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SAR Test Report

Report Number: M070616_CERT_4965AGN_SAR_5.6

Test Sample:	Portable TABLET Computer
Model Number:	T2010
Radio Modules:	WLAN 4965AGN & Bluetooth EYTF3CS FT
Tested For:	Fujitsu Australia Pty Ltd
FCC ID:	EJE-WB0052
IC:	337J-WB0052
Date of Issue:	6th July 2007

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1.0 GENERAL INFORMATION

Test Sample:	Portable TABLET Computer
Model Name:	T2010
Radio Modules:	WLAN 4965AGN & Bluetooth EYTF3CS FT
Interface Type:	Mini-PCI Module
Device Category:	Portable Transmitter
Test Device:	Pre-Production Unit
FCC ID:	EJE-WB0052
IC:	337J-WB0052
RF exposure Category:	General Population/Uncontrolled
Manufacturer:	Fujitsu Limited
Test Standard/s:	**1.** Evaluating Compliance with FCC Guidelines For Human Exposure to Radiofrequency Electromagnetic Fields Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01) **2.** Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields. RSS-102 Issue 1 (Provisional) September 25, 1999
Statement Of Compliance:	The Fujitsu TABLET Computer T2010 with Wireless LAN model 4965AGN and Bluetooth module EYTF3CS FT complied***** with the FCC General public/uncontrolled RF exposure limits of 1.6mW/g per requirements of 47CFR2.1093(d). It also complied with IC RSS-102 requirements. *. Refer to compliance statement section 9.
Test Dates:	25th to 28th June 2007

Tested for:	Fujitsu Australia Pty Ltd
Address:	1230 Nepean Highway, Cheltenham VIC 3192
Contact:	Praveen Rao
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Test Officer:

Peter Jakubiec

Authorised Signature:

Peter Jakubiec

SAR TEST REPORT

Portable TABLET Computer Wireless LAN
Model: T2010
Report Number: M070616_CERT_4965AGN_SAR_5.6

2.0 INTRODUCTION

Testing was performed on the Fujitsu TABLET PC, Model: T2010 with INTEL Mini-PCI Wireless LAN Module (KEDRON 802.11a/b/g/n), Model: 4965AGN & TAIYO YUDEN Bluetooth Module, Model: EYTF3CS FT. The KEDRON module is an OEM product. The Mini-PCI Wireless LAN (WLAN) was tested in the dedicated host – LIFEBOOK T SERIES, Model T2010.

The measurement test results mentioned hereon only apply to the 5GHz frequency band; an additional report titled "M070616_CERT_4965AGN_SAR_2.4" applies to the 2450MHz frequency range.

3.0 SAMPLE TECHNICAL INFORMATION

(Information supplied by the client)

3.1 EUT (WLAN) Details

Transmitter:	Mini-Card Wireless LAN Module
Wireless Module:	KEDRON (802.11a/b/g/n)
Model Number:	4965AGN
Manufacturer:	Intel Corporation
Modulation Type:	Direct Sequence Spread Spectrum (DSSS for 802.11b) Orthogonal Frequency Division Multiplexing (OFDM for 802.11g) Orthogonal Frequency Division Multiplexing (OFDM for 802.11a) Orthogonal Frequency Division Multiplexing (OFDM for 802.11n)
2.4 GHz (802.11b/g/n):	DBPSK, DQPSK, CCK, 16QAM and 64QAM
5 GHz (802.11a/n):	BPSK, QPSK, 16QAM and 64QAM
Maximum Data Rate:	802.11b = 11Mbps, 802.11g and 802.11a = 54Mbps 802.11n = 300 Mbps
Frequency Ranges:	2.412 –2.462 GHz for 11b/g/n 5.18 - 5.32 GHz and 5.745 - 5.825 GHz for 11a/n
Number of Channels:	11 channels for 11b/g/n 13 channels for 11a/n with 20 MHz bandwidth 6 channels for 11n with 40 MHz bandwidth
Antenna Types:	Tx: Yokowo Monopole Antenna Model: CP338043(T1:Right), CP338042(T2:Left) Location: Top edge of LCD screen
Power Supply:	3.3 VDC from PCI bus

Channels and Output power setting:

Channel and Mode	Frequency MHz	Data Rates Mbps	Average Output Power dBm
802.11b/g/n mode			
Channels 1, 6 and 11	2412, 2437 and 2462	1 to 54 / HT0 – HT7	15.5
Channels 1, 6 and 11	2412, 2437 and 2462	HT8 – HT15	12.5/12.5 (ant. A and B)
802.11a/n mode with 20MHz Bandwidth			
Channels 36, 52, 64	5180, 5260 and 5320	6 to 54 / HT0 – HT7	16.5
Channels 36, 52, 64	5180, 5260 and 5320	HT8 – HT15	13.5/13.5 (ant. A and B)
Channels 149, 157 and 165	5745, 5785 and 5825	6 to 54 / HT0 – HT7	17.5
Channels 149, 157 and 165	5745, 5785 and 5825	HT8 – HT15	14.5/14.5 (ant. A and B)
802.11n mode with 40MHz Bandwidth			
Channels 38	5190	HT0 – HT7	14.5
Channels 46	5230	HT0 – HT7	16.5
Channels 62	5310	HT0 – HT7	15.5
Channels 38	5190	HT8 – HT15	11.5/11.5 (ant. A and B)
Channels 46	5230	HT8 – HT15	13.5/13.5 (ant. A and B)
Channels 62	5310	HT8 – HT15	12.5/12.5 (ant. A and B)
Channels 151 and 159	5755 and 5795	HT0 – HT7	17.5
Channels 151 and 159	5755 and 5795	HT8 – HT15	14.5/14.5 (ant. A and B)

NOTE: For 2450 MHz SAR results refer to report titled “M070616_CERT_4965AGN_SAR_2.4”.

3.2 EUT (Bluetooth) Details

Transmitter: Bluetooth
Model Number: EYTF3CS FT
Manufacturer: TAIYO YUDEN
Network Standard: Bluetooth™ RF Test Specification
Modulation Type: Frequency Hopping Spread Spectrum (FHSS)
Frequency Range: 2402 MHz to 2480 MHz
Number of Channels: 79
Carrier Spacing: 1.0 MHz
Antenna Types: Taiyo Yuden Monopole Antenna, Model: CP331590
Location: Right palm rest
Max. Output Power: 4 dBm
Reference Oscillator: 16 MHz (Built-in)
Power Supply: 3.3 VDC from host.

Frequency allocation:

Channel Number	Frequency (MHz)	Bluetooth Utility power setting
1	**2402**	Power (Ext, Int) = 0, 96
2	2403	
-	-	
39	2440	
40	**2441**	
41	2442	
-	-	
78	2479	
79	**2480**	

3.3 EUT (Notebook PC) Details

EUT:	LIFEBOOK T SERIES
Model Name:	T2010
Serial Number:	Pre-production Sample
Manufacturer:	FUJITSU LIMITED
CPU Type and Speed:	Core2 Duo T7700 2.4GHz
LCD	12.1”WXGA
Wired LAN:	Marvell 88E8055 : 10 Base-T/100 Base-TX/1000Base-T
Modem:	Agere MDC1.5 modem Model: D40
Port Replicator Model:	FPCPR77 / FPCPR79 / FPCPR80
AC Adapter Model:	60W:SEC80N2-16.0(Sanken)
Voltage:	16 V
Current Specs:	3.75A
Watts:	60W

3.4 Test sample Accessories

3.4.1 Battery Types

One type of Fujitsu Lithium Ion Battery is used to power the Portable TABLET Computer Wireless LAN Model: 4965AGN. SAR measurements were performed with the battery as shown below.

Standard Battery	
Model	CP345809-01
V/mAh	10.8V/5800mAh
Cell No.	6

4.0 Test Signal, Frequency and Output Power

INTEL's CRTU test tool was used to configure the WLAN for testing. The Portable Tablet Computer Wireless LAN had a total of 11 channels (USA model) within the 2412 to 2462 MHz frequency band and 17 channels within the frequency range 5180 – 5825 MHz. In The frequency range 2412 MHz to 2462 MHz the device operates in 2 modes, OFDM and DSSS. Within the 5180 – 5825 MHz frequency range the device operates in OFDM mode only. For the SAR measurements the device was operating in continuous transmit mode using programming codes supplied by Fujitsu. The fixed frequency channels used in the testing are shown in Table Below.

The Bluetooth module operates over 79 channels within the frequency range 2402 to 2480 MHz. It is possible for the Bluetooth module to operate simultaneously with the WLAN module (co-transmission). For the SAR measurements the device was operating in continuous transmit mode using programming codes supplied by Fujitsu. The tests were conducted with only the WLAN operating and also with the WLAN and Bluetooth module operating in co-transmission. The fixed frequency channels used in the testing are shown in the table below. The Bluetooth interface utilizes dedicated antenna, for the purpose of this report labelled antenna "D".

The test results mentioned in this report only apply to the 5200/5800MHz frequency range. An additional report titled *"M070616_CERT_4965AGN_SAR_2.4"* is specific to the 2450MHz range.

The WLAN modules can be configured in a number of different data rates. It was found that the highest source based time averaged power was measured when using the lowest data rates available in each mode. This lowest data rate corresponds to 6Mbps in OFDM mode and 1Mbps in DSSS mode.

The frequency span of the 2450 MHz range and 5600MHz Bands was more than 10MHz consequently; the SAR levels of the test sample were measured for lowest, centre and highest channels in the applicable modes. The EUT is capable of using two antennas transmitting simultaneously (HT8 DATA mode) the power level is 3dB lower (50%) than if a single antenna was transmitting. There were no wires or other connections to the Portable TABLET Computer during the SAR measurements.

At the beginning and at the completion of the SAR tests, the conducted power of the device was measured after temporary modification of antenna connector inside the device's TX RX compartment. Measurements were performed with a calibrated Power Meter. The results of this measurement are listed in the following table.

Table: Frequency and Conducted Power Results WLAN

Channel	Channel Frequency MHz	Data Rates	Maximum Conducted Output Power – Peak Measured (dBm)
Channel 36	5180	6	**16.9**
Channel 52	5260	6	**17.0**
Channel 64	5320	6	**17.2**
Channel 36	5180	HT0/20 MHz	**17.0**
Channel 52	5260	HT0/20 MHz	**16.8**
Channel 64	5320	HT0/20 MHz	**17.1**
Channel 36	5180	HT8/20 MHz	**14.4**
Channel 52	5260	HT8/20 MHz	**15.2**
Channel 64	5320	HT8/20 MHz	**14.2**
Channel 38	5190	HT0/40 MHz	**15.6**
Channel 46	5230	HT0/40 MHz	**16.9**
Channel 62	5310	HT0/40 MHz	**16.5**
Channel 38	5190	HT8/40 MHz	**13.2**
Channel 46	5230	HT8/40 MHz	**14.4**
Channel 62	5310	HT8/40 MHz	**14.1**
Channel 149	5745	6	**18.2**
Channel 157	5785	6	**18.5**
Channel 165	5825	6	**18.6**
Channel 149	5745	HT0/20 MHz	**18.1**
Channel 157	5785	HT0/20 MHz	**18.2**
Channel 165	5825	HT0/20 MHz	**18.7**
Channel 149	5745	HT8/20 MHz	**15.6**
Channel 157	5785	HT8/20 MHz	**16.1**
Channel 165	5825	HT8/20 MHz	**16.0**
Channel 151	5755	HT0/40 MHz	**18.7**
Channel 159	5795	HT0/40 MHz	**18.8**
Channel 151	5755	HT8/40 MHz	**16.2**
Channel 159	5795	HT8/40 MHz	**16.1**

Frequency and Conducted Power Results Bluetooth

Channel	Channel Frequency MHz	*Data Rate (Mbps)	Maximum Conducted Output Power Measured (dBm)
Channel 40	2441	N/A	**TBA by Chieu**

4.1 Battery Status

The device battery was fully charged prior to commencement of measurement. Each SAR test was completed within 30 minutes. The battery condition was monitored by measuring the RF field at a defined position inside the phantom before the commencement of each test and again after the completion of the test. It was not possible to perform conducted power measurements at the output of the device, at the beginning and end of each scan due to lack of a suitable antenna port. The uncertainty associated with the power drift was less than 12% and was assessed in the uncertainty budget.

5.0 Details of Test Laboratory

5.1 Location

EMC Technologies Pty Ltd
176 Harrick Road
Keilor Park, (Melbourne) Victoria
Australia 3042

Telephone: +61 3 9365 1000
Facsimile: +61 3 9331 7455
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website: www.emctech.com.au

5.2 Accreditations

EMC Technologies Pty. Ltd. is accredited by the National Association of Testing Authorities, Australia (NATA).
NATA Accredited Laboratory Number: 5292

EMC Technologies Pty Ltd is NATA accredited for the following standards:

AS/NZS 2772.1:	RF and microwave radiation hazard measurement
ACA:	Radio communications (Electromagnetic Radiation - Human Exposure) Standard 2003
FCC:	Guidelines for Human Exposure to RF Electromagnetic Field OET65C 01/01
CENELEC:	ES59005: 1998
EN 50360: 2001	Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz)
EN 50361: 2001	Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300MHz – 3GHz)
IEEE 1528: 2003	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head Due to Wireless Communications Devices: Measurement Techniques.

