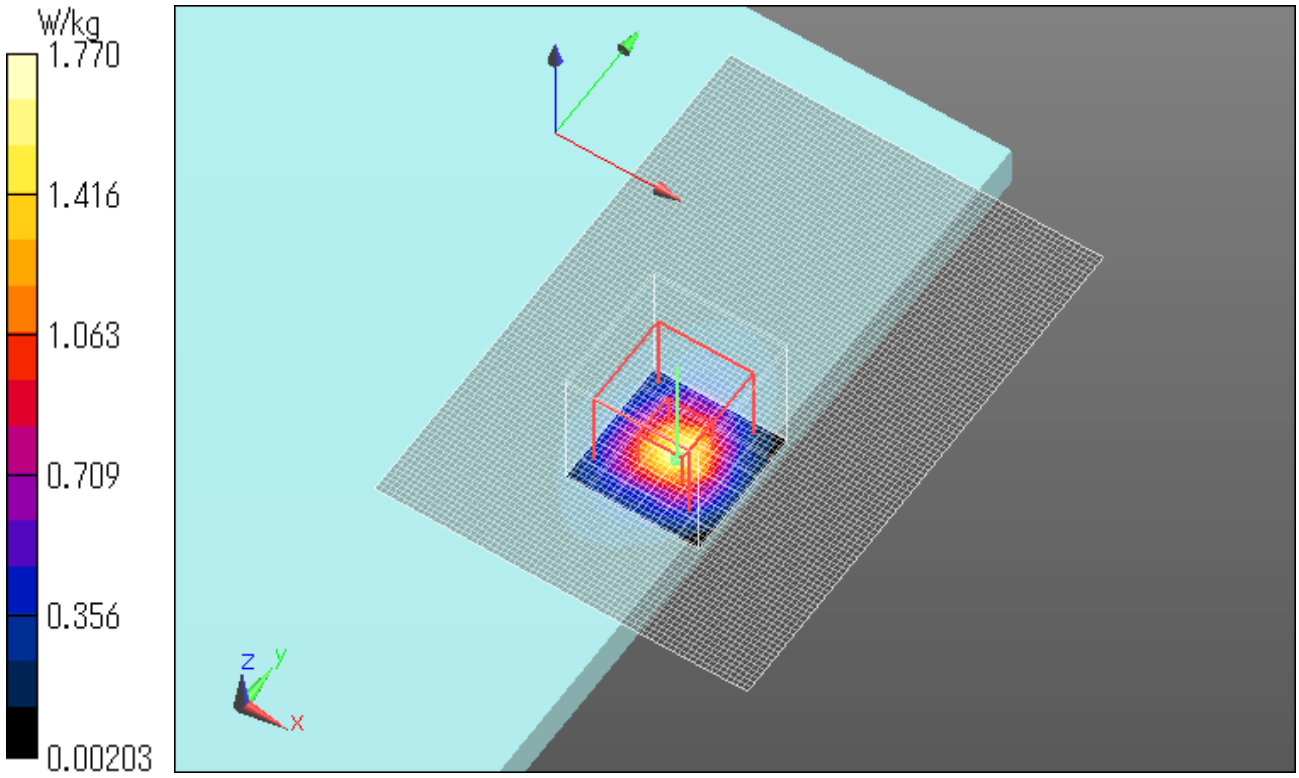


WLAN 11n40 MCS0 Ant.2 Rear 0mm 2452MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2452 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2452 MHz; σ = 1.926 S/m; ε_r = 51.072; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.70 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.40 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 2.71 W/kg
SAR(1 g) = 0.993 W/kg; SAR(10 g) = 0.369 W/kg
Maximum value of SAR (measured) = 1.77 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

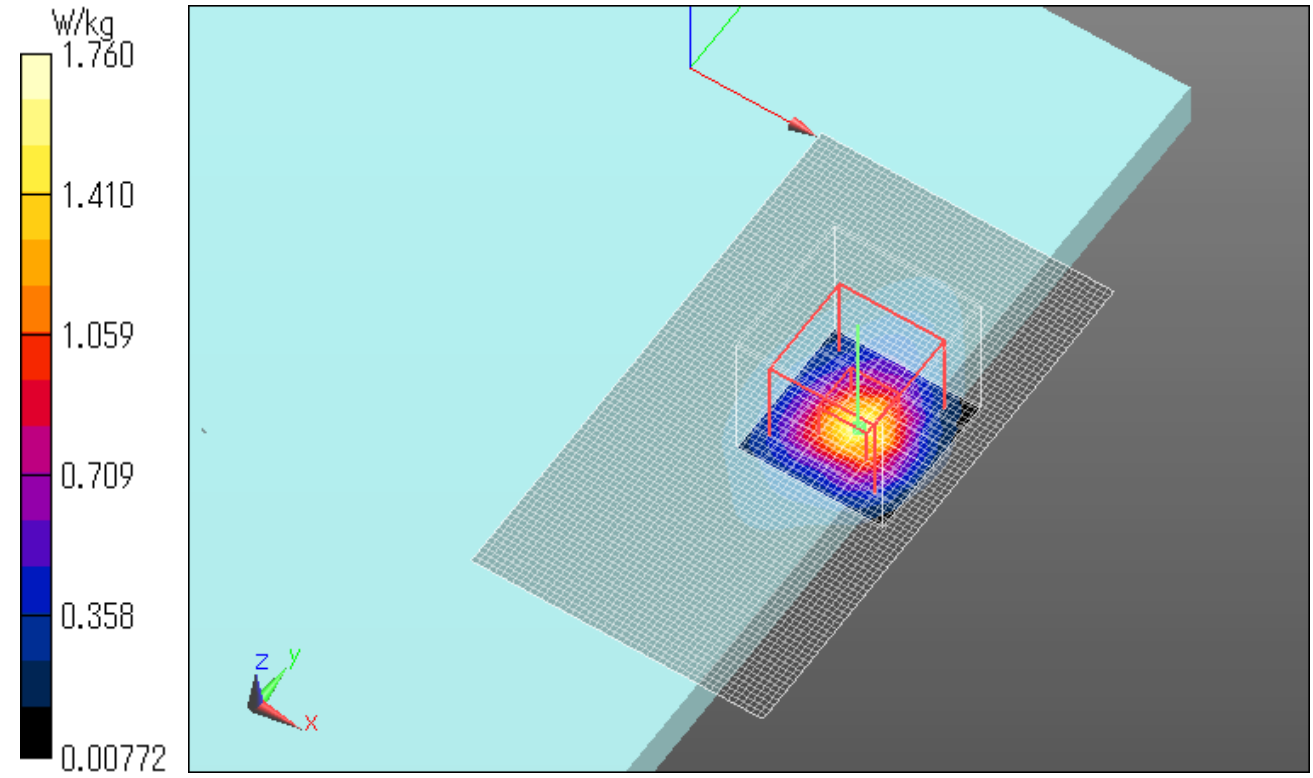


WLAN 11b 1Mbps Ant.2 Rear 0mm 2437MHz -Repeat-
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.911 S/m; ε_r = 51.145; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (51x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.58 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.73 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 2.60 W/kg
SAR(1 g) = 0.988 W/kg; SAR(10 g) = 0.375 W/kg
Maximum value of SAR (measured) = 1.76 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

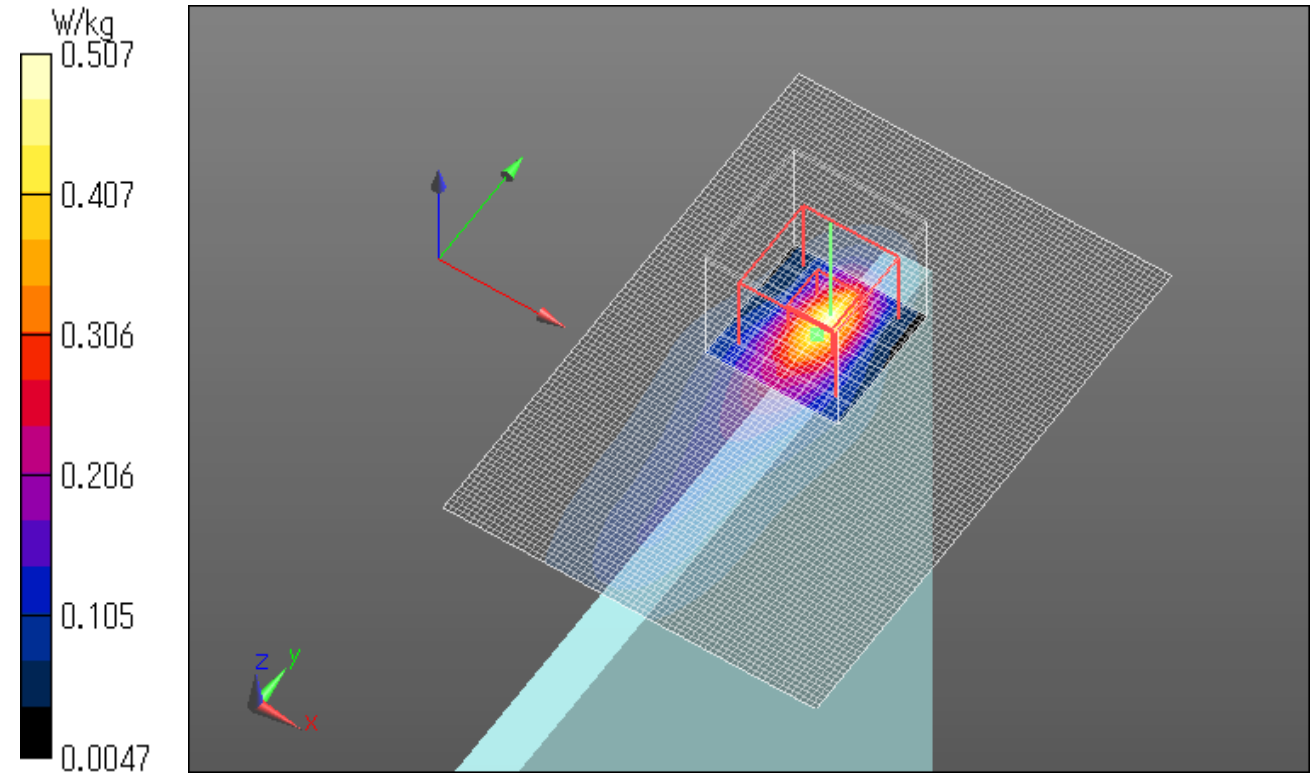


TypeB WLAN 11b 1Mbps Ant.1 Top 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.975 S/m; ε_r = 51.262; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.490 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.96 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.770 W/kg
SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.106 W/kg
Maximum value of SAR (measured) = 0.507 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

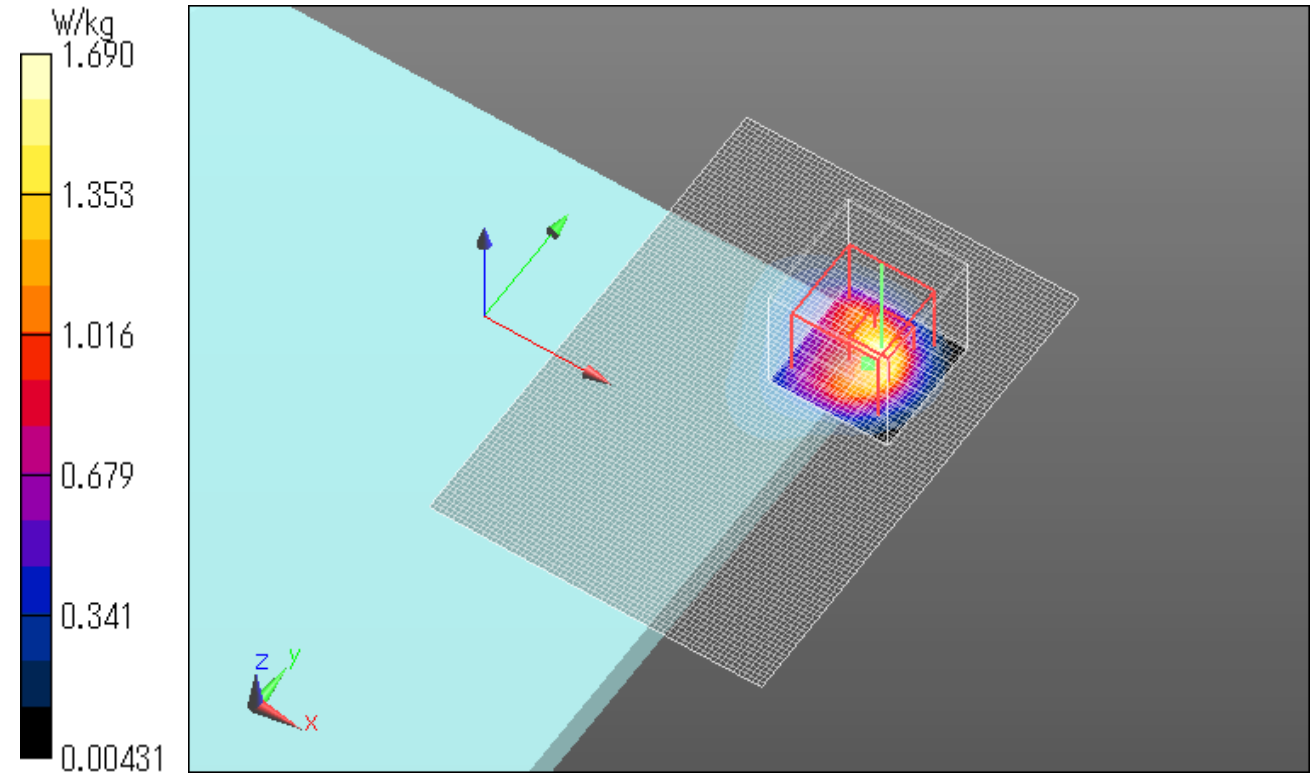


TypeB WLAN 11b 1Mbps Ant.1 Rear 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.975 S/m; ε_r = 51.262; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 2.13 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.57 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 2.68 W/kg
SAR(1 g) = 0.893 W/kg; SAR(10 g) = 0.380 W/kg
Maximum value of SAR (measured) = 1.69 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

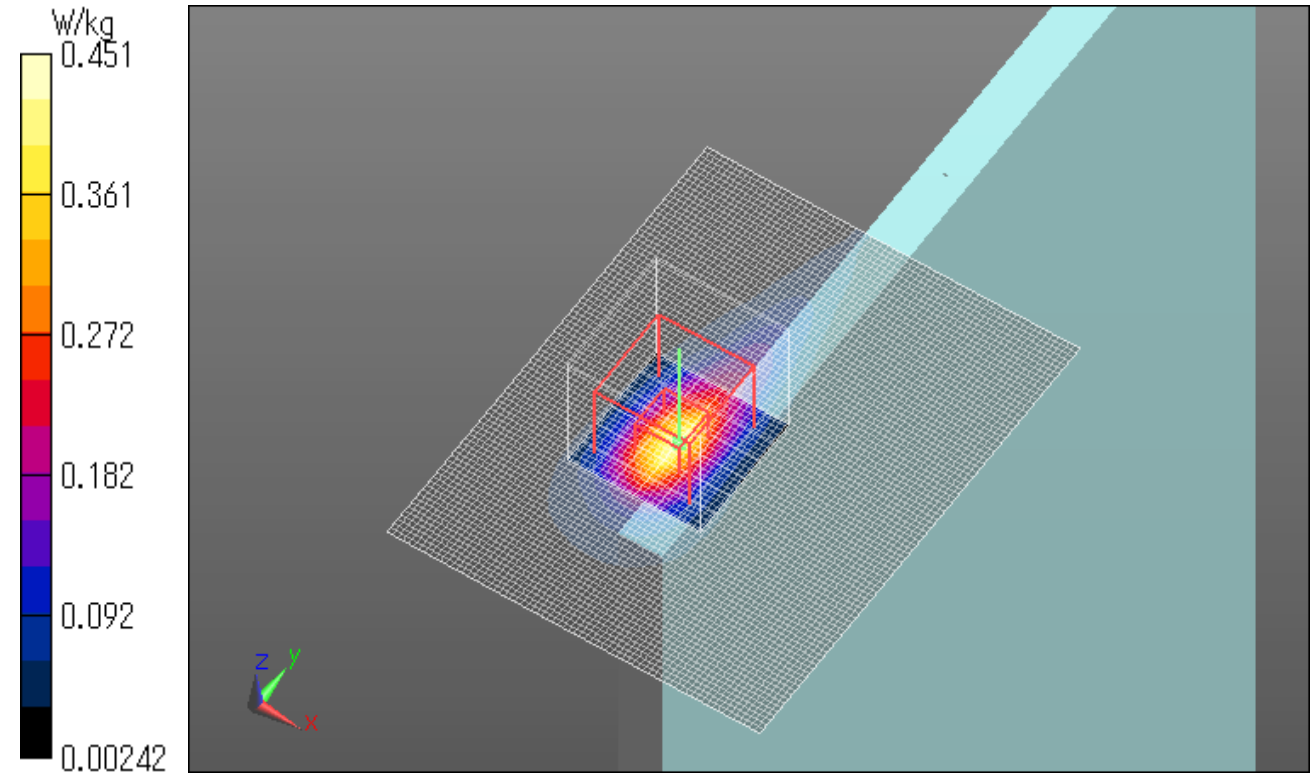


TypeB WLAN 11b 1Mbps Ant.1 Left 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.975 S/m; ε_r = 51.262; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.421 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.20 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.696 W/kg
SAR(1 g) = 0.250 W/kg; SAR(10 g) = 0.096 W/kg
Maximum value of SAR (measured) = 0.451 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

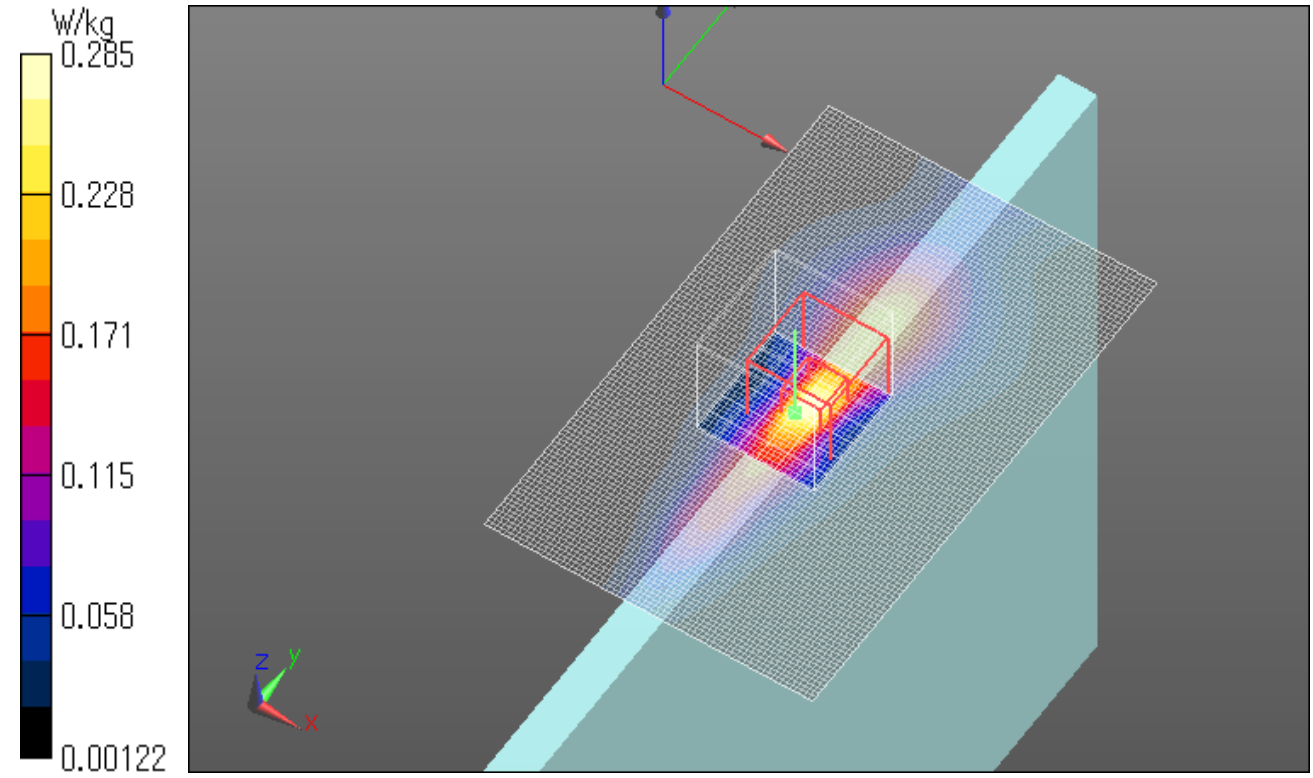


TypeB WLAN 11b 1Mbps Ant.2 Top 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.975 S/m; ε_r = 51.262; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x111x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.209 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.59 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.540 W/kg
SAR(1 g) = 0.167 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.285 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

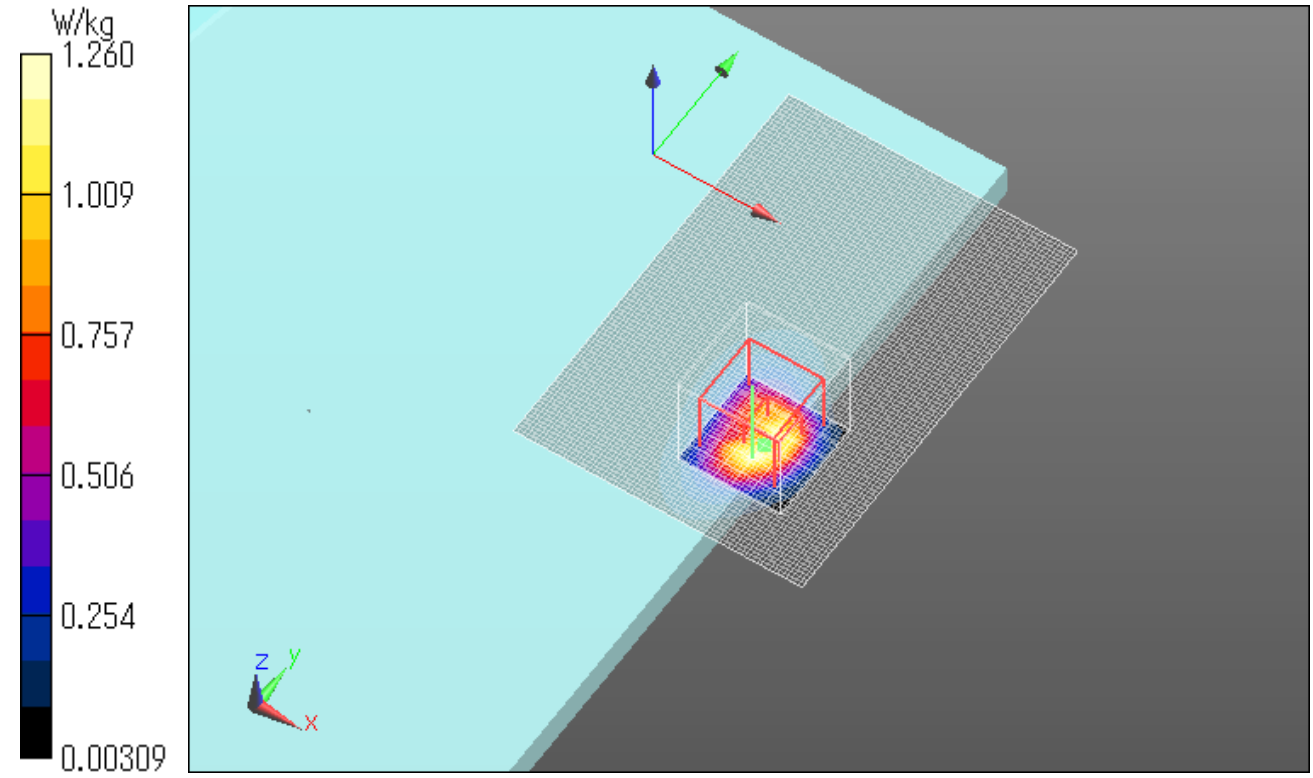


TypeB WLAN 11b 1Mbps Ant.2 Rear 0mm 2437MHz
Communication System: UID 0, WLAN 2.4G 11b/g/n (0); Communication System Band: WLAN 2.4G 11b/g/n;
Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 1.975 S/m; ε_r = 51.262; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (71x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.67 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.49 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.11 W/kg
SAR(1 g) = 0.706 W/kg; SAR(10 g) = 0.312 W/kg
Maximum value of SAR (measured) = 1.26 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.



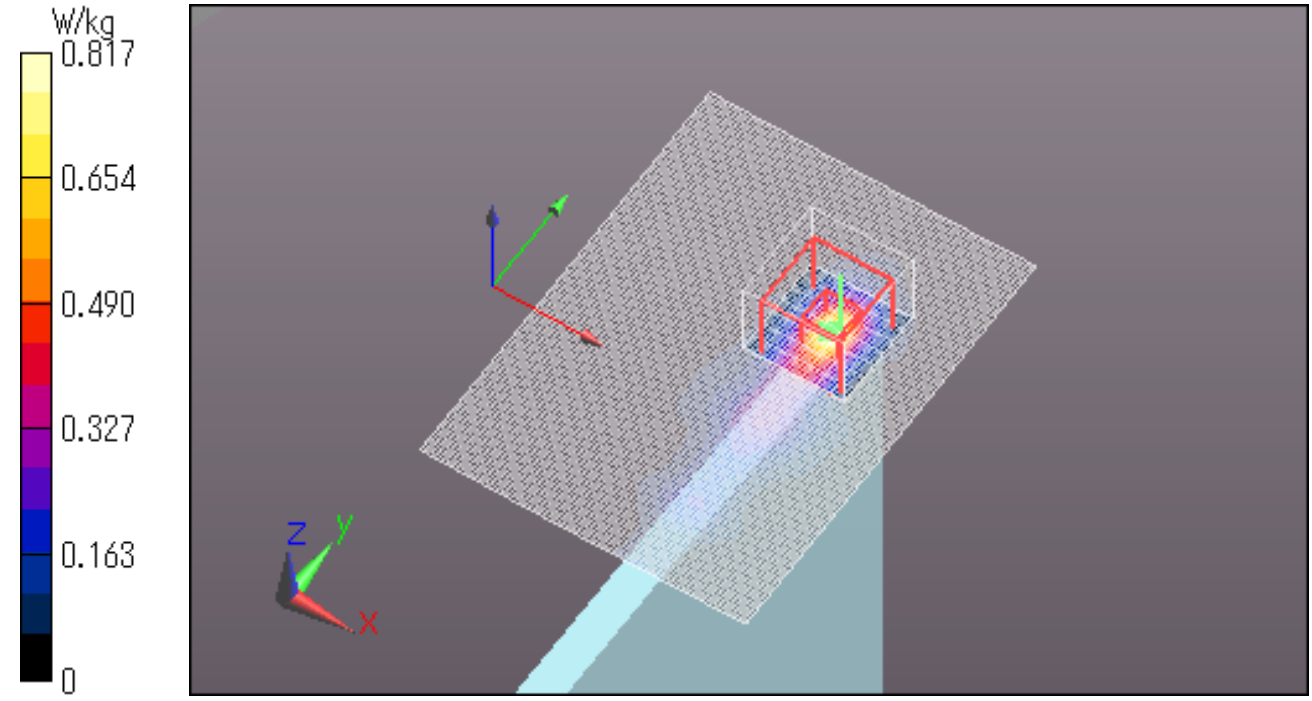
ii) WLAN Body 5.2GHz Band

WLAN 11a 6Mbps Ant.1 Top 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.885 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.80 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.357 W/kg; SAR(10 g) = 0.095 W/kg
Maximum value of SAR (measured) = 0.817 W/kg

Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

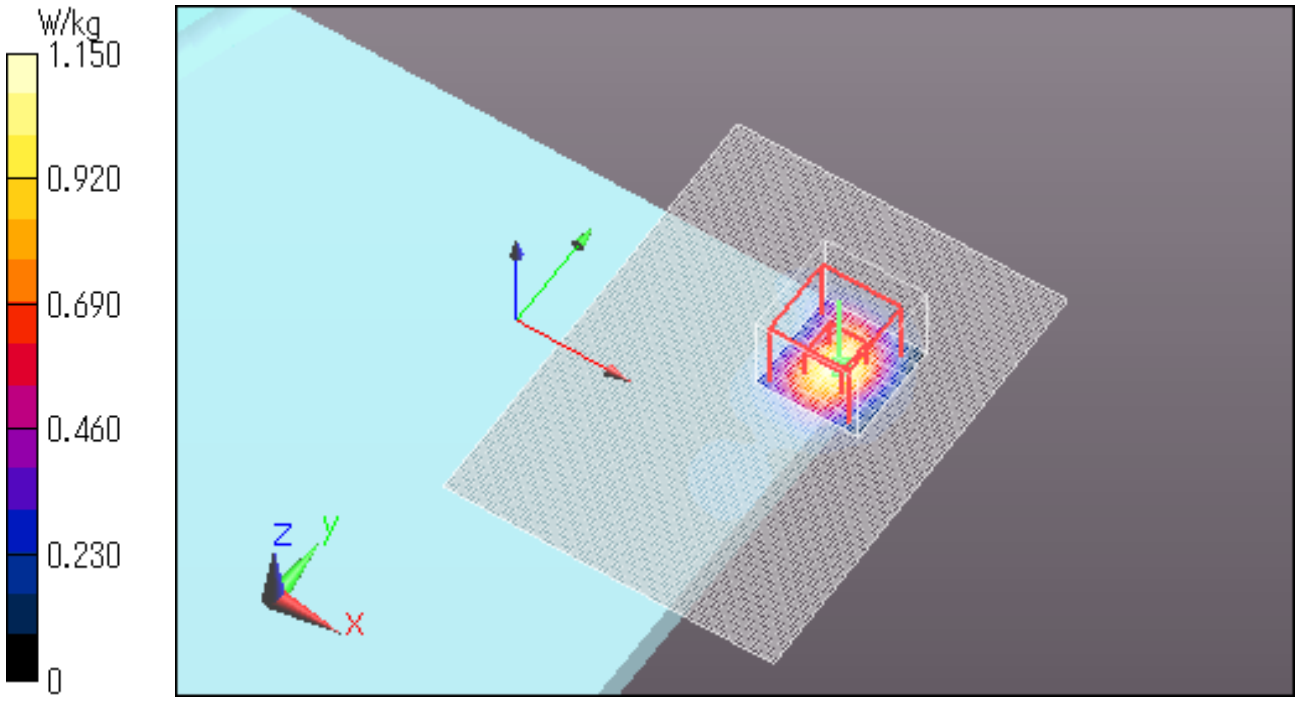


WLAN 11a 6Mbps Ant.1 Rear 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.23 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.85 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 3.06 W/kg
SAR(1 g) = 0.560 W/kg; SAR(10 g) = 0.172 W/kg
Maximum value of SAR (measured) = 1.15 W/kg

Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

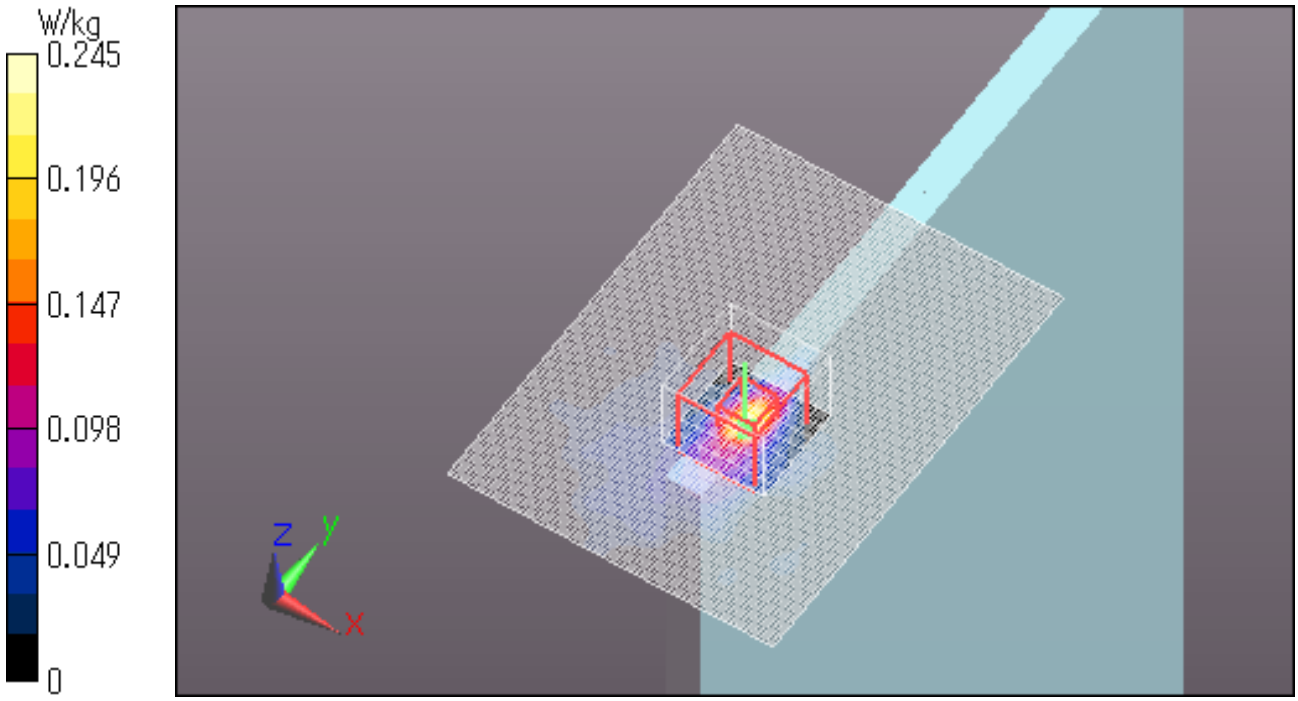


WLAN 11a 6Mbps Ant.1 Left 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.271 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 7.426 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.525 W/kg
SAR(1 g) = 0.092 W/kg; SAR(10 g) = 0.023 W/kg
Maximum value of SAR (measured) = 0.245 W/kg

Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

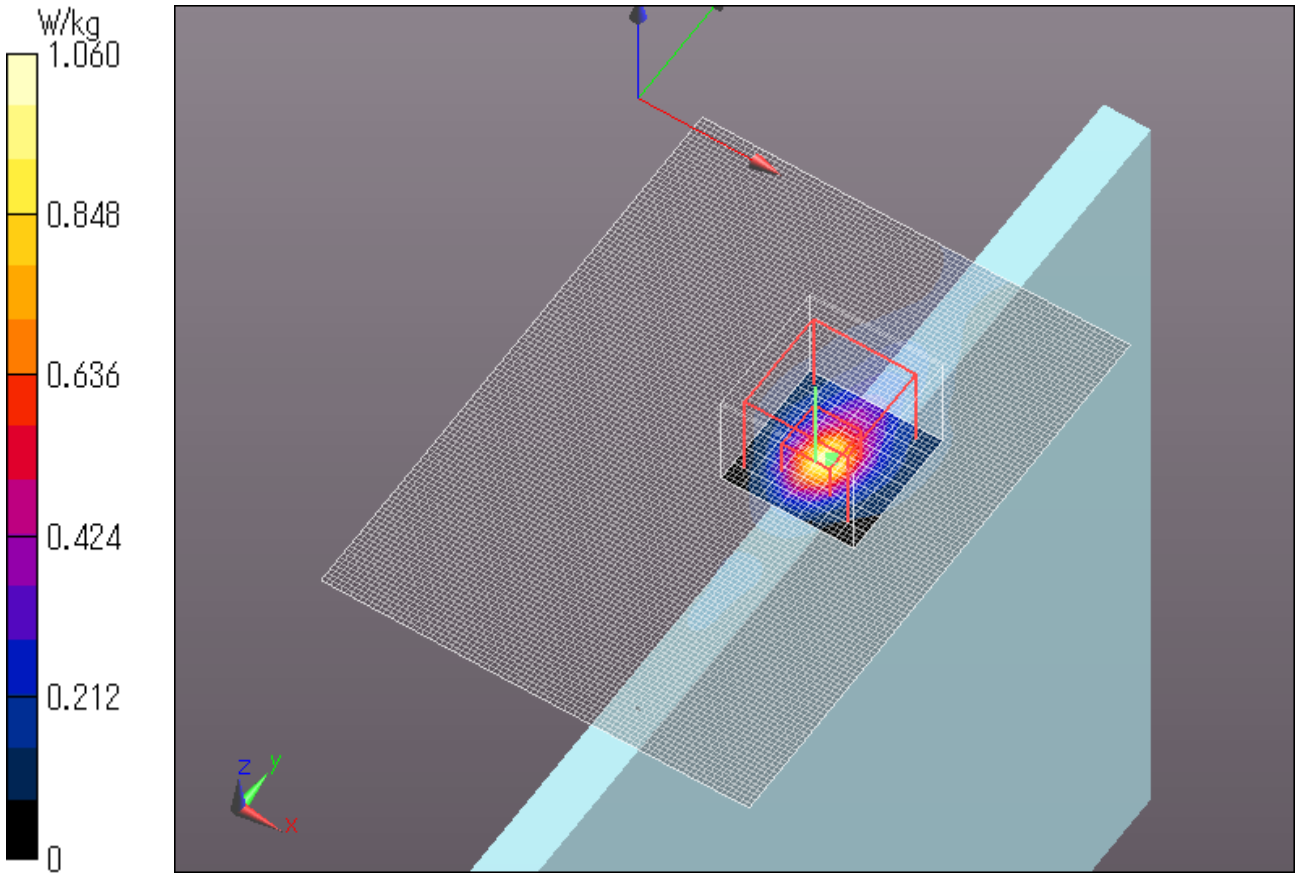


WLAN 11a 6Mbps Ant.2 Top 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.93 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.00 W/kg
SAR(1 g) = 0.450 W/kg; SAR(10 g) = 0.110 W/kg
Maximum value of SAR (measured) = 1.06 W/kg

Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

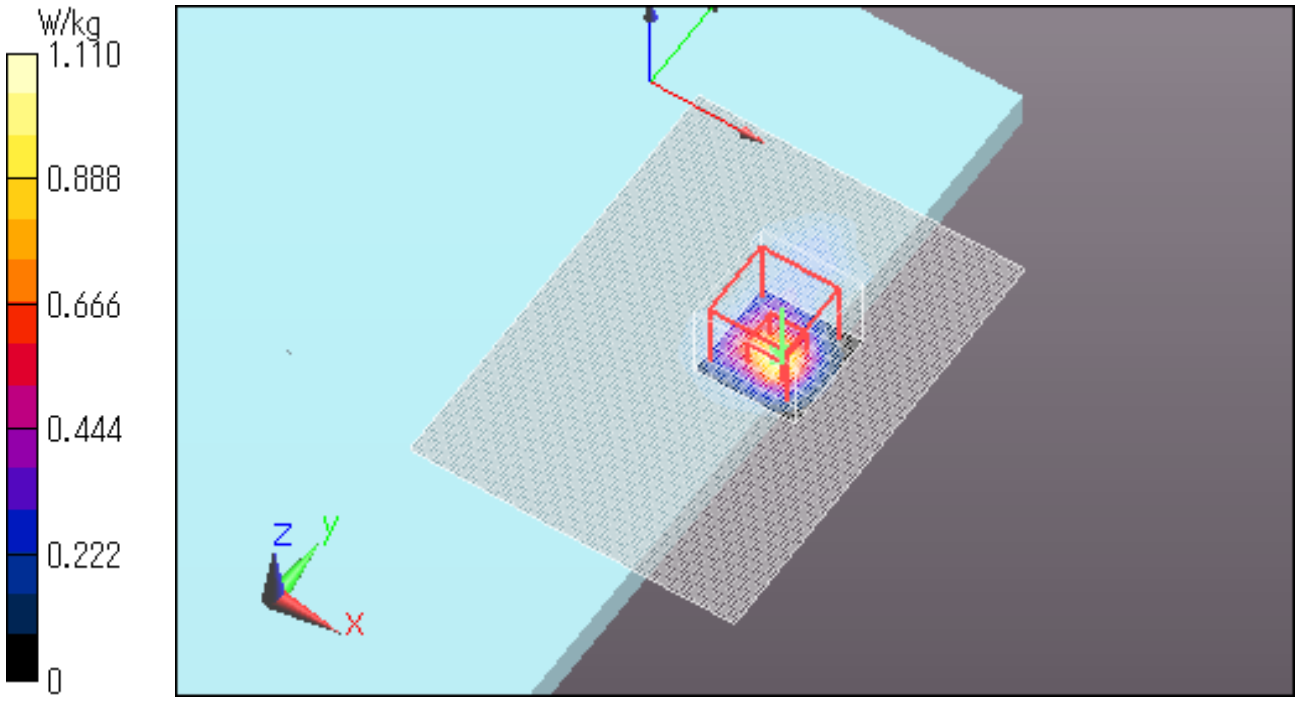


WLAN 11a 6Mbps Ant.2 Rear 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.17 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.59 V/m; Power Drift = -0.21 dB
Peak SAR (extrapolated) = 2.07 W/kg
SAR(1 g) = 0.499 W/kg; SAR(10 g) = 0.137 W/kg
Maximum value of SAR (measured) = 1.11 W/kg

Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

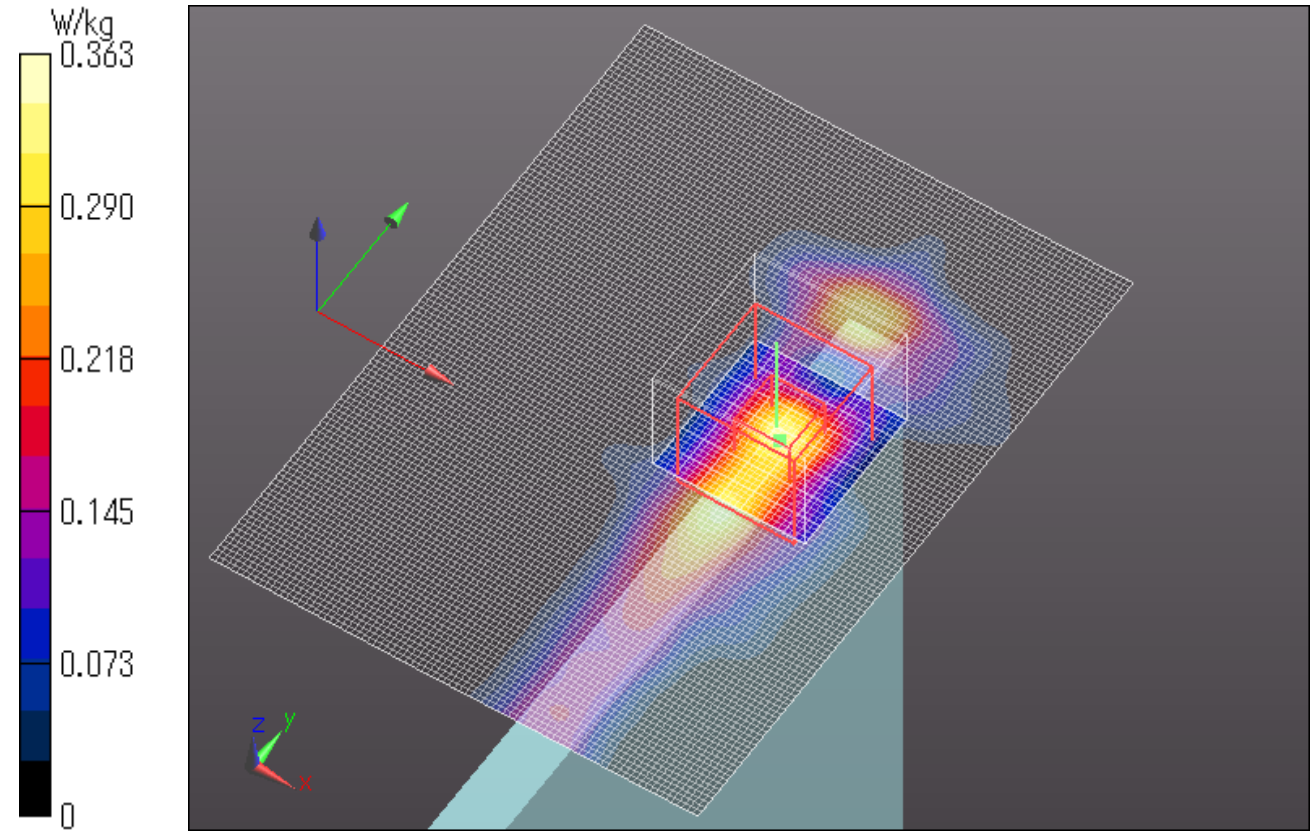


TypeB WLAN 11a 6Mbps Ant.1 Top 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.279 S/m; ε_r = 48.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.363 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.654 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.556 W/kg
SAR(1 g) = 0.157 W/kg; SAR(10 g) = 0.054 W/kg
Maximum value of SAR (measured) = 0.325 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

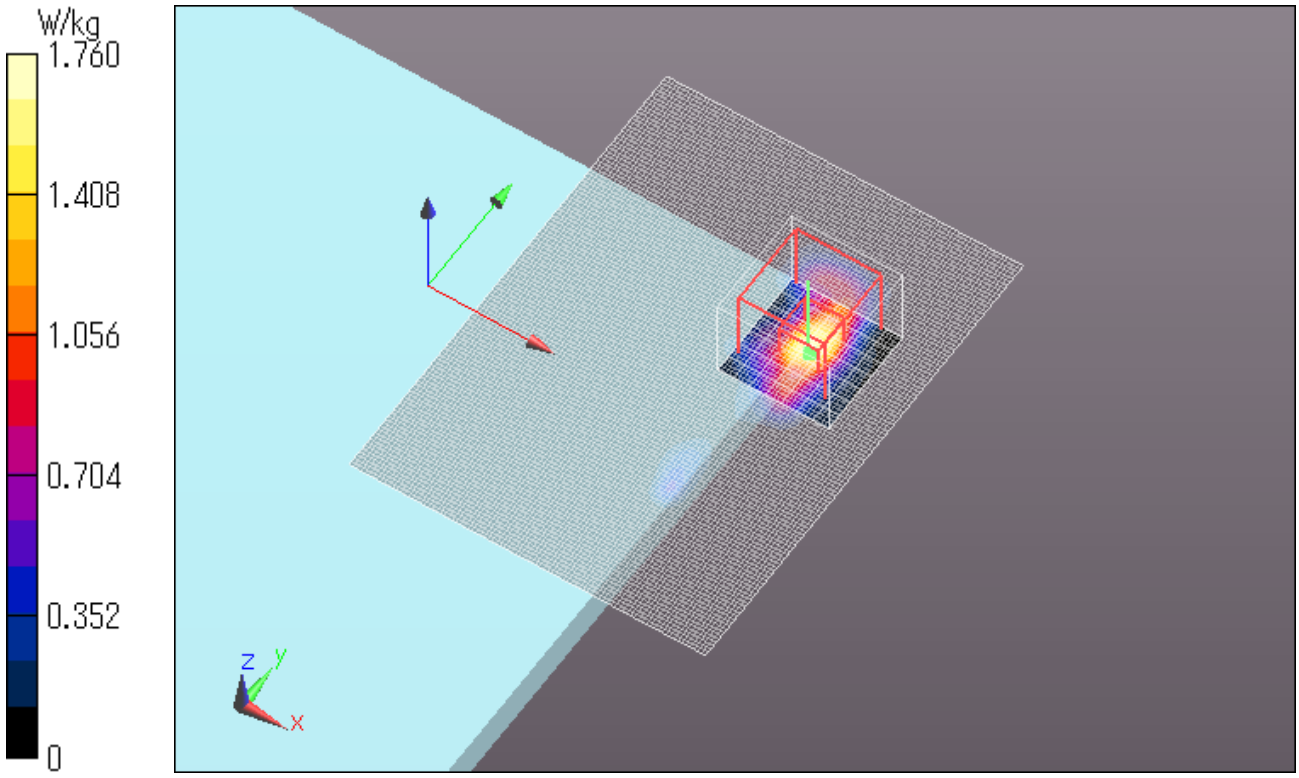


TypeB WLAN 11a 6Mbps Ant.1 Rear 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.279 S/m; ε_r = 48.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.69 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.39 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.11 W/kg
SAR(1 g) = 0.720 W/kg; SAR(10 g) = 0.202 W/kg
Maximum value of SAR (measured) = 1.76 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

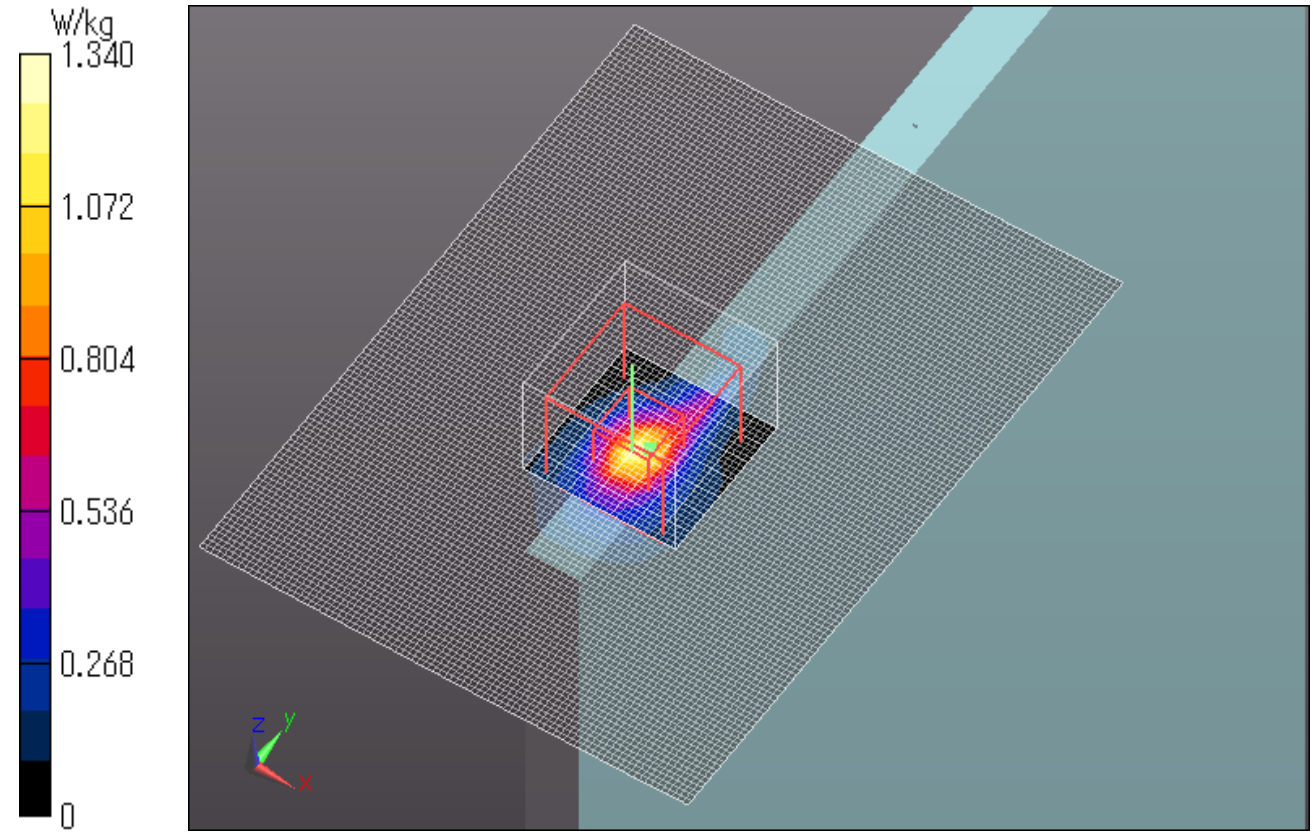


TypeB WLAN 11a 6Mbps Ant.1 Left 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.279 S/m; ε_r = 48.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.01 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.91 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 2.46 W/kg
SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.119 W/kg
Maximum value of SAR (measured) = 1.34 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

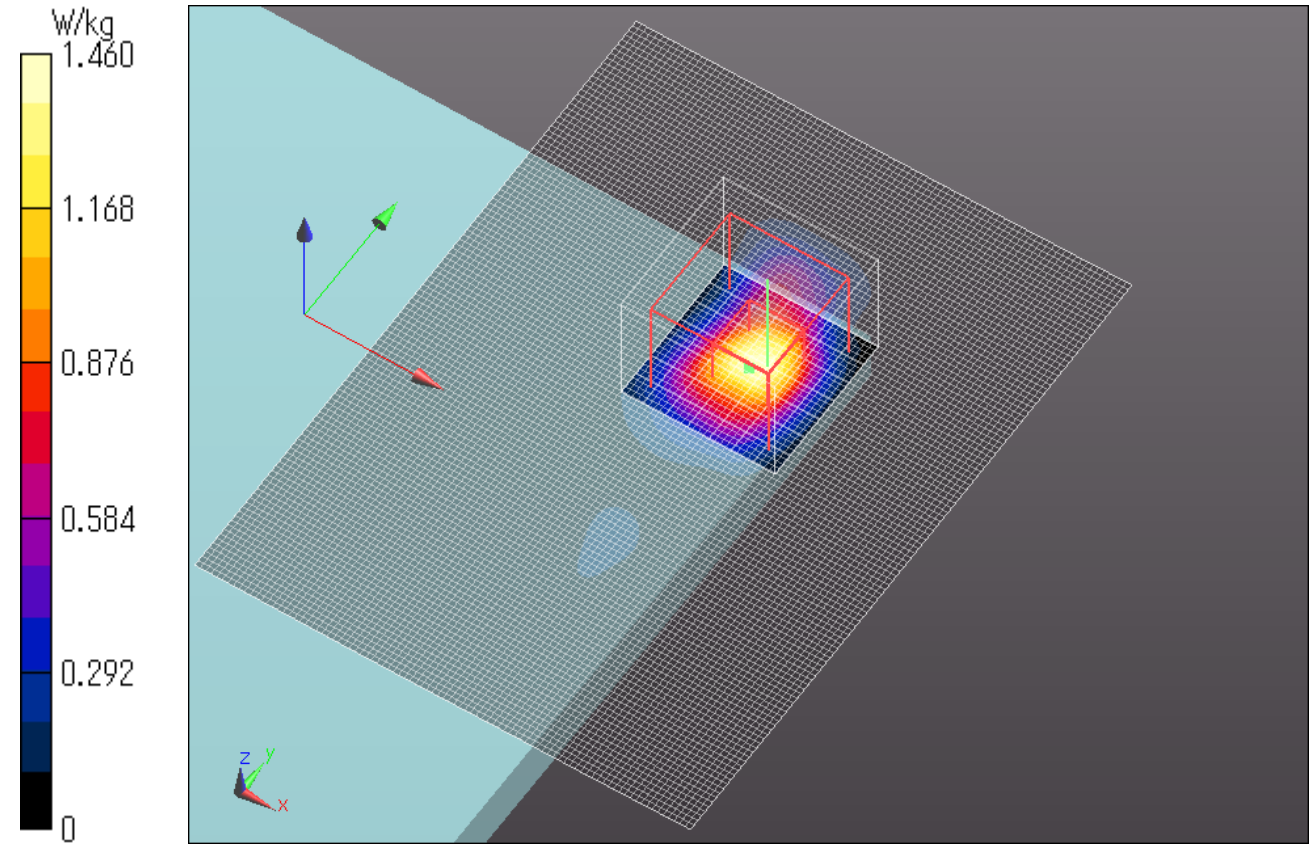


TypeB WLAN 11n40 MCS0 Ant.1 Rear 0mm 5230MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5230 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5230 MHz; σ = 5.124 S/m; ε_r = 47.846; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.55 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 18.30 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.72 W/kg
SAR(1 g) = 0.693 W/kg; SAR(10 g) = 0.200 W/kg
Maximum value of SAR (measured) = 1.46 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

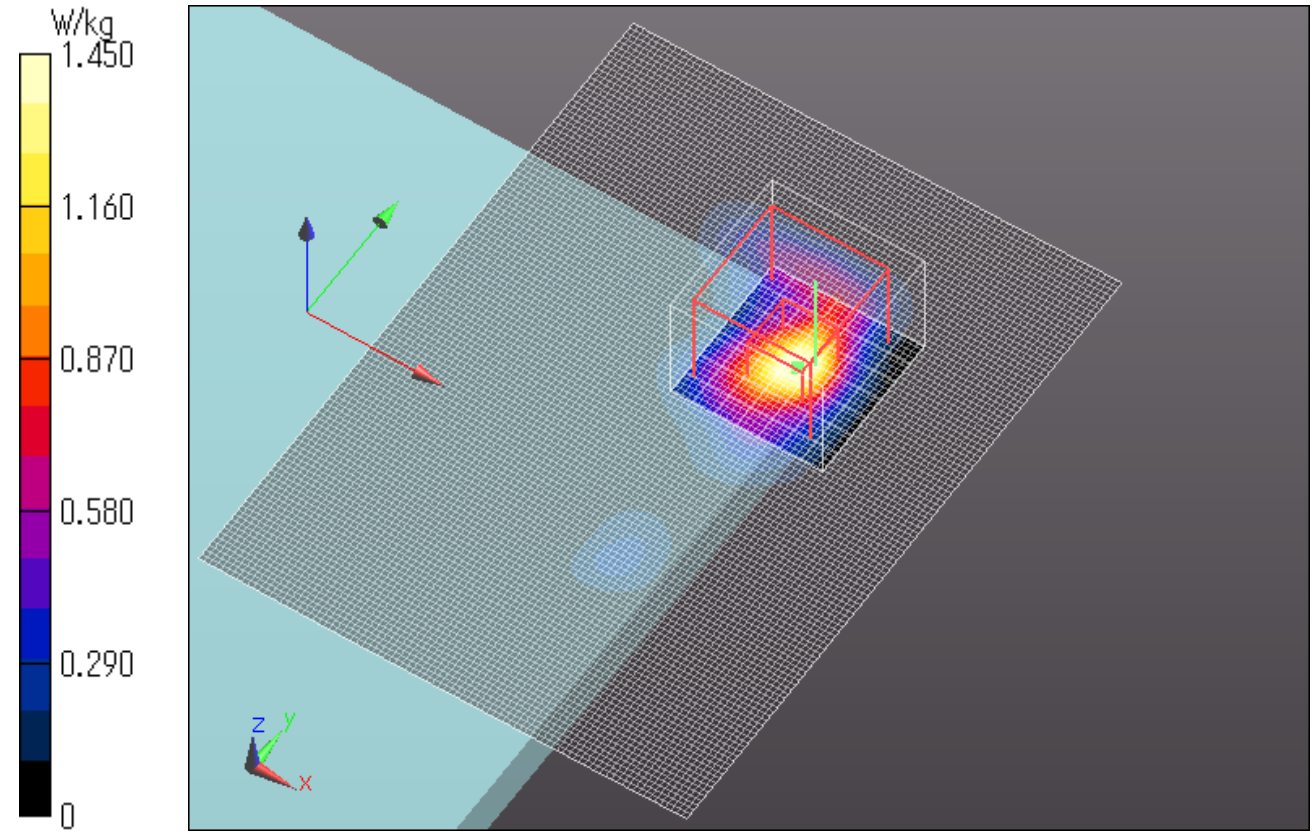


TypeB WLAN 11ac80 VHT0 Ant.1 Rear 0mm 5210MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11ac80 (W52 53); Frequency: 5210 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5210 MHz; σ = 5.303 S/m; ε_r = 48.289; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.68 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.17 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 2.91 W/kg
SAR(1 g) = 0.696 W/kg; SAR(10 g) = 0.193 W/kg
Maximum value of SAR (measured) = 1.45 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

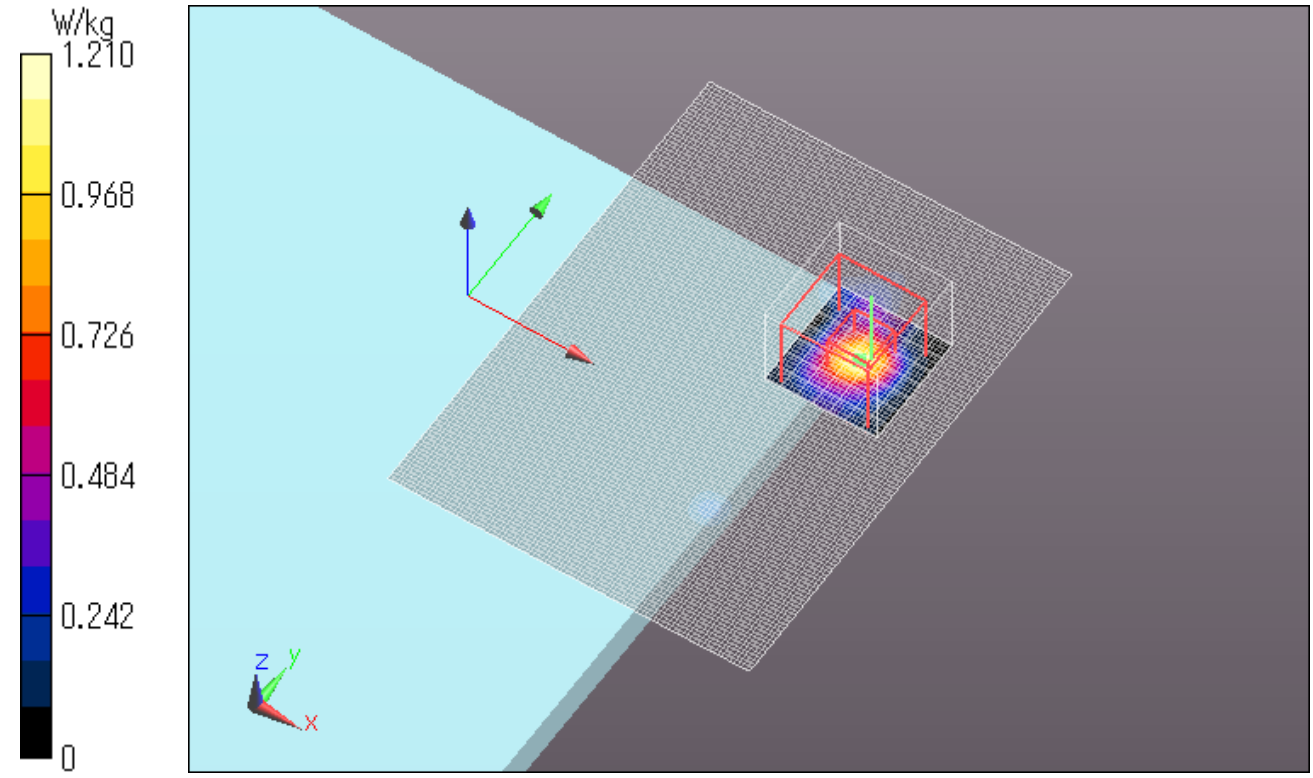


TypeB WLAN 11a 6Mbps Ant.1 Rear 0mm 5220MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5220 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5220 MHz; σ = 5.158 S/m; ε_r = 47.865; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 17.34 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 4.16 W/kg
SAR(1 g) = 0.506 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 1.21 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

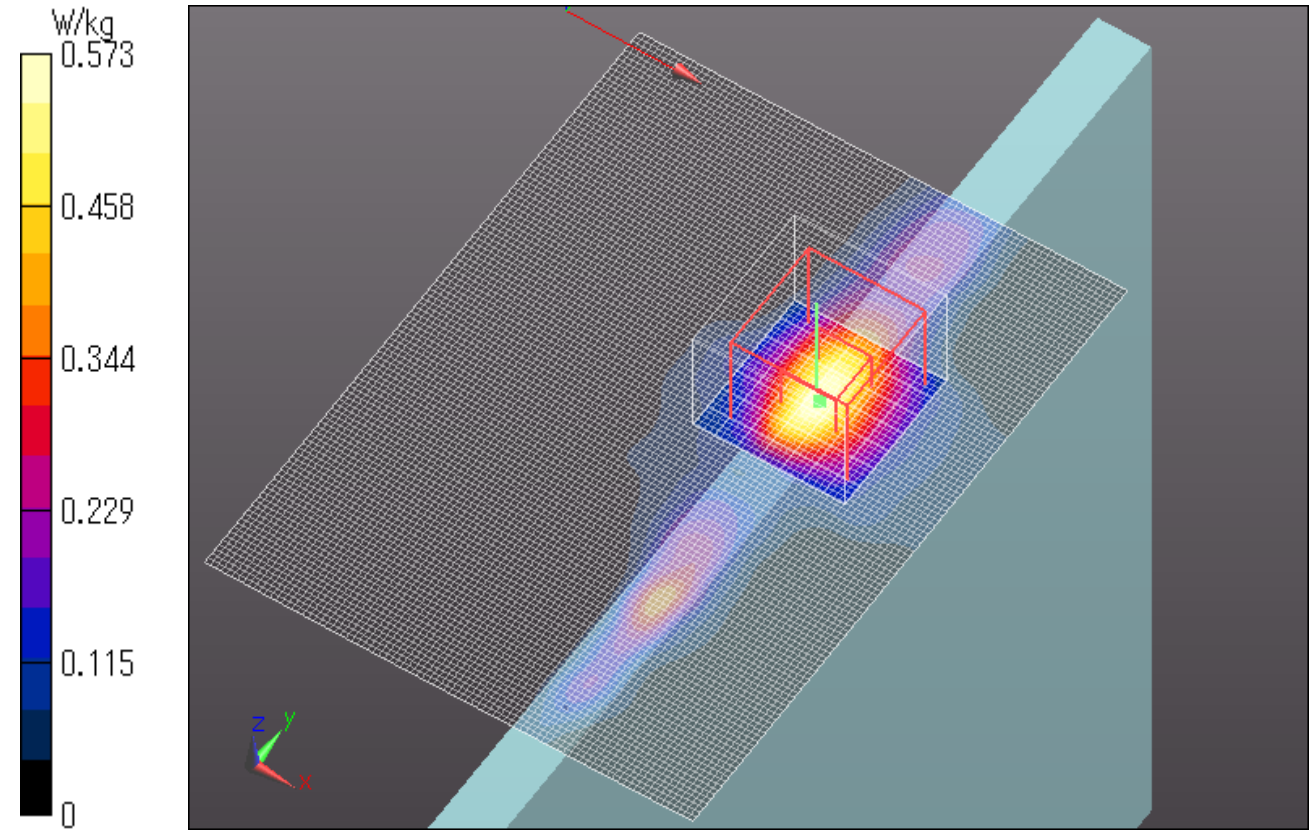


TypeB WLAN 11a 6Mbps Ant.2 Top 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.279 S/m; ε_r = 48.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.563 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 11.62 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.095 W/kg
Maximum value of SAR (measured) = 0.573 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

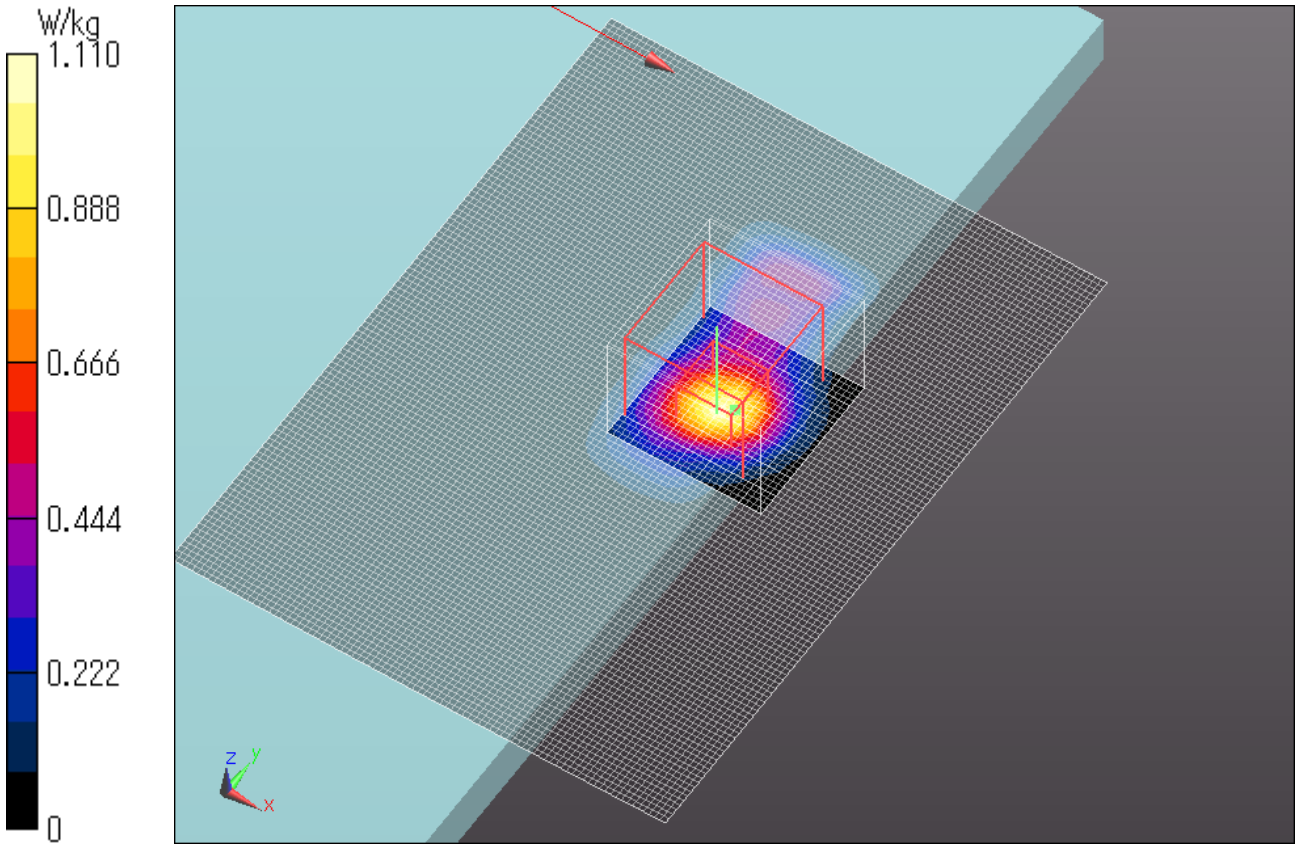


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5200MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.344 S/m; ε_r = 48.429; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.21 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.46 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.96 W/kg
SAR(1 g) = 0.496 W/kg; SAR(10 g) = 0.137 W/kg
Maximum value of SAR (measured) = 1.11 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



