

SAR TEST DATA - VARIABILITY

EUT:	WSBUB-SDS	Work Order:	INTE5453
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe, Bill Jones	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

0 mm spacing between the phantom and the EUT. Tested at low output power. SAR measurement variability assessed per FCC KDB 865664 D01 v01r03, Section 2.8.1

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode	EUT Position	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	17	711	23800	QPSK 1RB offset 24	10MHz	Tent	Back	-0.04	1.34	0.68	68c
Body	LTE	17	711	23800	QPSK 1RB offset 24	10MHz	Tent	Back	-0.01	1.12	0.59	604
Body	LTE	17	711	23800	QPSK 1RB offset 24	10MHz	Tent	Back	-0.02	1.22	0.61	605
Body	LTE	13	782	23230	QPSK 1RB offset 24	10MHz	Tent	Back	0.01	1.27	0.61	56a
Body	LTE	13	782	23230	QPSK 1RB offset 24	10MHz	Tent	Back	0.00	1.38	0.66	606
Body	LTE	13	782	23230	QPSK 1RB offset 24	10MHz	Tent	Back	0.02	1.34	0.66	607
Body	LTE	5	844	20600	QPSK 1RB offset 0	10MHz	Tent	Back	0.02	1.16	0.55	32b
Body	LTE	5	844	20600	QPSK 1RB offset 0	10MHz	Tent	Back	-0.06	1.15	0.55	609
Body	LTE	5	844	20600	QPSK 1RB offset 0	10MHz	Tent	Back	0.00	1.15	0.55	610

SAR TEST DATA - VARIABILITY

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode	EUT Position	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	4	1745	20300	QPSK 1RB offset 0	20MHz	Tent	Back	0.30	1.37	0.62	20b
Body	LTE	4	1745	20300	QPSK 1RB offset 0	20MHz	Tent	Back	-0.04	1.34	0.60	602
Body	LTE	4	1745	20300	QPSK 1RB offset 0	20MHz	Tent	Back	0.01	1.37	0.62	603
Body	LTE	2	1860	18700	QPSK 1RB offset 0	20MHz	Tent	Back	0.01	1.21	0.54	8b
Body	LTE	2	1860	18700	QPSK 1RB offset 0	20MHz	Tent	Back	0.00	1.14	0.51	615
Body	LTE	2	1860	18700	QPSK 1RB offset 0	20MHz	Tent	Back	-0.03	1.14	0.51	616
Body	LTE	7	2562.5	21375	QPSK 1RB offset 0	20MHz	Tent	Back	-0.02	0.84	0.32	44b
Body	LTE	7	2562.5	21375	QPSK 1RB offset 0	20MHz	Tent	Back	-0.02	0.84	0.33	619
Body	LTE	7	2562.5	21375	QPSK 1RB offset 0	20MHz	Tent	Back	-0.02	0.84	0.32	620

Tested By:	Carl Engholm	Room Temperature (°C):	24.2
Date:	5/12/2014	Liquid Temperature (°C):	21.3
Serial Number:	008	Humidity (%RH):	28
Configuration:	INTE5453-1	Bar. Pressure (mb):	1023
Comments:	Power Table 188		

Test 68c

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 711 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 711 \text{ MHz}$; $\sigma = 0.929 \text{ S/m}$; $\epsilon_r = 57.211$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Zoom Scan 2 (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.906 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 2.86 W/kg

SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.669 W/kg

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

Maximum value of SAR (measured) = 1.77 W/kg

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.98 W/kg

Body/Body/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.906 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.92 W/kg

SAR(1 g) = 1.34 W/kg; SAR(10 g) = 0.675 W/kg

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

Maximum value of SAR (measured) = 1.83 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.95 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 30.55 V/m

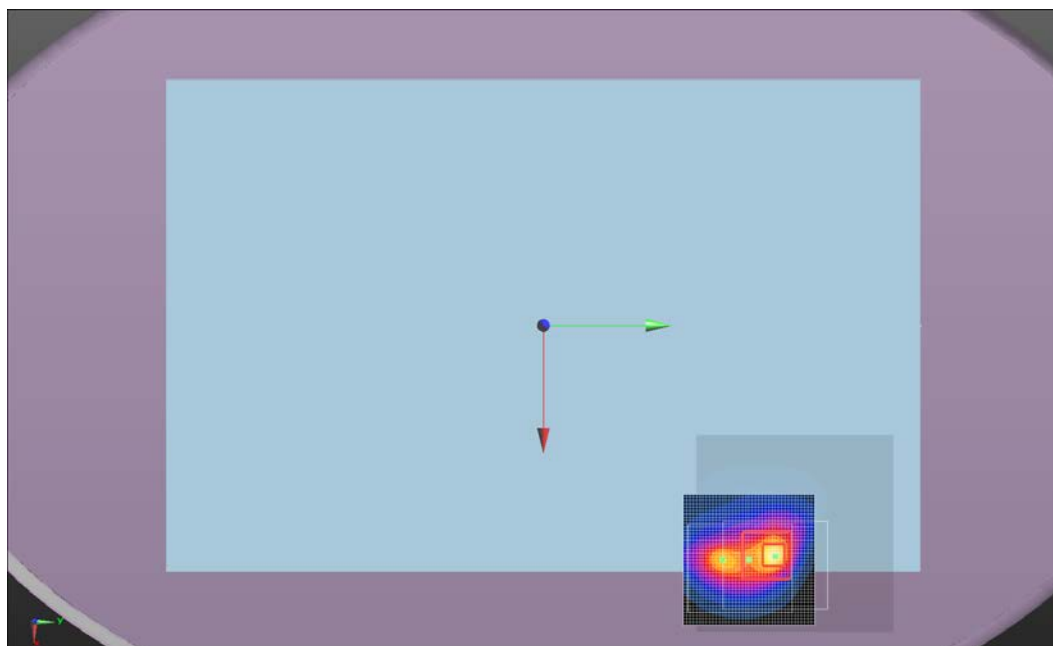
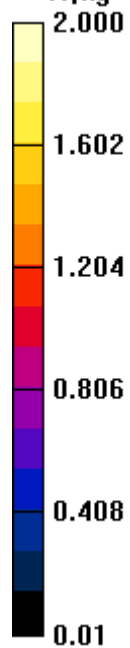
Maximum value of SAR (measured) = 0.867 W/kg



Approved By

Test 68c

W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	
Date:	5/20/2014	Liquid Temperature (°C):	
Serial Number:	008	Humidity (%RH):	
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 1		

Test 604

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 711 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 711 \text{ MHz}$; $\sigma = 0.929 \text{ S/m}$; $\epsilon_r = 57.211$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Zoom Scan 2 (6x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 40.188 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 2.25 W/kg

SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.593 W/kg

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

Maximum value of SAR (measured) = 1.39 W/kg

Body/Body/Reference scan (31x31x1): Interpolated grid: $dx=3.000 \text{ mm}$, $dy=3.000 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.66 W/kg

Body/Body/Zoom Scan (6x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 40.188 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.26 W/kg

SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.593 W/kg

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

Maximum value of SAR (measured) = 1.42 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.49 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

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

Maximum value of Total (measured) = 27.83 V/m

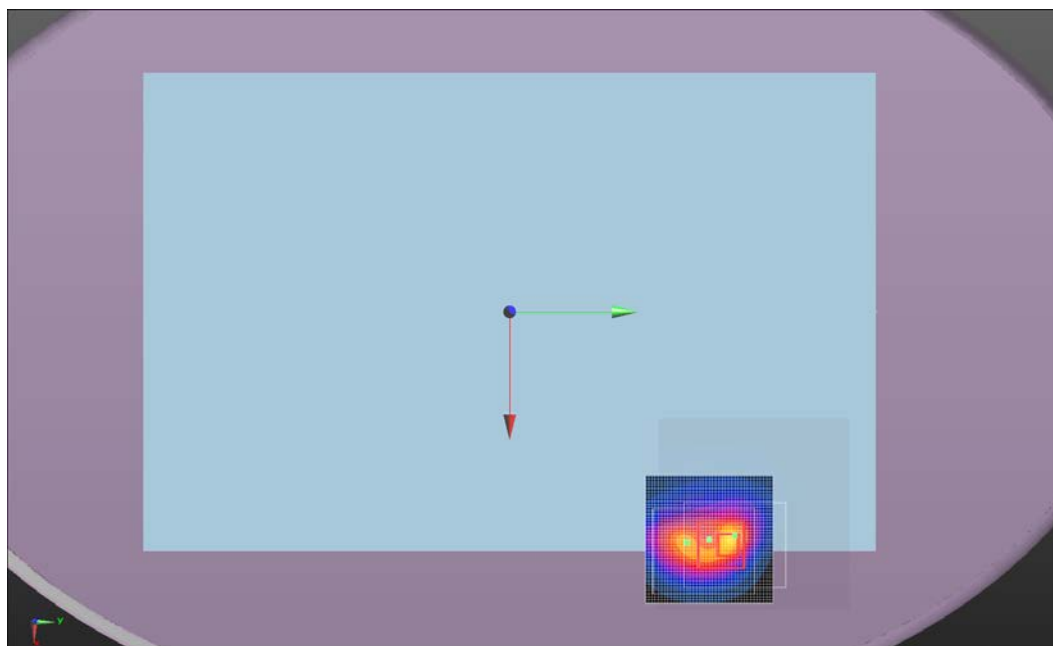
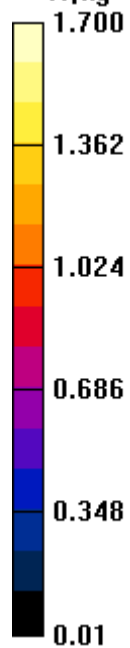
Maximum value of SAR (measured) = 0.720 W/kg




Approved By

Test 604

W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	
Date:	5/20/2014	Liquid Temperature (°C):	
Serial Number:	008	Humidity (%RH):	
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 2		

Test 605

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 711 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 711 \text{ MHz}$; $\sigma = 0.929 \text{ S/m}$; $\epsilon_r = 57.211$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: $dx=3.000 \text{ mm}$, $dy=3.000 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.76 W/kg

Body/Body/Zoom Scan (6x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 43.901 V/m ; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.68 W/kg

SAR(1 g) = 1.22 W/kg ; SAR(10 g) = 0.611 W/kg

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

Maximum value of SAR (measured) = 1.67 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.60 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

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

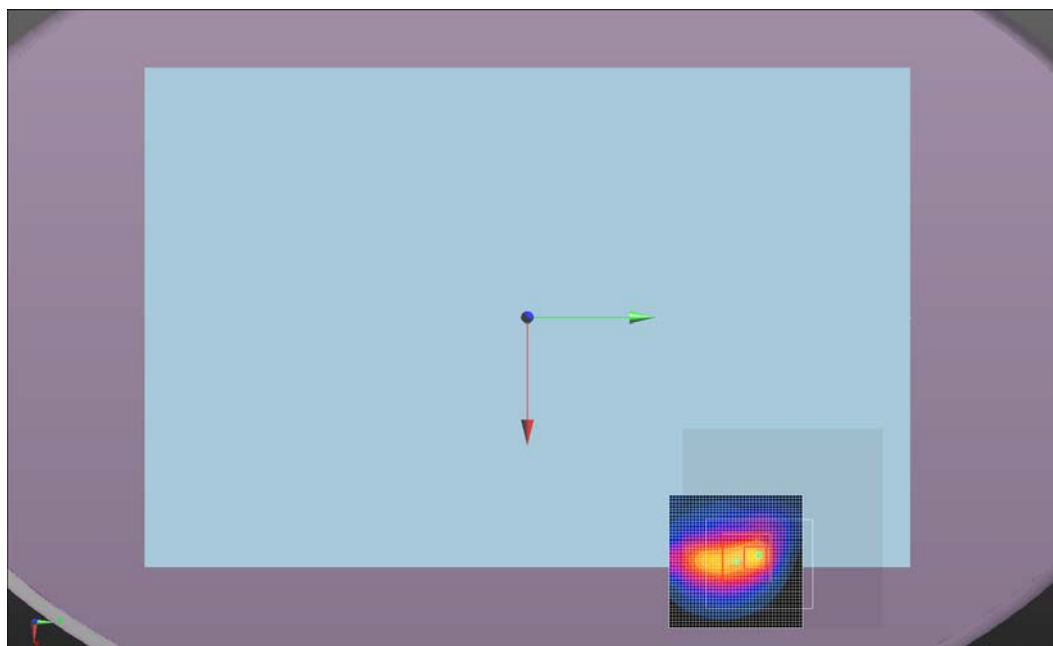
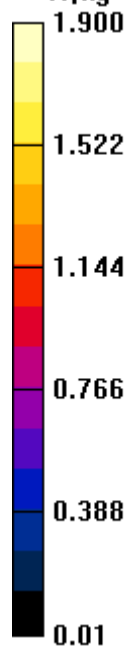
Maximum value of Total (measured) = 29.10 V/m

Maximum value of SAR (measured) = 0.787 W/kg

 
Approved By

Test 605

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	24.4
Date:	5/12/2014	Liquid Temperature (°C):	22.4
Serial Number:	008	Humidity (%RH):	23
Configuration:	INTE5453-1	Bar. Pressure (mb):	1025
Comments:	None		

Test 56a

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.999 \text{ S/m}$; $\epsilon_r = 56.457$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0.996937 \text{ S/m}$, $\epsilon_r = 56.4841$; $\rho = 1 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: $dx=3.000 \text{ mm}$, $dy=3.000 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.89 W/kg

Body/Body/Zoom Scan (6x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 43.588 V/m ; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.90 W/kg

SAR(1 g) = 1.27 W/kg ; SAR(10 g) = 0.612 W/kg

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

Maximum value of SAR (measured) = 1.78 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.64 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

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

Maximum value of Total (measured) = 28.27 V/m

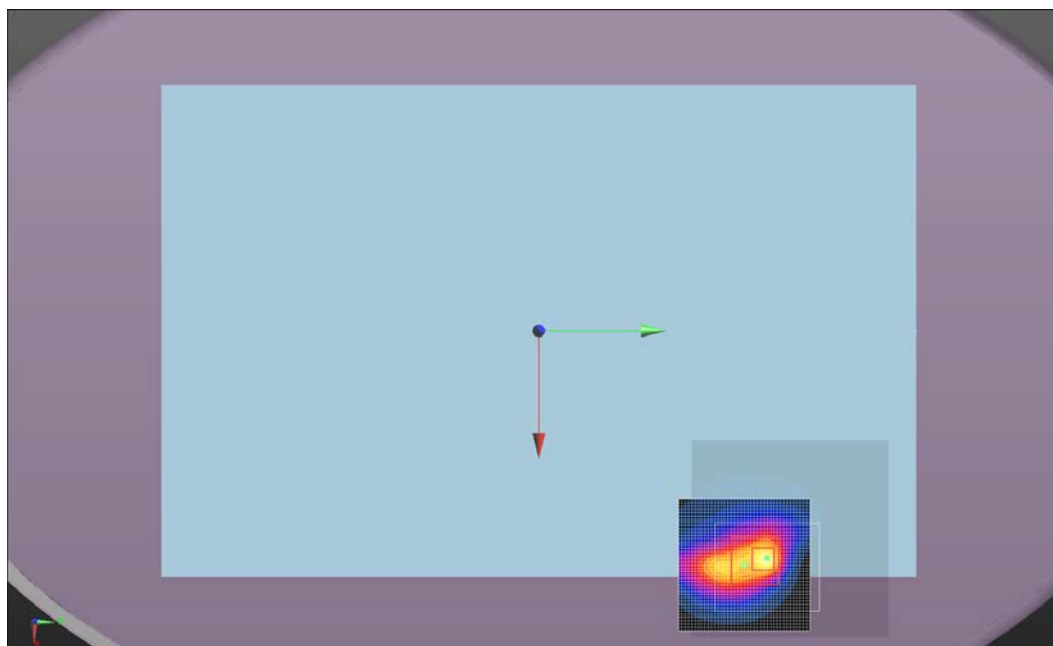
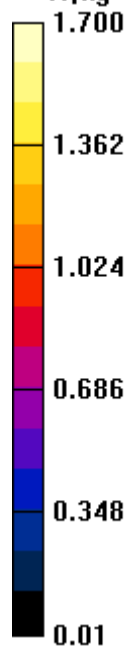
Maximum value of U_x (measured) = 587.7 uV



Approved By

Test 56a

W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	23.8
Date:	5/20/2014	Liquid Temperature (°C):	22.1
Serial Number:	008	Humidity (%RH):	41
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 1		

Test 606

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.999 \text{ S/m}$; $\epsilon_r = 56.457$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Zoom Scan 2 (5x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 43.251 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.17 W/kg

SAR(1 g) = 1.38 W/kg; SAR(10 g) = 0.659 W/kg

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

Maximum value of SAR (measured) = 1.86 W/kg

Body/Body/Reference scan (31x31x1): Interpolated grid: $dx=3.000 \text{ mm}$, $dy=3.000 \text{ mm}$

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

Maximum value of SAR (interpolated) = 2.13 W/kg

Body/Body/Zoom Scan (6x7x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 43.251 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 1.36 W/kg; SAR(10 g) = 0.657 W/kg

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

Maximum value of SAR (measured) = 1.78 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

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

Maximum value of SAR (interpolated) = 1.74 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

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

Maximum value of Total (measured) = 28.75 V/m

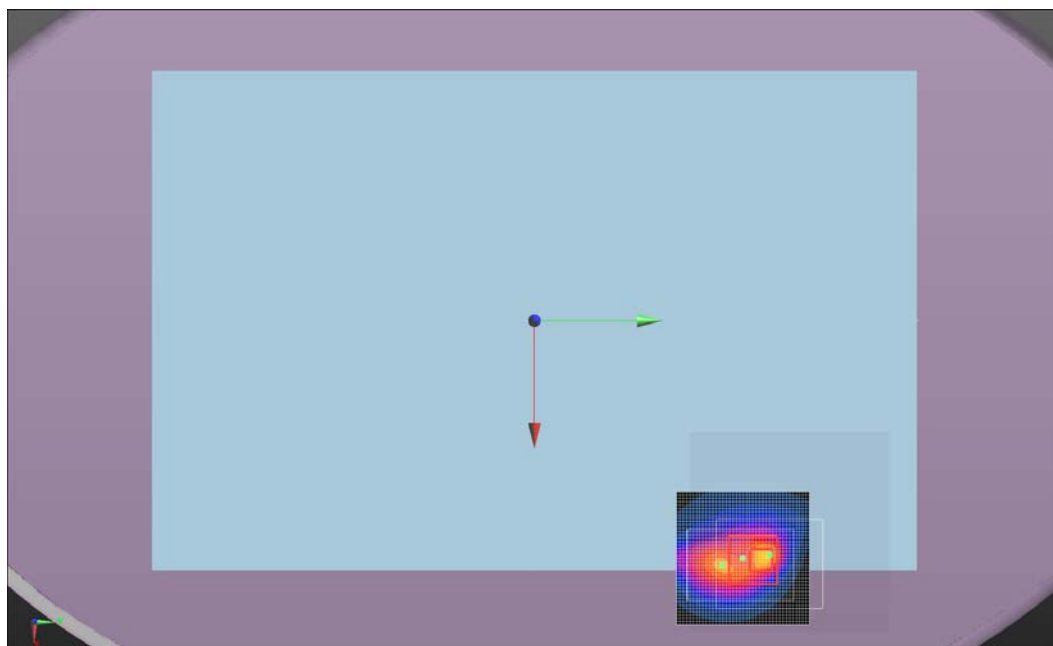
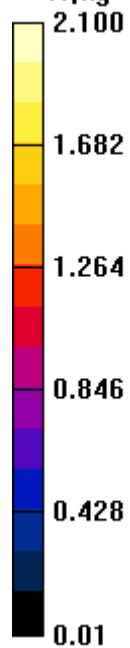
Maximum value of SAR (measured) = 0.826 W/kg




Approved By

Test 606

W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	23.8
Date:	5/20/2014	Liquid Temperature (°C):	22.1
Serial Number:	008	Humidity (%RH):	41
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 2		

Test 607

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.999 \text{ S/m}$; $\epsilon_r = 56.457$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Zoom Scan 2 (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 43.338 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.99 W/kg

SAR(1 g) = 1.34 W/kg; SAR(10 g) = 0.655 W/kg

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

Maximum value of SAR (measured) = 1.71 W/kg

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 2.06 W/kg

Body/Body/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 43.338 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 2.96 W/kg

SAR(1 g) = 1.33 W/kg; SAR(10 g) = 0.656 W/kg

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

Maximum value of SAR (measured) = 1.77 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.77 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 28.94 V/m

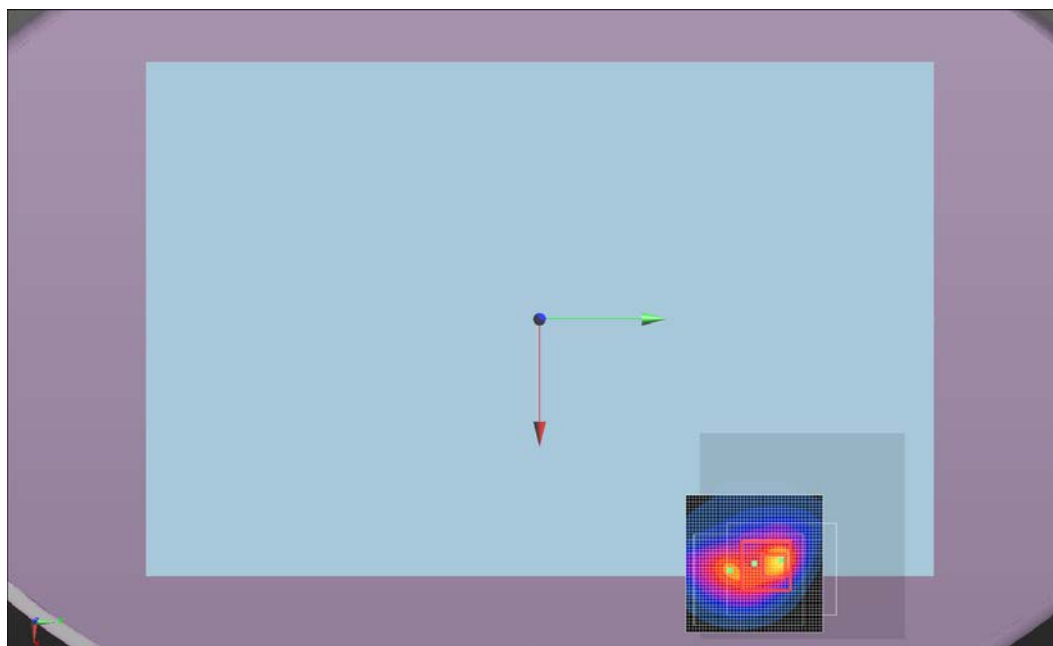
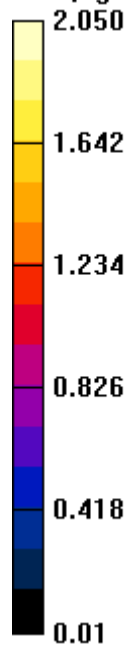
Maximum value of SAR (measured) = 0.837 W/kg




Approved By

Test 607

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.4
Date:	5/7/2014	Liquid Temperature (°C):	20.8
Serial Number:	008	Humidity (%RH):	35
Configuration:	INTE5453-1	Bar. Pressure (mb):	1015
Comments:	None		

Test 32b

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 844 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 844$ MHz; $\sigma = 0.986$ S/m; $\epsilon_r = 53.748$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.51 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 42.414 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.72 W/kg

SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.552 W/kg

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

Maximum value of SAR (measured) = 1.65 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.57 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

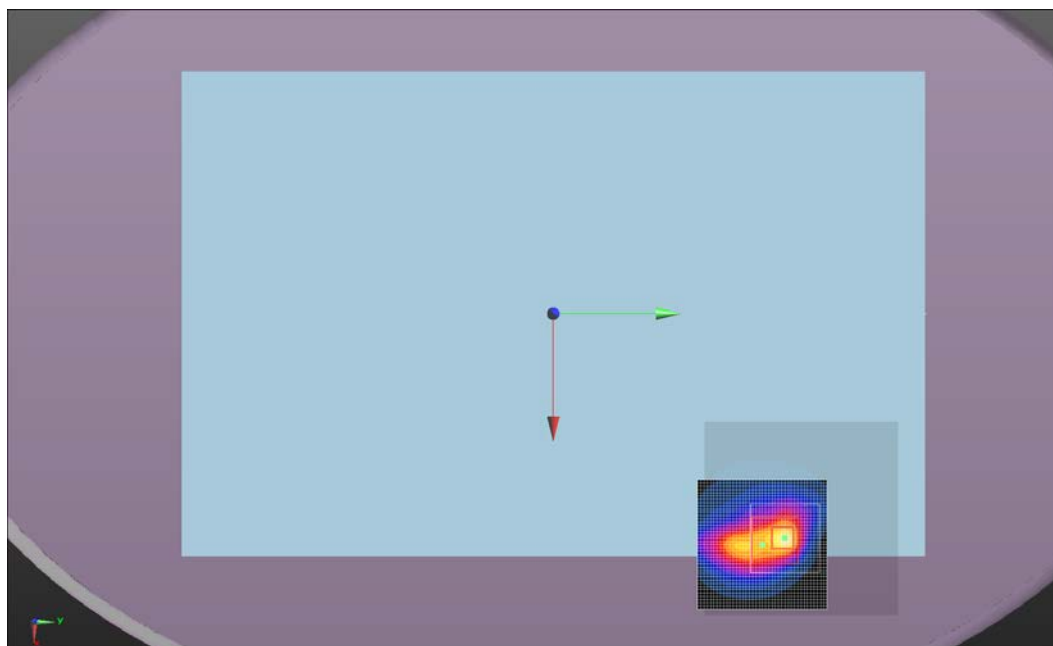
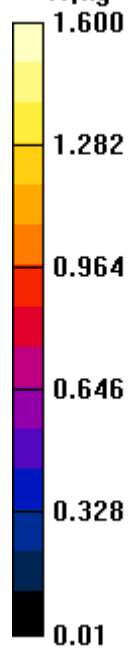
Maximum value of Total (measured) = 27.46 V/m

Maximum value of SAR (measured) = 0.743 W/kg



Approved By

Test 32b
W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	
Date:	5/20/2014	Liquid Temperature (°C):	
Serial Number:	008	Humidity (%RH):	
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 1		

Test 609

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 844 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 844$ MHz; $\sigma = 0.986$ S/m; $\epsilon_r = 53.748$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.59 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 42.361 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 2.68 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.550 W/kg

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

Maximum value of SAR (measured) = 1.63 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.32 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 27.40 V/m

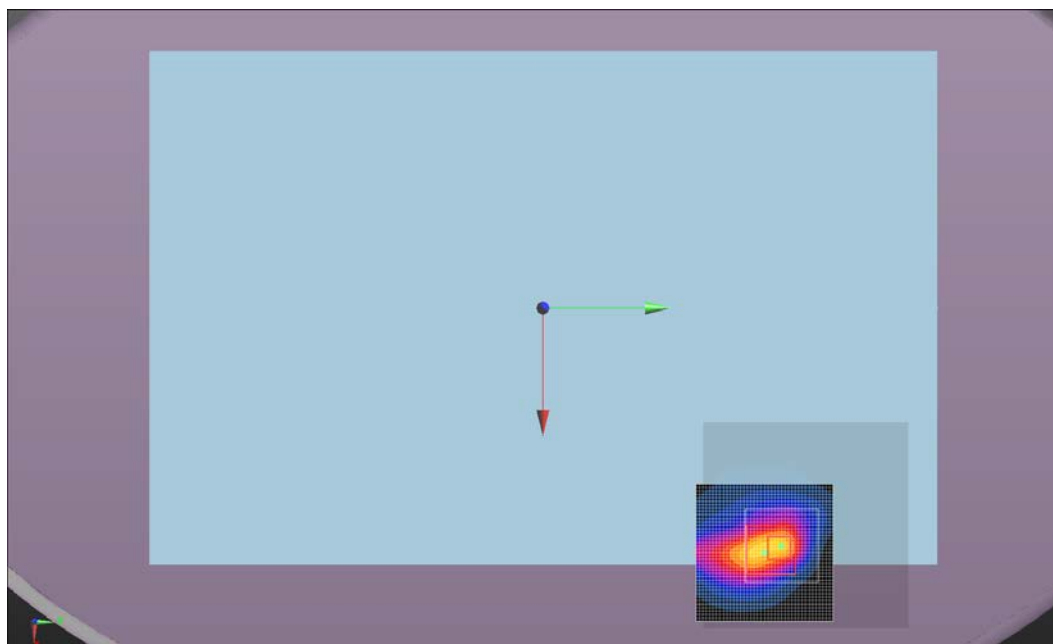
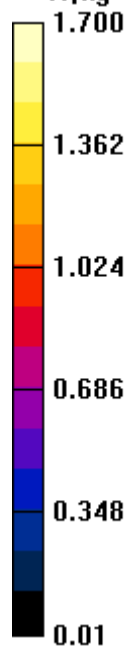
Maximum value of SAR (measured) = 0.740 W/kg




Approved By

Test 609

W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	23.8
Date:	5/20/2014	Liquid Temperature (°C):	22.8
Serial Number:	008	Humidity (%RH):	40
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 2		

Test 610

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 844 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 844$ MHz; $\sigma = 0.986$ S/m; $\epsilon_r = 53.748$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.58 W/kg