The 5.2 to 5.8 GHz SAR measurement range is not within the current scope of NATA accreditation.
Refer to NATA website www.nata.asn.au for the full scope of accreditation.

5.3 Environmental Factors

The measurements were performed in a shielded room with no background RF signals. The temperature in the laboratory was controlled to within 21±1°C, the humidity was in the range 31% to 51%. The liquid parameters are measured daily prior to the commencement of each test. Tests were performed to check that reflections within the environment did not influence the SAR measurements. The noise floor of the DASY4 SAR measurement system using the SN3563 probe was less than 5μV in both air and liquid mediums.

6.0 DESCRIPTION OF SAR MEASUREMENT SYSTEM

Applicable Head Configurations	: None
Applicable Body Configurations	: Tablet Position
	: Edge On Position

6.1 Probe Positioning System

The measurements were performed with the state-of-the-art automated near-field scanning system **DASY4 V4.7 Build 53** from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision 6-axis robot (working range greater that 1.1m), which positions the SAR measurement probes with a positional repeatability of better than ±0.02 mm. The DASY4 fully complies with the OET65 C (01-01), IEEE 1528 and EN50361 SAR measurement requirements.

6.2 E-Field Probe Type and Performance

The SAR measurements were conducted with SPEAG dosimetric probe EX3DV4 Serial: 3563 (5.6 GHz) designed in the classical triangular configuration and optimised for dosimetric evaluation. The probe has been calibrated and found to be accurate to better than ±0.25 dB. The probe is suitable for measurements close to material discontinuity at the surface of the phantom. The sensors of the probe are directly loaded with Schottky diodes and connected via highly resistive lines (length = 300 mm) to the data acquisition unit.

6.3 Data Acquisition Electronics

The data acquisition electronics (DAE3) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. The input impedance of the DAE3 box is 200 MΩ; the inputs are symmetrical and floating. Common mode rejection is above 80dB.Transmission to the PC-card is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The mechanical probe-mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

6.4 Validation

6.4.1 Validation Results @ 5GHz

The following table lists the dielectric properties of the tissue simulating liquid measured prior to SAR validation. The results of the validation are listed in columns 4 and 5. The forward power into the reference dipole for SAR validation was adjusted to 250 mW.

Table: Validation Results (Dipole: SPEAG D5GHzV2 SN: 1008)

1. Validation Date	2. ∈r (measured)	3. σ (mho/m) (measured)	4. Measured SAR 1g (mW/g)	5. Measured SAR 10g (mW/g)
25th June 2007	35.18	5.51	19.5	5.5
26th June 2007	34.67	5.47	19.3	5.46
27th June 2007	36.79	4.65	18.6	5.3
28th June 2007	36.89	4.72	19.0	5.42

6.4.2 Deviation from reference validation values

Currently no IEEE Std 1528-2003 SAR reference values are available in 5.6 GHz band, as a consequence all validation results were compared against the SPEAG calibration reference SAR values.

The SPEAG calibration reference SAR value is the SAR validation result obtained in a specific dielectric liquid using the validation dipole (D5GHzV2) during calibration. The measured one-gram SAR should be within 10% of the expected target reference values shown below.

Table: Deviation from reference validation values in 5.6 GHz band.

Frequency and Date	Measured SAR 1g (mW/g)	Measured SAR 1g (Normalized to 1W)	SPEAG Calibration reference SAR Value 1g (mW/g)	Deviation From SPEAG Reference (1g)
5200MHz 27th June 2007	18.6	74.4	78.1	-4.74%
5200MHz 28th June 2007	19.0	76	78.1	-2.69%
5800MHz 25th June 2007	19.5	78	78.2	-0.26%
5800MHz 26th June 2007	19.3	77.2	78.2	-1.28%

NOTE: All reference validation values are referenced to 1W input power.

6.4.3 Liquid Depth 15cm

During the SAR measurement process the liquid level was maintained to a level of a least 15cm with a tolerance of 0.5cm.

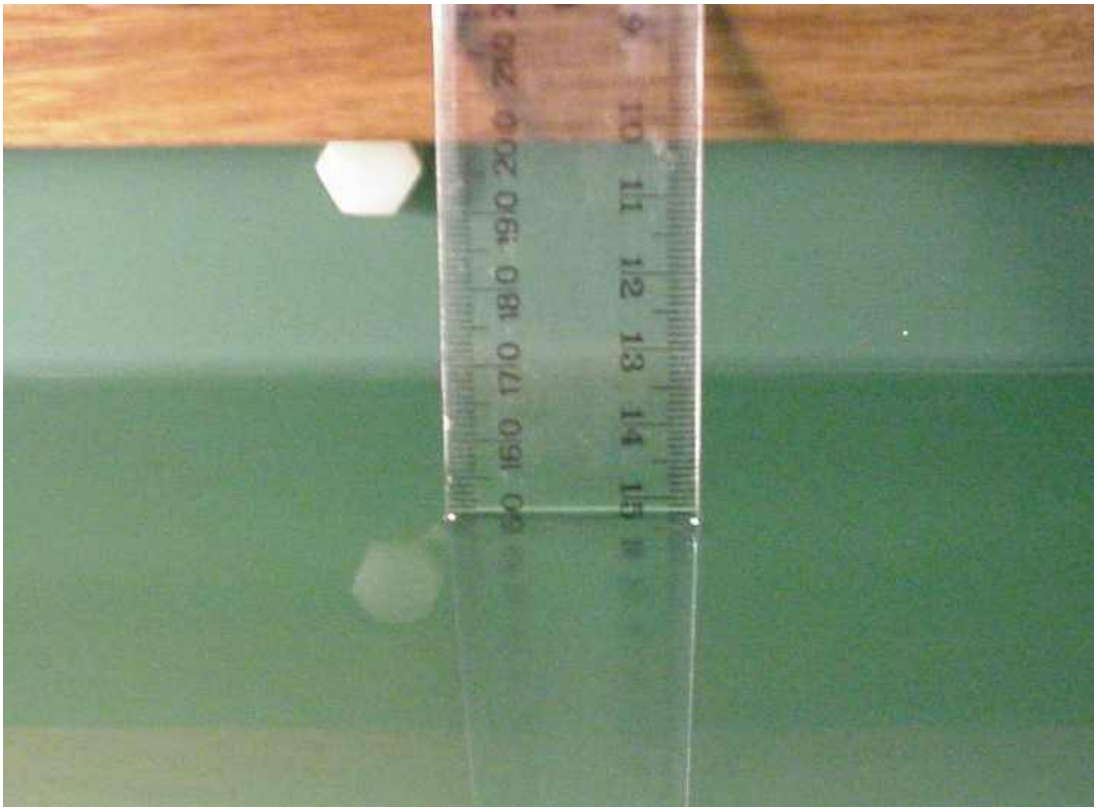


Photo of liquid Depth in Flat Phantom

6.5 Phantom Properties (Size, Shape, Shell Thickness)

The phantom used during the validations was the SAM Phantom model: TP - 1260 from SPEAG. It is a phantom with a single thickness of 2 mm and was filled with the required tissue simulating liquid. The SAM phantom support structures were all non-metallic and spaced more than one device width away in transverse directions.

For SAR testing in the body worn positions an AndreT Flat phantom P 10.1 was used. The phantom thickness is 2.0mm+/-0.2 mm and was filled with the required tissue simulating liquid. Table below provides a summary of the measured phantom properties. *Refer to Appendix C Part 4, for details of P 10.1 phantom dielectric properties and loss tangent*.

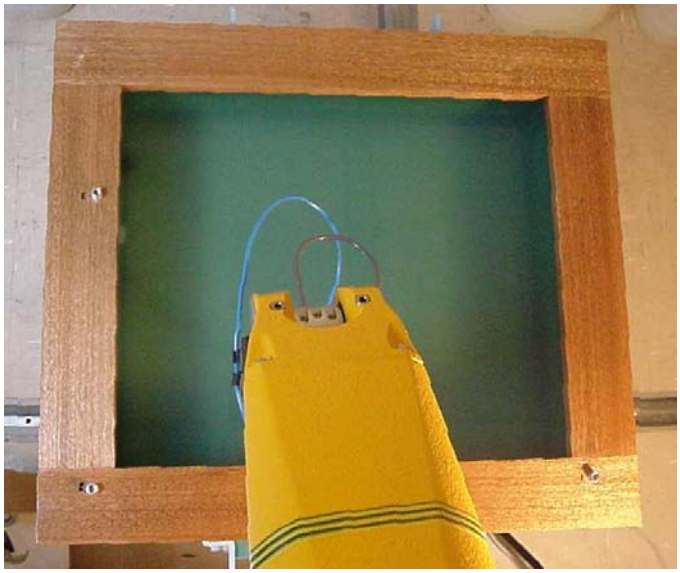
Table: Phantom Properties (300MHz-2500MHz)

Phantom Properties	Required	Measured
Thickness of flat section	2.0mm ± 0.2mm (bottom section)	2.12-2.20mm
Dielectric Constant	<5.0	4.603 @ 300MHz (worst-case frequency)
Loss Tangent	<0.05	0.0379 @ 2500MHz (worst-case frequency)

Depth of Phantom	200mm
Length of Flat Section	620mm
Width of Flat Section	540mm

P 10.1 Flat Phantom

P 10.1 Flat Phantom



6.6 Tissue Material Properties

The dielectric parameters of the brain simulating liquid were measured prior to SAR assessment using the HP85070A dielectric probe kit and HP8753ES Network Analyser. The actual dielectric parameters are shown in the following table.

Table: Measured Brain Simulating Liquid Dielectric Values for Validations

Frequency Band	∈r (measured range)	∈r (target)	σ (mho/m) (measured range)	σ (target)	ρ kg/m^3
5200 MHz Brain	36.8 – 36.9	36.0 ±5% (34.2 to 37.8)	4.65 – 4.72	4.76 ±5% (4.43 to 4.90)	1000
5800 MHz Brain	34.7 - 35.2	35.3 ±5% (33.5 to 37.1)	5.47 – 5.51	5.27 ±5% (5.01 to 5.53)	1000

NOTE: The brain liquid parameters were within the required tolerances of ±5%.

Table: Measured Body Simulating Liquid Dielectric Values for 5200MHz range

Frequency Band	∈r (measured range)	∈r (target)	σ (mho/m) (measured range)	σ (target)	ρ kg/m^3
5180 MHz Muscle	48.9	49.0 ±10% (44.1 to 53.9)	5.17	5.3 ±10% (4.77 to 5.83)	1000
5260 MHz Muscle	48.7 – 49.1	48.9 ±10% (44.01 to 53.8)	5.25 – 5.34	5.4 ±10% (4.86 to 5.94)	1000
5320 MHz Muscle	48.6	48.8 ±10% (43.9 to 55.3)	5.45	5.4 ±10% (4.86 to 5.94)	1000

Table: Measured Body Simulating Liquid Dielectric Values for 5800MHz range

Frequency Band	∈r (measured range)	∈r (target)	σ (mho/m) (measured range)	σ (target)	ρ kg/m^3
5745 MHz Muscle	47.5	48.3 ±10% (43.47 to 53.13)	6.23	5.9 ±10% (5.31 to 6.49)	1000
5785 MHz Muscle	47.3 – 47.5	48.2 ±10% (43.38 to 53.02)	6.29 – 6.31	6.0 ±10% (5.4 to 6.60)	1000
5825 MHz Muscle	47.2	48.2 ±10% (43.38 to 53.02)	6.37	6.0 ±10% (5.4 to 6.60)	1000

NOTE: The muscle liquid parameters were within the required tolerances of ±10%.

6.6.1 Liquid Temperature and Humidity

The humidity and dielectric/ambient temperatures were recorded during the assessment of the tissue material dielectric parameters. The difference between the ambient temperature of the liquid during the dielectric measurement and the temperature during tests was less than |2|°C.

Table: Temperature and Humidity recorded for each day

Date	Ambient Temperature (°C)	Liquid Temperature (°C)	Humidity (%)
25th June 2007	21.8	21.6	31.0
26th June 2007	21.7	21.1	34.0
27th June 2007	21.9	21.5	43.0
28th June 2007	21.8	21.3	51.0

6.7 Simulated Tissue Composition Used for SAR Test

A low loss clamp was used to position the TABLET underneath the phantom surface. Small pieces of foam were then used to press the TABLET flush against the phantom surface.

Table: Tissue Type: Muscle @ 5600MHz

Volume of Liquid: 60 Litres

EMCT Liquid

Composition
Distilled Water
Salt
Triton X-100

6.8 Device Holder for Laptops and P 10.1 Phantom

A low loss clamp was used to position the Laptop underneath the phantom surface. Small pieces of foam were then used to press the laptop flush against the phantom surface.

Refer to Appendix A for photographs of device positioning

7.0 SAR MEASUREMENT PROCEDURE USING DASY4

The SAR evaluation was performed with the SPEAG DASY4 system. A summary of the procedure follows:

a) A measurement of the SAR value at a fixed location is used as a reference value for assessing the power drop of the EUT. The SAR at this point is measured at the start of the test, and then again at the end of the test.

b) The SAR distribution at the exposed flat section of the flat phantom is measured at a distance of 2.0 mm from the inner surface of the shell. The area covers the entire dimension of the EUT and the horizontal grid spacing is 15 mm x 15 mm. The actual Area Scan has dimensions of 81mm x 101mm surrounding the test device. Based on this data, the area of the maximum absorption is determined by Spline interpolation. The first "pre-scans" covered an area of 141 mm x 171 mm to ensure that the hotspot was correctly identified.

c) Around this point, a volume of 30 mm x 30 mm x 24 mm is assessed by measuring 7 x 7 x 8 points. On the basis of this data set, the spatial peak SAR value is evaluated with the following procedure:

   (i) The data at the surface are extrapolated, since the centre of the dipoles is 1.0 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 2.0 mm. The extrapolation is based on a least square algorithm. A polynomial of the fourth order is calculated through the points in z-axes. This polynomial is then used to evaluate the points between the surface and the probe tip.