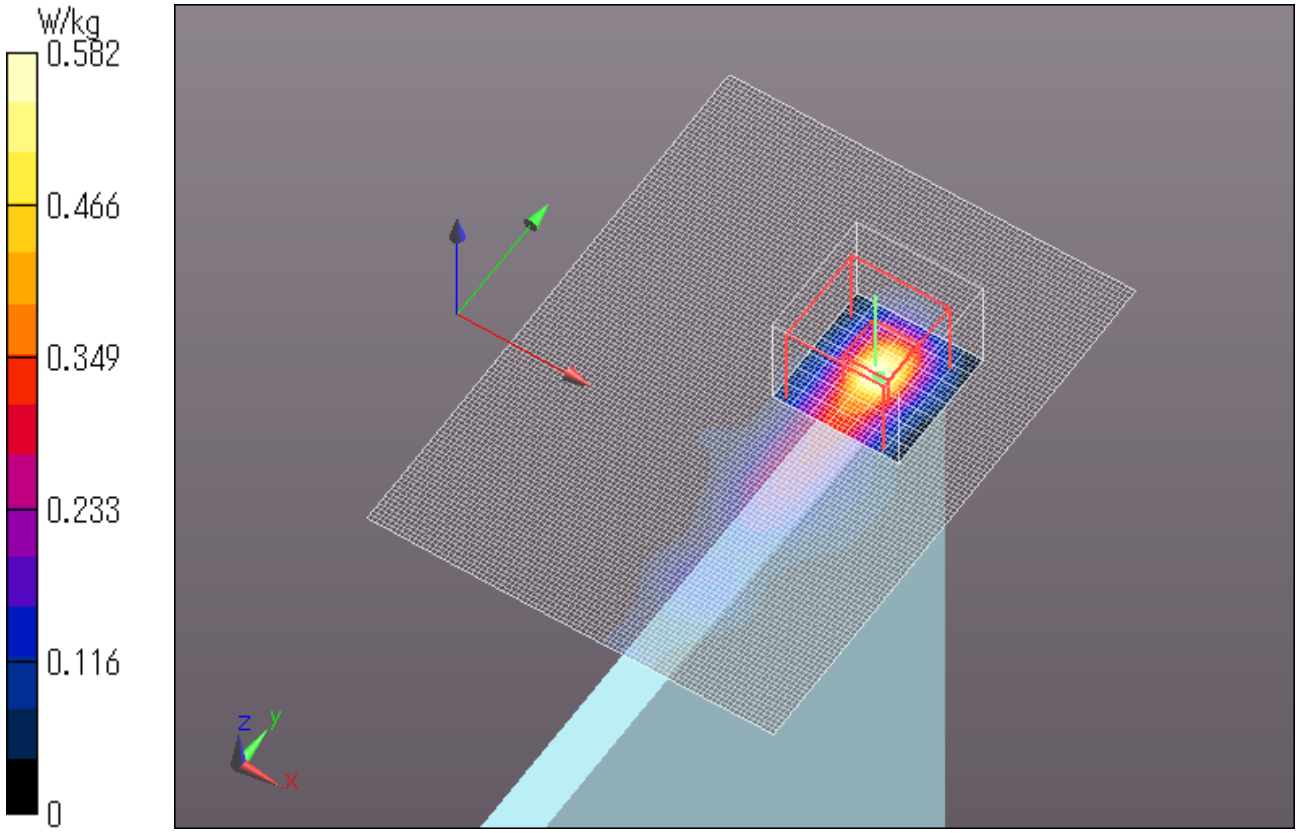
iii) WLAN Body 5.3GHz Band

WLAN 11a 6Mbps Ant.1 Top 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.542 S/m; ε_r = 47.294; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.633 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 11.75 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.258 W/kg; SAR(10 g) = 0.071 W/kg
Maximum value of SAR (measured) = 0.582 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

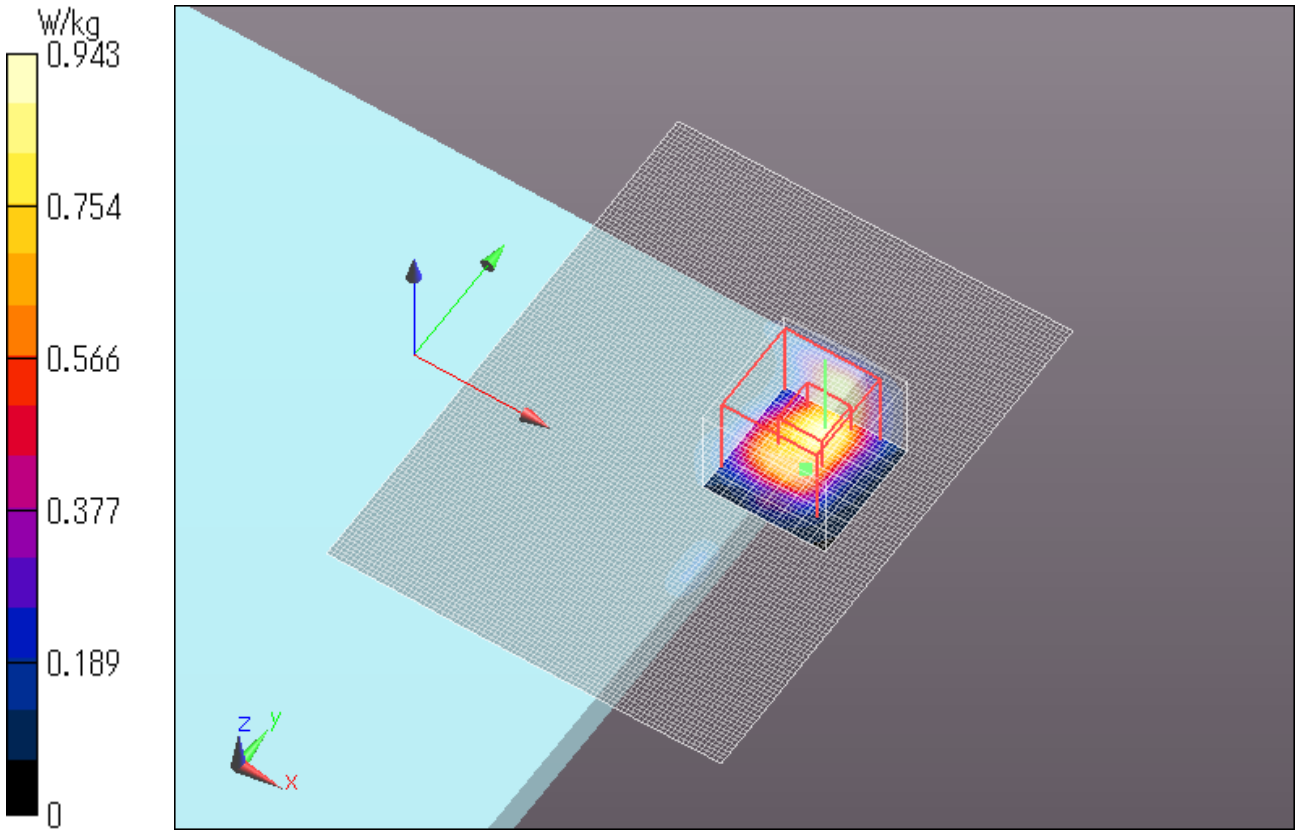


WLAN 11a 6Mbps Ant.1 Rear 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.542 S/m; ε_r = 47.294; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.25 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 11.66 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.133 W/kg
Maximum value of SAR (measured) = 0.943 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

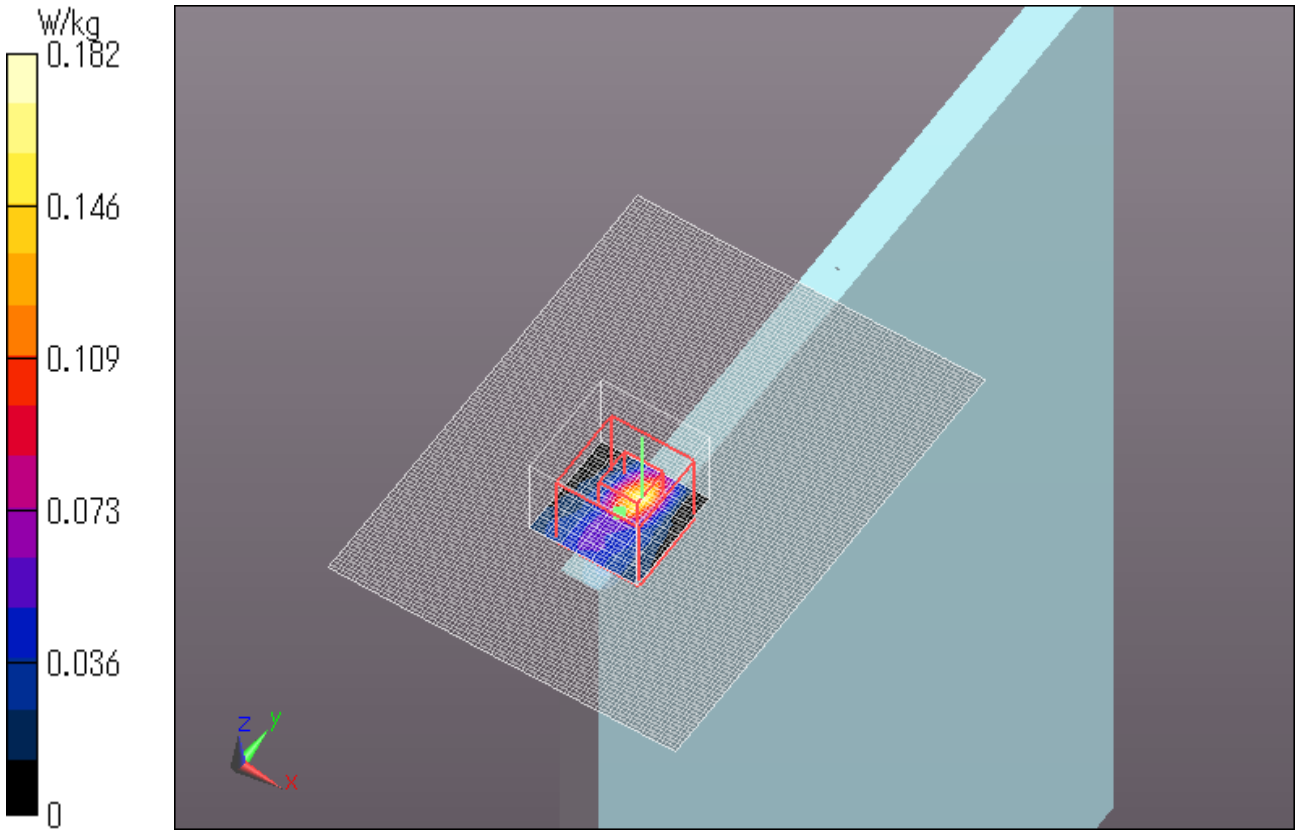


WLAN 11a 6Mbps Ant.1 Left 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.542 S/m; ε_r = 47.294; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0814 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.588 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.380 W/kg
SAR(1 g) = 0.051 W/kg; SAR(10 g) = 0.011 W/kg
Maximum value of SAR (measured) = 0.182 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

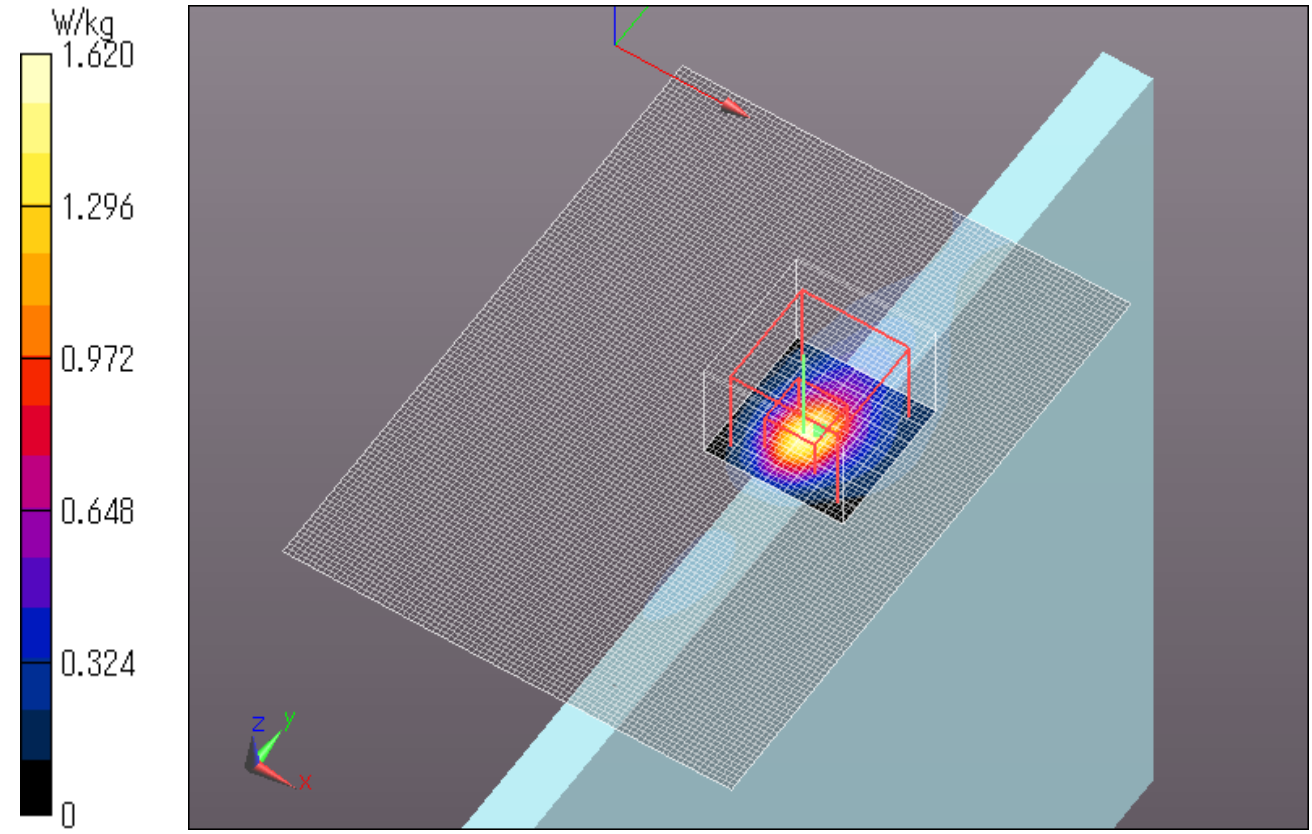


WLAN 11a 6Mbps Ant.2 Top 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.542 S/m; ε_r = 47.294; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.58 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 17.94 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 3.15 W/kg
SAR(1 g) = 0.700 W/kg; SAR(10 g) = 0.169 W/kg
Maximum value of SAR (measured) = 1.62 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

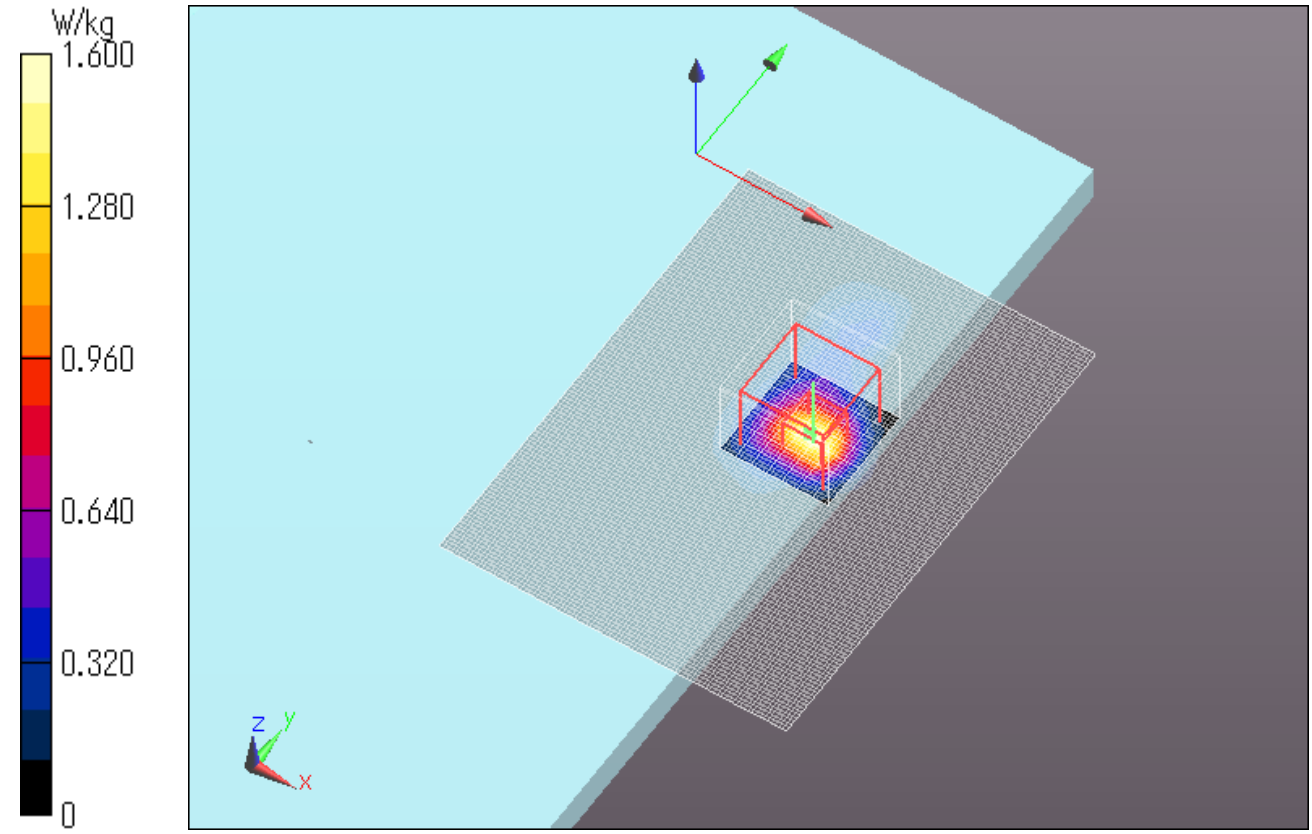


WLAN 11a 6Mbps Ant.2 Rear 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.542 S/m; ε_r = 47.294; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.55 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 18.75 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 2.93 W/kg
SAR(1 g) = 0.767 W/kg; SAR(10 g) = 0.215 W/kg
Maximum value of SAR (measured) = 1.60 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

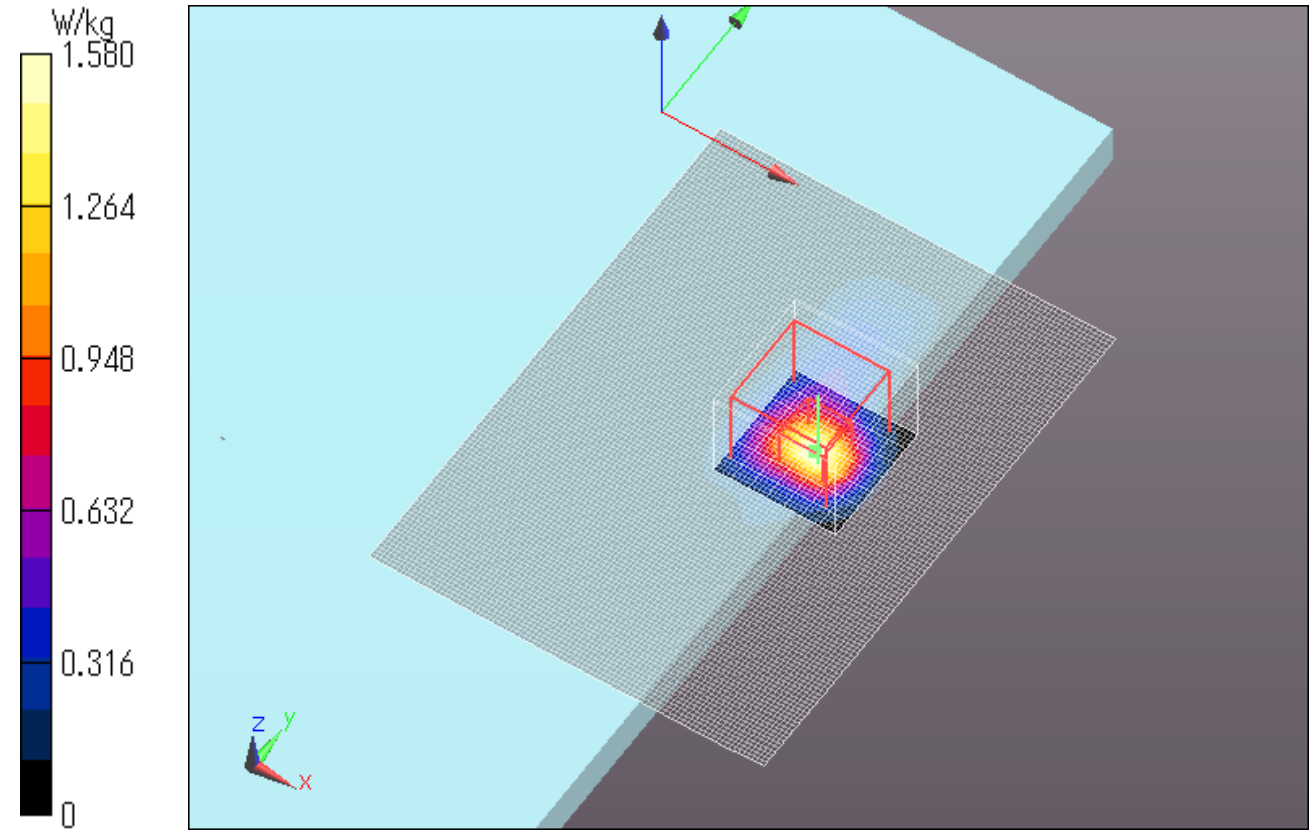


WLAN 11n40 MCS0 Ant.2 Rear 0mm 5310MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5310 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5310 MHz; σ = 5.508 S/m; ε_r = 47.969; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.79 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.16 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.01 W/kg
SAR(1 g) = 0.779 W/kg; SAR(10 g) = 0.217 W/kg
Maximum value of SAR (measured) = 1.58 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

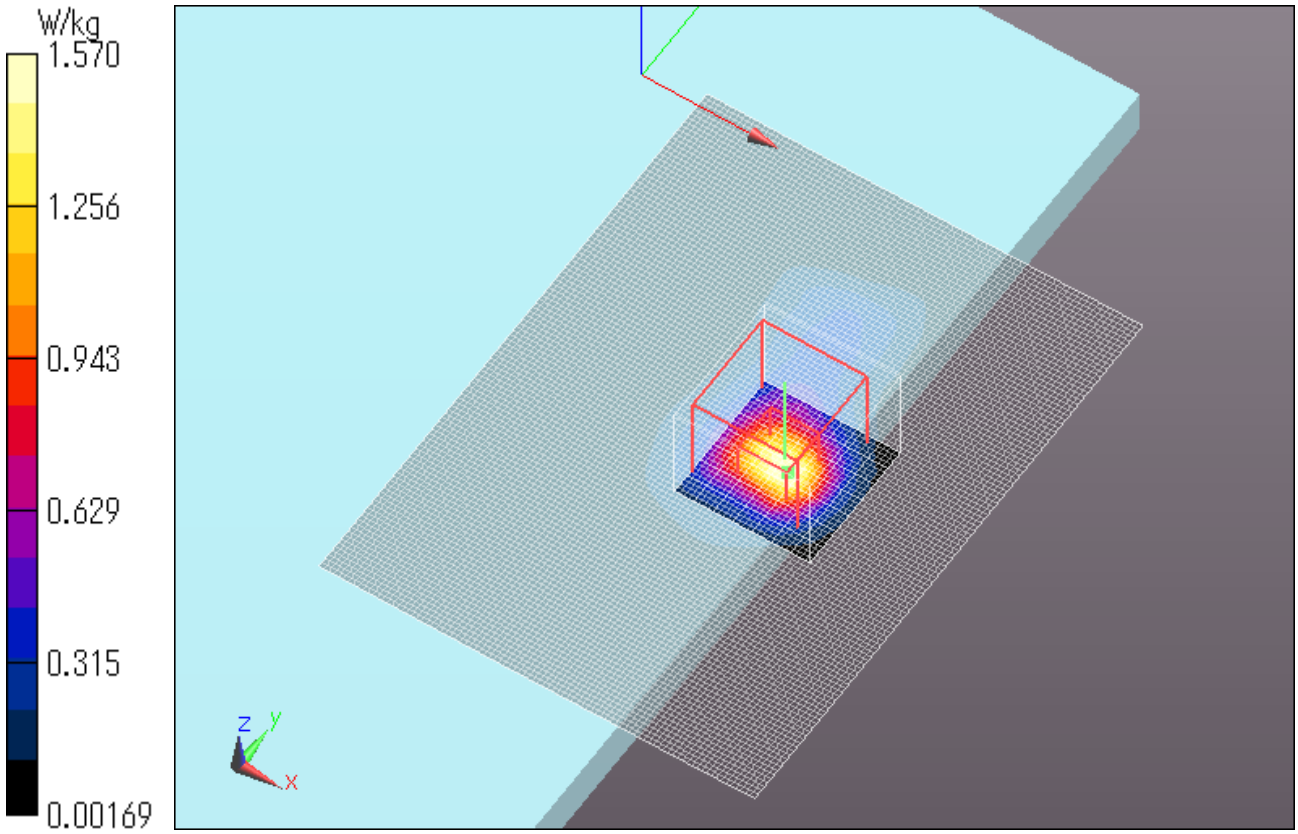


WLAN 11ac80 VHT0 Ant.2 Rear 0mm 5290MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11ac80 (W52 53); Frequency: 5290 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5290 MHz; σ = 5.508 S/m; ε_r = 48.135; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.82 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.27 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 3.18 W/kg
SAR(1 g) = 0.798 W/kg; SAR(10 g) = 0.235 W/kg
Maximum value of SAR (measured) = 1.57 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

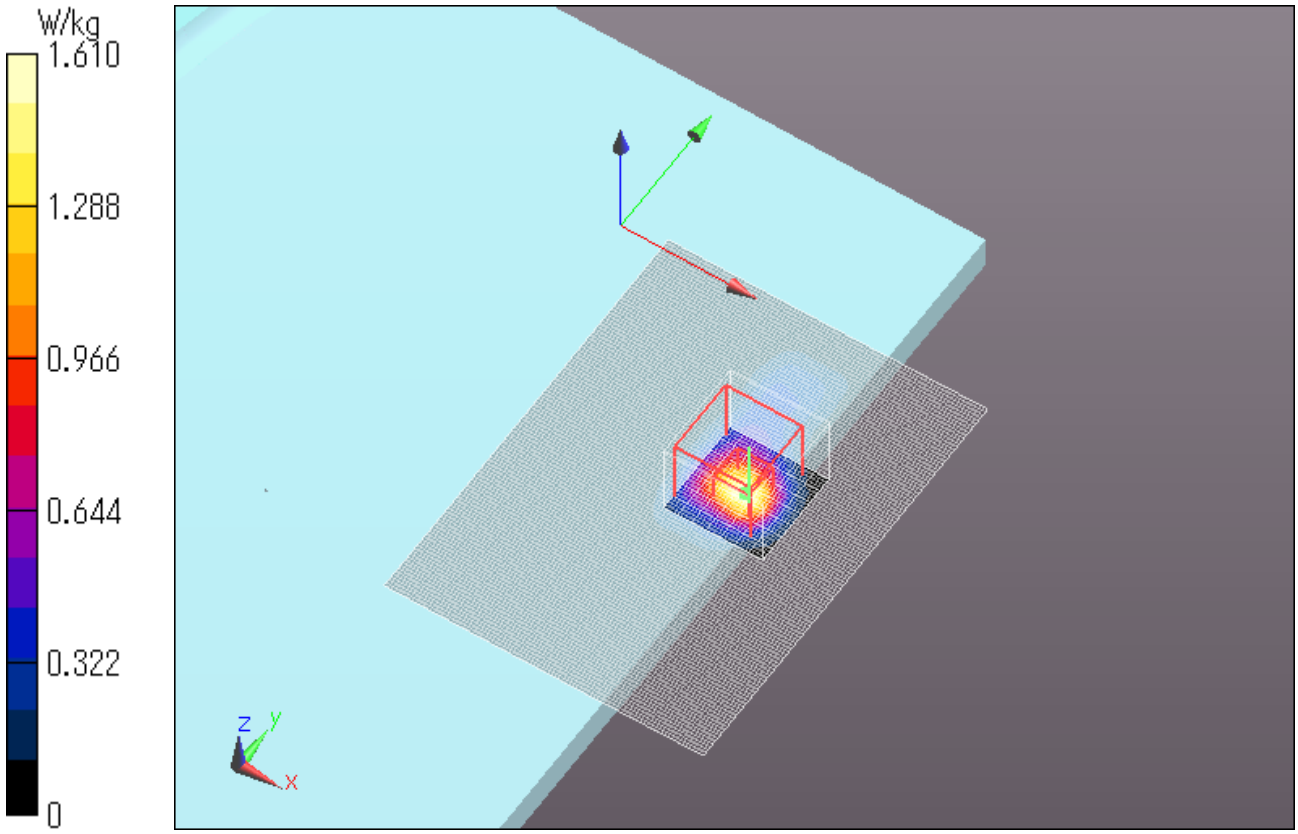


WLAN 11a 6Mbps Ant.2 Rear 0mm 5300MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5300 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5300 MHz; σ = 5.586 S/m; ε_r = 47.603; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.93 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.17 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 3.07 W/kg
SAR(1 g) = 0.787 W/kg; SAR(10 g) = 0.219 W/kg
Maximum value of SAR (measured) = 1.61 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

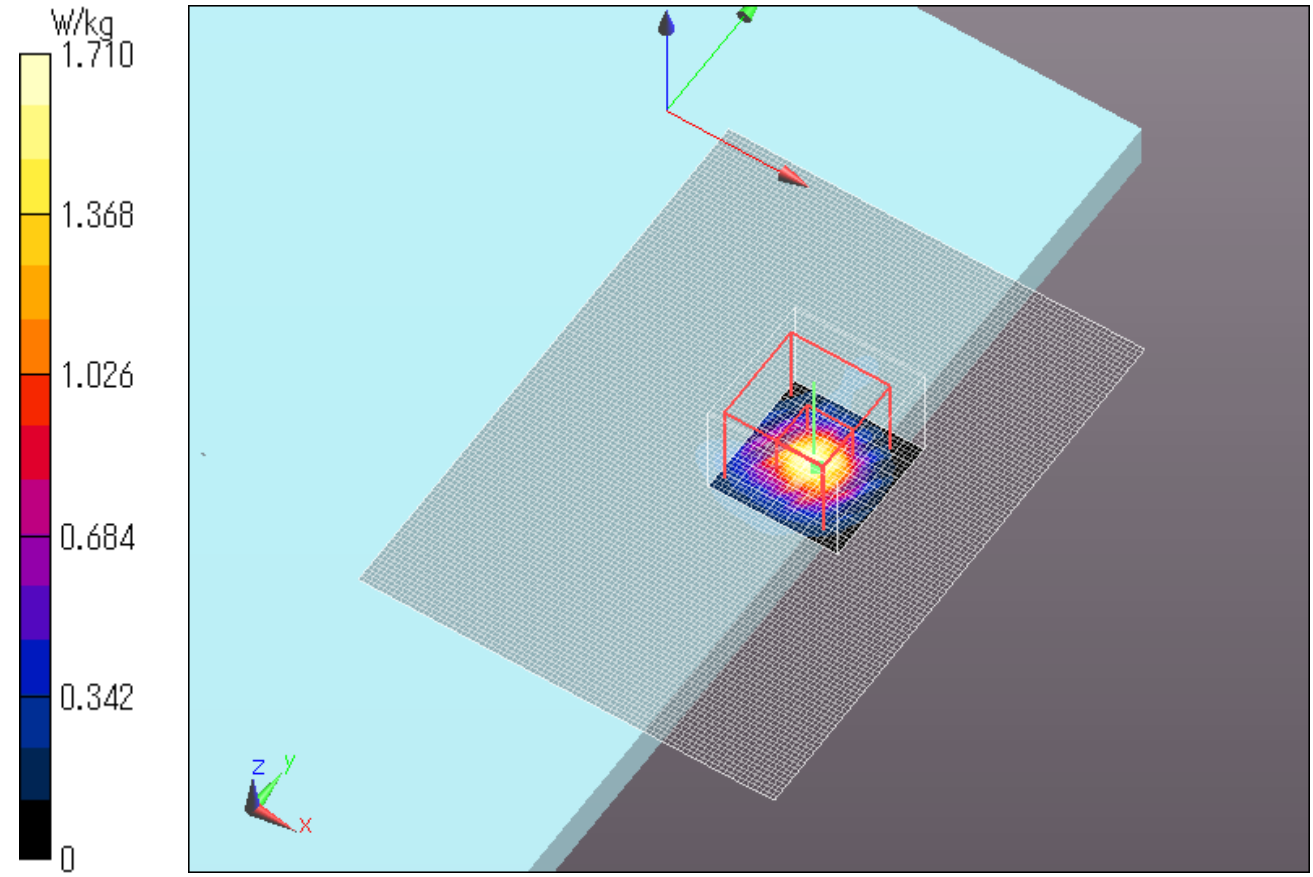


WLAN 11n40 MCS0 Ant.2 Rear 0mm 5270MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5270 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 5.586 S/m; ε_r = 48.091; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.80 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.12 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.57 W/kg
SAR(1 g) = 0.650 W/kg; SAR(10 g) = 0.175 W/kg
Maximum value of SAR (measured) = 1.71 W/kg

Date: 2014/10/17
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

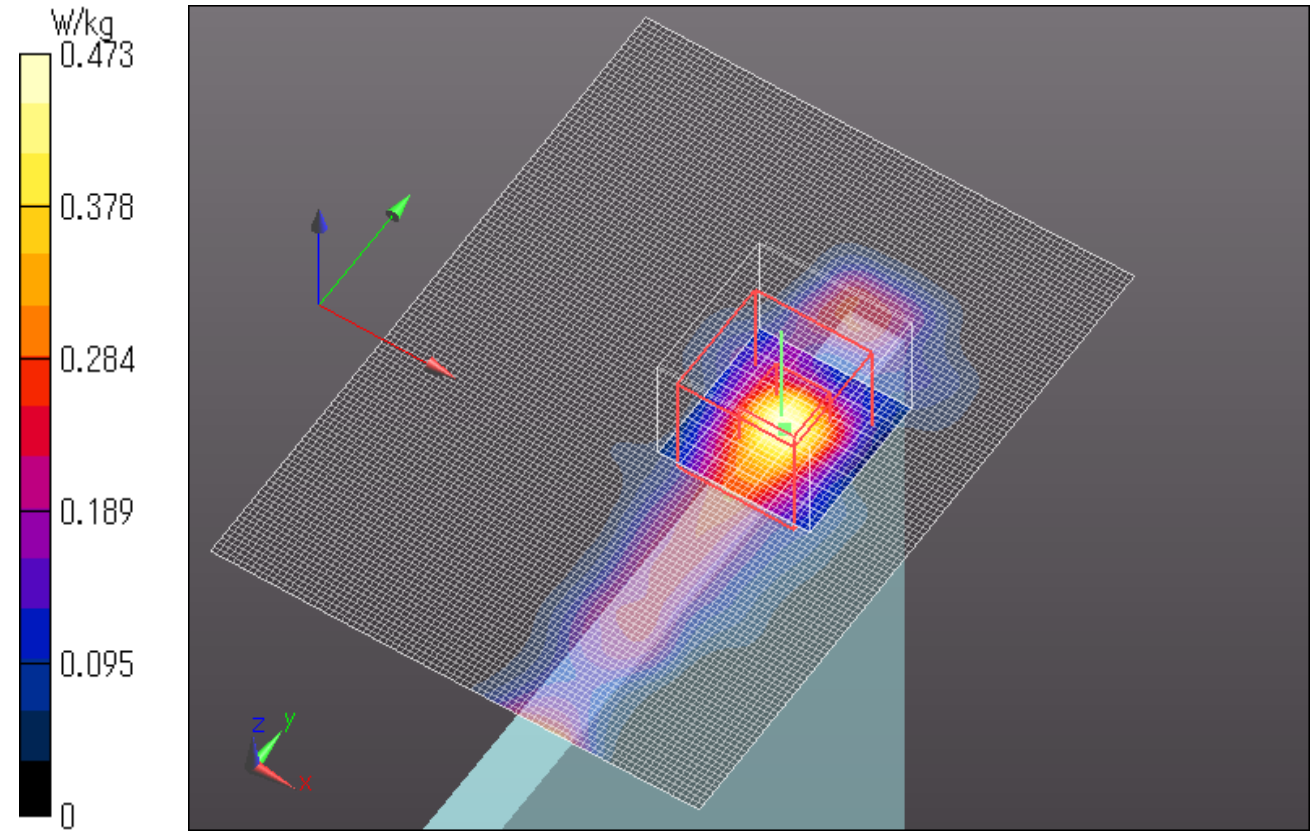


TypeB WLAN 11a 6Mbps Ant.1 Top 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.263 S/m; ε_r = 46.864; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.512 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 10.61 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.831 W/kg
SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.071 W/kg
Maximum value of SAR (measured) = 0.473 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

