FCC OET BULLETIN 65 SUPPLEMENT C 01-01
IEEE STD 1528:2003

SAR EVALUATION REPORT

For
Tablet with 802.11abgn, BT3.0
MODEL: GT-P6210
FCC ID: A3LGTP6210

REPORT NUMBER: 11I14021-5A2

ISSUE DATE: October 12, 2011

Prepared for
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Revision History

Rev.	Issue Date	Revisions	Revised By
--	October 7, 2011	Initial Issue	--
A	October 9, 2011	Updated report based on reviewer's comments. 1. Sec. 2: Test methodology - Added KDB 865664 SAR measurement procedures for transmitters operating in the 3 to 6 GHz range. 2. Sec. 4.2: Measurement Uncertainty - Updated error % of permittivity measurements values from 5 to 10 for 3 to 6 GHz averaged over 1gram. 3. Sec. 5.2: Simultaneous Transmission conditions. - Updated statement references KDB 648474 4. Sec. 6: System Specification - Added Phantom's shell thickness information. 5. Added Sec. 12: Summary of test configurations. 6. Sec. 13.1 & 13.2: Head & Body SAR - Updated justification for only evaluating the channel with the highest output power in each bands tested. 7. Sec. 17: Antenna locations and separation distances - Added the separation distance between BT and WiFi antennas. - Added the separation distance from Wi-Fi-to-bottom/base.	Sunny Shih
A1	October 10, 2011	Updated report based on reviewer's comments. 1. Sec. 13.2: Body SAR - Additional test on 5.5 GHz band due to the highest output channel having a SAR value greater than 0.4 W/kg.	Sunny Shih
A2	October 12, 2011	Updated report, includes 1. Fixed typo on page 21. Changed from "0.0.43" to "0.34" 2. Sec. 8.1 & 9.1: Updated typo and removed unnecessary data.	Sunny Shih

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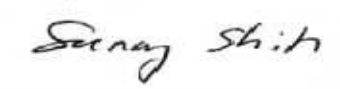
1. Attestation of Test Results

Applicant:	SAMSUNG ELECTRONICS CO., LTD.		
EUT description:	Tablet with 802.11abgn, BT3.0		
Model number:	GT-P6210		
Device category:	Tablet Portable devices		
Exposure category:	General Population/Uncontrolled Exposure		
Date tested:	September 27 - October 7, 2011		
FCC Rule Parts	Freq. Range [MHz]	Highest 1-g SAR (W/kg)	Limit (W/kg)
15.247	2412 – 2462	Head: 0.021 W/kg Body: 0.590 W/kg (Bottom Face)	1.6
15.407	5180 – 5240	Head: 0.045 W/kg Body: 0.666 W/kg (Bottom Face)	
	5260 – 5320	Head: 0.042 W/kg Body: 0.600 W/kg (Bottom Face)	
	5500 – 5700	Head: 0.053 W/kg Body: 0.618 W/kg (Bottom Face)	
15.247	5745 – 5825	Head: 0.084 W/kg Body: 0.775 W/kg (Bottom Face)	
Applicable Standards			Test Results
FCC OET Bulletin 65 Supplement C 01-01, IEEE Std 1528:2003			Pass

Compliance Certification Services, Inc. (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:

Hung Thai
EMC Associate 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 Edition 01-01, IEEE STD 1528:2003 and the following KDB Procedures.

- 248227 D01 SAR meas for 802 11abg v01r02
- 648474 D01 SAR Handsets Multi Xmitter and Ant, v01r05
- 447498 D01 Mobile Portable RF Exposure v04
- 865664 SAR 3 to 6 GHz Rev "SAR measurement procedures for transmitters operating in the 3 to 6 GHz range."

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 used 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
Dielectronic Probe kit	HP	85070C	N/A	N/A		
ESA Series Network Analyzer	Agilent	E5071B	MY42100131	8	2	2012
Synthesized Signal Generator	HP	83732B	US34490599	7	14	2012
E-Field Probe	SPEAG	EX3DV4	3772	5	3	2012
E-Field Probe	SPEAG	EX3DV4	3686	2	24	2012
Thermometer	ERTCO	639-1S	1718	7	19	2012
Data Acquisition Electronics	SPEAG	DAE4	1239	11	17	2011
Data Acquisition Electronics	SPEAG	DAE4	1257	5	3	2012
System Validation Dipole	SPEAG	*D2450V2	706	4	19	2012
System Validation Dipole	SPEAG	D5GHzV2	1003	8	23	2012
Power Meter	Giga-tronics	8651A	8651404	5	13	2012
Power Sensor	Giga-tronics	80701A	1834588	5	13	2012
Power Meter	HP	437B	3125U16345	5	13	2012
Power Sensor	HP	8481A	2702A60780	5	13	2012
Amplifier	MITEQ	4D00400600-50-30P	1620606	N/A		
Directional coupler	Werlatone	C8060-102	2141	N/A		
Simulating Liquid	SPEAG	H2450	N/A	Within 24 hrs of first test		
Simulating Liquid	SPAEG	H5800	N/A	Within 24 hrs of first test		
Simulating Liquid	SPEAG	M2450	N/A	Within 24 hrs of first test		
Simulating Liquid	SPAEG	M5800	N/A	Within 24 hrs of first test		

Notes:

*Per KDB 450824 D02 requirements for dipole calibration, UL CCS has adopted two 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 (See Appendix G: Calibration Certificate - Validation Dipole D2450V2 - SN 706 with extended cal. data)
4. Impedance is within 5Ω of calibrated measurement (See Appendix G: Calibration Certificate - Validation Dipole D2450V2 - SN 706 with extended cal. data)

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)	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 (Head 1750)	4.64	Normal	1	0.64	2.97
Liquid Permittivity - deviation from target	5.00	Rectangular	1.732	0.6	1.73
Liquid Permittivity - measurement uncertainty (Head 2450)	4.75	Normal	1	0.6	2.85
				Combined Standard Uncertainty Uc(y) =	10.30
				Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence = 20.60	%
				Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence = 1.63	dB

Measurement uncertainty for 3 to 6 GHz averaged over 1 gram

Component	error, %	Distribution	Divisor	Sensitivity	U (Xi), %
Measurement System					
Probe Calibration (k=1)	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	3.89	Normal	1	0.64	2.49
Liquid Permittivity - deviation from target	10.00	Rectangular	1.732	0.6	3.46
Liquid Permittivity - measurement uncertainty	7.29	Normal	1	0.6	4.37
				Combined Standard Uncertainty Uc(y), %:	11.60
				Expanded Uncertainty U, Coverage Factor = 1.96, > 95 % Confidence = 22.74	%
				Expanded Uncertainty U, Coverage Factor = 1.96, > 95 % Confidence = 1.78	dB

