FCC OET BULLETIN 65 SUPPLEMENT C 01-01
CLASS II PERMISSIVE CHANGE

SAR EVALUATION REPORT
(WiFi Portion)

For

Intel® Centrino® Advanced-N + WiMAX 6250
(Tested inside of Dell Tablet, model: K08T-K08T001)

MODEL: 622ANXHMW

FCC ID: E2K625ANXH

REPORT NUMBER: 10U13466-2

ISSUE DATE: November 23, 2010

Prepared for

DELL INC.
ONE DELL WAY
ROUND ROCK, TX 78682

Prepared by

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	November 23, 2010	Initial Issue	--

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1. ATTESTATION OF TEST RESULTS

Company name:	DELL INC. ONE DELL WAY ROUND ROCK, TX 78682
EUT Description:	Intel® Centrino® Advanced-N + WiMAX 6250 (Tested inside of Dell Tablet, model: K08T-K08T001)
Model number:	622ANXHMW
Device Category:	Portable
Exposure category:	General Population/Uncontrolled Exposure
Date of tested:	November 5 - 10 , 2010

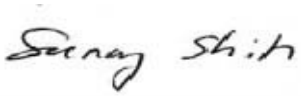
FCC Rule Parts	Freq. Range [MHz]	The Highest 1g SAR	Limit (mW/g)
15.247	2400 – 2483.5	0.953 mW/g (Secondary landscape)	1.6
	5725 – 5850	0.922 mW/g (Secondary landscape)	
15.407	5150 – 5250	1.100 mW/g (Secondary landscape)	1.6
	5250 – 5350	1.150 mW/g (Secondary landscape)	
	5470 – 5725	0.950 mW/g (Secondary landscape)	

Applicable Standards	Test Results
OET Bulletin 65 Supplement C 01-01 and the following specific test procedures: - KDB 248227 SAR Measurement Procedures for 802.11a/b/g Transmitters - KDB 447498 D01 Mobile Portable RF Exposure v04, Suppl to KDB 616217 D03	Pass

Compliance Certification Services (UL CCS) tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL CCS based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

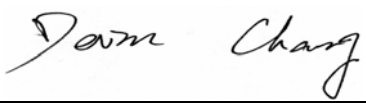
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

Approved & Released For UL CCS By:



Sunny Shih
Engineering Team Leader
Compliance Certification Services (UL CCS)

Tested By:



Devin Chang
EMC Engineer
Compliance Certification Services (UL CCS)

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC OET Bulletin 65 Supplement C 01-01 and the following specific FCC test procedures:

- KDB 248227 SAR Measurement Procedures for 802.11a/b/g Transmitters
- KDB 447498 D01 Mobile Portable RF Exposure v04, Supplement to KDB 616217 D03

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due date		
				MM	DD	Year
Robot - Six Axes	Stäubli	RX90BL	N/A	N/A		
Robot Remote Control	Stäubli	CS7MB	3403-91535	N/A		
DASY4 Measurement Server	SPEAG	SEUMS001BA	1041	N/A		
Probe Alignment Unit	SPEAG	LB (V2)	261	N/A		
SAM Phantom (SAM1)	SPEAG	QD000P40CA	1185	N/A		
SAM Phantom (SAM2)	SPEAG	QD000P40CA	1050	N/A		
Oval Flat Phantom (ELI 4.0)	SPEAG	QD OVA001 B	1003	N/A		
Dielectric Probe Kit	HP	85070C	N/A	N/A		
S-Parameter Network Analyzer	Agilent	8753ES-6	MY40001647	11	22	2010
Signal Generator	Agilent	8753ES-6	MY40001647	11	22	2010
E-Field Probe	SPEAG	EX3DV3	3531	2	23	2011
Data Acquisition Electronics	SPEAG	DAE3 V1	427	7	21	2011
System Validation Dipole	SPEAG	D2450V2	706	4	19	2013
System Validation Dipole	SPEAG	D5GHzV2	1075	9	3	2011
Thermometer	ERTCO	639-1S	1718	7	19	2011
Power Meter	Giga-tronics	8651A	8651404	5	13	2012
Power Sensor	Giga-tronics	80701A	1834588	5	13	2012
Power Meter	Boonton	4541	12414	2	26	2011
Power Sensor	Boonton	57006	6871	2	23	2011
Amplifier	Mini-Circuits	ZVE-8G	90606	N/A		
Amplifier	Mini-Circuits	ZHL-42W	D072701-5	N/A		
Simulating Liquid	SPEAG	M2450	N/A	Within 24 hrs of first test		
Simulating Liquid	SPEAG	M5800 (5-5.8GHz)	N/A	Within 24 hrs of first test		

Note: Per KDB 450824 D02 requirements for dipole calibration, UL CCS has adopted three years calibration intervals. On annual basis, each measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole
2. System validation with specific dipole is within 10% of calibrated value.
3. Return-loss is within 20% of calibrated measurement (test data on file in UL CCS)
4. Impedance is within 5Ω of calibrated measurement (test data on file in UL CCS)

4.2. MEASUREMENT UNCERTAINTY

Measurement uncertainty for 300 MHz to 3 GHz averaged over 1 gram

Component	error, %	Probe Distribution	Divisor	Sensitivity	U (Xi), %
Measurement System					
Probe Calibration (k=1) @ Body 2450 MHz	5.50	Normal	1	1	5.50
Axial Isotropy	1.15	Rectangular	1.732	0.7071	0.47
Hemispherical Isotropy	2.30	Rectangular	1.732	0.7071	0.94
Boundary Effect	0.90	Rectangular	1.732	1	0.52
Probe Linearity	3.45	Rectangular	1.732	1	1.99
System Detection Limits	1.00	Rectangular	1.732	1	0.58
Readout Electronics	0.30	Normal	1	1	0.30
Response Time	0.80	Rectangular	1.732	1	0.46
Integration Time	2.60	Rectangular	1.732	1	1.50
RF Ambient Conditions - Noise	3.00	Rectangular	1.732	1	1.73
RF Ambient Conditions - Reflections	3.00	Rectangular	1.732	1	1.73
Probe Positioner Mechanical Tolerance	0.40	Rectangular	1.732	1	0.23
Probe Positioning with respect to Phantom	2.90	Rectangular	1.732	1	1.67
Extrapolation, Interpolation and Integration	1.00	Rectangular	1.732	1	0.58
Test Sample Related					
Test Sample Positioning	2.90	Normal	1	1	2.90
Device Holder Uncertainty	3.60	Normal	1	1	3.60
Output Power Variation - SAR Drift	5.00	Rectangular	1.732	1	2.89
Phantom and Tissue Parameters					
Phantom Uncertainty (shape and thickness)	4.00	Rectangular	1.732	1	2.31
Liquid Conductivity - deviation from target	5.00	Rectangular	1.732	0.64	1.85
Liquid Conductivity - measurement	1.30	Normal	1	0.64	0.83
Liquid Permittivity - deviation from target	5.00	Rectangular	1.732	0.6	1.73
Liquid Permittivity - measurement	1.33	Normal	1	0.6	0.80
				Combined Standard Uncertainty Uc(y) =	9.51
				Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence = 19.02 %	
				Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence = 1.51 dB	

Measurement uncertainty for 300 MHz to 3 GHz averaged over 10 gram

Component	error, %	Probe Distribution	Divisor	Sensitivity	U (Xi), %
Measurement System					
Probe Calibration (k=1) @ Body 2450 MHz	5.50	Normal	1	1	5.50
Axial Isotropy	1.15	Rectangular	1.732	0.7071	0.47
Hemispherical Isotropy	2.30	Rectangular	1.732	0.7071	0.94
Boundary Effect	0.90	Rectangular	1.732	1	0.52
Probe Linearity	3.45	Rectangular	1.732	1	1.99
System Detection Limits	1.00	Rectangular	1.732	1	0.58
Readout Electronics	0.30	Normal	1	1	0.30
Response Time	0.80	Rectangular	1.732	1	0.46
Integration Time	2.60	Rectangular	1.732	1	1.50
RF Ambient Conditions - Noise	3.00	Rectangular	1.732	1	1.73
RF Ambient Conditions - Reflections	3.00	Rectangular	1.732	1	1.73
Probe Positioner Mechanical Tolerance	0.40	Rectangular	1.732	1	0.23
Probe Positioning with respect to Phantom	2.90	Rectangular	1.732	1	1.67
Extrapolation, Interpolation and Integration	1.00	Rectangular	1.732	1	0.58
Test Sample Related					
Test Sample Positioning	2.90	Normal	1	1	2.90
Device Holder Uncertainty	3.60	Normal	1	1	3.60
Output Power Variation - SAR Drift	5.00	Rectangular	1.732	1	2.89
Phantom and Tissue Parameters					
Phantom Uncertainty (shape and thickness)	4.00	Rectangular	1.732	1	2.31
Liquid Conductivity - deviation from target	5.00	Rectangular	1.732	0.43	1.24
Liquid Conductivity - measurement	1.30	Normal	1	0.43	0.56
Liquid Permittivity - deviation from target	5.00	Rectangular	1.732	0.49	1.41
Liquid Permittivity - measurement uncertainty	1.33	Normal	1	0.49	0.65
				Combined Standard Uncertainty Uc(y), % =	9.33
				Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence = 18.65 %	
				Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence = 1.49 dB	

3 to 6 GHz averaged over 1 gram

Component	error, %	Distribution	Divisor	Sensitivity	U (Xi), %
Measurement System					
Probe Calibration (k=1) @ 5GHz	6.55	Normal	1	1	6.55
Axial Isotropy	1.15	Rectangular	1.732	0.7071	0.47
Hemispherical Isotropy	2.30	Rectangular	1.732	0.7071	0.94
Boundary Effect	0.90	Rectangular	1.732	1	0.52
Probe Linearity	3.45	Rectangular	1.732	1	1.99
System Detection Limits	1.00	Rectangular	1.732	1	0.58
Readout Electronics	1.00	Normal	1	1	1.00
Response Time	0.80	Rectangular	1.732	1	0.46
Integration Time	2.60	Rectangular	1.732	1	1.50
RF Ambient Conditions - Noise	3.00	Rectangular	1.732	1	1.73
RF Ambient Conditions - Reflections	3.00	Rectangular	1.732	1	1.73
Probe Positioner Mechanical Tolerance	0.40	Rectangular	1.732	1	0.23
Probe Positioning with respect to Phantom	2.90	Rectangular	1.732	1	1.67
Extrapolation, Interpolation and Integration	3.90	Rectangular	1.732	1	2.25
Test Sample Related					
Test Sample Positioning	1.10	Normal	1	1	1.10
Device Holder Uncertainty	3.60	Normal	1	1	3.60
Output Power Variation - SAR Drift	5.00	Rectangular	1.732	1	2.89
Phantom and Tissue Parameters					
Phantom Uncertainty (shape and thickness)	4.00	Rectangular	1.732	1	2.31
Liquid Conductivity - deviation from target	5.00	Rectangular	1.732	0.64	1.85
Liquid Conductivity - measurement	3.32	Normal	1	0.64	2.12
Liquid Permittivity - deviation from target	10.00	Rectangular	1.732	0.6	3.46
Liquid Permittivity - measurement uncertainty	-2.76	Normal	1	0.6	-1.66
Combined Standard Uncertainty Uc(y), %:					10.79
Expanded Uncertainty U, Coverage Factor = 1.96, > 95 % Confidence =				21.15	%
Expanded Uncertainty U, Coverage Factor = 1.96, > 95 % Confidence =				1.67	dB

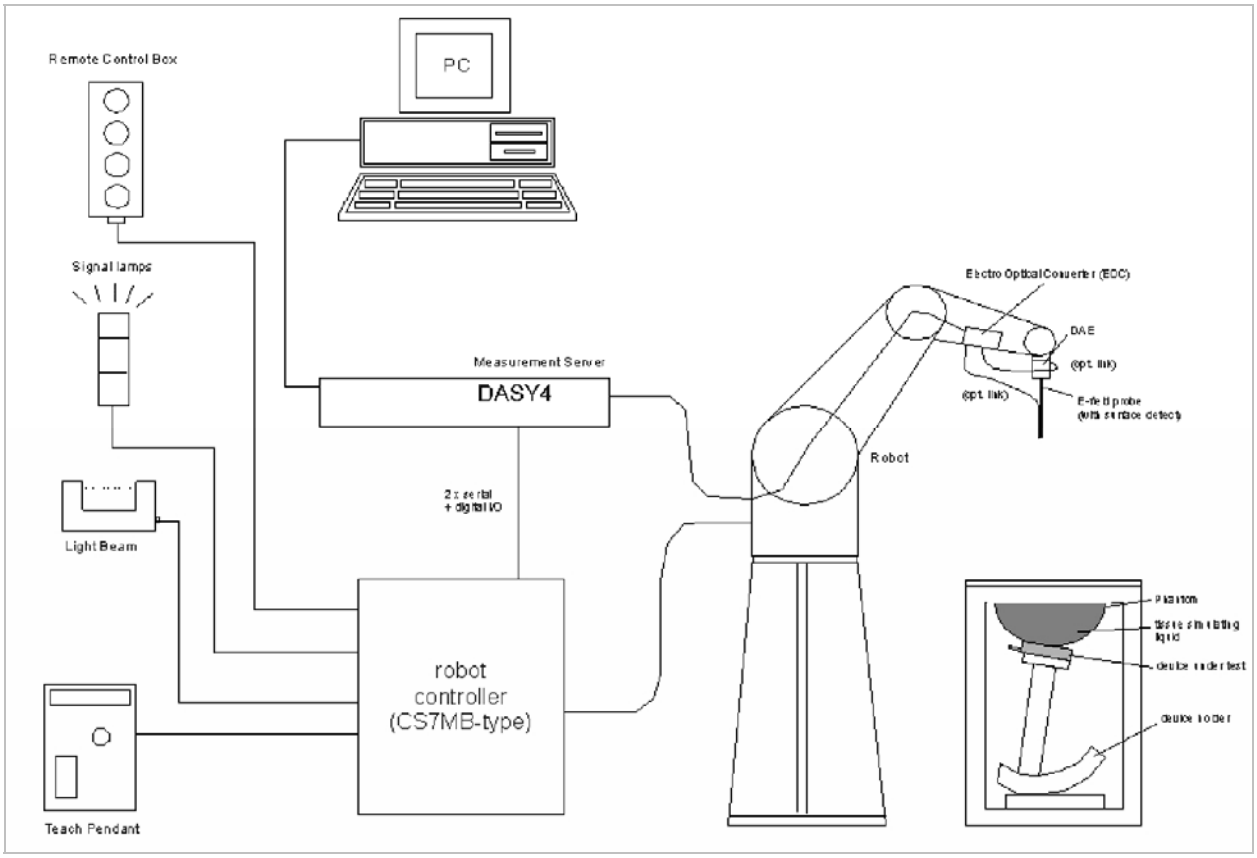
3 to 6 GHz averaged over 10 gram

Component	error, %	Distribution	Divisor	Sensitivity	U (Xi), %
Measurement System					
Probe Calibration (k=1) @ 2GHz	6.55	Normal	1	1	6.55
Axial Isotropy	4.03	Rectangular	1.732	0.7071	1.64
Hemispherical Isotropy	6.90	Rectangular	1.732	0.7071	2.82
Boundary Effect	1.00	Rectangular	1.732	1	0.58
Probe Linearity	9.20	Rectangular	1.732	1	5.31
System Detection Limits	1.00	Rectangular	1.732	1	0.58
Readout Electronics	1.00	Normal	1	1	1.00
Response Time	0.80	Rectangular	1.732	1	0.46
Integration Time	2.60	Rectangular	1.732	1	1.50
RF Ambient Conditions - Noise	3.00	Rectangular	1.732	1	1.73
RF Ambient Conditions - Reflections	3.00	Rectangular	1.732	1	1.73
Probe Positioner Mechanical Tolerance	0.40	Rectangular	1.732	1	0.23
Probe Positioning with respect to Phantom	2.90	Rectangular	1.732	1	1.67
Extrapolation, Interpolation and Integration	3.90	Rectangular	1.732	1	2.25
Test Sample Related					
Test Sample Positioning	1.10	Normal	1	1	1.10
Device Holder Uncertainty	3.60	Normal	1	1	3.60
Output Power Variation - SAR Drift	5.00	Rectangular	1.732	1	2.89
Phantom and Tissue Parameters					
Phantom Uncertainty (shape and thickness)	4.00	Rectangular	1.732	1	2.31
Liquid Conductivity - deviation from target	5.00	Rectangular	1.732	0.43	1.24
Liquid Conductivity - measurement	3.32	Normal	1	0.43	1.43
Liquid Permittivity - deviation from target	10.00	Rectangular	1.732	0.49	2.83
Liquid Permittivity - measurement uncertainty	-2.76	Normal	1	0.49	-1.35
Combined Standard Uncertainty Uc(y), %:					11.88
Expanded Uncertainty U, Coverage Factor = 1.96, > 95 % Confidence =				23.75	%
Expanded Uncertainty U, Coverage Factor = 1.96, > 95 % Confidence =				1.85	dB

5. EQUIPMENT UNDER TEST

Intel® Centrino® Advanced-N + WiMAX 6250. Model number: 622ANXHMW (Tested inside of Dell Tablet, model: K08T-K08T001)	
Normal operation:	○ Laptop mode (with display open at 90° to the keyboard) ○ Tablet bottom face, and ○ Tablet edges: - Multiple display orientations supporting both portrait and landscape configurations
Antenna tested:	Manufactured / Part number Smart Approach Co., Ltd — TX1 (A) Antenna: SE-ECIM0-003 TX2 (B) Antenna: SE-ECIM0-001 Acon — TX1 (A) Antenna: APP8P-700222 TX2 (B) Antenna: APP8P-700221
Antenna-to-user separation distances:	Refer to Sec. 13 for details
Antenna-to-antenna separation distances:	Refer to Sec. 13 for details
Assessment for SAR evaluation for Simultaneous transmission:	WWAN co-located RF exposure assessment will be addressed in a separate FCC application filed under WWAN application.