Body/Body/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 41.762 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 2.67 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.546 W/kg

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

Maximum value of SAR (measured) = 1.60 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.31 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 27.15 V/m

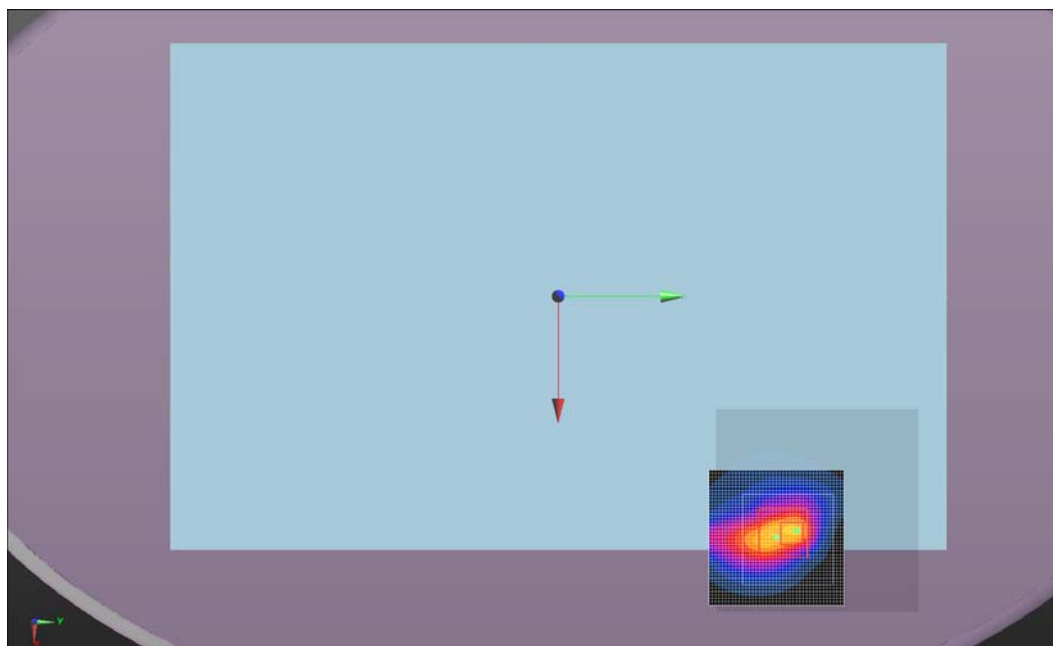
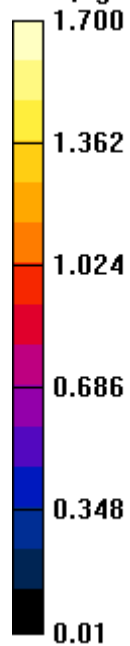
Maximum value of SAR (measured) = 0.727 W/kg




Approved By

Test 610

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.1
Date:	5/8/2014	Liquid Temperature (°C):	21.3
Serial Number:	008	Humidity (%RH):	41
Configuration:	INTE5453-1	Bar. Pressure (mb):	1007
Comments:	None		

Test 20b

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1745 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.52$ S/m; $\epsilon_r = 55.273$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASYS 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.546 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 35.636 V/m; Power Drift = 0.30 dB

Peak SAR (extrapolated) = 3.03 W/kg

SAR(1 g) = 1.37 W/kg; SAR(10 g) = 0.621 W/kg

Maximum value of SAR (measured) = 1.89 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.93 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

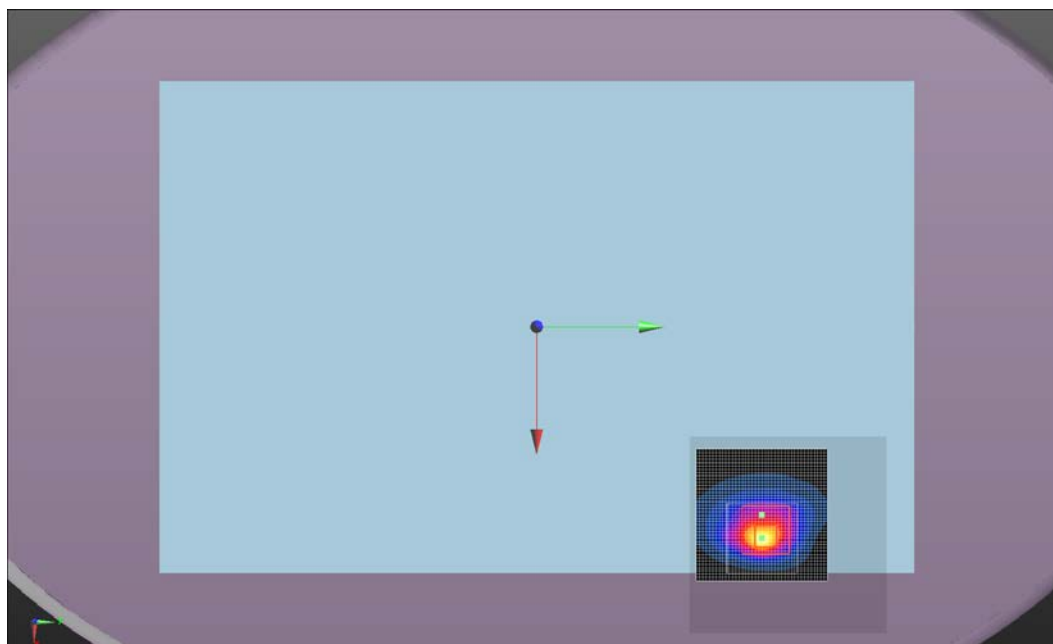
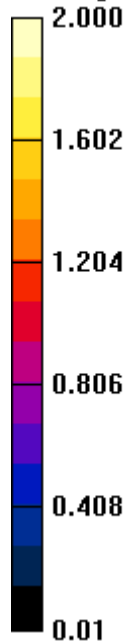
Maximum value of Total (measured) = 23.95 V/m

Maximum value of SAR (measured) = 0.872 W/kg



Approved By

Test 20b
W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	23.2
Date:	5/20/2014	Liquid Temperature (°C):	21.8
Serial Number:	008	Humidity (%RH):	42.9
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 1		

Test 602

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1745 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.52$ S/m; $\epsilon_r = 55.273$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 1.08 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 35.295 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.00 W/kg

SAR(1 g) = 1.34 W/kg; SAR(10 g) = 0.600 W/kg

Maximum value of SAR (measured) = 1.73 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.69 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 23.24 V/m

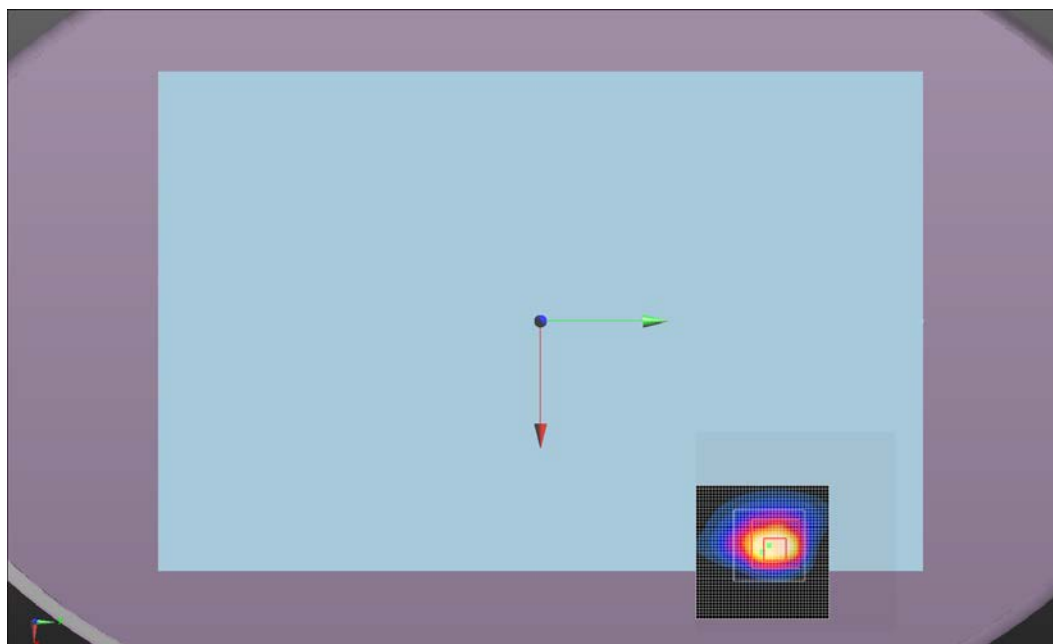
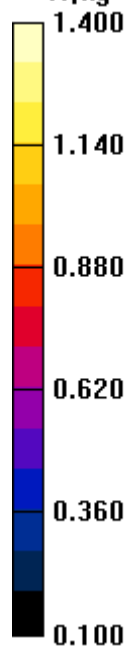
Maximum value of SAR (measured) = 0.821 W/kg




Approved By

Test 602

W/kg



Tested By:	Ethan Schoonover	Room Temperature (°C):	23.3
Date:	5/20/2014	Liquid Temperature (°C):	21.8
Serial Number:	008	Humidity (%RH):	43.7
Configuration:	INTE5453-1	Bar. Pressure (mb):	1019
Comments:	Repeatability Scan 2		

Test 603

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1745 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.52$ S/m; $\epsilon_r = 55.273$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 1.05 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 35.870 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 1.37 W/kg; SAR(10 g) = 0.615 W/kg

Maximum value of SAR (measured) = 1.80 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.73 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 24.02 V/m

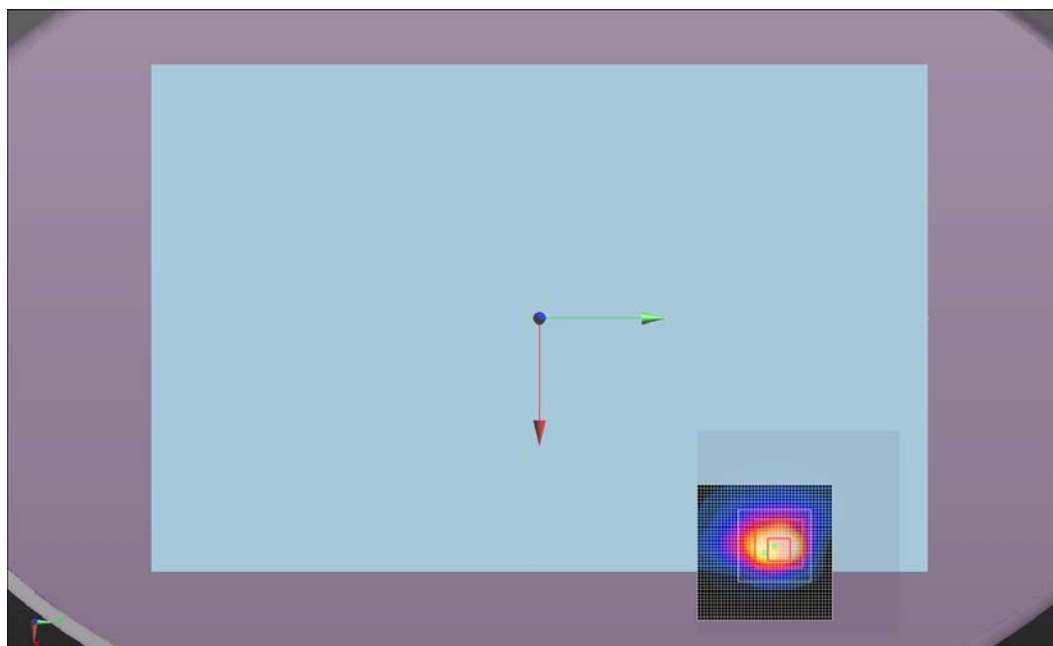
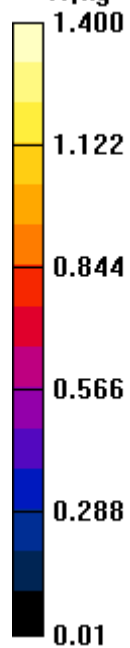
Maximum value of SAR (measured) = 0.877 W/kg




Approved By

Test 603

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.6
Date:	5/5/2014	Liquid Temperature (°C):	21.3
Serial Number:	008	Humidity (%RH):	37
Configuration:	INTE5453-1	Bar. Pressure (mb):	1016
Comments:	None		

Test 8b

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1860 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.528$ S/m; $\epsilon_r = 53.232$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.720 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.823 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.72 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.540 W/kg

Maximum value of SAR (measured) = 1.71 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.81 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 22.61 V/m

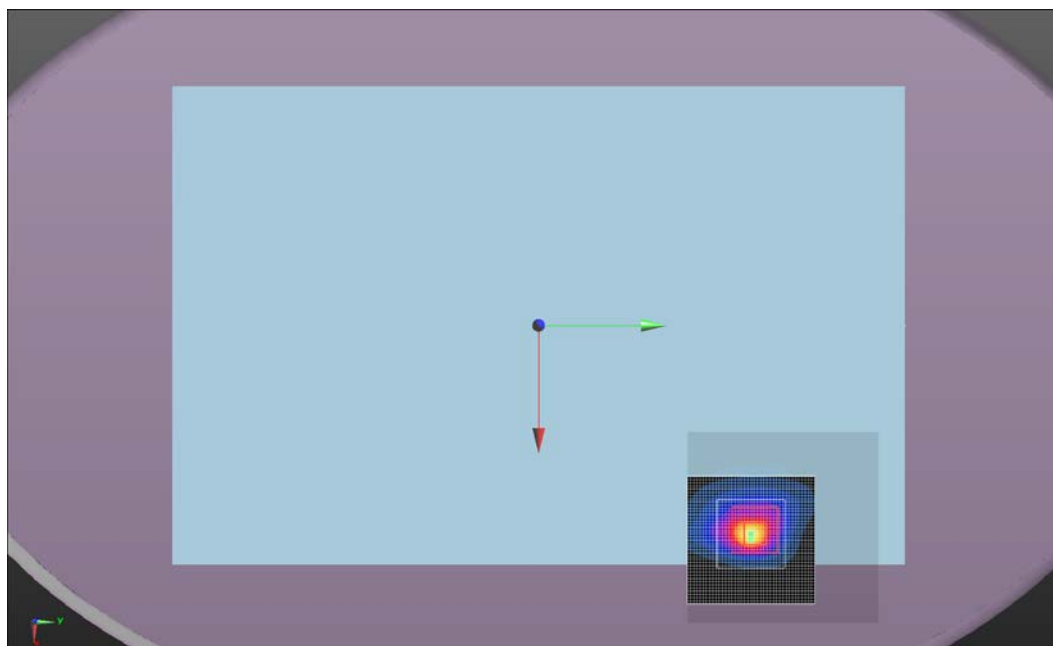
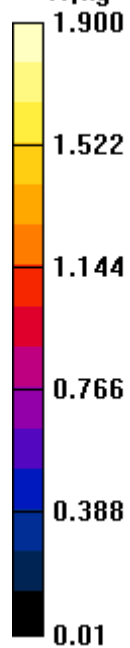
Maximum value of SAR (measured) = 0.781 W/kg



Approved By

Test 8b

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.9
Date:	5/21/2014	Liquid Temperature (°C):	21.7
Serial Number:	008	Humidity (%RH):	44
Configuration:	INTE5453-1	Bar. Pressure (mb):	1020
Comments:	Repeatability Scan 1		

Test 615

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1860 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.515$ S/m; $\epsilon_r = 53.496$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASYS2 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.814 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.775 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 2.50 W/kg

SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.511 W/kg

Maximum value of SAR (measured) = 1.50 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.41 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 22.55 V/m

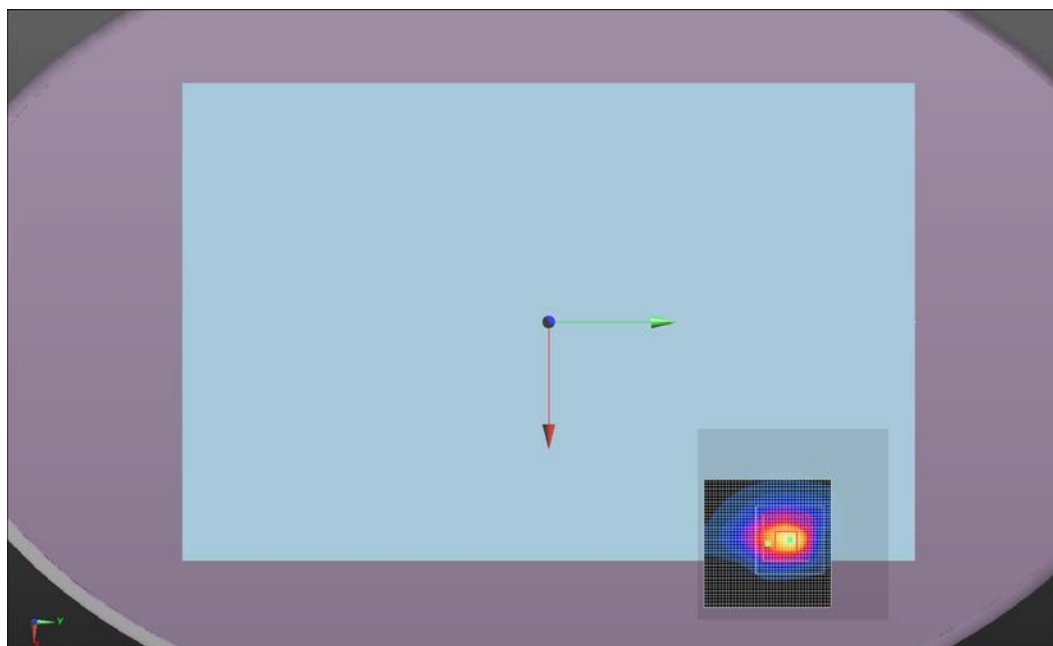
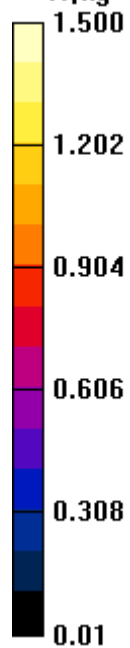
Maximum value of SAR (measured) = 0.771 W/kg



Approved By

Test 615

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.9
Date:	5/21/2014	Liquid Temperature (°C):	21.7
Serial Number:	008	Humidity (%RH):	44
Configuration:	INTE5453-1	Bar. Pressure (mb):	1020
Comments:	Repeatability Scan 2		

Test 616

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1860 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.515$ S/m; $\epsilon_r = 53.496$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.817 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.829 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 2.50 W/kg

SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.513 W/kg

Maximum value of SAR (measured) = 1.49 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.42 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 22.59 V/m

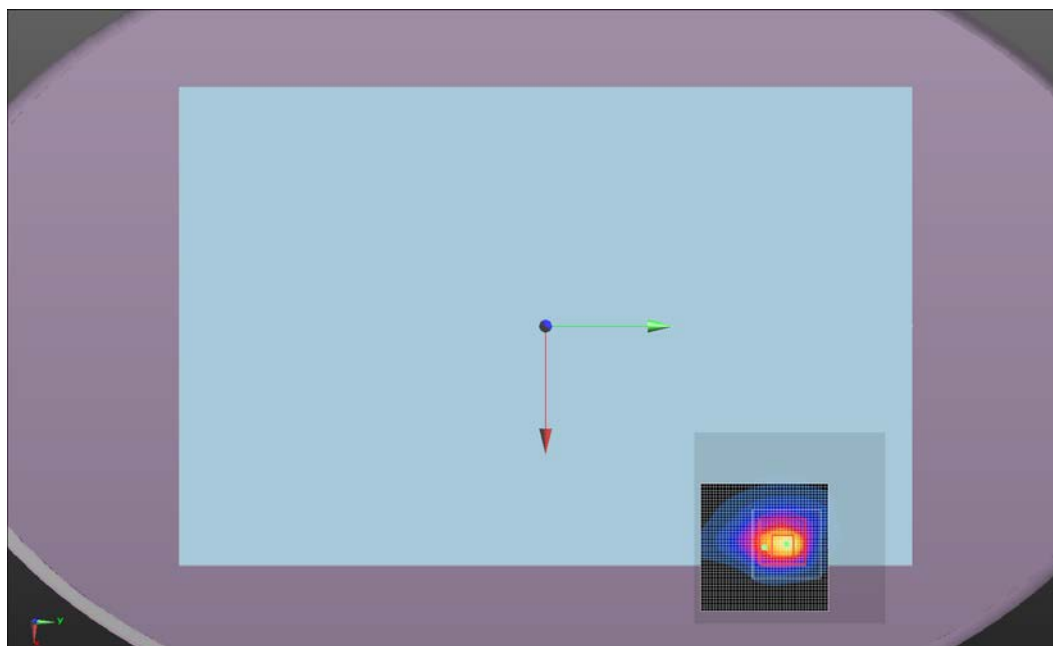
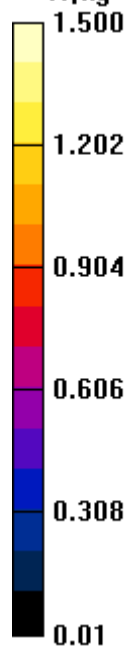
Maximum value of SAR (measured) = 0.773 W/kg



Approved By

Test 616

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	24.6
Date:	5/9/2014	Liquid Temperature (°C):	22.1
Serial Number:	008	Humidity (%RH):	37
Configuration:	INTE5453-1	Bar. Pressure (mb):	1015
Comments:	None		

Test 44b

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency:

2562.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 2562.5$ MHz; $\sigma = 2.135$ S/m; $\epsilon_r = 51.106$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.656 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.936 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.27 W/kg

SAR(1 g) = 0.841 W/kg; SAR(10 g) = 0.325 W/kg

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

Maximum value of SAR (measured) = 1.11 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.920 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

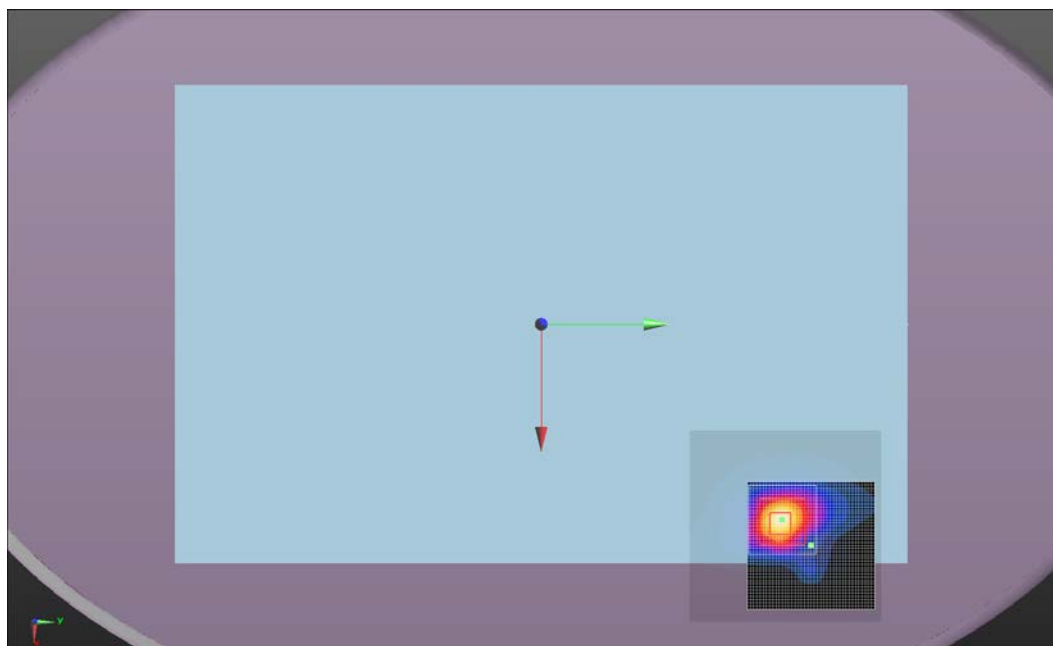
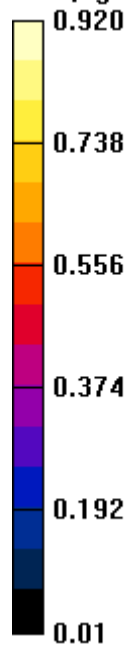
Maximum value of Total (measured) = 15.69 V/m

Maximum value of SAR (measured) = 0.525 W/kg



Approved By

Test 44b
W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.6
Date:	5/21/2014	Liquid Temperature (°C):	22.7
Serial Number:	008	Humidity (%RH):	44
Configuration:	INTE5453-1	Bar. Pressure (mb):	1020
Comments:	Repeatability Scan 1		

Test 619

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2562.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 2562.5$ MHz; $\sigma = 2.135$ S/m; $\epsilon_r = 51.106$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.429 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.926 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.24 W/kg

SAR(1 g) = 0.840 W/kg; SAR(10 g) = 0.329 W/kg

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

Maximum value of SAR (measured) = 1.22 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.22 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 15.72 V/m

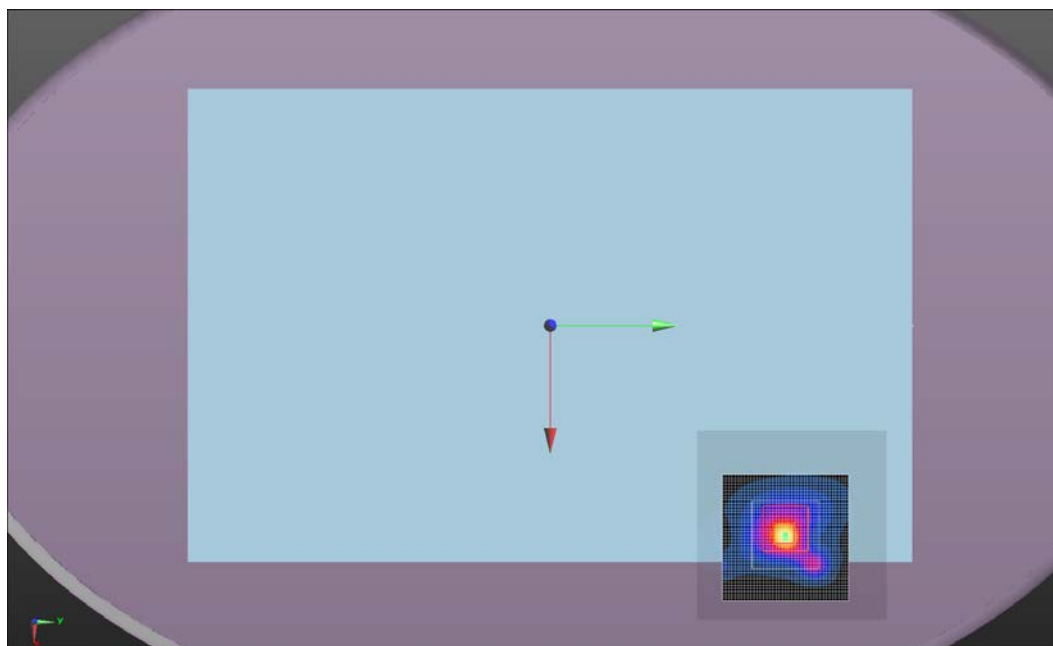
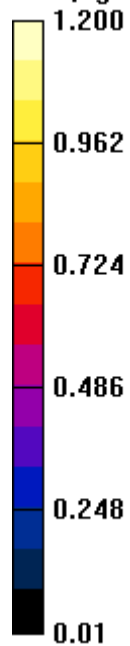
Maximum value of SAR (measured) = 0.528 W/kg



Approved By

Test 619

W/kg



Tested By:	Carl Engholm	Room Temperature (°C):	23.6
Date:	5/21/2014	Liquid Temperature (°C):	22.7
Serial Number:	008	Humidity (%RH):	44
Configuration:	INTE5453-1	Bar. Pressure (mb):	1020
Comments:	Repeatability Scan 2		

Test 620

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 008

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2562.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 2562.5$ MHz; $\sigma = 2.135$ S/m; $\epsilon_r = 51.106$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.461 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.760 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.25 W/kg

SAR(1 g) = 0.839 W/kg; SAR(10 g) = 0.324 W/kg

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

Maximum value of SAR (measured) = 1.19 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.20 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 15.96 V/m