5. Equipment Under Test

Tablet PC 802.11abgn 1x1+BT3.0 Model: GT-P6210(A3LGTP6210)	
Normal operation:	- Held to head, - Bottom face, and - Edges - Multiple display orientations supporting both portrait and landscape configurations
Body Worn Accessory	- Headset
Antenna-to-antenna and antenna-to-edges separation distances:	Please refer to section 16 Antenna Locations & Separation Distances for details

5.1. Band and Air interfaces

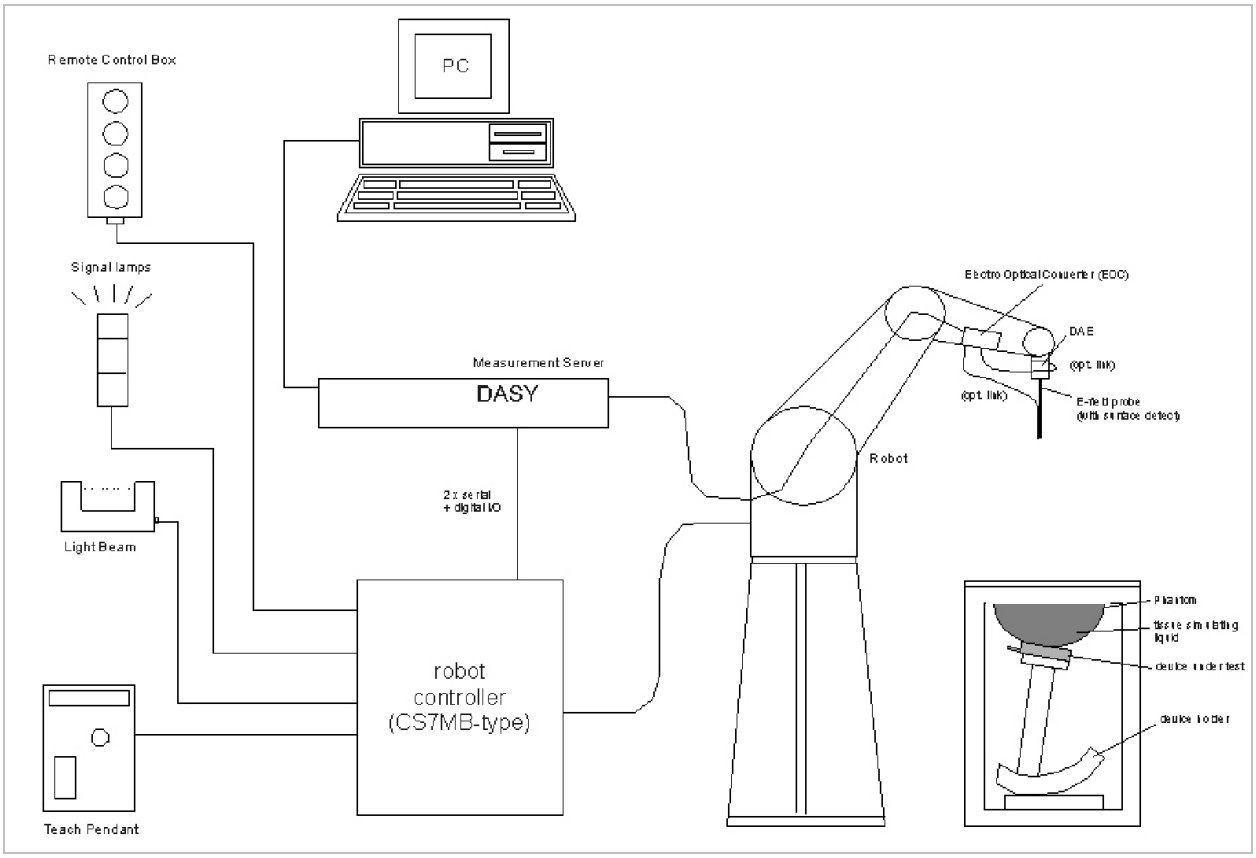
Tx Frequency Bands:	WiFi: 802.11abgn: 2.4GHz, 5GHz Bluetooth: 2.4 GHz
Air Interfaces:	WiFi: 802.11abgn: 2.4GHz, 5GHz Bluetooth Ver 3.0

5.2. Simultaneous Transmission Conditions

WiFi and Bluetooth can transmit simultaneously.

SAR is not required for the simultaneous transmission conditions because Bluetooth's output power is ≤ $60/f_{(GHz)}$ mW and stand-alone SAR evaluation is not required as per KDB 447498 D01 Mobile Portable RF Exposure v04, 3 b) ii) (1) (c).

6. System Specifications



The DASY 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.
- DASY 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. Composition of Ingredients for Simulating Liquids

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

Ingredients (% by weight)	Frequency (MHz)									
	450		835		900		1800 - 1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99+% Pure Sodium Chloride Sugar: 98+% Pure Sucrose
Water: De-ionized, 16 MΩ+ resistivity HEC: Hydroxyethyl Cellulose
DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

Simulating Liquids for 5 GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	78
Mineral oil	11
Emulsifiers	9
Additives and Salt	2

8. Simulating Liquid Parameters

The simulating liquids are 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 just under 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 Head & Body Phantom

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)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.8
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.9	55.2	0.97
900	41.5	0.97	55	1.05
915	41.5	0.98	55	1.06
1450	40.5	1.2	54	1.3
1610	40.3	1.29	53.8	1.4
1800 – 2000	40	1.4	53.3	1.52
2450	39.2	1.8	52.7	1.95
3000	38.5	2.4	52	2.73

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

Reference Values of Tissue Dielectric Parameters for Body Phantom (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.