6. SYSTEM SPECIFICATIONS



The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 2000 or Windows XP.
- DASY4 software.
- Remote controls with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing validating the proper functioning of the system.

7. TISSUE DIELECTRIC PARAMETERS CHECK

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameters are within the tolerances of the specified target values. For frequencies in 300 MHz to 2 GHz, the measured conductivity and relative permittivity should be within ± 5% of the target values. For frequencies in the range of 2–3 GHz and above the measured conductivity should be within ± 5% of the target values. The measured relative permittivity tolerance can be relaxed to no more than ± 10%.

Reference Values of Tissue Dielectric Parameters for Body (for 300 – 3000 MHz and 5800 MHz)
The body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations and extrapolated according to the head parameters specified in IEEE Standard 1528.

Target Frequency (MHz)	Body (Supplement C 01-01)	
	ε_r	σ (S/m)
300	58.20	0.92
450	56.70	0.94
835	55.20	0.97
900	55.00	1.05
915	55.00	1.06
1450	54.00	1.30
1610	53.80	1.40
1800 – 2000	53.30	1.52
2450	52.70	1.95
3000	52.00	2.73
5800	48.20	6.00

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

Reference Values of Tissue Dielectric Parameters for Body (for 3000 MHz – 5800 MHz)

In the current guidelines and draft standards for compliance testing of mobile phones (i.e., IEEE P1528, OET 65 Supplement C), the dielectric parameters suggested for head and body tissue simulating liquid are given only at 3.0 GHz and 5.8 GHz. As an intermediate solution, dielectric parameters for the frequencies between 5 to 5.8 GHz were obtained using linear interpolation (see table below).

SPEAG has developed suitable head and body tissue simulating liquids consisting of the following ingredients: de-ionized water, salt and a special composition including mineral oil and an emulgators. Dielectric parameters of these liquids were measured suing a HP 8570C Dielectric Probe Kit in conjunction with HP 8753ES Network Analyzer (30 kHz – 6G Hz). The differences with respect to the interpolated values were well within the desired ±5% for the whole 5 to 5.8 GHz range.

f (MHz)	Body Tissue		Reference
	rel. permitivity	conductivity	
3000	52.0	2.73	Standard
5100	49.1	5.18	Interpolated
5200	49.0	5.30	Interpolated
5300	48.9	5.42	Interpolated
5400	48.7	5.53	Interpolated
5500	48.6	5.65	Interpolated
5600	48.5	5.77	Interpolated
5700	48.3	5.88	Interpolated
5800	48.2	6.00	Standard

(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)

7.1. TISSUE PARAMETERS CHECK RESULTS FOR 2450 MHZ

Simulating Liquid Dielectric Parameter Check Result @ Body 2450 MHz Measured by: Devin Chang

f (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit (%)
2450	e'	53.40	Relative Permittivity (ϵ_r):	53.400	52.7	1.33	± 5
	e"	14.49	Conductivity (σ):	1.975	1.95	1.30	± 5

Liquid Check
Ambient temperature: 24 deg. C; Liquid temperature: 23 deg. C; Relative humidity = 41%
November 10, 2010 09:02 AM

Frequency	e'	e"
2400000000.	53.5799	14.2842
2405000000.	53.5632	14.3052
2410000000.	53.5447	14.3269
2415000000.	53.5255	14.3481
2420000000.	53.5089	14.3659
2425000000.	53.4889	14.3880
2430000000.	53.4712	14.4081
2435000000.	53.4519	14.4295
2440000000.	53.4359	14.4501
2445000000.	53.4167	14.4729
2450000000.	**53.3995**	**14.4933**
2455000000.	53.3810	14.5150
2460000000.	53.3635	14.5350
2465000000.	53.3477	14.5586
2470000000.	53.3306	14.5805
2475000000.	53.3138	14.6013
2480000000.	53.2966	14.6229
2485000000.	53.2813	14.6443
2490000000.	53.2659	14.6667
2495000000.	53.2521	14.6871
2500000000.	53.2378	14.7076

The conductivity (σ) can be given as:

$$\sigma = \omega \varepsilon_0 e'' = 2 \pi f \varepsilon_0 e''$$

where f = target f * 10^6

$\varepsilon_0 = 8.854 * 10^{-12}$

7.2. TISSUE PARAMETERS CHECK RESULTS FOR 5 GHZ

Simulating Liquid Dielectric Parameter Check Result @ Body 5 GHz Measured by: Devin Chang

f (MHz)	Muscle Liquid Parameters			Measured	Target	Delta (%)	Limit (%)
5200	e'	48.1967	Relative Permittivity (ε_r):	48.1967	49.0	-1.64	± 10
	e"	18.4258	Conductivity (σ):	5.33026	5.30	0.57	± 5
5500	e'	47.6669	Relative Permittivity (ε_r):	47.6669	48.6	-1.92	± 10
	e"	18.8158	Conductivity (σ):	5.75711	5.65	1.90	± 5
5800	e'	47.0251	Relative Permittivity (ε_r):	47.0251	48.2	-2.44	± 10
	e"	19.1671	Conductivity (σ):	6.18448	6.00	3.07	± 5

Liquid Check
Ambient temperature: 25 deg. C; Liquid temperature: 24 deg. C; Relative humidity = 40%
November 05, 2010 08:37 AM

Frequency	e'	e"
4600000000.	49.3461	17.4993
4650000000.	49.2614	17.5387
4700000000.	49.1491	17.6594
4750000000.	49.1041	17.7115
4800000000.	48.9523	17.8061
4850000000.	48.9180	17.8979
4900000000.	48.8018	17.9554
4950000000.	48.6939	18.0441
5000000000.	48.6267	18.1291
5050000000.	48.5047	18.1796
5100000000.	48.4093	18.2842
5150000000.	48.3118	18.3151
5200000000.	**48.1967**	**18.4258**
5250000000.	48.1329	18.4665
5300000000.	47.9918	18.5532
5350000000.	47.9547	18.6130
5400000000.	47.7993	18.6575
5450000000.	47.7096	18.7552
5500000000.	**47.6669**	**18.8158**
5550000000.	47.5131	18.8376
5600000000.	47.4314	18.9395
5650000000.	47.3339	18.9533
5700000000.	47.1885	19.0516
5750000000.	47.1755	19.1239
5800000000.	**47.0251**	**19.1671**
5850000000.	47.0065	19.2730
5900000000.	46.8948	19.2641
5950000000.	46.7178	19.3394
6000000000.	46.6783	19.4394

The conductivity (σ) can be given as:

$$\sigma = \omega \varepsilon_0 e'' = 2 \pi f \varepsilon_0 e''$$

where f = target f * 10^6

$\varepsilon_0 = 8.854 * 10^{-12}$

Simulating Liquid Dielectric Parameter Check Result @ Body 5 GHz Measured by: Devin Chang

f (MHz)	Muscle Liquid Parameters			Measured	Target	Delta (%)	Limit (%)
5200	e'	48.5949	Relative Permittivity (ϵ_r):	48.5949	49.0	-0.83	± 10
	e"	18.3624	Conductivity (σ):	5.31192	5.30	0.22	± 5
5500	e'	48.0076	Relative Permittivity (ϵ_r):	48.0076	48.6	-1.22	± 10
	e"	18.7409	Conductivity (σ):	5.73419	5.65	1.49	± 5
5800	e'	47.4545	Relative Permittivity (ϵ_r):	47.4545	48.2	-1.55	± 10
	e"	19.1103	Conductivity (σ):	6.16616	6.00	2.77	± 5

Liquid Check
Ambient temperature: 25 deg. C; Liquid temperature: 24 deg. C; Relative humidity = 40%
November 07, 2010 09:39 AM

Frequency	e'	e"
4600000000.	49.7391	17.4394
4650000000.	49.6650	17.5031
4700000000.	49.5650	17.6032
4750000000.	49.4824	17.6661
4800000000.	49.3849	17.7693
4850000000.	49.2956	17.8257
4900000000.	49.1918	17.9260
4950000000.	49.1095	17.9817
5000000000.	48.9932	18.0704
5050000000.	48.9104	18.1352
5100000000.	48.7958	18.2189
5150000000.	48.7071	18.2735
5200000000.	**48.5949**	**18.3624**
5250000000.	48.5114	18.4069
5300000000.	48.3970	18.4940
5350000000.	48.3181	18.5400
5400000000.	48.2013	18.6204
5450000000.	48.1264	18.6736
5500000000.	**48.0076**	**18.7409**
5550000000.	47.9326	18.8043
5600000000.	47.8222	18.8626
5650000000.	47.7401	18.9253
5700000000.	47.6401	18.9876
5750000000.	47.5544	19.0459
5800000000.	**47.4545**	**19.1103**
5850000000.	47.3732	19.1697
5900000000.	47.2720	19.2329
5950000000.	47.1926	19.2942
6000000000.	47.0846	19.3581

The conductivity (σ) can be given as:

$$\sigma = \omega \varepsilon_0 e'' = 2 \pi f \varepsilon_0 e''$$

where f = target f * 10^6

$\varepsilon_0 = 8.854 * 10^{-12}$

Simulating Liquid Dielectric Parameter Check Result @ Body 5 GHz Measured by: Devin Chang

f (MHz)	Muscle Liquid Parameters			Measured	Target	Delta (%)	Limit (%)
5200	e'	48.0892	Relative Permittivity (ε_r):	48.0892	49.0	-1.86	± 10
	e"	18.4355	Conductivity (σ):	5.33307	5.30	0.62	± 5
5500	e'	47.4874	Relative Permittivity (ε_r):	47.4874	48.6	-2.29	± 10
	e"	18.8699	Conductivity (σ):	5.77366	5.65	2.19	± 5
5800	e'	46.8711	Relative Permittivity (ε_r):	46.8711	48.2	-2.76	± 10
	e"	19.2121	Conductivity (σ):	6.19900	6.00	3.32	± 5

Liquid Check
Ambient temperature: 25 deg. C; Liquid temperature: 24 deg. C; Relative humidity = 40%
November 08, 2010 08:39 AM

Frequency	e'	e"
4600000000.	49.2876	17.4927
4650000000.	49.2371	17.5858
4700000000.	49.0922	17.6537
4750000000.	49.0704	17.7779
4800000000.	48.8998	17.8051
4850000000.	48.8453	17.9424
4900000000.	48.7179	17.9620
4950000000.	48.6407	18.1050
5000000000.	48.5253	18.1302
5050000000.	48.4062	18.2984
5100000000.	48.2911	18.3039
5150000000.	48.1475	18.4108
5200000000.	**48.0892**	**18.4355**
5250000000.	47.9718	18.5417
5300000000.	47.9179	18.5783
5350000000.	47.7724	18.6717
5400000000.	47.7114	18.7194
5450000000.	47.5384	18.8019
5500000000.	**47.4874**	**18.8699**
5550000000.	47.3266	18.9260
5600000000.	47.2816	18.9912
5650000000.	47.1581	19.0399
5700000000.	47.0747	19.1132
5750000000.	47.0032	19.1880
5800000000.	**46.8711**	**19.2121**
5850000000.	46.8044	19.3200
5900000000.	46.6755	19.3215
5950000000.	46.6235	19.4754
6000000000.	46.5455	19.4538

The conductivity (σ) can be given as:

$$\sigma = \omega \varepsilon_0 e'' = 2 \pi f \varepsilon_0 e''$$

where f = target f * 10^6

$\varepsilon_0 = 8.854 * 10^{-12}$

Simulating Liquid Dielectric Parameter Check Result @ Body 5 GHz Measured by: Devin Chang

f (MHz)	Muscle Liquid Parameters			Measured	Target	Delta (%)	Limit (%)
5200	e'	48.0982	Relative Permittivity (ϵ_r):	48.0982	49.0	-1.84	± 10
	e"	18.4759	Conductivity (σ):	5.34476	5.30	0.84	± 5
5500	e'	47.5931	Relative Permittivity (ϵ_r):	47.5931	48.6	-2.07	± 10
	e"	18.9830	Conductivity (σ):	5.80827	5.65	2.80	± 5
5800	e'	46.9376	Relative Permittivity (ϵ_r):	46.9376	48.2	-2.62	± 10
	e"	19.1925	Conductivity (σ):	6.19268	6.00	3.21	± 5

Liquid Check
Ambient temperature: 25 deg. C; Liquid temperature: 24 deg. C; Relative humidity = 40%
November 09, 2010 07:51 AM

Frequency	e'	e"
4600000000.	49.2251	17.5865
4650000000.	49.2898	17.7507
4700000000.	49.0711	17.7262
4750000000.	49.0946	17.9307
4800000000.	48.9127	17.8808
4850000000.	48.8147	18.0441
4900000000.	48.7244	18.0603
4950000000.	48.6688	18.1999
5000000000.	48.5333	18.2373
5050000000.	48.4982	18.4527
5100000000.	48.2576	18.3861
5150000000.	48.2160	18.5672
5200000000.	**48.0982**	**18.4759**
5250000000.	48.0436	18.6839
5300000000.	48.0235	18.6320
5350000000.	47.8292	18.7795
5400000000.	47.8521	18.8104
5450000000.	47.5812	18.8646
5500000000.	**47.5931**	**18.9830**
5550000000.	47.4094	18.9724
5600000000.	47.3382	19.0687
5650000000.	47.3087	19.0976
5700000000.	47.1281	19.1204
5750000000.	47.1409	19.2461
5800000000.	**46.9376**	**19.1925**
5850000000.	46.9057	19.3692
5900000000.	46.8033	19.3183
5950000000.	46.7165	19.4938
6000000000.	46.7173	19.4664

The conductivity (σ) can be given as:

$$\sigma = \omega \varepsilon_0 e'' = 2 \pi f \varepsilon_0 e''$$

where f = target f * 10^6

$\varepsilon_0 = 8.854 * 10^{-12}$

8. SYSTEM VERIFICATION

The system performance check is performed prior to any usage of the system in order to verify SAR system measurement accuracy. The system performance check verifies that the system operates within its specifications of ±10%.

Measurement Conditions

- The measurements were performed in the flat section of the SAM twin phantom filled with Head or Body simulating liquid of the following parameters.
- The DASY4 system with an Isotropic E-Field Probe EX3DV4 SN3686 was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
  For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 fine cube was chosen for cube
- Distance between probe sensors and phantom surface was set to 3 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW
- The results are normalized to 1 W input power

Reference SAR Values for HEAD & BODY-tissue from calibration certificate of SPEAG.