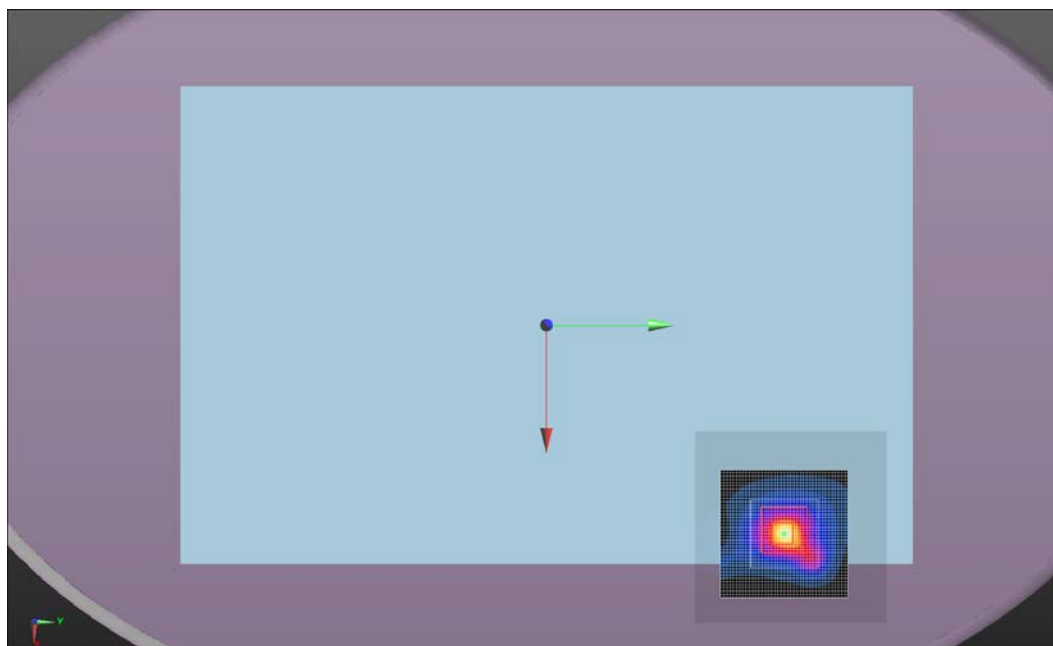
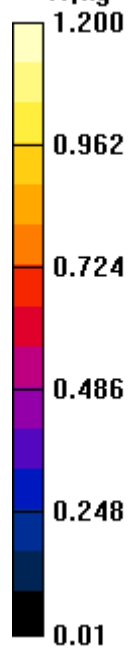
Maximum value of SAR (measured) = 0.544 W/kg



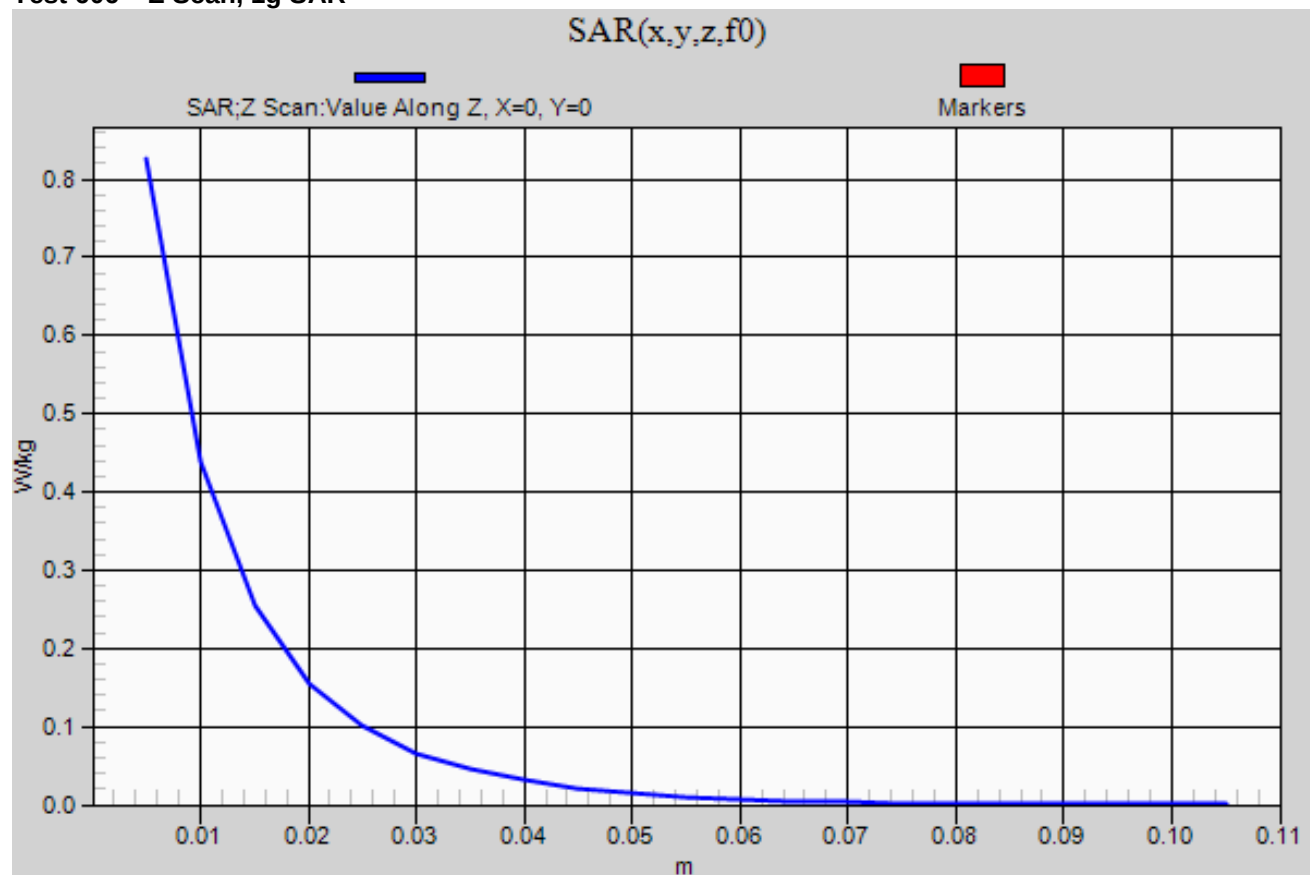
Approved By

Test 620

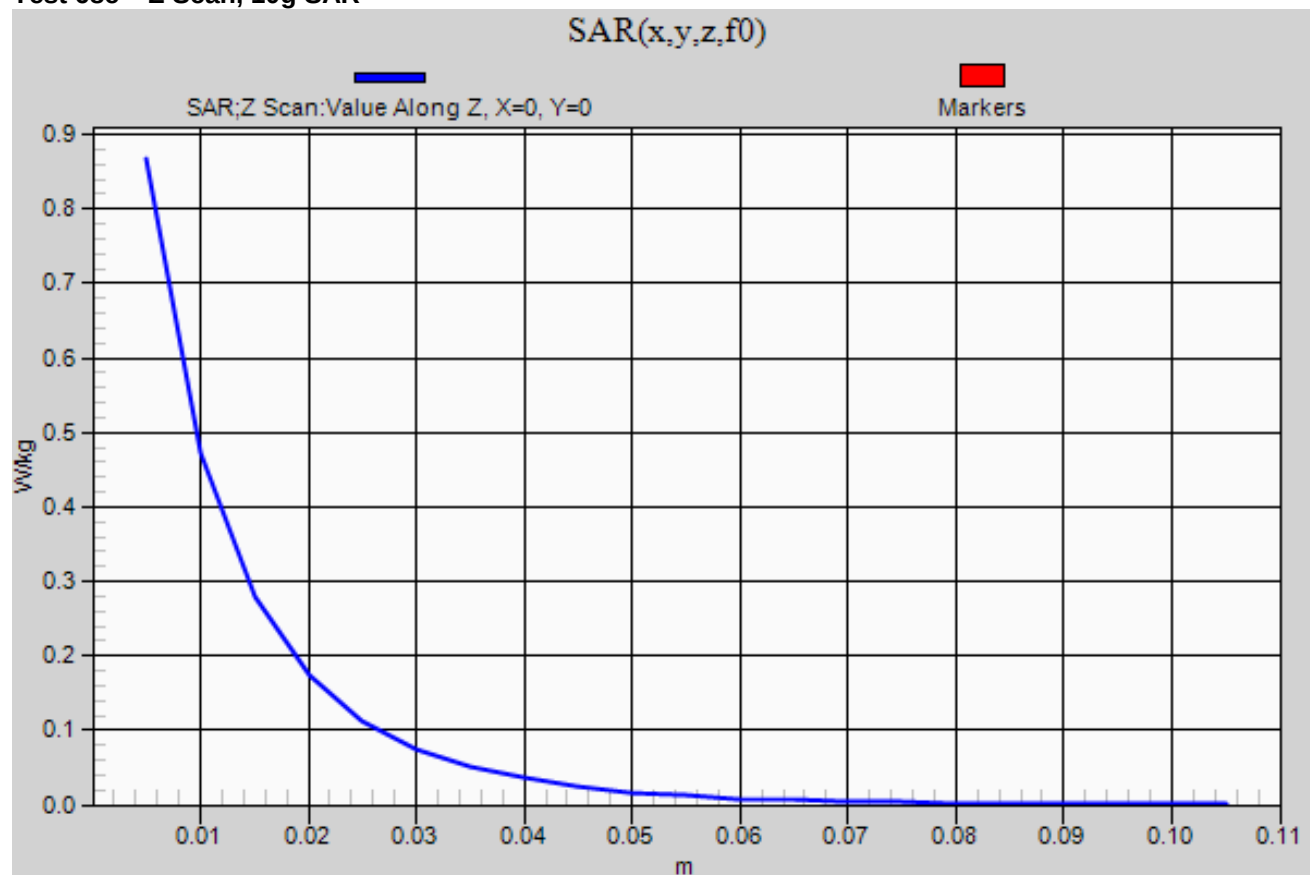
W/kg



Test 606 – Z Scan, 1g SAR



Test 68c – Z Scan, 10g SAR



Determining Proximity Sensor Triggering Distances

The WWAN portion of the EUT contains a proximity sensor. Once the sensor is triggered, the output power is lowered for all WWAN bands. Following the procedures of KDB 616217 D04 v01r01, Section 6, the proximity sensor triggering distances were determined for the back surface and individual edges of the tablet that were subject to SAR testing. For the proximity testing, the EUT's output power was set to operate at its normal maximum output power. The EUT was positioned below the flat phantom filled with the tissue-equivalent medium appropriate for the frequency band investigated.

The distance versus conducted output power level was recorded for both trigger distances (approaching the phantom and separating from the phantom). Both the tablet and tent configurations were evaluated for each frequency band. Levels were recorded +/- 5mm around the trigger points using the following procedure:

1. Move the EUT towards the phantom 5 mm past trigger point or until it touches the phantom – whichever happens first
 - a. Even if trigger point + 5mm isn't touching the phantom, continue to phantom to confirm the power stay's reduced.
2. Move the EUT away from the phantom 10 mm past the trigger point

Determining Antenna and Proximity Sensor Coverage

Per KDB 616217 D04 v01r01, Section 6, the procedures for determining antenna and proximity sensor coverage do not apply when the antenna and sensor are collocated, and the peak SAR location is overlapping with the sensor.

The transmit antenna is co-located with a proximity sensor. The peak SAR location is overlapping with the sensor location. Therefore, no additional evaluations were made for lateral sensor coverage.

Determining Tablet Tilt Angle influences to Proximity Sensor Triggering

Per KDB 616217 D04 v01r01, Section 6, it must be verified that the transmitter does not resume to normal full power when the tablet is tilted with respect to an edge while maintaining the sensor triggering distance. These conditions must be verified for a range of tilt angles to determine if triggering distance should be further reduced to maintain triggering.

At 0mm spacing, the tilt angle versus conducted output power level was recorded for the back surface and individual edges of the tablet that were subject to SAR testing. The tilt angle was varied both toward and away from the phantom 0 – 90 degrees. As determined above, the operating mode / frequency band that resulted in the smallest sensor triggering distance was used. Both tablet and tent configurations were evaluated. This meets or exceeds the following procedure from KDB 616217 D04 v01r01:

1. Test just the edges around the antenna (within 50mm of antenna); position the edge perpendicular to the phantom at the smallest trigger distance found above (including distance for back edge).
2. Vary the tilt by +/- 45 degrees in 10 degree increments and confirm that the trigger is not released.
3. If it is released, position the edge 1mm closer and repeat.
4. Repeat steps 2 and 3 until the trigger is not released. That becomes the smallest trigger distance. The SAR test separation distance is equal to the smallest trigger distance minus 1mm.

SAR Testing +/- 1mm to the Trigger Distance

Per KDB 616217 D04 v01r01, Section 6, the smallest sensor triggering distance as determined from the normal and tilt position evaluations described above, minus 1mm, must be used as the test separation distance for SAR testing.

All the required SAR testing was done at a 0mm test separation distance at the triggered / low power level. This meets or exceeds the requirement of testing at the smallest sensor triggering distance minus 1mm.

As an additional evaluation, SAR measurements were made at +/- 1mm to the trigger distance determined for the worst-case SAR location. This demonstrated SAR compliance at the normal full power level (high power) at the trigger distance plus 1mm, and at the low power level at the trigger distance minus 1mm. All WWAN bands were evaluated using the channel / operating mode that produced the highest conducted output power for each band.

The results of the proximity sensor evaluation and additional SAR testing +/- 1mm to the trigger distance are tabulated on the following pages.

EUT:	WSBUB-SDS	Work Order:	INTE5478
Serial Number:	FZWZ42600237	Date:	08/18/2014
Customer:	Intel Corporation	Temperature:	22.3°C
Attendees:	Mike Lowe	Relative Humidity:	32.1%
Customer Project:	None	Bar. Pressure:	1014 mb
Tested By:	Ethan Schoonover	Job Site:	EV08
Power:	110VAC/60Hz	Configuration:	INTE5478-1

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	FCC KDB 616217 D04 v01r01

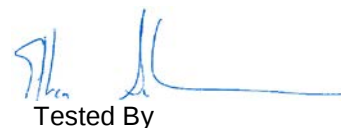
COMMENTS

None

DEVIATIONS FROM TEST STANDARD

None

RESULTS


Tested By

Summary of Trigger Distances for Worst Case SAR Location – Tent (Laptop) / Back Used for SAR Testing at +/- 1mm the Trigger Distance

		Moving Towards Phantom mm	Moving Away From Phantom mm
LTE Band 2 & PCS 1900	1900 MHz	4	4
LTE Band 4 & AWS 1700	1720 MHz	2	3
LTE Band 5 & CLR 850	836.5 MHz	2	4
LTE Band 7	2514 MHz	2	3
LTE Band 13	782 MHz	3	3
LTE Band 17	709 MHz	3	3

Summary of Tilt Angles for Smallest Separation Distance (0mm)

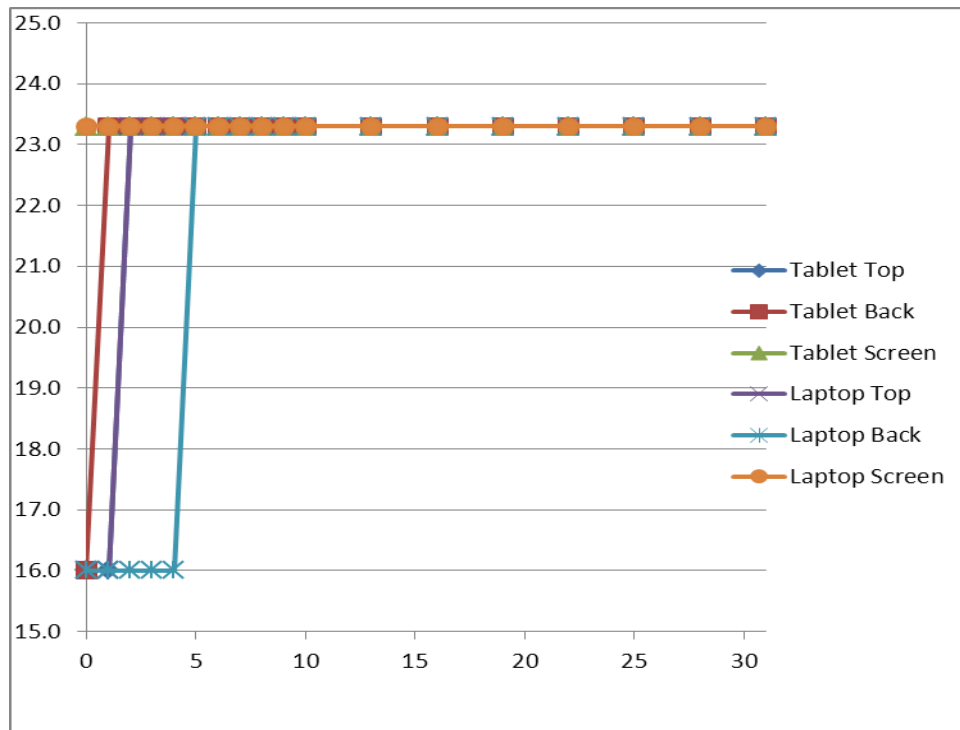
		Moving Towards Phantom Degrees	Moving Away From Phantom Degrees
LTE Band 2 & PCS 1900	Tent (Back)	21	26
	Tablet (Bac)	4	8

PROXIMITY SENSOR TESTING

LTE Band 2 20MHz High (1900MHz)

QPSK 1 RB 0 offset

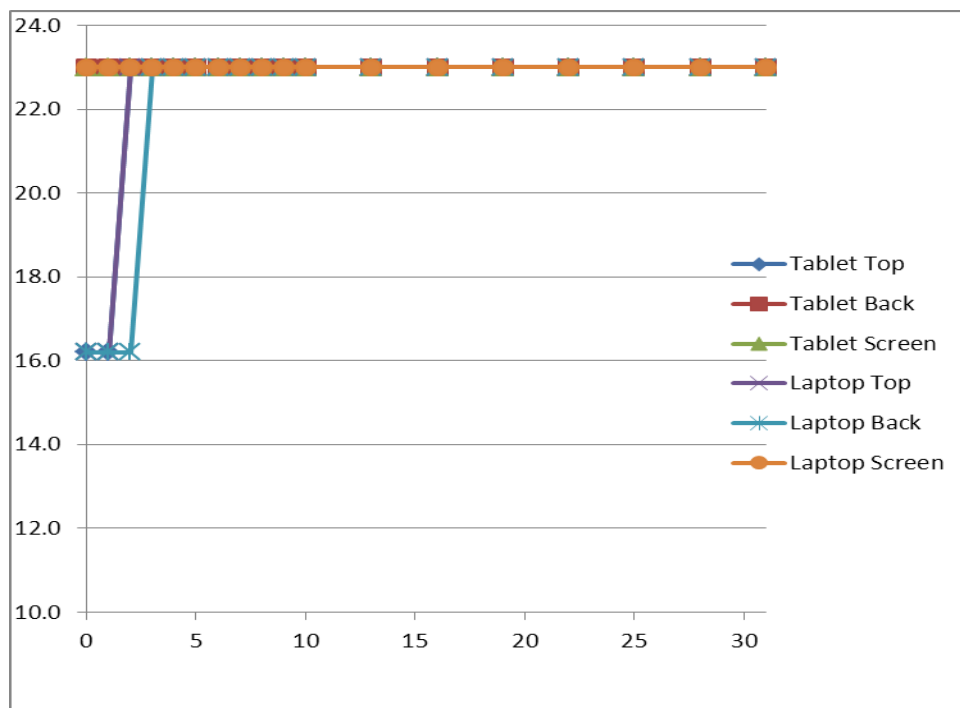
Distance mm	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	16.0	16.0	23.3	16.0	16.0	23.3
1	16.0	23.3	23.3	16.0	16.0	23.3
2	23.3	23.3	23.3	23.3	16.0	23.3
3	23.3	23.3	23.3	23.3	16.0	23.3
4	23.3	23.3	23.3	23.3	16.0	23.3
5	23.3	23.3	23.3	23.3	23.3	23.3
6	23.3	23.3	23.3	23.3	23.3	23.3
7	23.3	23.3	23.3	23.3	23.3	23.3
8	23.3	23.3	23.3	23.3	23.3	23.3
9	23.3	23.3	23.3	23.3	23.3	23.3
10	23.3	23.3	23.3	23.3	23.3	23.3
13	23.3	23.3	23.3	23.3	23.3	23.3
16	23.3	23.3	23.3	23.3	23.3	23.3
19	23.3	23.3	23.3	23.3	23.3	23.3
22	23.3	23.3	23.3	23.3	23.3	23.3
25	23.3	23.3	23.3	23.3	23.3	23.3
28	23.3	23.3	23.3	23.3	23.3	23.3
31	23.3	23.3	23.3	23.3	23.3	23.3



PROXIMITY SENSOR TESTING

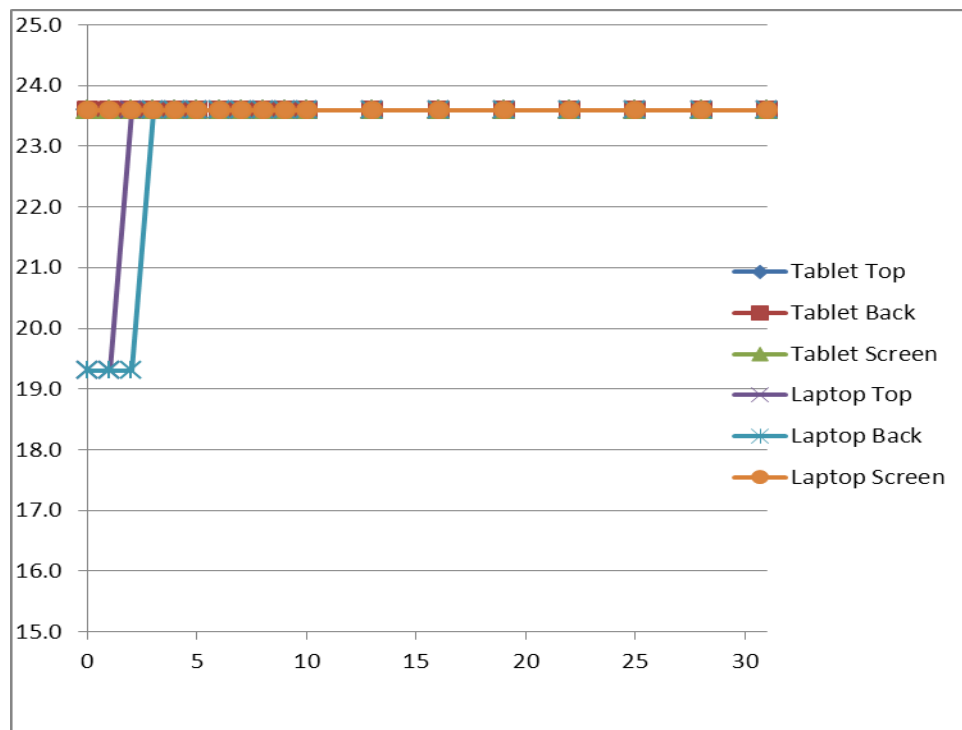
LTE Band 4 20MHz Low (1720MHz) QPSK 1 RB 0 offset

Distance mm	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	16.2	23.0	23.0	16.2	16.2	23.0
1	16.2	23.0	23.0	16.2	16.2	23.0
2	23.0	23.0	23.0	23.0	16.2	23.0
3	23.0	23.0	23.0	23.0	23.0	23.0
4	23.0	23.0	23.0	23.0	23.0	23.0
5	23.0	23.0	23.0	23.0	23.0	23.0
6	23.0	23.0	23.0	23.0	23.0	23.0
7	23.0	23.0	23.0	23.0	23.0	23.0
8	23.0	23.0	23.0	23.0	23.0	23.0
9	23.0	23.0	23.0	23.0	23.0	23.0
10	23.0	23.0	23.0	23.0	23.0	23.0
13	23.0	23.0	23.0	23.0	23.0	23.0
16	23.0	23.0	23.0	23.0	23.0	23.0
19	23.0	23.0	23.0	23.0	23.0	23.0
22	23.0	23.0	23.0	23.0	23.0	23.0
25	23.0	23.0	23.0	23.0	23.0	23.0
28	23.0	23.0	23.0	23.0	23.0	23.0
31	23.0	23.0	23.0	23.0	23.0	23.0



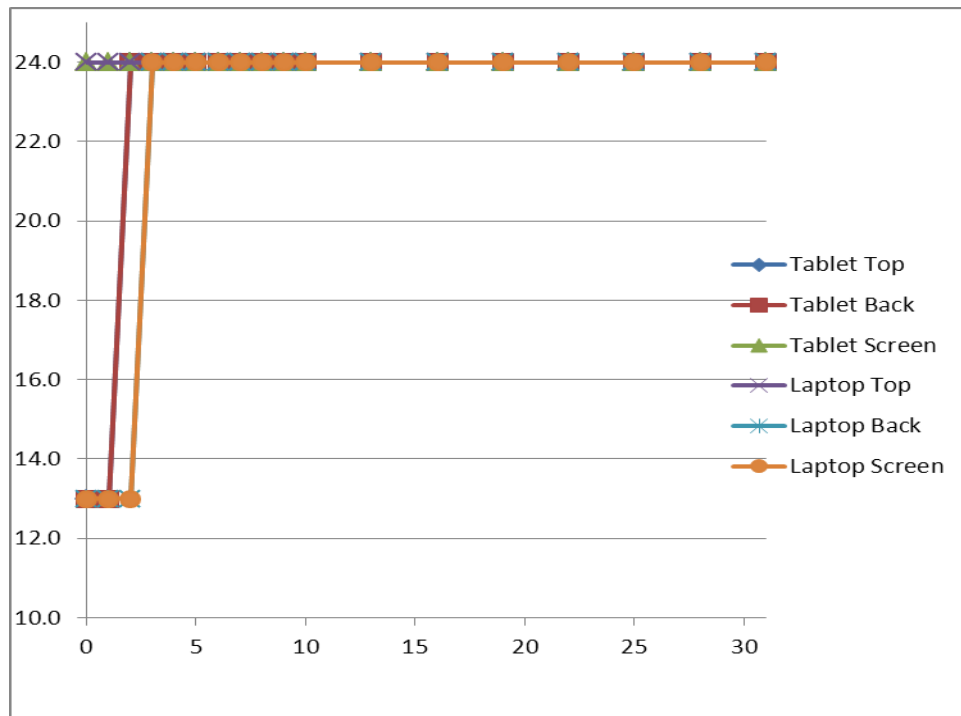
LTE Band 5 10MHz Mid (836.5MHz) QPSK 1 RB 0 offset

Distance mm	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	23.6	23.6	23.6	19.3	19.3	23.6
1	23.6	23.6	23.6	19.3	19.3	23.6
2	23.6	23.6	23.6	23.6	19.3	23.6
3	23.6	23.6	23.6	23.6	23.6	23.6
4	23.6	23.6	23.6	23.6	23.6	23.6
5	23.6	23.6	23.6	23.6	23.6	23.6
6	23.6	23.6	23.6	23.6	23.6	23.6
7	23.6	23.6	23.6	23.6	23.6	23.6
8	23.6	23.6	23.6	23.6	23.6	23.6
9	23.6	23.6	23.6	23.6	23.6	23.6
10	23.6	23.6	23.6	23.6	23.6	23.6
13	23.6	23.6	23.6	23.6	23.6	23.6
16	23.6	23.6	23.6	23.6	23.6	23.6
19	23.6	23.6	23.6	23.6	23.6	23.6
22	23.6	23.6	23.6	23.6	23.6	23.6
25	23.6	23.6	23.6	23.6	23.6	23.6
28	23.6	23.6	23.6	23.6	23.6	23.6
31	23.6	23.6	23.6	23.6	23.6	23.6



LTE Band 7 20MHz Low (2514MHz) QPSK 1 RB 0 offset

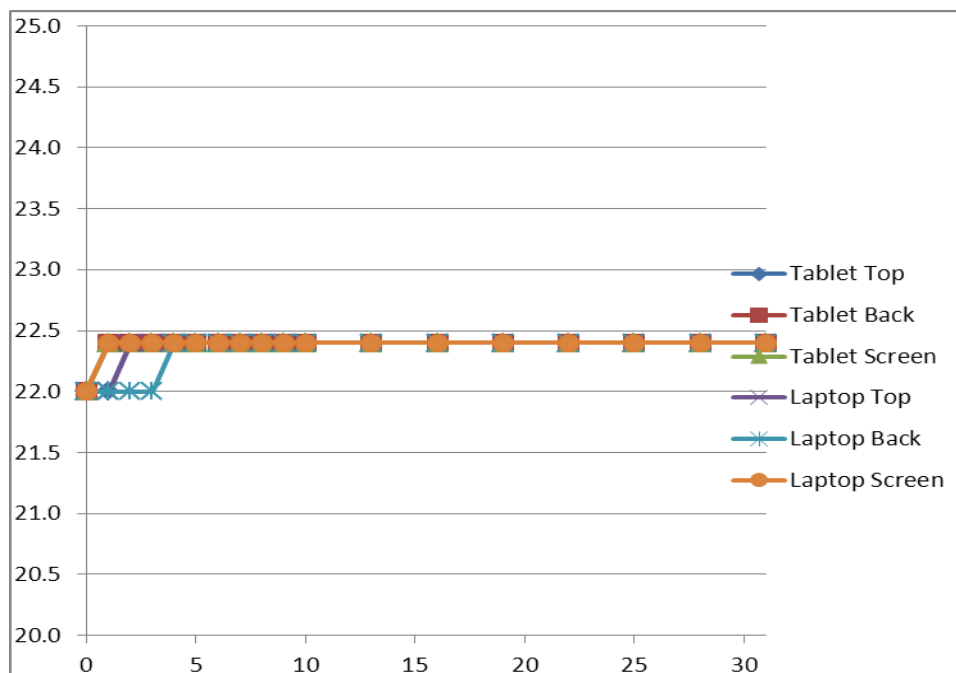
Distance mm	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	13.0	13.0	24.0	24.0	13.0	13.0
1	13.0	13.0	24.0	24.0	13.0	13.0
2	24.0	24.0	24.0	24.0	13.0	13.0
3	24.0	24.0	24.0	24.0	18.0	24.0
4	24.0	24.0	24.0	24.0	24.0	24.0
5	24.0	24.0	24.0	24.0	24.0	24.0
6	24.0	24.0	24.0	24.0	24.0	24.0
7	24.0	24.0	24.0	24.0	24.0	24.0
8	24.0	24.0	24.0	24.0	24.0	24.0
9	24.0	24.0	24.0	24.0	24.0	24.0
10	24.0	24.0	24.0	24.0	24.0	24.0
13	24.0	24.0	24.0	24.0	24.0	24.0
16	24.0	24.0	24.0	24.0	24.0	24.0
19	24.0	24.0	24.0	24.0	24.0	24.0
22	24.0	24.0	24.0	24.0	24.0	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0
28	24.0	24.0	24.0	24.0	24.0	24.0
31	24.0	24.0	24.0	24.0	24.0	24.0