Target Frequency (MHz)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (S/m)
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

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

8.1. Liquid Check Results

Body Liquid

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
10/3/2011	Body 5200	e'	52.5933	Relative Permittivity (ϵ_r):	52.59	49.02	7.29	10
		e''	18.5289	Conductivity (σ):	5.36	5.29	1.18	5
10/3/2011	Body 5500	e'	52.0264	Relative Permittivity (ϵ_r):	52.03	48.61	7.02	10
		e''	18.8900	Conductivity (σ):	5.78	5.64	2.35	5
10/3/2011	Body 5800	e'	51.5296	Relative Permittivity (ϵ_r):	51.53	48.20	6.91	10
		e''	19.3179	Conductivity (σ):	6.23	6.00	3.83	5
10/4/2011	Body 2450	e'	52.6689	Relative Permittivity (ϵ_r):	52.67	52.70	-0.06	5
		e''	14.5405	Conductivity (σ):	1.98	1.95	1.58	5
10/5/2011	Body 5500	e'	47.9789	Relative Permittivity (ϵ_r):	47.98	48.61	-1.30	10
		e''	18.5634	Conductivity (σ):	5.68	5.64	0.58	5

Head Liquid

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
9/27/2011	Head 2450	e'	38.0137	Relative Permittivity (ϵ_r):	38.01	39.20	-3.03	5
		e''	13.7398	Conductivity (σ):	1.87	1.80	3.99	5
9/27/2011	Head 5200	e'	34.3400	Relative Permittivity (ϵ_r):	34.34	35.99	-4.59	10
		e''	16.1974	Conductivity (σ):	4.68	4.65	0.69	5
9/27/2011	Head 5500	e'	33.8703	Relative Permittivity (ϵ_r):	33.87	35.65	-4.99	10
		e''	16.5304	Conductivity (σ):	5.06	4.96	1.96	5
9/27/2011	Head 5800	e'	33.2669	Relative Permittivity (ϵ_r):	33.27	35.30	-5.76	10
		e''	16.7566	Conductivity (σ):	5.40	5.27	2.54	5
9/28/2011	Head 5200	e'	36.2453	Relative Permittivity (ϵ_r):	36.25	35.99	0.71	10
		e''	16.3567	Conductivity (σ):	4.73	4.65	1.68	5
9/28/2011	Head 5500	e'	35.7760	Relative Permittivity (ϵ_r):	35.78	35.65	0.36	10
		e''	16.5028	Conductivity (σ):	5.05	4.96	1.79	5
9/28/2011	Head 5800	e'	35.3218	Relative Permittivity (ϵ_r):	35.32	35.30	0.06	10
		e''	16.6646	Conductivity (σ):	5.37	5.27	1.98	5
10/4/2011	Head 2450	e'	39.3512	Relative Permittivity (ϵ_r):	39.35	39.20	0.39	5
		e''	13.4287	Conductivity (σ):	1.83	1.80	1.63	5
10/7/2011	Head 5200	e'	35.5972	Relative Permittivity (ϵ_r):	35.60	35.99	-1.09	10
		e''	16.3768	Conductivity (σ):	4.74	4.65	1.81	5
10/7/2011	Head 5500	e'	35.0944	Relative Permittivity (ϵ_r):	35.09	35.65	-1.55	10
		e''	16.5998	Conductivity (σ):	5.08	4.96	2.39	5
10/7/2011	Head 5800	e'	34.5774	Relative Permittivity (ϵ_r):	34.58	35.30	-2.05	10
		e''	16.8035	Conductivity (σ):	5.42	5.27	2.83	5

9. System Verification

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

System Performance Check Measurement Conditions

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The DASY system with an Isotropic E-Field Probe EX3DV4-SN: 3772 or an Isotropic E-Field Probe EX3DV4-SN: 3686 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 (2.4 GHz) fine cube was chosen for cube integration and Special 8x8x10 (5 GHz) fine cube was chosen for cube integration
- 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 powers (forward power) were 100 mW.
- The results are normalized to 1 W input power.

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

Cal. certificate #	Validation dipole	Cal. date	Freq. (MHz)	Ref. SAR values (mW/g) (from cal. certificate)		
				Tissue:	Head	Body
D2450V2-706_Apr10	D2450V2	4/19/10	2450	1g SAR:	51.6	52.4
				10g SAR:	24.4	24.5
D5GHz-1003_Aug11	D5GHzV2	8/23/11	5200	1g SAR:	76.5	74.5
				10g SAR:	21.8	20.8
			5500	1g SAR:	80.9	80
				10g SAR:	23.1	22.3
			5800	1g SAR:	76.3	76.3
				10g SAR:	21.7	21.2

9.1. System Check Results

Date Tested	System Validation Dipole	Freq. (MHz)	Measured (Normalized to 1 W)		Target	Delta (%)	Tolerance (%)
09/27/11	D2450V2-706 Head	2450	1g SAR:	55.0	51.6	6.59	±10
			10g SAR:	25.0	24.4	2.46	
09/27/11	D5GHzV2 Head	5200	1g SAR:	81.5	76.5	6.54	±10
			10g SAR:	23.6	21.8	8.26	
09/27/11	D5GHzV2 Head	5500	1g SAR:	85.6	80.9	5.81	±10
			10g SAR:	24.2	23.1	4.76	
09/27/11	D5GHzV2 Head	5800	1g SAR:	81.7	76.3	7.08	±10
			10g SAR:	23.4	21.7	7.83	
09/29/11	D5GHzV2 Head	5200	1g SAR:	71.8	76.5	-6.14	±10
			10g SAR:	20.9	21.8	-4.13	
09/29/11	D5GHzV2 Head	5500	1g SAR:	87.2	80.7	8.05	±10
			10g SAR:	24.7	23.0	7.39	
09/29/11	D5GHzV2 Head	5800	1g SAR:	70.4	76.3	-7.73	±10
			10g SAR:	20.2	21.7	-6.91	
10/03/11	D5GHzV2 Body	5200	1g SAR:	75.0	74.5	0.67	±10
			10g SAR:	21.6	20.8	3.85	
10/03/11	D5GHzV2 Body	5500	1g SAR:	82.7	80	3.38	±10
			10g SAR:	23.6	22.3	5.83	
10/03/11	D5GHzV2 Body	5800	1g SAR:	76.7	76.3	0.52	±10
			10g SAR:	21.9	21.2	3.30	
10/04/11	D2450V2-706 Body	2450	1g SAR:	50.90	52.40	-2.86	±10
			10g SAR:	23.80	24.50	-2.86	
10/04/11	D2450V2-706 Head	2450	1g SAR:	51.2	51.6	-0.78	±10
			10g SAR:	23.5	24.4	-3.69	
10/05/11	D5GHzV2 Body	5500	1g SAR:	80.0	80	0.00	±10
			10g SAR:	22.9	22.3	2.69	
10/07/11	D5GHzV2 Head	5200	1g SAR:	72.5	76.5	-5.23	±10
			10g SAR:	21.1	21.8	-3.21	
10/07/11	D5GHzV2 Head	5500	1g SAR:	79.9	80.7	-0.99	±10
			10g SAR:	22.9	23.0	-0.43	
10/07/11	D5GHzV2 Head	5800	1g SAR:	75.5	76.3	-1.05	±10
			10g SAR:	21.7	21.7	0.00	

10. SAR Measurement Procedures

Step 1: Power Reference Measurement
The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Step 3: Zoom Scan
Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures ≥ 7x7x9 (above 4.5 GHz) or 5x5x7 (below 3 GHz) points within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Step 4: Power drift measurement
The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

Step 5: Z-Scan
The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation, the extrapolated distance should not be larger than the step size in Z-direction.

