



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

**SAR EVALUATION REPORT
(WiFi Portion)**

For
**Intel® Centrino® Wireless-N + WiMax 6150
(Tested inside of Samsung Notebook PC, NP700Z3A)**

**MODEL: 612BNXHMW
FCC ID: A3L612BNXH**

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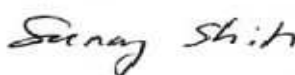
Revision History

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	6
4.1. MEASURING INSTRUMENT CALIBRATION	6
4.2. MEASUREMENT UNCERTAINTY.....	7
5. EQUIPMENT UNDER TEST	8
6. SYSTEM SPECIFICATIONS	9
7. COMPOSITION OF INGREDIENTS FOR TISSUE SIMULATING LIQUIDS	10
8. TISSUE DIELECTRIC PARAMETERS.....	11
8.1. TISSUE PARAMETER CHECK RESULTS	12
9. SYSTEM VERIFICATION	13
9.1. SYSTEM CHECK RESULTS	13
10. SAR MEASUREMENT PROCEDURES	14
11. RF OUTPUT POWER VERIFICATION	15
11.1. RF OUTPUT POWER FOR 2.4 GHZ.....	15
12. SUMMARY OF SAR TEST RESULTS	16
13. WORST-CASE SAR TEST PLOTS.....	17
14. APPENDIXES	19
14.1. Appendix A: System Check Plot.....	19
14.2. Appendix B: SAR Plots for 2.4GHz.....	19
14.3. Appendix C: Certificate of E-Field Probe - EX3DV3 SN 3773.....	19
14.4. Appendix D: Calibration Certificate for D2450V2 SN 706(w/ ext. cal. data)	19
15. SUMMARY OF SAR TEST CONFIGURATIONS	20
16. ANTENNA LOCATIONS AND SEPARATION DISTANCES.....	21
17. SETUP PHOTO.....	22
18. HOST DEVICE PHOTO	23

1. ATTESTATION OF TEST RESULTS

Company name:	Samsung Electronics Co., Ltd		
EUT Description:	Intel® Centrino® Wireless-N + WiMax 6150 (Tested inside of Samsung Notebook PC, NP700Z3A)		
Model number:	612BNXHMW		
Device Category:	Portable		
Exposure category:	General Population/Uncontrolled Exposure		
Date of tested:	Aug 04 - Aug 26, 2011		
FCC/IC Rule Parts	Freq. Range [MHz]	The Highest 1g SAR	Limit mW/g
15.247 / RSS-102	2412 – 2462	0.154 mW/g	1.6
Applicable Standards			Test Result
OET Bulletin 65 Supplement C 01-01, IEEE STD 1528: 2003,			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 to the applicable standards stated above.			
Approved & Released For UL CCS By:		Tested By:	
			
Sunny Shih Engineering Team Leader Compliance Certification Services (UL CCS)		David Rodgers SAR 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 SAR measurement procedures for 802.11a/b/g transmitters
- 616217 D03 SAR Supp Note and Netbook Laptop V01

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
Dielectric Probe kit	HP	85070C	N/A	N/A		
ESA Series Network Analyzer	Agilent	E5071B	MY42100131	2	2	2012
Synthesized Signal Generator	HP	83732B	US34490599	7	14	2012
Vector signal generator, 6 GHz	Agilent	E4438C	US44271971	6	9	2012
E-Field Probe	SPEAG	EX3DV4	3773	5	3	2012
Thermometer, Mercury Bulb	ERTCO	639-1S	8350	7	30	2012
Data Acquisition Electronics	SPEAG	DAE4	1258	5	2	2012
System Validation Dipole	SPEAG	*D2450V2	706	4	19	2012
Power Meter	Giga-tronics	8651A	8651404	3	13	2012
Power Sensor	Giga-tronics	80701A	1834588	3	13	2012
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		

Note:

*Per KDB 450824 D02 requirements for dipole calibration, UL CCS has adopted two year calibration intervals. On an annual basis each measurement dipole is evaluated for compliance with the following criteria:

1. There is no physical damage to the dipole.
2. System validation with a specific dipole is within 10% of calibrated value.
3. Return-loss is within 20% of calibrated measurement See Appendix D_Calibration Certificate for D2450V2 - SN 706 incl. extended cal. data)
4. Impedance is within 5Ω of calibrated measurement See Appendix D_Calibration Certificate for D2450V2 - SN 706 incl. 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 (X), %
Measurement System					
Probe Calibration (k=1)	6.00	Normal	1	1	6.00
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	1.58	Normal	1	0.64	1.01
Liquid Permittivity - deviation from target		Rectangular	1.732	0.6	0.00
Liquid Permittivity - measurement uncertainty	-3.74	Normal	1	0.6	-2.24
Combined Standard Uncertainty $U_c(y)$ =					9.90
Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence =				19.79	%
Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence =				1.57	dB

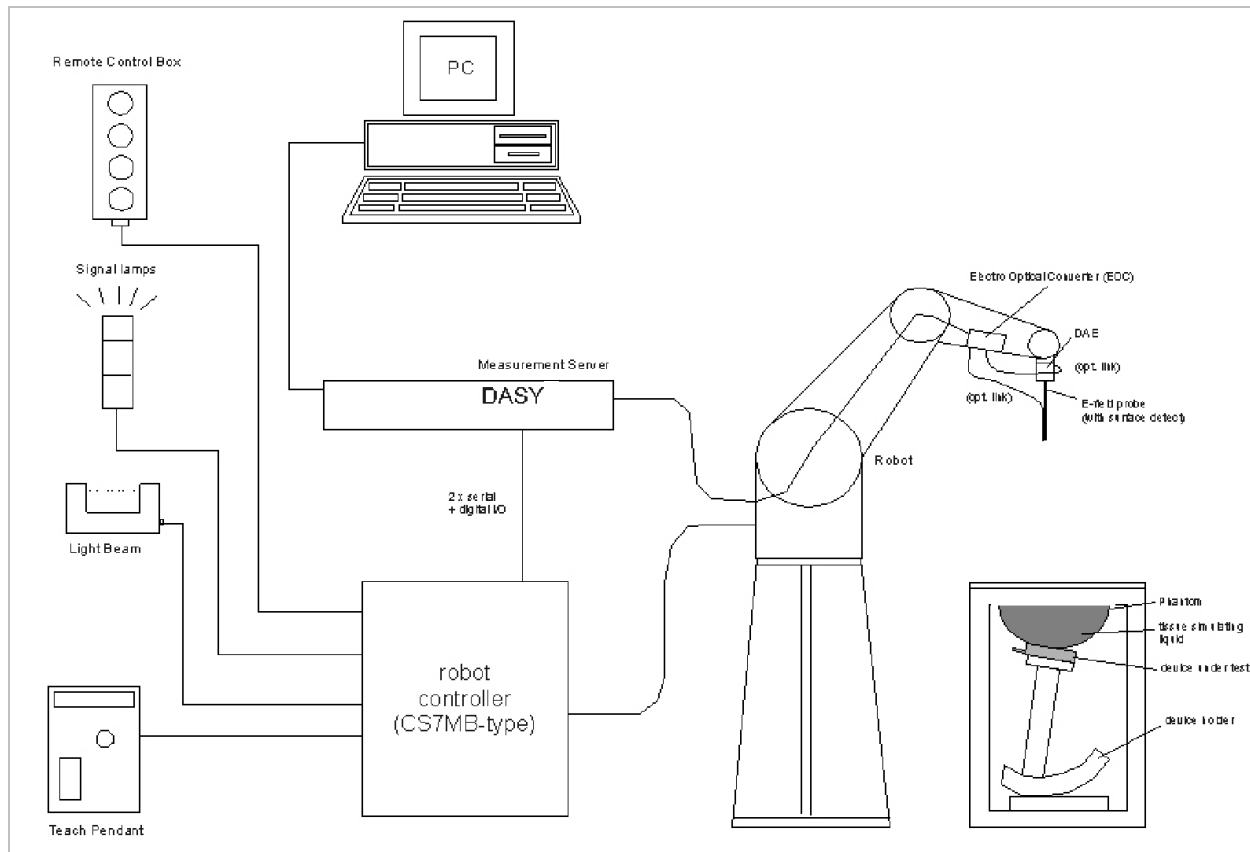
5. EQUIPMENT UNDER TEST

The Intel® Centrino® Wireless-N + WiMax 6150 is a PCIe Half MiniCard, IEEE 802.16e and 802.11b/g/n wireless, multiband network adapter. Both WiFi and WiMax support MISO 1x2 with either or both ports active in receive mode. WiMax operation supports antenna diversity to allow transmission on either of the two antenna ports while WiFi operation only supports transmission on antenna port 1.