   (ii) The maximum interpolated value is searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g and 10 g) are computed using the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one-dimensional splines with the "Not a knot"- condition (in x, y and z-direction). The volume is integrated with the trapezoidal – algorithm. One thousand points (10 x 10 x 10) are interpolated to calculate the averages.

   (iii) All neighbouring volumes are evaluated until no neighbouring volume with a higher average value is found.

   (iv) The SAR value at the same location as in Step (a) is again measured to evaluate the actual power drift.

8.0 MEASUREMENT UNCERTAINTY

The uncertainty analysis is based on the template listed in the IEEE Std 1528-2003 for both Handset SAR tests and Validation uncertainty. The measurement uncertainty of a specific device is evaluated independently.

Table: Uncertainty Budget for DASY4 Version V4.7 Build 53 – EUT SAR test 5GHz

a	b	c	d	e= f(d,k)	f	g	h=cxf/e	i=cxg/e	k
Uncertainty Component	Sec.	Tol. (%)	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i (%)	10g u_i (%)	v_i
Measurement System									
Probe Calibration (k=1) (numerical calibration)	E.2.1	6.8	N	1	1	1	6.8	6.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1	N	1	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions	E.6.1	0.075	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning with respect to Phantom Shell	E.6.3	5.7	R	1.73	1	1	3.3	3.3	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	2.9	N	1	1	1	2.9	2.9	11
Device Holder Uncertainty	E.4.1	3.6	N	1	1	1	3.6	3.6	7
Output Power Variation – SAR Drift Measurement	6.6.2	11.86	R	1.73	1	1	6.8	6.8	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity – Deviation from target values	E.3.2	10	R	1.73	0.64	0.43	3.7	2.5	∞
Liquid Conductivity – Measurement uncertainty	E.3.3	2.5	N	1	0.64	0.43	1.6	1.1	5
Liquid Permittivity – Deviation from target values	E.3.2	10	R	1.73	0.6	0.49	3.5	2.8	∞
Liquid Permittivity – Measurement uncertainty	E.3.3	2.5	N	1	0.6	0.49	1.5	1.2	5
Combined standard Uncertainty			RSS				14.1	13.6	154
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				28.1	27.14	

Estimated total measurement uncertainty for the DASY4 measurement system was ±14.1%. The extended uncertainty (K = 2) was assessed to be ±28.1% based on 95% confidence level. The uncertainty is not added to the measurement result.

Table: Uncertainty Budget for DASY4 Version V4.7 Build 53 – Validation 5GHz

a	b	c	d	e= f(d,k)	f	g	h=cxf/e	i=cxg/e	k
Uncertainty Component	Sec.	Tol. (%)	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i (%)	10g u_i (%)	v_i
Measurement System									
Probe Calibration (k=1) (standard calibration)	E.2.1	6.6	N	1	1	1	6.6	6.6	∞
Axial Isotropy	E.2.2	4.7	R	1.73	1	1	2.7	2.7	∞
Hemispherical Isotropy	E.2.2	0	R	1.73	1	1	0.0	0.0	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	1	N	1	1	1	1.0	1.0	∞
Response Time	E.2.7	0	R	1.73	1	1	0.0	0.0	∞
Integration Time	E.2.8	0	R	1.73	1	1	0.0	0.0	∞
RF Ambient Conditions	E.6.1	0.075	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning with respect to Phantom Shell	E.6.3	5.7	R	1.73	1	1	3.3	3.3	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Dipole Axis to Liquid distance	E.4.2	2	N	1	1	1	2.0	2.0	11
Output Power Variation – SAR Drift Measurement	6.6.2	4.7	R	1.73	1	1	2.7	2.7	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity – Deviation from target values	E.3.2	5	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity – Measurement uncertainty	E.3.3	2.5	N	1	0.64	0.43	1.6	1.1	5
Liquid Permittivity – Deviation from target values	E.3.2	5	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity – Measurement uncertainty	E.3.3	2.5	N	1	0.6	0.49	1.5	1.2	5
Combined standard Uncertainty			RSS				10.3	10.0	154
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				20.5	20.02	

Estimated total measurement uncertainty for the DASY4 measurement system was ±10.3%. The extended uncertainty (K = 2) was assessed to be ±20.5% based on 95% confidence level. The uncertainty is not added to the measurement result.

9.0 QUIPMENT LIST AND CALIBRATION DETAILS

Table: SPEAG DASY4 Version V4.7 Build 53

Equipment Type	Manufacturer	Model Number	Serial Number	Calibration Due	Used For this Test?
Robot - Six Axes	Staubli	RX90BL	N/A	Not applicable	Yes
Robot Remote Control	SPEAG	CS7MB	RX90B	Not applicable	Yes
SAM Phantom	SPEAG	N/A	1260	Not applicable	Yes
SAM Phantom	SPEAG	N/A	1060	Not applicable	No
Flat Phantom	AndreT	10.1	P 10.1	Not Applicable	Yes
Flat Phantom	AndreT	9.1	P 9.1	Not Applicable	No
Flat Phantom	SPEAG	PO1A 6mm	1003	Not Applicable	No
Data Acquisition Electronics	SPEAG	DAE3 V1	359	12-July-2007	No
Data Acquisition Electronics	SPEAG	DAE3 V1	442	13-Oct-2007	Yes
Probe E-Field - Dummy	SPEAG	DP1	N/A	Not applicable	No
Probe E-Field	SPEAG	ET3DV6	1380	12-Dec-2007	No
Probe E-Field	SPEAG	ET3DV6	1377	14-July-2007	No
Probe E-Field	SPEAG	ES3DV6	3029	Not Used	No
Probe E-Field	SPEAG	EX3DV4	3563	14-July-2007	Yes
Antenna Dipole 300 MHz	SPEAG	D300V2	1005	26-Oct-2007	No
Antenna Dipole 450 MHz	SPEAG	D450V2	1009	14-Dec-2008	No
Antenna Dipole 900 MHz	SPEAG	D900V2	047	6-July-2008	No
Antenna Dipole 1640 MHz	SPEAG	D1640V2	314	30-June-2008	No
Antenna Dipole 1800 MHz	SPEAG	D1800V2	242	3-July-2008	No
Antenna Dipole 1950 MHz	SPEAG	D1950V3	1113	5-March-2007	No
Antenna Dipole 2450 MHz	SPEAG	D2450V2	724	1-July-2007	No
Antenna Dipole 3500 MHz	SPEAG	D3500V2	1002	13-Dec-2008	No
Antenna Dipole 5600 MHz	SPEAG	D5GHzV2	1008	27-Oct-2007	Yes
RF Amplifier	EIN	603L	N/A	Not applicable	No
RF Amplifier	Mini-Circuits	ZHL-42	N/A	Not applicable	No
RF Amplifier	Mini-Circuits	ZVE-8G	N/A	Not applicable	Yes
Synthesized signal generator	Hewlett Packard	ESG-D3000A	GB37420238	*In test	No
RF Power Meter Dual	Hewlett Packard	437B	3125012786	30-May-008	Yes
RF Power Sensor 0.01 - 18 GHz	Hewlett Packard	8481H	1545A01634	30-May-008	Yes
RF Power Meter Dual	Gigatronics	8542B	1830125	11-May-2008	Yes
RF Power Sensor	Gigatronics	80301A	1828805	11-May-008	Yes
RF Power Meter Dual	Hewlett Packard	435A	1733A05847	*In test	Yes
RF Power Sensor	Hewlett Packard	8482A	2349A10114	*In test	Yes
Network Analyser	Hewlett Packard	8714B	GB3510035	31-Aug-2007	No
Network Analyser	Hewlett Packard	8753ES	JP39240130	30-Sept-2007	Yes
Dual Directional Coupler	Hewlett Packard	778D	1144 04700	*In test	No
Dual Directional Coupler	NARDA	3022	75453	*In test	Yes

* Calibrated during the test for the relevant parameters.

10.0 OET BULLETIN 65 – SUPPLEMENT C TEST METHOD

Notebooks should be evaluated in normal use positions, typical for lap-held bottom-face only. However the number of positions will depend on the number of configurations the laptop can be operated in. The "LIFEBOOK T SERIES" can be used in either a conventional laptop position (see Appendix A1) or a Tablet configuration. The antenna location in the "LIFEBOOK T SERIES" is closest to the top of the screen when used in a conventional laptop configuration and due to the separation distances involved between the phantom and the laptop antenna, testing is not required in this position.

10.1.1 "Tablet" Position Definition (0mm spacing)

The device was tested in the 2.00 mm flat section of the AndreT Flat phantom P 10.1 for the "Tablet" position. The Transceiver was placed at the bottom of the phantom and suspended in such way that the back of the device was touching the phantom. This device orientation simulates the PC's normal use – being held on the lap of the user. A spacing of 0mm ensures that the SAR results are conservative and represent a worst-case position.

10.1.2 "Edge On" Position

The device was tested in the (2.00 mm) flat section of the AndreT phantom for the "Edge On" position. The Antenna edge of the Transceiver was placed underneath the flat section of the phantom and suspended until the edge touched the phantom. *Refer to Appendix A for photos of measurement positions.*

10.2 List of All Test Cases (Antenna In/Out, Test Frequencies, User Modes)

The device has a fixed antenna. Depending on the measured SAR level up to three test channels with the test sample operating at maximum power, as specified in section 4.0 were recorded. The following table represents the matrix used to determine what testing was required. The worst case result was verified with the Bluetooth transmitting at full power in co-transmission with the WLAN. The worst case result was also verified in the multiple antenna transmission mode, (HT8). In the HT8 mode the transmitter output power was 3dB lower than it was in single antenna mode.

Table: Testing configurations

Phantom Configuration	*Device Mode	Antenna	Test Configurations		
			Channel (Low)	Channel (Middle)	Channel (High)
Tablet	OFDM 5GHz All Bands	A		X	
		B		X	
Edge On	OFDM 5GHz All Bands	A		X	
		B		X	

Legend

X	Testing Required in this configuration
	Testing required in this configuration only if SAR of middle channel is more than 3dB below the SAR limit or it is the worst case.

10.3 FCC RF Exposure Limits for Occupational/ Controlled Exposure

Spatial Peak SAR Limits For:	
Partial-Body:	8.0 mW/g (averaged over any 1g cube of tissue)
Hands, Wrists, Feet and Ankles:	20.0 mW/g (averaged over 10g cube of tissue)

10.4 FCC RF Exposure Limits for Un-controlled/Non–occupational

Spatial Peak SAR Limits For:	
Partial-Body:	1.6 mW/g (averaged over any 1g cube of tissue)
Hands, Wrists, Feet and Ankles:	4.0 mW/g (averaged over 10g cube of tissue)

11.0 SAR MEASUREMENT RESULTS

The SAR values averaged over 1g tissue masses were determined for the sample device for all test configurations listed in section 7.2.

11.1.1 GHz Band SAR Results

Table: SAR MEASUREMENT RESULTS Lower Band – OFDM Mode

Test Position	Plot No.	Ant	Bit rate Mode (Mbps)	Channel Bandwidth (MHz)	Test Channel	Test Freq (MHz)	Measured 1g SAR Results (mW/g)	Measured Drift (dB)
*Tablet Bluetooth ON	1	A	6	-	52	5240	Pre-scan Only	3.5
Edge On Top	2	A	HT0	40	46	5230	0.534	-0.01
Edge On Top	3	A	HT0	20	52	5240	0.572	-0.013
Edge On Top	4	A + B	HT8	20	52	5240	0.213	-0.222
Edge On Top	5	B	6	-	52	5240	0.574	-0.158
Edge On Right	6	A	6	-	52	5240	0.062	0.486
Edge On Left	7	B	6	-	52	5240	0.115	-0.465
Edge On Top	8	A	6	-	36	5180	0.550	0.178
	9	A	6	-	52	5240	0.617	-0.276
	10	A	6	-	64	5320	0.552	0.043
Edge On Top Bluetooth On	11	A	6	-	52	5240	0.565	-0.032

NOTE: The measurement uncertainty of 28.1% for 5GHz testing is not added to the result.
*This plot was used for identifying the “hotspot” only.

The highest SAR level recorded in the 5.2 GHz band was 0.617 mW/g as evaluated in a 1g cube of averaging mass. This value was obtained in the Edge On Top position in OFDM mode, utilizing channel 52 (5240 MHz) and antenna A.