PROXIMITY SENSOR TESTING

LTE Band 13 10MHz Mid (782MHz) QPSK 1 RB 24 offset

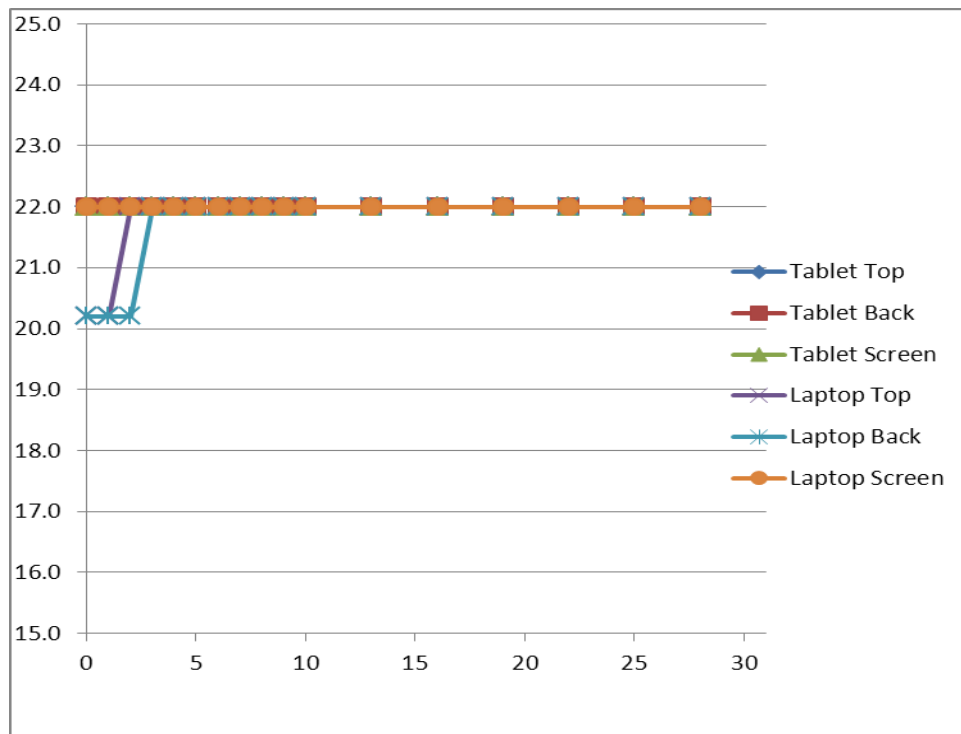
Distance mm	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	22.0	22.0	22.0	22.0	22.0	22.0
1	22.0	22.4	22.4	22.0	22.0	22.4
2	22.4	22.4	22.4	22.4	22.0	22.4
3	22.4	22.4	22.4	22.4	22.0	22.4
4	22.4	22.4	22.4	22.4	22.4	22.4
5	22.4	22.4	22.4	22.4	22.4	22.4
6	22.4	22.4	22.4	22.4	22.4	22.4
7	22.4	22.4	22.4	22.4	22.4	22.4
8	22.4	22.4	22.4	22.4	22.4	22.4
9	22.4	22.4	22.4	22.4	22.4	22.4
10	22.4	22.4	22.4	22.4	22.4	22.4
13	22.4	22.4	22.4	22.4	22.4	22.4
16	22.4	22.4	22.4	22.4	22.4	22.4
19	22.4	22.4	22.4	22.4	22.4	22.4
22	22.4	22.4	22.4	22.4	22.4	22.4
25	22.4	22.4	22.4	22.4	22.4	22.4
28	22.4	22.4	22.4	22.4	22.4	22.4
31	22.4	22.4	22.4	22.4	22.4	22.4



PROXIMITY SENSOR TESTING

LTE Band 17 10MHz Low (709MHz) QPSK 1 RB 0 offset

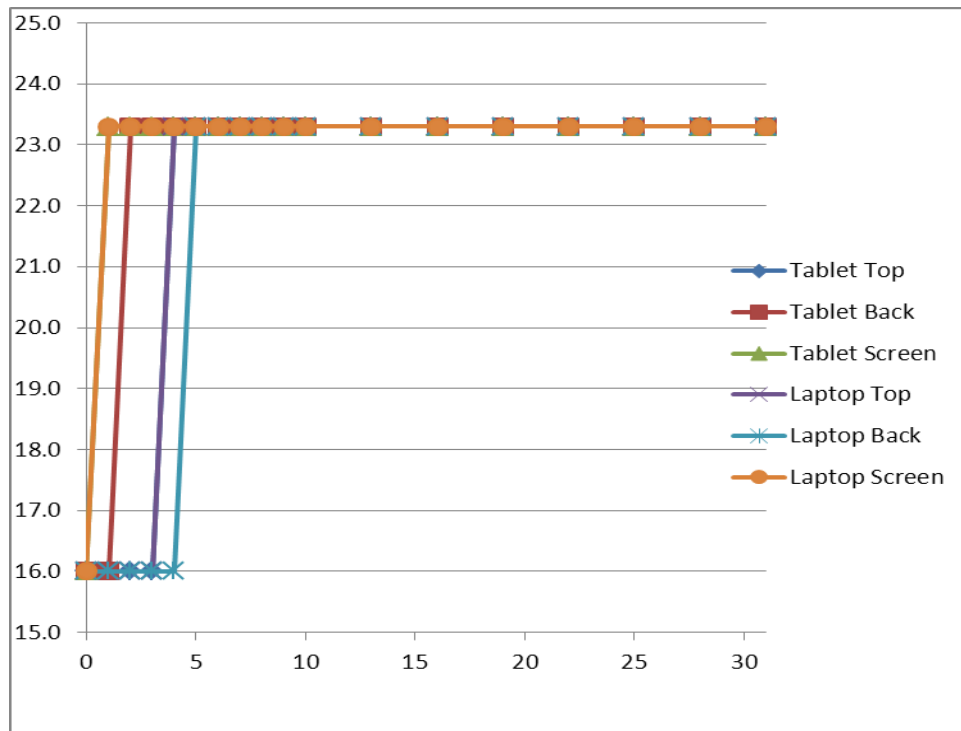
Distance mm	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
1	22.0	22.0	22.0	20.2	20.2	22.0
2	22.0	22.0	22.0	20.2	20.2	22.0
3	22.0	22.0	22.0	22.0	20.2	22.0
4	22.0	22.0	22.0	22.0	22.0	22.0
5	22.0	22.0	22.0	22.0	22.0	22.0
6	22.0	22.0	22.0	22.0	22.0	22.0
7	22.0	22.0	22.0	22.0	22.0	22.0
8	22.0	22.0	22.0	22.0	22.0	22.0
9	22.0	22.0	22.0	22.0	22.0	22.0
10	22.0	22.0	22.0	22.0	22.0	22.0
13	22.0	22.0	22.0	22.0	22.0	22.0
16	22.0	22.0	22.0	22.0	22.0	22.0
19	22.0	22.0	22.0	22.0	22.0	22.0
22	22.0	22.0	22.0	22.0	22.0	22.0
25	22.0	22.0	22.0	22.0	22.0	22.0
28	22.0	22.0	22.0	22.0	22.0	22.0
31	22.0	22.0	22.0	22.0	22.0	22.0



PROXIMITY SENSOR TESTING

LTE Band 2 20MHz High (1900MHz) QPSK 1 RB 0 offset

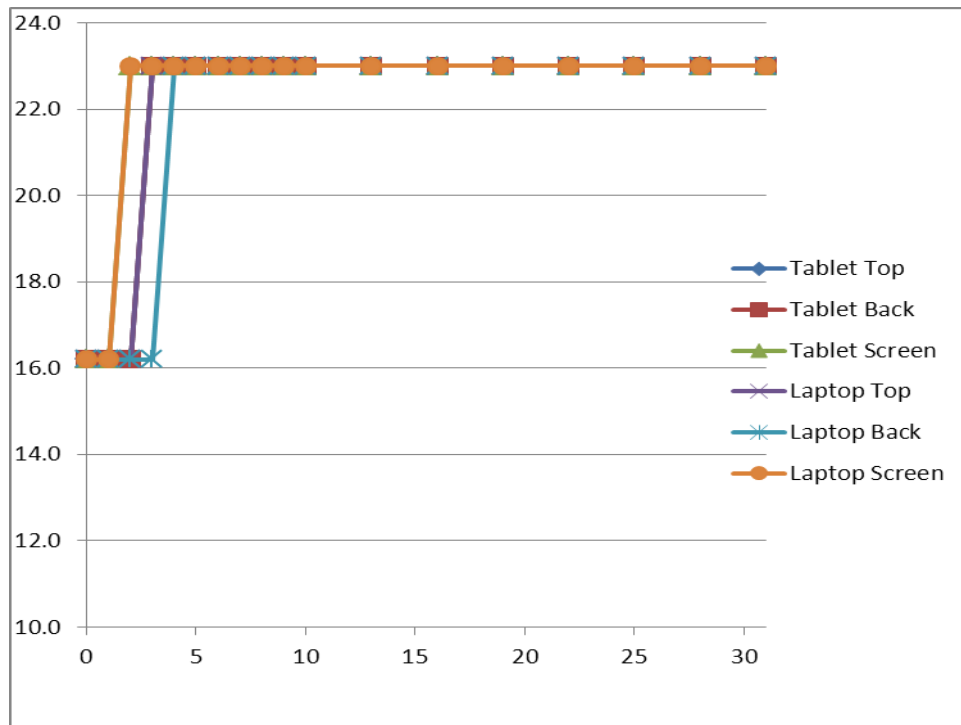
Distance mm	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	16.0	16.0	16.0	16.0	16.0	16.0
1	16.0	16.0	23.3	16.0	16.0	23.3
2	16.0	23.3	23.3	16.0	16.0	23.3
3	16.0	23.3	23.3	16.0	16.0	23.3
4	23.3	23.3	23.3	23.3	16.0	23.3
5	23.3	23.3	23.3	23.3	23.3	23.3
6	23.3	23.3	23.3	23.3	23.3	23.3
7	23.3	23.3	23.3	23.3	23.3	23.3
8	23.3	23.3	23.3	23.3	23.3	23.3
9	23.3	23.3	23.3	23.3	23.3	23.3
10	23.3	23.3	23.3	23.3	23.3	23.3
13	23.3	23.3	23.3	23.3	23.3	23.3
16	23.3	23.3	23.3	23.3	23.3	23.3
19	23.3	23.3	23.3	23.3	23.3	23.3
22	23.3	23.3	23.3	23.3	23.3	23.3
25	23.3	23.3	23.3	23.3	23.3	23.3
28	23.3	23.3	23.3	23.3	23.3	23.3
31	23.3	23.3	23.3	23.3	23.3	23.3



PROXIMITY SENSOR TESTING

LTE Band 4 20MHz Low (1720MHz) QPSK 1 RB 0 offset

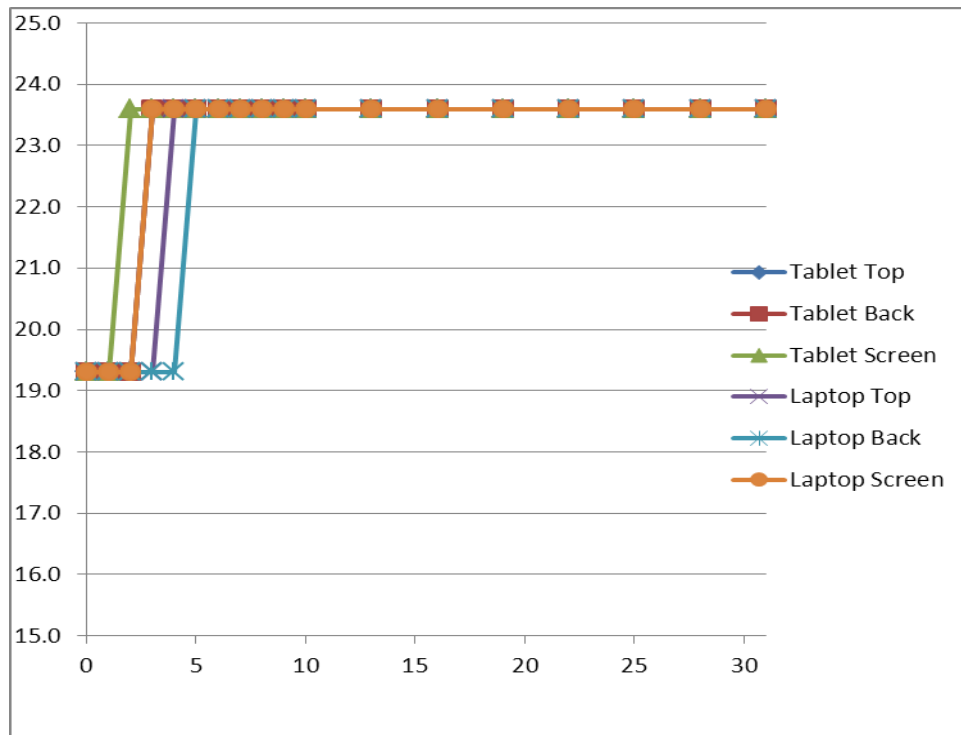
Distance mm	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	16.2	16.2	16.2	16.2	16.2	16.2
1	16.2	16.2	16.2	16.2	16.2	16.2
2	16.2	16.2	23.0	16.2	16.2	23.0
3	23.0	23.0	23.0	23.0	16.2	23.0
4	23.0	23.0	23.0	23.0	23.0	23.0
5	23.0	23.0	23.0	23.0	23.0	23.0
6	23.0	23.0	23.0	23.0	23.0	23.0
7	23.0	23.0	23.0	23.0	23.0	23.0
8	23.0	23.0	23.0	23.0	23.0	23.0
9	23.0	23.0	23.0	23.0	23.0	23.0
10	23.0	23.0	23.0	23.0	23.0	23.0
13	23.0	23.0	23.0	23.0	23.0	23.0
16	23.0	23.0	23.0	23.0	23.0	23.0
19	23.0	23.0	23.0	23.0	23.0	23.0
22	23.0	23.0	23.0	23.0	23.0	23.0
25	23.0	23.0	23.0	23.0	23.0	23.0
28	23.0	23.0	23.0	23.0	23.0	23.0
31	23.0	23.0	23.0	23.0	23.0	23.0



PROXIMITY SENSOR TESTING

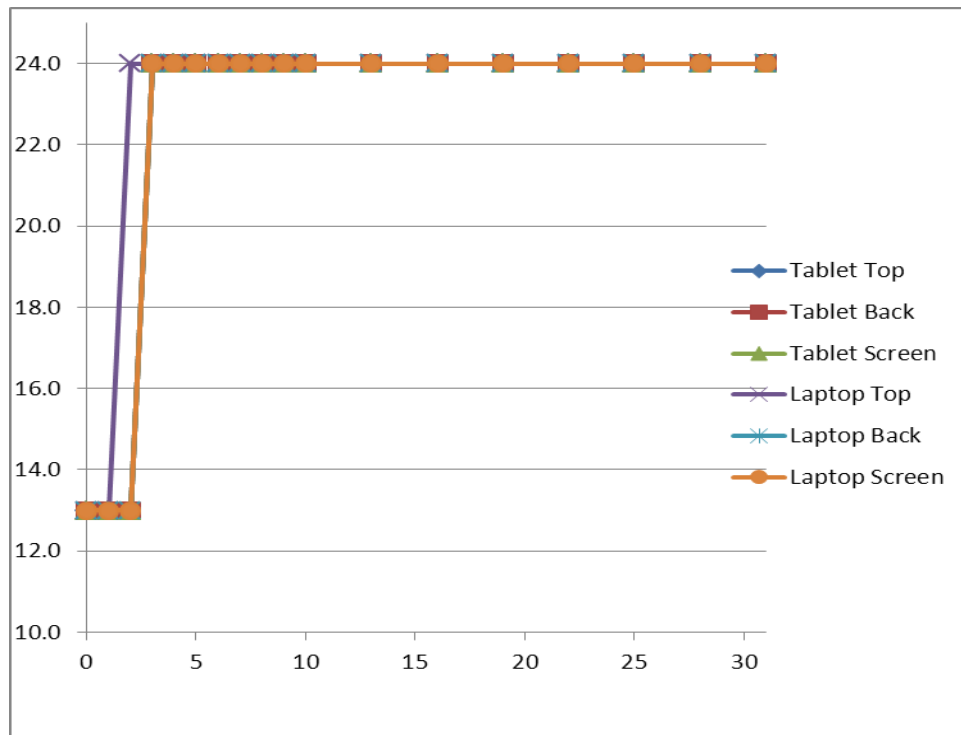
LTE Band 5 10MHz Mid (836.5MHz) QPSK 1 RB 0 offset

Distance mm	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	19.3	19.3	19.3	19.3	19.3	19.3
1	19.3	19.3	19.3	19.3	19.3	19.3
2	19.3	19.3	23.6	19.3	19.3	19.3
3	23.6	23.6	23.6	19.3	19.3	23.6
4	23.6	23.6	23.6	23.6	19.3	23.6
5	23.6	23.6	23.6	23.6	23.6	23.6
6	23.6	23.6	23.6	23.6	23.6	23.6
7	23.6	23.6	23.6	23.6	23.6	23.6
8	23.6	23.6	23.6	23.6	23.6	23.6
9	23.6	23.6	23.6	23.6	23.6	23.6
10	23.6	23.6	23.6	23.6	23.6	23.6
13	23.6	23.6	23.6	23.6	23.6	23.6
16	23.6	23.6	23.6	23.6	23.6	23.6
19	23.6	23.6	23.6	23.6	23.6	23.6
22	23.6	23.6	23.6	23.6	23.6	23.6
25	23.6	23.6	23.6	23.6	23.6	23.6
28	23.6	23.6	23.6	23.6	23.6	23.6
31	23.6	23.6	23.6	23.6	23.6	23.6



LTE Band 7 20MHz Low (2514MHz) QPSK 1 RB 0 offset

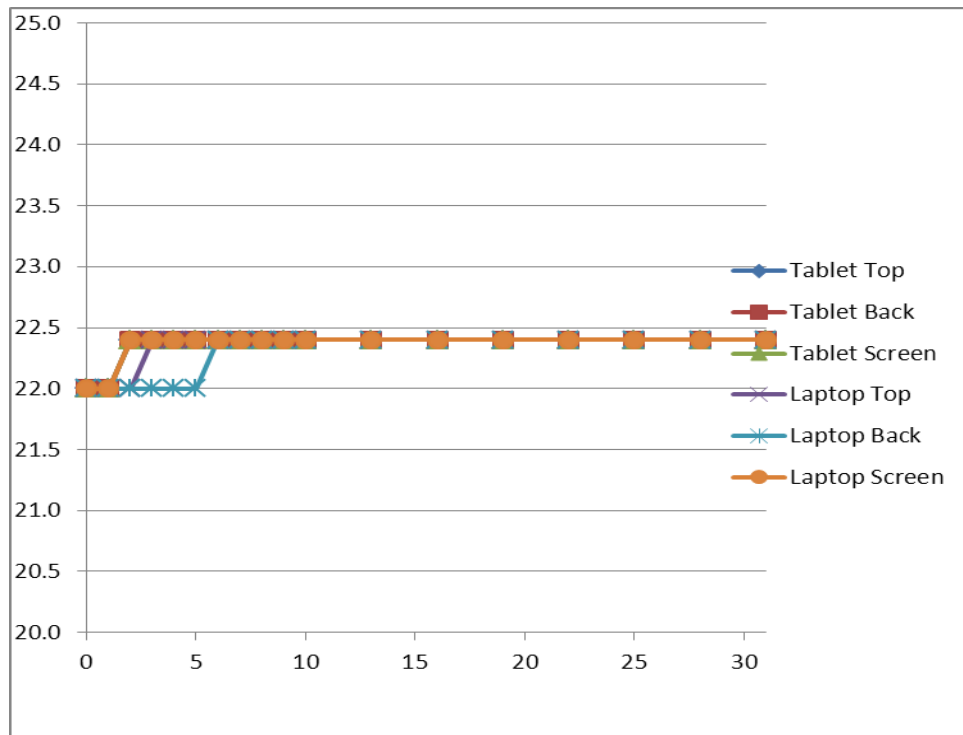
Distance mm	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	13.0	13.0	13.0	13.0	13.0	13.0
1	13.0	13.0	13.0	13.0	13.0	13.0
2	13.0	13.0	13.0	24.0	13.0	13.0
3	24.0	24.0	24.0	24.0	24.0	24.0
4	24.0	24.0	24.0	24.0	24.0	24.0
5	24.0	24.0	24.0	24.0	24.0	24.0
6	24.0	24.0	24.0	24.0	24.0	24.0
7	24.0	24.0	24.0	24.0	24.0	24.0
8	24.0	24.0	24.0	24.0	24.0	24.0
9	24.0	24.0	24.0	24.0	24.0	24.0
10	24.0	24.0	24.0	24.0	24.0	24.0
13	24.0	24.0	24.0	24.0	24.0	24.0
16	24.0	24.0	24.0	24.0	24.0	24.0
19	24.0	24.0	24.0	24.0	24.0	24.0
22	24.0	24.0	24.0	24.0	24.0	24.0
25	24.0	24.0	24.0	24.0	24.0	24.0
28	24.0	24.0	24.0	24.0	24.0	24.0
31	24.0	24.0	24.0	24.0	24.0	24.0



PROXIMITY SENSOR TESTING

LTE Band 13 10MHz Mid (782MHz) QPSK 1 RB 24 offset

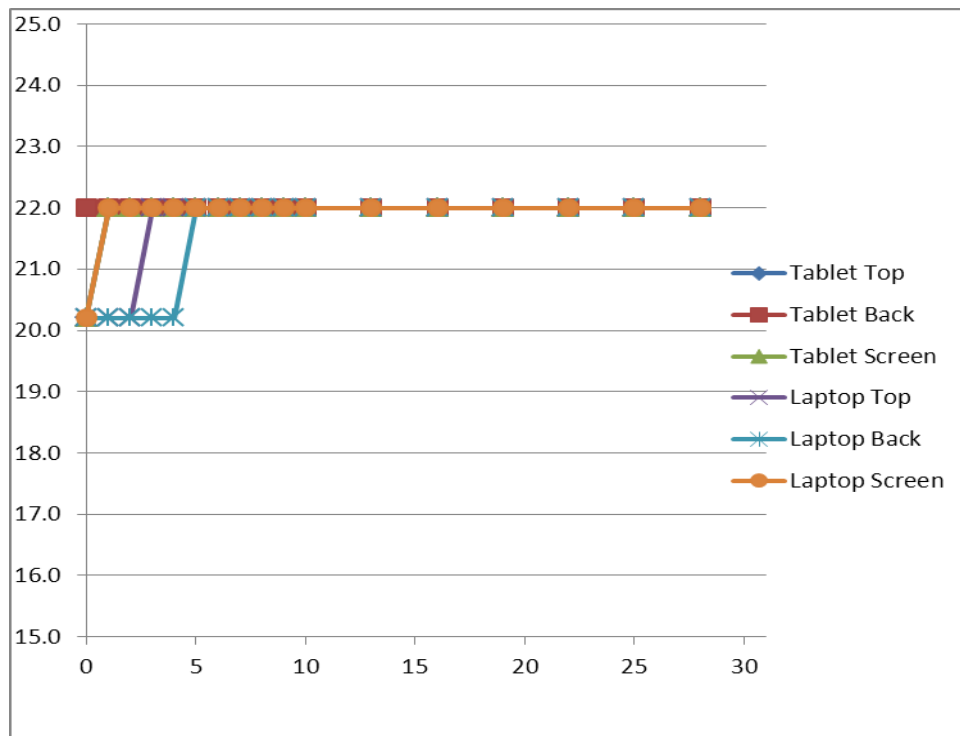
Distance mm	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0	22.0	22.0	22.0	22.0	22.0	22.0
1	22.0	22.0	22.0	22.0	22.0	22.0
2	22.4	22.4	22.4	22.0	22.0	22.4
3	22.4	22.4	22.4	22.4	22.0	22.4
4	22.4	22.4	22.4	22.4	22.0	22.4
5	22.4	22.4	22.4	22.4	22.0	22.4
6	22.4	22.4	22.4	22.4	22.4	22.4
7	22.4	22.4	22.4	22.4	22.4	22.4
8	22.4	22.4	22.4	22.4	22.4	22.4
9	22.4	22.4	22.4	22.4	22.4	22.4
10	22.4	22.4	22.4	22.4	22.4	22.4
13	22.4	22.4	22.4	22.4	22.4	22.4
16	22.4	22.4	22.4	22.4	22.4	22.4
19	22.4	22.4	22.4	22.4	22.4	22.4
22	22.4	22.4	22.4	22.4	22.4	22.4
25	22.4	22.4	22.4	22.4	22.4	22.4
28	22.4	22.4	22.4	22.4	22.4	22.4
31	22.4	22.4	22.4	22.4	22.4	22.4



PROXIMITY SENSOR TESTING

LTE Band 17 10MHz Low (709MHz) QPSK 1 RB 0 offset

Distance mm	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
1	20.2	22.0	20.2	20.2	20.2	20.2
2	22.0	22.0	22.0	20.2	20.2	22.0
3	22.0	22.0	22.0	20.2	20.2	22.0
4	22.0	22.0	22.0	22.0	20.2	22.0
5	22.0	22.0	22.0	22.0	20.2	22.0
6	22.0	22.0	22.0	22.0	22.0	22.0
7	22.0	22.0	22.0	22.0	22.0	22.0
8	22.0	22.0	22.0	22.0	22.0	22.0
9	22.0	22.0	22.0	22.0	22.0	22.0
10	22.0	22.0	22.0	22.0	22.0	22.0
13	22.0	22.0	22.0	22.0	22.0	22.0
16	22.0	22.0	22.0	22.0	22.0	22.0
19	22.0	22.0	22.0	22.0	22.0	22.0
22	22.0	22.0	22.0	22.0	22.0	22.0
25	22.0	22.0	22.0	22.0	22.0	22.0
28	22.0	22.0	22.0	22.0	22.0	22.0
31	22.0	22.0	22.0	22.0	22.0	22.0