(Tested inside of Samsung Notebook PC, NP700Z3A)

Normal operation:	Lap-held (with display open at 90° to the keyboard)	
Antenna tested:	<u>Manufacturer</u> TE	<u>Part number</u> Main (Chain A): 2108290
Antenna-to-antenna/user separation distances:	Refer to Sec. 16 for details of antenna locations and separation distances.	
Simultaneous transmission:	WiFi can transmit simultaneously with Bluetooth WiFi and WiMAX cannot transmit simultaneously.	
Assessment for SAR evaluation for Simultaneous transmission:	The Bluetooth's output power is $\leq 60/f(\text{GHz})$ mW, so stand-alone SAR evaluation is not required. Thus, simultaneous transmission SAR evaluation is not required for WiFi and Bluetooth antenna pair.	

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 TISSUE 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		915		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. TISSUE DIELECTRIC PARAMETERS

The simulating liquids are checked at the beginning of a series of SAR measurements to determine if 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 were within $\pm 5\%$ of the target values. For frequencies above 2 GHz the measured conductivity was within $\pm 5\%$ of the target values. The measured relative permittivity tolerance was within $\pm 10\%$ of the target value.

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 $\rho = 1000 \text{ kg/m}^3$)

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 emulsifier. Dielectric parameters of these liquids were measured using an HP 8570C Dielectric Probe Kit in conjunction with an HP 8753ES Network Analyzer (30 kHz – 6G Hz). The differences with respect to the interpolated values were well within the desired $\pm 5\%$ 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 $\rho = 1000 \text{ kg/m}^3$)

8.1. TISSUE PARAMETER CHECK RESULTS

Measured by: David Rodgers

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
8/4/2011	Body 2450	e'	50.7267	Relative Permittivity (ϵ_r):	50.73	52.70	-3.74	5
		e''	14.5409	Conductivity (σ):	1.98	1.95	1.58	5

Liquid Check

Ambient temperature: 25 deg. C; Liquid temperature: 24 deg. C; Relative humidity = 40%

August 04, 2011 11:21 AM

Frequency	e'	e''
2425000000.	50.8259	14.4477
2430000000.	50.8092	14.4633
2435000000.	50.7902	14.4811
2440000000.	50.7698	14.4993
2445000000.	50.7491	14.5184
2450000000.	50.7267	14.5409
2455000000.	50.7052	14.5618
2460000000.	50.6818	14.5860
2465000000.	50.6599	14.6099
2470000000.	50.6362	14.6357
2475000000.	50.6147	14.6633
2480000000.	50.5927	14.6909
2485000000.	50.5711	14.7179
2490000000.	50.5522	14.7430
2495000000.	50.5338	14.7716
2500000000.	50.5170	14.7945
2505000000.	50.5024	14.8184
2510000000.	50.4879	14.8393
2515000000.	50.4738	14.8597
2520000000.	50.4595	14.8774
2525000000.	50.4435	14.8905
2530000000.	50.4272	14.9063
2535000000.	50.4121	14.9218
2540000000.	50.3946	14.9354
2545000000.	50.3765	14.9499
2550000000.	50.3555	14.9651
2555000000.	50.3321	14.9833
2560000000.	50.3111	15.0023
2565000000.	50.2890	15.0230
2570000000.	50.2648	15.0448
2575000000.	50.2411	15.0677
2580000000.	50.2170	15.0922
2585000000.	50.1935	15.1183
2590000000.	50.1712	15.1440
2595000000.	50.1494	15.1697
2600000000.	50.1303	15.1964

The conductivity (σ) can be given as:

$$\sigma = \omega \epsilon_0 e'' = 2 \pi f \epsilon_0 e''$$

where $f = \text{target } f * 10^6$

$$\epsilon_0 = 8.854 * 10^{-12}$$

9. 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 $\pm 10\%$.

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 DASY system with an Isotropic E-Field EX3DV4 probe 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 SN 706	D2450V2-706_Apr10	4/19/10	2.4	1g SAR:	51.6	52.4
				10g SAR:	24.4	24.5

9.1. SYSTEM CHECK RESULTS

System validation dipole	Date Tested	Measured (Normalized to 1 W)		Target	Delta (%)	Tolerance (%)
		Tissue:	Body			
D2450V2 (2.45GHz)	08/04/11	1g SAR:	55.0	52.4	4.96	± 10
		10g SAR:	25.5	24.5	4.08	

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, 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 $\geq 7 \times 7 \times 9$ (above 4.5 GHz) or $5 \times 5 \times 7$ (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 VERIFICATION

The following procedures had been used to prepare the EUT for the SAR test.
The client provided a special driver and program, Intel DRTU v1.3.12-0263, which enables control of the frequency and output power of the module.