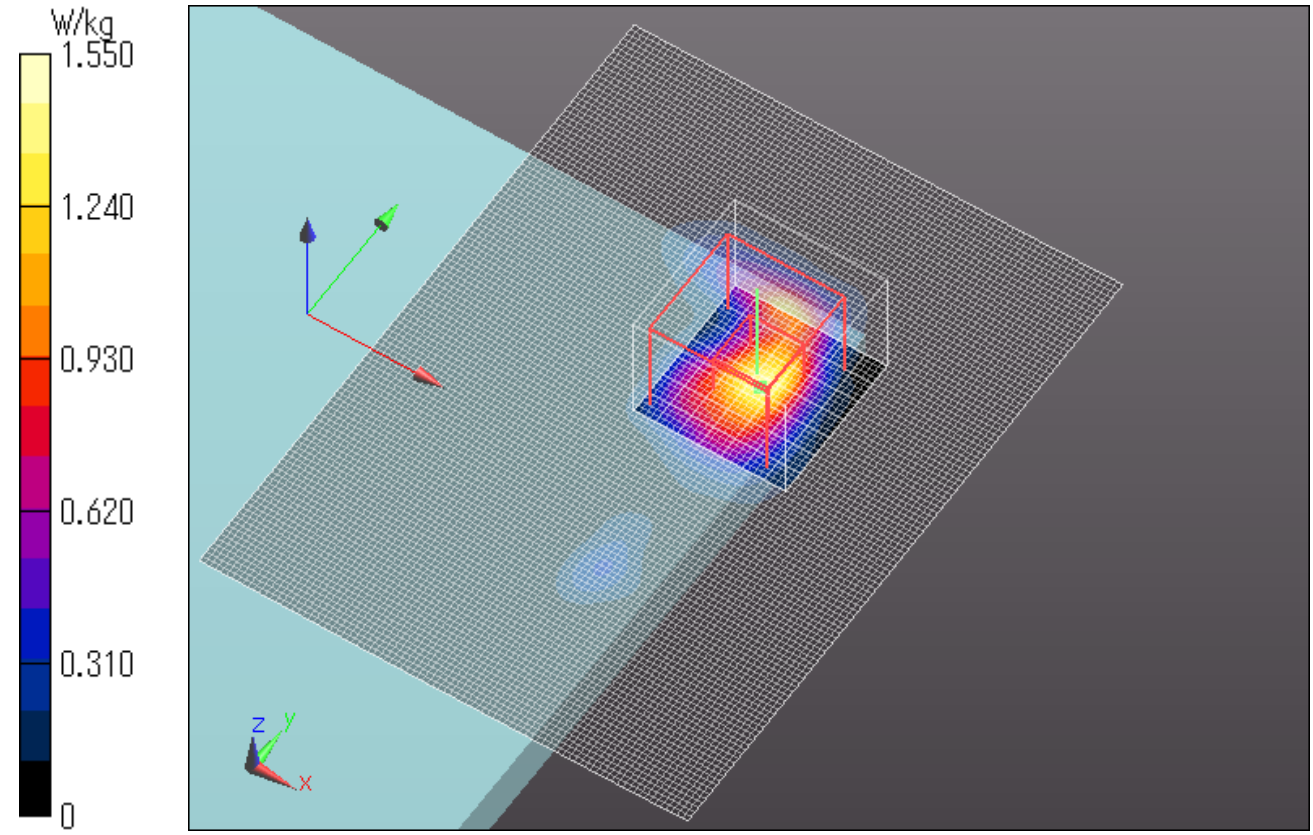


TypeB WLAN 11a 6Mbps Ant.1 Rear 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.263 S/m; ε_r = 46.864; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.41 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 19.09 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 2.97 W/kg
SAR(1 g) = 0.721 W/kg; SAR(10 g) = 0.202 W/kg
Maximum value of SAR (measured) = 1.55 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

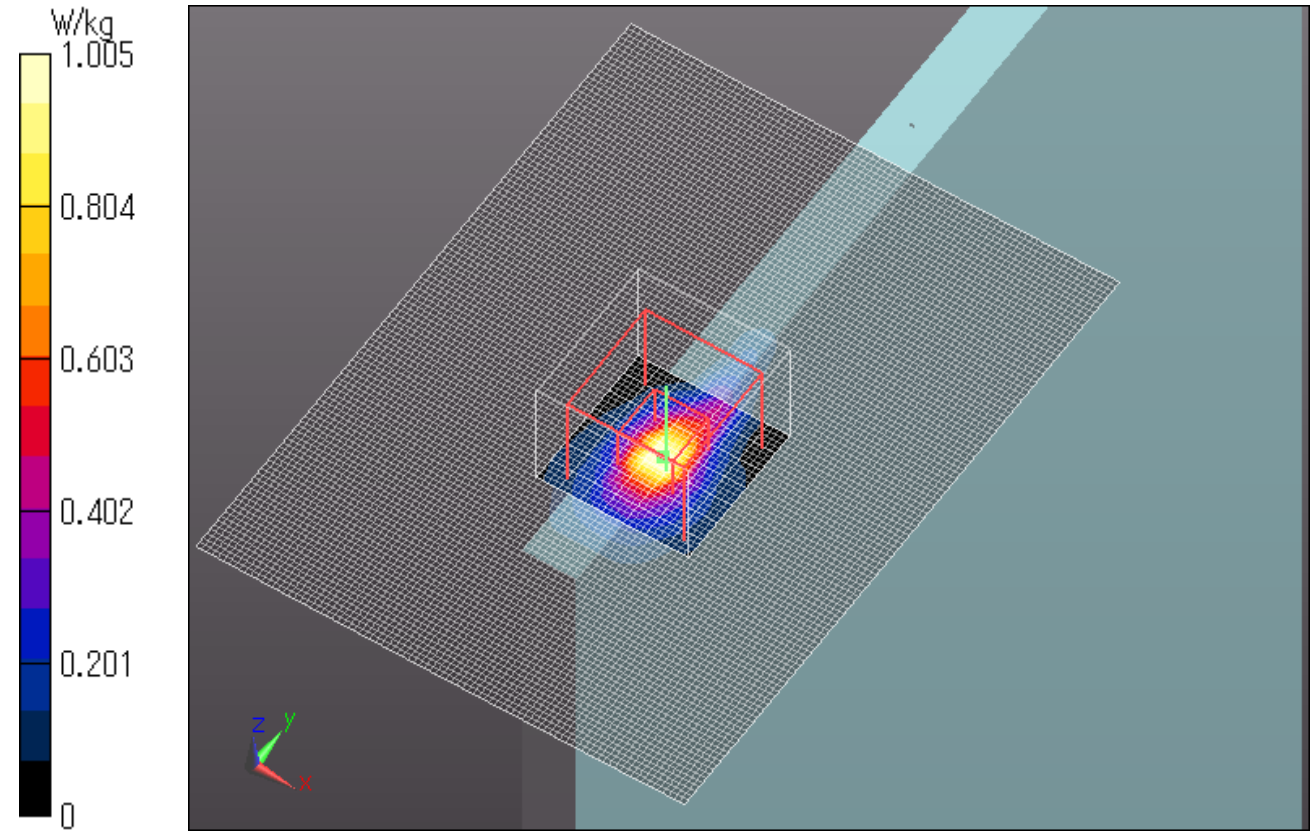


TypeB WLAN 11a 6Mbps Ant.1 Left 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.263 S/m; ε_r = 46.864; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.01 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.51 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.435 W/kg; SAR(10 g) = 0.097 W/kg
Maximum value of SAR (measured) = 1.00 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

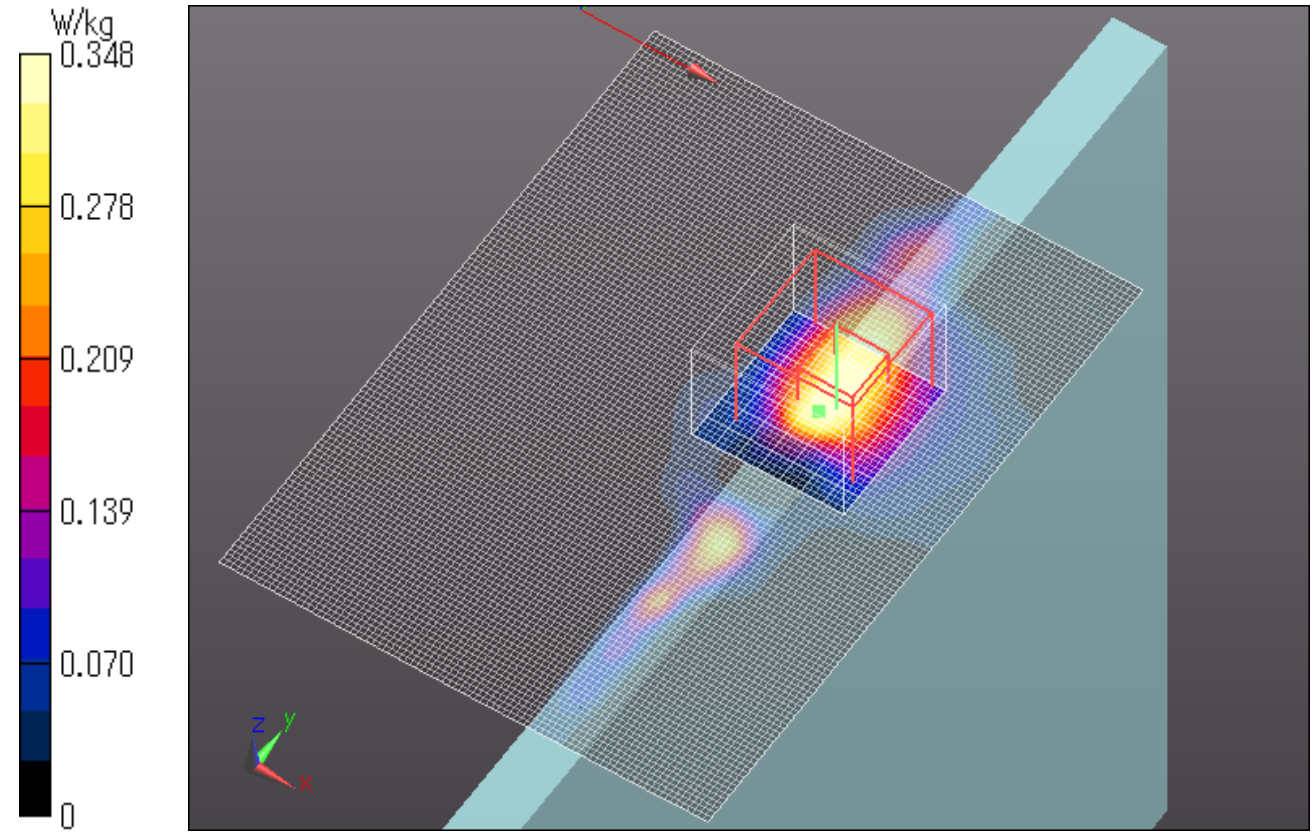


TypeB WLAN 11a 6Mbps Ant.2 Top 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.263 S/m; ε_r = 46.864; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.426 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.632 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.644 W/kg
SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.055 W/kg
Maximum value of SAR (measured) = 0.348 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

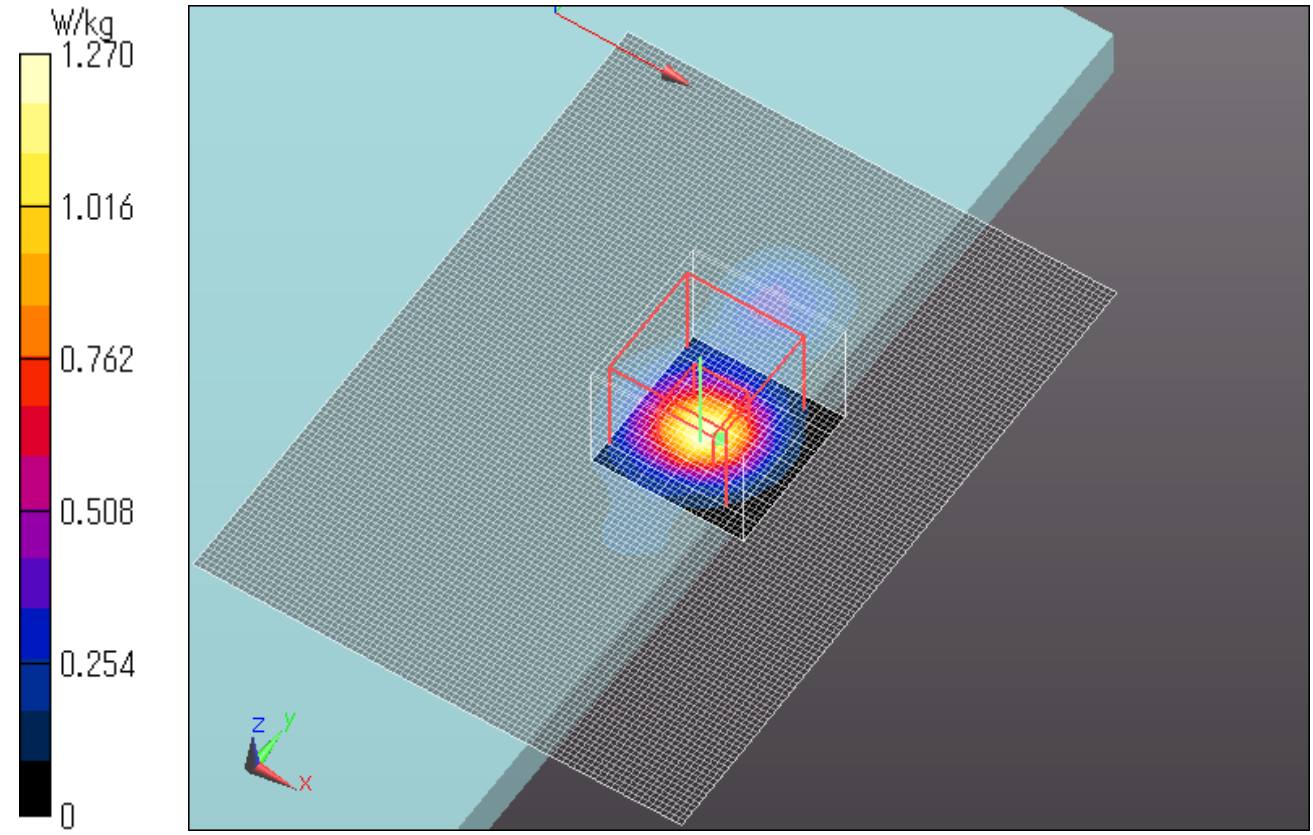


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5280MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W52 53); Frequency: 5280 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5280 MHz; σ = 5.263 S/m; ε_r = 46.864; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.23, 4.23, 4.23); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.43 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.91 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 4.71 W/kg
SAR(1 g) = 0.583 W/kg; SAR(10 g) = 0.152 W/kg
Maximum value of SAR (measured) = 1.27 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



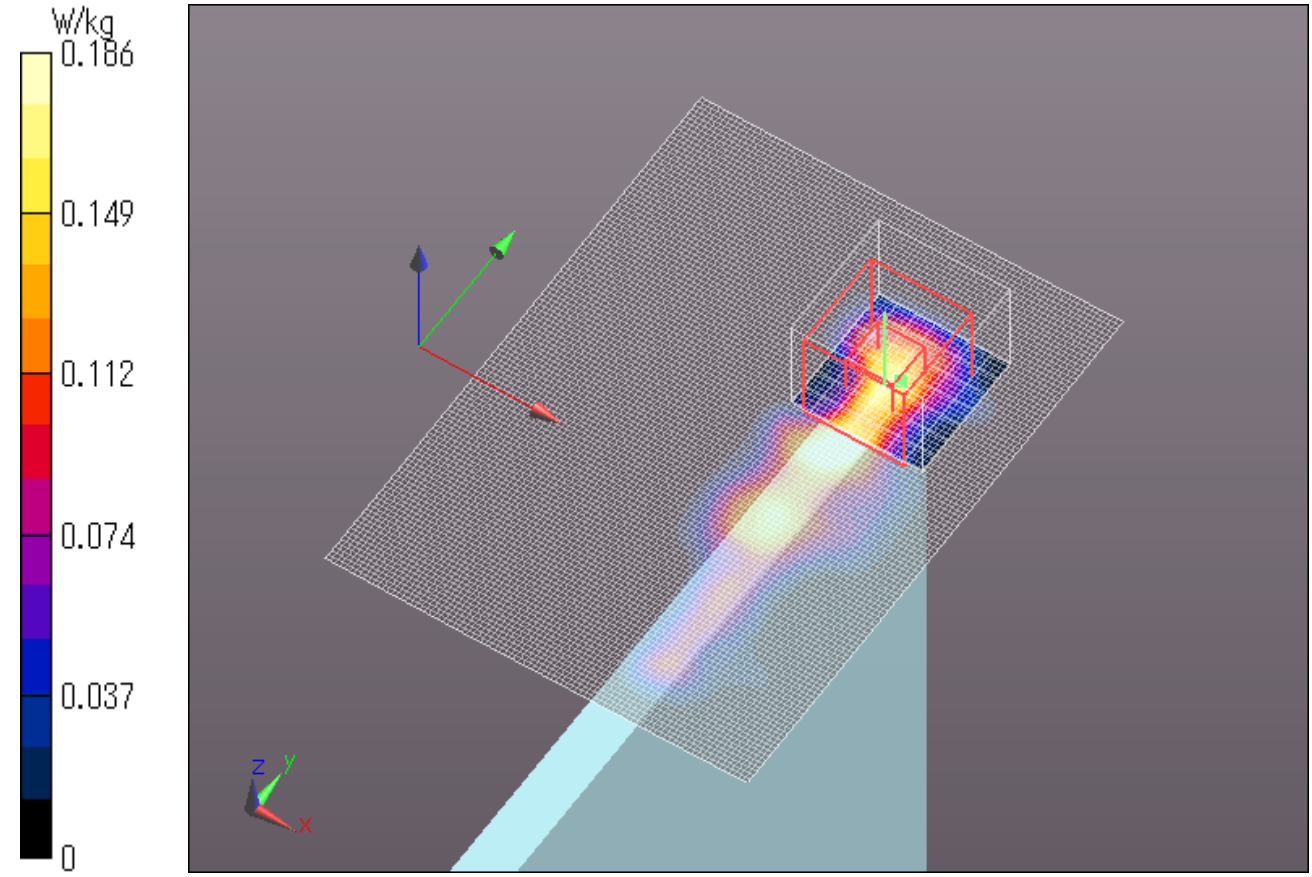
iv) WLAN Body 5.6GHz Band

WLAN 11a 6Mbps Ant.1 Top 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.739 S/m; ε_r = 46.321; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.242 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 5.958 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.413 W/kg
SAR(1 g) = 0.072 W/kg; SAR(10 g) = 0.023 W/kg
Maximum value of SAR (measured) = 0.186 W/kg

Date: 2014/10/18
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

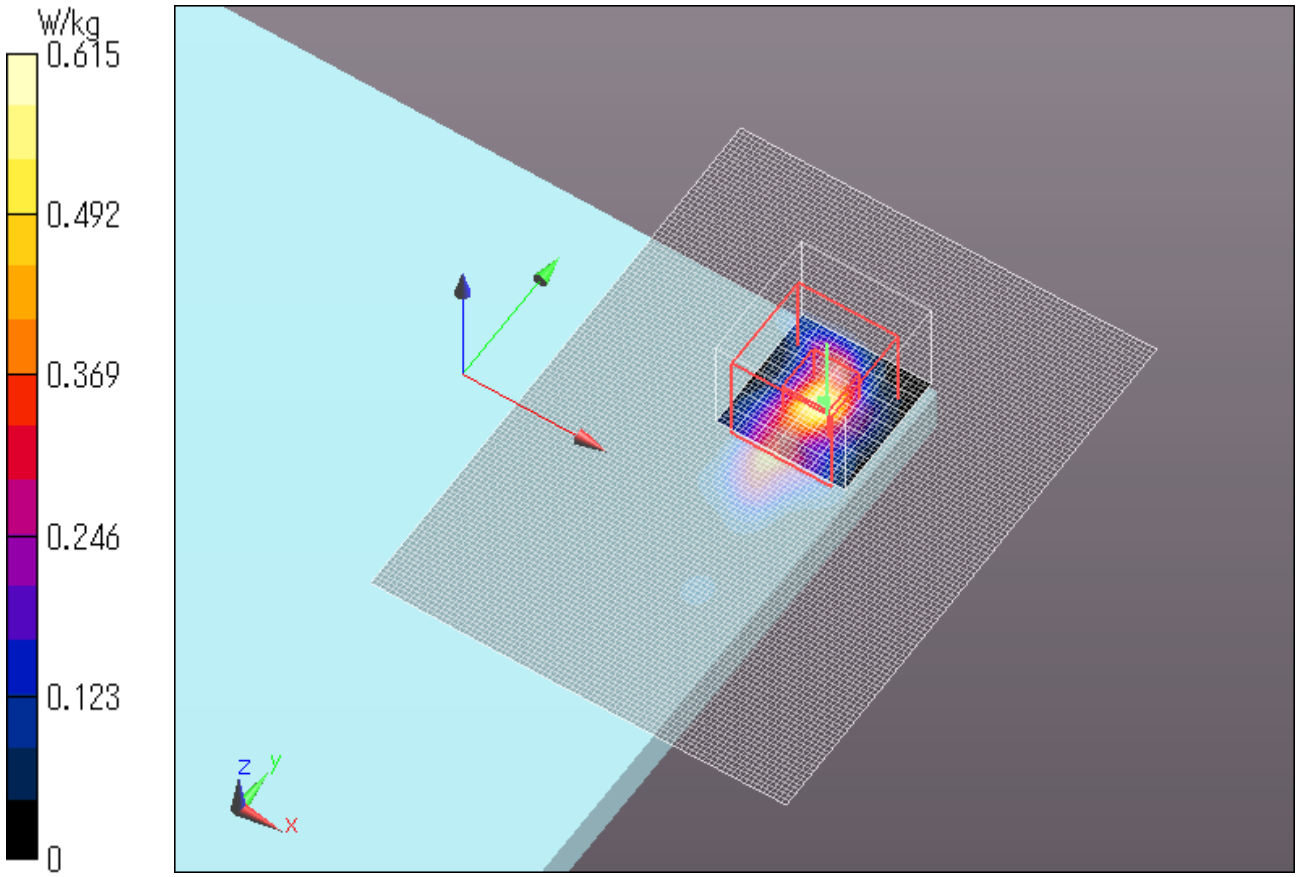


WLAN 11a 6Mbps Ant.1 Rear 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.739 S/m; ε_r = 46.321; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.731 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 11.67 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.057 W/kg
Maximum value of SAR (measured) = 0.615 W/kg

Date: 2014/10/18
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

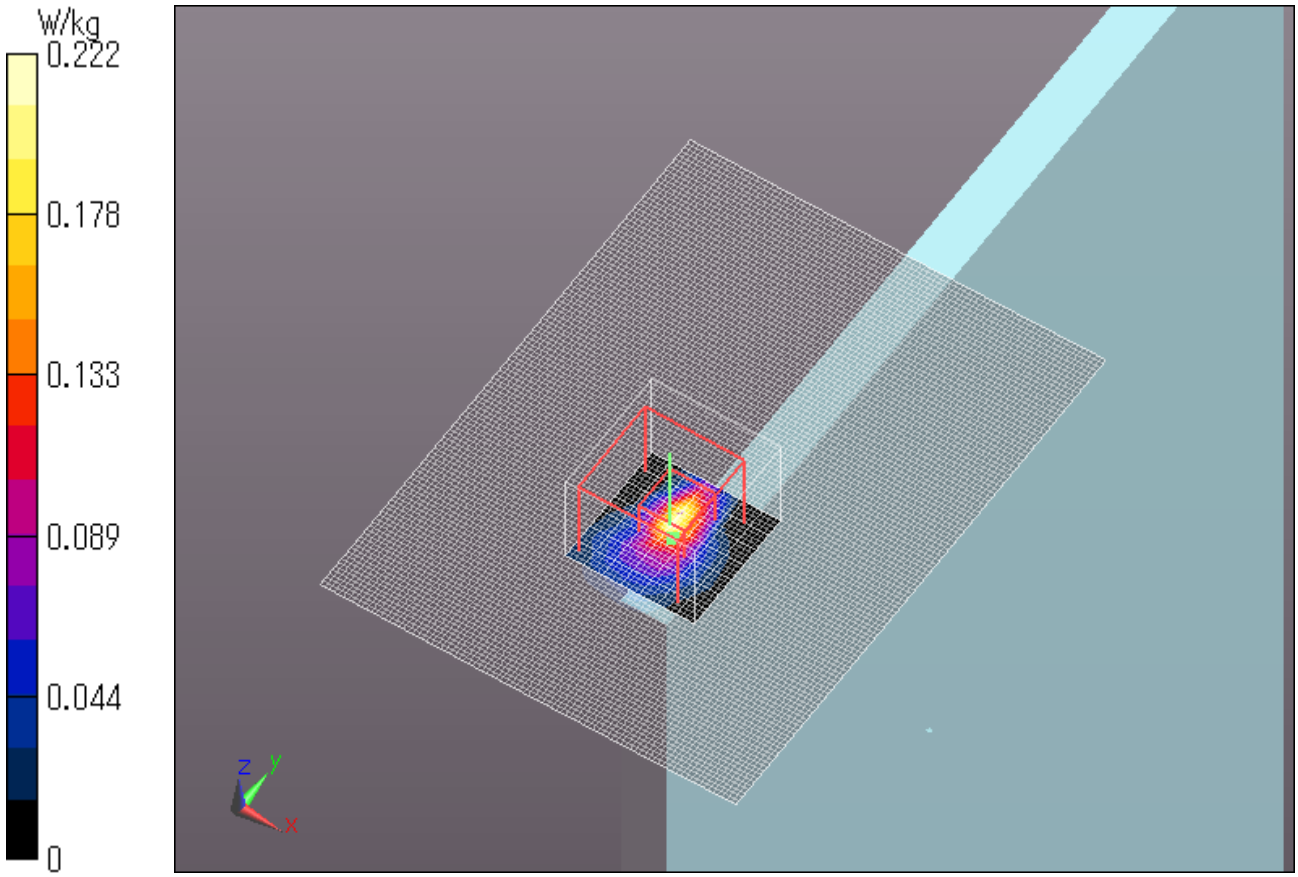


WLAN 11a 6Mbps Ant.1 Left 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.739 S/m; ε_r = 46.321; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.110 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 5.985 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.561 W/kg
SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.015 W/kg
Maximum value of SAR (measured) = 0.222 W/kg

Date: 2014/10/18
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

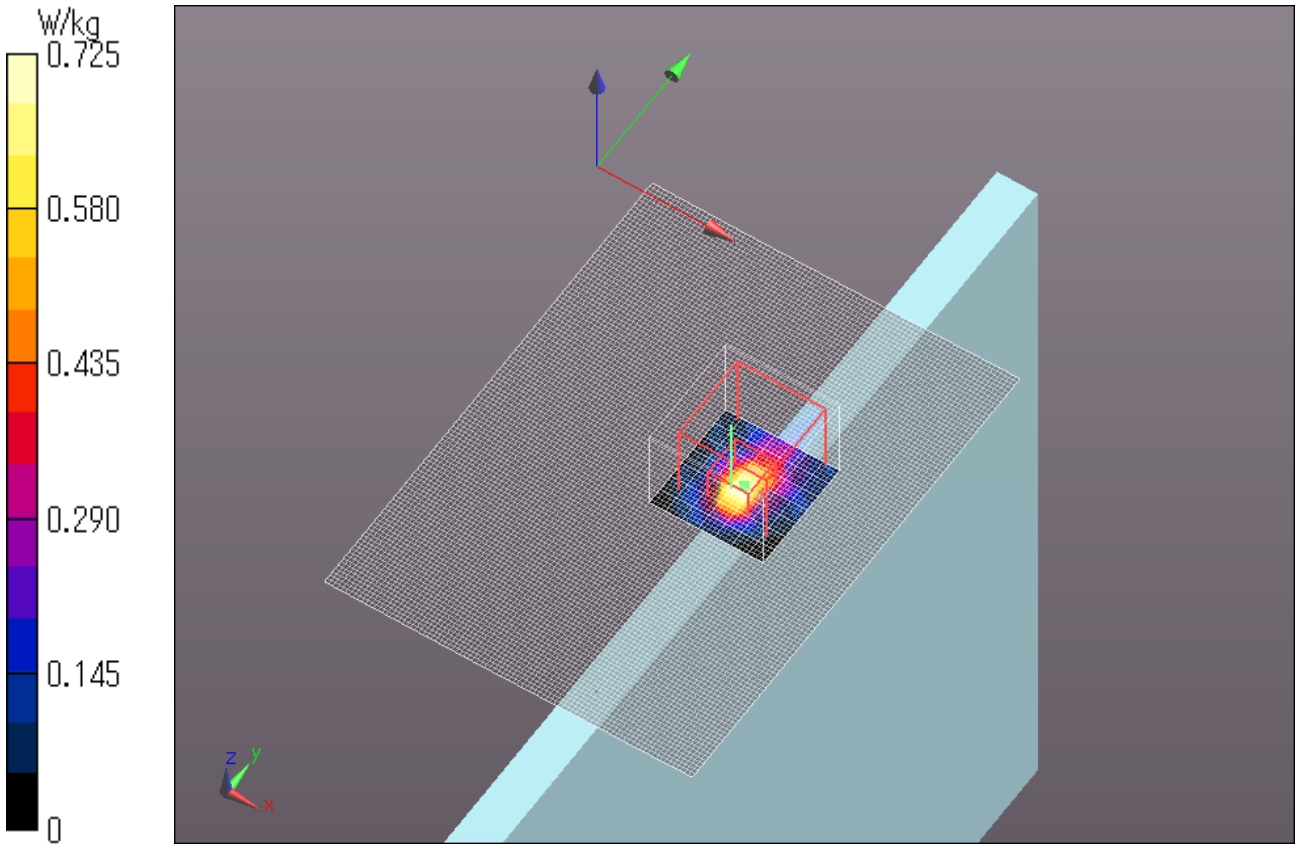


WLAN 11a 6Mbps Ant.2 Top 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.739 S/m; ε_r = 46.321; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.794 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.38 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.276 W/kg; SAR(10 g) = 0.066 W/kg
Maximum value of SAR (measured) = 0.725 W/kg

Date: 2014/10/18
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

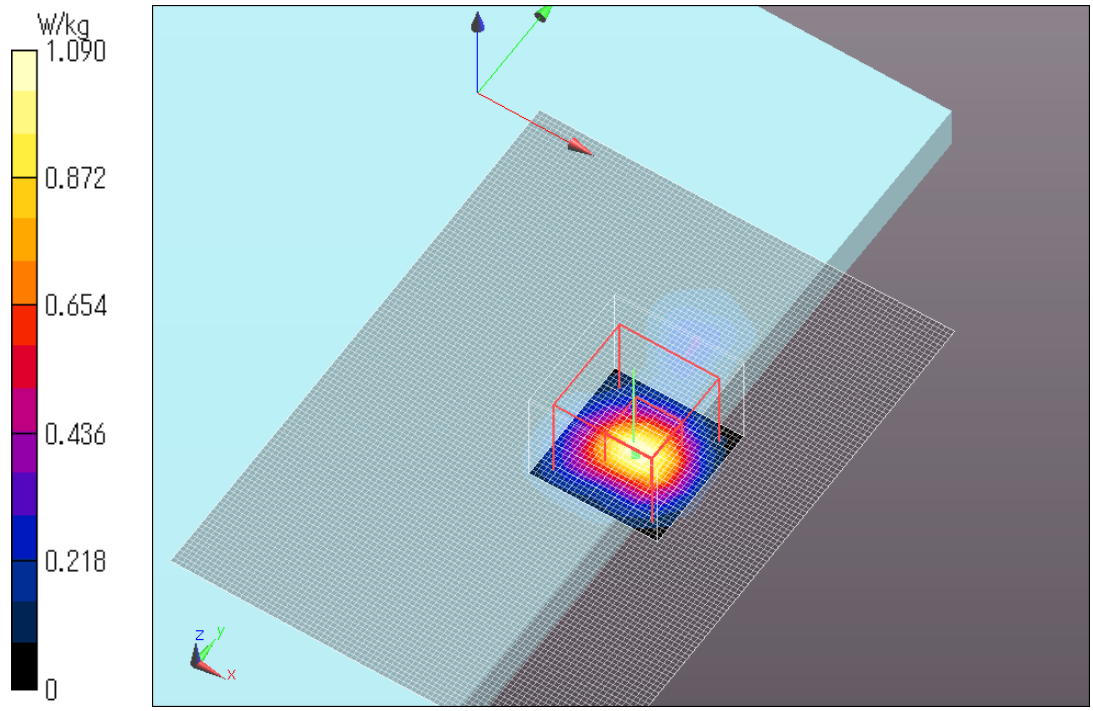


WLAN 11a 6Mbps Ant.2 Rear 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.739 S/m; ε_r = 46.321; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.28 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.41 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.40 W/kg
SAR(1 g) = 0.495 W/kg; SAR(10 g) = 0.135 W/kg
Maximum value of SAR (measured) = 1.09 W/kg