Table: SAR MEASUREMENT RESULTS Upper Band – OFDM Mode

Test Position	Plot No.	Ant	Bit rate Mode (Mbps)	Channel Bandwidth (MHz)	Test Channel	Test Freq (MHz)	Measured 1g SAR Results (mW/g)	Measured Drift (dB)
*Tablet Bluetooth ON	12	B	6	-	157	5785	Pre-scan Only	2.0
*Edge On Left	13	B	6	-	157	5785	Pre-scan Only	-0.705
*Edge On Right	14	A	6	-	157	5785	Pre-scan Only	0.0
*Edge On Top	15	A	6	-	157	5785	Pre-scan Only	0.158
*Edge On Top	16	B	6	-	157	5785	Pre-scan Only	-0.195
Edge On Left	17	B	6	-	157	5785	0.06	0.062
Edge On Right	18	A	6	-	157	5785	0.424	-0.053
Edge On Top	19	A	6	-	157	5785	1.23	-0.051
Edge On Top	20	B	6	-	157	5785	1.16	-0.483
Edge On Top	21	A	HT0	40	159	5795	1.06	0.337
Edge On Top	22	B	HT0	40	159	5795	0.795	0.167
Edge On Top	23	A	HT0	20	149	5745	1.19	0.392
	24	A	HT0	20	157	5785	1.28	0.321
	25	A	HT0	20	165	5825	1.27	0.26
Edge On Top	26	B	HT0	20	149	5745	1.18	-0.3
	27	B	HT0	20	157	5785	1.18	0.029
	28	B	HT0	20	165	5825	0.81	0.01
Edge On Top with Bluetooth ON	29	A	HT0	20	157	5785	1.06	0.035
Edge On Top	30	A	HT8	20	157	5785	0.401	0.044

NOTE: The measurement uncertainty of 28.1% for 5GHz testing is not added to the result.
*This plot was used for identifying the "hotspot" only.

The highest SAR level recorded in the 5.8 GHz band was 1.28 mW/g as evaluated in a 1g cube of averaging mass. This value was obtained in Edge On Top position in HT0 20MHz OFDM mode, utilizing channel 157 (5785MHz) and antenna A.

12.0 COMPLIANCE STATEMENT

The Fujitsu TABLET PC, Model: T2010 with INTEL Mini-PCI Wireless LAN Module (KEDRON 802.11a/b/g/n), Model: 4965AGN & TAIYO YUDEN Bluetooth Module, Model: EYTF3CS FT was found to comply with the FCC and RSS-102 SAR requirements.

The highest SAR level recorded was 1.28 mW/g for a 1g cube. This value was measured at 5785 MHz (channel 157) in the “Edge On Top” position in HT0 20MHz OFDM modulation mode at the antenna A. The Bluetooth was Off. This was below the limit of 1.6 mW/g for uncontrolled exposure, but was within the band of measurement uncertainty around the limit.

APPENDIX A1 TEST SAMPLE PHOTOGRAPHS

T2010 Host - Conventional Laptop Configuration

T2010 Host - Tablet Configuration

APPENDIX A2 TEST SAMPLE PHOTOGRAPHS

Model: 4965AGN – WLAN Module
Front

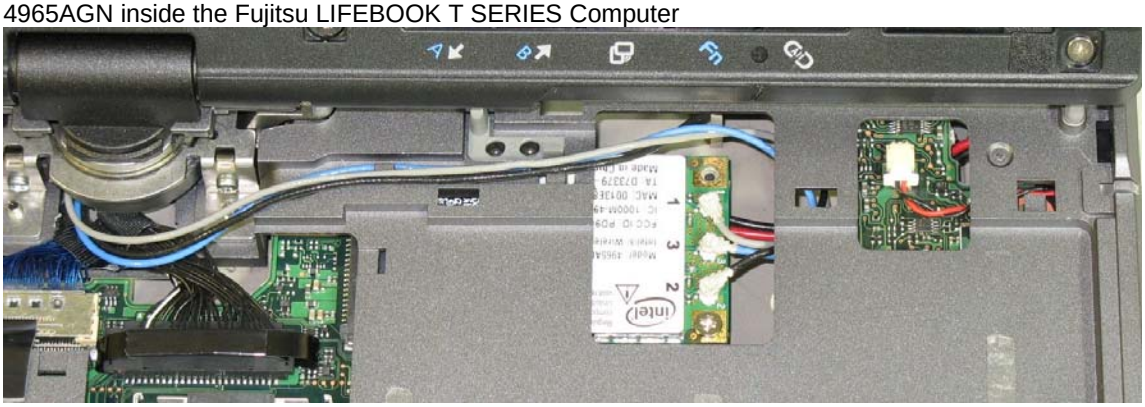
Back

APPENDIX A3 TEST SAMPLE PHOTOGRAPHS

Battery 1

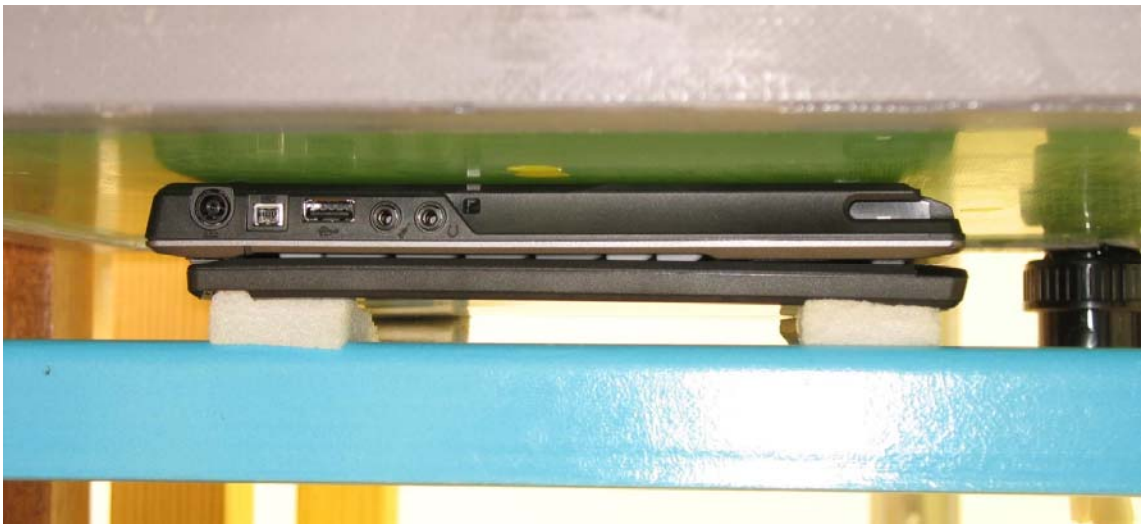
Battery 2

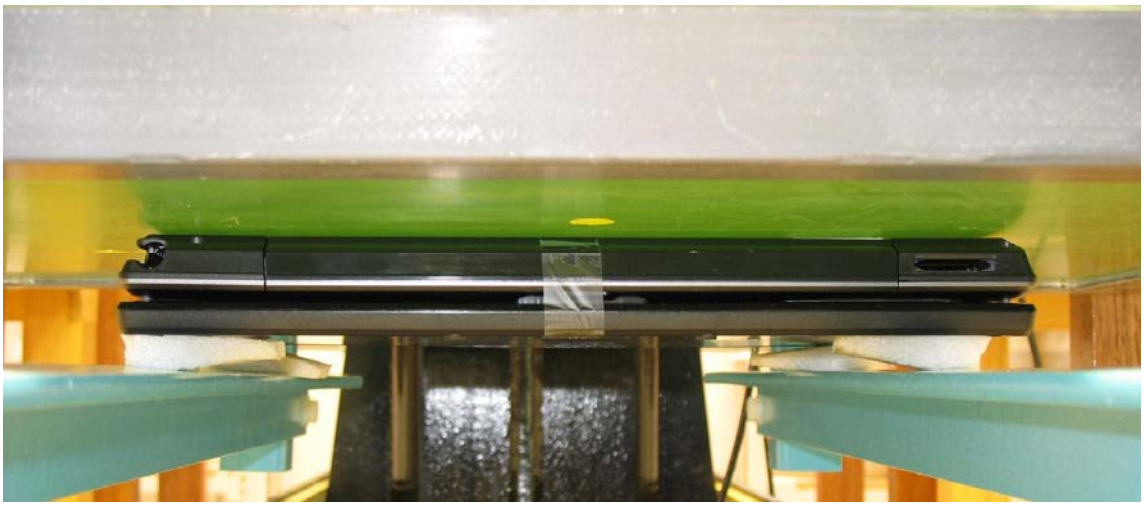
4965AGN inside the Fujitsu LIFEBOOK T SERIES Computer



APPENDIX A4 TEST SETUP PHOTOGRAPHS

Tablet Position





APPENDIX A5 TEST SAMPLE PHOTOGRAPHS

Edge On Top Position

APPENDIX A6 TEST SAMPLE PHOTOGRAPHS

Edge On Left Position

APPENDIX A7 TEST SAMPLE PHOTOGRAPHS

Edge On Right Position

APPENDIX B PLOTS OF THE SAR MEASUREMENTS

Plots of the measured SAR distributions inside the phantom are given in this Appendix for all tested configurations. The spatial peak SAR values were assessed with the procedure described in this report.

Table: 5200 MHz Band SAR Measurement Plot Numbers

Test Position	Plot No.	Ant	Bit rate Mode (Mbps)	Channel Bandwidth (MHz)	Test Channel
*Tablet Bluetooth ON	1	A	6	-	52
Edge On Top	2	A	HT0	40	46
Edge On Top	3	A	HT0	20	52
Edge On Top	4	A + B	HT8	20	52
Z-Axis graphs for Plots 2 to 4					
Edge On Top	5	B	6	-	52
Edge On Right	6	A	6	-	52
Edge On Left	7	B	6	-	52
Z-Axis graphs for Plots 5 to 7					
Edge On Top	8	A	6	-	36
	9	A	6	-	52
	10	A	6	-	64
Z-Axis graphs for Plots 8 to 10					
Edge On Top Bluetooth On	11	A	6	-	52
Z-Axis graph for Plot 11					

Table: 5800 MHz Band SAR Measurement Plot Numbers

1. Test Position	2. Plot No.	3. Antenna	4. Test Channel
*Tablet Bluetooth ON	12	B	6
*Edge On Left	13	B	6
*Edge On Right	14	A	6
*Edge On Top	15	A	6
*Edge On Top	16	B	6
Edge On Left	17	B	6
Edge On Right	18	A	6
Edge On Top	19	A	6
Z-Axis graphs for Plots 17 to 19			
Edge On Top	20	B	6
Edge On Top	21	A	HT0
Edge On Top	22	B	HT0
Z-Axis graphs for Plots 20 to 22			
Edge On Top	23	A	HT0
	24	A	HT0
	25	A	HT0
Z-Axis graphs for Plots 23 to 25			
Edge On Top	26	B	HT0
	27	B	HT0
	28	B	HT0
Z-Axis graphs for Plots 26 to 28			
Edge On Top with Bluetooth ON	29	A	HT0
Edge On Top	30	A	HT8
Z-Axis graphs for Plot 29 to 30			

Table: Validation Plots

Plot 31	Validation 5200 MHz 27 June 2007
Plot 32	Validation 5200 MHz 28 June 2007
Plot 33	Validation 5800 MHz 25 June 2007
Plot 34	Validation 5800 MHz 26 June 2007
Z-Axis graphs for Plots 31 to 34	

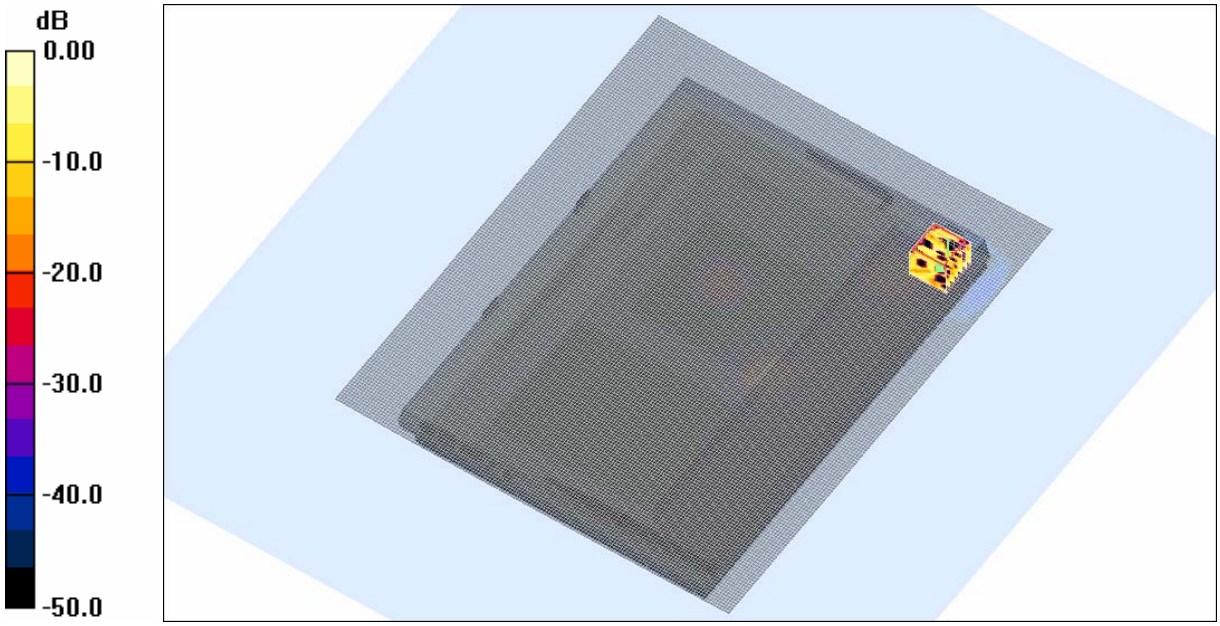
Test Date: 28 June 2007

File Name: Tablet OFDM 5.2 Champlain Antenna A Bluetooth On Prescan 28-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.34413 mho/m, ε_r = 48.7205; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (141x171x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.018 mW/g