11. RF Output Power Measurement

11.1. Wi-Fi

2.4GHz Band

Mode	Channel	Freq. (MHz)	Avg Power (dBm)
802.11b	1	2412	13.45
	6	2437	12.94
	11	2462	13.19
802.11g	1	2412	12.43
	6	2437	12.06
	11	2462	12.44
802.11n (HT20)	1	2412	12.29
	6	2437	12.37
	11	2462	12.79

5GHz Bands

Mode	Frequency (MHz)	Channel	Freq. (MHz)	Avg Power (dBm)
802.11a	5200	36	5180	8.15
		40	5200	8.61
		48	5240	8.75
802.11a	5300	52	5260	8.41
		56	5300	8.97
		60	5320	8.48
802.11a	5500	100	5500	10.27
		120	5600	10.67
		140	5700	11.48
802.11a	5800	149	5745	12.30
		157	5785	12.59
		165	5825	11.77
Mode	Frequency (MHz)	Channel	Freq. (MHz)	Avg Power (dBm)
802.11n HT20	5200	36	5180	8.23
		40	5200	8.49
		48	5240	8.65
802.11n HT20	5300	52	5260	8.32
		56	5300	8.48
		60	5320	8.38
802.11n HT20	5500	100	5500	10.19
		120	5600	10.65
		140	5700	11.41
802.11n HT20	5800	149	5745	11.87
		157	5785	12.57
		165	5825	11.68

Mode	Frequency (MHz)	Channel	Freq. (MHz)	Avg Power (dBm)
802.11n HT40	5200	38	5190	8.88
		46	5230	8.93
802.11n HT40	5300	54	5270	9.73
		62	5310	9.44
802.11n HT40	5500	102	5510	11.31
		134	5670	11.74
802.11n HT40	5800	151	5755	12.56
		159	5795	12.74

Note(s):
KDB 248227 - SAR is not required for 802.11g/HT20 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

11.2. Bluetooth

Mode	Channel	Freq. (MHz)	Average Power (dBm)
GFSK	0	2402	8.29
	39	2441	8.25
	78	2480	8.82
8PSK	0	2402	5.46
	39	2441	5.94
	78	2480	6.67

Note(s):
1. Stand-alone SAR is not required due to output power is ≤ 60/f(GHz) mW

12. Summary of Test Configurations (as per KDB 447498)

Bottom face and edge exposure conditions

Configuration	Antenna-to-User distance	SAR Require	Comments
Base/Bottom	**< 0.85 mm**	**Yes**	
Primary landscape	> 54 mm	No	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.
Secondary landscape	>121 mm	No	ditto
Primary portrait	>107 mm	No	ditto
Secondary portrait	**< 6 mm**	**Yes**	

13. SAR Test Results

13.1. Head SAR

Justification for using body phantom for measuring head SAR

Due to the size of the EUT and the position of the WiFI antenna it was impossible to get meaningful data for head SAR.

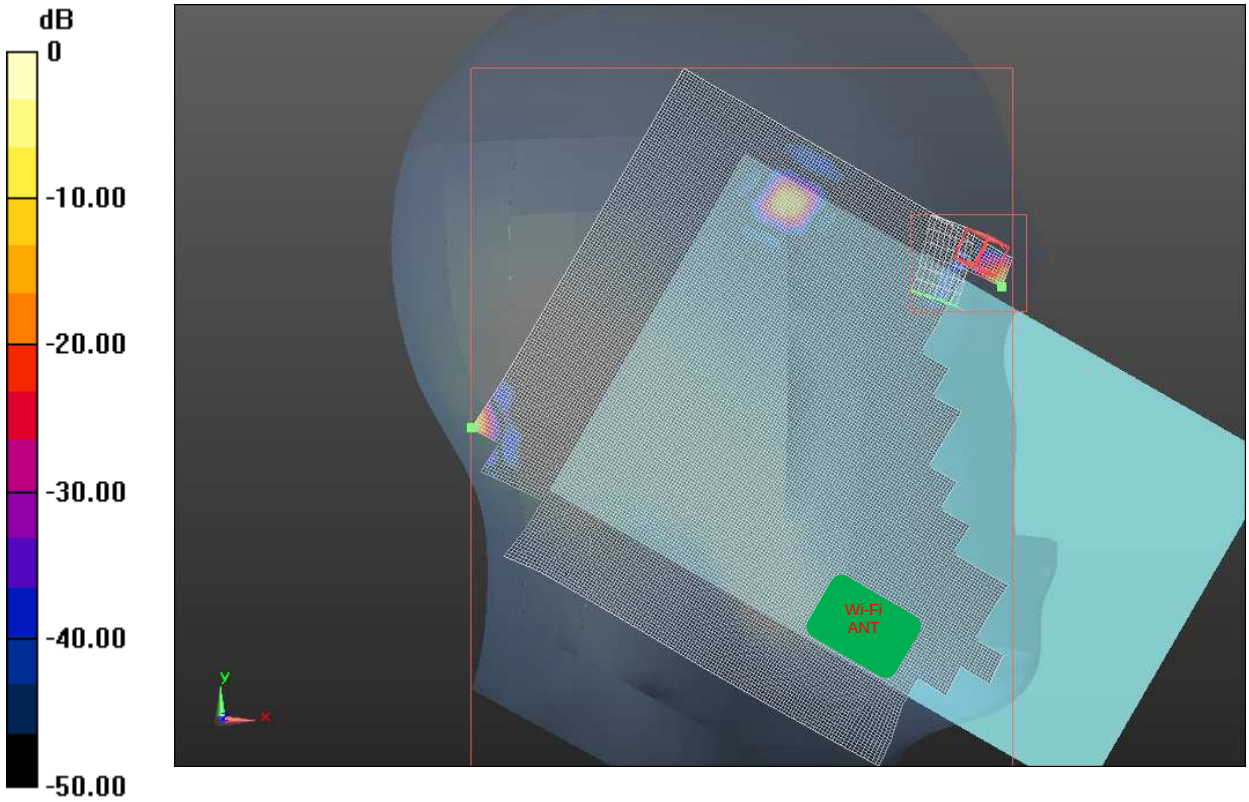
The following procedure was applied (KDB 648474 section on SAR Tests in Mouth and Jaw Regions of the SAM Phantom):

- EUT was positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM.
- The ear reference point (ERP, as defined for SAM) of the device should be positioned ½ cm from the flat phantom shell.
- The lower half of the EUT is secured in the test device holder at a fixed distance below the flat phantom determined by the minimum separation along the lower edge of the EUT in the cheek touching position using SAM.