Date: 2014/10/18
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

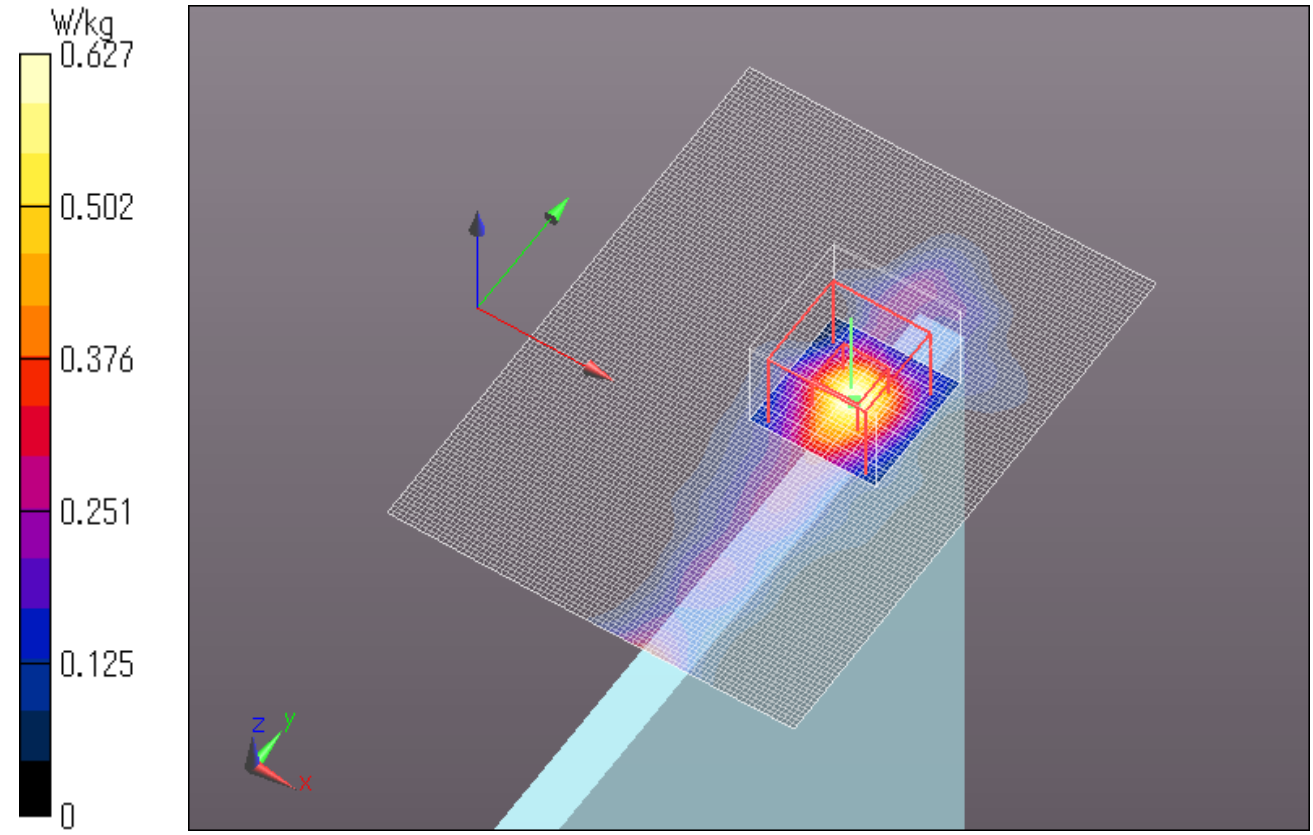


TypeB WLAN 11a 6Mbps Ant.1 Top 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.785 S/m; ε_r = 47.847; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.652 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 11.66 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.301 W/kg; SAR(10 g) = 0.094 W/kg
Maximum value of SAR (measured) = 0.627 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

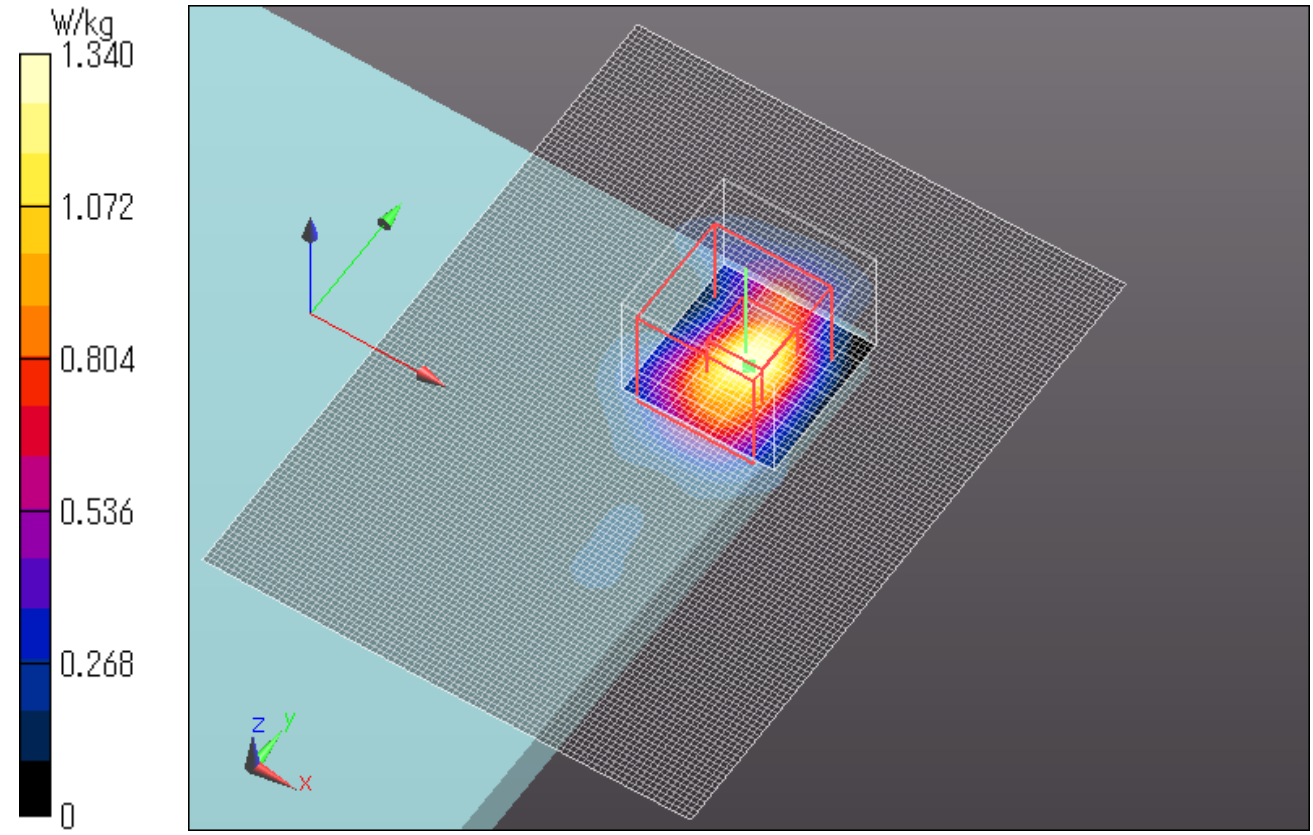


TypeB WLAN 11a 6Mbps Ant.1 Rear 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.785 S/m; ε_r = 47.847; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.43 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.96 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 4.14 W/kg
SAR(1 g) = 0.650 W/kg; SAR(10 g) = 0.198 W/kg
Maximum value of SAR (measured) = 1.34 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

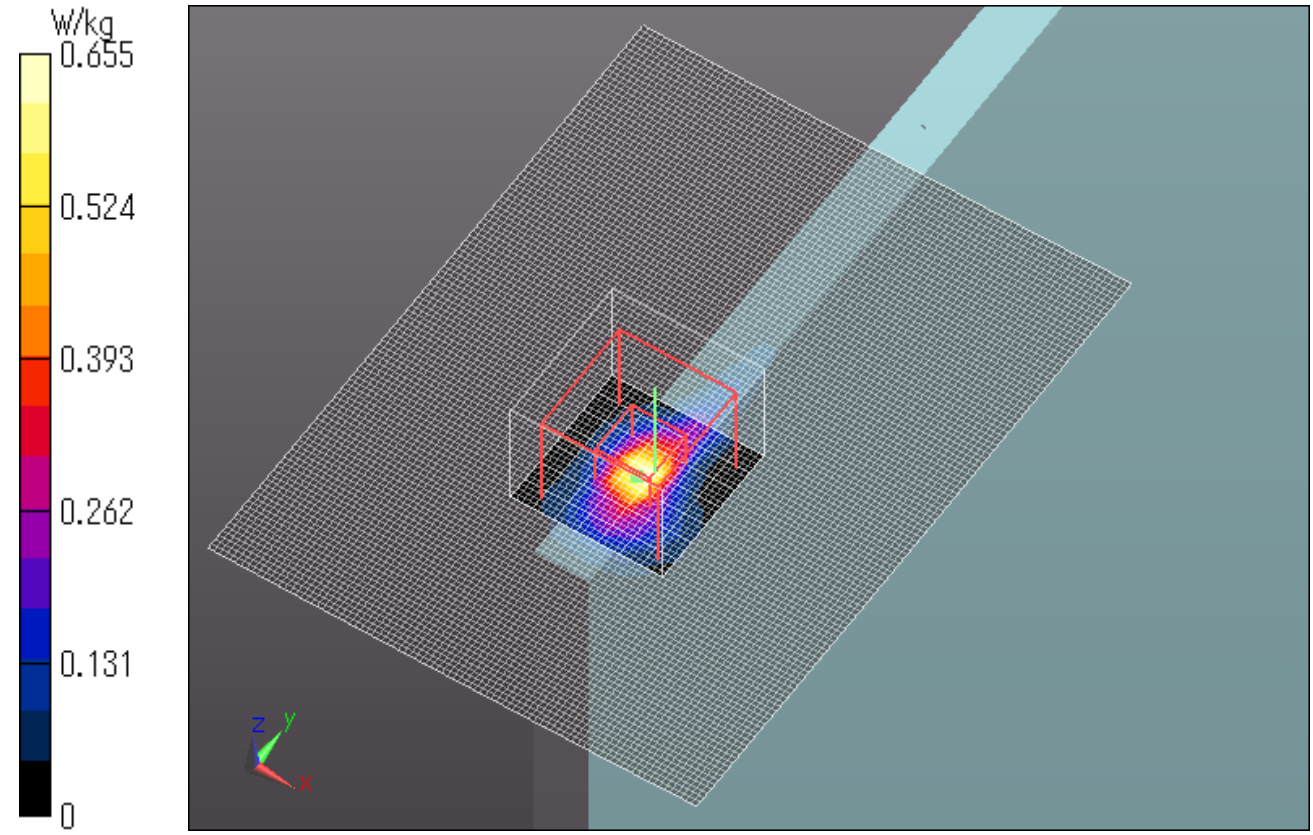


TypeB WLAN 11a 6Mbps Ant.1 Left 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.785 S/m; ε_r = 47.847; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.677 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.54 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.052 W/kg
Maximum value of SAR (measured) = 0.655 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

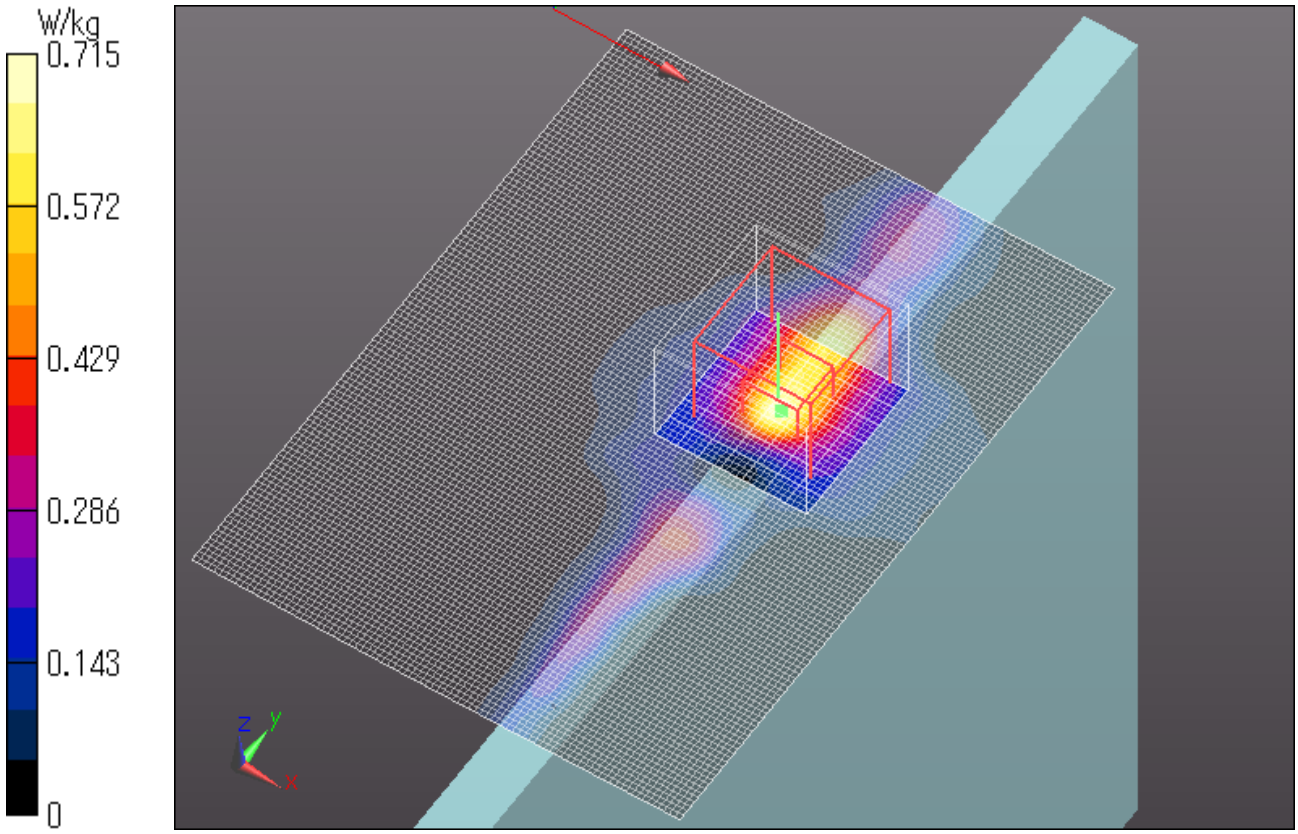


TypeB WLAN 11a 6Mbps Ant.2 Top 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.785 S/m; ε_r = 47.847; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.724 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.60 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.326 W/kg; SAR(10 g) = 0.107 W/kg
Maximum value of SAR (measured) = 0.715 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

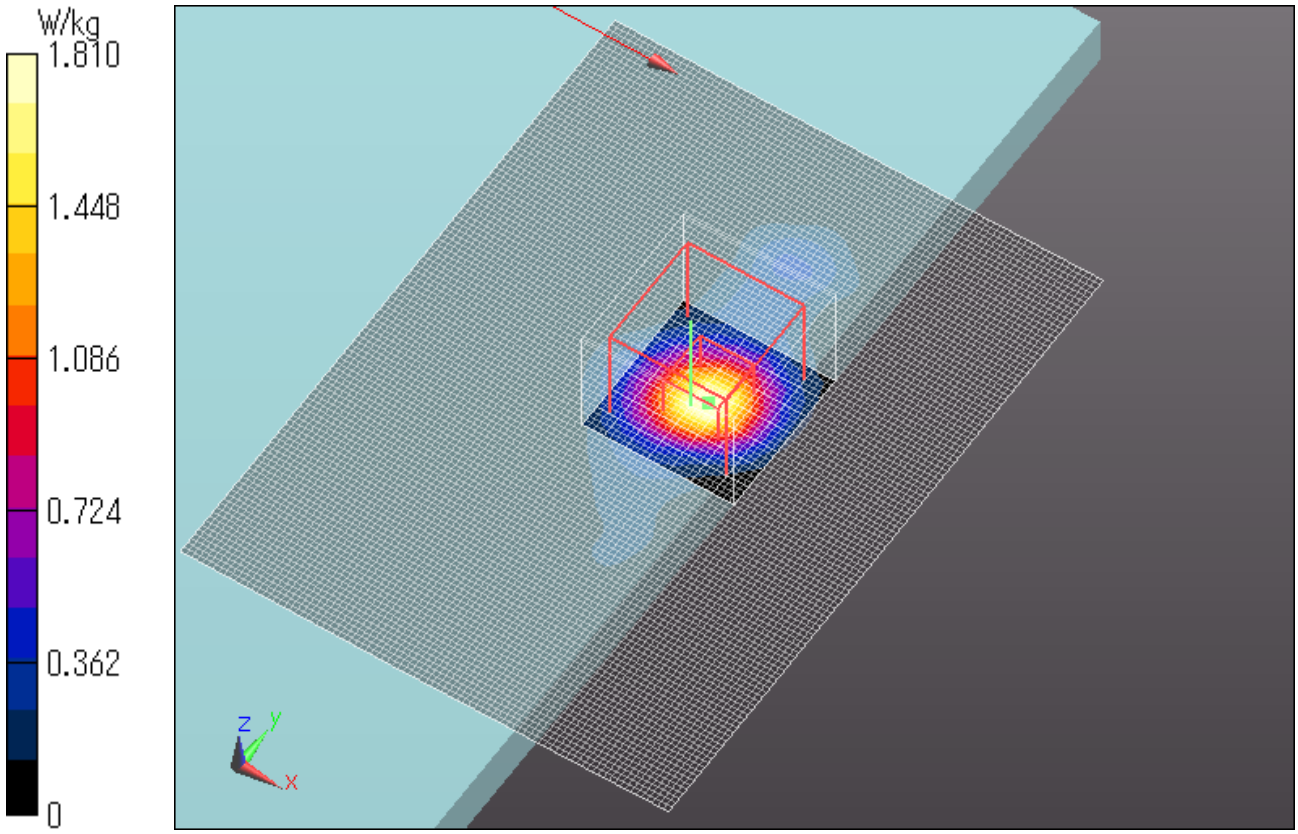


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5580MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5580 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5580 MHz; σ = 5.785 S/m; ε_r = 47.847; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.87 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 20.22 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 0.873 W/kg; SAR(10 g) = 0.235 W/kg
Maximum value of SAR (measured) = 1.81 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

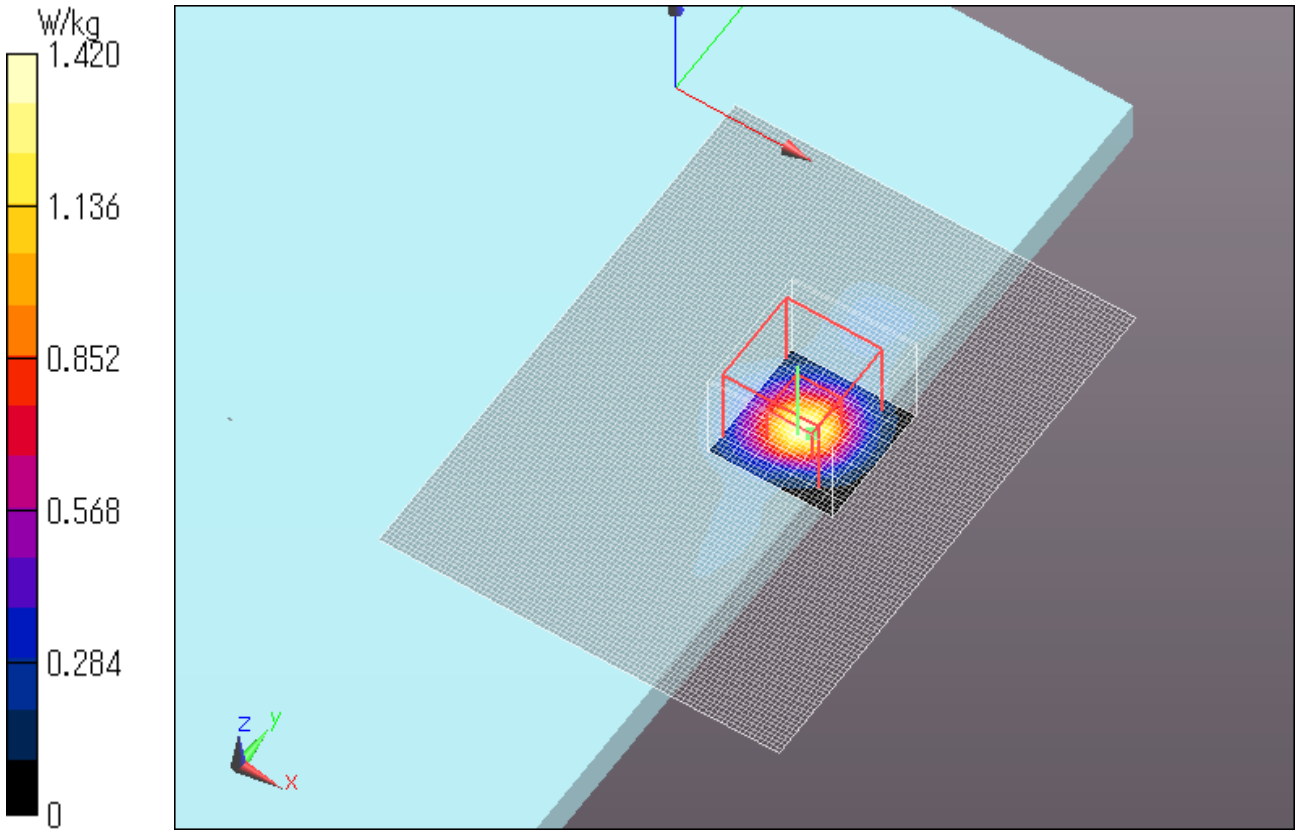


TypeB WLAN 11n40 MCS0 Ant.2 Rear 0mm 5590MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5590 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5590 MHz; σ = 5.835 S/m; ε_r = 47.795; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.71 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 17.36 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.73 W/kg
SAR(1 g) = 0.664 W/kg; SAR(10 g) = 0.178 W/kg
Maximum value of SAR (measured) = 1.42 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

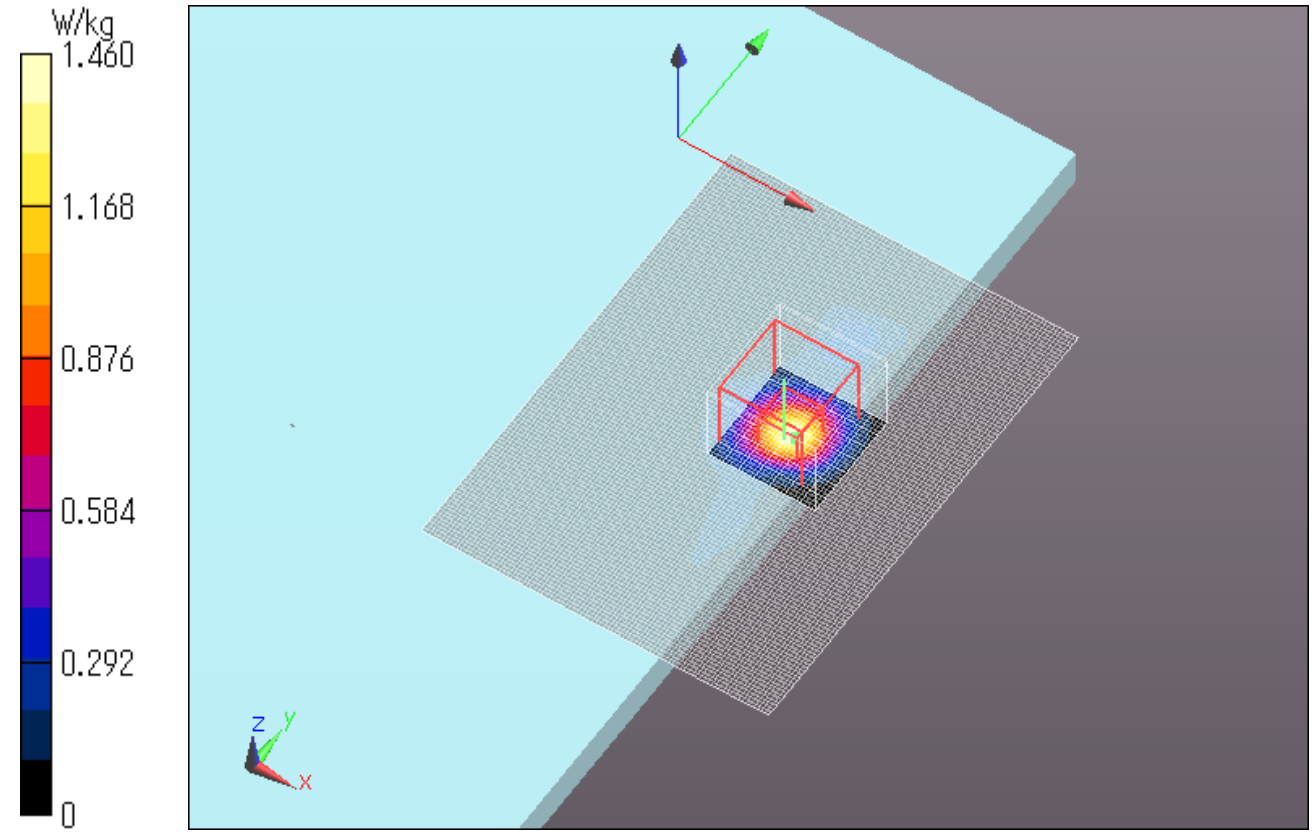


TypeB WLAN 11ac80 VHT0 Ant.2 Rear 0mm 5610MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5610 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5610 MHz; σ = 5.84 S/m; ε_r = 47.93; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.72 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 17.67 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.82 W/kg
SAR(1 g) = 0.677 W/kg; SAR(10 g) = 0.181 W/kg
Maximum value of SAR (measured) = 1.46 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

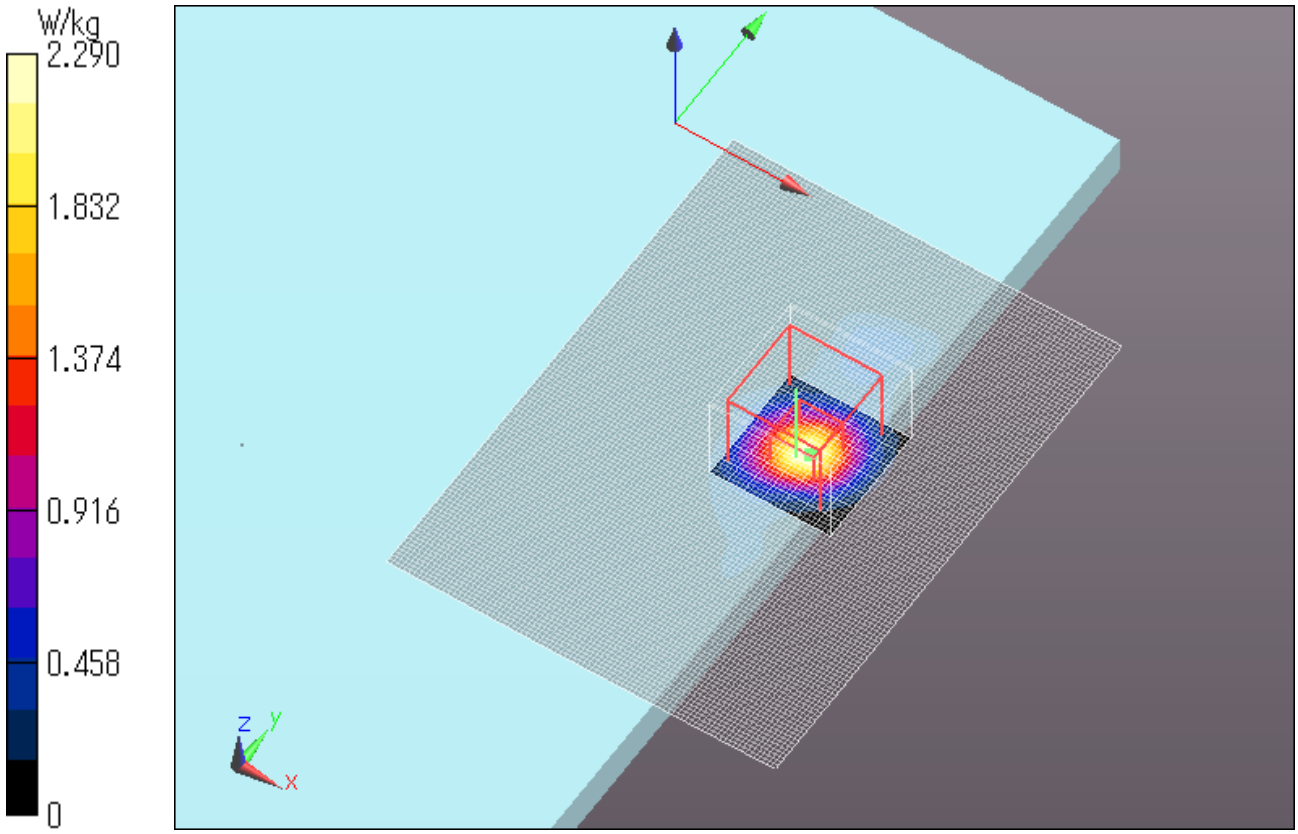


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5520MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5520 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5520 MHz; σ = 5.815 S/m; ε_r = 47.924; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.92, 3.92, 3.92); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.42 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 22.00 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 4.55 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.293 W/kg
Maximum value of SAR (measured) = 2.29 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

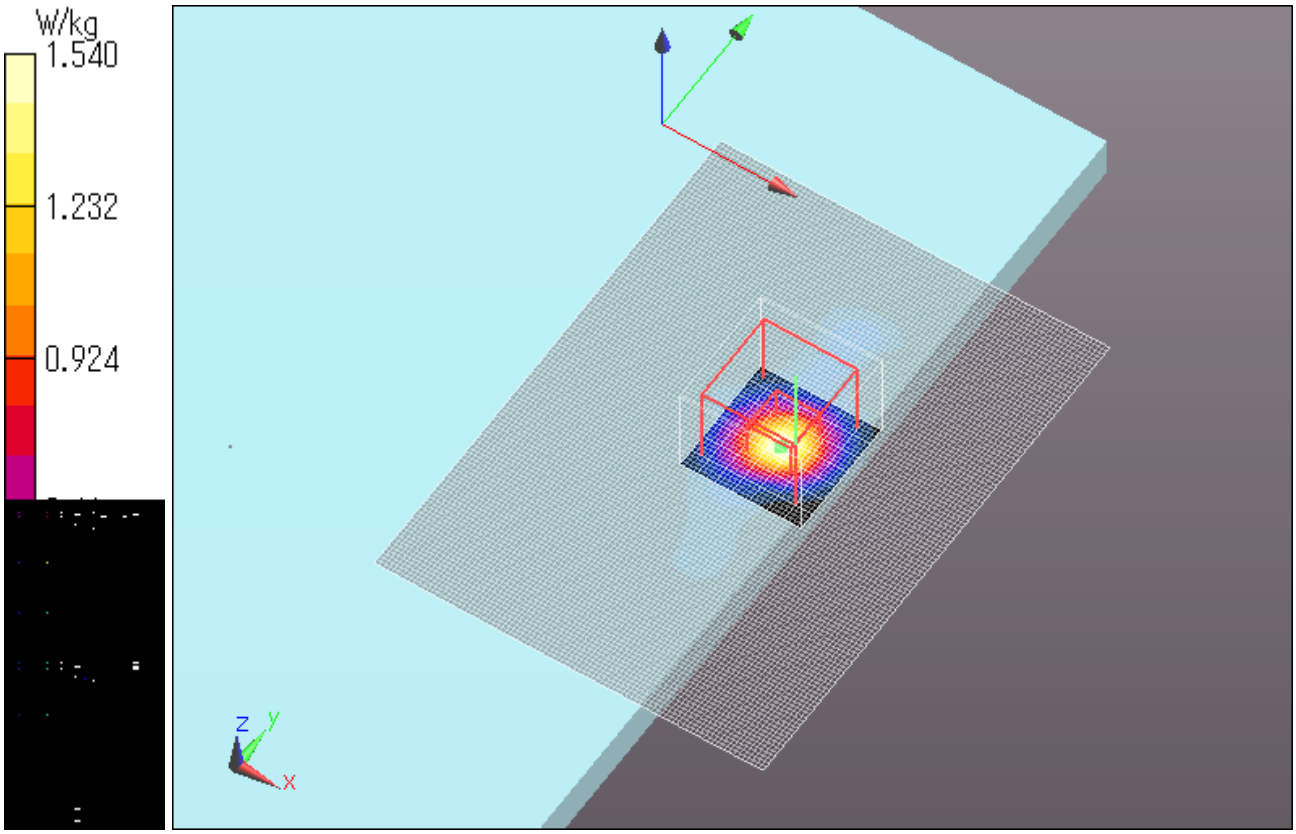


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5620MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5620 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5620 MHz; σ = 5.85 S/m; ε_r = 47.767; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.65 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.88 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 3.08 W/kg
SAR(1 g) = 0.726 W/kg; SAR(10 g) = 0.194 W/kg
Maximum value of SAR (measured) = 1.54 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

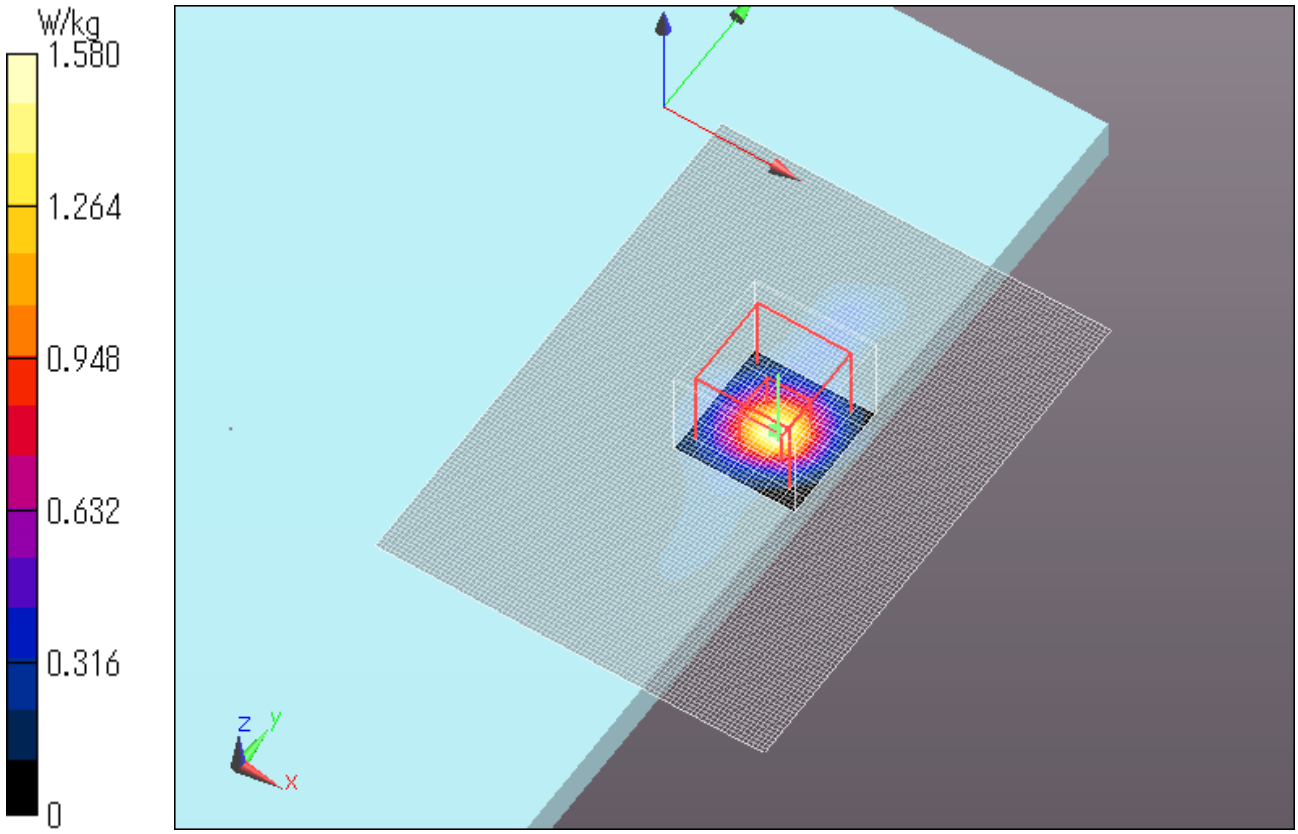


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5660MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5660 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5660 MHz; σ = 5.978 S/m; ε_r = 47.856; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.9, 3.9, 3.9); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.24 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 14.83 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 3.11 W/kg
SAR(1 g) = 0.727 W/kg; SAR(10 g) = 0.188 W/kg
Maximum value of SAR (measured) = 1.58 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