0 dB = 0.027mW/g

SAR MEASUREMENT PLOT 1

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 28 June 2007

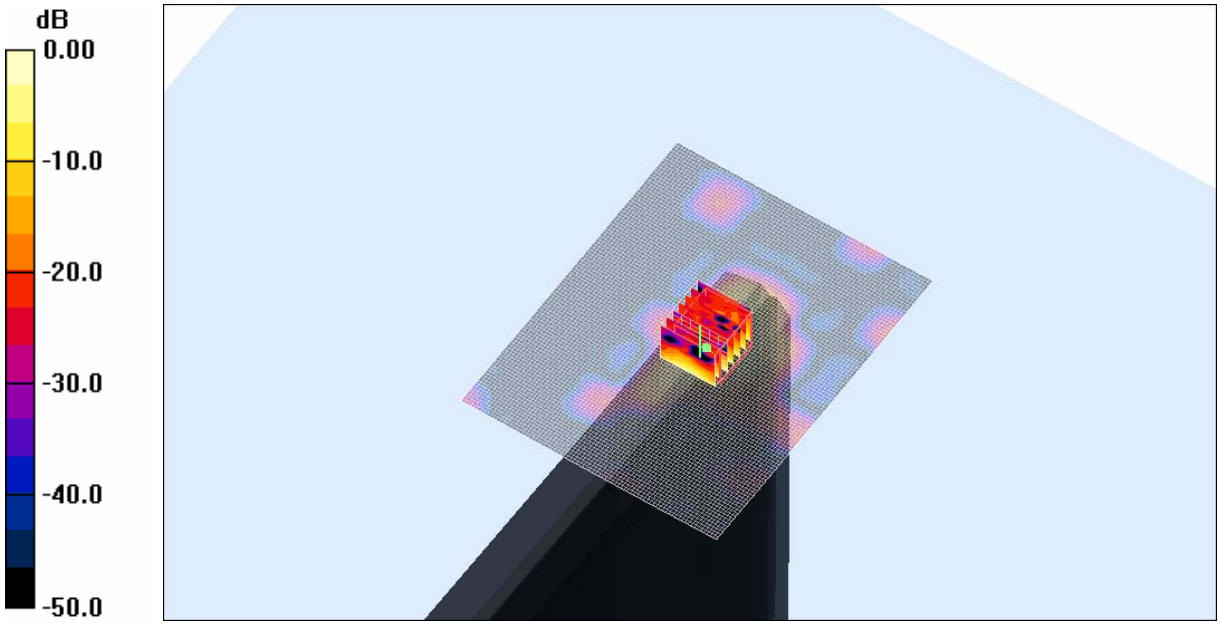
File Name: Edge On Top (HT0 Mbps 40 MHz) OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 28-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5230 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.28213 mho/m, ε_r = 48.7642; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 46 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.400 mW/g

Channel 46 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 9.46 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.30 W/kg
SAR(1 g) = 0.534 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 1.13 mW/g



0 dB = 1.13mW/g

SAR MEASUREMENT PLOT 2

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 28 June 2007

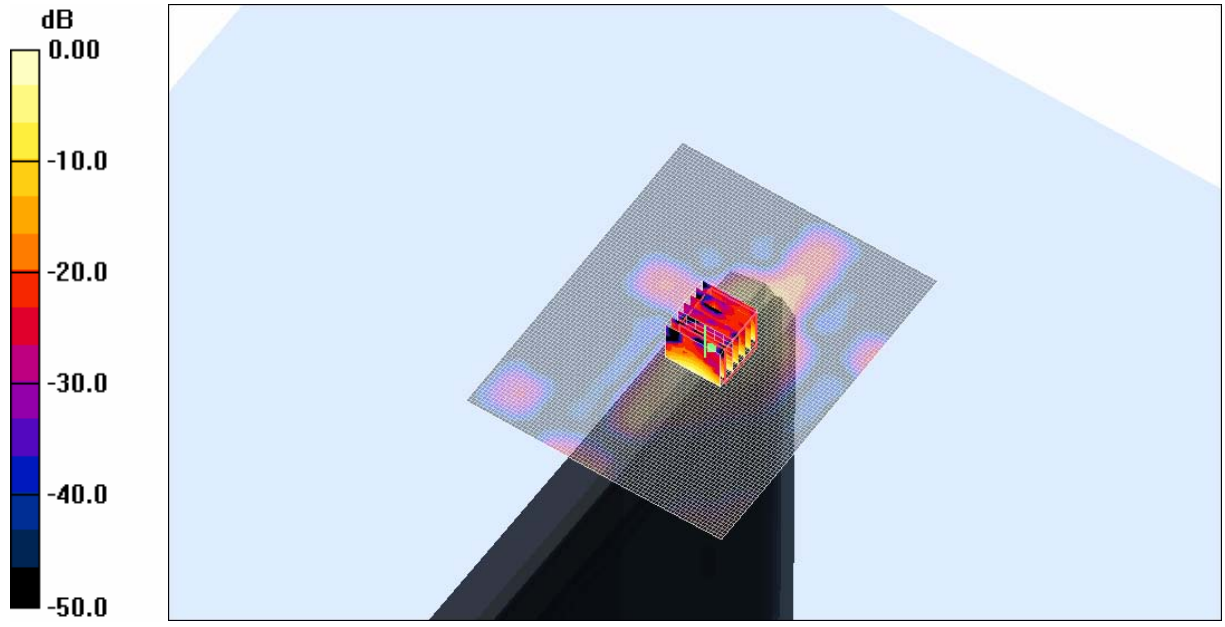
File Name: Edge On Top (HT0 Mbps 20 MHz) OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 28-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.34413 mho/m, ε_r = 48.7205; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.520 mW/g

Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 9.73 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 2.35 W/kg
SAR(1 g) = 0.572 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 1.19 mW/g



0 dB = 1.19mW/g

SAR MEASUREMENT PLOT 3

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 28 June 2007

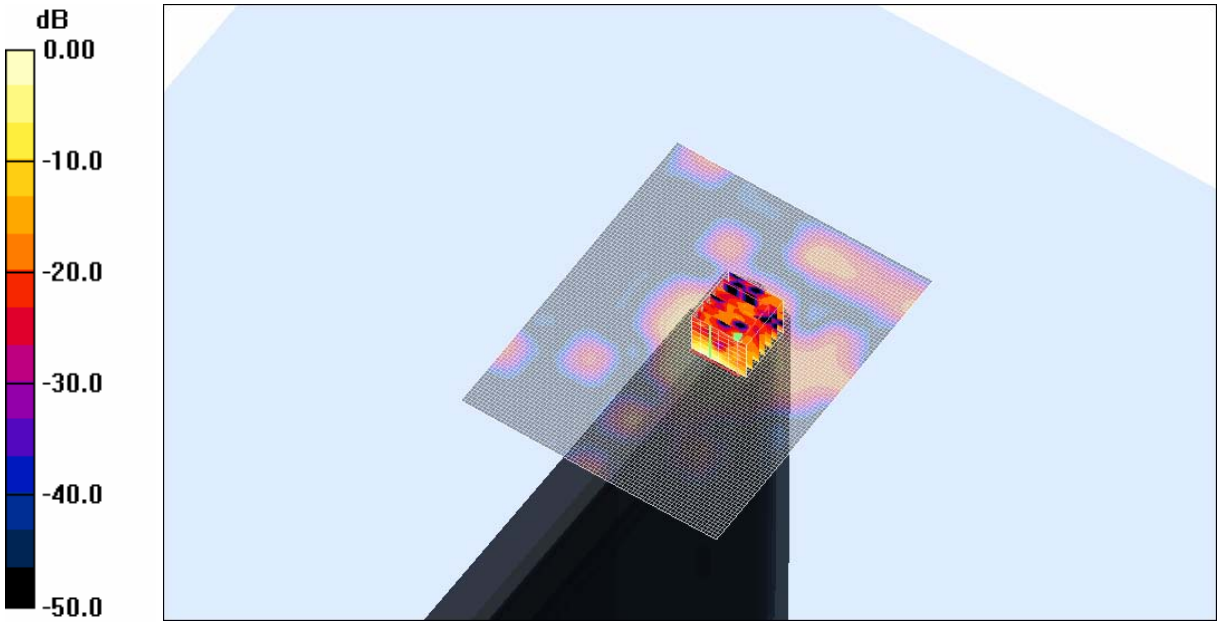
File Name: Edge On Top (HT8 Mbps 20 MHz) OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 28-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.34413 mho/m, ε_r = 48.7205; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.141 mW/g

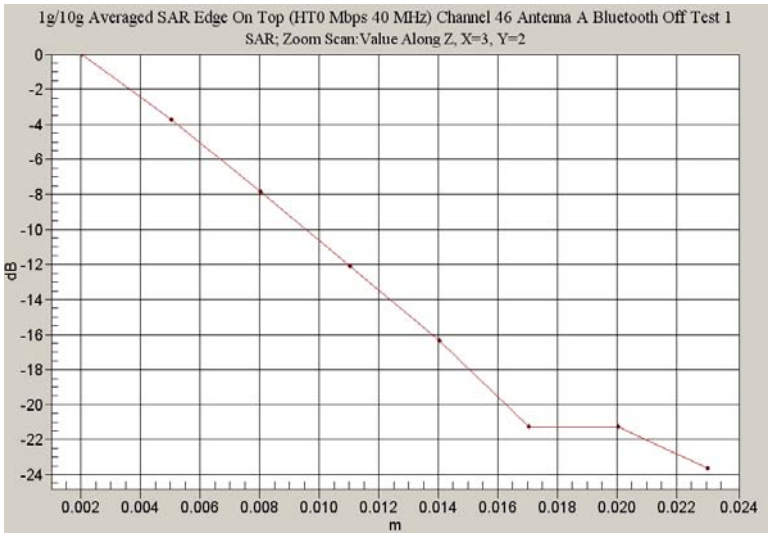
Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 6.86 V/m; Power Drift = -0.222 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.213 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.530 mW/g

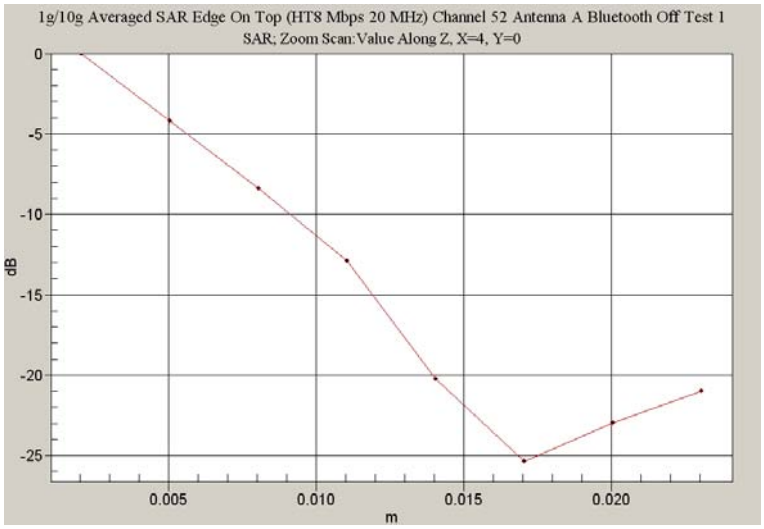


0 dB = 0.530mW/g

SAR MEASUREMENT PLOT 4

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**



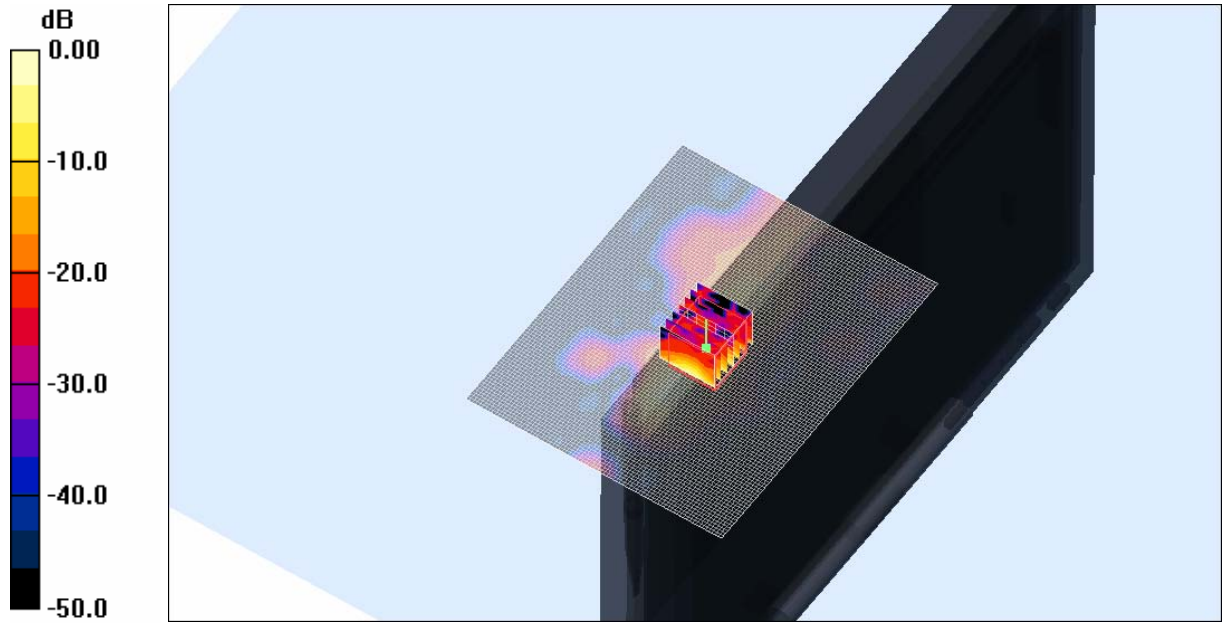


Test Date: 28 June 2007
File Name: Edge On Top OFDM 5.2 GHz Champlain Antenna B Bluetooth Off 28-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.34413 mho/m, ε_r = 48.7205; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.600 mW/g

Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 6.82 V/m; Power Drift = -0.158 dB
Peak SAR (extrapolated) = 2.66 W/kg
SAR(1 g) = 0.574 mW/g; SAR(10 g) = 0.142 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



0 dB = 1.31mW/g

SAR MEASUREMENT PLOT 5

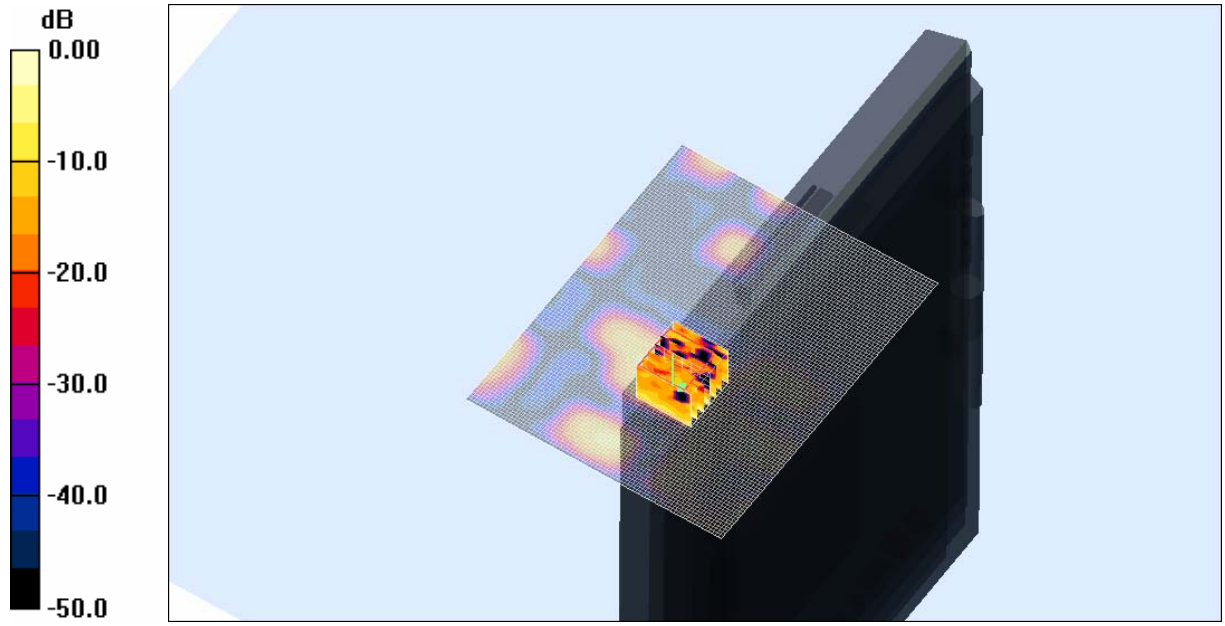
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 27 June 2007
File Name: Edge On Right OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 27-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: $\sigma = 5.2544$ mho/m, $\varepsilon_r = 49.0627$; $\rho = 1000$ kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.123 mW/g

Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 3.43 V/m; Power Drift = 0.486 dB
Peak SAR (extrapolated) = 0.252 W/kg
SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.140 mW/g



0 dB = 0.140mW/g

SAR MEASUREMENT PLOT 6

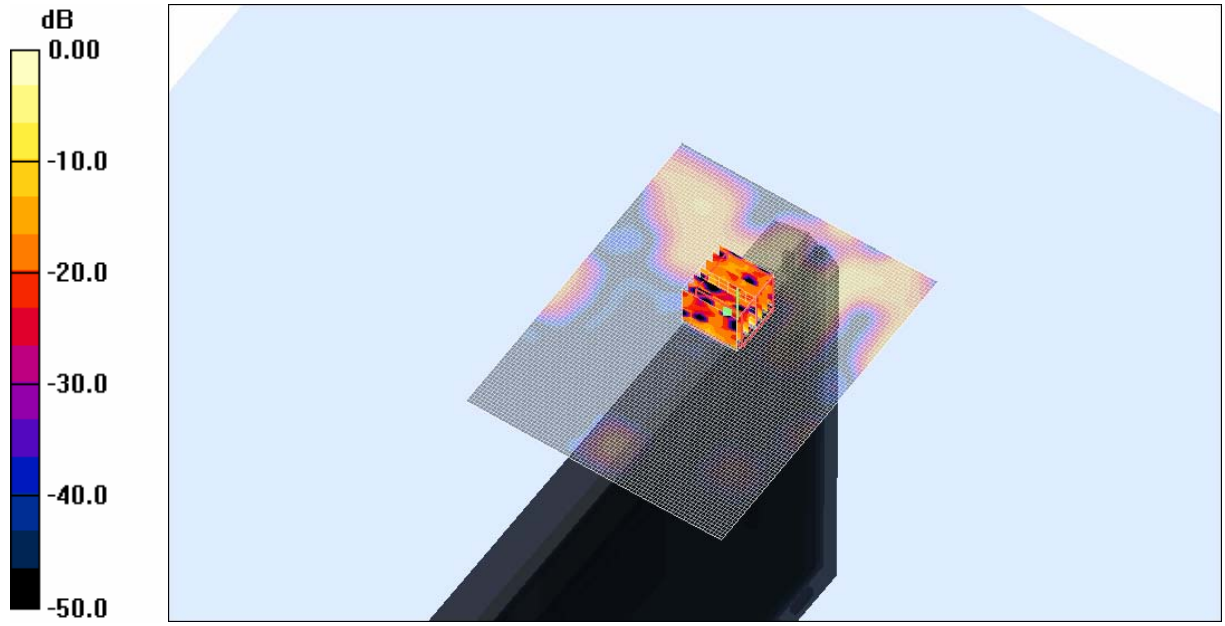
Ambient Temperature	**21.9 Degrees Celsius**
Liquid Temperature	**21.5 Degrees Celsius**
Humidity	**43.0 %**

Test Date: 27 June 2007
File Name: Edge On Left OFDM 5.2 GHz Champlain Antenna B Bluetooth Off 27-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: $\sigma = 5.2544$ mho/m, $\varepsilon_r = 49.0627$; $\rho = 1000$ kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.099 mW/g

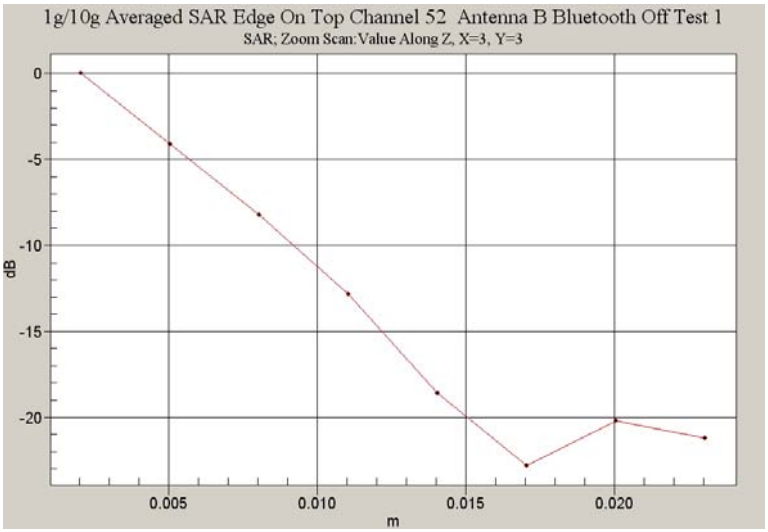
Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 4.10 V/m; Power Drift = -0.565 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.115 mW/g; SAR(10 g) = 0.026 mW/g
Maximum value of SAR (measured) = 0.297 mW/g

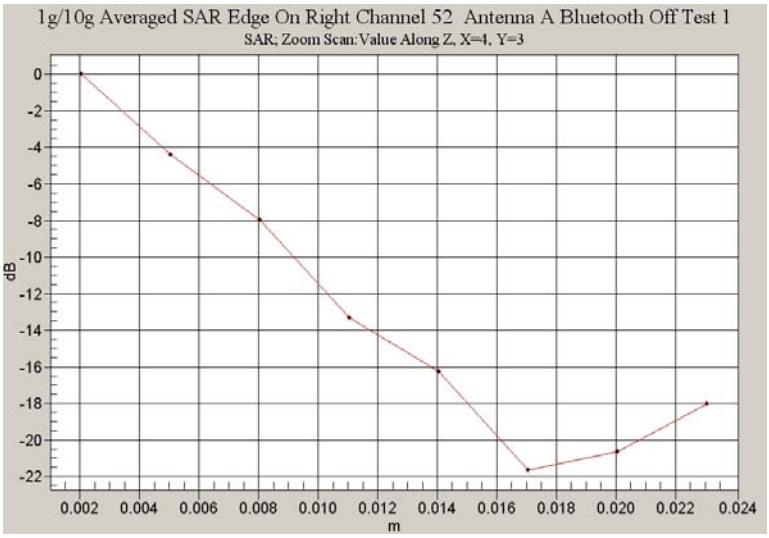


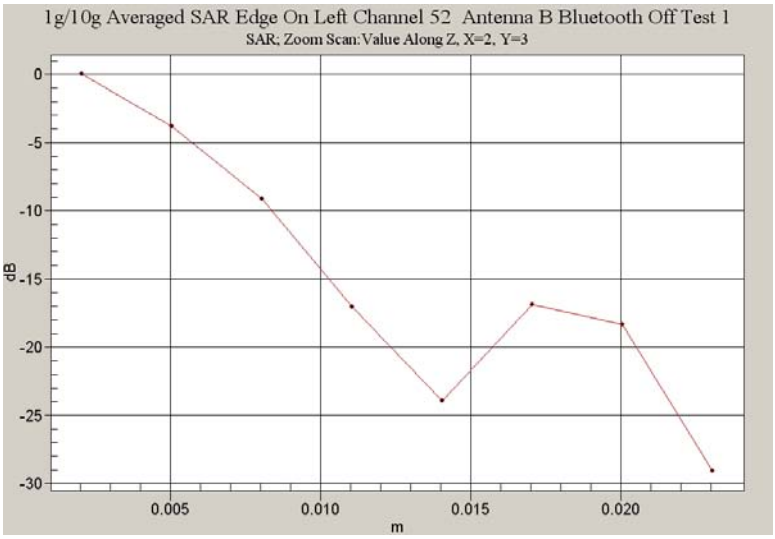
0 dB = 0.297mW/g

SAR MEASUREMENT PLOT 7

Ambient Temperature	**21.9 Degrees Celsius**
Liquid Temperature	**21.5 Degrees Celsius**
Humidity	**43.0 %**





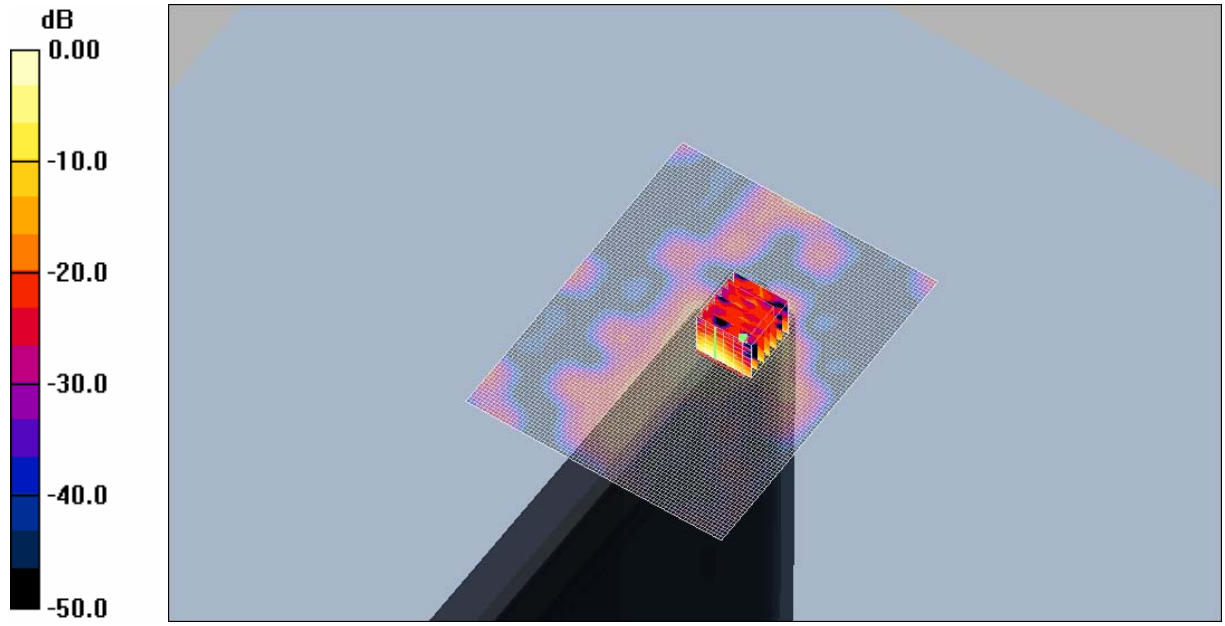


Test Date: 28 June 2007
File Name: Edge On Top OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 28-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5180 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.16541 mho/m, ε_r = 48.8595; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 36 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.447 mW/g