The EUT protruded too far from the SAM to allow measurement from its bottom edge. The separation distance from the antenna to the phantom was used as a reference. This resulted in the antenna being closer to the phantom when the EUT was mounted on the left. Therefore the left head distance was used as the most conservative.

See section 17 Setup Photos for details on device positioning and photographs showing how separation distances are determined.

The following head SAR plot is provided to show the difficulties associated with using the SAM for measuring head SAR with this EUT.



Head SAR

Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11b	1	2412	13.45	0.021	0.013	
	6	2437	12.94			1
	11	2462	13.19			1
802.11a	36	5180	8.15			1
	40	5200	8.61			1
	48	5240	8.75	0.045	0.035	
802.11n HT40	38	5190	8.88			1
	46	5230	8.93	0.033	0.0058	
802.11a	52	5260	8.41			1
	56	5300	8.97	0.042	0.034	
	60	5320	8.48			1
802.11n HT40	54	5270	9.73	0.014	0.0070	
	62	5310	9.44			1
802.11a	100	5500	10.27			1
	120	5600	10.67			1
	140	5700	11.48	0.053	0.042	
802.11n HT40	102	5510	11.31			1
	134	5670	11.74	0.022	0.0049	
802.11a	149	5745	12.30			1
	157	5785	12.59	0.084	0.032	
	165	5825	11.77			1
802.11n HT40	151	5755	12.56			1
	159	5795	12.74	0.035	0.016	

Note(s):

1. Testing was performed on the channel with the highest output power only due to SAR is ≤ 0.8 W/kg, as per TCB workshop Feb. 2008 & KDB 447498 D01 Mobile Portable RF Exposure v04 1) e) i).

13.2. Body SAR

Bottom Face with 0 mm Separation Distance

Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11b	1	2412	13.45	0.590	0.233	
	1	2412	13.45	0.588	0.233	2
	6	2437	12.94			1
	11	2462	13.19			1
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	36	5180	8.15			1
	40	5200	8.61			1
	48	5240	8.75	0.666	0.149	
802.11n HT40	38	5190	8.88			1
	46	5230	8.93	0.609	0.159	
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	52	5260	8.41			1
	60	5300	8.97	0.496	0.135	
	64	5320	8.48			1
802.11n HT40	54	5270	9.73	0.600	0.158	
	62	5310	9.44			1
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	100	5500	10.27			1
	120	5600	10.67			
	140	5700	11.48	0.416	0.102	
802.11n HT40	102	5510	11.31	0.446	0.098	
	134	5670	11.74	0.618	0.182	
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	149	5745	12.30			1
	157	5785	12.59	0.614	0.187	
	165	5825	11.77			1
802.11n HT40	151	5755	12.56			1
	159	5795	12.74	0.744	0.213	
	159	5795	12.74	0.775	0.219	2

Note(s):

1. Testing was performed on the channel with the highest output power only due to SAR is ≤ 0.8 W/kg, as per TCB workshop Feb. 2008 & KDB 447498 1) e) i).
2. With Headset

Secondary Portrait with 0 mm Separation Distance

Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11b	1	2412	13.45	0.097	0.045	
	6	2437	12.94			1
	11	2462	13.19			1
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	36	5180	8.15			1
	40	5200	8.61			1
	48	5240	8.75	0.171	0.070	
802.11n HT40	36	5180	8.88			1
	40	5200	8.9	0.205	0.074	
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	52	5260	8.41			1
	60	5300	8.97	0.211	0.075	
	64	5320	8.48			1
802.11n HT40	54	5270	9.73	0.230	0.077	
	62	5310	9.44			1
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	100	5500	10.27			1
	120	5600	10.67			1
	140	5700	11.48	0.243	0.088	
802.11n HT40	102	5510	11.31			1
	134	5670	11.74	0.321	0.108	
Mode	Ch No.	Freq. (MHz)	Avg Pwr (dBm)	SAR (mW/g)		Note
				1-g	10-g	
802.11a	149	5745	12.30			1
	157	5785	12.59	0.348	0.112	
	165	5825	11.77			1
802.11n HT40	151	5755	12.56			1
	159	5795	12.74	0.343	0.112	

Note(s):

1. Testing was performed on the channel with the highest output power only due to SAR is ≤ 0.8 W/kg, as per TCB workshop Feb. 2008 & KDB 447498 1) e) i).
2. With Headset

14. Summary of Highest 1g SAR

FCC rule part	Technology	Test configuration	Mode	Highest 1g SAR (W/kg)
15.247	WIFI 2.4 GHz	Head	802.11b, 1 Mbps	0.0213
		Bottom face	802.11b, 1 Mbps	0.590
15.407	WIFI 5.2 GHz	Head	802.11n HT40, 6Mbps	0.045
		Bottom face	802.11n HT40, 6Mbps	0.666
15.407	WIFI 5.3 GHz	Head	802.11n HT40, 6Mbps	0.042
		Bottom face	802.11n HT40, 6Mbps	0.600
15.407	WIFI 5.5 GHz	Head	802.11n HT40, 6Mbps	0.053
		Bottom face	802.11n HT40, 6Mbps	0.618
15.247	WIFI 5.8 GHz	Head	802.11a, 6 Mbps	0.084
		Bottom face	802.11a, 6 Mbps	0.775