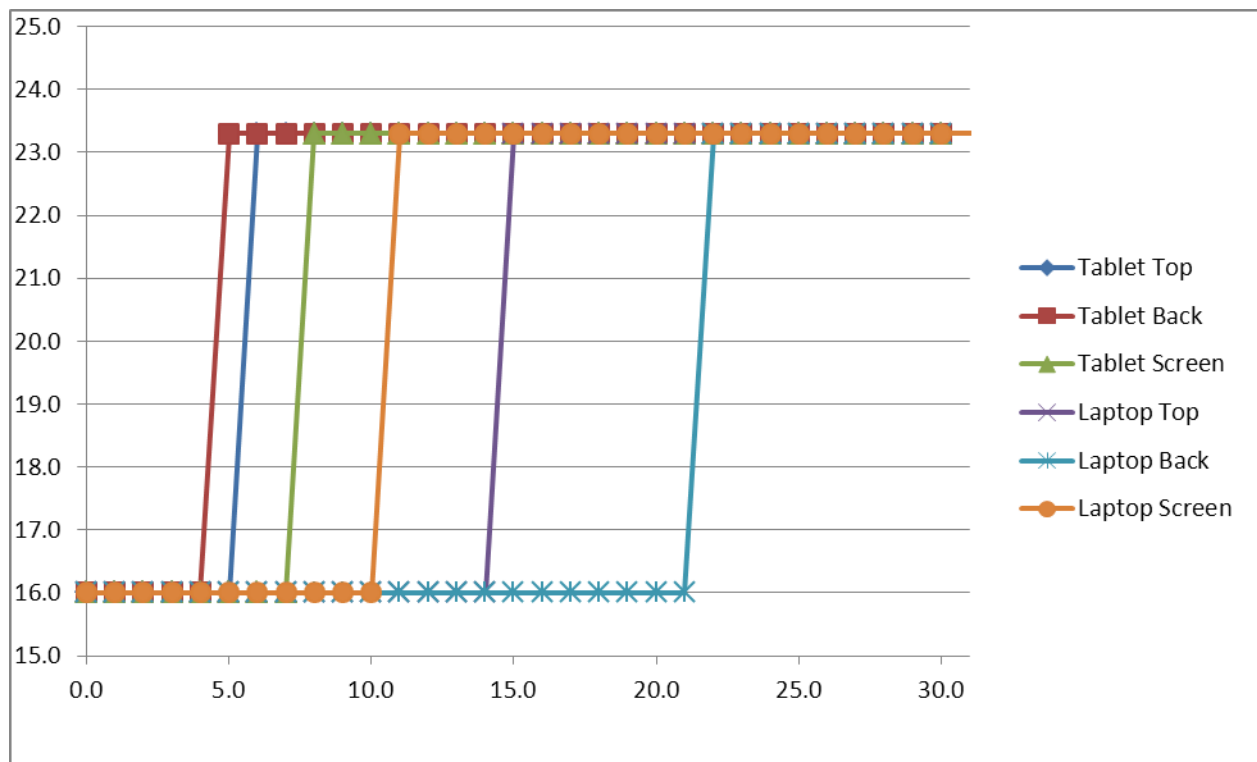


LTE Band 2 20MHz High (1900MHz) QPSK 1 RB 0 offset

Tilt Angle degrees	Output Power (dBm) - Moving Towards Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0.0	16.0	16.0	16.0	16.0	16.0	16.0
1.0	16.0	16.0	16.0	16.0	16.0	16.0
2.0	16.0	16.0	16.0	16.0	16.0	16.0
3.0	16.0	16.0	16.0	16.0	16.0	16.0
4.0	16.0	16.0	16.0	16.0	16.0	16.0
5.0	16.0	23.3	16.0	16.0	16.0	16.0
6.0	23.3	23.3	16.0	16.0	16.0	16.0
7.0	23.3	23.3	16.0	16.0	16.0	16.0
8.0	23.3	23.3	23.3	16.0	16.0	16.0
9.0	23.3	23.3	23.3	16.0	16.0	16.0
10.0	23.3	23.3	23.3	16.0	16.0	16.0
11.0	23.3	23.3	23.3	16.0	16.0	23.3
12.0	23.3	23.3	23.3	16.0	16.0	23.3
13.0	23.3	23.3	23.3	16.0	16.0	23.3
14.0	23.3	23.3	23.3	16.0	16.0	23.3
15.0	23.3	23.3	23.3	23.3	16.0	23.3
16.0	23.3	23.3	23.3	23.3	16.0	23.3
17.0	23.3	23.3	23.3	23.3	16.0	23.3
18.0	23.3	23.3	23.3	23.3	16.0	23.3
19.0	23.3	23.3	23.3	23.3	16.0	23.3
20.0	23.3	23.3	23.3	23.3	16.0	23.3
21.0	23.3	23.3	23.3	23.3	16.0	23.3
22.0	23.3	23.3	23.3	23.3	23.3	23.3
23.0	23.3	23.3	23.3	23.3	23.3	23.3
24.0	23.3	23.3	23.3	23.3	23.3	23.3
25.0	23.3	23.3	23.3	23.3	23.3	23.3
26.0	23.3	23.3	23.3	23.3	23.3	23.3
27.0	23.3	23.3	23.3	23.3	23.3	23.3
28.0	23.3	23.3	23.3	23.3	23.3	23.3
29.0	23.3	23.3	23.3	23.3	23.3	23.3
30.0	23.3	23.3	23.3	23.3	23.3	23.3
35.0	23.3	23.3	23.3	23.3	23.3	23.3
40.0	23.3	23.3	23.3	23.3	23.3	23.3
45.0	23.3	23.3	23.3	23.3	23.3	23.3
50.0	23.3	23.3	23.3	23.3	23.3	23.3
55.0	23.3	23.3	23.3	23.3	23.3	23.3
60.0	23.3	23.3	23.3	23.3	23.3	23.3

PROXIMITY SENSOR TESTING

Tilt Angle degrees	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
65.0	23.3	23.3	23.3	23.3	23.3	23.3
70.0	23.3	23.3	23.3	23.3	23.3	23.3
75.0	23.3	23.3	23.3	23.3	23.3	23.3
80.0	23.3	23.3	23.3	23.3	23.3	23.3
85.0	23.3	23.3	23.3	23.3	23.3	23.3
90.0	23.3	23.3	23.3	23.3	23.3	23.3

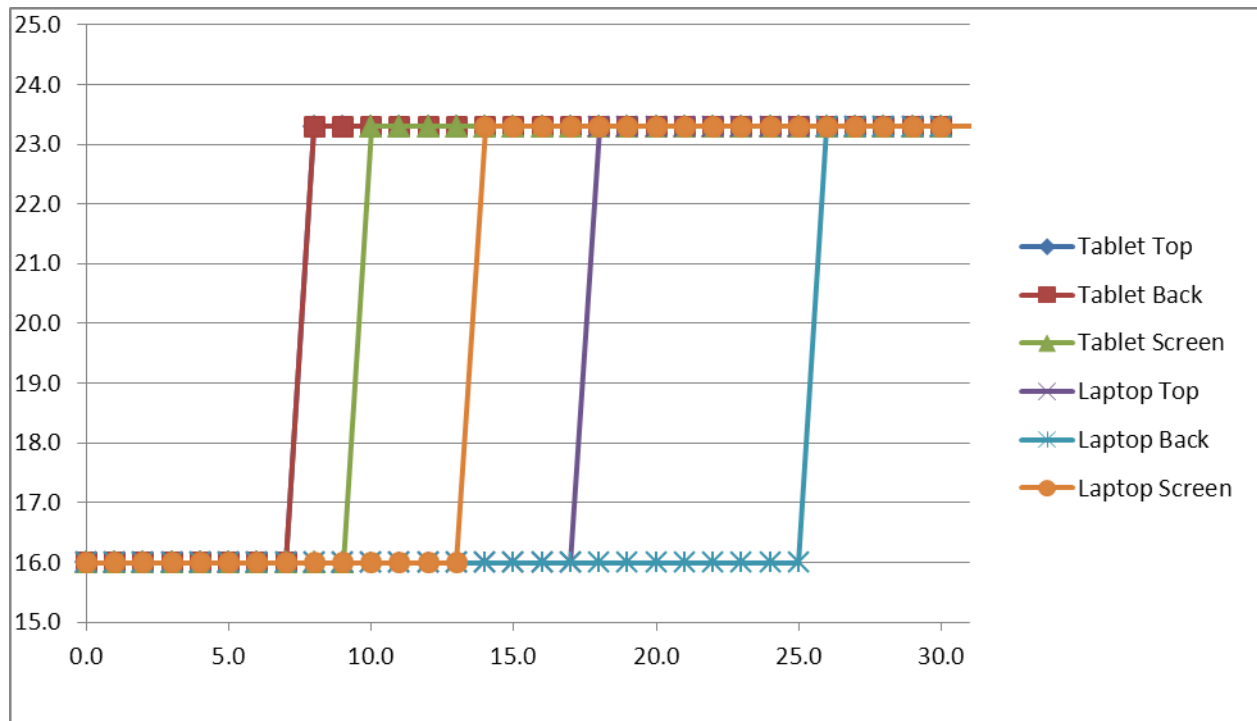


PROXIMITY SENSOR TESTING

LTE Band 2 20MHz High (1900MHz) QPSK 1 RB 0 offset

Tilt Angle degrees	Output Power (dBm) - Moving Away from Phantom					
	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
0.0	16.0	16.0	16.0	16.0	16.0	16.0
1.0	16.0	16.0	16.0	16.0	16.0	16.0
2.0	16.0	16.0	16.0	16.0	16.0	16.0
3.0	16.0	16.0	16.0	16.0	16.0	16.0
4.0	16.0	16.0	16.0	16.0	16.0	16.0
5.0	16.0	16.0	16.0	16.0	16.0	16.0
6.0	16.0	16.0	16.0	16.0	16.0	16.0
7.0	16.0	16.0	16.0	16.0	16.0	16.0
8.0	23.3	23.3	16.0	16.0	16.0	16.0
9.0	23.3	23.3	16.0	16.0	16.0	16.0
10.0	23.3	23.3	23.3	16.0	16.0	16.0
11.0	23.3	23.3	23.3	16.0	16.0	16.0
12.0	23.3	23.3	23.3	16.0	16.0	16.0
13.0	23.3	23.3	23.3	16.0	16.0	16.0
14.0	23.3	23.3	23.3	16.0	16.0	23.3
15.0	23.3	23.3	23.3	16.0	16.0	23.3
16.0	23.3	23.3	23.3	16.0	16.0	23.3
17.0	23.3	23.3	23.3	16.0	16.0	23.3
18.0	23.3	23.3	23.3	23.3	16.0	23.3
19.0	23.3	23.3	23.3	23.3	16.0	23.3
20.0	23.3	23.3	23.3	23.3	16.0	23.3
21.0	23.3	23.3	23.3	23.3	16.0	23.3
22.0	23.3	23.3	23.3	23.3	16.0	23.3
23.0	23.3	23.3	23.3	23.3	16.0	23.3
24.0	23.3	23.3	23.3	23.3	16.0	23.3
25.0	23.3	23.3	23.3	23.3	16.0	23.3
26.0	23.3	23.3	23.3	23.3	23.3	23.3
27.0	23.3	23.3	23.3	23.3	23.3	23.3
28.0	23.3	23.3	23.3	23.3	23.3	23.3
29.0	23.3	23.3	23.3	23.3	23.3	23.3
30.0	23.3	23.3	23.3	23.3	23.3	23.3
35.0	23.3	23.3	23.3	23.3	23.3	23.3
40.0	23.3	23.3	23.3	23.3	23.3	23.3
45.0	23.3	23.3	23.3	23.3	23.3	23.3
50.0	23.3	23.3	23.3	23.3	23.3	23.3
55.0	23.3	23.3	23.3	23.3	23.3	23.3

Tilt Angle degrees	Tablet			Tent (Laptop)		
	Top	Back	Screen	Top	Back	Screen
60.0	23.3	23.3	23.3	23.3	23.3	23.3
65.0	23.3	23.3	23.3	23.3	23.3	23.3
70.0	23.3	23.3	23.3	23.3	23.3	23.3
75.0	23.3	23.3	23.3	23.3	23.3	23.3
80.0	23.3	23.3	23.3	23.3	23.3	23.3
85.0	23.3	23.3	23.3	23.3	23.3	23.3
90.0	23.3	23.3	23.3	23.3	23.3	23.3



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location - LTE Band 2 = 4mm. SAR measured for low output power at 3mm, and normal full output power at 5mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode & Position	Test Distance	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	2	1900	19100	QPSK 1RB offset 0	20MHz	Tent / Back	3mm	0.02	1.10	0.55	1
Body	LTE	2	1900	19100	QPSK 1RB offset 0	20MHz	Tent / Back	5mm	0.00	0.73	0.38	2

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.2
Date:	8/21/2014	Liquid Temperature (°C):	21.7
Serial Number:	237	Humidity (%RH):	46
Configuration:	INTE5485-1	Bar. Pressure (mb):	1017
Comments:	Test Distance 3mm		

Test 1

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.57$ S/m; $\epsilon_r = 51.702$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 1.06 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.19 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.23 W/kg

SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.552 W/kg

Maximum value of SAR (measured) = 1.48 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.41 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 21.59 V/m

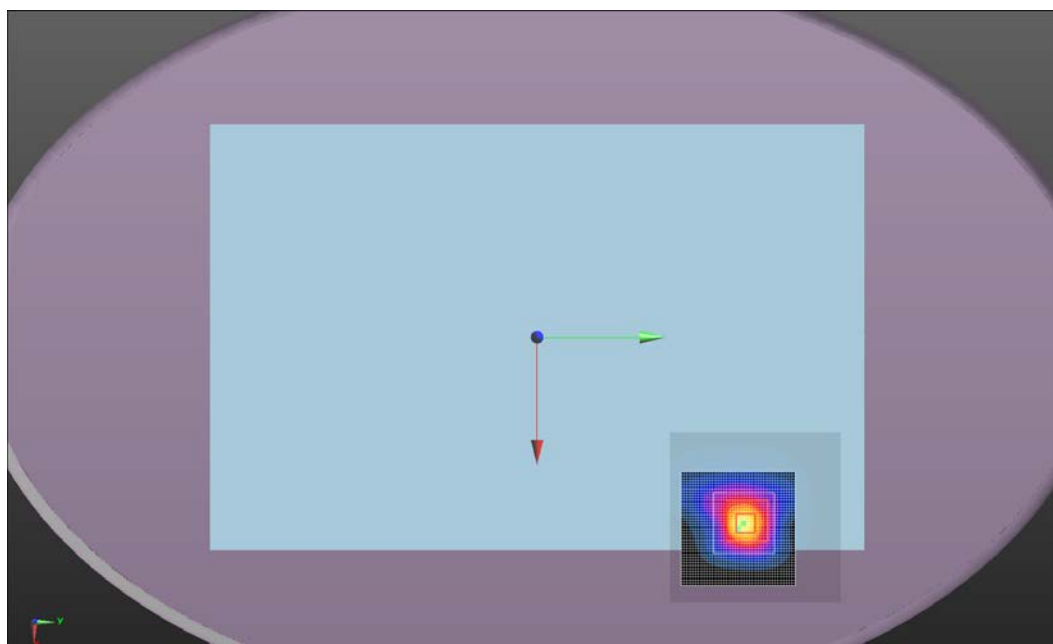
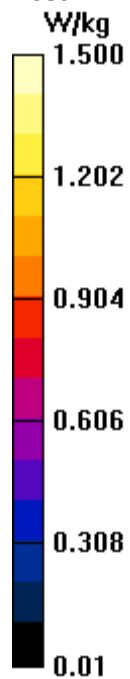
Maximum value of SAR (measured) = 0.732 W/kg



Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 1



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.3
Date:	8/21/2014	Liquid Temperature (°C):	21.5
Serial Number:	237	Humidity (%RH):	43
Configuration:	INTE5485-1	Bar. Pressure (mb):	1017
Comments:	Test Distance 5mm		

Test 2

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.57$ S/m; $\epsilon_r = 51.702$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASYS 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.962 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.16 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 0.732 W/kg; SAR(10 g) = 0.385 W/kg

Maximum value of SAR (measured) = 0.917 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.846 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 17.58 V/m

Maximum value of SAR (measured) = 0.485 W/kg

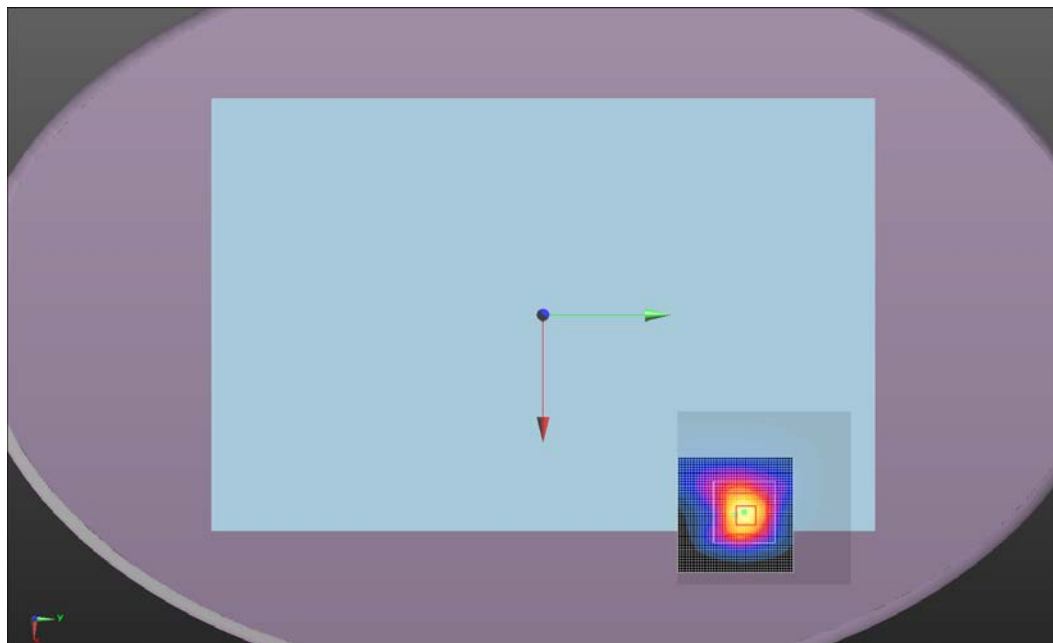
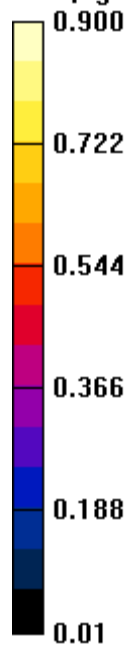


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

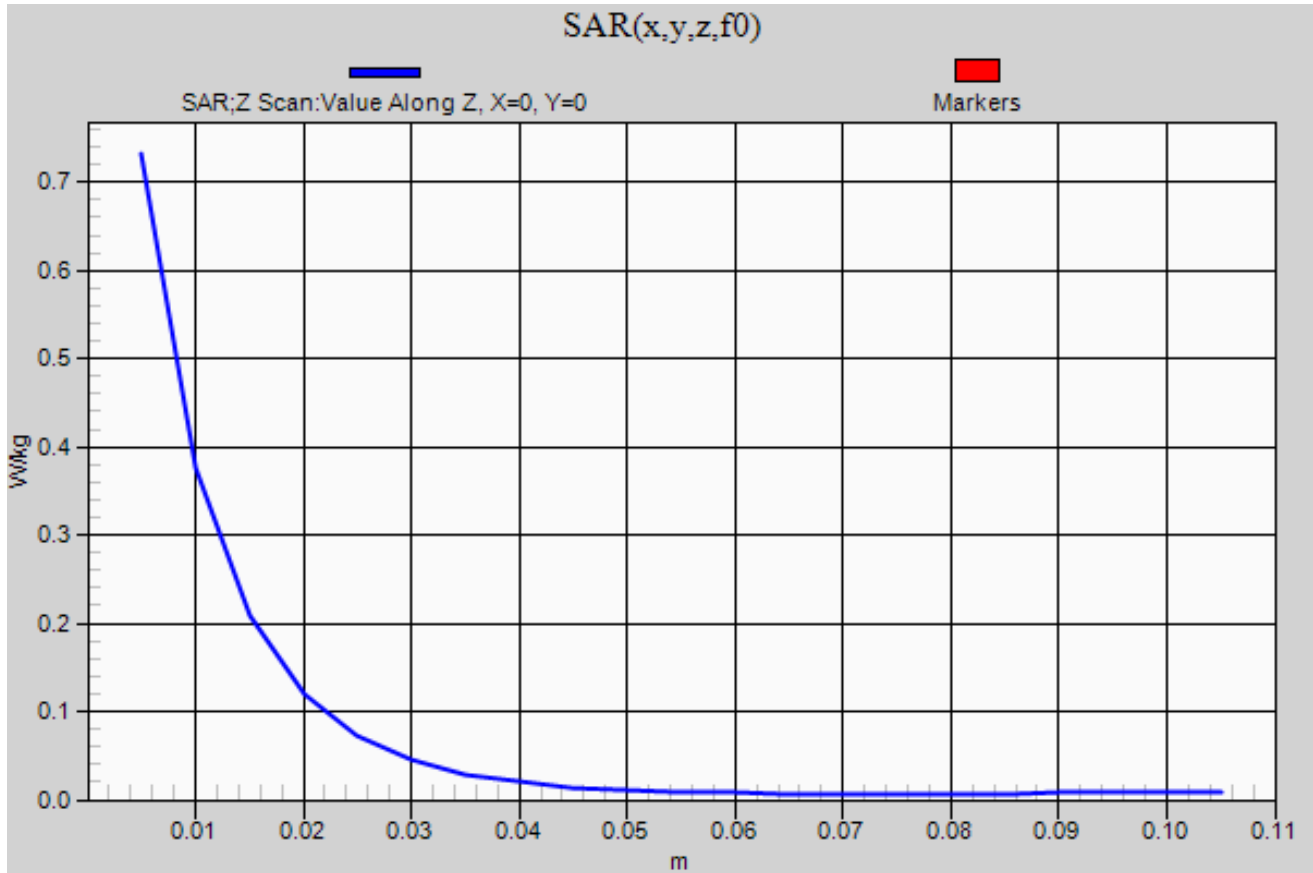
Test 2

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 1 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location - LTE Band 4 = 2mm. SAR measured for low output power at 1mm, and normal full output power at 3mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode & Position	Test Distance	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	4	1720	20050	QPSK 1RB offset 0	20MHz	Tent / Back	1mm	-0.04	0.73	0.37	3
Body	LTE	4	1720	20050	QPSK 1RB offset 0	20MHz	Tent / Back	3mm	-0.07	1.21	0.58	4

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.6
Date:	8/20/2014	Liquid Temperature (°C):	22.1
Serial Number:	237	Humidity (%RH):	37
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 1mm		

Test 3

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1720 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.518$ S/m; $\epsilon_r = 52.975$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.957 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.90 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.730 W/kg; SAR(10 g) = 0.366 W/kg

Maximum value of SAR (measured) = 0.929 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.931 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 17.86 V/m

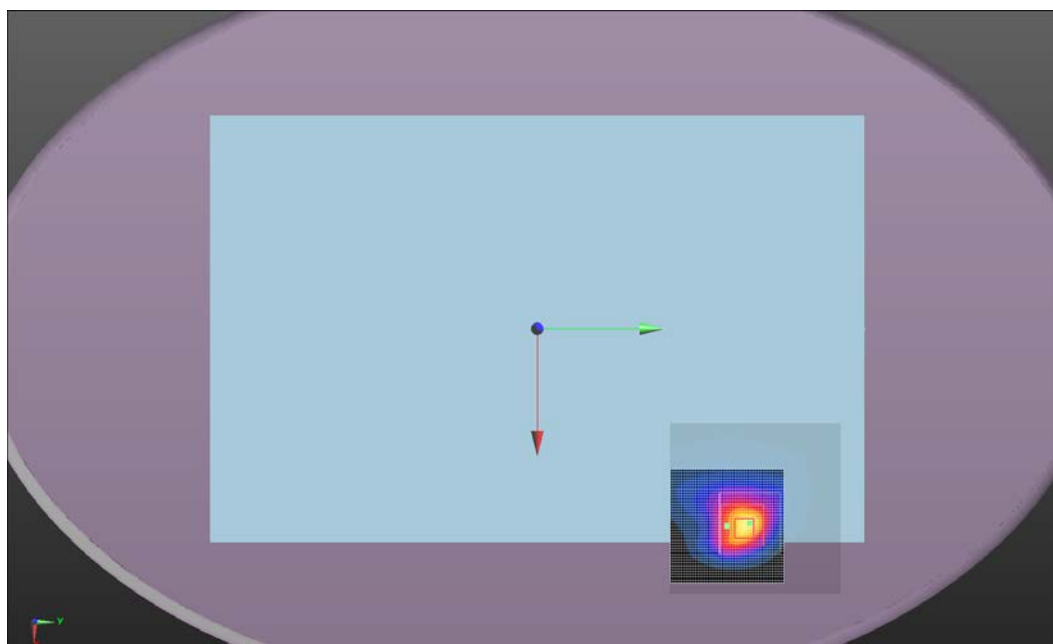
Maximum value of SAR (measured) = 0.484 W/kg



Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 3



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.6
Date:	8/20/2014	Liquid Temperature (°C):	21.1
Serial Number:	237	Humidity (%RH):	42
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 3mm		

Test 4

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1720 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.518$ S/m; $\epsilon_r = 52.975$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 1.51 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.61 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 2.58 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.585 W/kg

Maximum value of SAR (measured) = 1.65 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.43 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 22.68 V/m

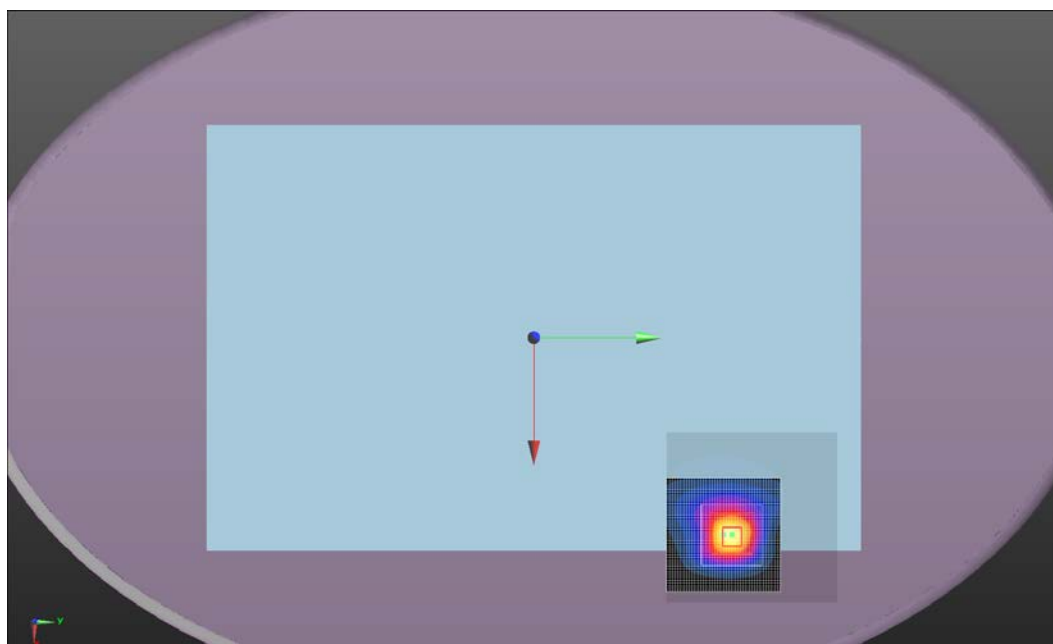
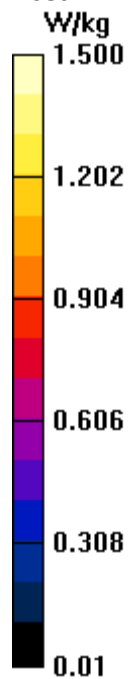
Maximum value of SAR (measured) = 0.781 W/kg



Approved By

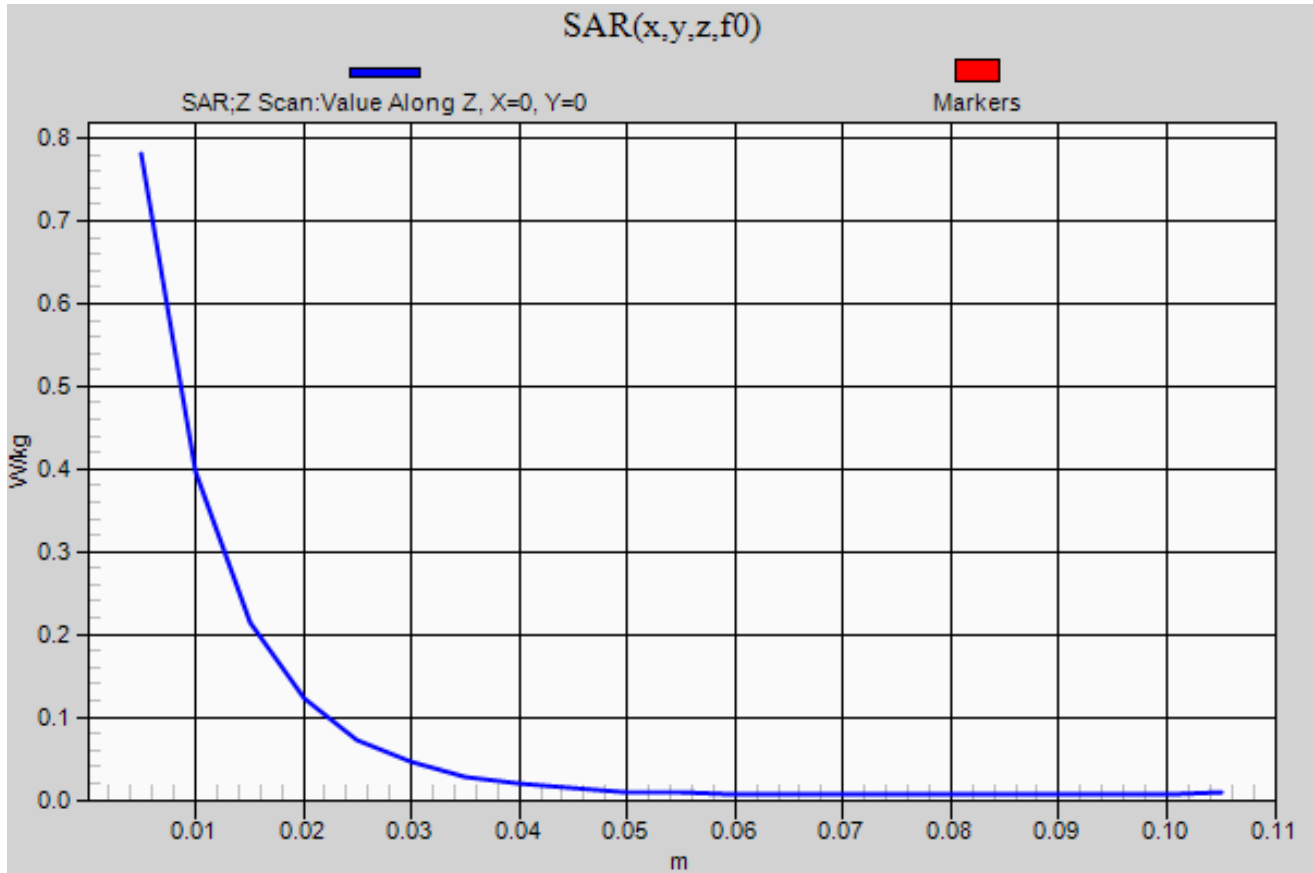
SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 4



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 4 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location - LTE Band 5 = 2mm. SAR measured for low output power at 1mm, and normal full output power at 3mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode & Position	Test Distance	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	5	836.5	20525	QPSK 1RB offset 0	10MHz	Tent / Back	1mm	-0.04	0.75	0.45	5
Body	LTE	5	836.5	20525	QPSK 1RB offset 0	10MHz	Tent / Back	3mm	0.02	0.66	0.40	6