Channel 36 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 10.6 V/m; Power Drift = 0.178 dB
Peak SAR (extrapolated) = 2.46 W/kg
SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 1.30 mW/g



0 dB = 1.30mW/g

SAR MEASUREMENT PLOT 8

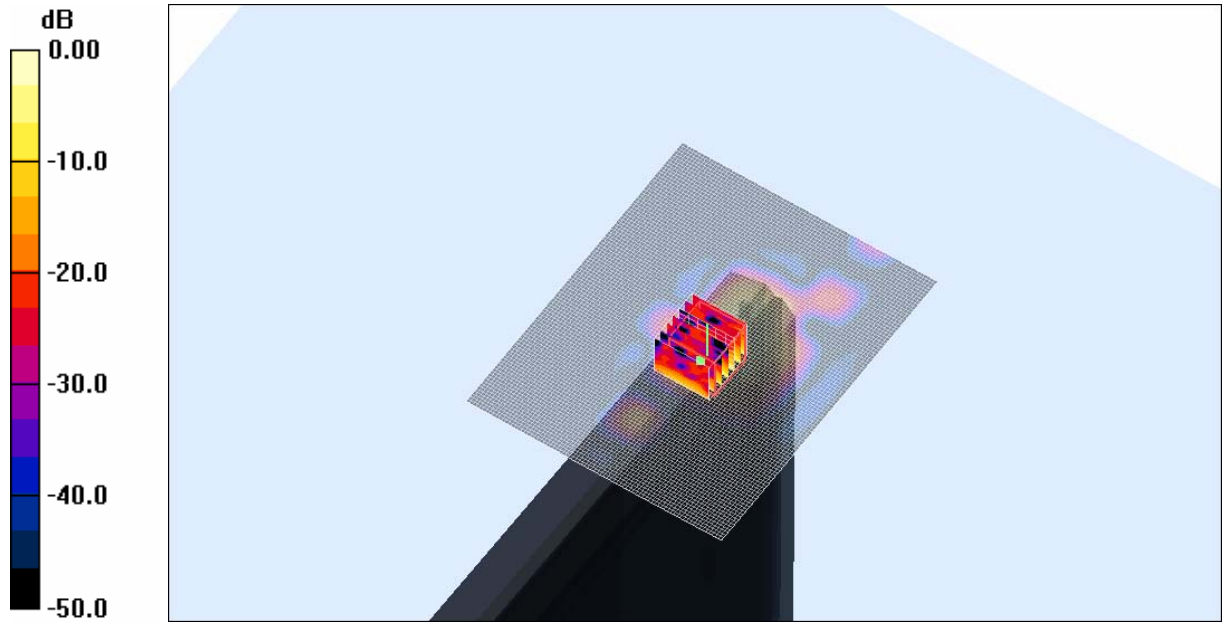
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 28 June 2007
File Name: Edge On Top OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 28-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.34413 mho/m, ε_r = 48.7205; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.480 mW/g

Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 10.1 V/m; Power Drift = -0.276 dB
Peak SAR (extrapolated) = 2.62 W/kg
SAR(1 g) = 0.617 mW/g; SAR(10 g) = 0.161 mW/g
Maximum value of SAR (measured) = 1.26 mW/g



0 dB = 1.26mW/g

SAR MEASUREMENT PLOT 9

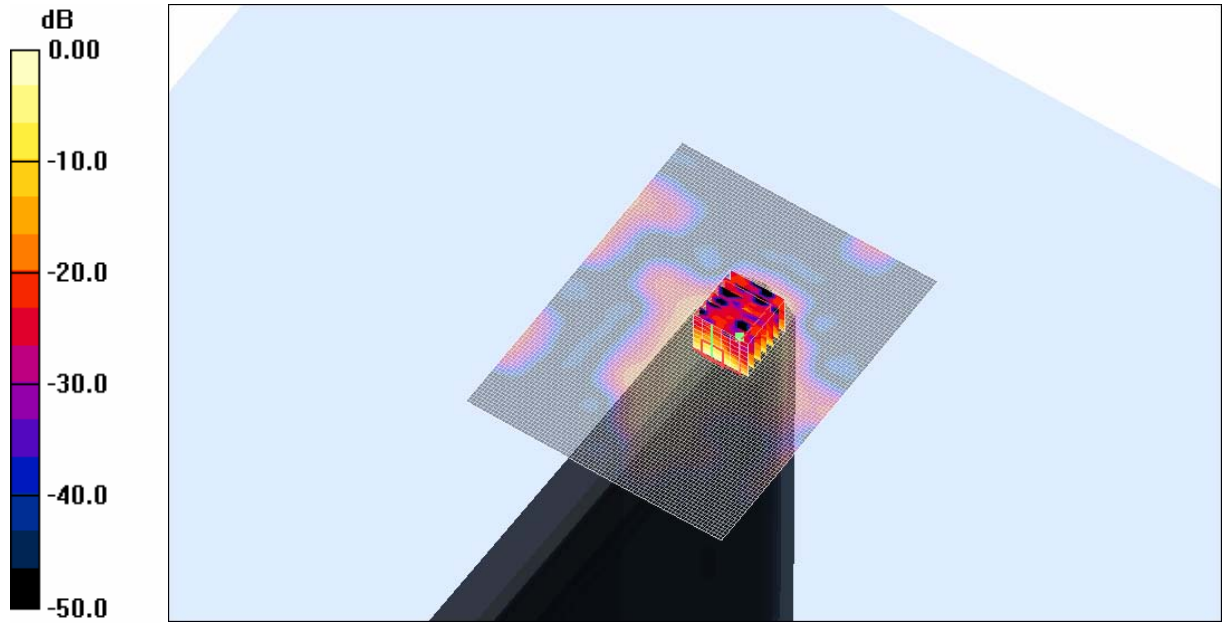
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 28 June 2007
File Name: Edge On Top OFDM 5.2 GHz Champlain Antenna A Bluetooth Off 28-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5320 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.45317 mho/m, ε_r = 48.5991; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 64 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.387 mW/g

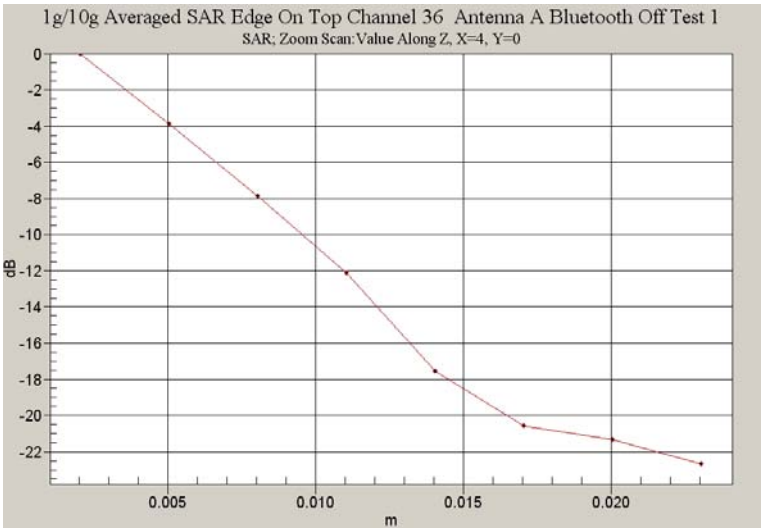
Channel 64 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 10.3 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 2.57 W/kg
SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.171 mW/g
Maximum value of SAR (measured) = 1.32 mW/g

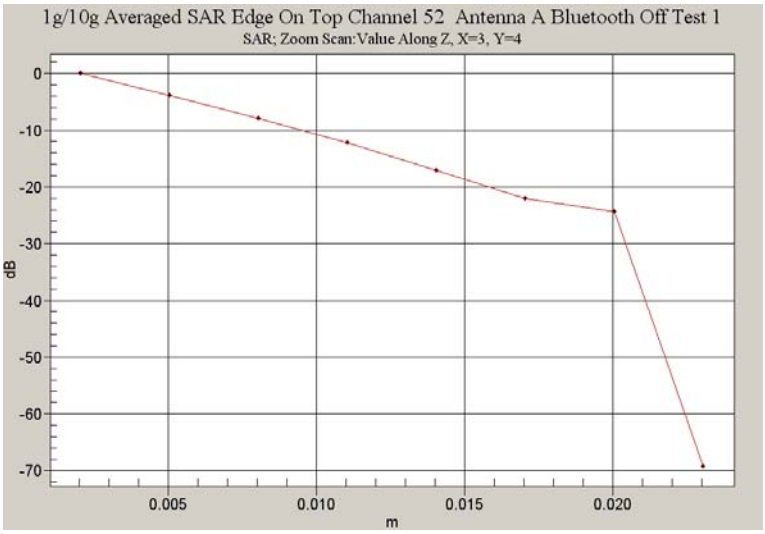


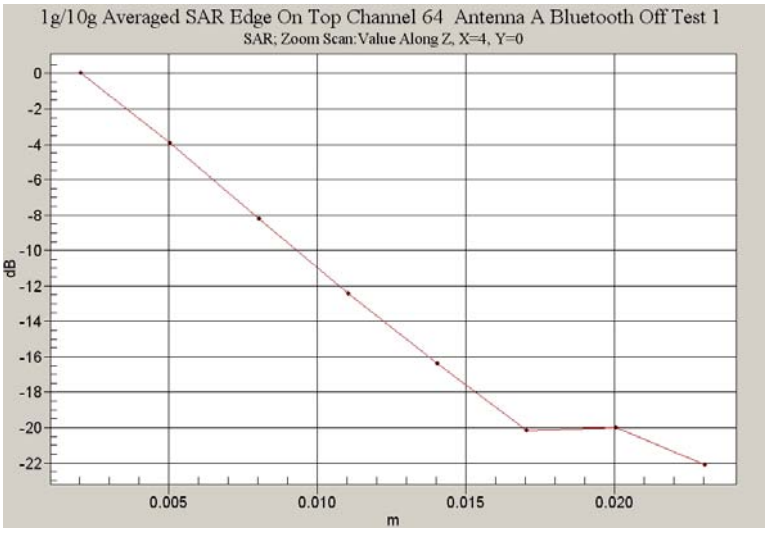
0 dB = 1.32mW/g

SAR MEASUREMENT PLOT 10

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**







Test Date: 28 June 2007

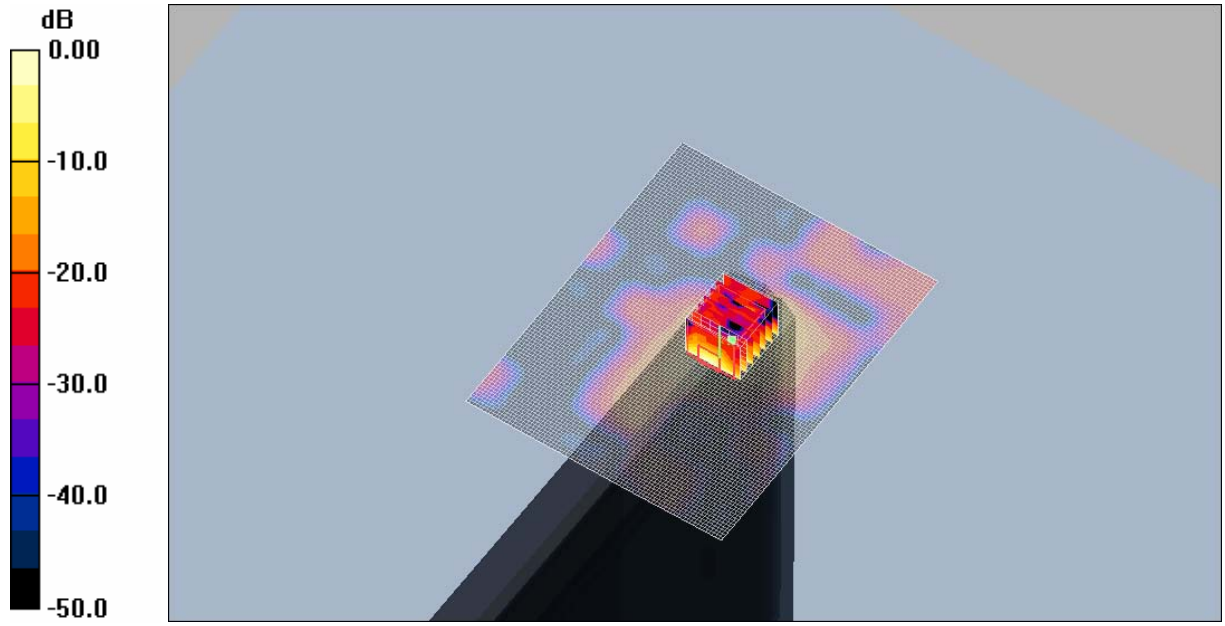
File Name: Edge On Top OFDM 5.2 GHz Champlain Antenna A Bluetooth On 28-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5250 MHz; Frequency: 5260 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.34413 mho/m, ε_r = 48.7205; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.84, 3.84, 3.84)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 52 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.411 mW/g