15. Worst-case SAR Plots

Date: 10/4/2011

Test Laboratory: UL CCS SAR Lab A

2.4GHz Band

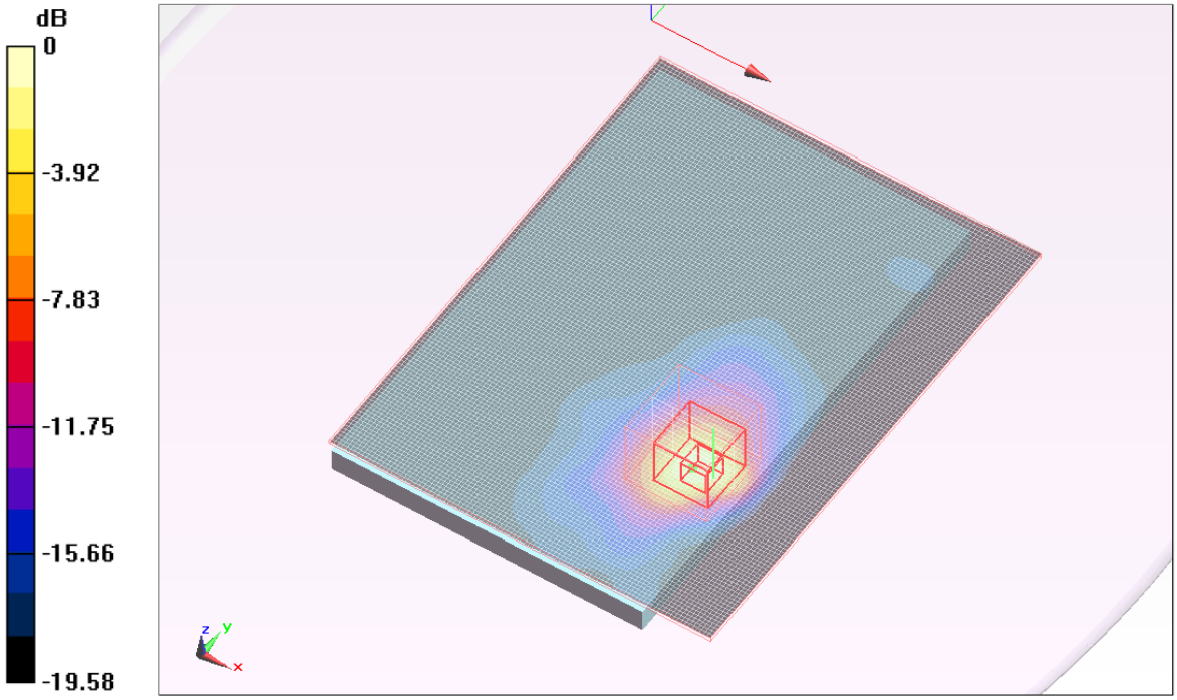
Communication System: IEEE 802.11b WiFi 2.4GHz; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.846 mho/m; ε_r = 51.39; ρ = 1000 kg/m^3
Phantom section: Flat Section

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

DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(6.86, 6.86, 6.86); Calibrated: 1/24/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1239; Calibrated: 11/17/2010
- Phantom: ELI v4.0(A); Type: QDOVA001BB; Serial: 1119
- Measurement SW: DASY52, Version 52.6 (2);SEMCAD X Version 14.4.5 (3634)

Bottom Face/802.11b_Ch 1/Area Scan (101x131x1): Measurement grid: dx=15mm, dy=15mm
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.637 mW/g

Bottom Face/802.11b_Ch 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.540 V/m; Power Drift = -0.0079 dB
Peak SAR (extrapolated) = 1.724 W/kg
SAR(1 g) = 0.590 mW/g; SAR(10 g) = 0.233 mW/g
Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.859 mW/g



0 dB = 0.860mW/g

5.2 GHz

Date: 10/3/2011

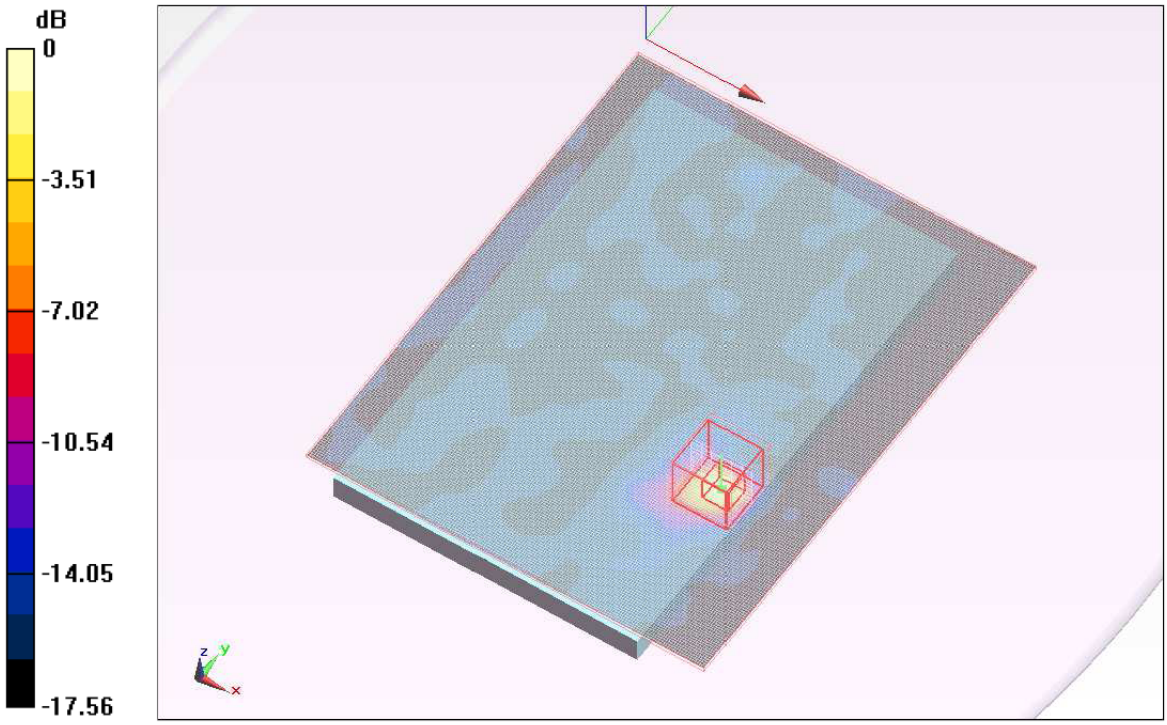
Test Laboratory: UL CCS SAR Lab A

5.2GHz Band

Communication System: IEEE 802.11 a/n 5 GHz Bands; Frequency: 5240 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5240 MHz; σ = 5.405 mho/m; ε_r = 52.52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.98, 3.98, 3.98); Calibrated: 1/24/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1239; Calibrated: 11/17/2010
- Phantom: ELI v4.0(B); Type: QDOVA001BB; Serial: 1099
- Measurement SW: DASY52, Version 52.6 (2);SEMCAD X Version 14.4.5 (3634)