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	23
Date:	8/19/2014	Liquid Temperature (°C):	20.5
Serial Number:	237	Humidity (%RH):	50
Configuration:	INTE5485-1	Bar. Pressure (mb):	1010
Comments:	Test Distance 1mm		

Test 5

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 836.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 1.011$ S/m; $\epsilon_r = 55.094$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.06 W/kg

Body/Body/Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.19 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.747 W/kg; SAR(10 g) = 0.449 W/kg

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

Maximum value of SAR (measured) = 0.914 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.900 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 22.35 V/m

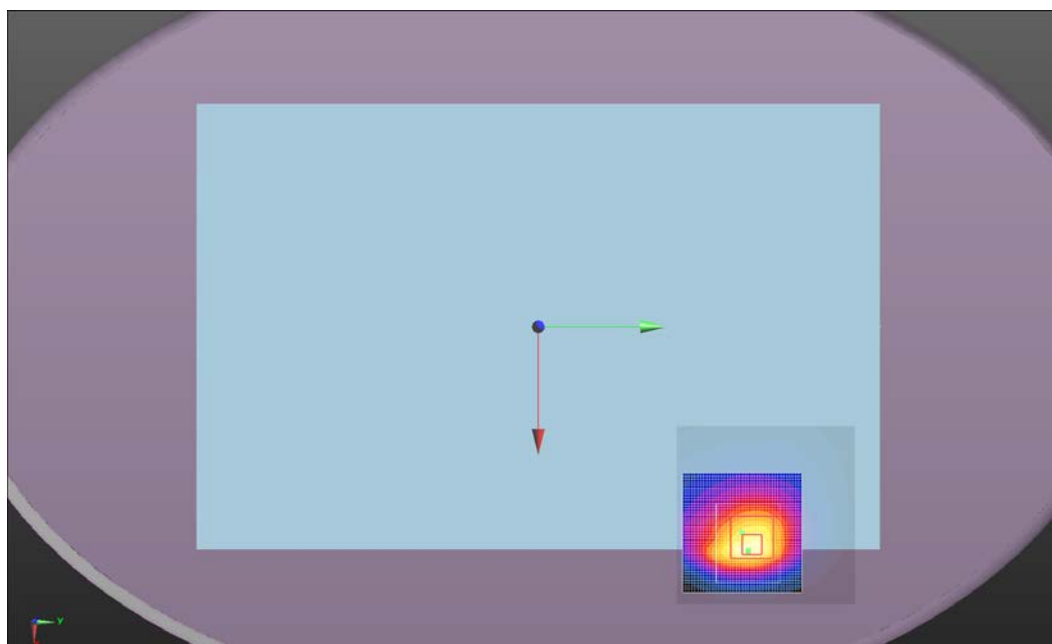
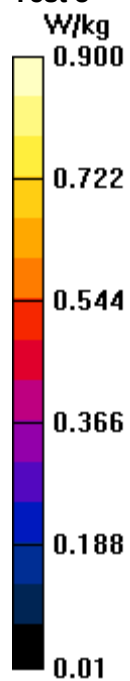
Maximum value of SAR (measured) = 0.505 W/kg



Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 5



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	23.4
Date:	8/19/2014	Liquid Temperature (°C):	20.7
Serial Number:	237	Humidity (%RH):	46
Configuration:	INTE5485-1	Bar. Pressure (mb):	1010
Comments:	Test Distance 3mm		

Test 6

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 836.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 1.011$ S/m; $\epsilon_r = 55.094$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.02 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.98 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.659 W/kg; SAR(10 g) = 0.395 W/kg

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

Maximum value of SAR (measured) = 0.795 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.736 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 21.69 V/m

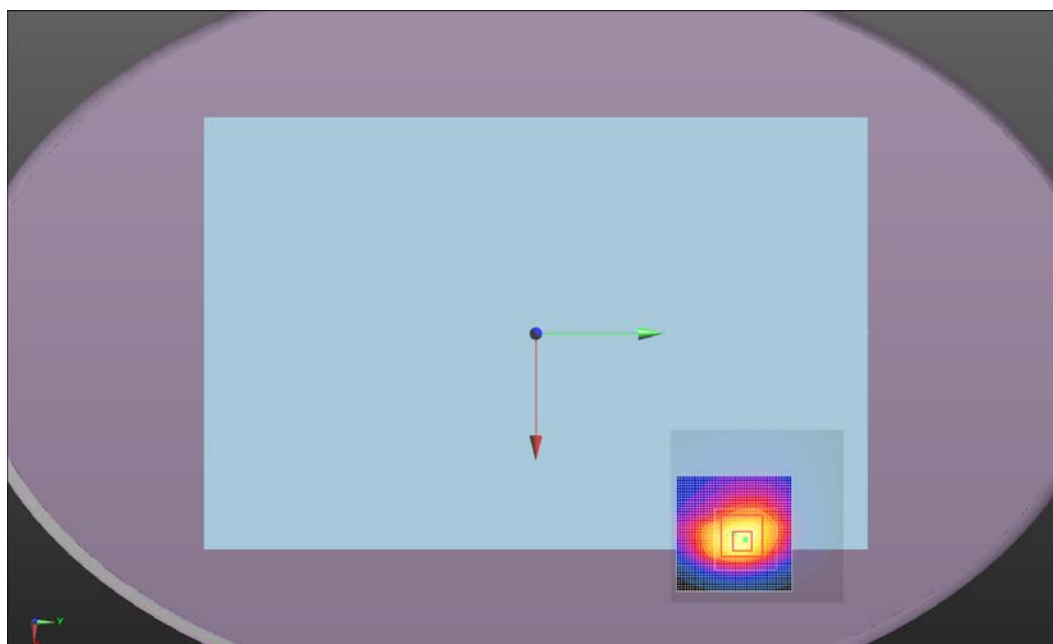
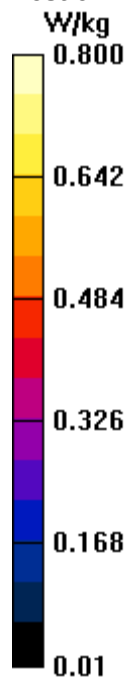
Maximum value of SAR (measured) = 0.476 W/kg



Approved By

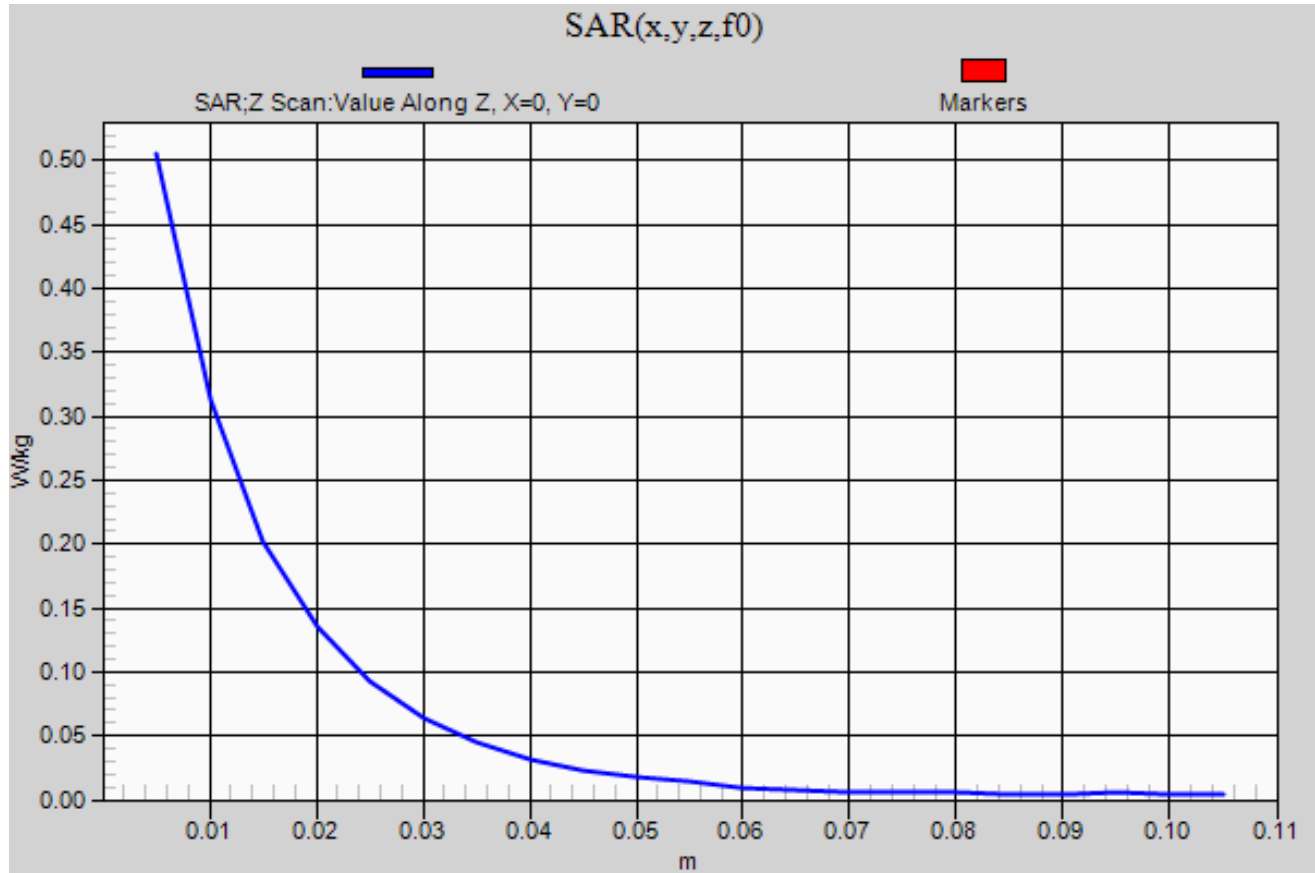
SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 6



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 5 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location - LTE Band 7 = 2mm. SAR measured for low output power at 1mm, and normal full output power at 3mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode & Position	Test Distance	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	7	2514	26890	QPSK 1RB offset 0	20MHz	Tent / Back	1mm	0.03	0.98	0.43	7
Body	LTE	7	2514	26890	QPSK 1RB offset 0	20MHz	Tent / Back	3mm	0.03	0.62	0.29	8

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.9
Date:	8/21/2014	Liquid Temperature (°C):	21.2
Serial Number:	237	Humidity (%RH):	40
Configuration:	INTE5485-1	Bar. Pressure (mb):	1017
Comments:	Test Distance 1mm		

Test 7

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2514 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 2514$ MHz; $\sigma = 2.169$ S/m; $\epsilon_r = 50.203$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.941 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.44 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.40 W/kg

SAR(1 g) = 0.975 W/kg; SAR(10 g) = 0.431 W/kg

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

Maximum value of SAR (measured) = 1.28 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 1.29 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 15.74 V/m

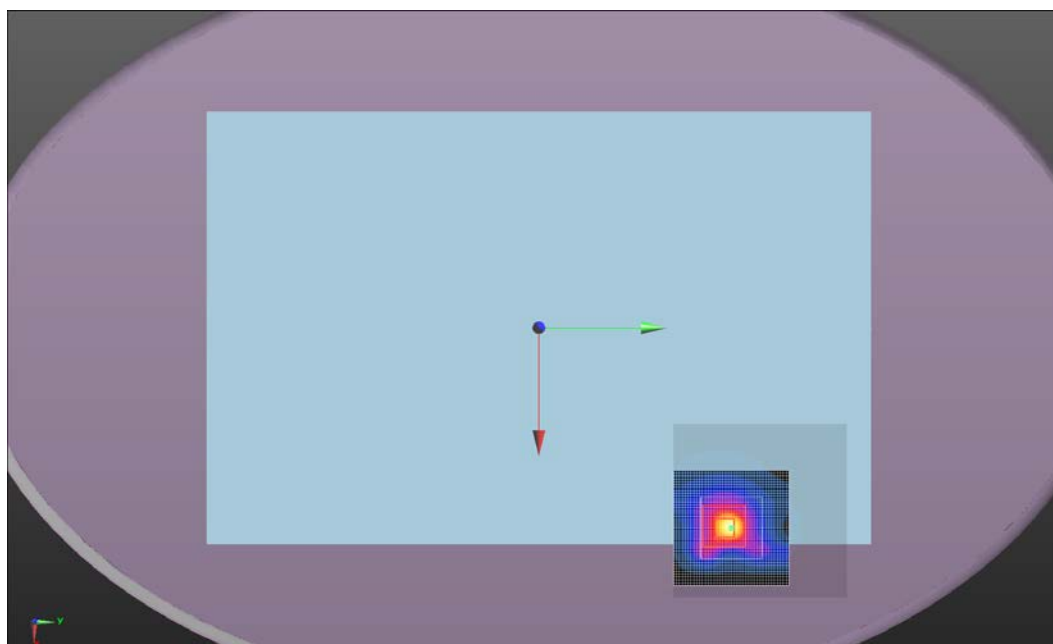
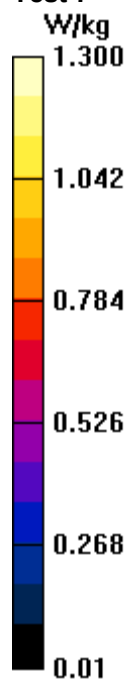
Maximum value of SAR (measured) = 0.537 W/kg



Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 7



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	21.8
Date:	8/21/2014	Liquid Temperature (°C):	21.4
Serial Number:	237	Humidity (%RH):	39
Configuration:	INTE5485-1	Bar. Pressure (mb):	1017
Comments:	Test Distance 3mm		

Test 8

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2514 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 2514$ MHz; $\sigma = 2.169$ S/m; $\epsilon_r = 50.203$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.593 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.04 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.615 W/kg; SAR(10 g) = 0.293 W/kg

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

Maximum value of SAR (measured) = 0.815 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.765 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 12.94 V/m

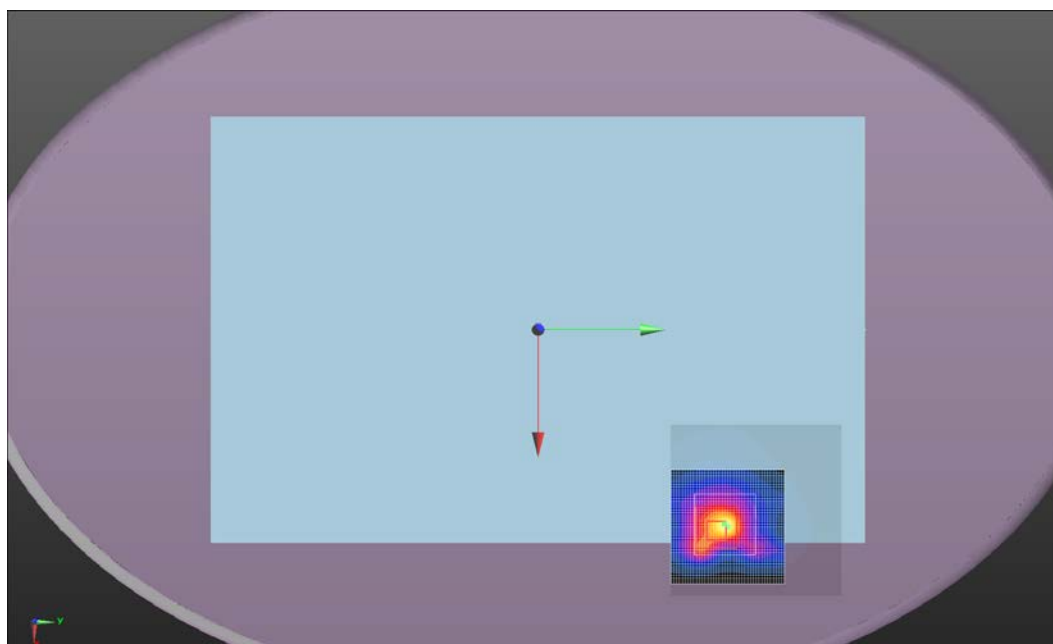
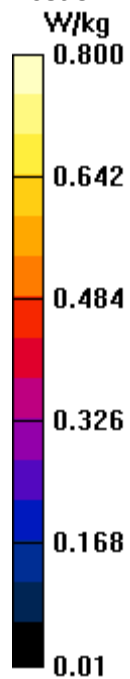
Maximum value of SAR (measured) = 0.363 W/kg



Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 8



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location - LTE Band 13 = 3mm. SAR measured for low output power at 2mm, and normal full output power at 4mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode & Position	Test Distance	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	13	782	23230	QPSK 1RB offset 24	10MHz	Tent / Back	2mm	-0.01	0.76	0.44	9
Body	LTE	13	782	23230	QPSK 1RB offset 24	10MHz	Tent / Back	4mm	-0.06	0.61	0.36	10

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	24.7
Date:	8/19/2014	Liquid Temperature (°C):	21.3
Serial Number:	237	Humidity (%RH):	42
Configuration:	INTE5485-1	Bar. Pressure (mb):	1010
Comments:	Test Distance 2mm		

Test 9

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.972 \text{ S/m}$; $\epsilon_r = 56.238$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.08 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.22 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.758 W/kg; SAR(10 g) = 0.445 W/kg

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

Maximum value of SAR (measured) = 0.949 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.856 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 23.48 V/m

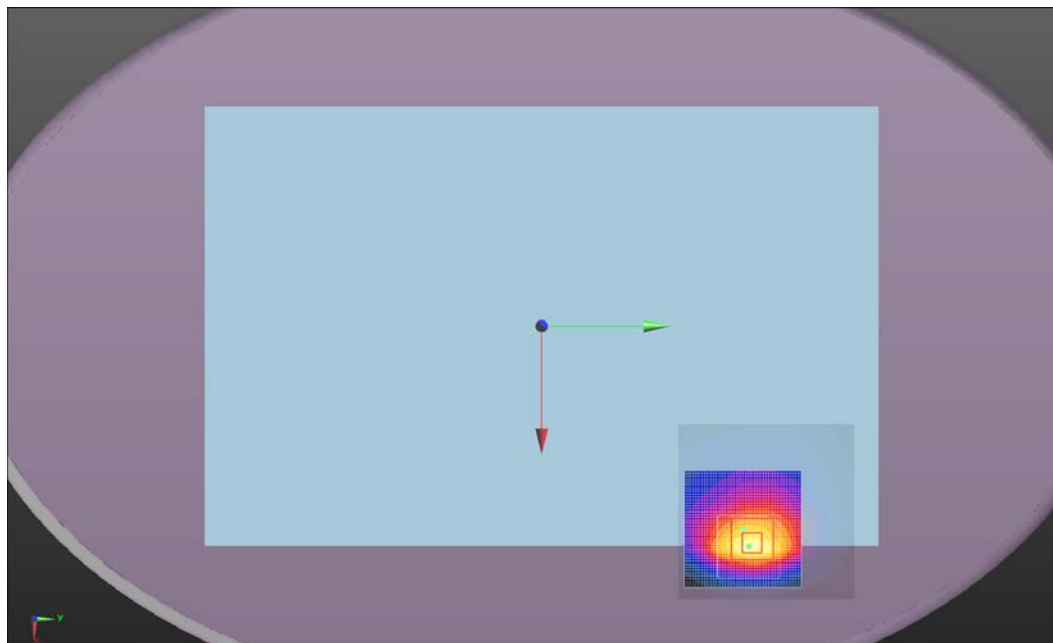
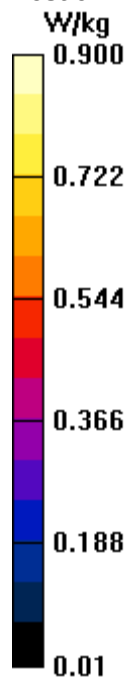
Maximum value of SAR (measured) = 0.536 W/kg



Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 9



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	24.2
Date:	8/19/2014	Liquid Temperature (°C):	21.3
Serial Number:	237	Humidity (%RH):	38
Configuration:	INTE5485-1	Bar. Pressure (mb):	1010
Comments:	Test Distance 4mm		

Test 10

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 782 \text{ MHz}$; $\sigma = 0.972 \text{ S/m}$; $\epsilon_r = 56.238$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.839 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.64 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.608 W/kg; SAR(10 g) = 0.364 W/kg

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

Maximum value of SAR (measured) = 0.747 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.692 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 21.36 V/m

Maximum value of SAR (measured) = 0.443 W/kg

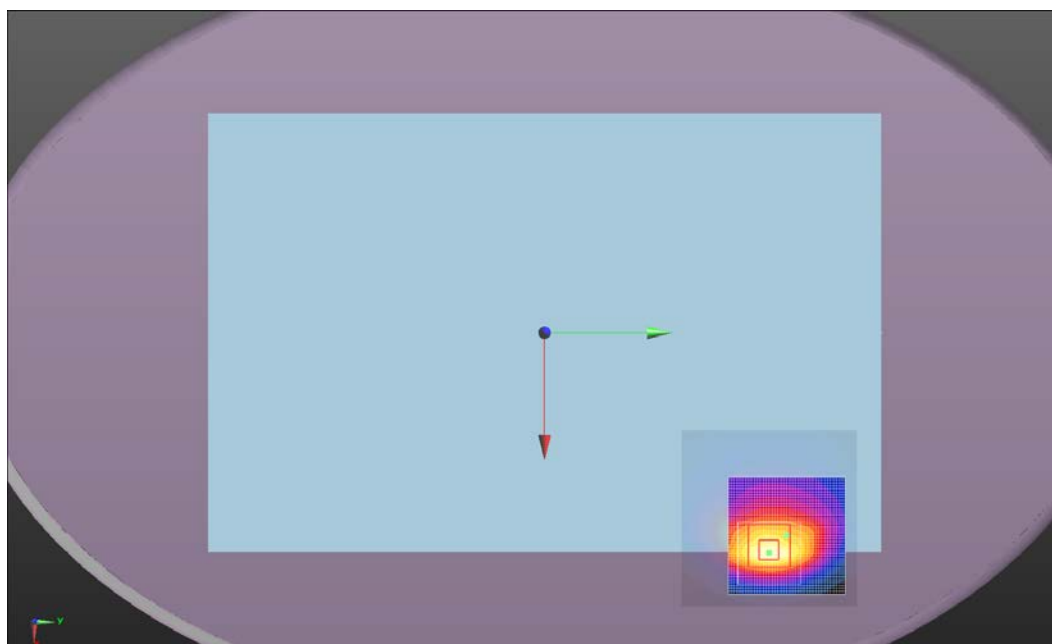
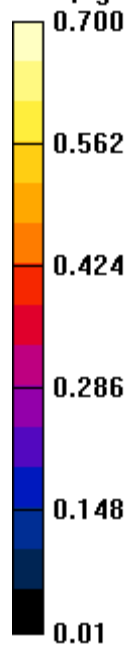


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

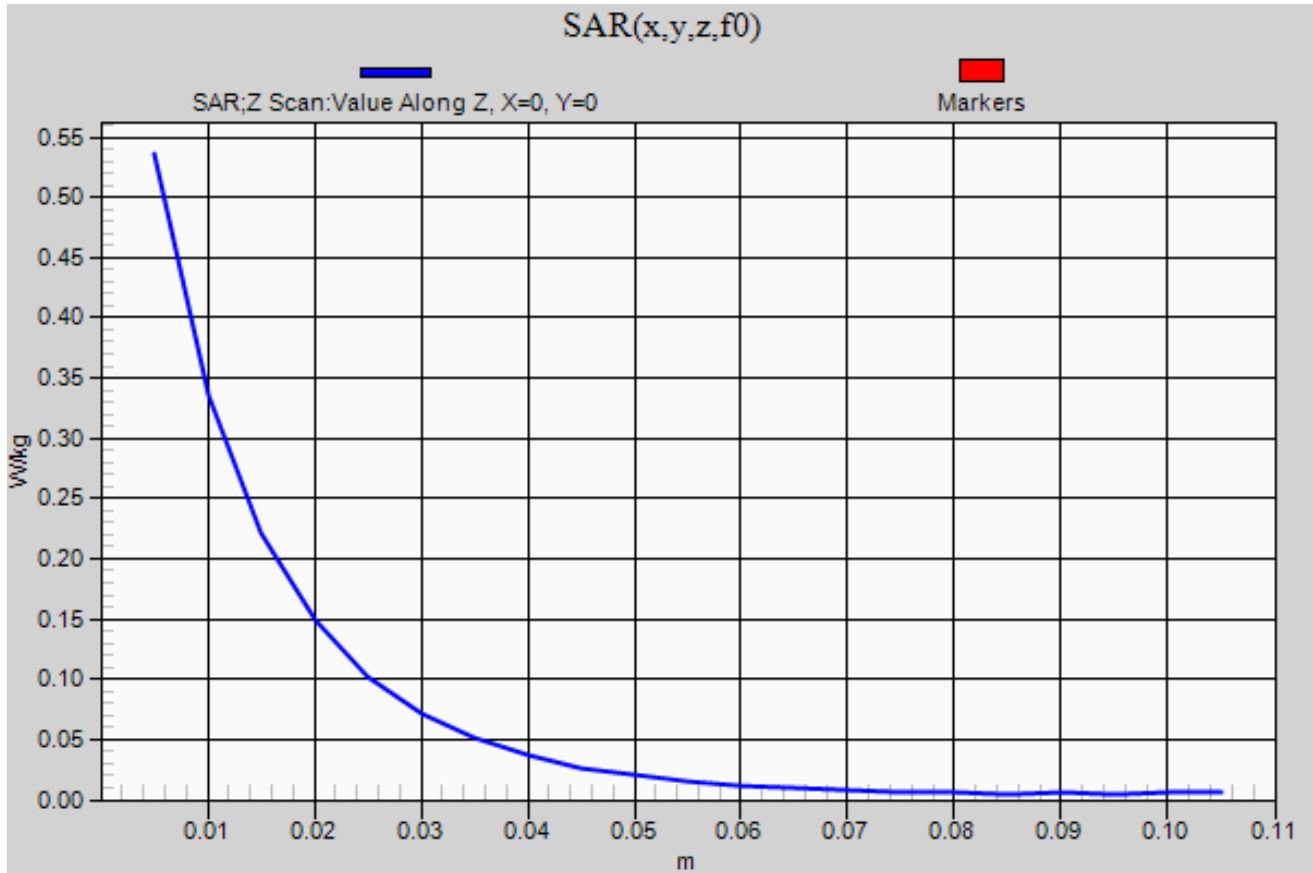
Test 10

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 9 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location - LTE Band 17 = 3mm. SAR measured for low output power at 2mm, and normal full output power at 4mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Transmit Mode	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Data Rate (Mbps)	Bandwidth	Mode & Position	Test Distance	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	LTE	17	709	23780	QPSK 1RB offset 0	10MHz	Tent / Back	2mm	0.00	0.58	0.33	11
Body	LTE	17	709	23780	QPSK 1RB offset 0	10MHz	Tent / Back	4mm	-0.02	0.41	0.24	12

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22
Date:	8/20/2014	Liquid Temperature (°C):	22
Serial Number:	237	Humidity (%RH):	50
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 2mm		

Test 11

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 709 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 709 \text{ MHz}$; $\sigma = 0.903 \text{ S/m}$; $\epsilon_r = 56.918$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: $dx=3.000 \text{ mm}$, $dy=3.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.695 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 29.26 V/m ; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.583 W/kg ; SAR(10 g) = 0.331 W/kg

Maximum value of SAR (measured) = 0.730 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.648 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

Maximum value of Total (measured) = 21.07 V/m

Maximum value of SAR (measured) = 0.401 W/kg

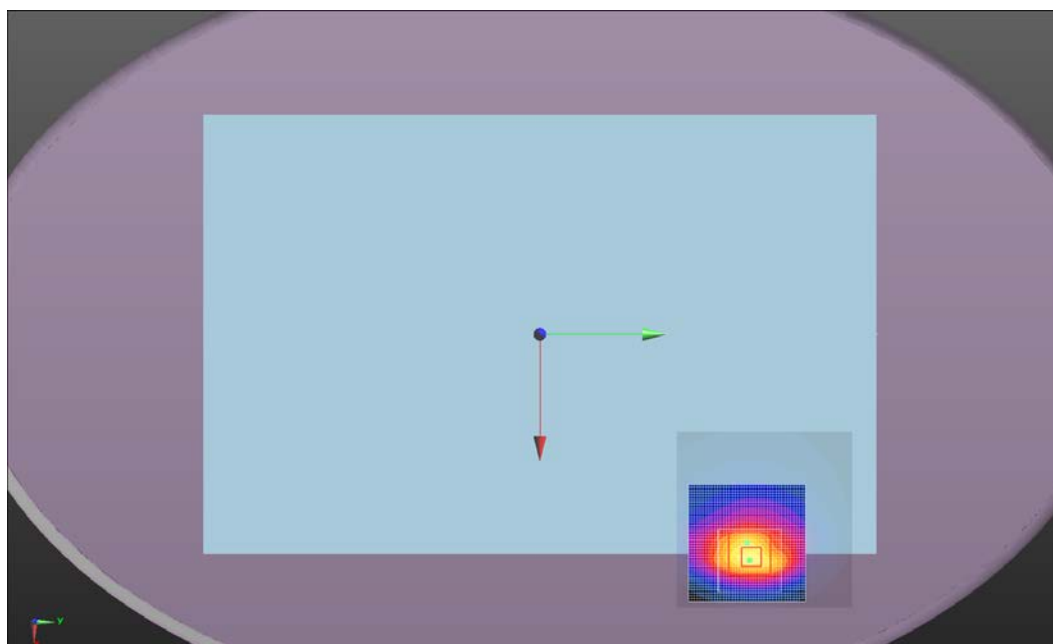
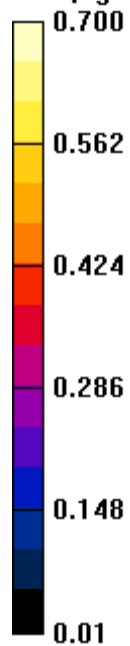