System validation dipole	Cal. certificate #	Cal. date	Cal. Freq. (GHz)	SAR Avg (mW/g)		
				Tissue:	Head	Body
D2450V2	D2450V2-706_Apr10	4/19/10	2.4	SAR_{1g}:	51.6	52.4
				SAR_{10g}:	24.4	24.5
D5GHzV2	D5GHzV2-1075_Sep09	9/3/09	5.2	SAR_{1g}:		79.0
				SAR_{10g}:		22.0
			5.5	SAR_{1g}:		85.4
				SAR_{10g}:		23.5
			5.8	SAR_{1g}:		73.2
				SAR_{10g}:		20.1

8.1. SYSTEM CHECK RESULTS FOR D2450V2

Measured by: Devin Chang

System validation dipole	Date Tested	Measured (Normalized to 1 W)		Target	Delta (%)	Tolerance (%)
		Tissue:	Body			
D2450V2	11/10/10	SAR_{1g}:	52.6	52.4	0.38	±10
		SAR_{10g}:	24.6	24.5	0.41	

8.2. SYSTEM CHECK RESULTS FOR D5GHzV2

Measured by: Devin Chang

System validation dipole	Date Tested	Measured (Normalized to 1 W)		Target	Delta (%)	Tolerance (%)
		Tissue:	Body			
D5GHzV2 (5.2GHz)	11/05/10	SAR_{1g}:	76.3	79.0	-3.42	±10
		SAR_{10g}:	22.2	22.0	0.91	
D5GHzV2 (5.5GHz)	11/05/10	SAR_{1g}:	85.3	85.4	-0.12	±10
		SAR_{10g}:	24.4	23.5	3.83	
D5GHzV2 (5.8GHz)	11/05/10	SAR_{1g}:	71.9	73.2	-1.78	±10
		SAR_{10g}:	20.7	20.1	2.99	
D5GHzV2 (5.2GHz)	11/07/10	SAR_{1g}:	77.2	79.0	-2.28	±10
		SAR_{10g}:	22.2	22.0	0.91	
D5GHzV2 (5.5GHz)	11/07/10	SAR_{1g}:	83.3	85.4	-2.46	±10
		SAR_{10g}:	23.7	23.5	0.85	
D5GHzV2 (5.8GHz)	11/07/10	SAR_{1g}:	70.5	73.2	-3.69	±10
		SAR_{10g}:	20.2	20.1	0.50	
D5GHzV2 (5.2GHz)	11/08/10	SAR_{1g}:	79.2	79.0	0.25	±10
		SAR_{10g}:	22.9	22.0	4.09	
D5GHzV2 (5.5GHz)	11/08/10	SAR_{1g}:	85.0	85.4	-0.47	±10
		SAR_{10g}:	24.1	23.5	2.55	
D5GHzV2 (5.8GHz)	11/08/10	SAR_{1g}:	69.0	73.2	-5.74	±10
		SAR_{10g}:	20.0	20.1	-0.50	
D5GHzV2 (5.2GHz)	11/09/10	SAR_{1g}:	78.9	79.0	-0.13	±10
		SAR_{10g}:	22.7	22.0	3.18	
D5GHzV2 (5.5GHz)	11/09/10	SAR_{1g}:	84.4	85.4	-1.17	±10
		SAR_{10g}:	23.0	23.5	-2.13	
D5GHzV2 (5.8GHz)	11/09/10	SAR_{1g}:	70.3	73.2	-3.96	±10
		SAR_{10g}:	19.5	20.1	-2.99	

System check plot for D2450V2

Date/Time: 11/10/2010 9:18:46 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D2450V2

DUT: Dipole ; Type: D2450V2; Serial: 706

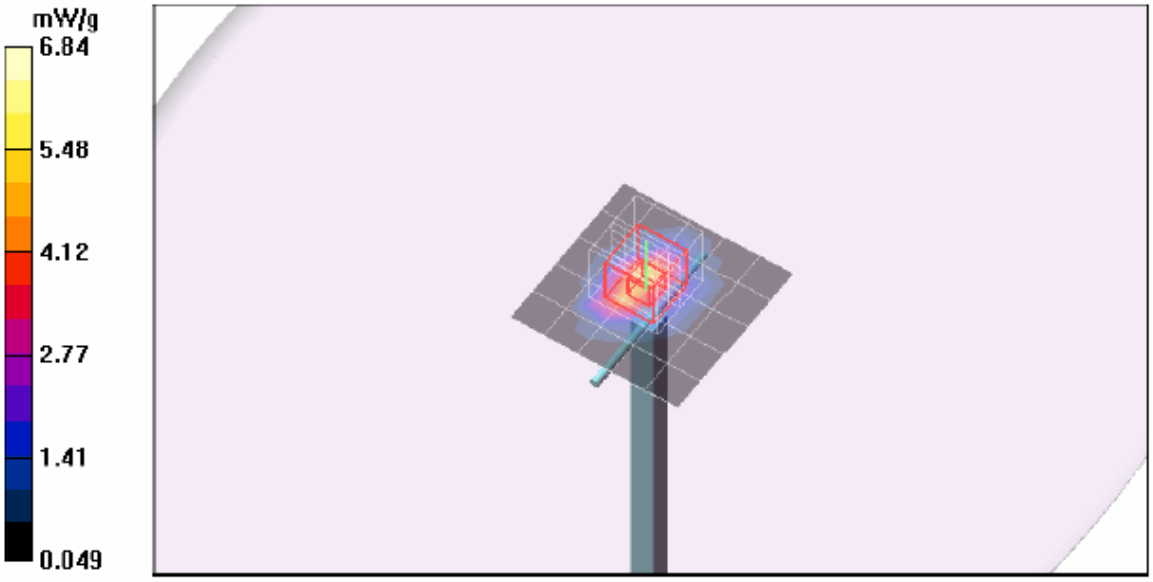
Communication System: System Check Signal - CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 2 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(7.58, 7.58, 7.58); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 5.87 mW/g

d=10mm, Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.0 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 10.7 W/kg
SAR(1 g) = 5.26 mW/g; SAR(10 g) = 2.46 mW/g
Maximum value of SAR (measured) = 6.84 mW/g



System check plot for D2450V2 Z-Plot

Date/Time: 11/10/2010 9:34:45 AM

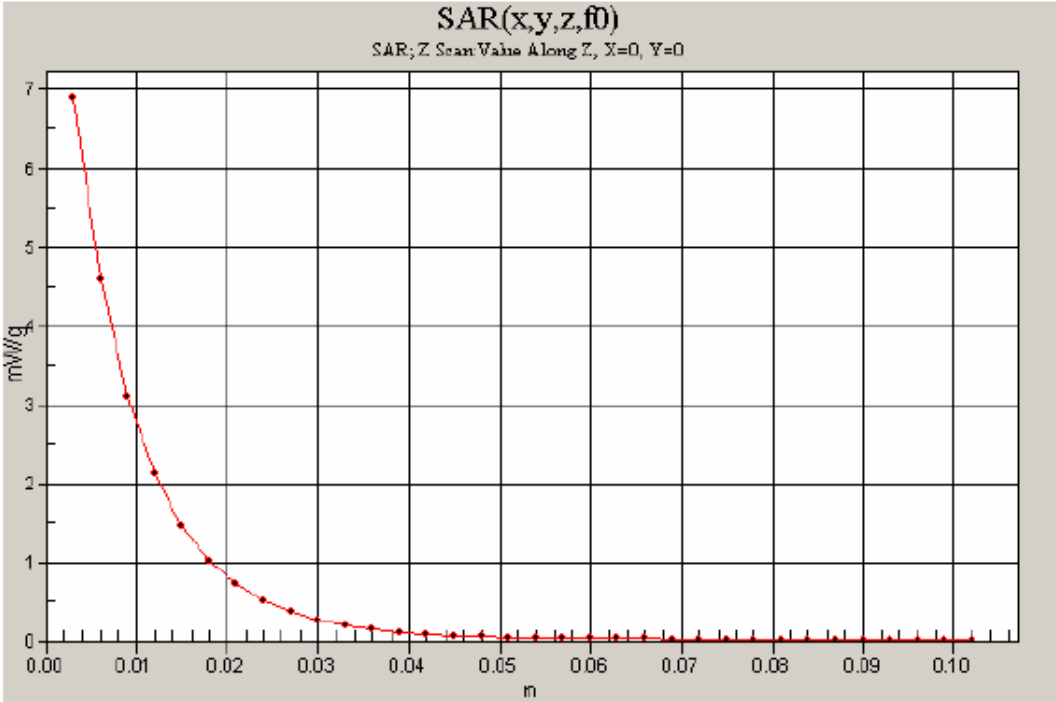
Test Laboratory: Compliance Certification Services

System Performance Check - D2450V2

DUT: Dipole ; Type: D2450V2; Serial: 706

Communication System: System Check Signal - CW; Frequency: 2450 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 6.88 mW/g



System check plot for D5GHzV2 5.2 GHz

Date/Time: 11/5/2010 10:01:44 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

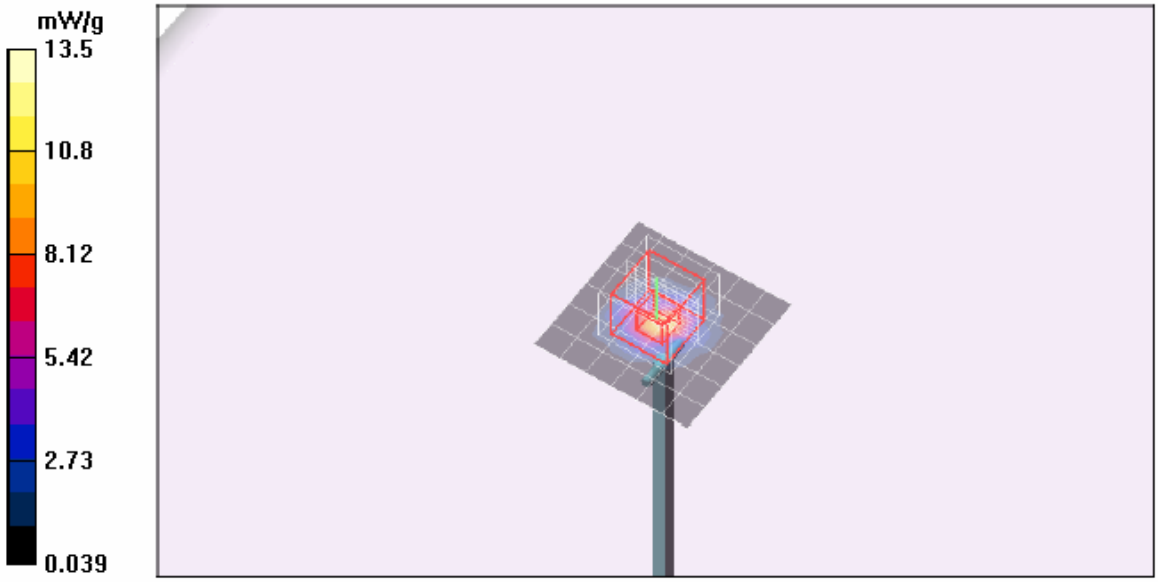
Communication System: CW 5GHz; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.33 mho/m; ε_r = 48.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(4.04, 4.04, 4.04); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.2GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.5 mW/g

d=10mm, Pin=100mW, 5.2GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 54.1 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 26.7 W/kg
SAR(1 g) = 7.63 mW/g; SAR(10 g) = 2.22 mW/g
Maximum value of SAR (measured) = 13.3 mW/g



System check plot for D5GHzV2 5.5 GHz

Date/Time: 11/5/2010 8:50:56 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

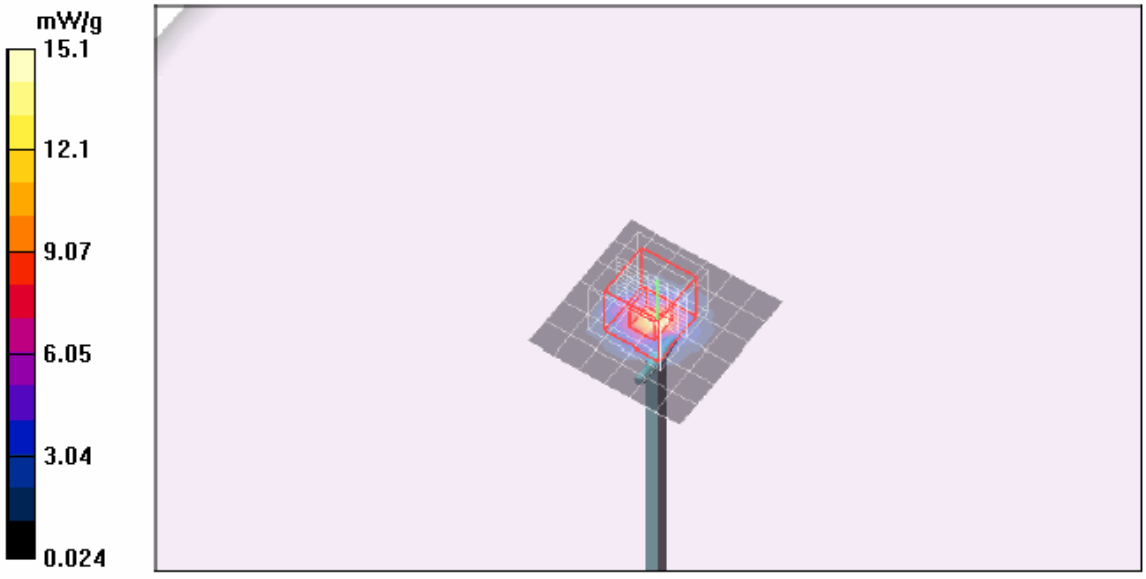
Communication System: CW 5GHz; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.76 mho/m; ε_r = 47.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.57, 3.57, 3.57); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.5GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 15.1 mW/g

d=10mm, Pin=100mW, 5.5GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 54.4 V/m; Power Drift = 0.213 dB
Peak SAR (extrapolated) = 30.6 W/kg
SAR(1 g) = 8.53 mW/g; SAR(10 g) = 2.44 mW/g
Maximum value of SAR (measured) = 14.7 mW/g



System check plot for D5GHzV2 5.8 GHz

Date/Time: 11/5/2010 11:26:46 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

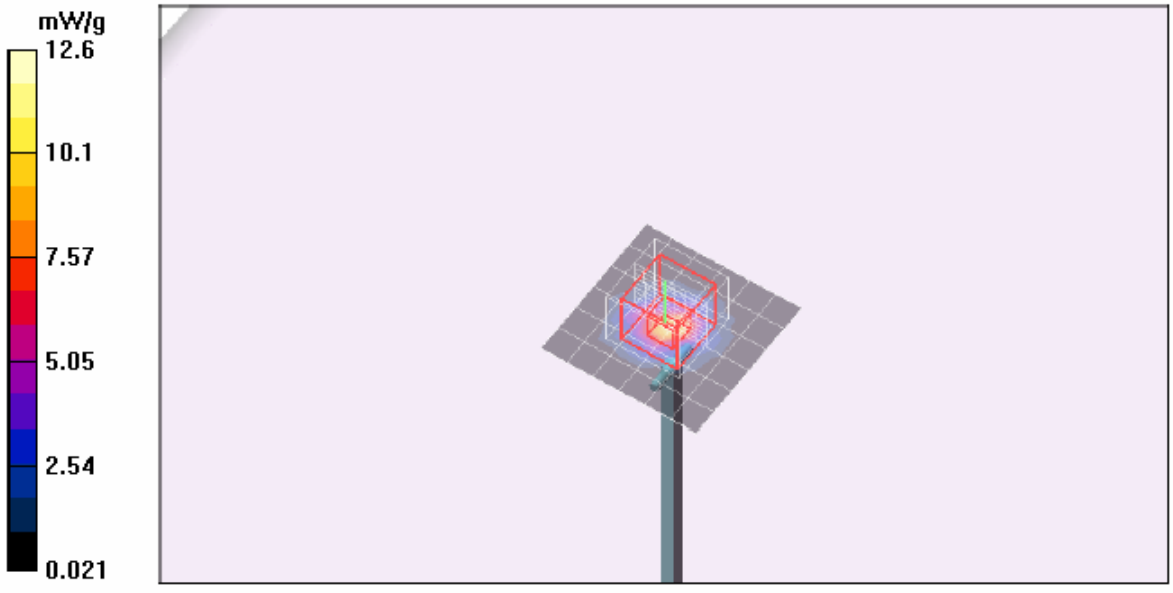
Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.18 mho/m; ε_r = 47; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.48, 3.48, 3.48); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.8GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.6 mW/g

d=10mm, Pin=100mW, 5.8GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 48.6 V/m; Power Drift = 0.084 dB
Peak SAR (extrapolated) = 26.7 W/kg
SAR(1 g) = 7.19 mW/g; SAR(10 g) = 2.07 mW/g
Maximum value of SAR (measured) = 12.7 mW/g