Bottom Face/802.11a_Ch 48/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.056 mW/g

Bottom Face/802.11a_Ch 48/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 11.287 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.301 W/kg
SAR(1 g) = 0.666 mW/g; SAR(10 g) = 0.149 mW/g
Maximum value of SAR (measured) = 1.357 mW/g



0 dB = 1.360mW/g

5.3 GHz

Date: 10/4/2011

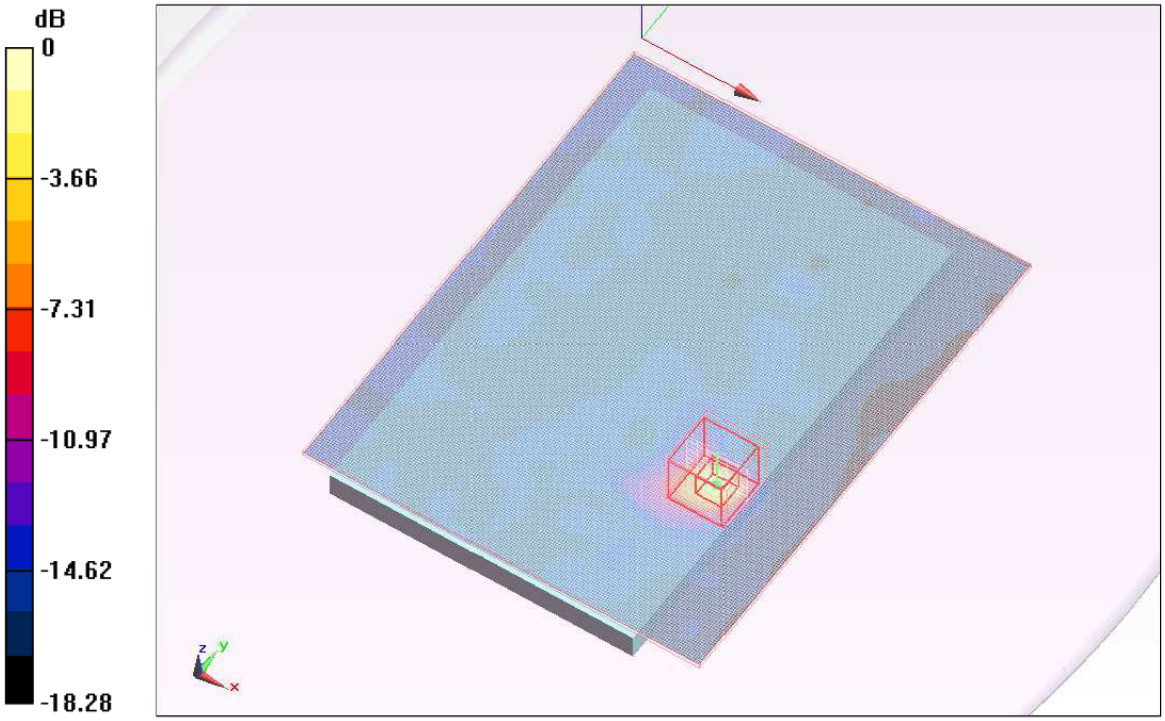
Test Laboratory: UL CCS SAR Lab A

5.3GHz Band

Communication System: IEEE 802.11 a/n 5 GHz Bands; Frequency: 5270 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5270 MHz; σ = 5.451 mho/m; ε_r = 52.441; ρ = 1000 kg/m^3
Phantom section: Flat Section
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.7, 3.7, 3.7); Calibrated: 1/24/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1239; Calibrated: 11/17/2010
- Phantom: ELI v4.0(B); Type: QDOVA001BB; Serial: 1099
- Measurement SW: DASY52, Version 52.6 (2);SEMCAD X Version 14.4.5 (3634)

Bottom Face/802.11n_Ch 54/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.858 mW/g

Bottom Face/802.11n_Ch 54/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 11.591 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.874 W/kg
SAR(1 g) = 0.600 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 1.219 mW/g