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 11

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	23
Date:	8/19/2014	Liquid Temperature (°C):	21.3
Serial Number:	237	Humidity (%RH):	36
Configuration:	INTE5485-1	Bar. Pressure (mb):	1010
Comments:	Test Distance 4mm		

Test 12

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 709 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 709 \text{ MHz}$; $\sigma = 0.903 \text{ S/m}$; $\epsilon_r = 56.918$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: $dx=3.000 \text{ mm}$, $dy=3.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.551 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.98 V/m ; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.708 W/kg

SAR(1 g) = 0.409 W/kg ; SAR(10 g) = 0.241 W/kg

Maximum value of SAR (measured) = 0.489 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.454 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$, $dz=5\text{mm}$

Maximum value of Total (measured) = 18.01 V/m

Maximum value of SAR (measured) = 0.293 W/kg

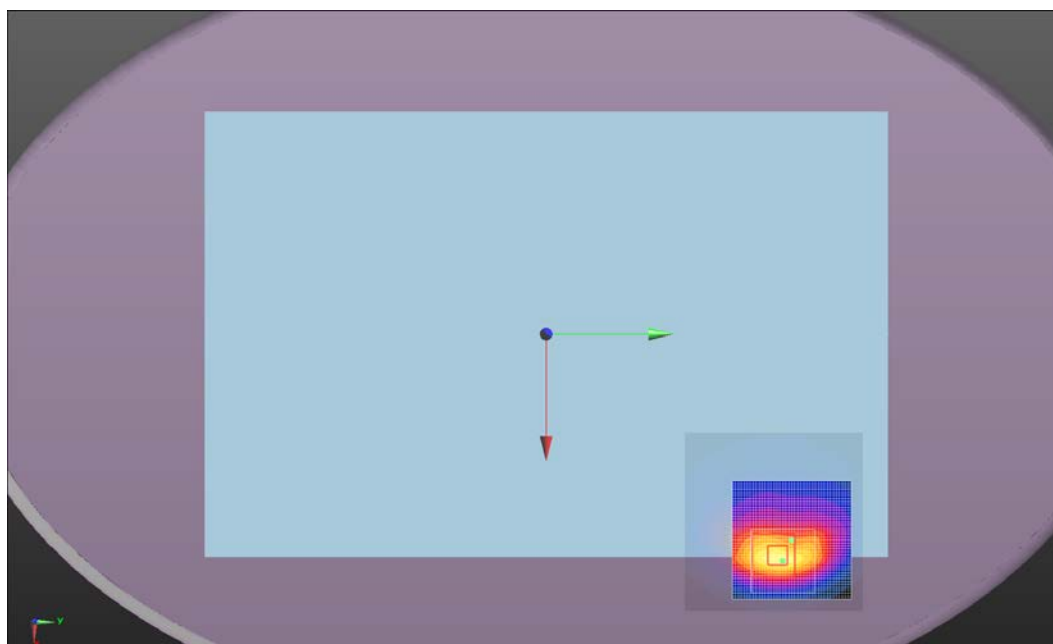
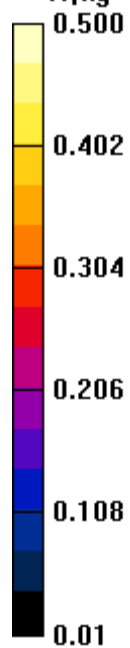


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

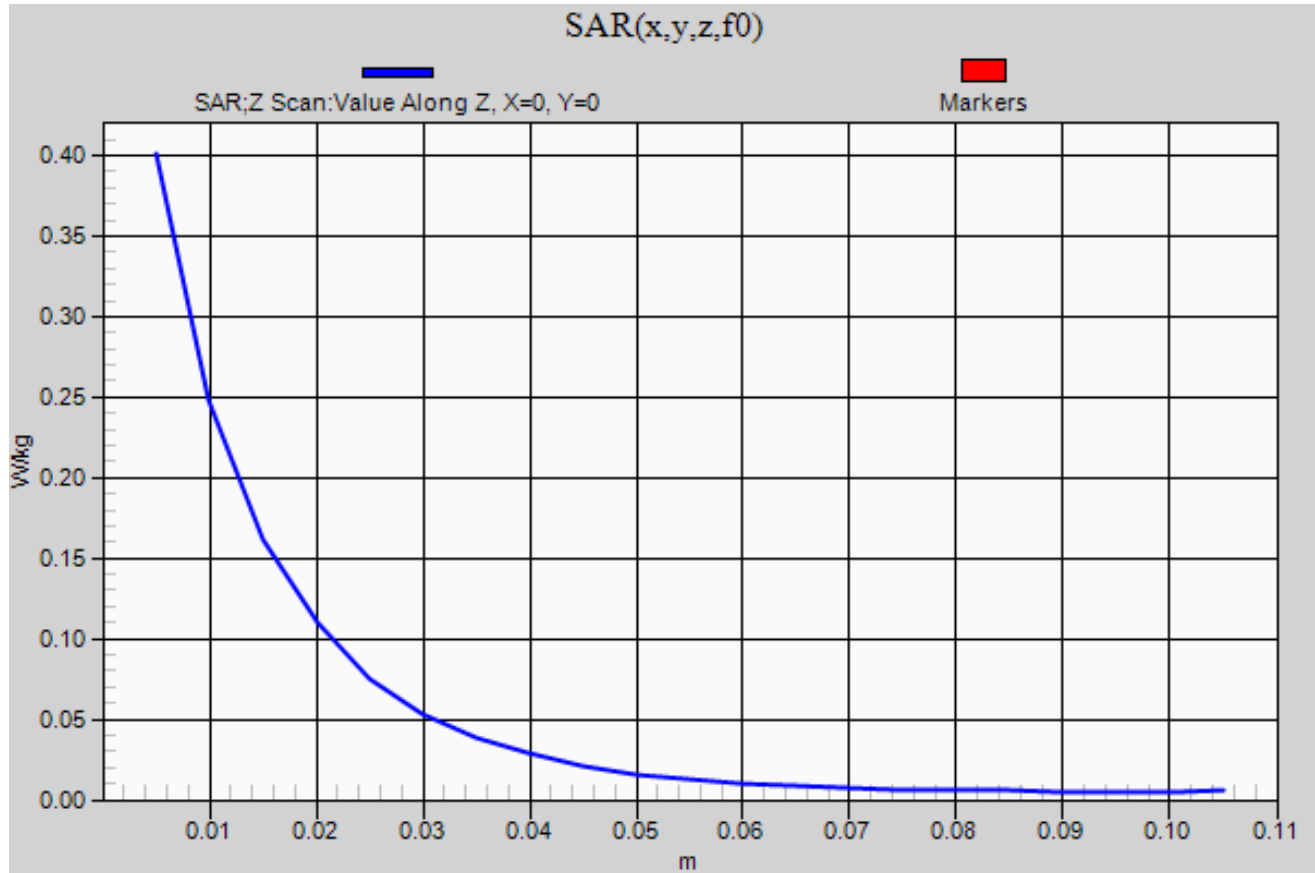
Test 12

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 11 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location – CLR 850 = 2mm. SAR measured for low output power at 1mm, and normal full output power at 3mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Transmit Mode	Data Rate (Mbps)	Test Distance	Mode	EUT Position	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	Cellular	846.6	4233	WCDMA	12.2 kbps RMC / Test Loop 1	1mm	Tent	Back	-0.01	0.73	0.44	13
Body	Cellular	846.6	4233	WCDMA	12.2 kbps RMC / Test Loop 1	3mm	Tent	Back	-0.03	0.64	0.38	14
Body	Cellular	848.6	251	E-GPRS	1 slot / GMSK (MCS-4)	1mm	Tent	Back	-0.06	0.31	0.19	15
Body	Cellular	848.6	251	E-GPRS	1 slot / GMSK (MCS-4)	3mm	Tent	Back	-0.01	0.25	0.16	16

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	21.9
Date:	8/27/2014	Liquid Temperature (°C):	20.7
Serial Number:	237	Humidity (%RH):	39
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 1mm		

Test 13

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 846.6 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 846.6 \text{ MHz}$; $\sigma = 1.012 \text{ S/m}$; $\epsilon_r = 55.059$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $\sigma = 0 \text{ S/m}$, $\epsilon_r = 1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 1.05 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.43 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.728 W/kg; SAR(10 g) = 0.443 W/kg

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

Maximum value of SAR (measured) = 0.871 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.919 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 22.81 V/m

Maximum value of SAR (measured) = 0.526 W/kg

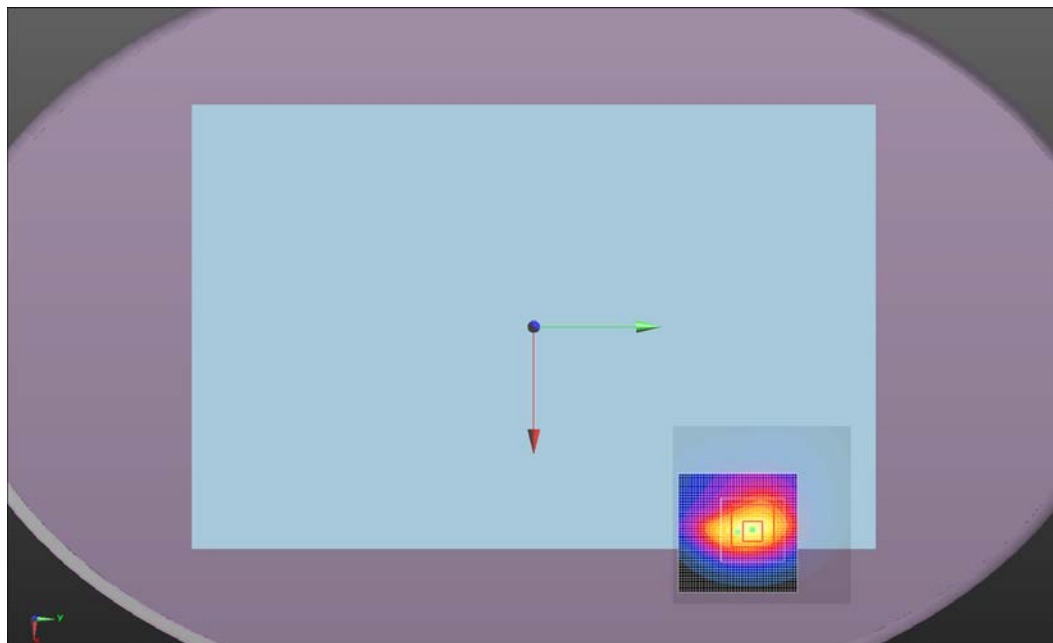
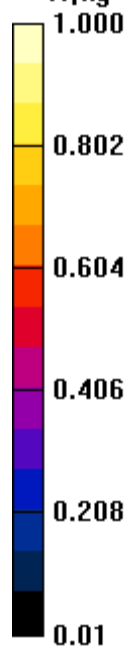


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 13

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	21.9
Date:	8/27/2014	Liquid Temperature (°C):	20.7
Serial Number:	237	Humidity (%RH):	39
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 3mm		

Test 14

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 846.6 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 1.012$ S/m; $\epsilon_r = 55.059$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.945 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.85 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.384 W/kg

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

Maximum value of SAR (measured) = 0.786 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.727 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 21.21 V/m

Maximum value of SAR (measured) = 0.455 W/kg

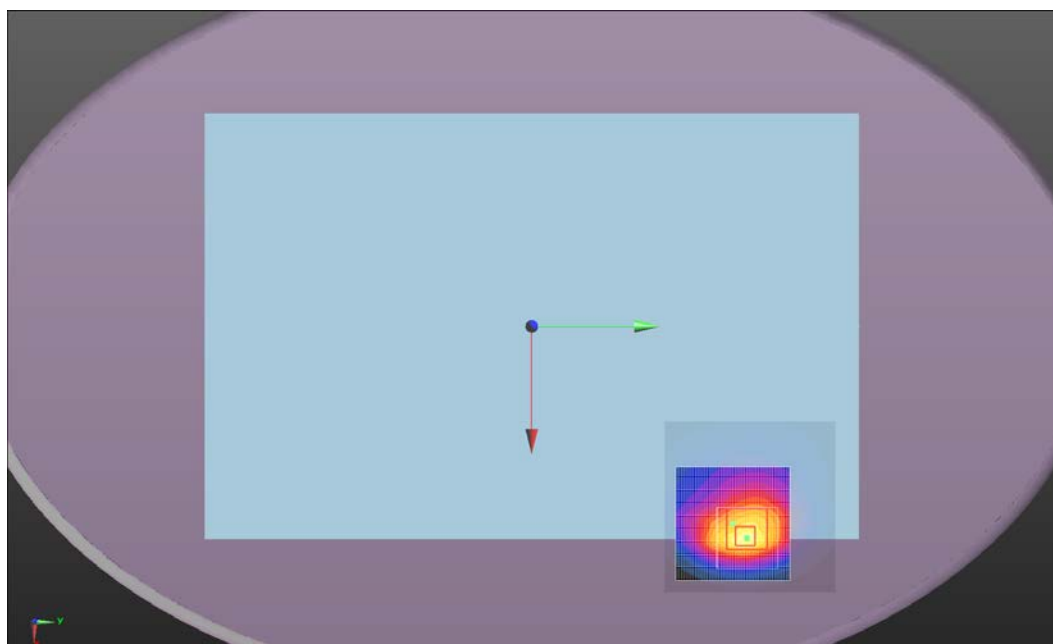
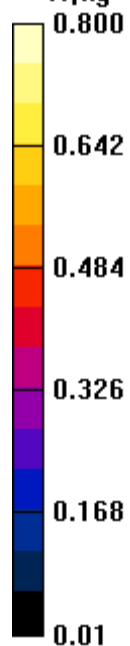


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 14

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.3
Date:	8/27/2014	Liquid Temperature (°C):	20.6
Serial Number:	237	Humidity (%RH):	48
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 1mm		

Test 15

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 848.8 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 1.011$ S/m; $\epsilon_r = 55.035$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.424 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.57 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.192 W/kg

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

Maximum value of SAR (measured) = 0.358 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.374 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 15.18 V/m

Maximum value of SAR (measured) = 0.233 W/kg

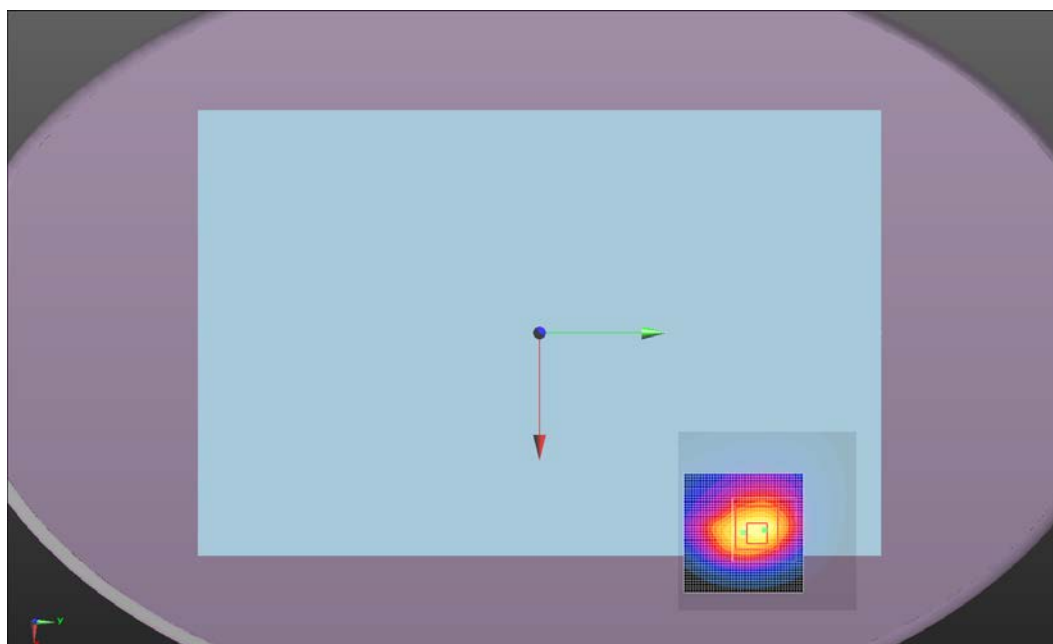
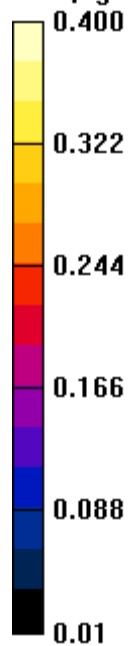


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 15

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.3
Date:	8/27/2014	Liquid Temperature (°C):	20.6
Serial Number:	237	Humidity (%RH):	48
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 3mm		

Test 16

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, GPRS and Edge (0); Communication System Band: GSM 850; Frequency: 848.6 MHz; Communication System PAR: 9.2 dB; PMF: 2.88403

Medium parameters used (interpolated): $f = 848.6$ MHz; $\sigma = 1.011$ S/m; $\epsilon_r = 55.038$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.294 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.01 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.420 W/kg

SAR(1 g) = 0.254 W/kg; SAR(10 g) = 0.155 W/kg

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

Maximum value of SAR (measured) = 0.302 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.313 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 13.58 V/m

Maximum value of SAR (measured) = 0.187 W/kg

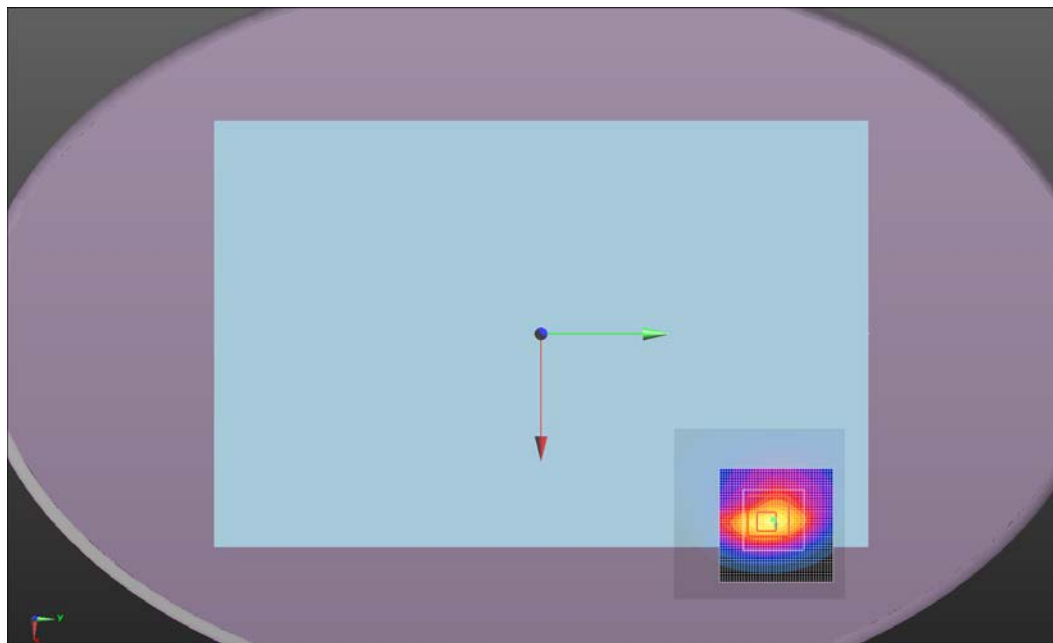
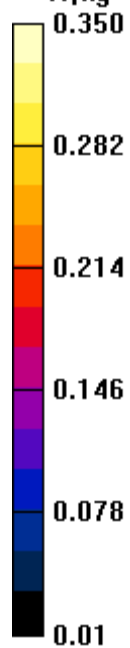


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

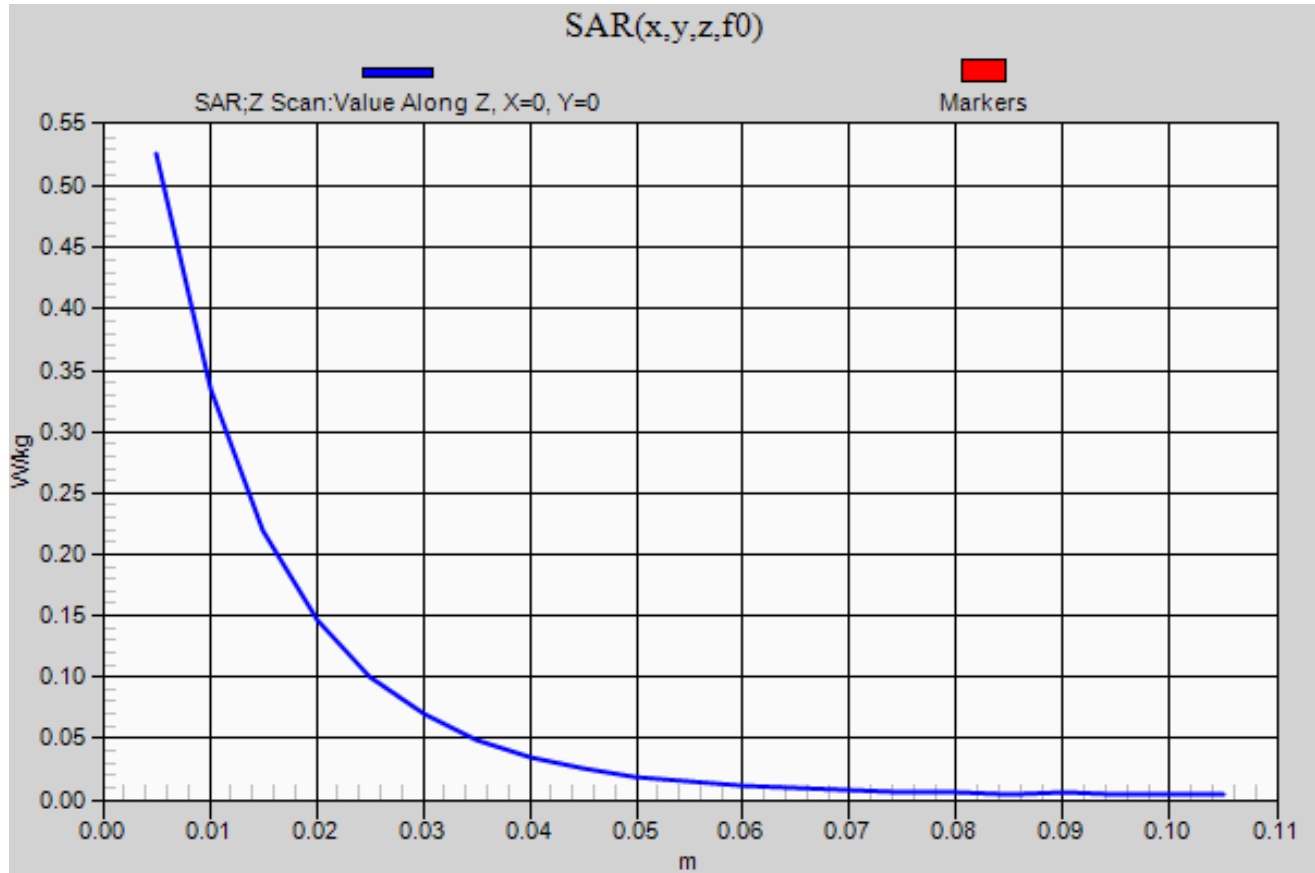
Test 16

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 13 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location – PCS 1900 band = 4mm. SAR measured for low output power at 3mm, and normal full output power at 5mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Transmit Mode	Data Rate (Mbps)	Test Distance	Mode	EUT Position	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	PCS	1909.8	810	E-GPRS	1 slot / GMSK (MCS-4)	3mm	Tent	Back	-0.03	0.21	0.11	17
Body	PCS	1909.8	810	E-GPRS	1 slot / GMSK (MCS-4)	5mm	Tent	Back	-0.02	0.16	0.09	18
Body	PCS	1880	9400	WCDMA	12.2 kbps RMC / Test Loop 1	3mm	Tent	Back	0.07	0.73	0.38	19
Body	PCS	1880	9400	WCDMA	12.2 kbps RMC / Test Loop 1	5mm	Tent	Back	-0.08	0.52	0.28	20

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	21.4
Date:	8/27/2014	Liquid Temperature (°C):	20.4
Serial Number:	237	Humidity (%RH):	42
Configuration:	INTE5485-1	Bar. Pressure (mb):	1015
Comments:	Test Distance 3mm		

Test 17

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1909.8 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.614$ S/m; $\epsilon_r = 51.692$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.161 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.39 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.392 W/kg

SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.110 W/kg

Maximum value of SAR (measured) = 0.267 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.283 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 9.213 V/m

Maximum value of SAR (measured) = 0.137 W/kg

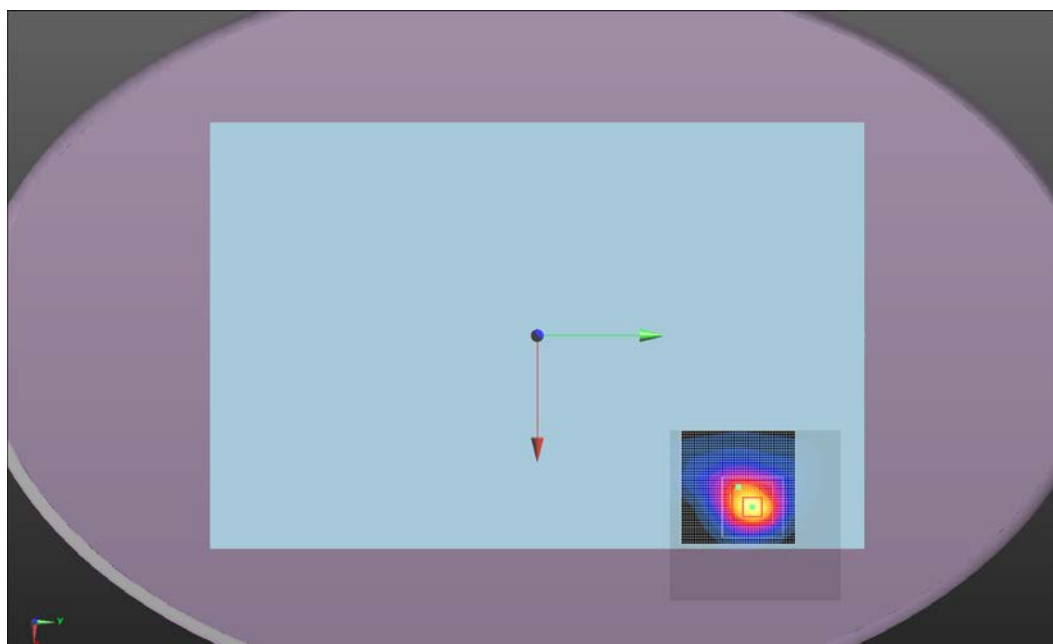
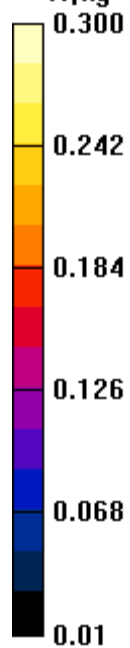


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 17

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22
Date:	8/28/2014	Liquid Temperature (°C):	21.7
Serial Number:	237	Humidity (%RH):	51
Configuration:	INTE5485-1	Bar. Pressure (mb):	1019
Comments:	Test Distance 5mm		

Test 18

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1909.8 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.614$ S/m; $\epsilon_r = 51.692$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.186 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.61 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.291 W/kg

SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.087 W/kg

Maximum value of SAR (measured) = 0.197 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.188 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 8.261 V/m

Maximum value of SAR (measured) = 0.110 W/kg

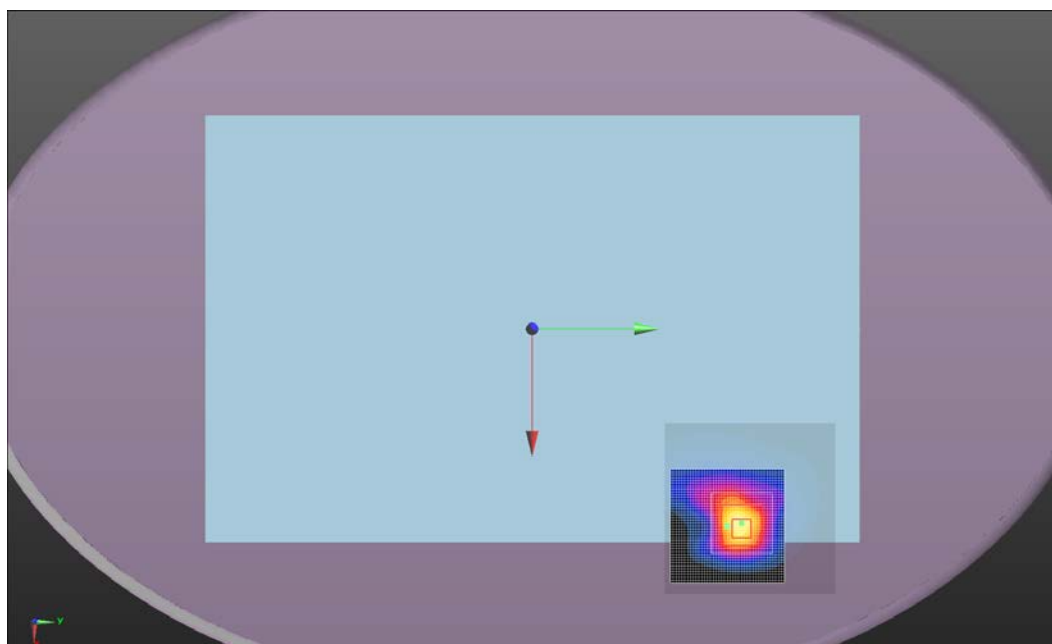
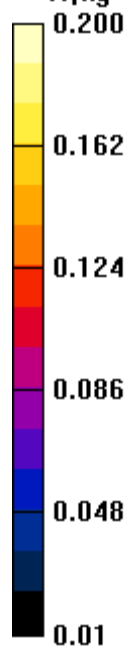