System check Z-plot for D5GHzV2 5.8 GHz

Date/Time: 11/5/2010 11:53:14 AM

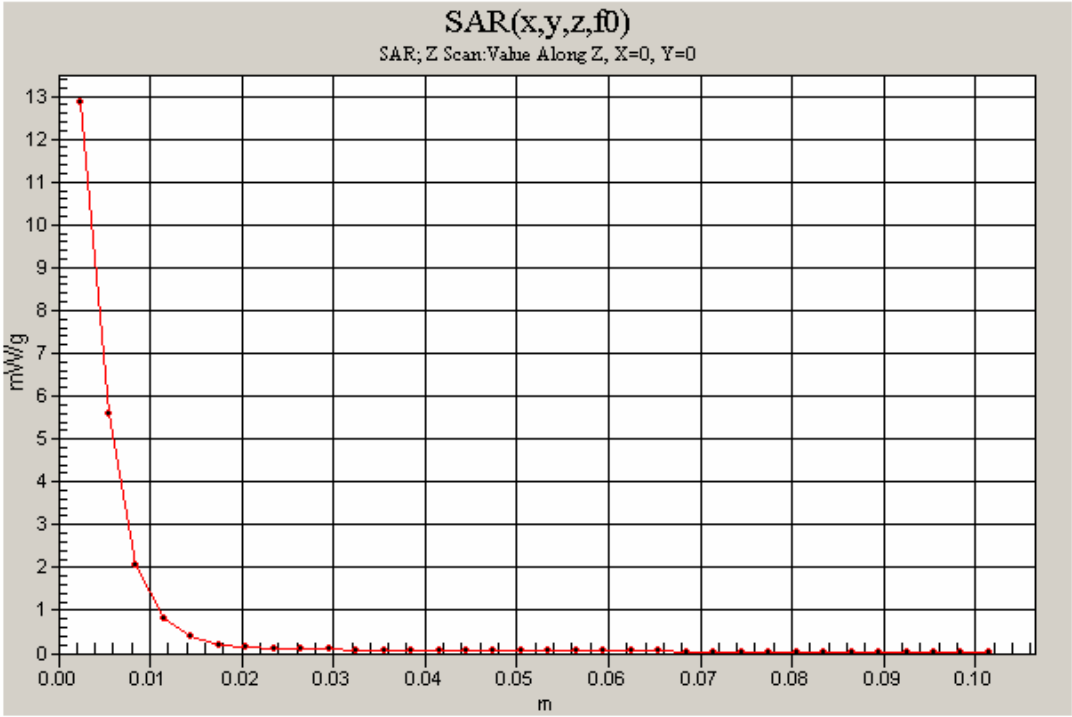
Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW, 5.8GHz/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 12.9 mW/g



System check plot for D5GHzV2 5.2 GHz

Date/Time: 10/7/2010 8:29:11 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

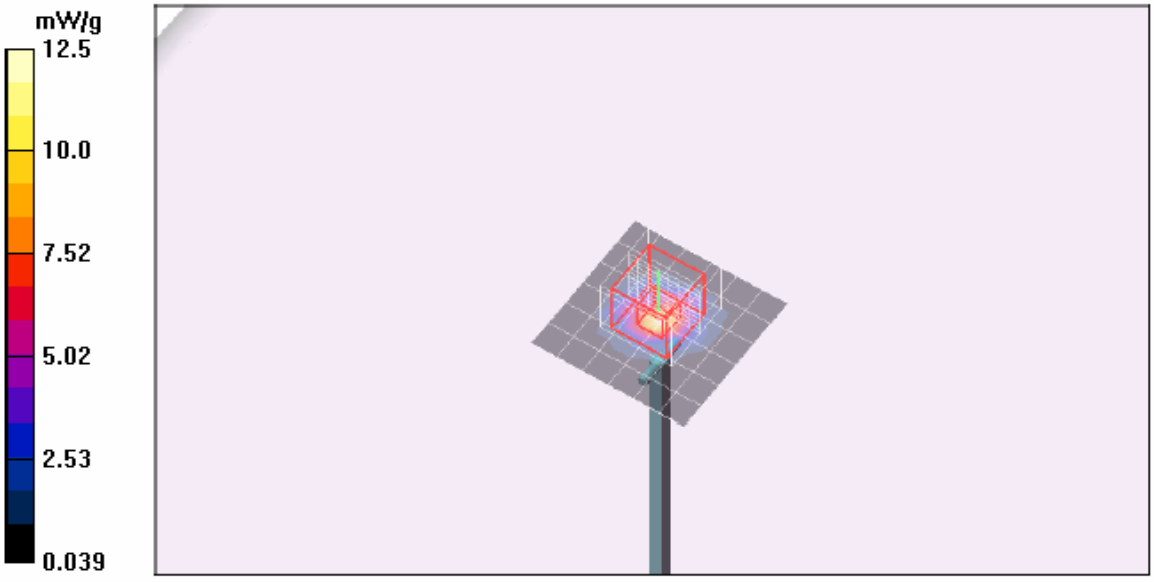
Communication System: CW 5GHz; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.31 mho/m; ε_r = 48.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(4.04, 4.04, 4.04); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.2GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.5 mW/g

d=10mm, Pin=100mW, 5.2GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 52.1 V/m; Power Drift = 0.108 dB
Peak SAR (extrapolated) = 27.4 W/kg
SAR(1 g) = 7.72 mW/g; SAR(10 g) = 2.22 mW/g
Maximum value of SAR (measured) = 13.1 mW/g



System check plot for D5GHzV2 5.5 GHz

Date/Time: 10/7/2010 9:29:11 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

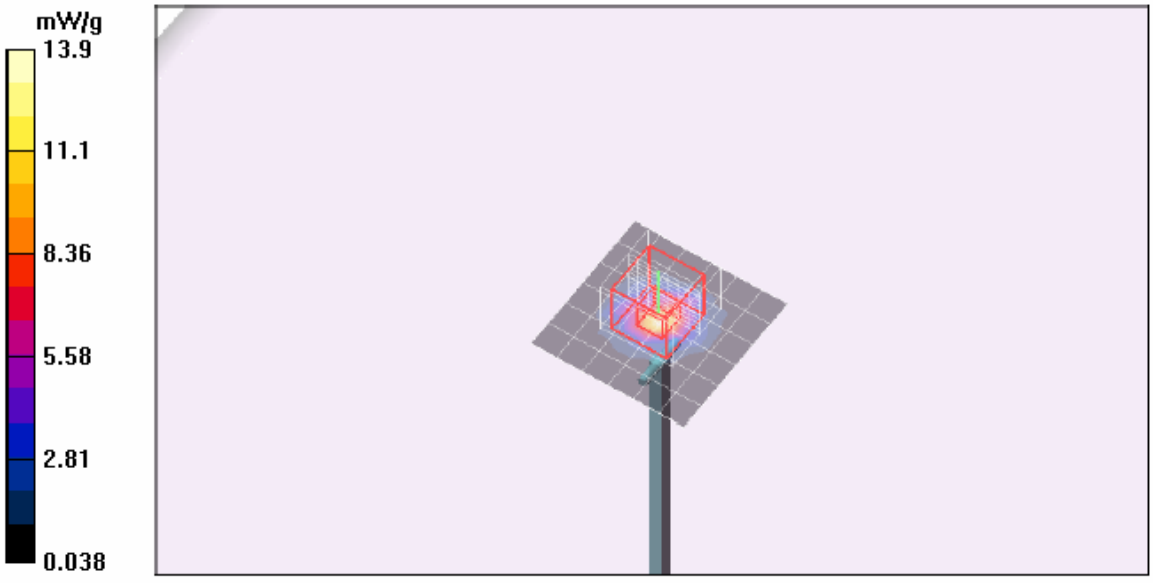
Communication System: CW 5GHz; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.73 mho/m; ε_r = 48; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.57, 3.57, 3.57); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.5GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.9 mW/g

d=10mm, Pin=100mW, 5.5GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53.1 V/m; Power Drift = 0.163 dB
Peak SAR (extrapolated) = 31.0 W/kg
SAR(1 g) = 8.33 mW/g; SAR(10 g) = 2.37 mW/g
Maximum value of SAR (measured) = 14.5 mW/g



System check plot for D5GHzV2 5.8 GHz

Date/Time: 10/7/2010 10:22:18 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

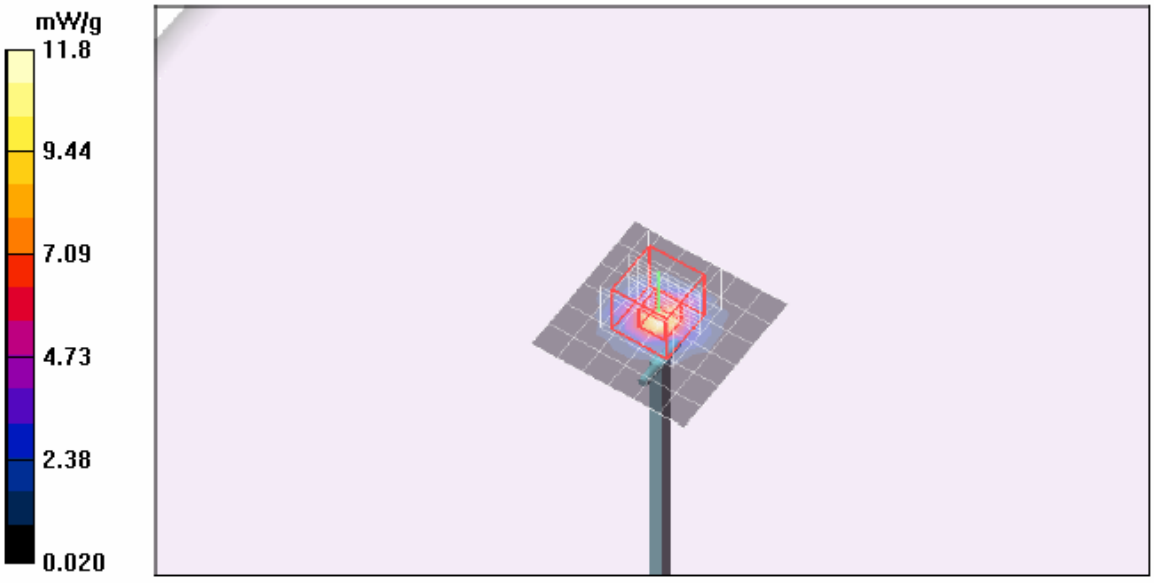
Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.17 mho/m; ε_r = 47.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.48, 3.48, 3.48); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.8GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 11.8 mW/g

d=10mm, Pin=100mW, 5.8GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 47.4 V/m; Power Drift = 0.092 dB
Peak SAR (extrapolated) = 27.2 W/kg
SAR(1 g) = 7.05 mW/g; SAR(10 g) = 2.02 mW/g
Maximum value of SAR (measured) = 12.3 mW/g



System check Z-plot for D5GHzV2 5.8 GHz

Date/Time: 10/7/2010 10:48:33 AM

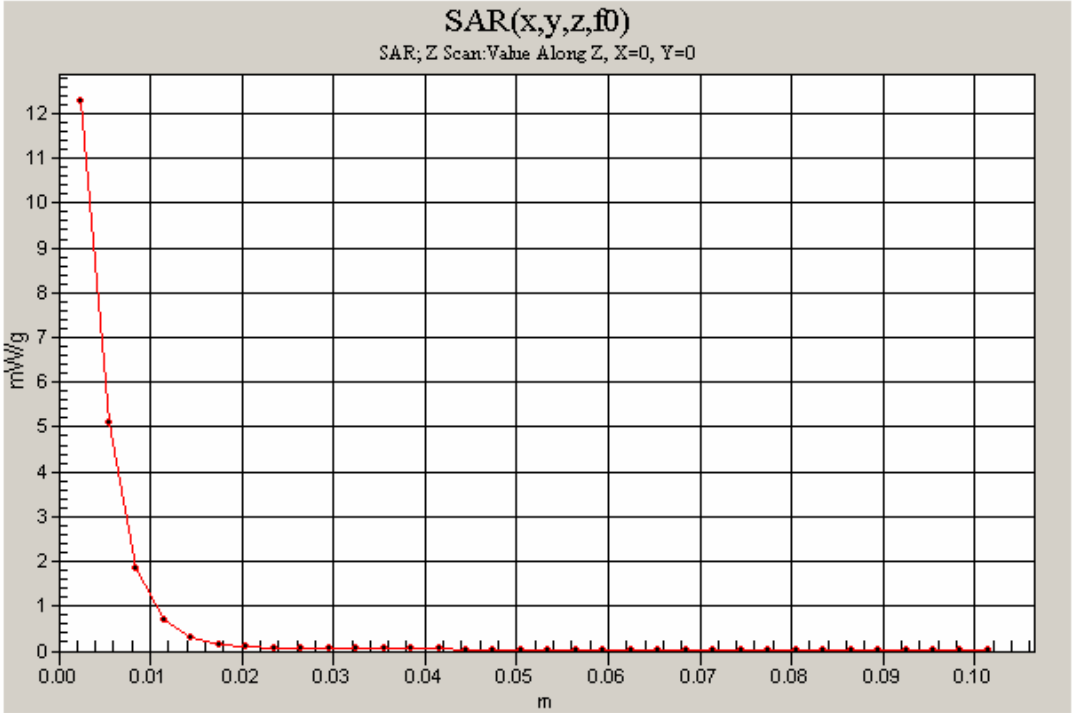
Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW, 5.8GHz/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 12.3 mW/g



System check plot for D5GHzV2 5.2 GHz

Date/Time: 11/8/2010 11:48:01 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

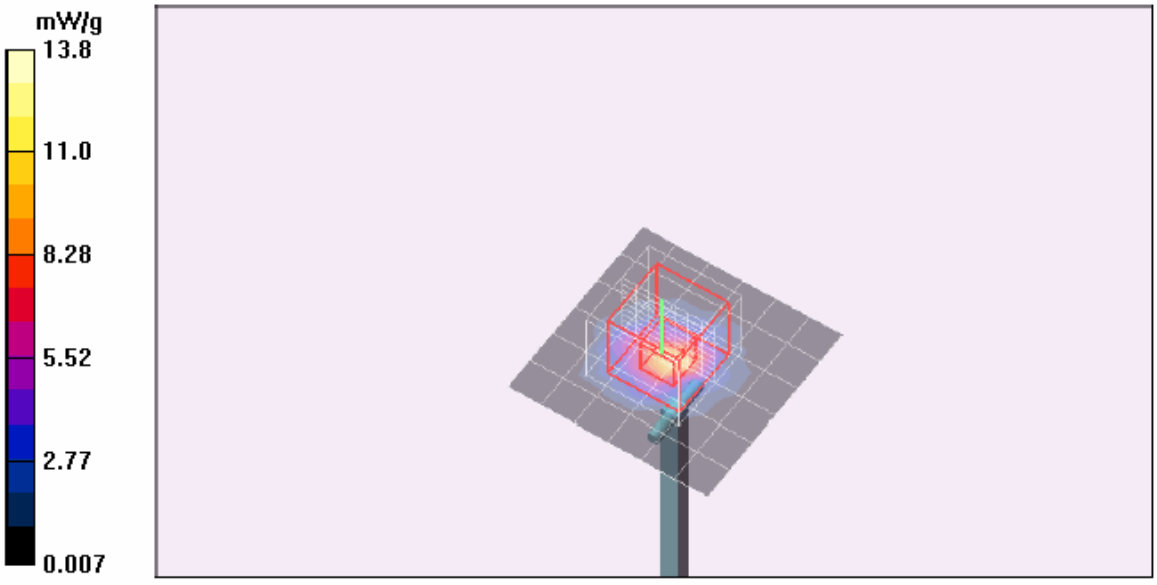
Communication System: CW 5GHz; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.31 mho/m; ε_r = 48.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(4.04, 4.04, 4.04); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.2GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.4 mW/g

d=10mm, Pin=100mW, 5.2GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53.7 V/m; Power Drift = 0.188 dB
Peak SAR (extrapolated) = 28.5 W/kg
SAR(1 g) = 7.92 mW/g; SAR(10 g) = 2.29 mW/g
Maximum value of SAR (measured) = 13.8 mW/g



System check plot for D5GHzV2 5.5 GHz

Date/Time: 11/8/2010 11:16:34 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