0 dB = 1.220mW/g

5.5 GHz

Date: 10/4/2011

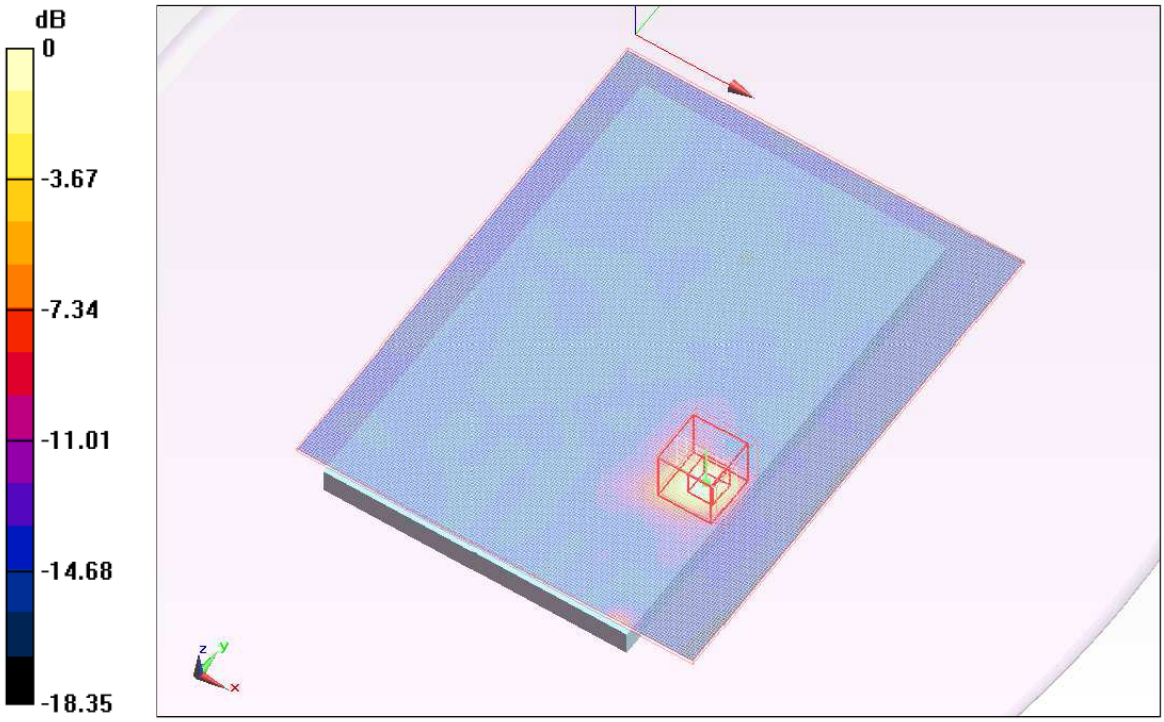
Test Laboratory: UL CCS SAR Lab A

5.5GHz Band

Communication System: IEEE 802.11 a/n 5 GHz Bands; Frequency: 5670 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5670 MHz; σ = 6.037 mho/m; ε_r = 51.747; ρ = 1000 kg/m^3
Phantom section: Flat Section
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.29, 3.29, 3.29); Calibrated: 1/24/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1239; Calibrated: 11/17/2010
- Phantom: ELI v4.0(B); Type: QDOVA001BB; Serial: 1099
- Measurement SW: DASY52, Version 52.6 (2);SEMCAD X Version 14.4.5 (3634)

Bottom Face/802.11n_Ch 134/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.142 mW/g

Bottom Face/802.11n_Ch 134/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 11.407 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 2.824 W/kg
SAR(1 g) = 0.618 mW/g; SAR(10 g) = 0.182 mW/g
Maximum value of SAR (measured) = 1.104 mW/g



0 dB = 1.100mW/g

5.8 GHz

Date: 10/4/2011

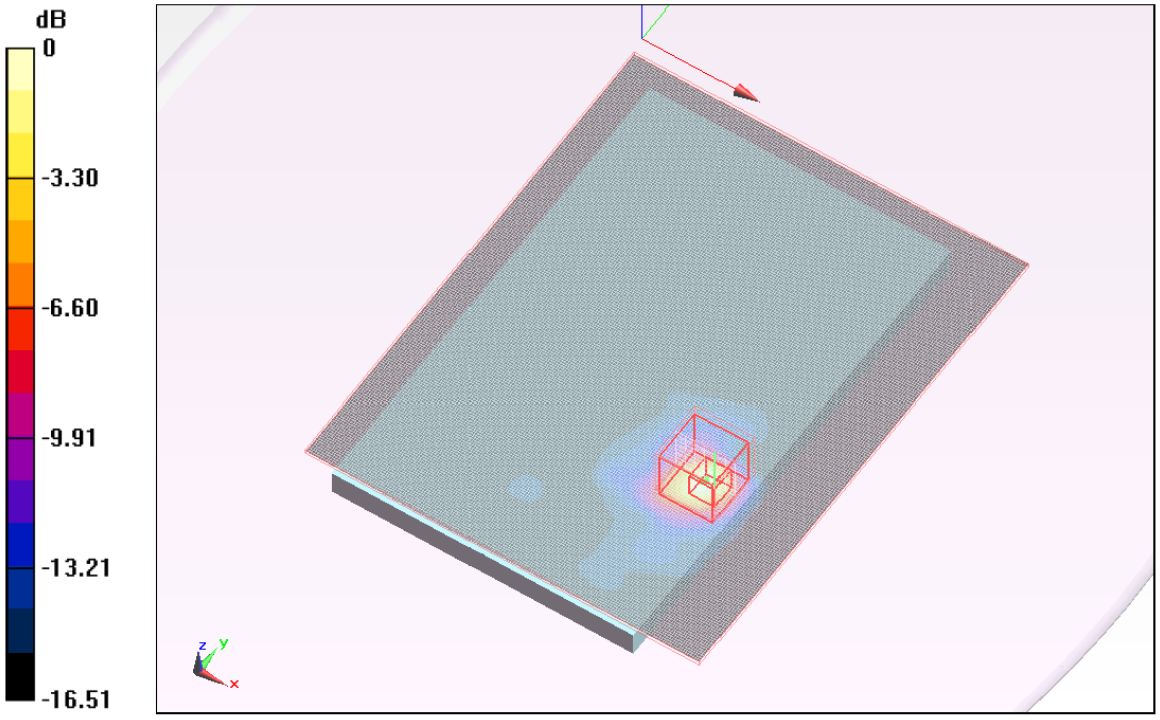
Test Laboratory: UL CCS SAR Lab A

5.8GHz Band

Communication System: IEEE 802.11 a/n 5 GHz Bands; Frequency: 5795 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5795 MHz; σ = 6.221 mho/m; ε_r = 51.528; ρ = 1000 kg/m^3
Phantom section: Flat Section
Room Ambient Temperature: 25.0 deg. C; Liquid Temperature: 24.0 deg. C
DASY5 Configuration:
- Area Scan setting - Find Secondary Maximum Within: 2.0 dB and with a peak SAR value greater than 0.0012W/kg
- Probe: EX3DV4 - SN3686; ConvF(3.7, 3.7, 3.7); Calibrated: 1/24/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1239; Calibrated: 11/17/2010
- Phantom: ELI v4.0(B); Type: QDOVA001BB; Serial: 1099
- Measurement SW: DASY52, Version 52.6 (2);SEMCAD X Version 14.4.5 (3634)

Bottom Face/802.11n_Ch 159 with Headset/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.438 mW/g

Bottom Face/802.11n_Ch 159 with Headset/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 13.923 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 3.770 W/kg
SAR(1 g) = 0.775 mW/g; SAR(10 g) = 0.219 mW/g
Maximum value of SAR (measured) = 1.465 mW/g



0 dB = 1.470mW/g

16. Appendixes

Refer to separate files for the following appendixes

16.1. Appendix A: System check plots

16.2. Appendix B: Head SAR test plots for WiFi 2.4 GHz

16.3. Appendix C: Body SAR test plots for WiFi 2.4 GHz

16.4. Appendix D: Head SAR test plots for WiFi 5 GHz Bands

16.5. Appendix E: Body SAR test plots for WiFi 5 GHz Bands

16.6. Appendix F: Calibration certificate for E-Field Probe EX3DV4 SN 3772

16.7. Appendix G: Calibration certificate for E-Field Probe EX3DV4 SN 3686

16.8. Appendix H: Calibration certificate for D2450V2 SN: 706 w/ extended cal. data

16.9. Appendix I Certificate - Validation Dipole D5GHzV2 - SN 1003