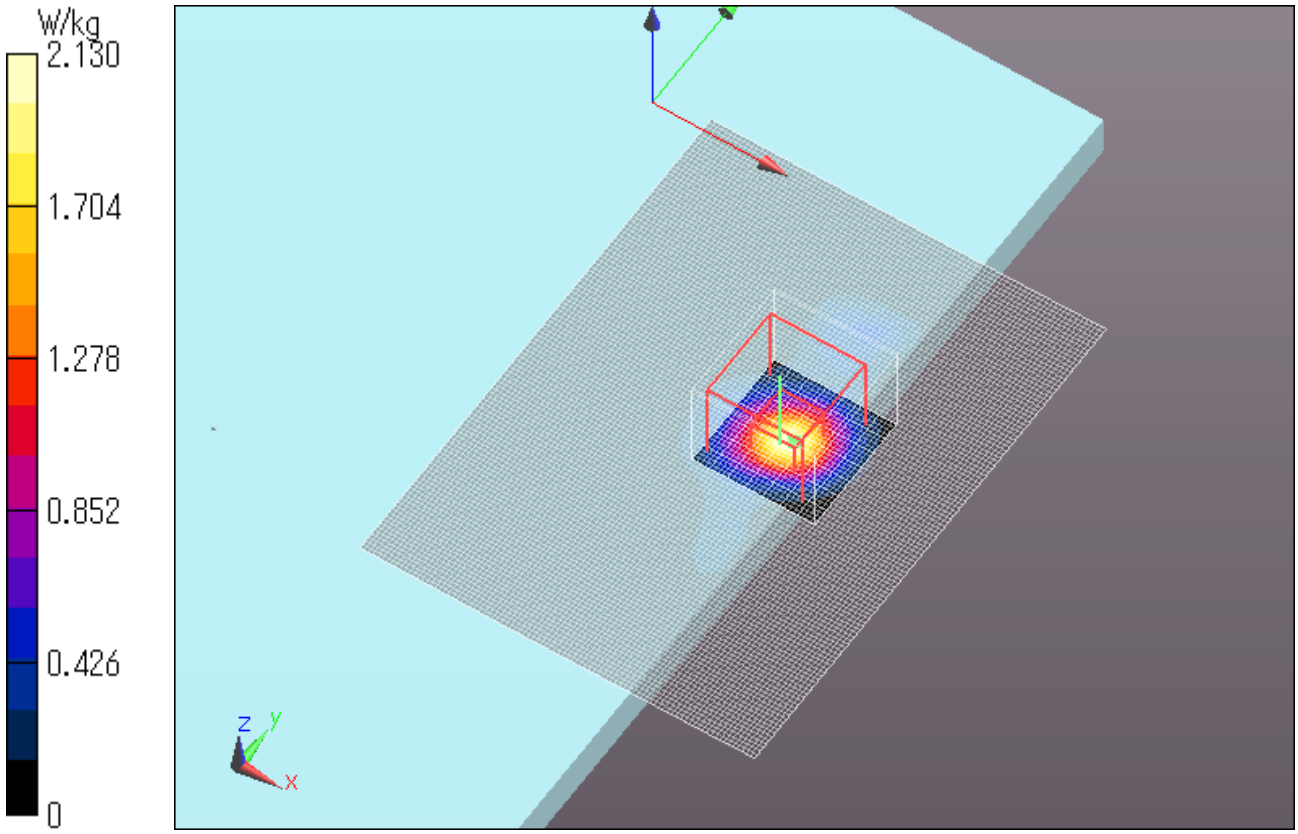


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5520MHz -repeat-
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W56); Frequency: 5520 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5520 MHz; σ = 5.815 S/m; ε_r = 47.924; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(3.92, 3.92, 3.92); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.48 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 21.37 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 4.13 W/kg
SAR(1 g) = 0.994 W/kg; SAR(10 g) = 0.267 W/kg
Maximum value of SAR (measured) = 2.13 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



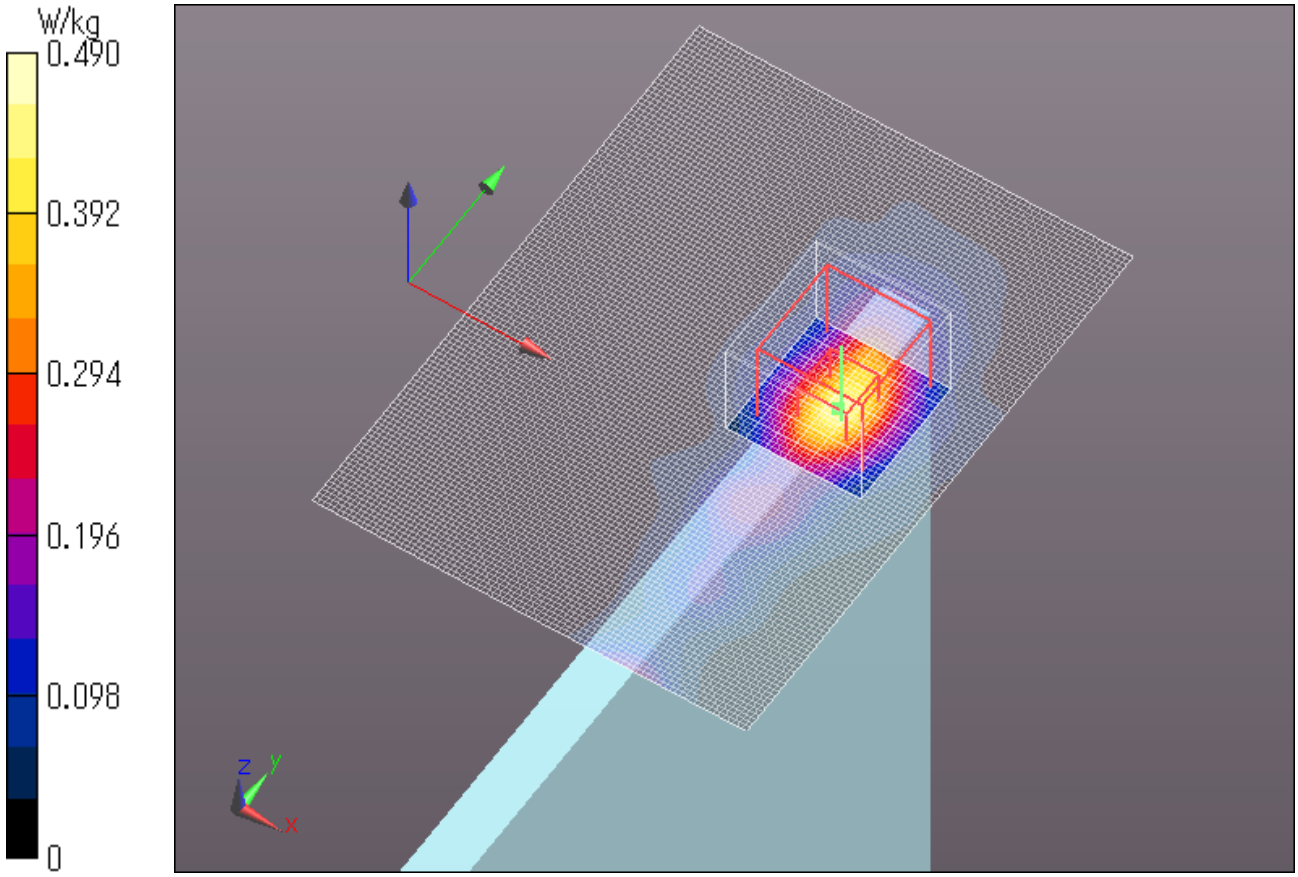
v) WLAN Body 5.8GHz Band

WLAN 11a 6Mbps Ant.1 Top 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.929 S/m; ε_r = 46.838; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.430 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 10.27 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.226 W/kg; SAR(10 g) = 0.072 W/kg
Maximum value of SAR (measured) = 0.490 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

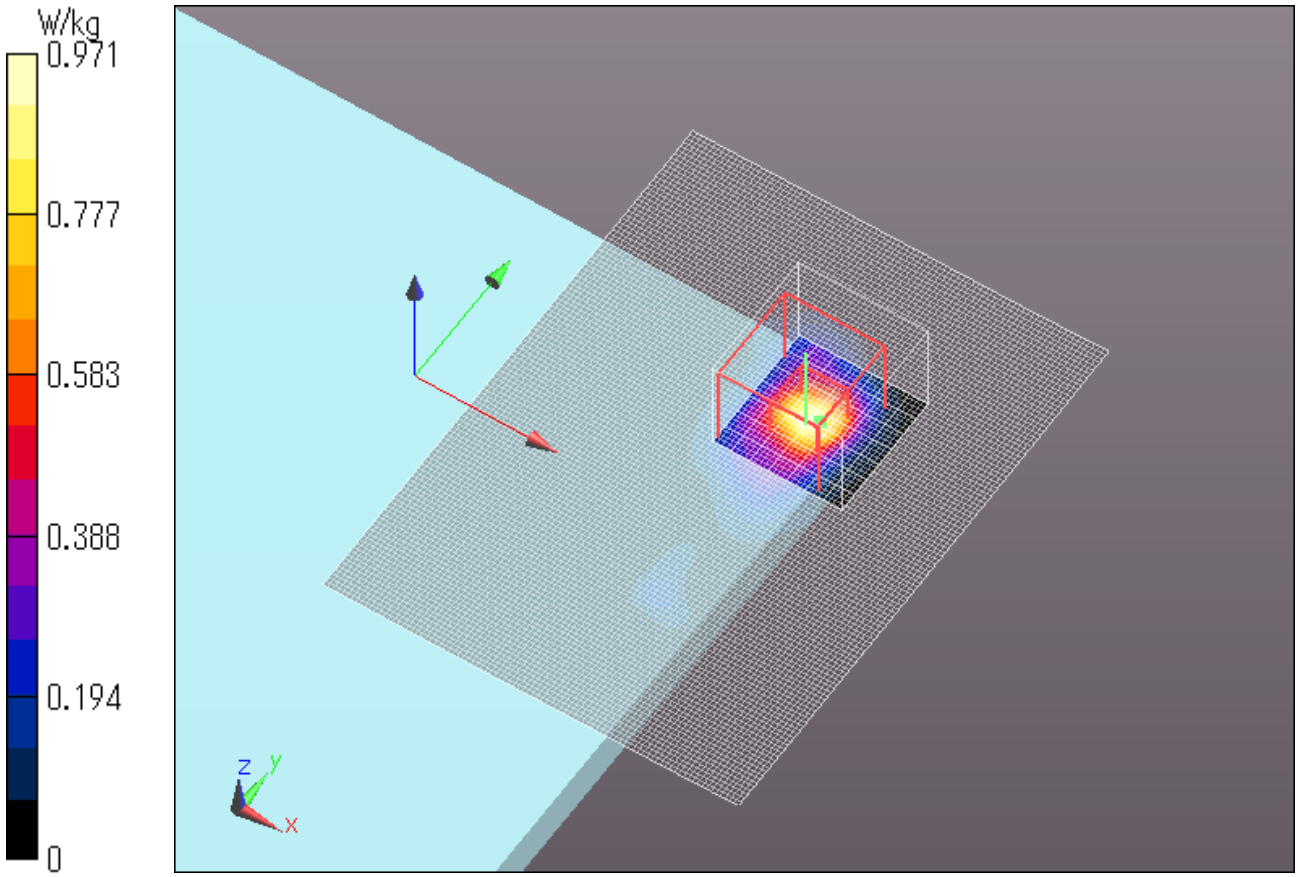


WLAN 11a 6Mbps Ant.1 Rear 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.929 S/m; ε_r = 46.838; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.22 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.73 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.90 W/kg
SAR(1 g) = 0.418 W/kg; SAR(10 g) = 0.112 W/kg
Maximum value of SAR (measured) = 0.971 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

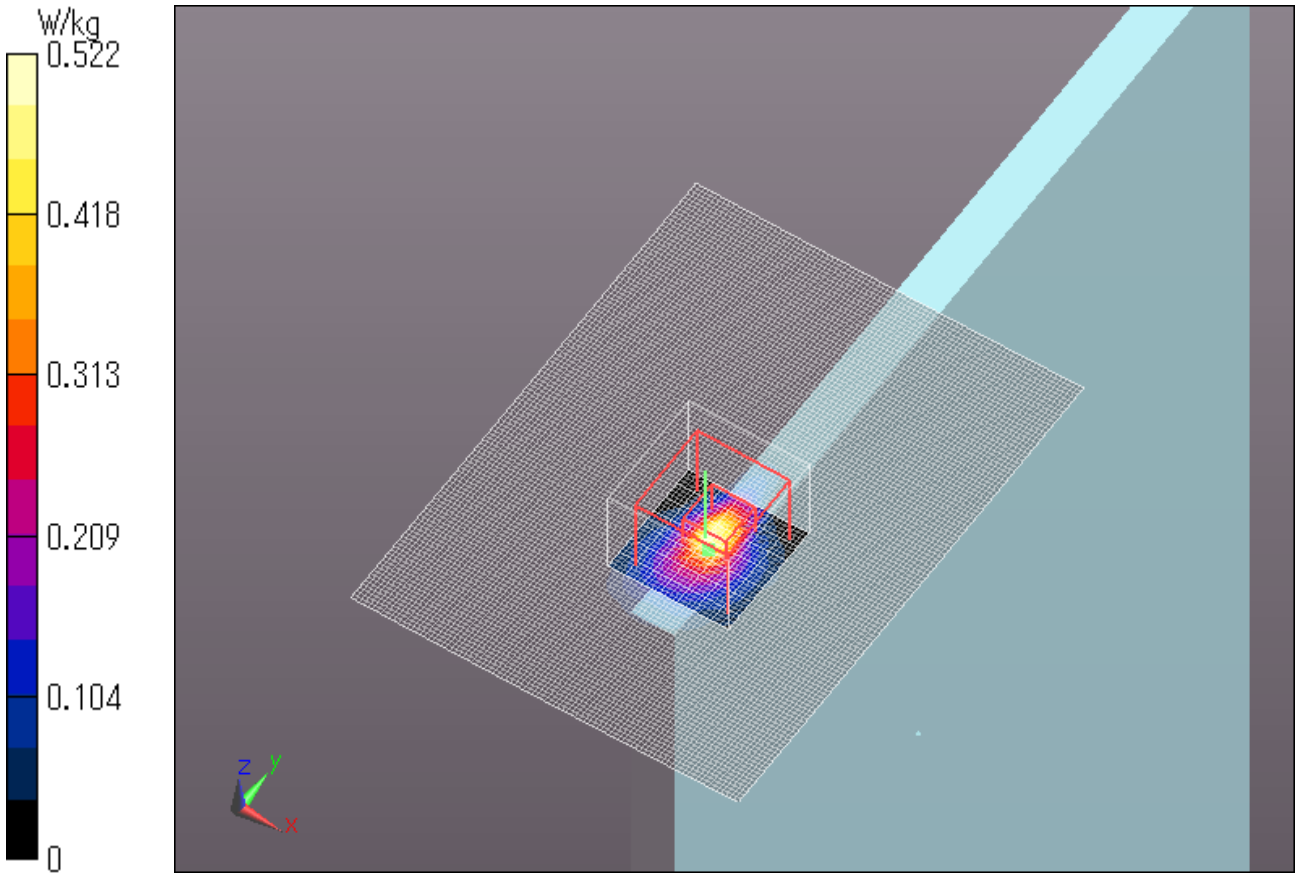


WLAN 11a 6Mbps Ant.1 Left 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.929 S/m; ε_r = 46.838; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.626 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 9.642 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.198 W/kg; SAR(10 g) = 0.047 W/kg
Maximum value of SAR (measured) = 0.522 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

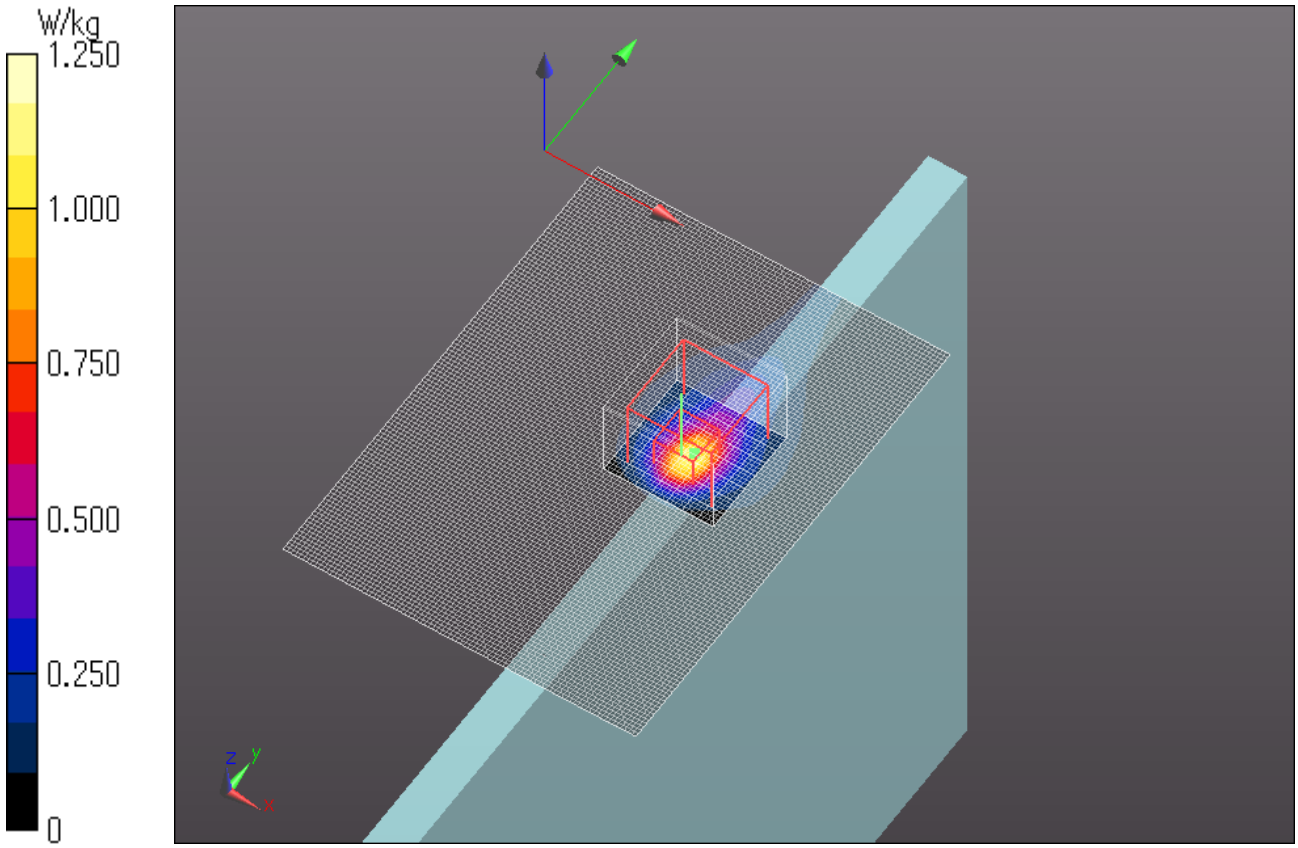


WLAN 11a 6Mbps Ant.2 Top 0mm 5785MHz
Communication System: UID 0, WLAN 5GHz (0); Communication System Band: WLAN 5GHz High; Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.929 S/m; ε_r = 46.838; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.45 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 2.69 W/kg
SAR(1 g) = 0.522 W/kg; SAR(10 g) = 0.128 W/kg
Maximum value of SAR (measured) = 1.25 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

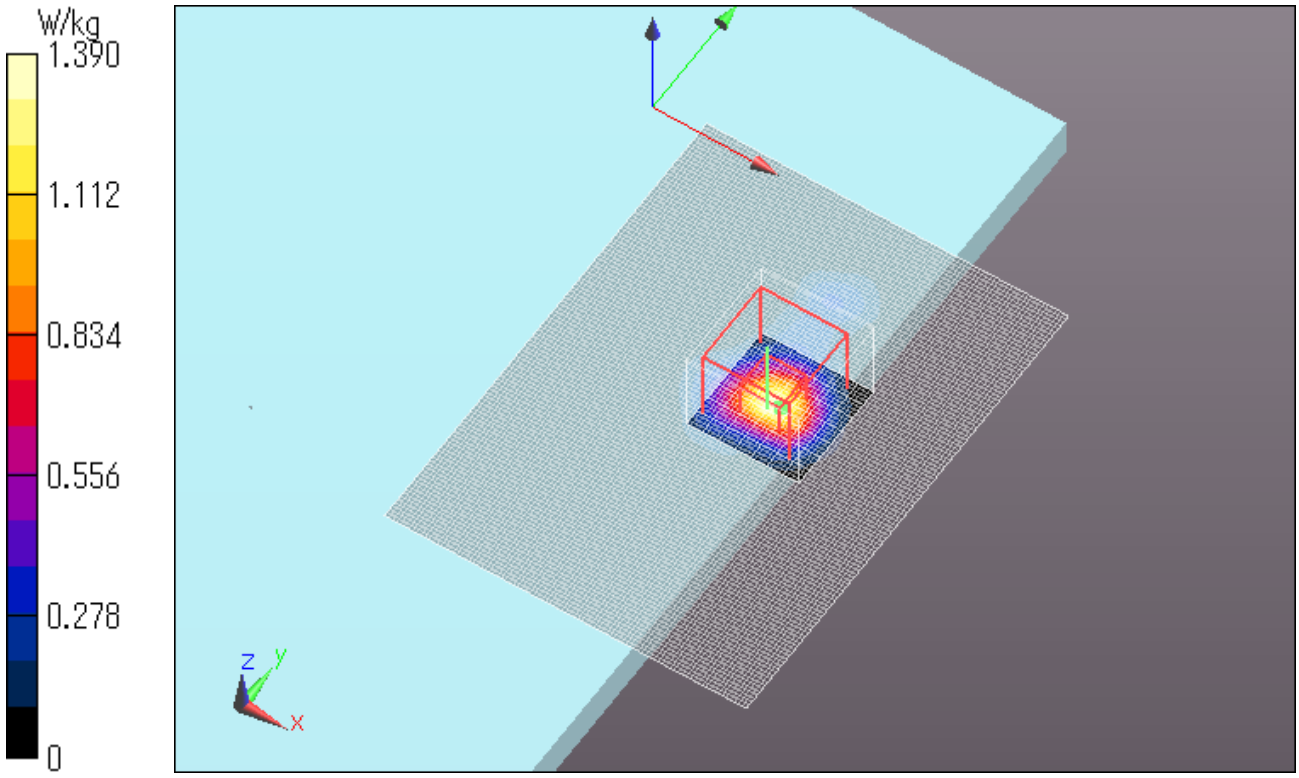


WLAN 11a 6Mbps Ant.2 Rear 0mm 5785MHz
Communication System: UID 0, WLAN 5GHz (0); Communication System Band: WLAN 5GHz High; Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.929 S/m; ε_r = 46.838; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.48 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.86 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 2.83 W/kg
SAR(1 g) = 0.629 W/kg; SAR(10 g) = 0.170 W/kg
Maximum value of SAR (measured) = 1.39 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

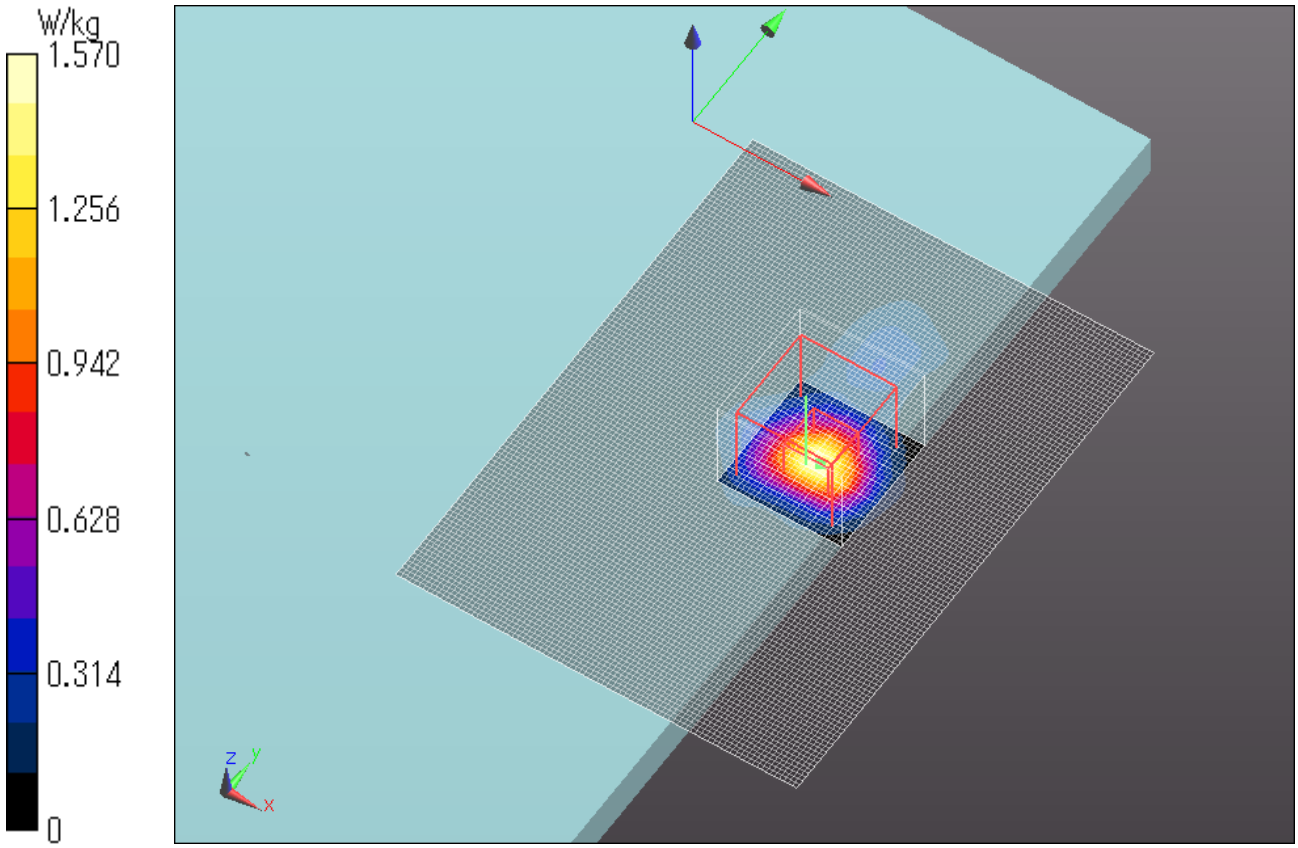


WLAN 11n40 MCS0 Ant.2 Rear 0mm 5795MHz
Communication System: UID 0, WLAN 5GHz (0); Communication System Band: WLAN 5GHz High; Frequency: 5795 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5795 MHz; σ = 5.945 S/m; ε_r = 47.36; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Configuration 2/Rear/Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.57 W/kg

Configuration 2/Rear/Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 18.04 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 3.46 W/kg
SAR(1 g) = 0.734 W/kg; SAR(10 g) = 0.203 W/kg
Maximum value of SAR (measured) = 1.51 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

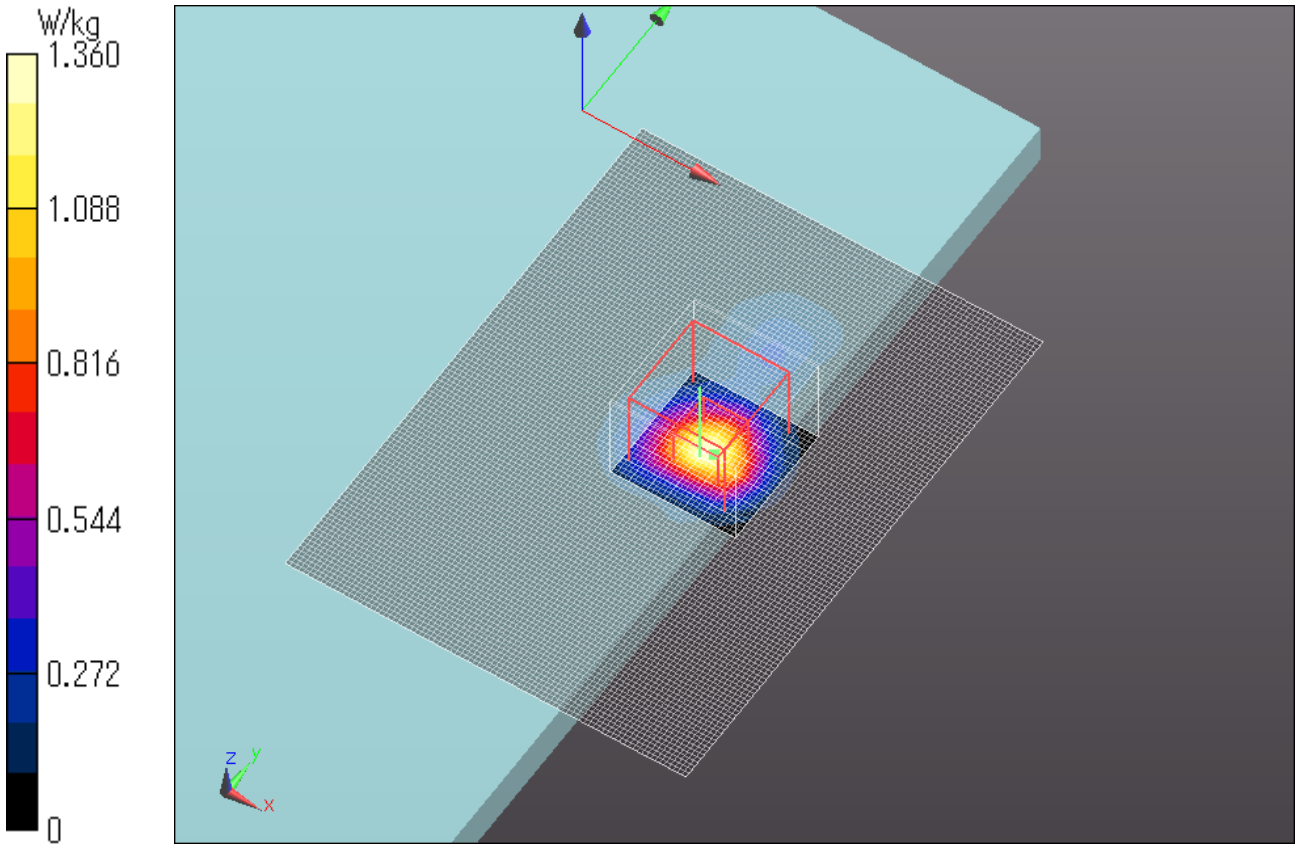


WLAN 11n80 VHT0 Ant.2 Rear 0mm 5775MHz
Communication System: UID 0, WLAN 5GHz (0); Communication System Band: WLAN 5GHz High; Frequency: 5775 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5775 MHz; σ = 5.958 S/m; ε_r = 47.423; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.47 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 16.77 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.99 W/kg
SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.181 W/kg
Maximum value of SAR (measured) = 1.36 W/kg

Date: 2014/10/20
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

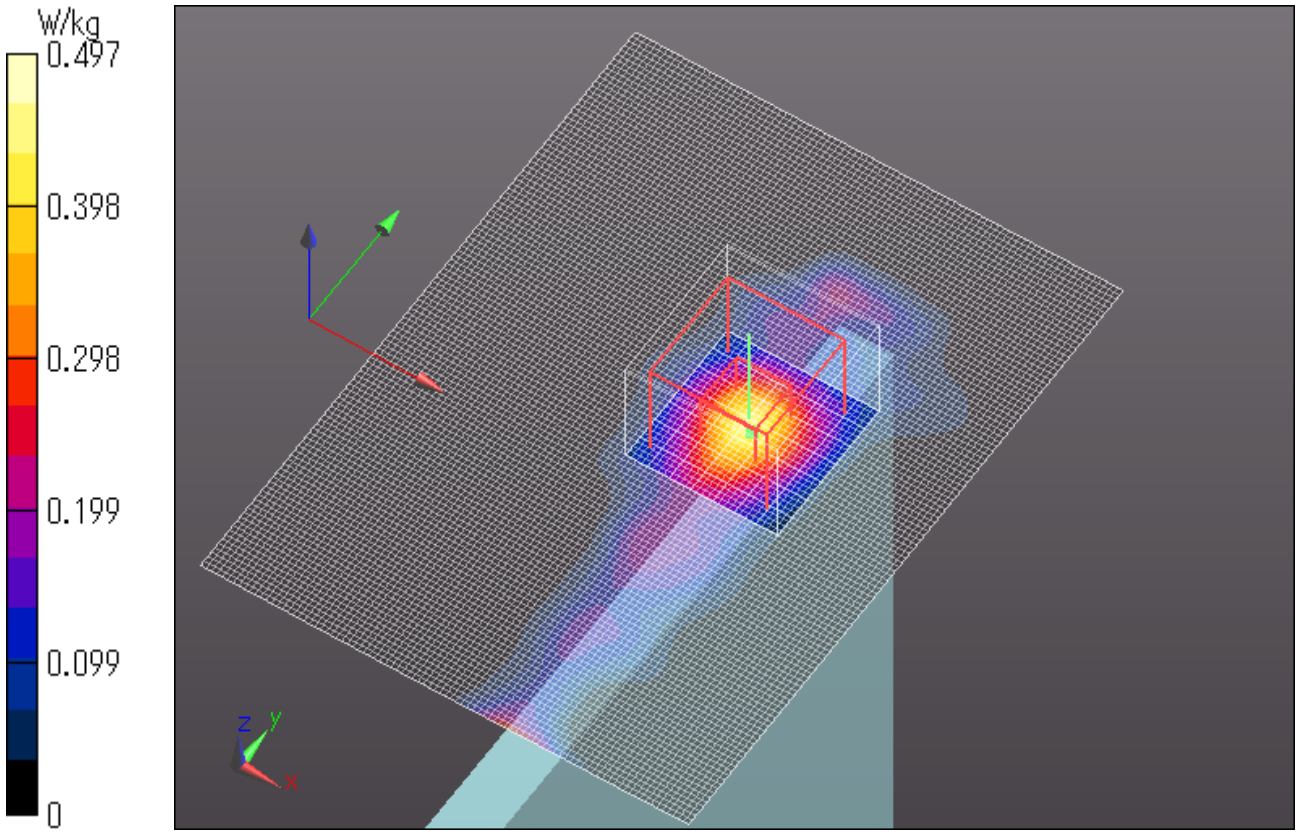


TypeB WLAN 11a 6Mbps Ant.1 Top 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.866 S/m; ε_r = 47.942; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.436 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 9.910 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.918 W/kg
SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.069 W/kg
Maximum value of SAR (measured) = 0.497 W/kg