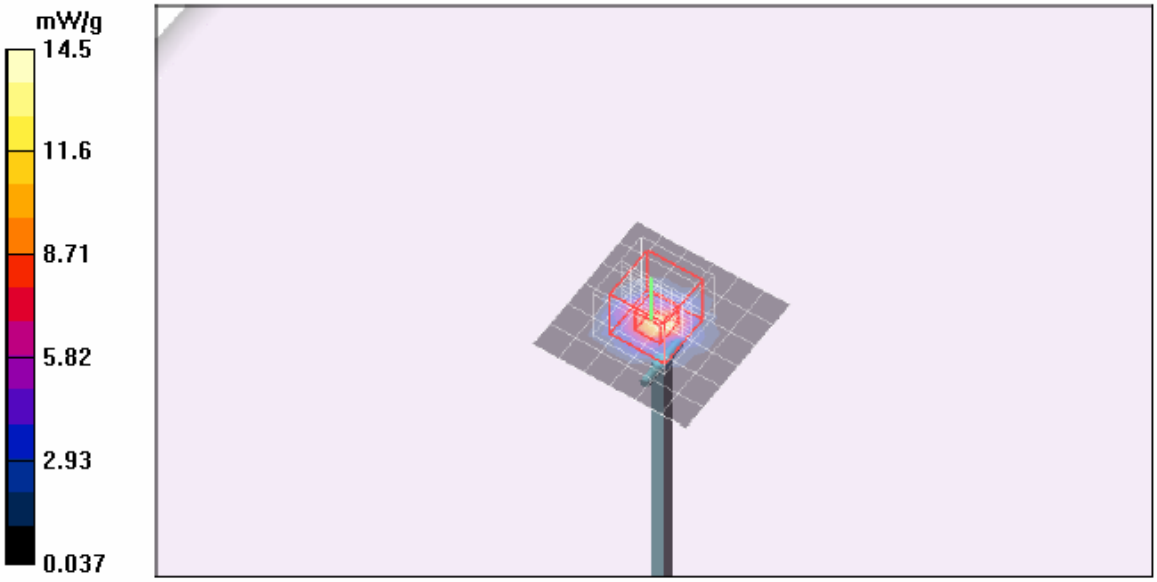
Communication System: CW 5GHz; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.73 mho/m; ε_r = 48; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.57, 3.57, 3.57); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.5GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 14.5 mW/g

d=10mm, Pin=100mW, 5.5GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53.9 V/m; Power Drift = 0.165 dB
Peak SAR (extrapolated) = 31.7 W/kg
SAR(1 g) = 8.5 mW/g; SAR(10 g) = 2.41 mW/g
Maximum value of SAR (measured) = 15.0 mW/g



System check plot for D5GHzV2 5.8 GHz

Date/Time: 11/8/2010 9:22:15 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

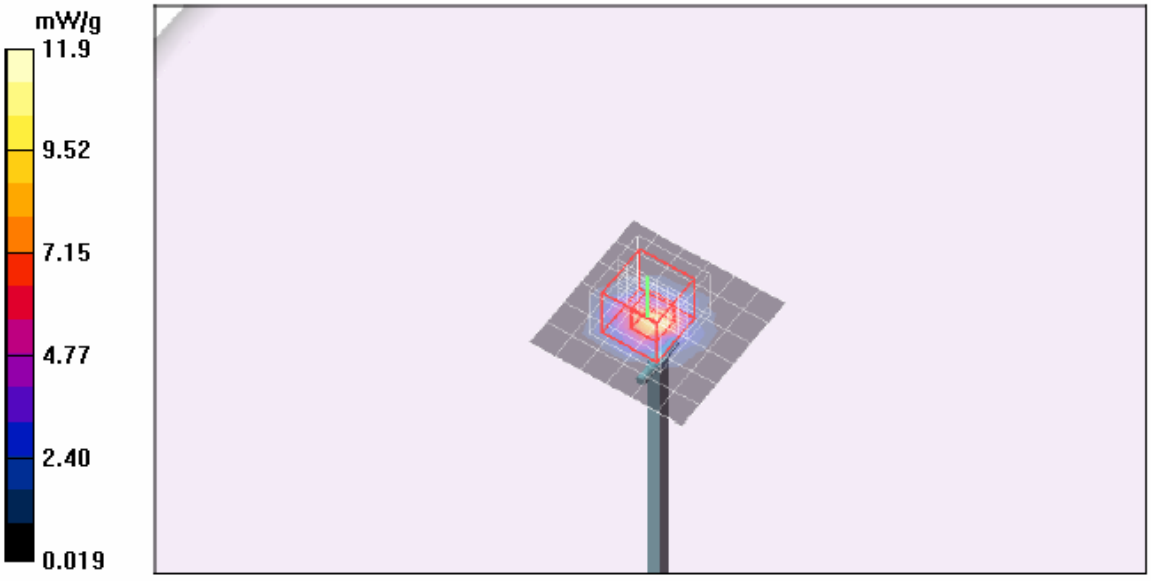
Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.17 mho/m; ε_r = 47.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.48, 3.48, 3.48); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.8GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 11.9 mW/g

d=10mm, Pin=100mW, 5.8GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 47.7 V/m; Power Drift = 0.151 dB
Peak SAR (extrapolated) = 25.4 W/kg
SAR(1 g) = 6.9 mW/g; SAR(10 g) = 2 mW/g
Maximum value of SAR (measured) = 12.3 mW/g



System check Z-plot for D5GHzV2 5.8 GHz

Date/Time: 11/8/2010 9:49:09 AM

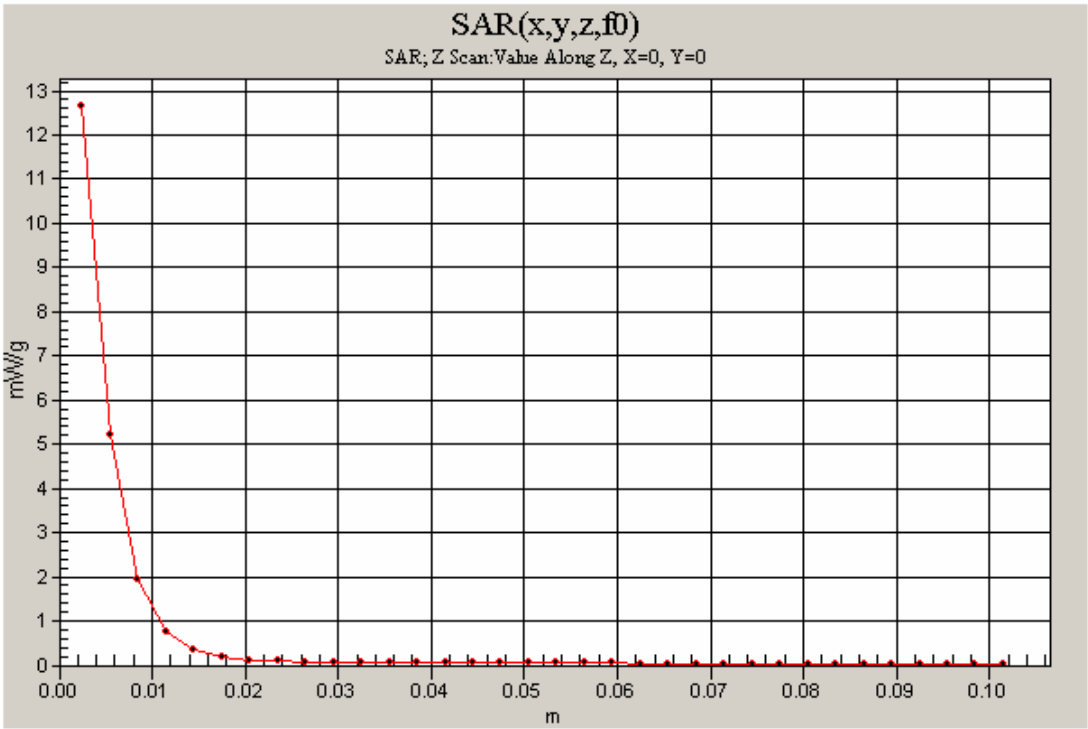
Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW, 5.8GHz/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 12.7 mW/g



System check plot for D5GHzV2 5.2 GHz

Date/Time: 11/9/2010 8:52:41 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz-1

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

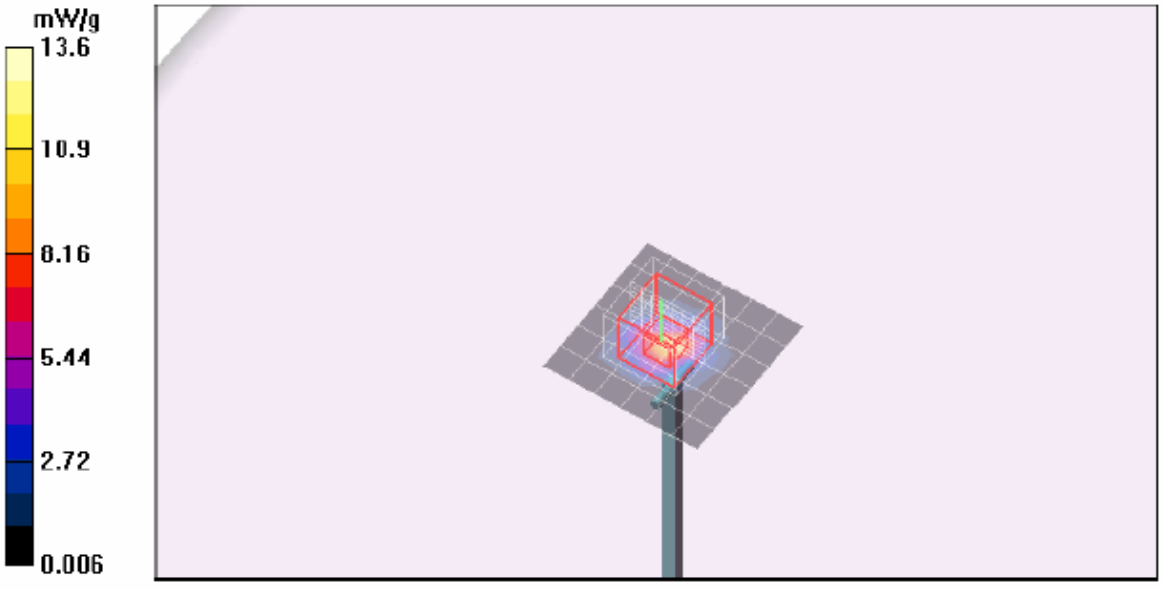
Communication System: CW 5GHz; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5200 MHz; σ = 5.31 mho/m; ε_r = 48.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(4.04, 4.04, 4.04); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.2GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 13.1 mW/g

d=10mm, Pin=100mW, 5.2GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53.8 V/m; Power Drift = 0.183 dB
Peak SAR (extrapolated) = 28.1 W/kg
SAR(1 g) = 7.89 mW/g; SAR(10 g) = 2.27 mW/g
Maximum value of SAR (measured) = 13.6 mW/g



System check plot for D5GHzV2 5.5 GHz

Date/Time: 11/9/2010 9:21:40 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz-1

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

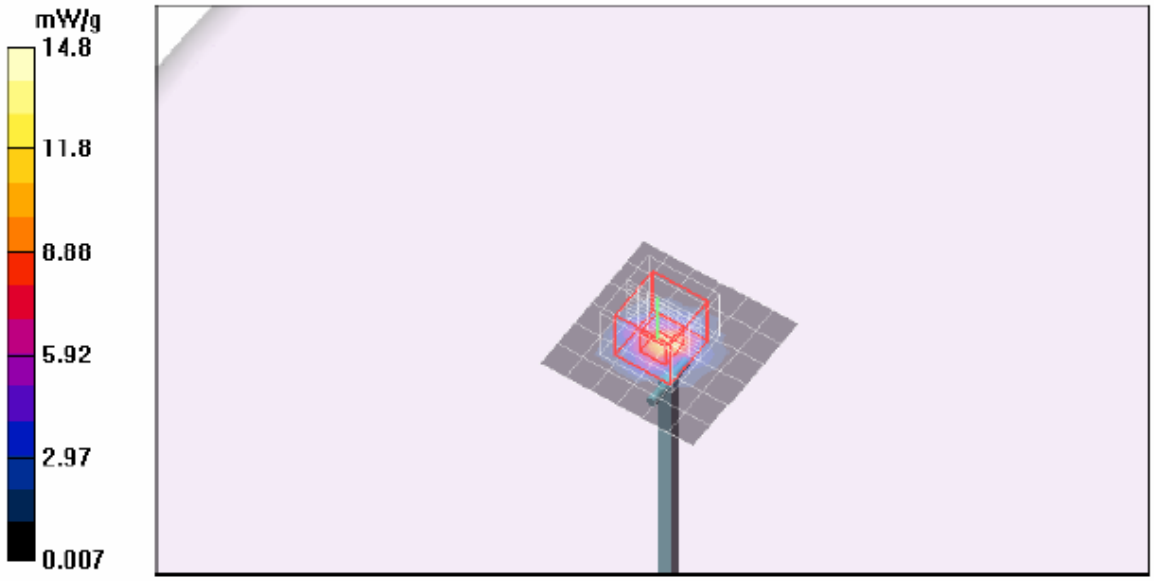
Communication System: CW 5GHz; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5500 MHz; σ = 5.73 mho/m; ε_r = 48; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.57, 3.57, 3.57); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.5GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 14.3 mW/g

d=10mm, Pin=100mW, 5.5GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 54.7 V/m; Power Drift = 0.200 dB
Peak SAR (extrapolated) = 31.2 W/kg
SAR(1 g) = 8.44 mW/g; SAR(10 g) = 2.3 mW/g
Maximum value of SAR (measured) = 14.8 mW/g



System check plot for D5GHzV2 5.8 GHz

Date/Time: 11/9/2010 11:14:44 AM

Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

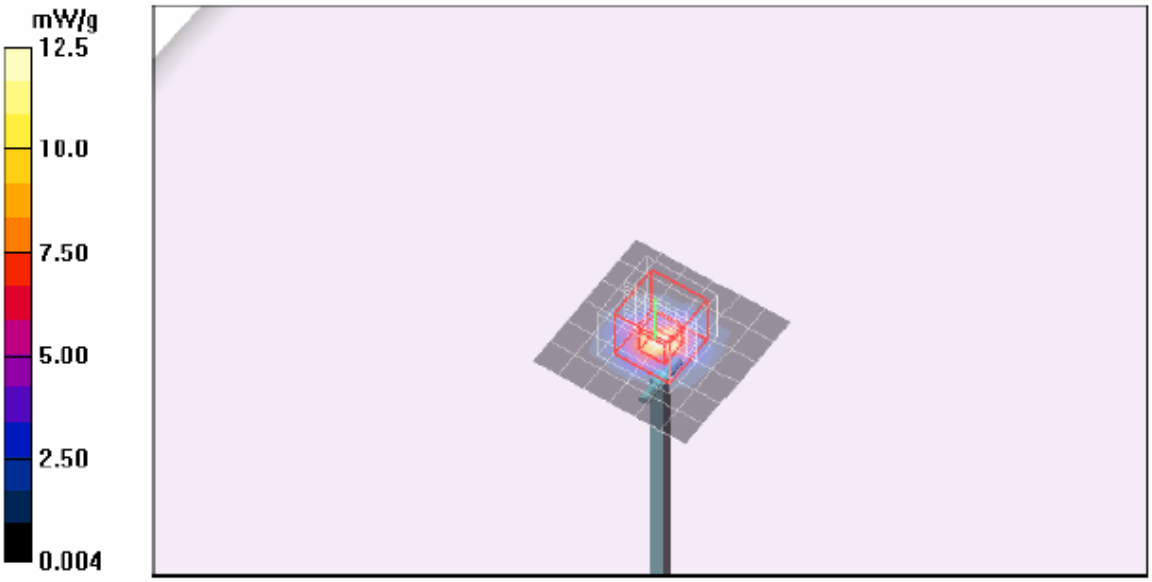
Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5800 MHz; σ = 6.17 mho/m; ε_r = 47.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.48, 3.48, 3.48); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:XXXX
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=100mW, 5.8GHz/Area Scan (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 14.2 mW/g

d=10mm, Pin=100mW, 5.8GHz/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 50.8 V/m; Power Drift = -0.165 dB
Peak SAR (extrapolated) = 27.6 W/kg
SAR(1 g) = 7.03 mW/g; SAR(10 g) = 1.95 mW/g
Maximum value of SAR (measured) = 12.5 mW/g