11.1. RF OUTPUT POWER FOR 2.4 GHZ

2.4 GHz Band				
Mode	Ch. #	Freq. (MHz)	Original Output Pwr (dBm)	Actual Measured Pwr (dBm)
			Chain A	Chain A
802.11b	1	2412	16.70	
	6	2437	16.70	16.75
	11	2462	16.50	
802.11g	1	2412	16.60	
	6	2437	16.60	
	11	2462	15.20	
802.11n HT20	1	2412	16.60	
	6	2437	16.50	
	11	2462	14.60	
802.11n HT40	3	2422	13.80	
	6	2437	16.70	16.75
	9	2450	11.70	

Notes:

1. The modes with highest output power channel were chosen for the conducted output power.
2. Original target power is from EMC report. Please refer to original report (FCC ID: PD9612BNXH) for Average Power information as documented in the original filing dated 09/27/10.

12. SUMMARY OF SAR TEST RESULTS

Lap Held

2.4 GHz Band					
Mode	Ch. #	Freq. (MHz)	Avg. Power (dBm)	Measured Result (mW/g)	
			Chain A	1g -SAR	10g - SAR
802.11b	1	2412			
	6	2437	16.75	0.154	0.071
	11	2462			
802.11n HT40	3	2422			
	6	2437	16.75	0.112	0.056
	9	2450			

Notes:

1. The modes with highest output power channel were chosen for the conducted output power.
2. SAR is not required for 802.11g channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

13. WORST-CASE SAR TEST PLOTS

Date: 8/4/2011

Test Laboratory: UL CCS SAR Lab B

004_Lap held

Communication System: 802.11b/g 2.4GHz; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.964$ mho/m; $\epsilon_r = 50.782$; $\rho = 1000$ kg/m³
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 - SN3773; ConvF(6.87, 6.87, 6.87); Calibrated: 5/3/2011
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1258; Calibrated: 5/2/2011
- Phantom: ELI v5.0 (B); Type: QDOVA001BB; Serial: 1118
- Measurement SW: DASY52, Version 52.6 (2);SEMCAD X Version 14.4.5 (3634)

802.11b/Ch 6_Ant. A/Area Scan (161x201x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.207 mW/g

802.11b/Ch 6_Ant. A/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

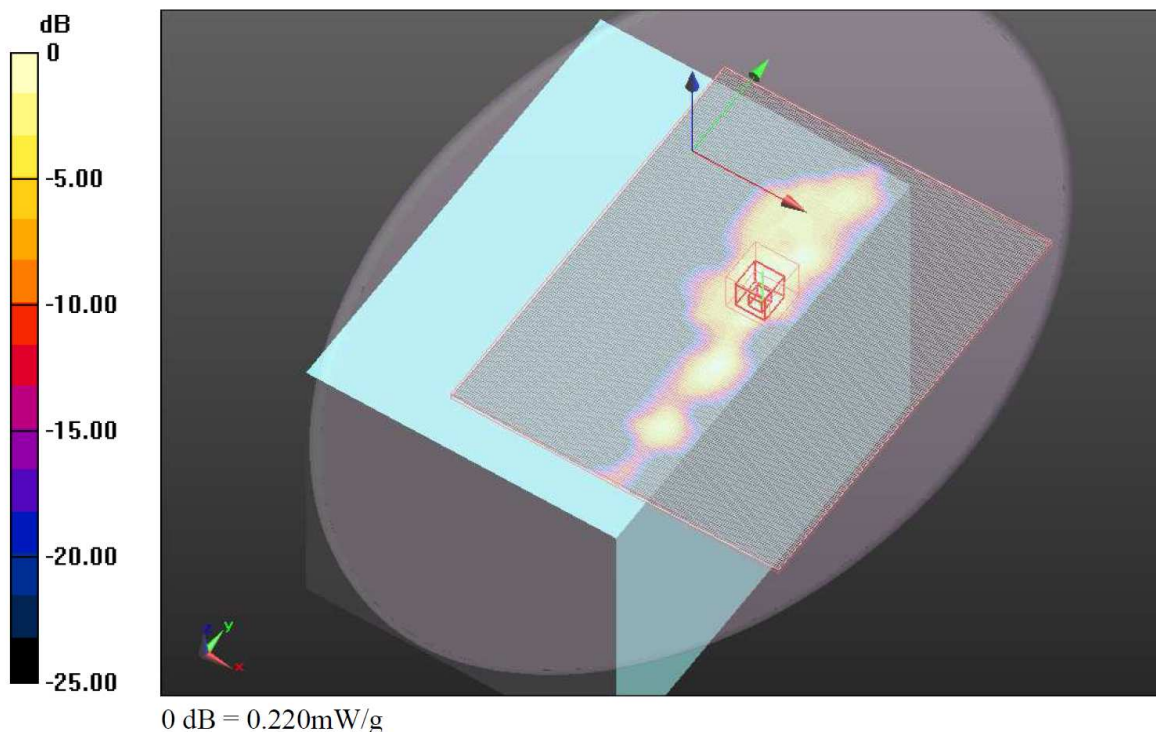
Reference Value = 9.576 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.312 W/kg