Date: 2014/10/23
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

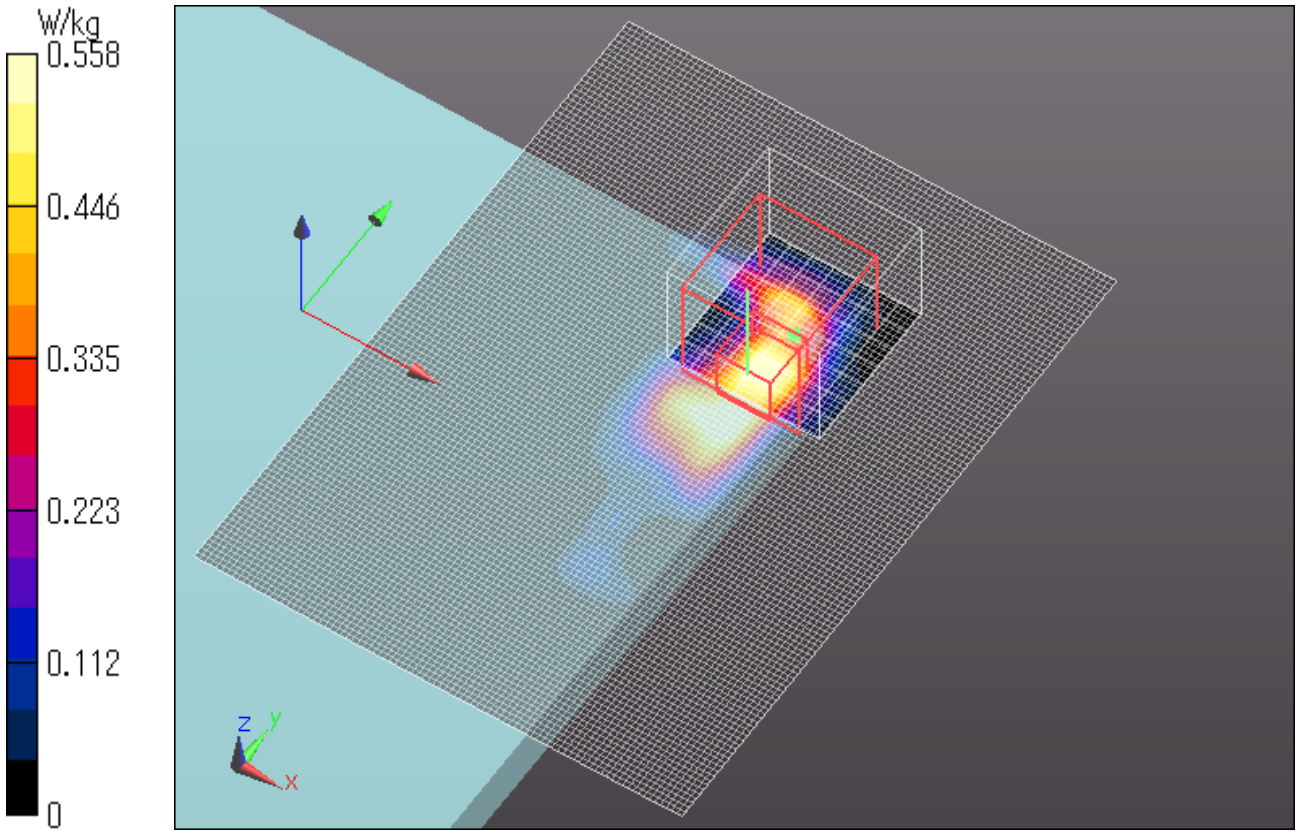


TypeB WLAN 11a 6Mbps Ant.1 Rear 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.866 S/m; ε_r = 47.942; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.03 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 8.306 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.254 W/kg; SAR(10 g) = 0.071 W/kg
Maximum value of SAR (measured) = 0.558 W/kg

Date: 2014/10/23
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

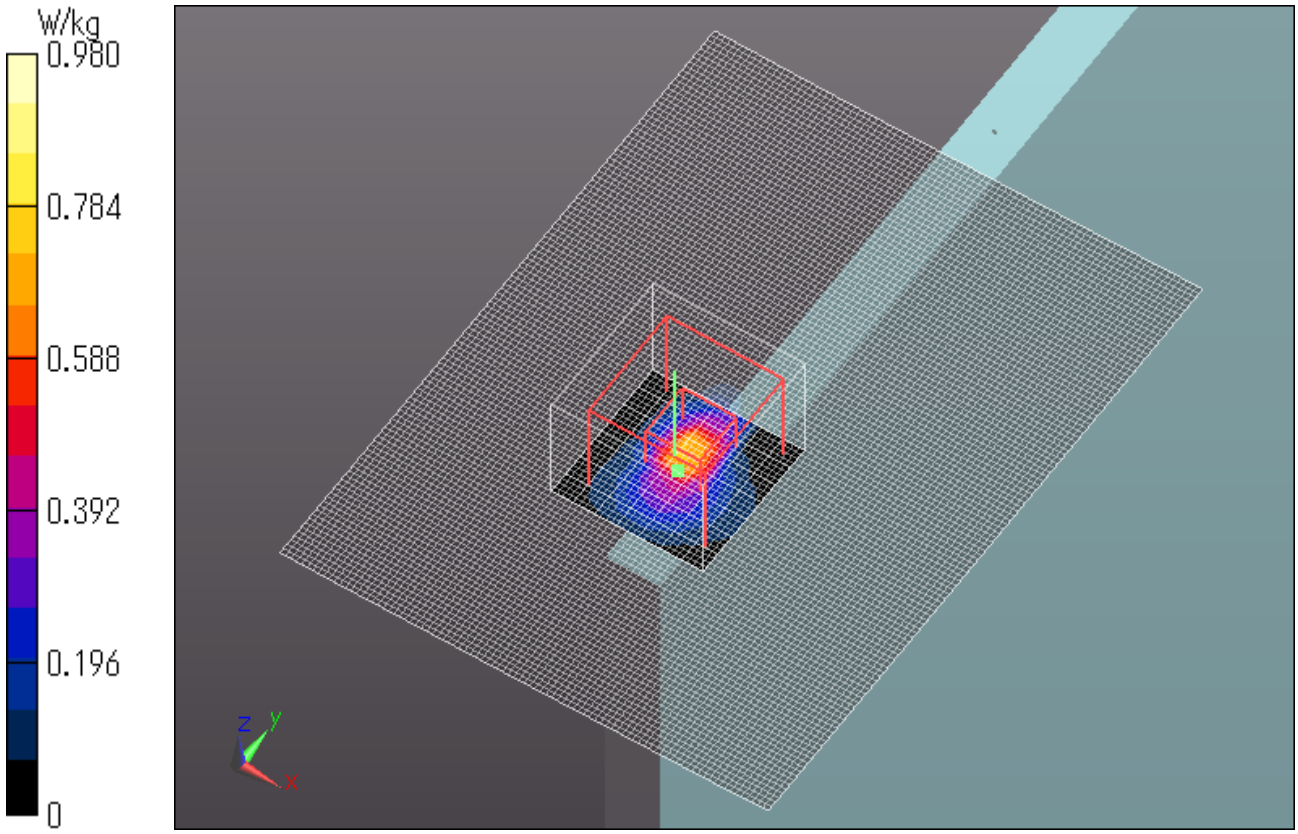


TypeB WLAN 11a 6Mbps Ant.1 Left 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.866 S/m; ε_r = 47.942; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.980 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 11.65 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 0.293 W/kg; SAR(10 g) = 0.064 W/kg
Maximum value of SAR (measured) = 0.754 W/kg

Date: 2014/10/23
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

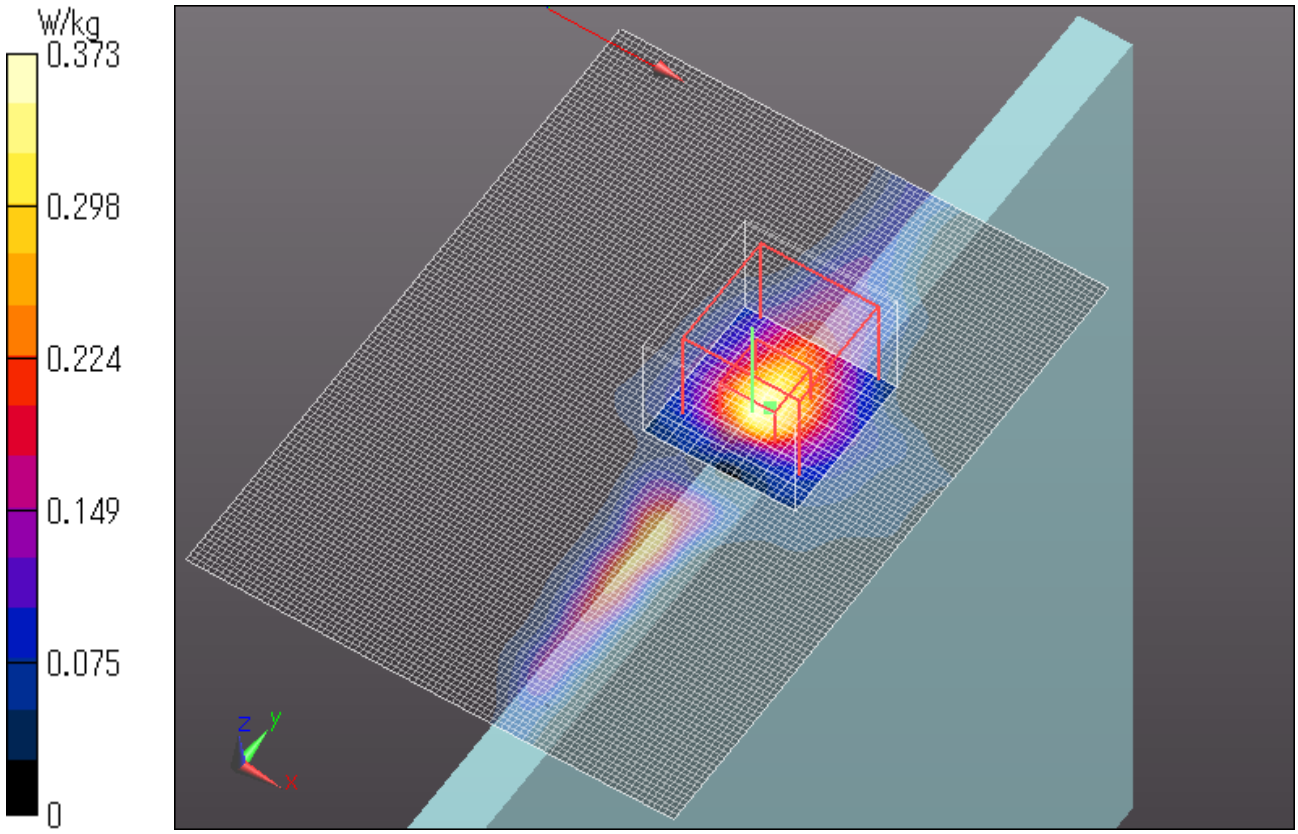


TypeB WLAN 11a 6Mbps Ant.2 Top 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.866 S/m; ε_r = 47.942; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.452 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 9.451 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.688 W/kg
SAR(1 g) = 0.162 W/kg; SAR(10 g) = 0.048 W/kg
Maximum value of SAR (measured) = 0.373 W/kg

Date: 2014/10/23
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

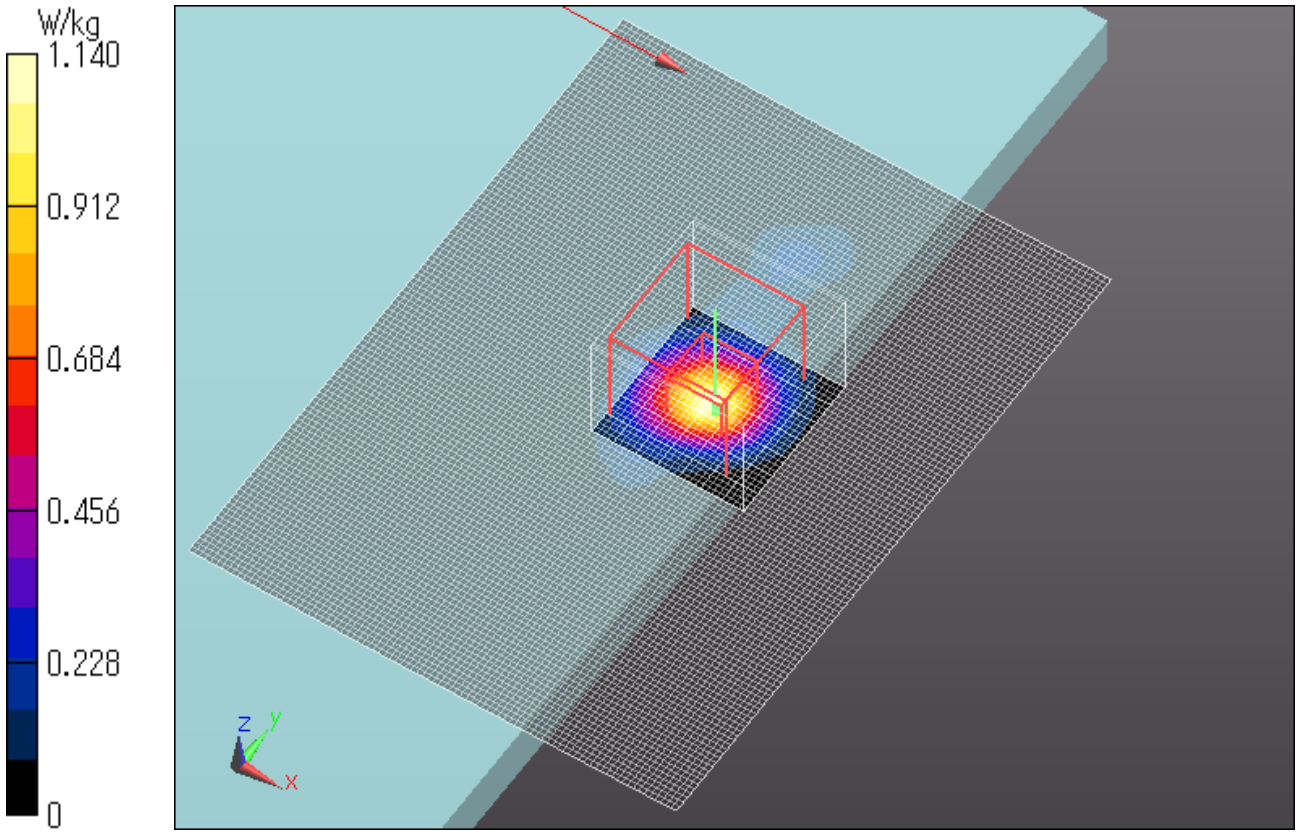


TypeB WLAN 11a 6Mbps Ant.2 Rear 0mm 5785MHz
Communication System: UID 0, WLAN 11a/b/g/n (0); Communication System Band: 11a/n (W58); Frequency: 5785 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5785 MHz; σ = 5.866 S/m; ε_r = 47.942; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.05, 4.05, 4.05); Calibrated: 2013/12/13
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.22 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 15.27 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 2.23 W/kg
SAR(1 g) = 0.506 W/kg; SAR(10 g) = 0.130 W/kg
Maximum value of SAR (measured) = 1.14 W/kg

Date: 2014/10/23
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



APPENDIX2 : System Check

1. System check result Body 2450MHz

(1) Simulated Tissue Liquid Parameter confirmation

DIELECTRIC PARAMETERS MEASUREMENT RESULTS											
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value	Measured	Deviation [%]	Limit [%]	Remark
22-Oct	24	50	MSL 2450	23.5	2450	εr	52.7	51.1	-3.1	+/-5	*1
						σ [mho/m]	1.95	1.93	-1.2	+/-5	
24-Oct	24	53	MSL 2450	23.5	2450	εr	52.7	51.2	-2.9	+/-5	*1
						σ [mho/m]	1.95	1.99	2.0	+/-5	

εr: Relative Permittivity / σ : Coductivity
*1 The Target value is a parameter defined in KDB 865664D01.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS											
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value	Measured	Deviation [%]	Limit [%]	Remark
22-Oct	24	50	MSL 2450	23.5	2450	εr	52.2	51.1	-2.2	+/-6	*2 *3
						σ [mho/m]	2.00	1.93	-3.6	+/-6	
24-Oct	24	53	MSL 2450	23.5	2450	εr	52.2	51.2	-2.0	+/-6	*2 *3
						σ [mho/m]	2.00	1.99	-0.5	+/-6	

εr: Relative Permittivity / σ : Coductivity
*2 The target value is the calibrated dipole Body TSL parameters. (D2450V2 SN:713, Measured Body TSL parameters)
*3 The limit is for deviation provided by manufacture.

(2) SAR correction for deviations of complex permittivity from target

The measured SAR results are corrected with target value of KDB865664D01.
Corrected SAR(1g) = Measured SAR(1g) x (100-⊿SAR)/100

$\Delta SAR = c\varepsilon\ \Delta\varepsilon r + c\sigma\ \Delta\sigma$
<1g>
$C\varepsilon = -7.854\times10^{-4}f^3 + 9.402\times10^{-3}f^2 - 2.742\times10^{-2}f - 0.2026$
$C\sigma = 9.804\times10^{-3}f^3 - 8.661\times10^{-2}f^2 + 2.981\times10^{-2}f + 0.7829$
<10g>
$C\varepsilon = 3.456\times10^{-3}f^3 - 3.531\times10^{-2}f^2 + 7.675\times10^{-2}f - 0.1860$
$C\sigma = 4.479\times10^{-3}f^3 - 1.586\times10^{-2}f^2 - 0.1972f + 0.7717$
'f ' is the frequency in GHz.

Date		22-Oct	24-Oct
	f(GHz)=	2.45	2.45
	⊿εr(%)=	-3.1	-2.9
	⊿σ(%)=	-1.2	2.0
1g	Cε=	-0.2249	-0.2249
	Cσ=	0.4802	0.4802
	⊿SAR(%)=	0.12	1.61
10g	Cε=	-0.1591	-0.1591
	Cσ=	0.2592	0.2592
	⊿SAR(%)=	0.18	0.98

(3) System check result (for calibration by manufacture)

SYSTEM CHECK								
Date	Frequency [MHz]	SAR 1g [W/kg]						
		Forward Power 250mW		Conversion 1W	Target Value(1W)	Deviation [%]	Limit [%]	Remark
		Measured	⊿SAR corrected	Calculation				
22-Oct	2450.00	13.50	13.48	53.94	49.70	8.5	+/-10	*4
24-Oct	2450.00	13.40	13.18	52.74	49.70	6.1	+/-10	*4

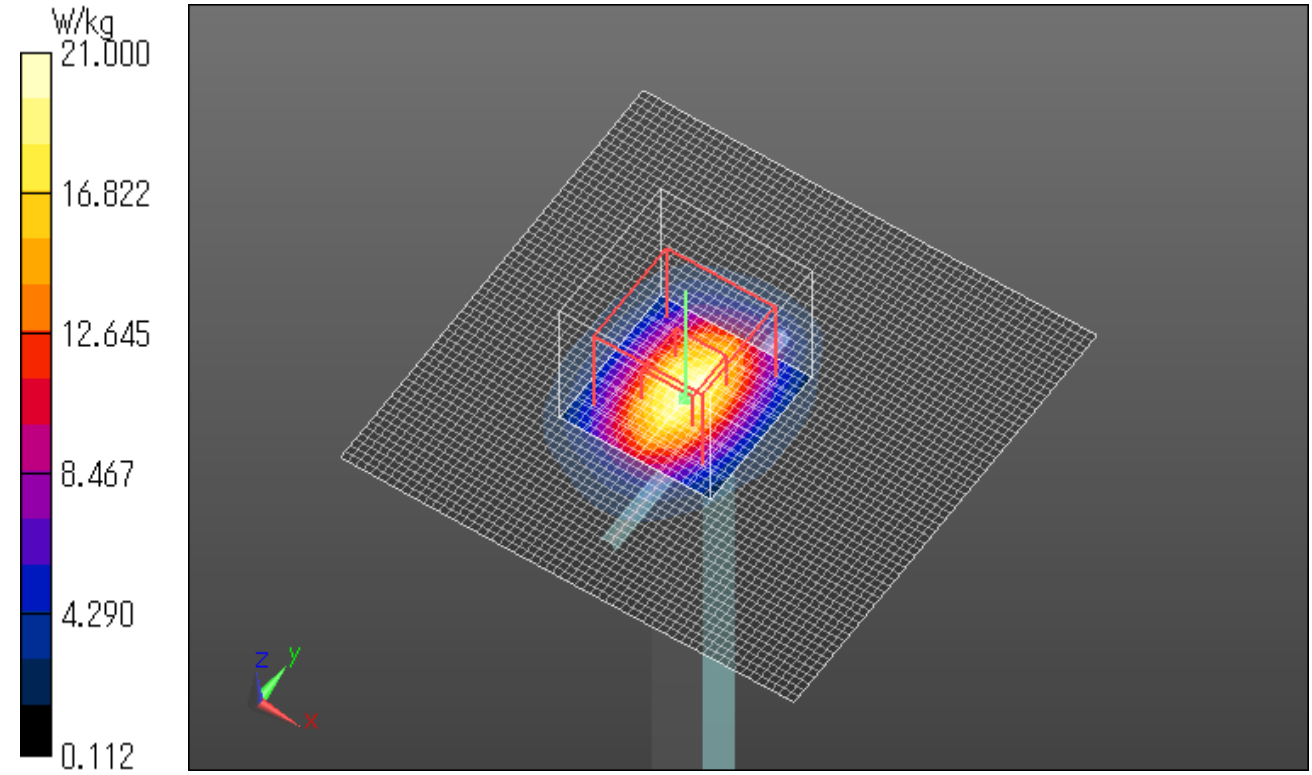
*4 The taget value is the parameter defined in SAR for nominal Body TSL parameters in manufacturer calibrated dipole (D5GHzV2 SN:1020)
Please refer to " SAR result with Body TSL of Appendix 2 2. System Check Dipole (D5GHzV2,S/N: 1020)".

Body 2450MHz System Check DATA / Dipole2450MHz / Forward Conducted Power : 250mW
Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.927 S/m; ε_r = 51.068; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 20.6 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 105.8 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 28.9 W/kg
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.15 W/kg
Maximum value of SAR (measured) = 21.0 W/kg

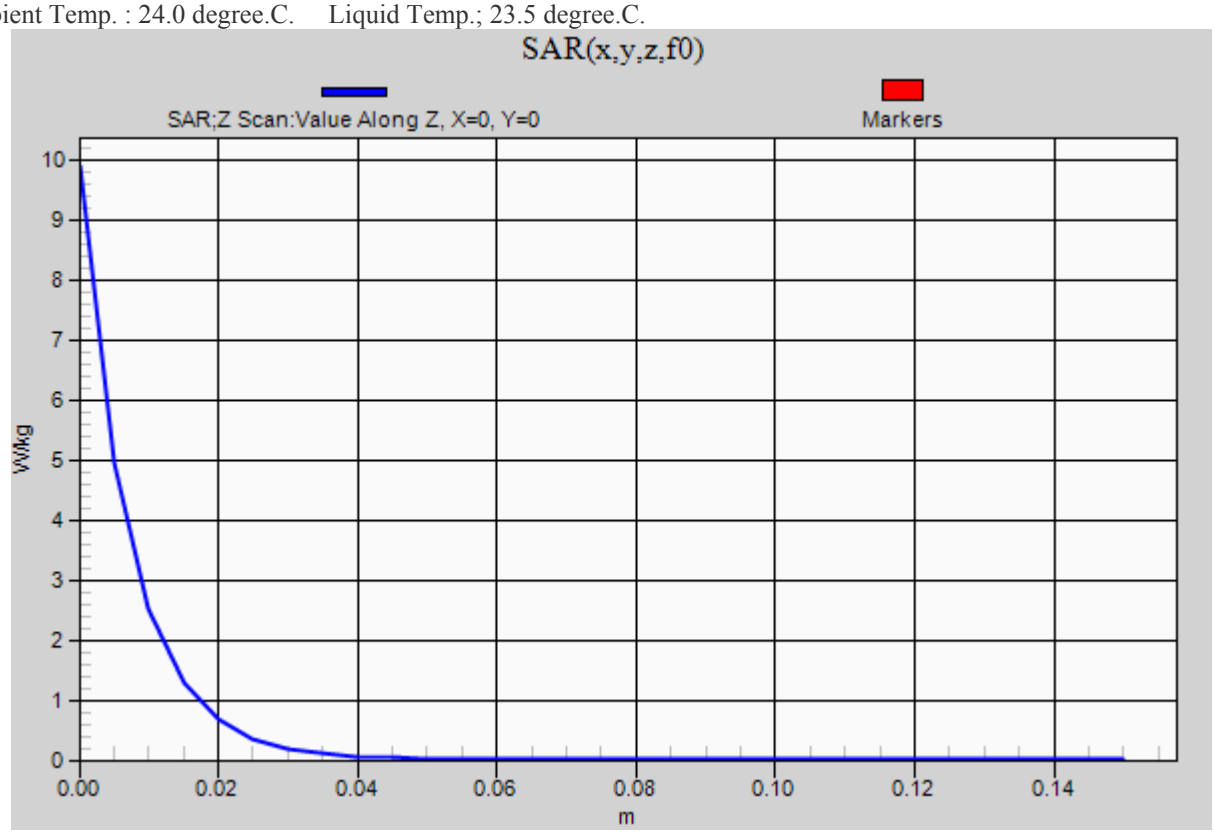
Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.



Body 2450MHz System Check DATA / Dipole2450MHz / Forward Conducted Power : 250mW
Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.927 S/m; ε_r = 51.068; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Z Scan (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 9.90 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

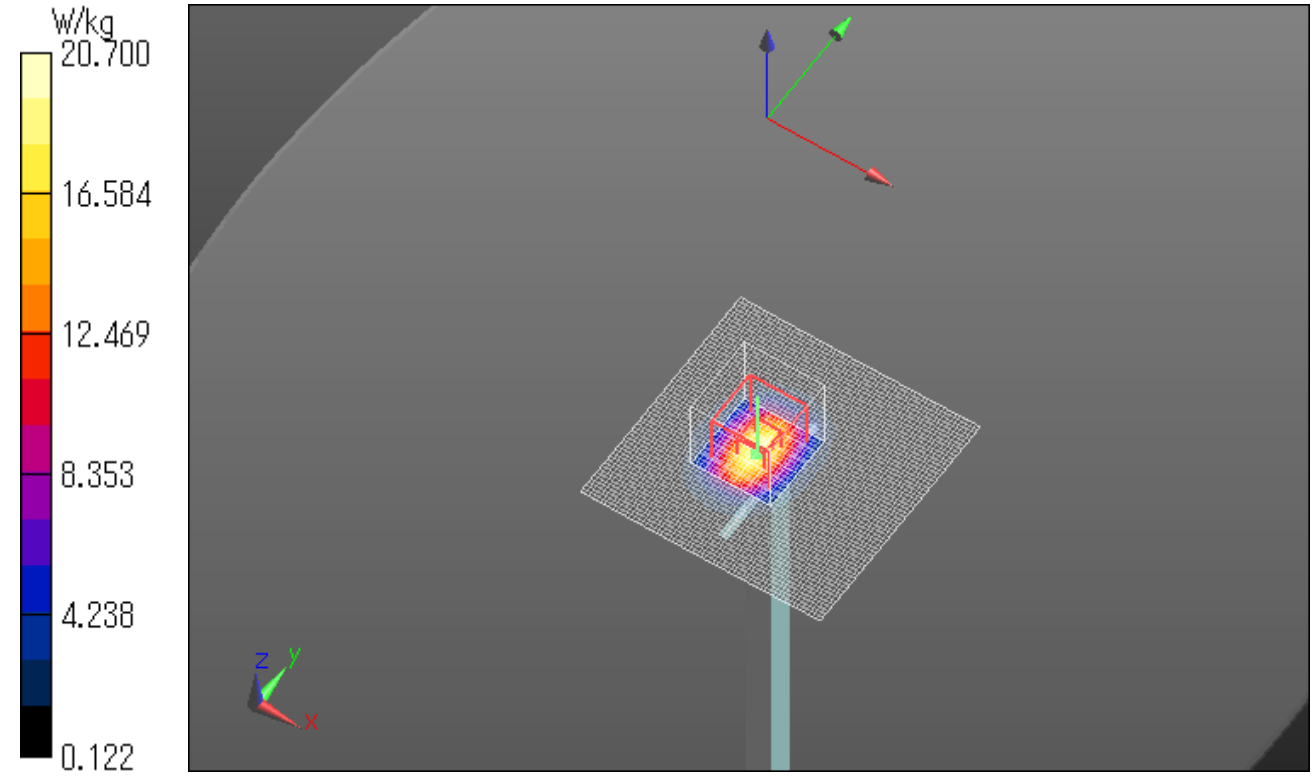


Body 2450MHz System Check DATA / Dipole2450MHz / Forward Conducted Power : 250mW
Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.989 S/m; ε_r = 51.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 20.1 W/kg

Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.04 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 28.3 W/kg
SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.2 W/kg
Maximum value of SAR (measured) = 20.7 W/kg

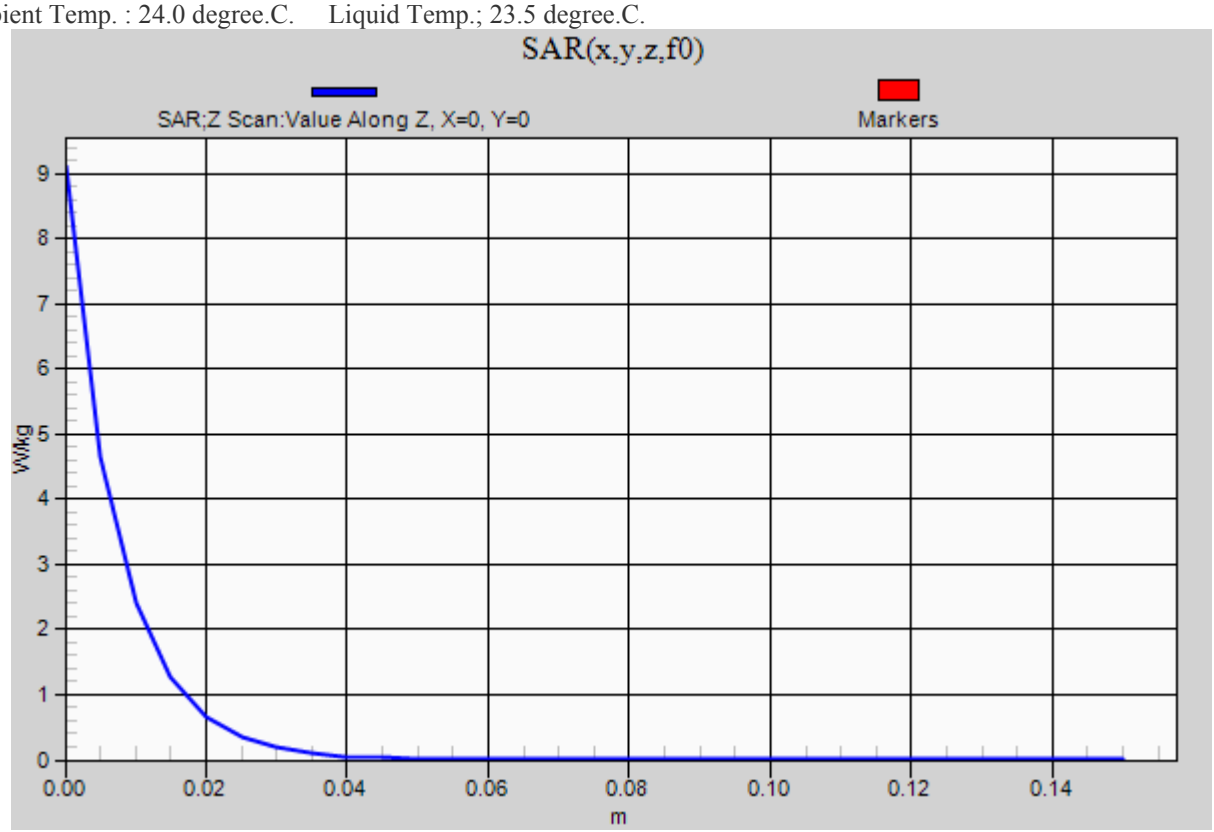
Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.