System check Z-plot for D5GHzV2 5.8 GHz

Date/Time: 11/9/2010 11:41:04 AM

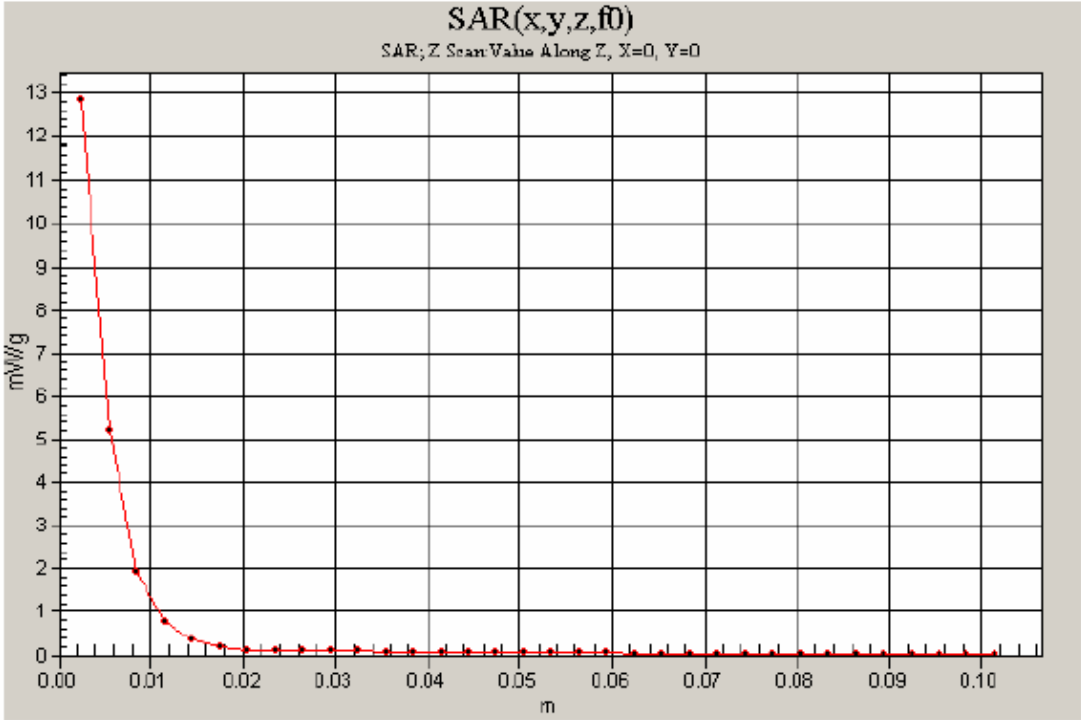
Test Laboratory: Compliance Certification Services

System Performance Check - D5GHzV2_5 GHz

DUT: D5GHzV2; Type: D5GHzV2; Serial: 1075

Communication System: CW 5GHz; Frequency: 5800 MHz;Duty Cycle: 1:1

d=10mm, Pin=100mW, 5.8GHz/Z Scan (1x1x34): Measurement grid: dx=20mm, dy=20mm, dz=3mm
Maximum value of SAR (measured) = 12.8 mW/g



9. RF OUTPUT POWER VERIFICATION

The following procedures had been used to prepare the EUT for the SAR test.
The client provided a special driver and program, DRTU v1.3.1-0204, which enable a user to control the frequency and output power of the module.

Results

802.11b

Mode	Antenna	Ch #	f (MHz)	SA Antenna	Acon Antenna
				Avg Output Power (dBm)	Avg Output Power (dBm)
802.11b	A	1	2412	17.00	16.94
		6	2437	17.00	17.12
		11	2462	16.71	16.81
	B	1	2412	17.00	17.08
		6	2437	16.90	17.07
		11	2462	17.00	16.79

802.11a

Mode	Antenna	Ch. #	f (MHz)	SA Antenna	Acon Antenna
				Avg Output Power (dBm)	Avg Output Power (dBm)
802.11a (5.2GHz)	A	36	5180	16.8	16.9
		40	5200	17.0	17.1
		48	5240	16.9	16.9
	B	36	5180	16.8	16.7
		40	5200	16.8	16.9
		48	5240	16.6	16.8
802.11a (5.3GHz)	A	52	5260	16.7	17.0
		60	5300	16.8	17.2
		64	5320	16.7	17.1
	B	52	5260	16.6	16.8
		60	5300	16.8	17.1
		64	5320	16.8	16.9
802.11a (5.6GHz)	A	100	5500	17.1	17.0
		120	5600	17.0	17.1
		140	5700	17.1	16.8
	B	100	5500	16.9	17.0
		120	5600	16.8	17.1
		140	5700	16.7	16.7
802.11a (5.8GHz)	A	149	5745	17.0	17.0
		157	5785	16.9	16.9
		165	5825	16.8	16.8
	B	149	5745	16.8	17.0
		157	5785	17.1	17.1
		165	5825	16.8	16.8

Note: The modes with highest output power channel were chosen for the conducted output power measurement. Please refer to original report for Average Power information as documented in 10/01/2009 original filing.

10. SUMMARY OF SAR TEST RESULTS

10.1. 2.4 GHZ BAND

KDB 447498 4) b) ii) (2) - SAR is required only for the edge with the most conservative exposure conditions.
KDB 248227 - SAR is not required for 802.11g/HT20/HT40 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

1. Laptop - Lap-held with Acon Antenna

Separation distance: 18.4 cm from Main antenna-to-phantom

Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
				1g-SAR	10g-SAR
802.11b	1	2412	A		
	6	2437	A	0.00498	0.00232
	11	2462	A		
	1	2412	B		
	6	2437	B	0.00539	0.00118
	11	2462	B		

2. Tablet – Bottom face with Acon Antenna

Separation distance: 1.935 cm from Main antenna-to-phantom

Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
				1g-SAR	10g-SAR
802.11b	1	2412	A		
	6	2437	A	0.044	0.026
	11	2462	A		
	1	2412	B		
	6	2437	B	0.158	0.087
	11	2462	B		

3. Edge - Primary Landscape (No SAR)

Separation distance: 18.4 cm from Main antenna-to-phantom

This is not the most conservative antenna-to-user distance at edge mode. According to KDB 447498 4) b) ii) (2), SAR is required only for the edge with the most conservative exposure conditions.

4. Edge - Secondary Landscape with Acon & SA Antenna

Acon Antenna

Separation distance: 2.183 mm from Main antenna-to-phantom

Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
				1g-SAR	10g-SAR
802.11b	1	2412	A	**0.953**	0.393
	6	2437	A	0.880	0.361
	11	2462	A	0.719	0.295
	1	2412	B	0.943	0.389
	6	2437	B	0.857	0.348
	11	2462	B	0.865	0.381

Additional test with Smart Approach (SA) Antenna

Separation distance: 2.183 mm from Main antenna-to-phantom

Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
				1g-SAR	10g-SAR
802.11b	1	2412	A		
	6	2437	A	0.522	0.215
	11	2462	A		
	1	2412	B		
	6	2437	B	0.599	0.255
	11	2462	B		

5. Edge - Primary Portrait with Acon Antenna

Separation distance: 2.75 cm from Main antenna-to-phantom

Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
				1g-SAR	10g-SAR
802.11b	1	2412	A		
	6	2437	A	0.205	0.090
	11	2462	A		

6. Edge - Secondary Portrait with Acon Antenna

Separation distance: 2.75 cm from Main antenna-to-phantom

Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
				1g-SAR	10g-SAR
802.11b	1	2412	B		
	6	2437	B	0.00755	0.00113
	11	2462	B		

10.2. 5 GHZ BANDS

According to KDB 447498 4) b) ii) (2). SAR is required only for the edge with the most conservative exposure conditions.

1. Laptop - Lap-held with Acon Antenna

Separation distance: 18.4 cm from Main antenna-to-phantom

Band	Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
					1g-SAR	10g-SAR
5.2 GHz	802.11a Legacy	40	5200	A	0.00554	0.00112
		40	5200	B	0.00086	0.000119
5.3 GHz	802.11a Legacy	60	5300	A	0.00943	0.00177
		60	5300	B	0.015	0.00658
5.5 GHz	802.11a Legacy	120	5600	A	0.00531	0.00264
		120	5600	B	0.023	0.00686
5.8 GHz	802.11a Legacy	157	5785	A	0.00798	0.00488
		157	5785	B	0.028	0.00647

2. Tablet – Bottom face with Acon Antenna

Separation distance: 1.935 cm from Main antenna-to-phantom

Band	Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
					1g-SAR	10g-SAR
5.2 GHz	802.11a Legacy	40	5200	A	0.148	0.060
		40	5200	B	0.283	0.128
5.3 GHz	802.11a Legacy	60	5300	A	0.115	0.042
		60	5300	B	0.372	0.164
5.5 GHz	802.11a Legacy	120	5600	A	0.187	0.068
		120	5600	B	0.280	0.109
5.8 GHz	802.11a Legacy	157	5785	A	0.100	0.038
		157	5785	B	0.246	0.097

3. Edge - Primary Landscape (No SAR)

Separation distance: 18.4 cm from Main antenna-to-phantom

This is not the most conservative antenna-to-user distance at edge mode. According to KDB 447498 4) b) ii) (2), SAR is required only for the edge with the most conservative exposure conditions.

4. Edge - Secondary Landscape with Acon Antenna

Separation distance: 2.183 mm from Main antenna-to-phantom

Band	Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
					1g-SAR	10g-SAR
5.2 GHz	802.11a Legacy	36	5180	A		
		40	5200	A	0.678	0.199
		48	5240	A		
		36	5180	B	0.812	0.234
		40	5200	B	0.877	0.252
		48	5240	B	0.883	0.250
5.3 GHz	802.11a Legacy	52	5260	A		
		60	5300	A	0.687	0.197
		64	5320	A		
		52	5260	B	0.954	0.258
		60	5300	B	0.952	0.342
		64	5320	B	**1.150**	0.303
5.5 GHz	802.11a Legacy	100	5500	A	0.885	0.234
		120	5600	A	**0.950**	0.238
		140	5700	A	0.744	0.185
		100	5500	B	0.671	0.260
		120	5600	B	0.803	0.261
		140	5700	B	0.584	0.173
5.8 GHz	802.11a Legacy	149	5745	A		
		157	5785	A	0.687	0.170
		165	5825	A		
		149	5745	B	0.835	0.237
		157	5785	B	0.818	0.230
		165	5825	B	0.584	0.166

Additional test with Smart Approach (SA) Antenna
Separation distance: 2.183 mm from Main antenna-to-phantom

Band	Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
					1g-SAR	10g-SAR
5.2 GHz	802.11a Legacy	36	5180	A	1.050	0.315
		40	5200	A	0.993	0.293
		48	5240	A	**1.100**	0.330
		36	5180	B		
		40	5200	B	0.692	87.000
		48	5240	B		
5.3 GHz	802.11a Legacy	52	5260	A	1.140	0.343
		60	5300	A	1.120	0.338
		64	5320	A	0.943	0.285
		52	5260	B	1.120	0.297
		60	5300	B	0.986	0.262
		64	5320	B	0.874	0.231
5.5 GHz	802.11a Legacy	100	5500	A		
		120	5600	A	0.709	0.224
		140	5700	A		
		100	5500	B		
		120	5600	B	0.734	0.200
		140	5700	B		
5.8 GHz	802.11a Legacy	149	5745	A		
		157	5785	A	0.583	0.180
		165	5825	A		
		149	5745	B	0.543	0.144
		157	5785	B	0.811	0.220
		165	5825	B	**0.922**	0.250

5. Edge - Primary Portrait With Acon Antenna

Separation distance: 2.75 cm from A antenna-to-phantom

Band	Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
					1g-SAR	10g-SAR
5.2 GHz	802.11a Legacy	36	5180	A		
		40	5200	A	0.108	0.032
		48	5240	A		
5.3 GHz	802.11a Legacy	52	5260	A		
		60	5300	A	0.113	0.036
		64	5320	A		
5.5 GHz	802.11a Legacy	100	5500	A		
		120	5600	A	0.151	0.040
		140	5700	A		
5.8 GHz	802.11a Legacy	149	5745	A		
		157	5785	A	0.120	0.033
		165	5825	A		

6. Edge - Secondary Portrait Acon Antenna

Separation distance: 2.75 cm from B antenna-to-phantom

Band	Mode	Channel	f (MHz)	Antenna	Results (mW/g)	
					1g-SAR	10g-SAR
5.2 GHz	802.11a Legacy	36	5180	B		
		40	5200	B	0.109	0.030
		48	5240	B		
5.3 GHz	802.11a Legacy	52	5260	B		
		60	5300	B	0.201	0.055
		64	5320	B		
5.5 GHz	802.11a Legacy	100	5500	B		
		120	5600	B	0.270	0.073
		140	5700	B		
5.8 GHz	802.11a Legacy	149	5745	B		
		157	5785	B	0.384	0.097
		165	5825	B		

11. WORST-CASE SAR TEST PLOTS

WORST-CASE SAR PLOT FOR 2.4 GHZ

Date/Time: 11/10/2010 1:41:59 PM

Test Laboratory: Compliance Certification Services

Secondary Landscape (Acon)

DUT: Intel; Type: E2K625ANXH; Serial: NA

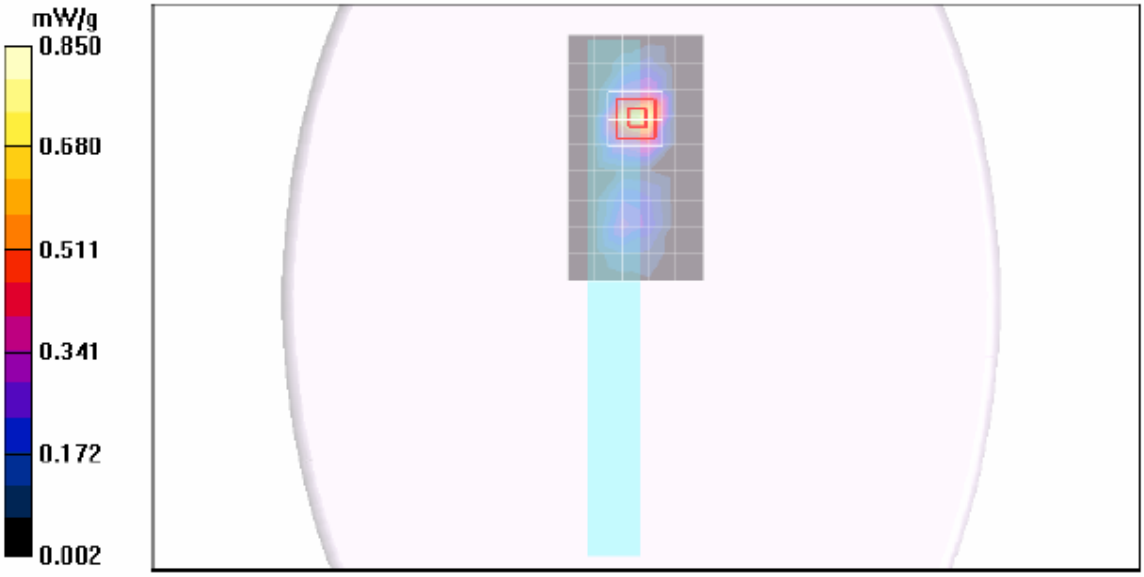
Communication System: 802.11b/g 2.4GHz; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.92 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 24.0 deg. C; Liquid Temperature: 23.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(7.58, 7.58, 7.58); Calibrated: 2/23/2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

802.11b L-ch A Ant/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.751 mW/g

802.11b L-ch A Ant/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 4.76 V/m; Power Drift = -0.153 dB
Peak SAR (extrapolated) = 2.18 W/kg
SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.393 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.32 mW/g