SAR(1 g) = 0.154 mW/g; SAR(10 g) = 0.071 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.222 mW/g



Date: 8/4/2011

Test Laboratory: UL CCS SAR Lab B

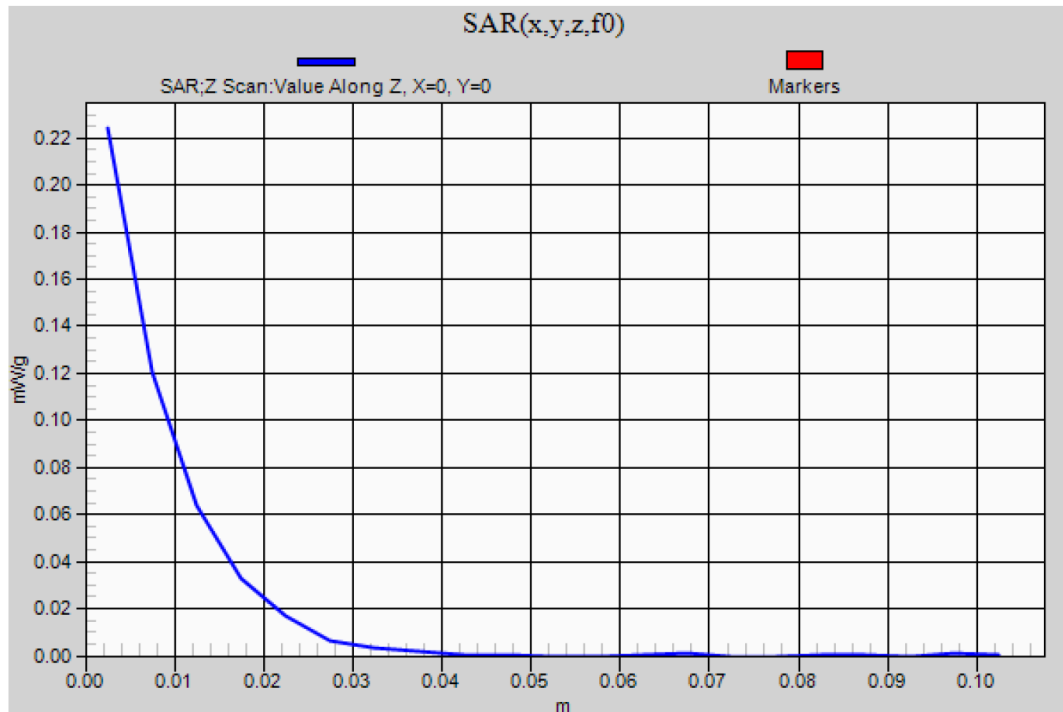
004_Lap held

Communication System: 802.11b/g 2.4GHz; Frequency: 2437 MHz; Duty Cycle: 1:1

802.11b/Ch 6_Ant. A/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Info: [Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.224 mW/g



14. APPENDIXES

Refer to individual files for the following appendixes:

- 14.1. **Appendix A: System Check Plot**
- 14.2. **Appendix B: SAR Plots for 2.4GHz**
- 14.3. **Appendix C: Certificate of E-Field Probe - EX3DV3 SN 3773**
- 14.4. **Appendix D: Calibration Certificate for D2450V2 SN 706(w/ ext. cal. data)**