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 18

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.8
Date:	8/28/2014	Liquid Temperature (°C):	21.6
Serial Number:	237	Humidity (%RH):	49
Configuration:	INTE5485-1	Bar. Pressure (mb):	1019
Comments:	Test Distance 3mm		

Test 19

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1880 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ S/m; $\epsilon_r = 51.702$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.839 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.40 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.731 W/kg; SAR(10 g) = 0.383 W/kg

Maximum value of SAR (measured) = 0.941 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.962 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 17.78 V/m

Maximum value of SAR (measured) = 0.496 W/kg

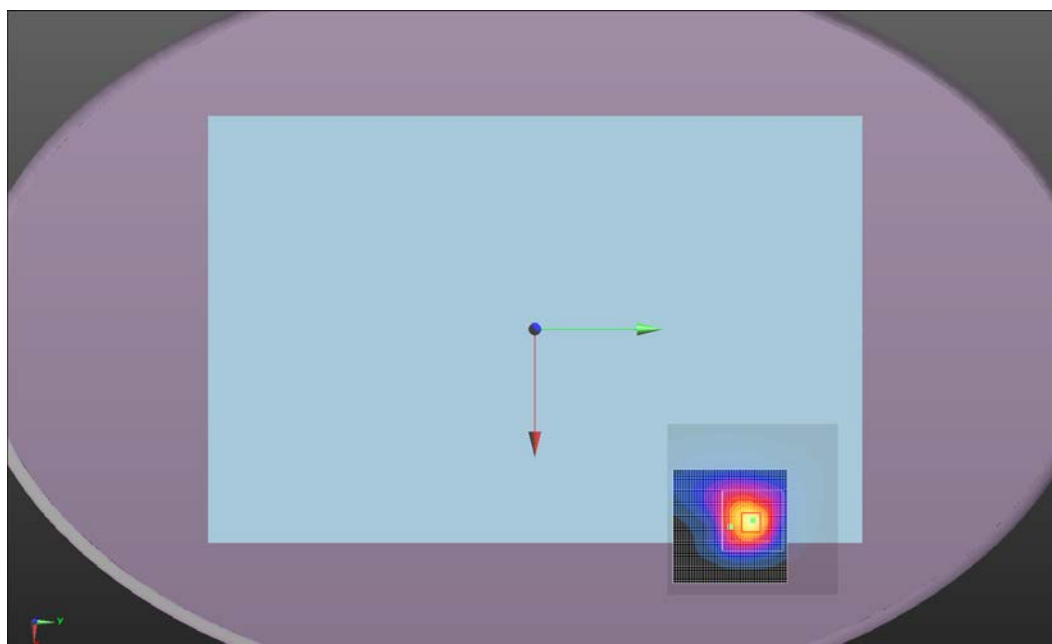
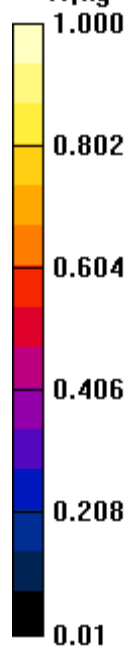


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 19

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	22.8
Date:	8/28/2014	Liquid Temperature (°C):	21.6
Serial Number:	237	Humidity (%RH):	49
Configuration:	INTE5485-1	Bar. Pressure (mb):	1019
Comments:	Test Distance 5mm		

Test 20

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1880 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ S/m; $\epsilon_r = 51.702$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

Maximum value of SAR (interpolated) = 0.615 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.48 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.957 W/kg

SAR(1 g) = 0.524 W/kg; SAR(10 g) = 0.279 W/kg

Maximum value of SAR (measured) = 0.659 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.702 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

Maximum value of Total (measured) = 15.12 V/m

Maximum value of SAR (measured) = 0.359 W/kg

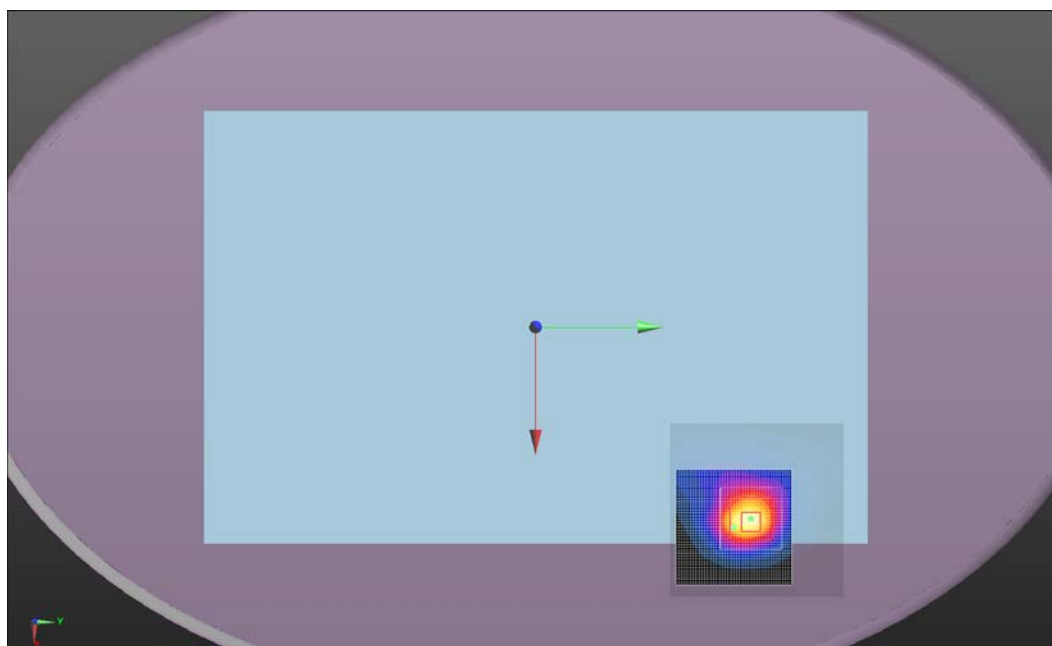
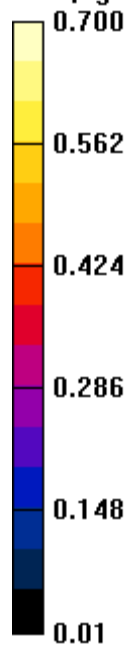


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

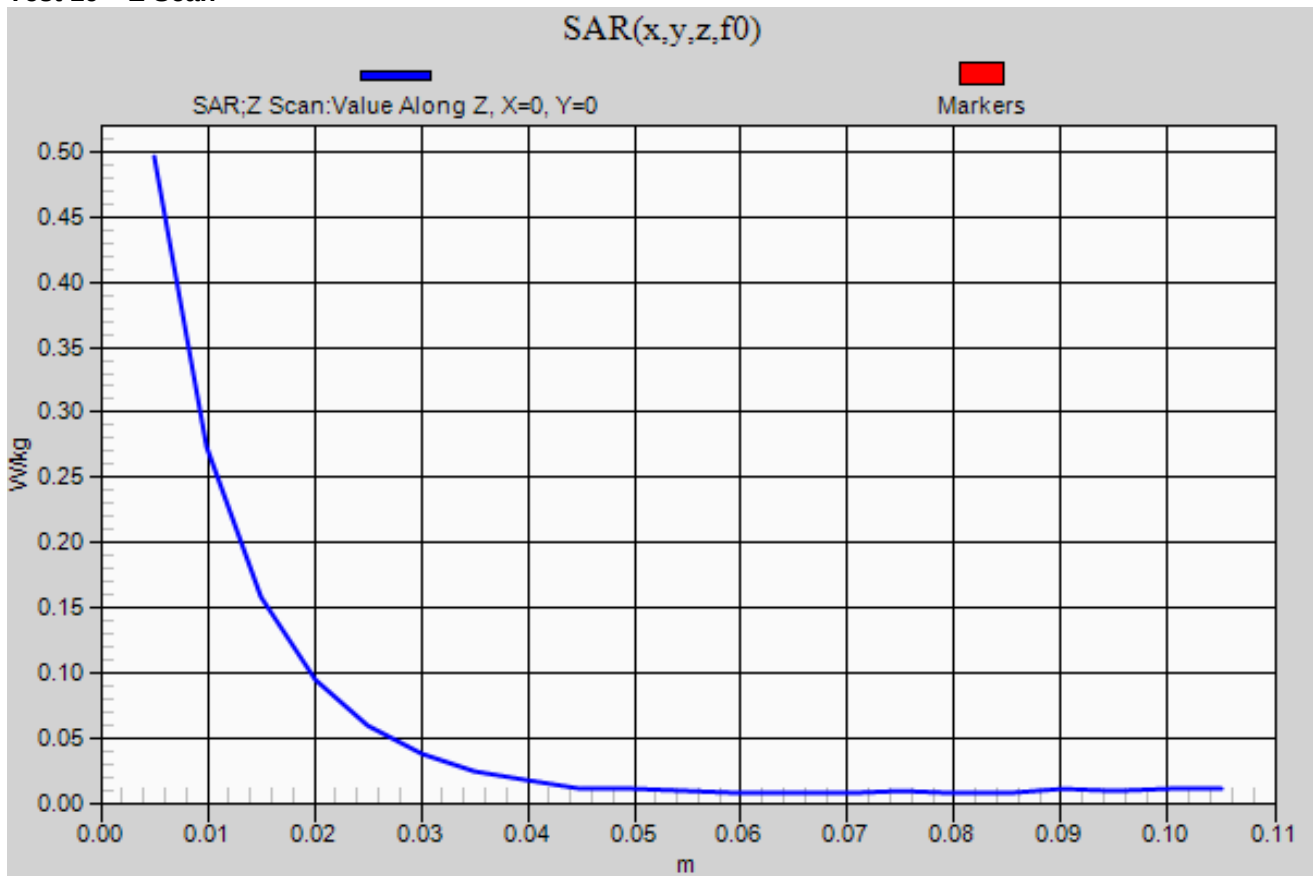
Test 20

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 19 – Z Scan



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

EUT:	WSBUB-SDS	Work Order:	INTE5485
Customer:	Intel Corporation	Job Site:	EV08
Attendees:	Mike Lowe	Customer Project:	None

TEST SPECIFICATIONS

Specification:	Method:
FCC 2.1093:2014	IEEE Std 1528:2003 FCC KDB 447498 D01 v05r02 FCC KDB 941225 D01 v02, D03 v01 and D05 v02r03 FCC KDB 616217 D04 v01r01 FCC KDB 865664 D01 v01r03 and D02 v01r01

COMMENTS

Minimum Trigger Distance for Worst Case SAR Location – AWS 1700 band = 4mm. SAR measured for low output power at 3mm, and normal full output power at 5mm.

DEVIATIONS FROM TEST STANDARD

None

RESULTS

Test Configuration	Frequency Band	Transmit Frequency (MHz)	Transmit Channel	Transmit Mode	Data Rate (Mbps)	Test Distance	Mode	EUT Position	Power Drift During Test (dB)	Measured 1g SAR Level (mW/g)	Measured 10g SAR Level (mW/g)	Test #
Body	AWS	1712.4	1312	WCDMA	12.2 kbps RMC / Test Loop 1	3mm	Tent	Back	0.02	0.58	0.30	21
Body	AWS	1712.4	1312	WCDMA	12.2 kbps RMC / Test Loop 1	5mm	Tent	Back	0.01	0.39	0.20	22

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	21.8
Date:	8/28/2014	Liquid Temperature (°C):	20.5
Serial Number:	237	Humidity (%RH):	41
Configuration:	INTE5485-1	Bar. Pressure (mb):	1019
Comments:	Test Distance 3mm		

Test 21

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1712.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.485$ S/m; $\epsilon_r = 52.135$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.546 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.45 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.580 W/kg; SAR(10 g) = 0.295 W/kg

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

Maximum value of SAR (measured) = 0.698 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.791 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 15.84 V/m

Maximum value of SAR (measured) = 0.373 W/kg

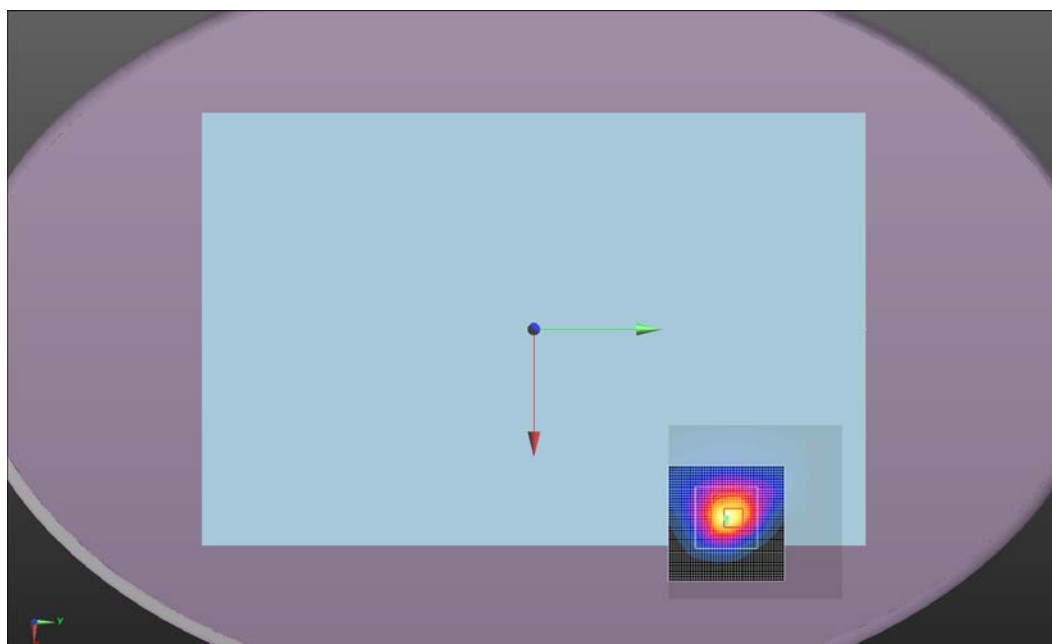
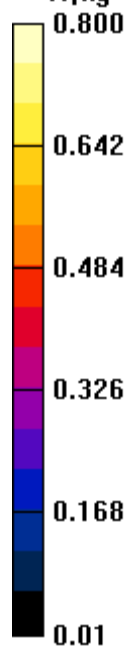


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 21

W/kg



SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Tested By:	Carl Engholm	Room Temperature (°C):	21.8
Date:	8/28/2014	Liquid Temperature (°C):	20.5
Serial Number:	237	Humidity (%RH):	41
Configuration:	INTE5485-1	Bar. Pressure (mb):	1019
Comments:	Test Distance 5mm		

Test 22

DUT: Tablet Computer; Type: WSBUB-SDS; Serial: 237

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1712.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.485$ S/m; $\epsilon_r = 52.135$; $\rho = 1000$ kg/m³, Medium parameters used: $\sigma = 0$ S/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY Configuration:

- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Body/Body/Reference scan (31x31x1): Interpolated grid: dx=3.000 mm, dy=3.000 mm

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

Maximum value of SAR (interpolated) = 0.415 W/kg

Body/Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.36 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.727 W/kg

SAR(1 g) = 0.386 W/kg; SAR(10 g) = 0.204 W/kg

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

Maximum value of SAR (measured) = 0.457 W/kg

Body/Body/Area scan (41x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Maximum value of SAR (interpolated) = 0.486 W/kg

Body/Body/Z Scan (1x1x21): Measurement grid: dx=20mm, dy=20mm, dz=5mm

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

Maximum value of Total (measured) = 13.26 V/m

Maximum value of SAR (measured) = 0.261 W/kg

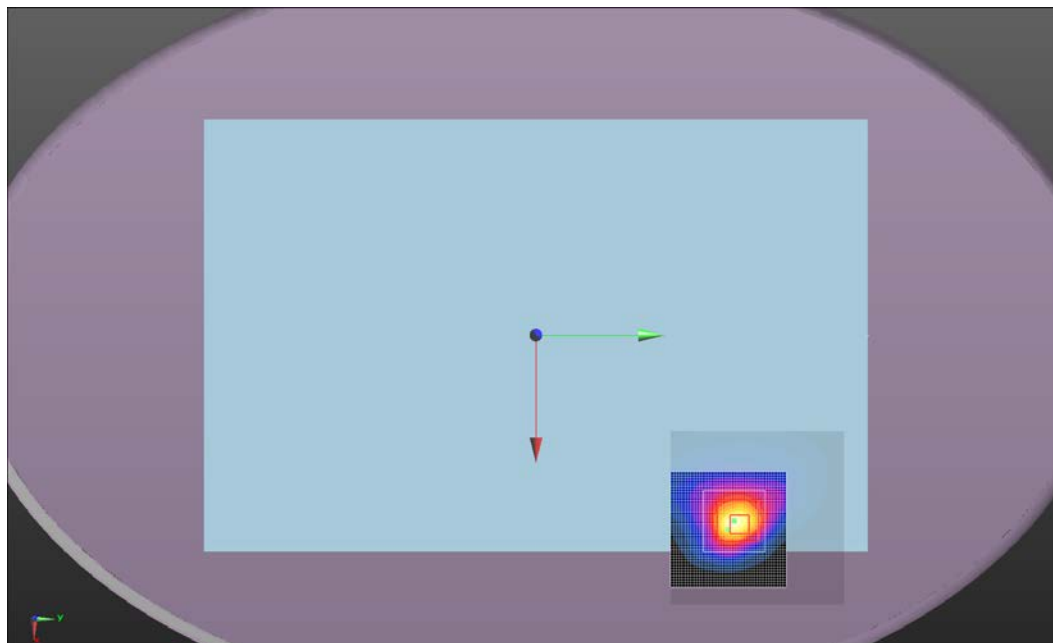
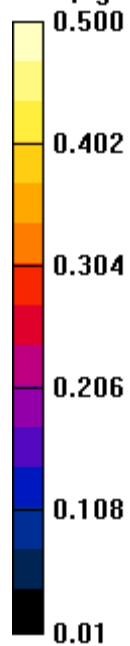


Approved By

SAR TEST DATA AT +/- 1mm TO THE TRIGGER DISTANCE

Test 22

W/kg

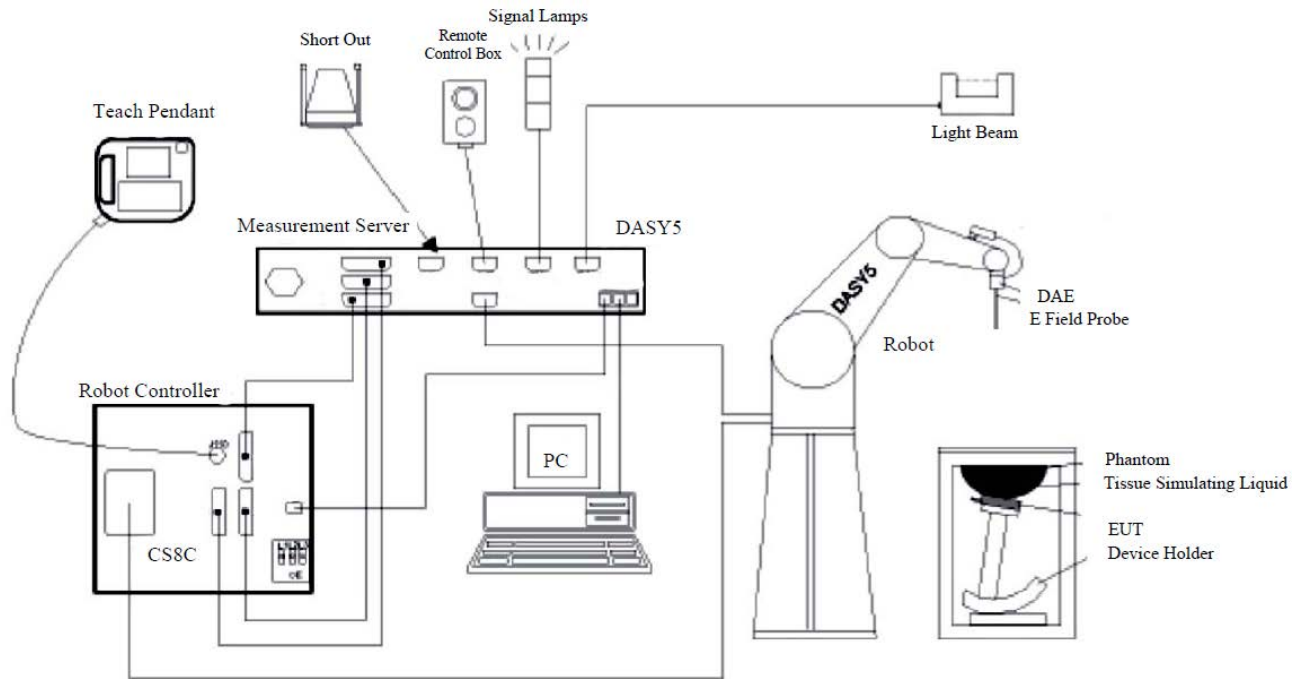


SAR MEASUREMENT SYSTEM

Schmid & Partner Engineering AG, DASY52

Northwest EMC selected the leader in SAR evaluation systems to provide the measurement tools for this evaluation. SPEAG's DASY52 is the fastest and most accurate scanner on the market. It is fully compatible with all world-wide standards for transmitters operating at the ear or within 20cm of the body. It provides full compatibility with IEC 62209-1, IEC 62209-2, IEEE 1528 as well as national adaptations such as FCC OET-65c and Korean Std. MIC #2000-93

The DASY52 system for performing compliance tests consists of the following items:



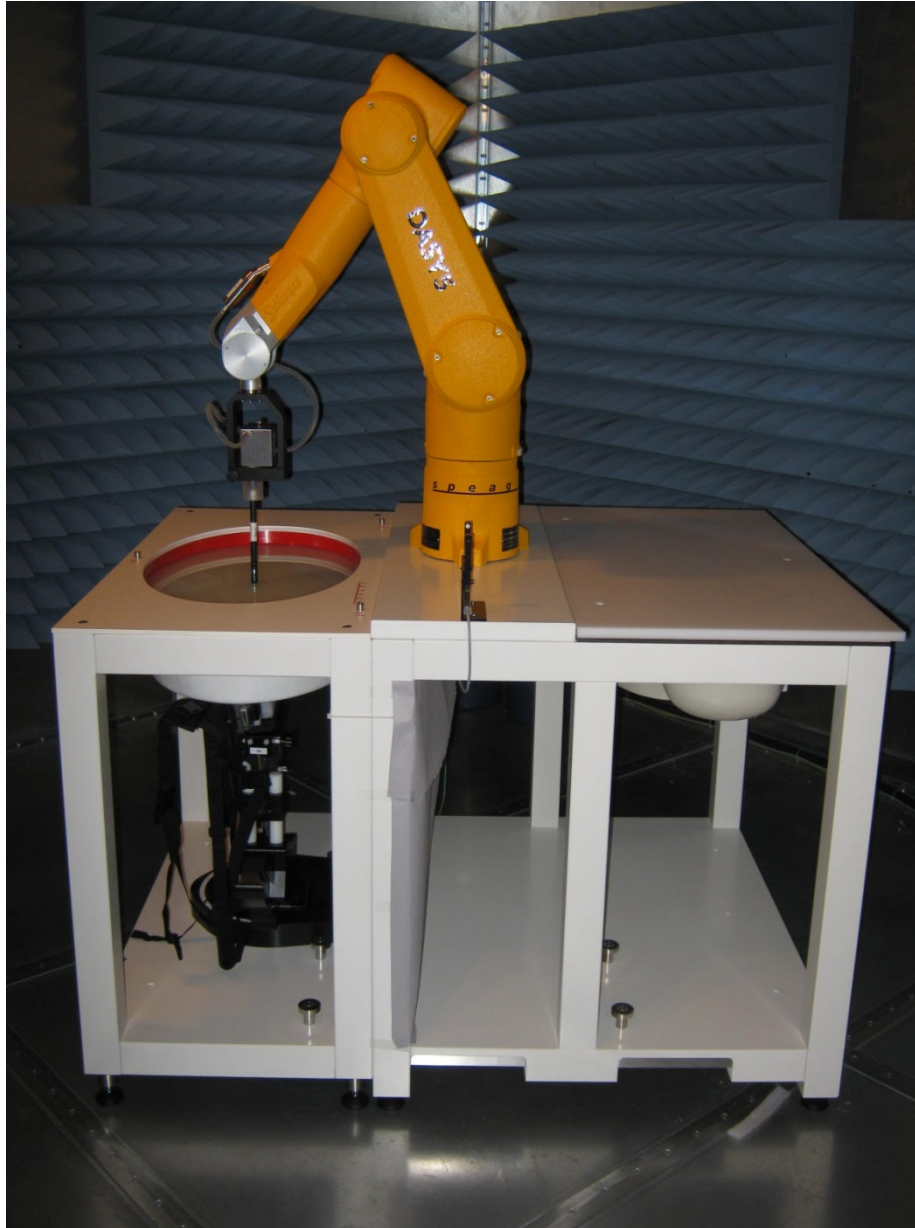
- A standard high precision 6-axis robot (Staubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom, oval flat phantom, device holder, tissue simulating liquids, and validation dipole kits.

TEST SITE

Northwest EMC, Lab EV08

The SAR measurement system is located in a semi-anechoic chamber. This provides an ambient free environment that also eliminates reflections.

The chamber is 12 ft wide by 16 ft long x 8 ft high. A dedicated HVAC unit provides +/- 1 degree C temperature control.



TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Interval
Amplifier	Mini Circuits	ZHL-5W-2G-S+	TRZ	NCR ¹	0 mo
Amplifier	Mini Circuits	ZVE-3W-83+	TTA	NCR ¹	0 mo
Antenna, Dipole 2600MHz SAR	SPEAG	D2600V2	ADR	08/13/2014	12 mo
Antenna, Dipole 750MHz SAR	SPEAG	D750V3	ADQ	07/09/2014	12 mo
Antenna, Dipole 1750MHz SAR	SPEAG	D1750v2	ADN	11/01/2013	12 mo
Antenna, Dipole 1900MHz SAR	SPEAG	D1900v2	ADO	11/01/2013	12 mo
Antenna, Dipole 900 MHz SAR	SPEAG	D900V2	ADP	11/14/2013	12 mo
Body Solution	SPEAG	MSL 900	SAT	At start of testing	
Body Solution	SPEAG	MSL 1750	SAQ	At start of testing	
Body Solution	SPEAG	MSL 1900	SAO	At start of testing	
Body Solution	NWEMC	MSL 750	SAZ	At start of testing	
Body Solution	NWEMC	MSL 2600	SBA	At start of testing	
DAE	SPEAG	SD 000 D04 EJ	SAH	11/13/2013	12 mo
DASY5 Measurement Server	Staeubli	DAYS5	SAK	11/01/2013	36 mo
Device Holder	SPEAG	N/A	SAW	NCR	0 mo
Dielectric Probe Kit	Agilent	85070E	IPP	NCR	0 mo
Humidity Temperature Meter	Omegaette	HH311	DUI	02/19/2013	36 mo
Light Beam Unit	SPEAG	SE UKS 030 AA	SAD	NCR	0 mo
MXG Analog Signal Generator with associated cables and attenuators	Agilent	N5181A	TIG	03/28/2014 ¹	36 mo
Network Analyzer	Hewlett Packard	N5230A	NAD	05/7/2014	12 mo
Phantom, 2mm Oval ELI4 (Body)	SPEAG	QD OVA 001 BB	SAC	NCR	0 mo
Power Meter	Agilent	N1913A	SQR	04/29/2013	36 mo
Power Sensor	Agilent	E9300H	SQO	04/29/2013	36 mo
Robot Arm	Staeubli	TX60LSPEAG	SAA	NCR	0 mo
Robot Chasis and power Supply	Staeubli	N/A	SAJ	NCR	0 mo
Robot Controller	Staeubli	CS8C	SAI	NCR	0 mo
SAR Probe	SPEAG	ES3DV3	SAF	11/19/2013	12 mo
SAR Probe	SPEAG	EX3DV4	SAG	11/15/2013	12 mo
Wireless Communication Test Set	Agilent	E5515C	BSV	NCR	0 mo
Wireless Communication Test Set	Anritsu	MT8820C	AFK	NCR	0 mo
Dial Indicator	Starrett	25-2081J	N/A	NCR	0 mo
I Handy Level	IHandySoft Inc	1.70.2	N/A	NCR	0 mo

Note 1: The output of the signal generator / amplifier is verified with the calibrated power meter listed above.