WORST-CASE SAR PLOT FOR 2.4 GHZ – Z plot

Date/Time: 11/10/2010 2:03:03 PM

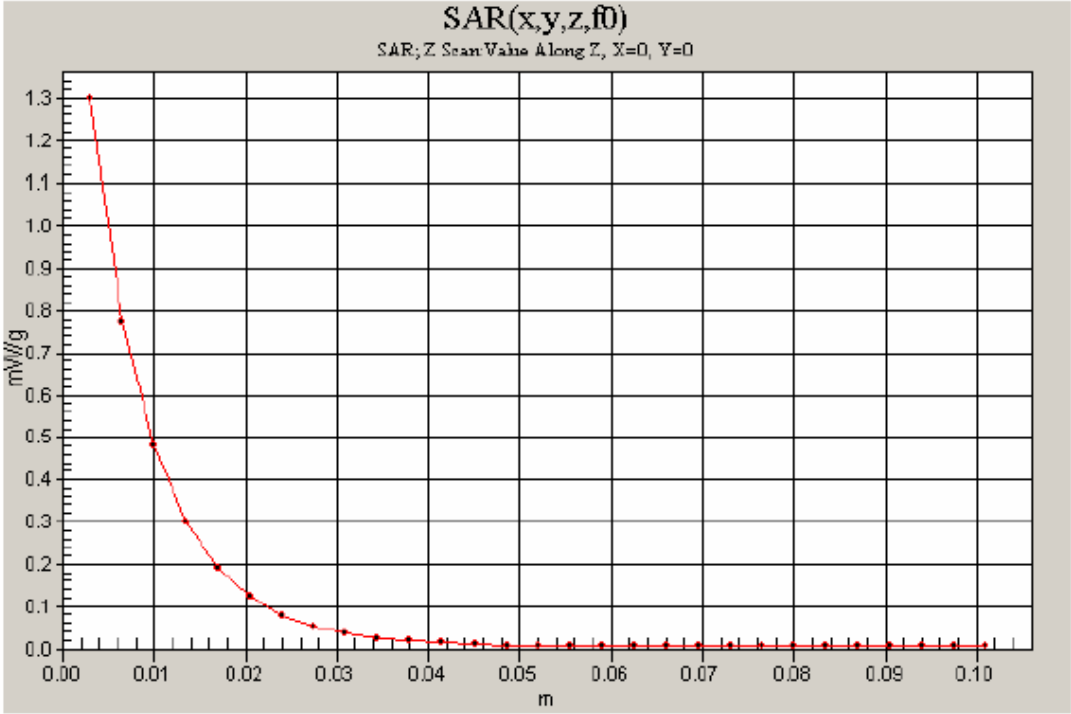
Test Laboratory: Compliance Certification Services

Secondary Landscape (Acon)

DUT: Intel; Type: E2K625ANXH; Serial: NA

Communication System: 802.11b/g 2.4GHz; Frequency: 2412 MHz;Duty Cycle: 1:1

802.11b L-ch A Ant/Z Scan (1x1x29): Measurement grid: dx=20mm, dy=20mm, dz=3.5mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.30 mW/g



WORST-CASE SAR PLOT FOR 5.2 GHZ

Date/Time: 11/5/2010 2:23:50 PM

Test Laboratory: Compliance Certification Services

Secondary Landscape_5.2GHz (Smart Approach)

DUT: Intel; Type: E2K625ANXH; Serial: NA

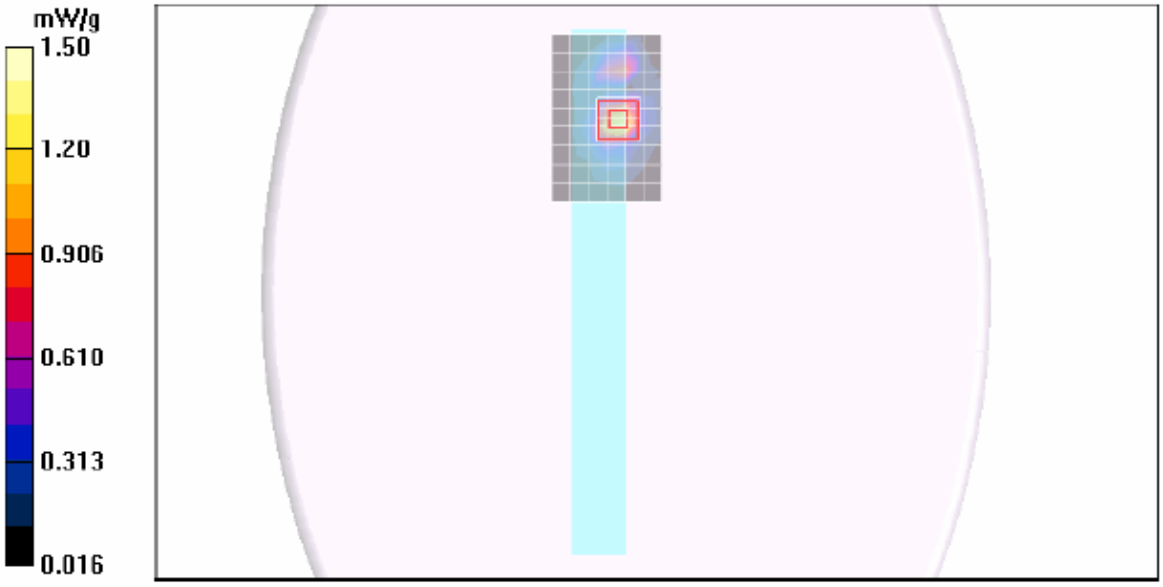
Communication System: 802.11a 5.2GHz; Frequency: 5240 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5240 MHz; σ = 5.38 mho/m; ε_r = 48.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(4.04, 4.04, 4.04); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a_A Ant H-Ch 48/Area Scan (7x10x1): Measurement grid: dx=10mm, dy=10mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.33 mW/g

802.11a_A Ant H-Ch 48/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 16.7 V/m; Power Drift = 0.194 dB
Peak SAR (extrapolated) = 3.90 W/kg
SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.330 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.94 mW/g



WORST-CASE SAR PLOT FOR 5.2 GHZ – Z plot

Date/Time: 11/5/2010 2:45:56 PM

Test Laboratory: Compliance Certification Services

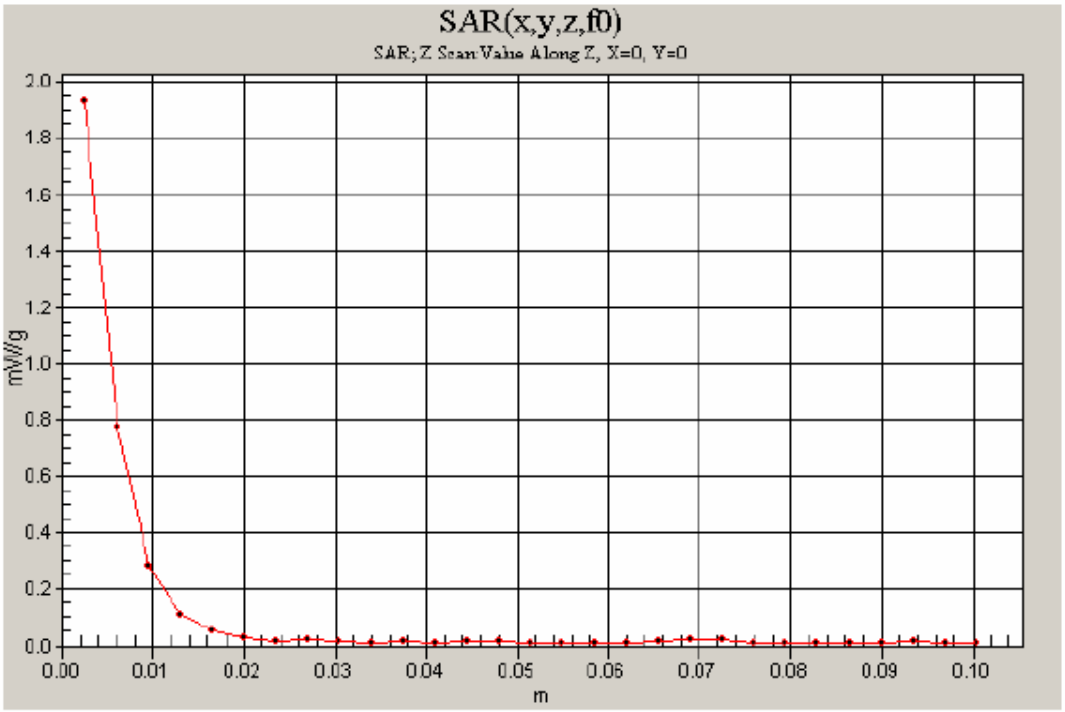
Secondary Landscape_5.2GHz (Smart Approach)

DUT: Intel; Type: E2K625ANXH; Serial: NA

Communication System: 802.11a 5.2GHz; Frequency: 5240 MHz;Duty Cycle: 1:1

802.11a_A Ant H-Ch 48/Z Scan (1x1x29): Measurement grid: dx=20mm, dy=20mm, dz=3.5mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.93 mW/g



WORST-CASE SAR PLOT FOR 5.3 GHZ

Date/Time: 11/5/2010 7:07:20 PM

Test Laboratory: Compliance Certification Services

Secondary Landscape_5.3GHz (Acon)

DUT: Intel; Type: E2K625ANXH; Serial: NA

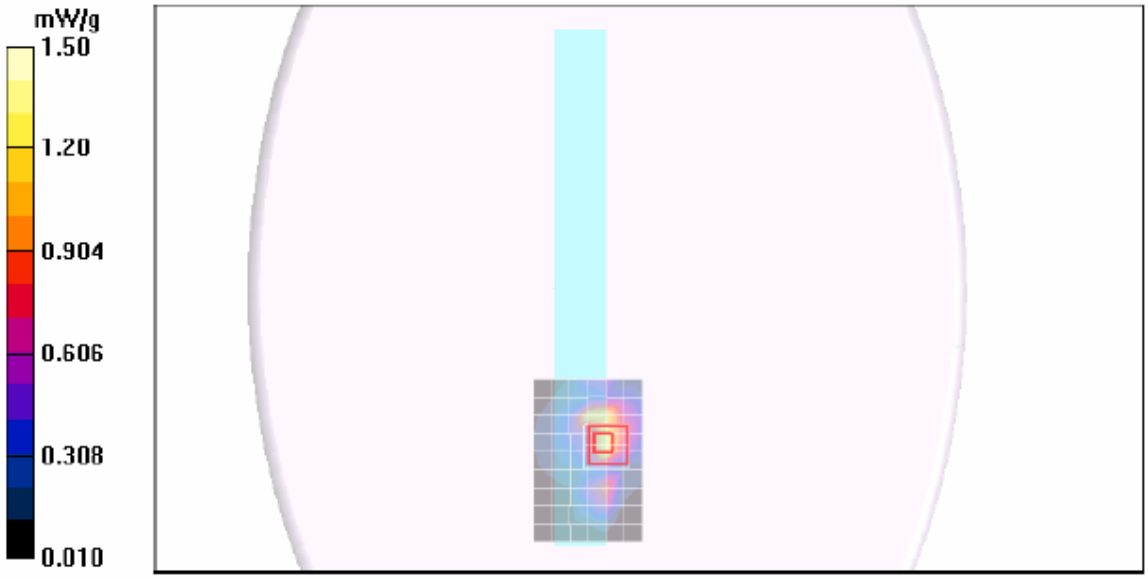
Communication System: 802.11a 5.2&5.3GHz; Frequency: 5320 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5320 MHz; σ = 5.5 mho/m; ε_r = 48; ρ = 1000 kg/m^3
Phantom section: Flat Section

Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.79, 3.79, 3.79); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a_B Ant H-Ch 64/Area Scan (7x10x1): Measurement grid: dx=10mm, dy=10mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.30 mW/g

802.11a_B Ant H-Ch 64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 16.2 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 4.75 W/kg
SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.303 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 2.16 mW/g



WORST-CASE SAR PLOT FOR 5.3 GHZ – Z plot

Date/Time: 11/5/2010 7:46:58 PM

Test Laboratory: Compliance Certification Services

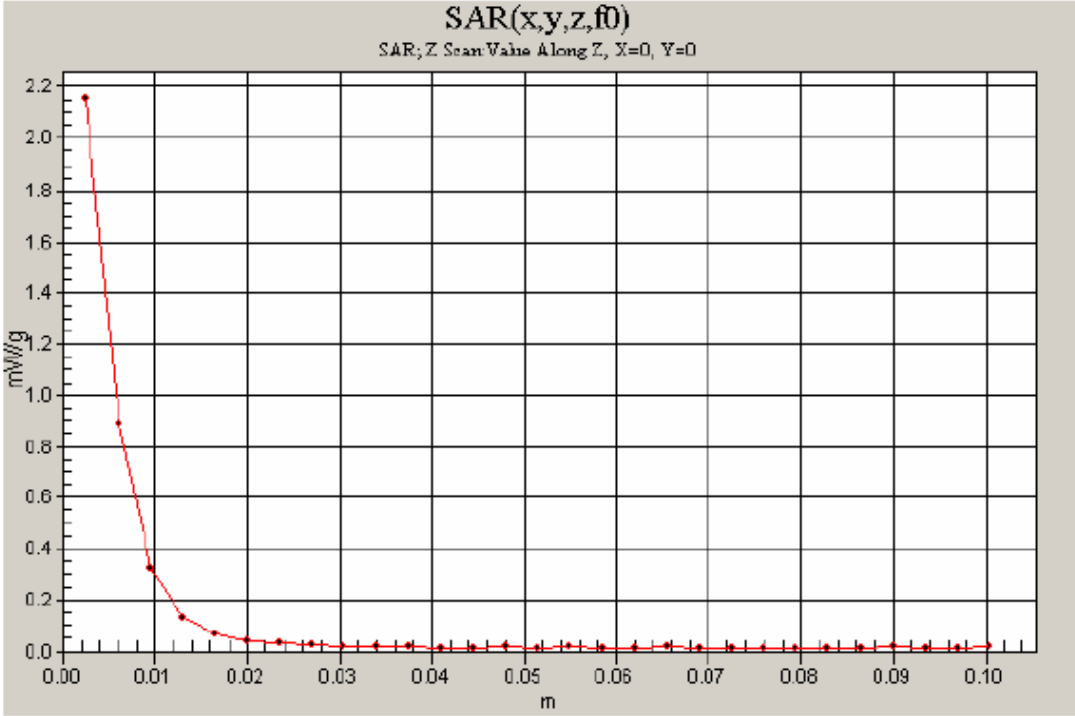
Secondary Landscape_5.3GHz (Acon)

DUT: Intel; Type: E2K625ANXH; Serial: NA

Communication System: 802.11a 5.2&5.3GHz; Frequency: 5320 MHz;Duty Cycle: 1:1

802.11a_B Ant H-Ch 64/Z Scan (1x1x29): Measurement grid: dx=20mm, dy=20mm, dz=3.5mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 2.16 mW/g



WORST-CASE SAR PLOT FOR 5.6 GHZ

Date/Time: 11/5/2010 9:55:51 PM

Test Laboratory: Compliance Certification Services

Secondary Landscape_5.6GHz (Acon)

DUT: Intel; Type: E2K625ANXH; Serial: NA

Communication System: 802.11a 5.6GHz; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.9 mho/m; ε_r = 47.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

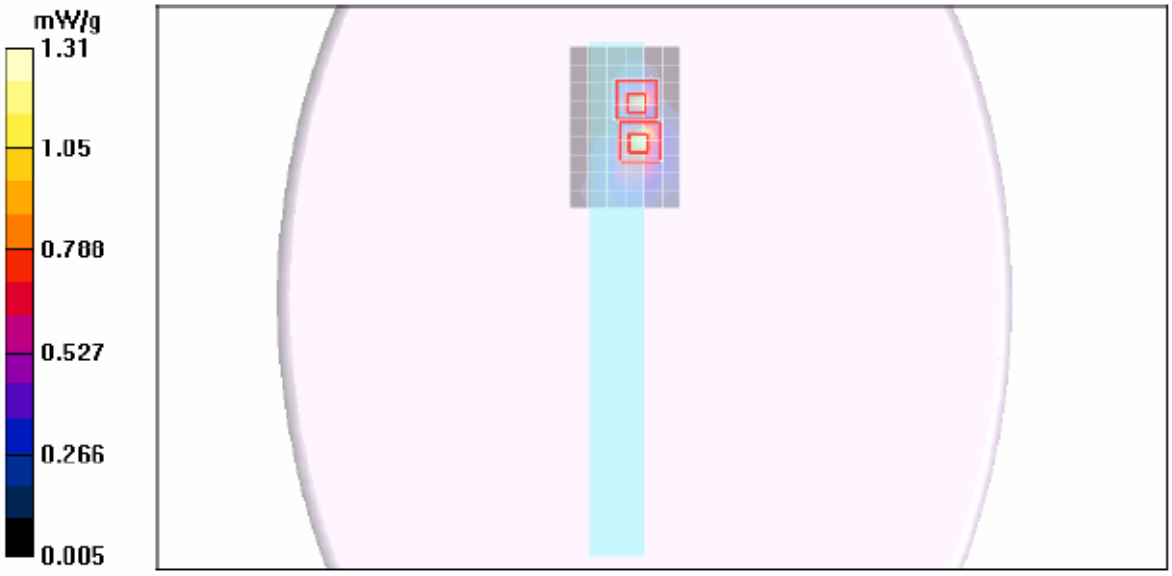
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.32, 3.32, 3.32); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a_A Ant M-Ch 120/Area Scan (7x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.31 mW/g