Body 2450MHz System Check DATA / Dipole2450MHz / Forward Conducted Power : 250mW
Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.989 S/m; ε_r = 51.159; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3917; ConvF(7.2, 7.2, 7.2); Calibrated: 2014/05/14;
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE4 Sn1369; Calibrated: 2014/05/14
Phantom: ELI v5.0 SN1203; Type: QDOVA002AA; Serial: TP:1203
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Z Scan (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 9.10 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



2. System Check Dipole (D2450V2,S/N:713)

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
S Swiss Calibration Service

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Accreditation No.: SCS 108

Client UL Japan (PTT)

Certificate No: D2450V2-713_Sep13

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 713
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	September 10, 2013

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	01-Nov-12 (No. 217-01640)	Oct-13
Power sensor HP 8481A	US37292783	01-Nov-12 (No. 217-01640)	Oct-13
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	28-Dec-12 (No. ES3-3205_Dec12)	Dec-13
DAE4	SN: 601	25-Apr-13 (No. DAE4-601_Apr13)	Apr-14

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

	Name	Function	Signature
Calibrated by:	Israe El-Nacuq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 10, 2013

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Calibration Laboratory of
Schmid & Partner
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S Schweizerischer Kalibrierdienst
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S Servizio svizzero di taratura
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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:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
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	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.4 ± 6 %	1.83 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.0 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**51.6 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.05 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**24.1 W/kg ± 16.5 % (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 ± 0.2) °C	52.2 ± 6 %	2.00 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.6 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**49.7 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.89 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**23.4 W/kg ± 16.5 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.8 Ω + 0.7 jΩ
Return Loss	- 34.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.7 Ω + 2.8 jΩ
Return Loss	- 30.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.162 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	July 05, 2002

DASY5 Validation Report for Head TSL

Date: 10.09.2013

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 713

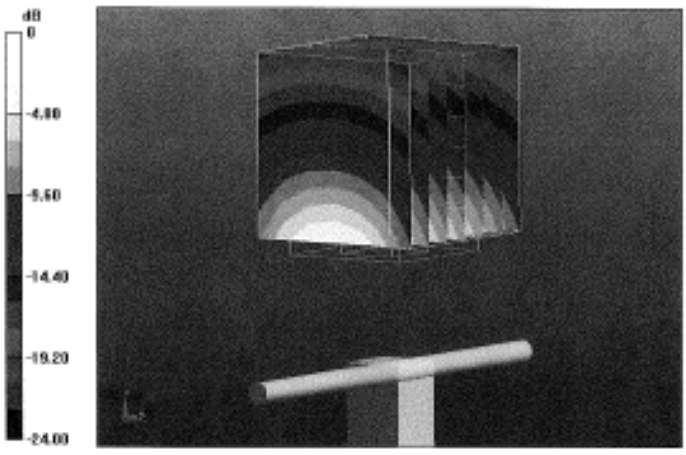
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.83 S/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.52, 4.52, 4.52); Calibrated: 28.12.2012;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 25.04.2013
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

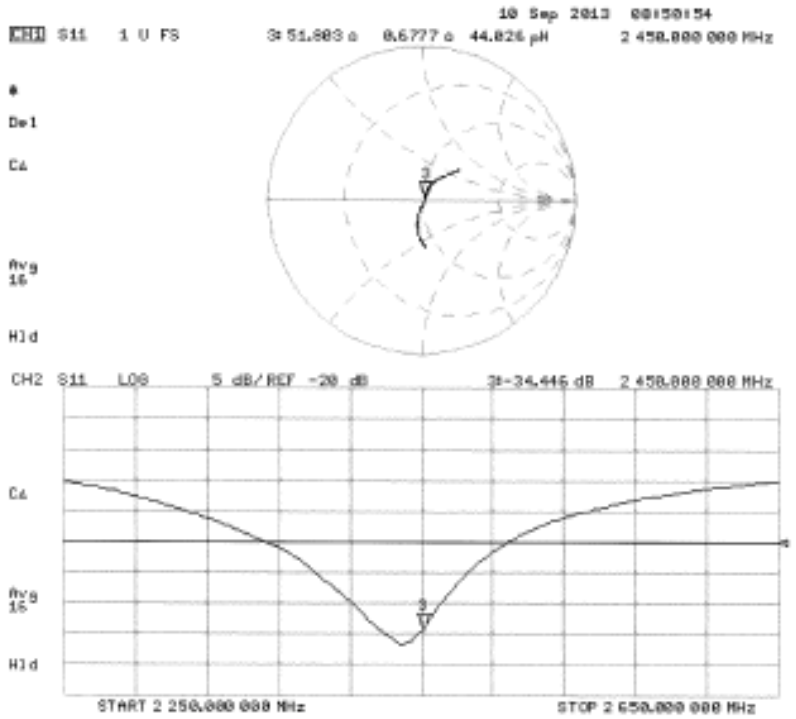
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.095 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 26.7 W/kg
SAR(1 g) = 13 W/kg; SAR(10 g) = 6.05 W/kg
Maximum value of SAR (measured) = 17.0 W/kg



0 dB = 17.0 W/kg = 12.30 dBW/kg

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 10.09.2013

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 713

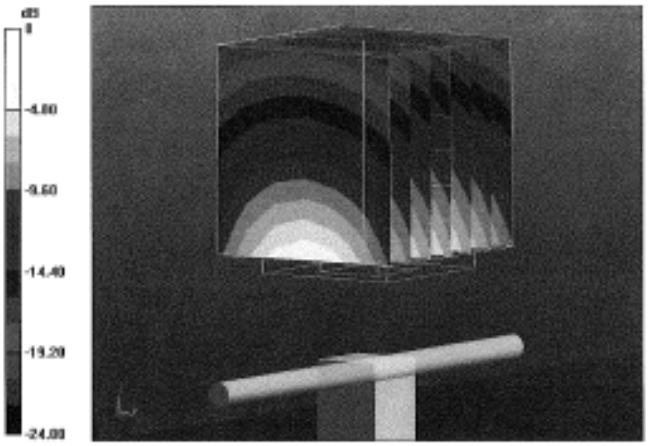
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2 S/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.42, 4.42, 4.42); Calibrated: 28.12.2012;
- 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 = 94.095 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 26.1 W/kg
SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.89 W/kg
Maximum value of SAR (measured) = 16.7 W/kg



0 dB = 16.7 W/kg = 12.23 dBW/kg

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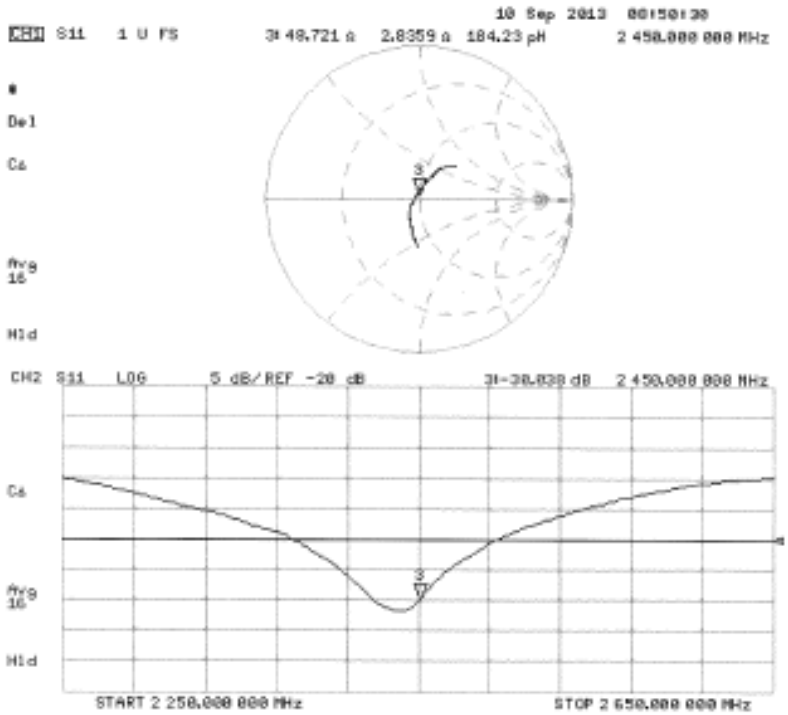
Impedance Measurement Plot for Body TSL



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D2450V2 Calibration for Impedance and Return-loss

1. Test environment

Date	September 18, 2014		
Ambient Temperature	24.0 deg.C	Relative humidity	50%RH

2. Equipment used

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MNA-01	Network Analyzer	Agilent/HP	E8358A	US41080381	SAR	2014/08/21 * 12
MNCK-01	Type N Calibration Kit	Agilent	85032F	MY41495257	SAR	2014/08/18 * 12
EST-46	3.5mm ECONOMY CALIBRATION KIT	Agilent	85052D	MY43252869	SAR	2014/08/15 * 12
MPSAM-03	SAM Phantom	Schmid&Partner Engineering AG	QD000P40CD	1764	SAR	2014/06/03 * 12
MPF-03	2mmOval Flat Phantom ERI 5.0	Schmid&Partner Engineering AG	QDOVA001BB	1203	SAR	2014/06/03 * 12
MOS-30	Thermo-Hygrometer	Custom	CTH-201	3001	SAR	2014/07/06 * 12
MOS-35	Digital thermometer	HANNA	Checktemp 4	-	SAR	2014/07/06 * 12
HSL2450						Daily check
MSL2450						Daily check
SAR room1						Daily check

3. Test Result

Impeadance,Transformed to feed point	Head	Deviation	Tolerance	Result
Calibration (SPEAG) 2013/09/10	51.8 Ω+0.7jΩ	-	-	-
Calibration(ULJ)2014/9/18	51.5Ω+0.9jΩ	-0.3Ω+0.2jΩ	+/-5Ω+/-5jΩ	Complied

Return loss	Head	Deviation	Tolerance	Result
Calibration (SPEAG) 2013/09/10	-34.4dB	-	-	-
Calibration(ULJ)2014/9/18	-35.3dB	-0.9dB	-34.4 *+/-20%	Complied

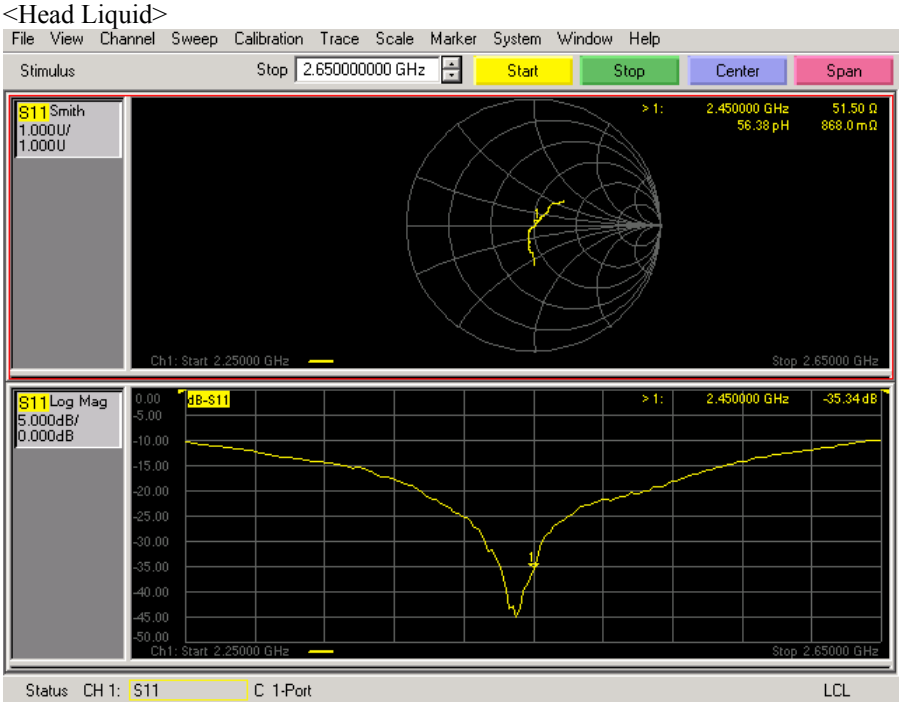
Impeadance,Transformed to feed point	Body	Deviation	Tolerance	Result
Calibration (SPEAG) 2013/09/10	48.7Ω+2.8jΩ	-	-	-
Calibration(ULJ)2014/9/18	49.6Ω+2.8jΩ	+0.9Ω+/-0jΩ	+/-5Ω+/-5jΩ	Complied

Return loss	Body	Deviation	Tolerance	Result
Calibration (SPEAG) 2013/09/10	-30.0dB	-	-	-
Calibration(ULJ)2014/9/18	-31.0dB	-1.0dB	-30.0 *+/-20%	Complied

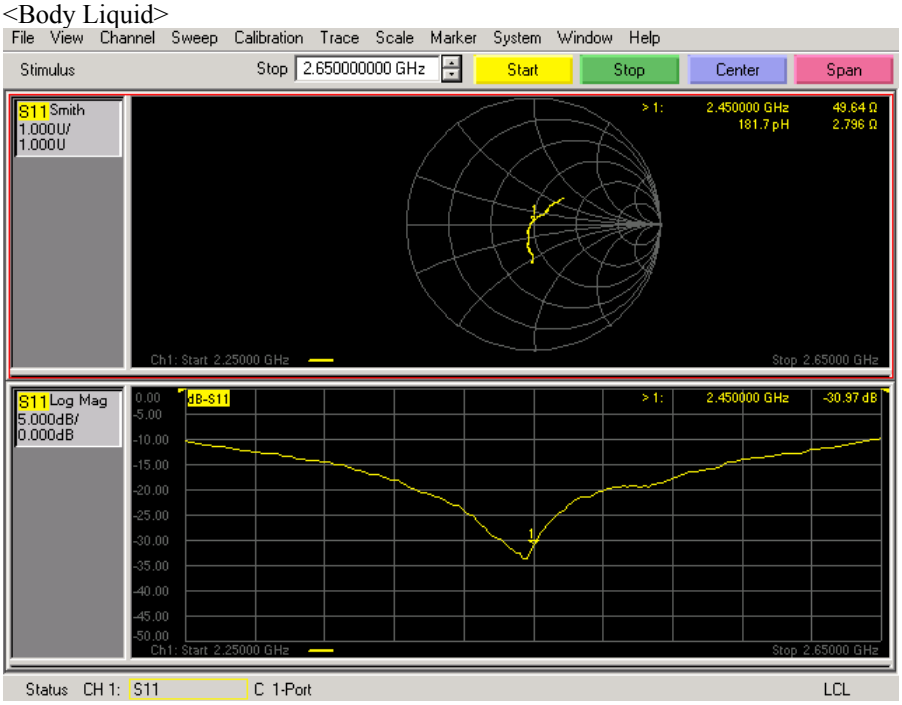
*Tolerance : According to the KDB450824D02

Measurement Plots

<Head Liquid>



<Body Liquid>



3. System check result Body 5200MHz

(1) Simulated Tissue Liquid Parameter confirmation

DIELECTRIC PARAMETERS MEASUREMENT RESULTS											
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value	Measured	Deviation [%]	Limit [%]	Remark
-	-	-	-	-	3000	εr	52.0	-	-	-	*1
						σ [mho/m]	2.73	-	-	-	
16-Oct	24	50	MBBL 3.5-5.8	23.5	5200	εr	49.0	47.7	-2.7	+/-5	*2
						σ [mho/m]	5.30	5.33	0.6	+/-5	
22-Oct	24	50	MBBL 3.5-5.8	23.5	5200	εr	49.0	48.4	-1.2	+/-5	*2
						σ [mho/m]	5.30	5.34	0.8	+/-5	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5200	εr	49.0	48.5	-1.0	+/-5	*2
						σ [mho/m]	5.30	5.28	-0.4	+/-5	
-	-	-	-	-	5800	εr	48.2	-	-	-	*1
						σ [mho/m]	6.00	-	-	-	

εr: Relative Permittivity / σ : Coductivity

*1 The Target value is a parameter defined in KDB 865664D01.

DIELECTRIC PARAMETERS MEASUREMENT RESULTS											
Date	Ambient Temp. [deg.c]	Relative Humidity [%]	Liquid type	Liquid Temp. [deg.c]	Measured Frequency [MHz]	Parameters	Target Value	Measured	Deviation [%]	Limit [%]	Remark
16-Oct	24	50	MBBL 3.5-5.8	23.5	5200	εr	47.3	47.7	0.8	+/-6	*3*4
						σ [mho/m]	5.44	5.33	-2.0	+/-6	
22-Oct	24	50	MBBL 3.5-5.8	23.5	5200	εr	47.3	48.4	2.4	+/-6	*3*4
						σ [mho/m]	5.44	5.34	-1.8	+/-6	
24-Oct	24	53	MBBL 3.5-5.8	23.5	5200	εr	47.3	48.5	2.6	+/-6	*3*4
						σ [mho/m]	5.44	5.28	-3.0	+/-6	

εr: Relative Permittivity / σ : Coductivity

*3 The target value is the calibrated dipole Body TSL parameters. (D5GHzV2 SN:1020, Measured Body TSL parameters)

*4 The limit is for deviation provided by manufacture.

(2) SAR correction for deviations of complex permittivity from target

ΔSAR = cε Δεr+ cσ Δσ
<1g>
$C\varepsilon=-7.854\times10^{-4}f^3+9.402\times10^{-3}f^2-2.742\times10^{-2}f-0.2026$
$C\sigma=9.804\times10^{-3}f^3-8.661\times10^{-2}f^2+2.981\times10^{-2}f+0.7829$
<10g>
$C\varepsilon=3.456\times10^{-3}f^3-3.531\times10^{-2}f^2+7.675\times10^{-2}f-0.1860$
$C\sigma=4.479\times10^{-3}f^3-1.586\times10^{-2}f^2-0.1972f+0.7717$
'f ' is the frequency in GHz.

The measured SAR results are corrected with target value of KDB865664D01.
Corrected SAR(1g) = Measured SAR(1g) x (100-⊿SAR)/100

Date		16-Oct	22-Oct	24-Oct
	f(GHz)=	5.2	5.2	5.2
	⊿εr(%)=	-2.7	-1.2	-1.0
	⊿σ(%)=	0.6	0.8	-0.4
1g	Cε=		-0.2014	-0.2014
	Cσ=	-0.0255	-0.0255	-0.0255
	⊿SAR(%)=	0.53	0.22	0.21
10g	Cε=	-0.2557	-0.2557	-0.2557
	Cσ=	-0.0528	-0.0528	-0.0528
	⊿SAR(%)=	0.66	0.26	0.28

(3) System check result (for calibration by manufacture)

SYSTEM CHECK								
Date	Frequency [MHz]	SAR 1g [W/kg]			Target Value(1W)	Deviation [%]	Limit [%]	Remark
		Forward Power 100mW		Conversion 1W				
		Measured	⊿SAR corrected	Calculation				
16-Oct	5200.00	7.79	7.75	77.49	74.50	4.0	+/-10	*5
22-Oct	5200.00	7.90	7.88	78.83	74.50	5.8	+/-10	*5
24-Oct	5200.00	7.90	7.88	78.83	74.50	5.8	+/-10	*5

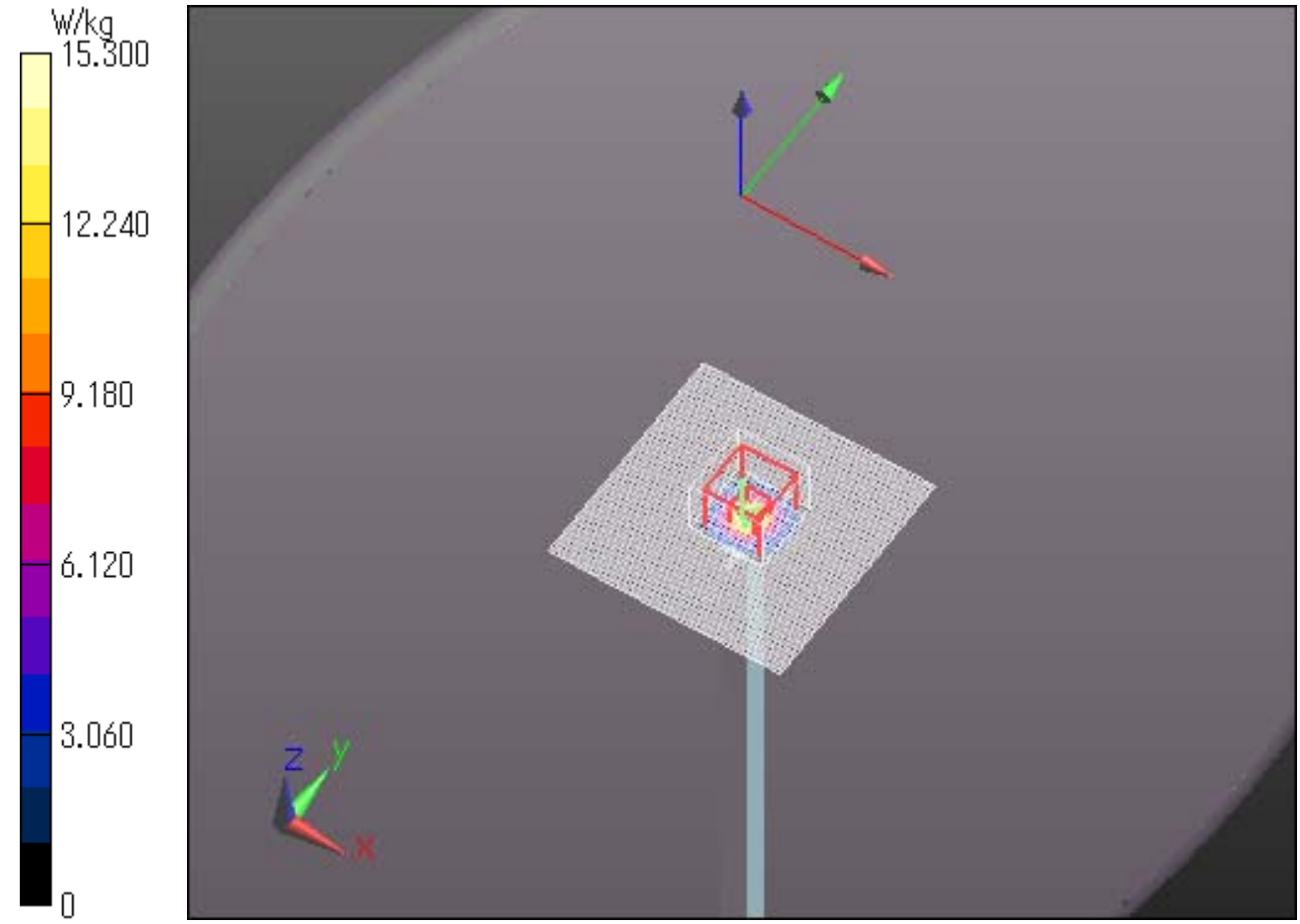
*5 The taget value is the parameter defined in SAR for nominal Body TSL parameters in manufacturer calibrated dipole (D5GHzV2 SN:1020)
Please refer to " SAR result with Body TSL of Appendix 2 2. System Check Dipole (D5GHzV2,S/N: 1020)".

Body 5200MHz System Check DATA / Dipole5GHz / Forward Conducted Power : 100mW
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.3 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 58.66 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 30.8 W/kg
SAR(1 g) = 7.79 W/kg; SAR(10 g) = 2.13 W/kg
Maximum value of SAR (measured) = 15.3 W/kg

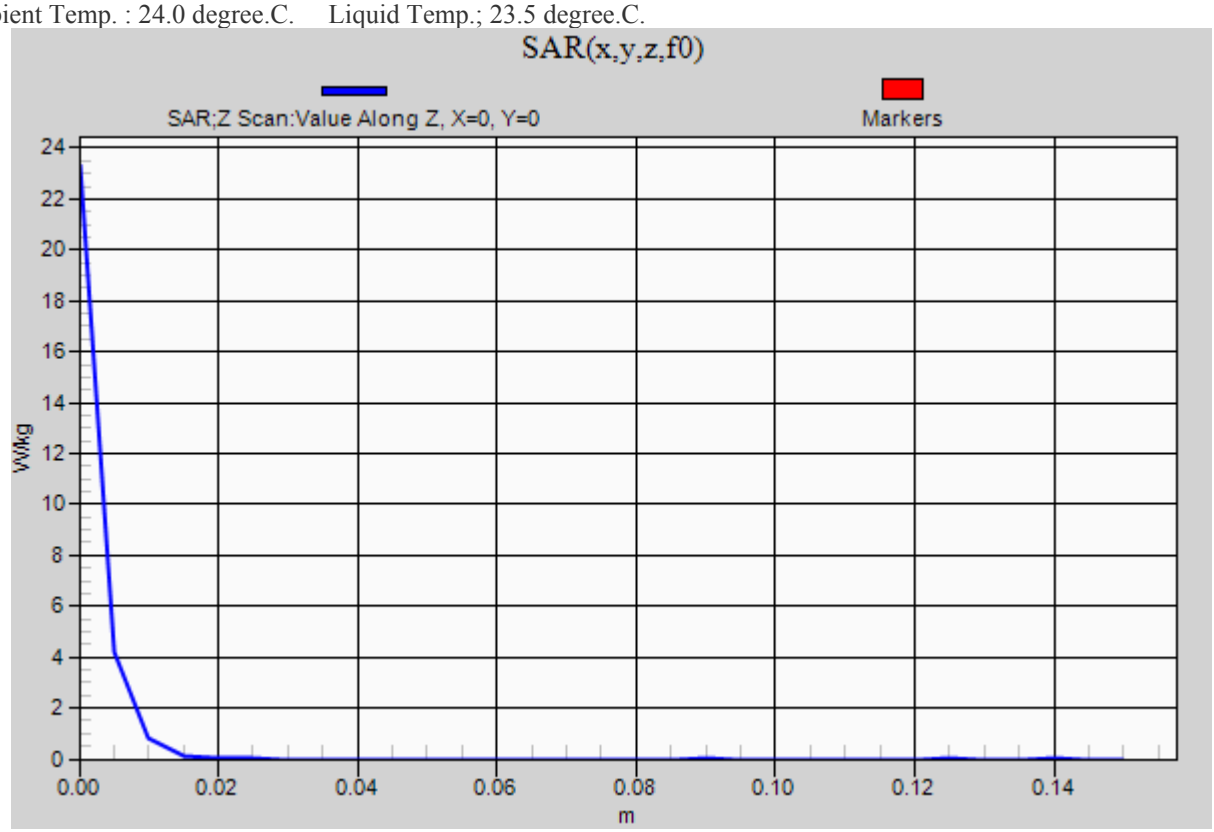
Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



Body 5200MHz System Check DATA / Dipole5GHz / Forward Conducted Power : 100mW
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.332 S/m; ε_r = 47.66; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Z Scan (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 23.3 W/kg

Date: 2014/10/16
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.

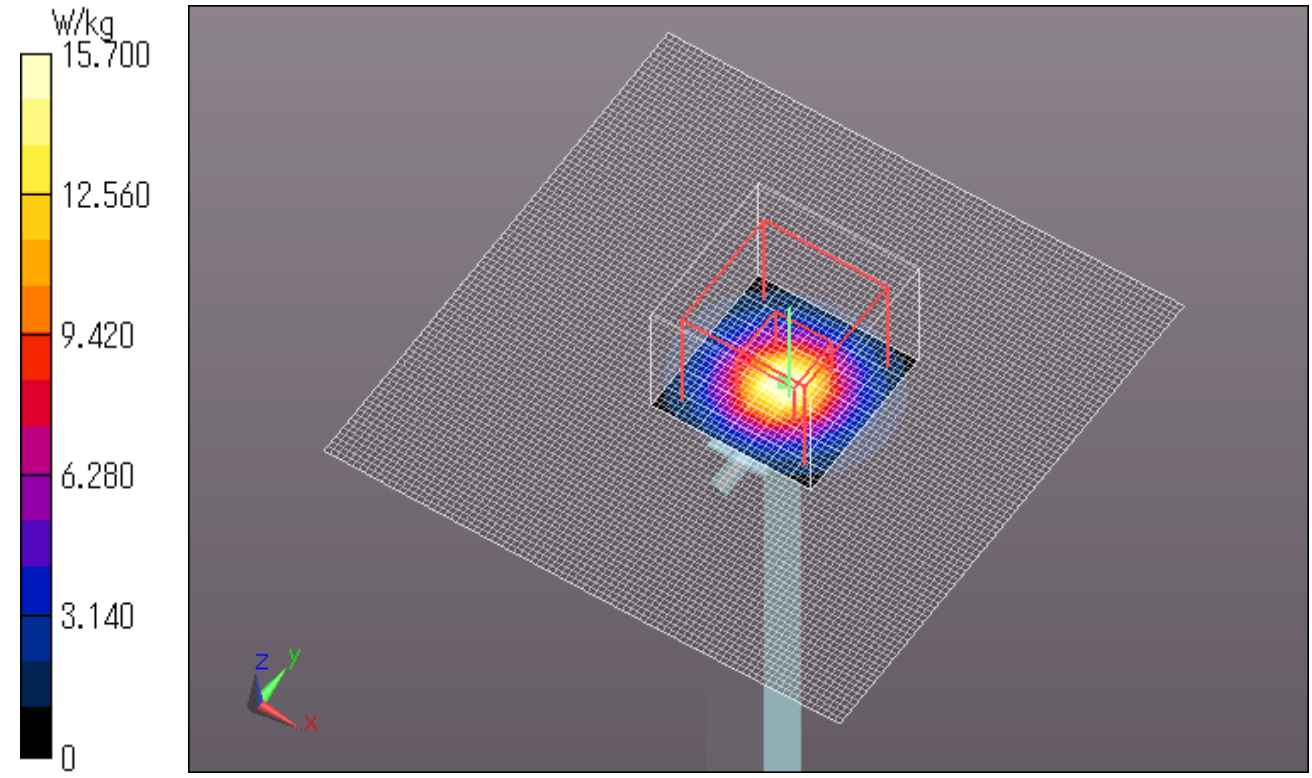


Body 5200MHz System Check DATA / Dipole5GHz / Forward Conducted Power : 100mW
Communication System: UID 0, CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.344 S/m; ε_r = 48.429; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 15.9 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 60.03 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 31.6 W/kg
SAR(1 g) = 7.9 W/kg; SAR(10 g) = 2.16 W/kg
Maximum value of SAR (measured) = 15.7 W/kg

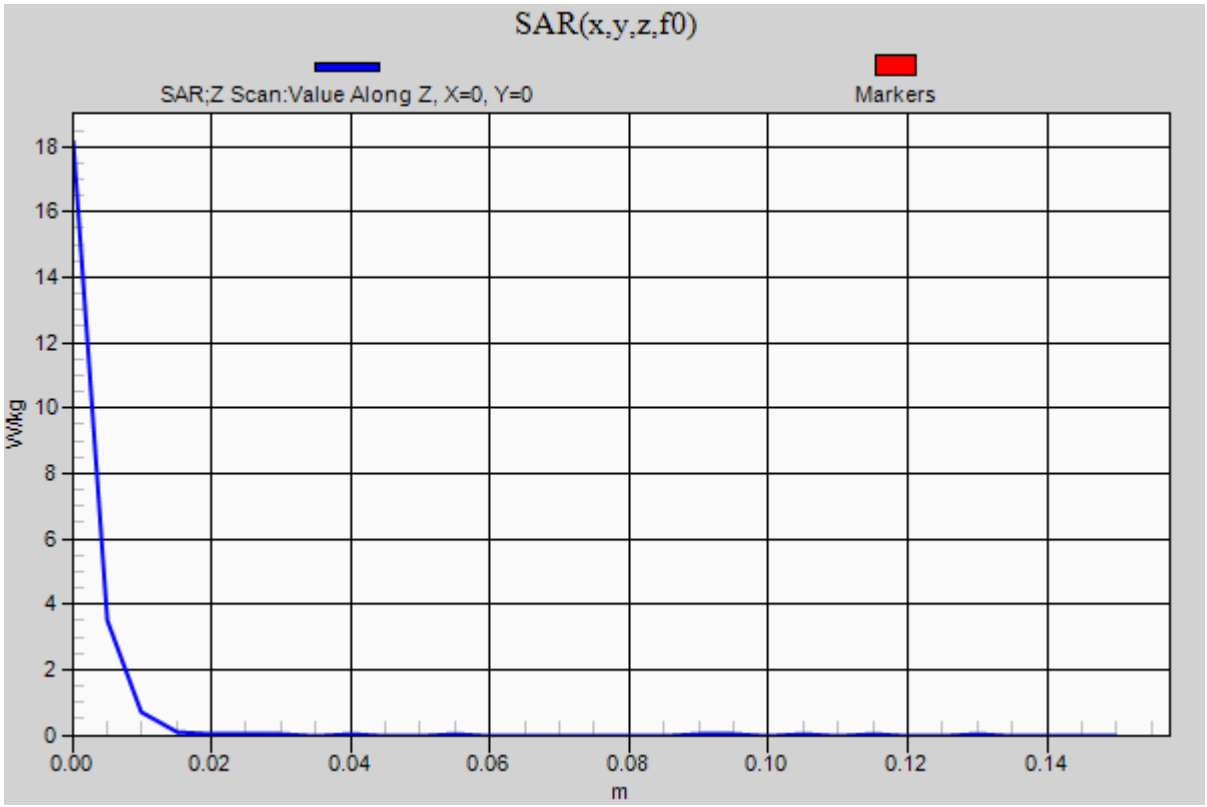
Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.



Body 5200MHz System Check DATA / Dipole5GHz / Forward Conducted Power : 100mW
Communication System: UID 0, CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.344 S/m; ε_r = 48.429; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Z Scan (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 18.1 W/kg

Date: 2014/10/22
Ambient Temp. : 24.0 degree.C. Liquid Temp.: 23.5 degree.C.

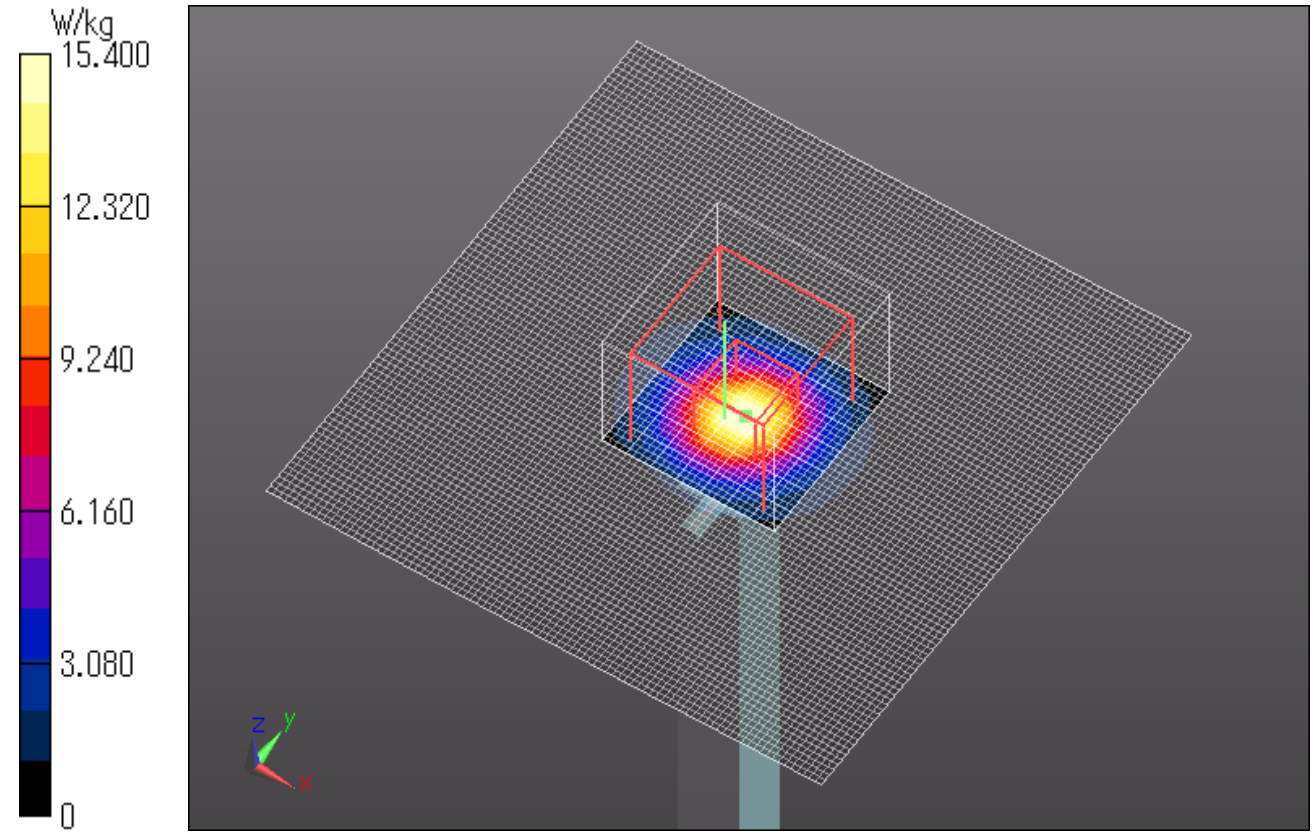


Body 5200MHz System Check DATA / Dipole5GHz / Forward Conducted Power : 100mW
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.279 S/m; ε_r = 48.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8);

Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.1 W/kg

Zoom Scan (8x8x6)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.85 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 30.1 W/kg
SAR(1 g) = 7.9 W/kg; SAR(10 g) = 2.17 W/kg
Maximum value of SAR (measured) = 15.4 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.



Body 5200MHz System Check DATA / Dipole5GHz / Forward Conducted Power : 100mW
Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.279 S/m; ε_r = 48.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration
Probe: EX3DV4 - SN3825; ConvF(4.38, 4.38, 4.38); Calibrated: 2013/12/13;
Sensor-Surface: 0mm (Fix Surface)
Electronics: DAE4 Sn509; Calibrated: 2014/07/28
Phantom: ELI 4.0; Type: QDOVA001BB; Serial: 1045
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Z Scan (1x1x31): Measurement grid: dx=20mm, dy=20mm, dz=5mm
Maximum value of SAR (measured) = 22.1 W/kg

Date: 2014/10/24
Ambient Temp. : 24.0 degree.C. Liquid Temp.; 23.5 degree.C.