802.11a_A Ant M-Ch 120/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 15.8 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 3.80 W/kg
SAR(1 g) = 0.950 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 1.70 mW/g

802.11a_A Ant M-Ch 120/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 15.8 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 3.12 W/kg
SAR(1 g) = 0.714 mW/g; SAR(10 g) = 0.178 mW/g
Maximum value of SAR (measured) = 1.43 mW/g



WORST-CASE SAR PLOT FOR 5.6 GHZ – Z plot

Date/Time: 11/5/2010 10:34:05 PM

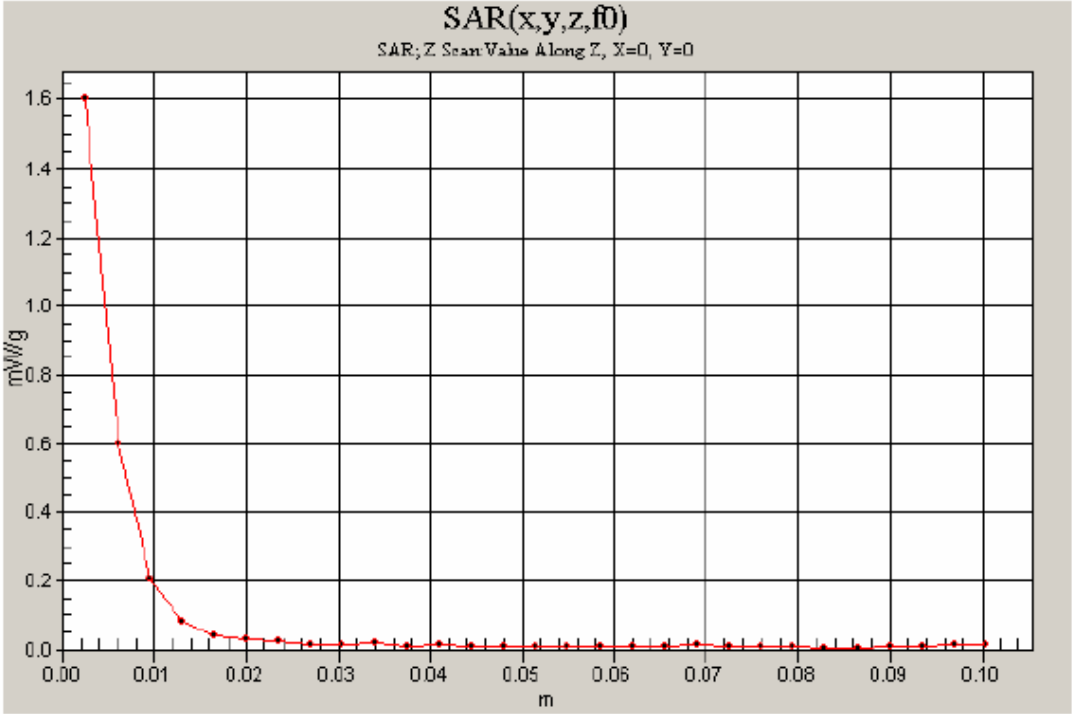
Test Laboratory: Compliance Certification Services

Secondary Landscape_5.6GHz (Acon)

DUT: Intel; Type: E2K625ANXH; Serial: NA

Communication System: 802.11a 5.6GHz; Frequency: 5600 MHz;Duty Cycle: 1:1

802.11a_A Ant M-Ch 120/Z Scan (1x1x29): Measurement grid: dx=20mm, dy=20mm, dz=3.5mm
Maximum value of SAR (measured) = 1.60 mW/g



WORST-CASE SAR PLOT FOR 5.8 GHZ

Date/Time: 11/7/2010 5:52:46 PM

Test Laboratory: Compliance Certification Services

Secondary Landscape_5.8GHz (Smart Approach)

DUT: Intel; Type: E2K625ANXH; Serial: NA

Communication System: 802.11a 5.8GHz; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5825 MHz; σ = 6.2 mho/m; ε_r = 47.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

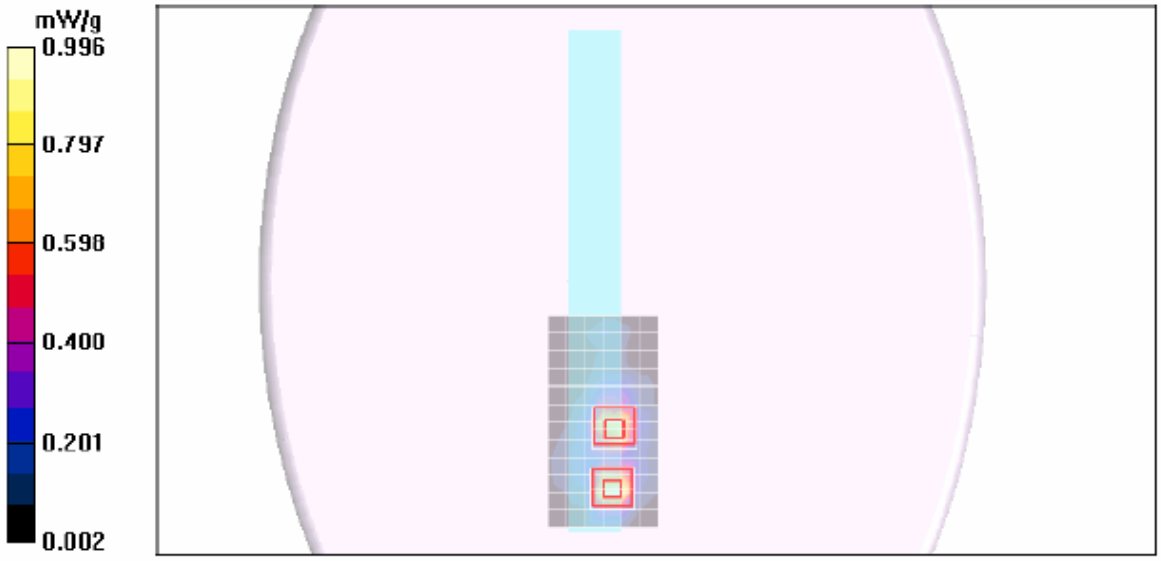
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C

DASY4 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV3 - SN3531; ConvF(3.48, 3.48, 3.48); Calibrated: 2/23/2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn427; Calibrated: 7/21/2010
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1003
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

802.11a_B Ant H-Ch 165/Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.996 mW/g

802.11a_B Ant H-Ch 165/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 13.6 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 4.30 W/kg
SAR(1 g) = 0.922 mW/g; SAR(10 g) = 0.250 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.85 mW/g

802.11a_B Ant H-Ch 165/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 13.6 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 3.44 W/kg
SAR(1 g) = 0.848 mW/g; SAR(10 g) = 0.247 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.57 mW/g



WORST-CASE SAR PLOT FOR 5.8 GHZ – Z plot

Date/Time: 11/7/2010 6:34:53 PM

Test Laboratory: Compliance Certification Services

Secondary Landscape_5.8GHz (Smart Approach)

DUT: Intel; Type: E2K625ANXH; Serial: NA

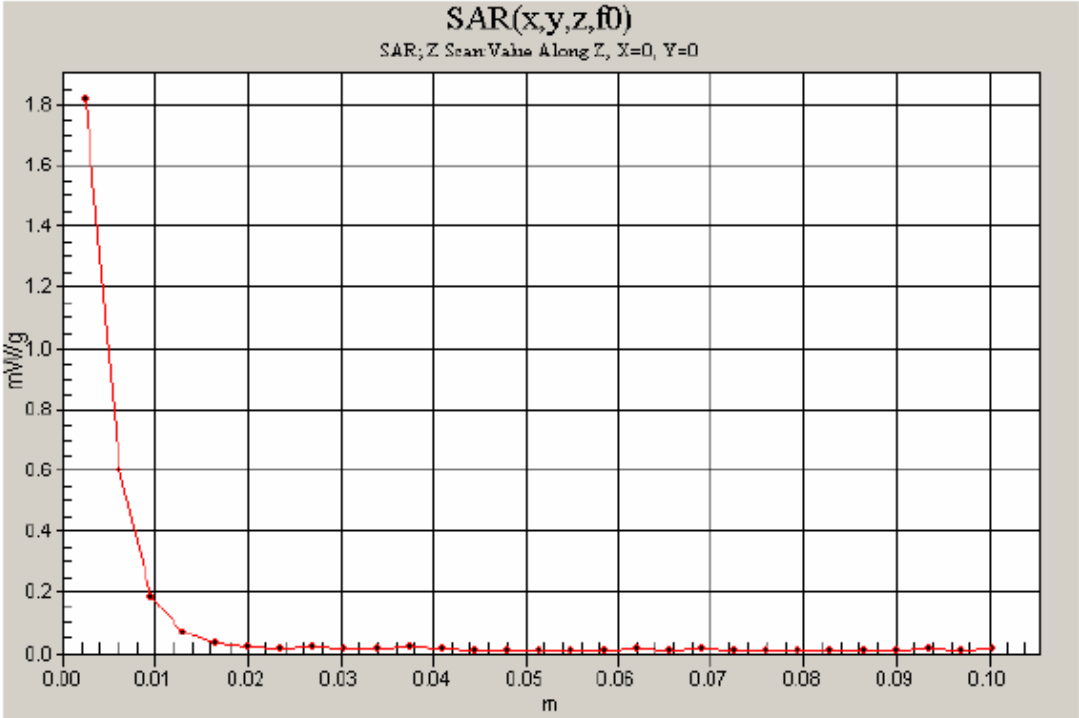
Communication System: 802.11a 5.8GHz; Frequency: 5745 MHzFrequency: 5825 MHz;Duty Cycle: 1:1

802.11a_B Ant L-Ch 149/Area Scan (7x13x1): Measurement grid: dx=10mm, dy=10mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.612 mW/g

802.11a_B Ant H-Ch 165/Z Scan (1x1x29): Measurement grid: dx=20mm, dy=20mm, dz=3.5mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 1.82 mW/g



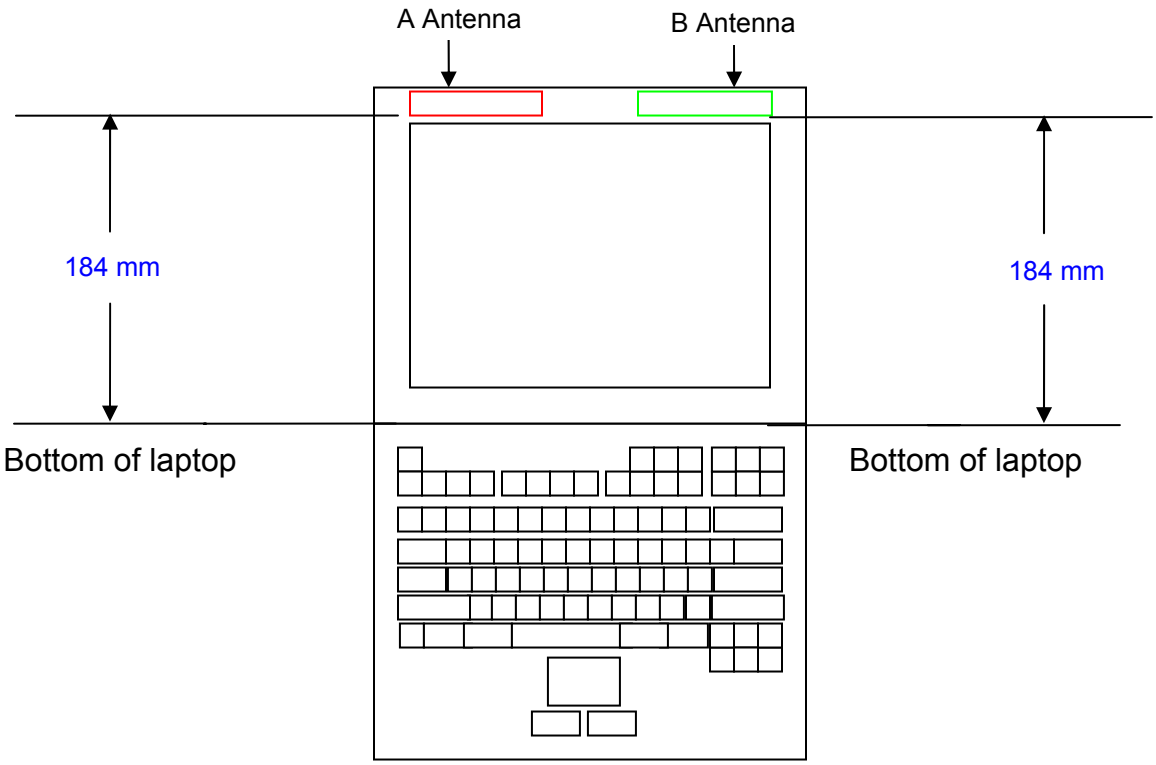
12. ATTACHMENTS

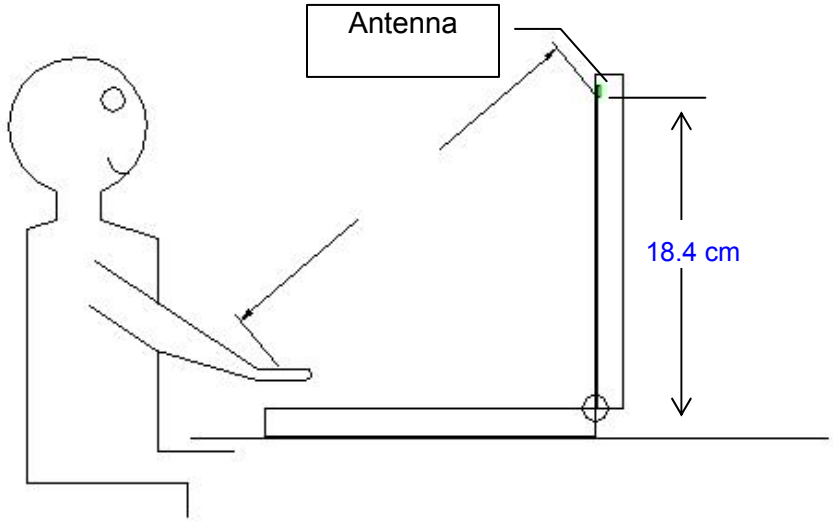
No.	Contents	No. of page (s)
1	SAR Test Plots for 2.4 GHz band	16
2	SAR Test Plots for 5 GHz bands	66
3	Certificate of E-Field Probe - EX3DV3 SN 3531	11
4	Certificate of System Validation Dipole - D2450 SN:706	9
5	Certificate of System Validation Dipole D5GHzV2 SN 1075	9

13. ANTENNA LOCATIONS AND SEPARATION DISTANCES

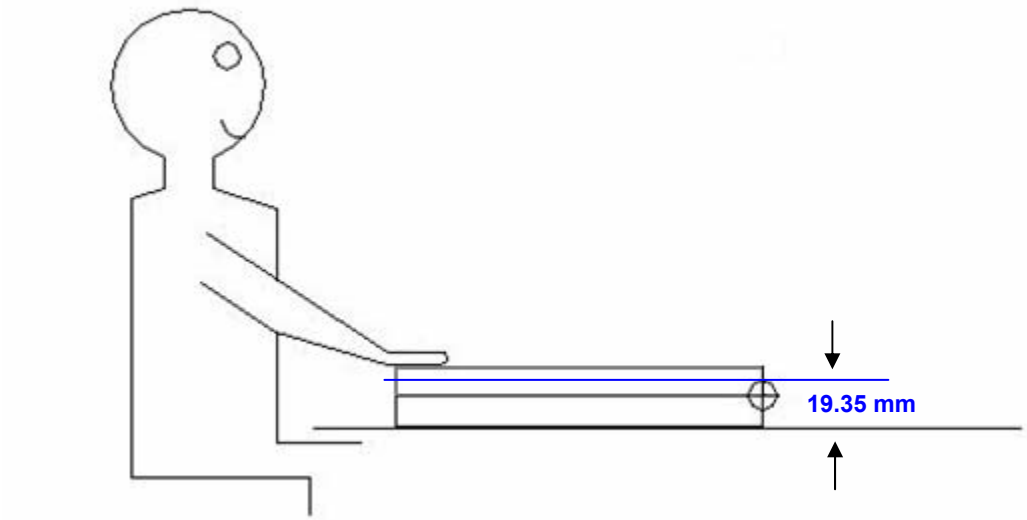
Laptop Mode

(with display open at 90° to the keyboard)





Tablet – Bottom Face



Tablet – Edges (Landscape & Portrait)