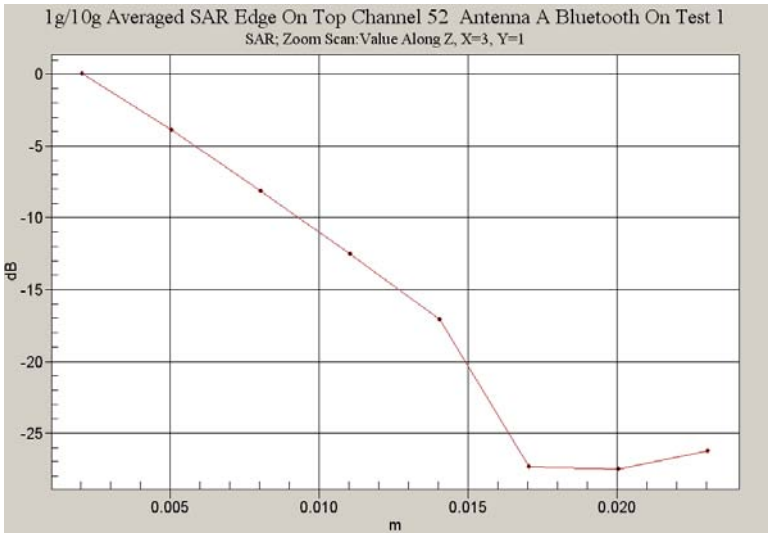
Channel 52 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 10.5 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 2.39 W/kg
SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 1.20 mW/g



0 dB = 1.20mW/g

SAR MEASUREMENT PLOT 11

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**



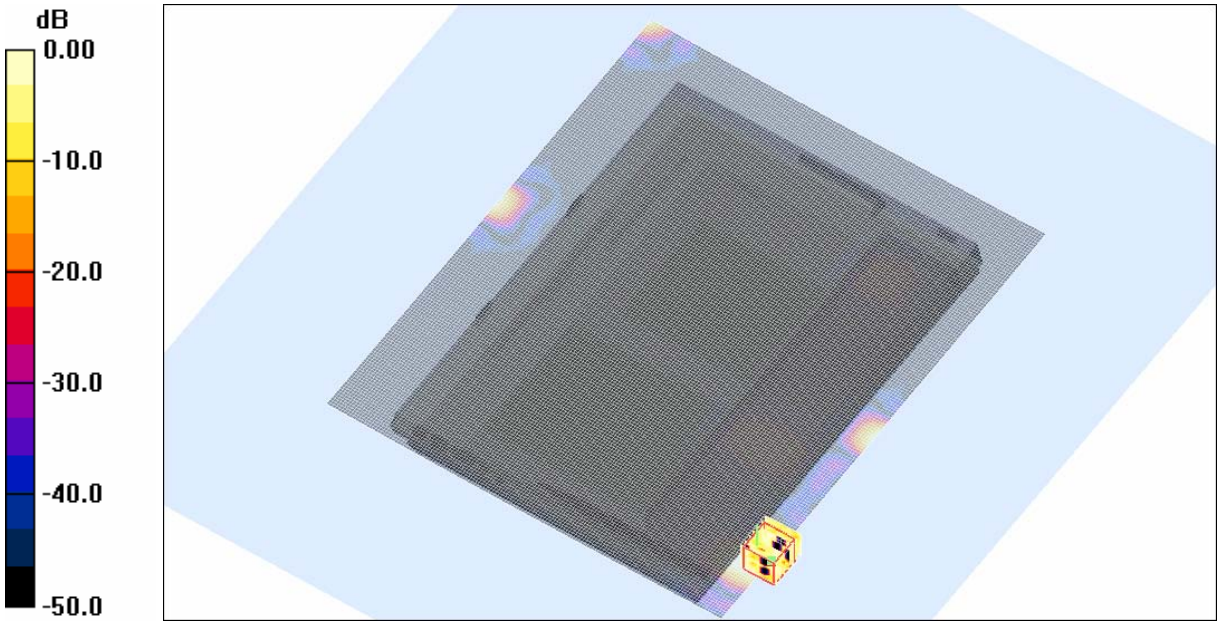
Test Date: 25 June 2007

File Name: Tablet OFDM 5.8 Champlain Antenna B Bluetooth On Prescan 25-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.28578 mho/m, ε_r = 47.5011; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (141x171x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.033 mW/g



0 dB = 0.019mW/g

SAR MEASUREMENT PLOT 12

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

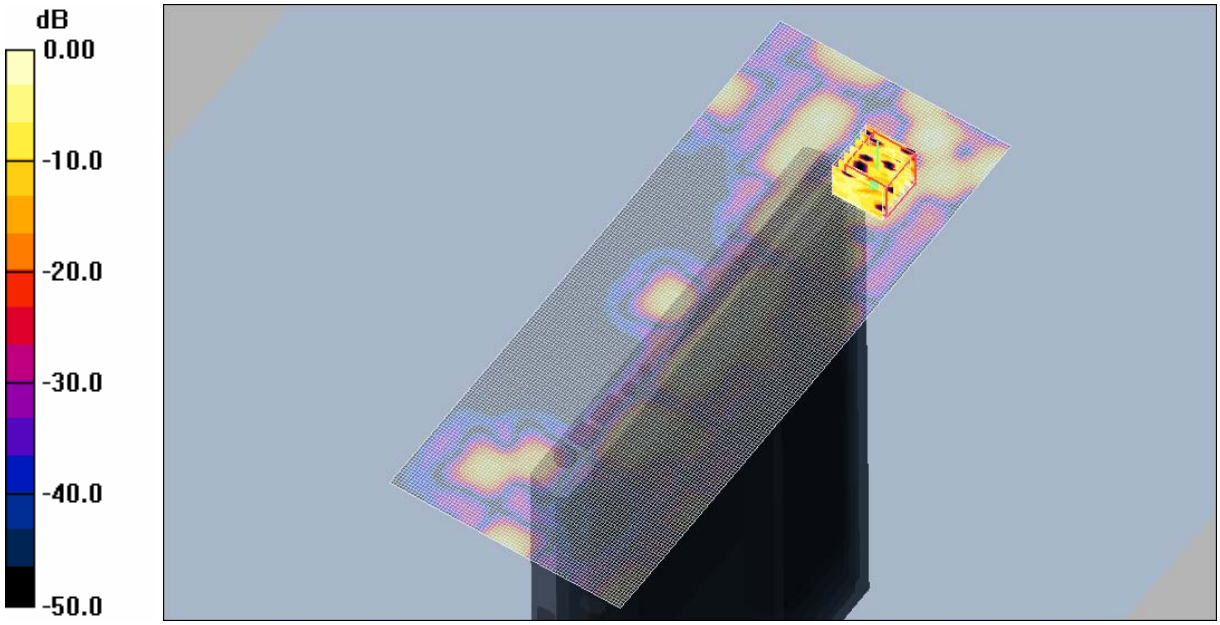
Test Date: 25 June 2007

File Name: Edge On Left OFDM 5.8 GHz Champlain Antenna B Bluetooth Off Prescan 25-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.28578 mho/m, ε_r = 47.5011; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x201x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.025 mW/g



0 dB = 0.041mW/g

SAR MEASUREMENT PLOT 13

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

Test Date: 25 June 2007

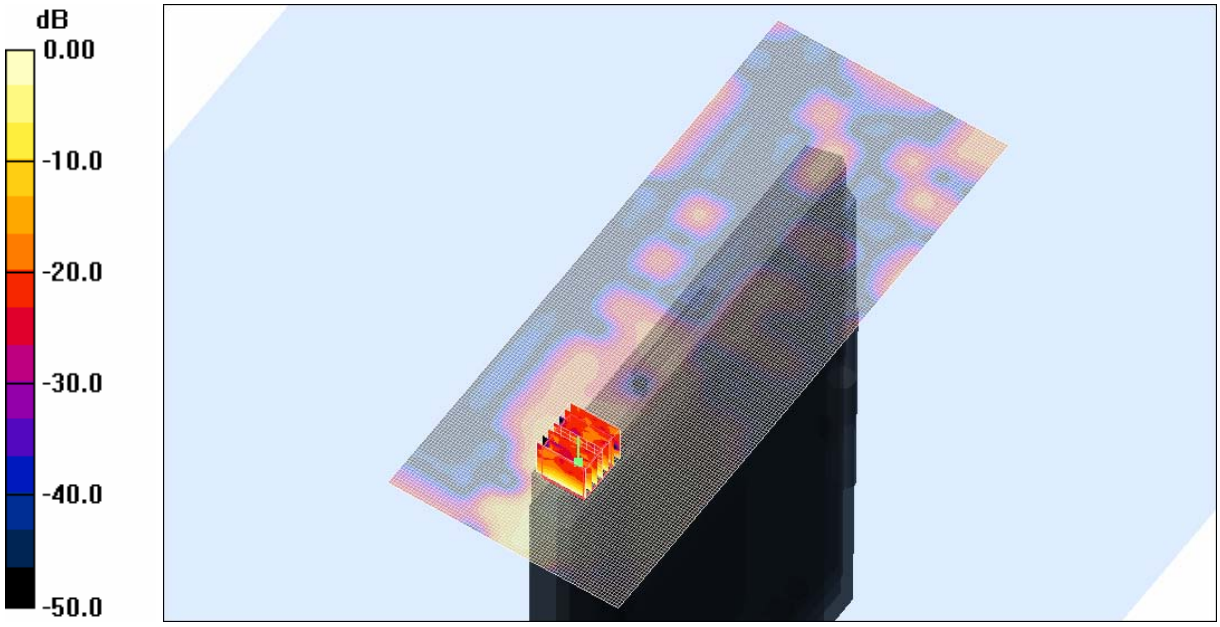
File Name: Edge On Right OFDM 5.8 GHz Champlain Antenna A Bluetooth Off Prescan 25-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.28578 mho/m, ε_r = 47.5011; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x201x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.401 mW/g



0 dB = 0.938mW/g

SAR MEASUREMENT PLOT 14

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

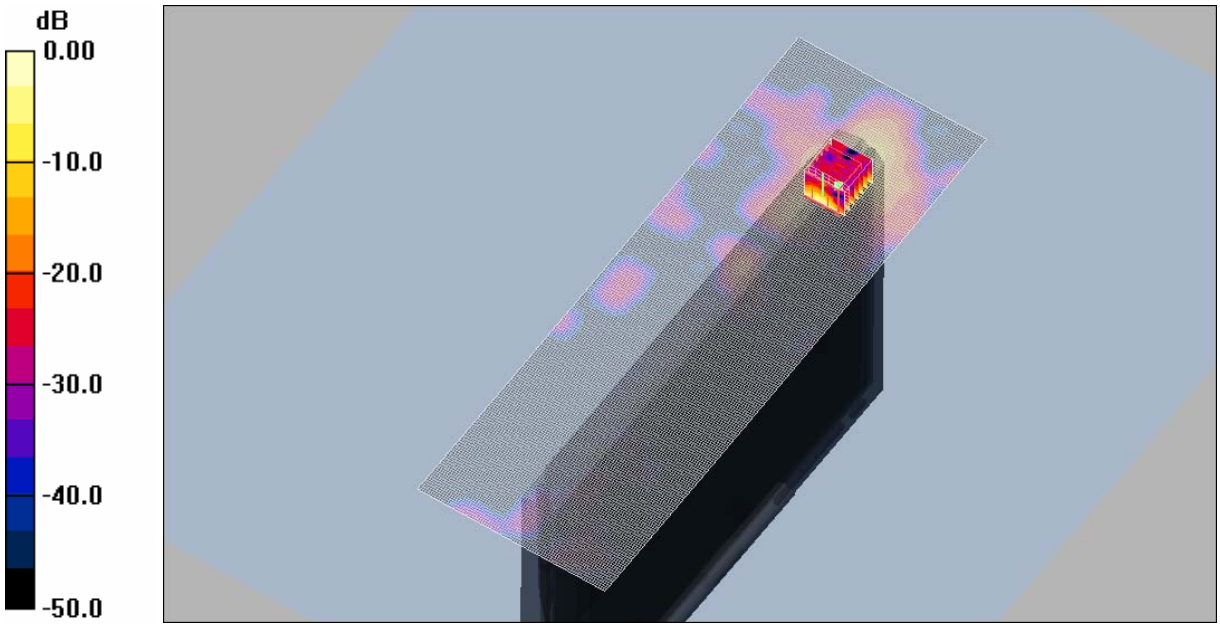
Test Date: 25 June 2007

File Name: Edge On Top OFDM 5.8 GHz Champlain Antenna A Bluetooth Off Prescan 25-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.28578 mho/m, ε_r = 47.5011; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x241x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.90 mW/g



0 dB = 4.79mW/g

SAR MEASUREMENT PLOT 15

Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

Test Date: 26 June 2007

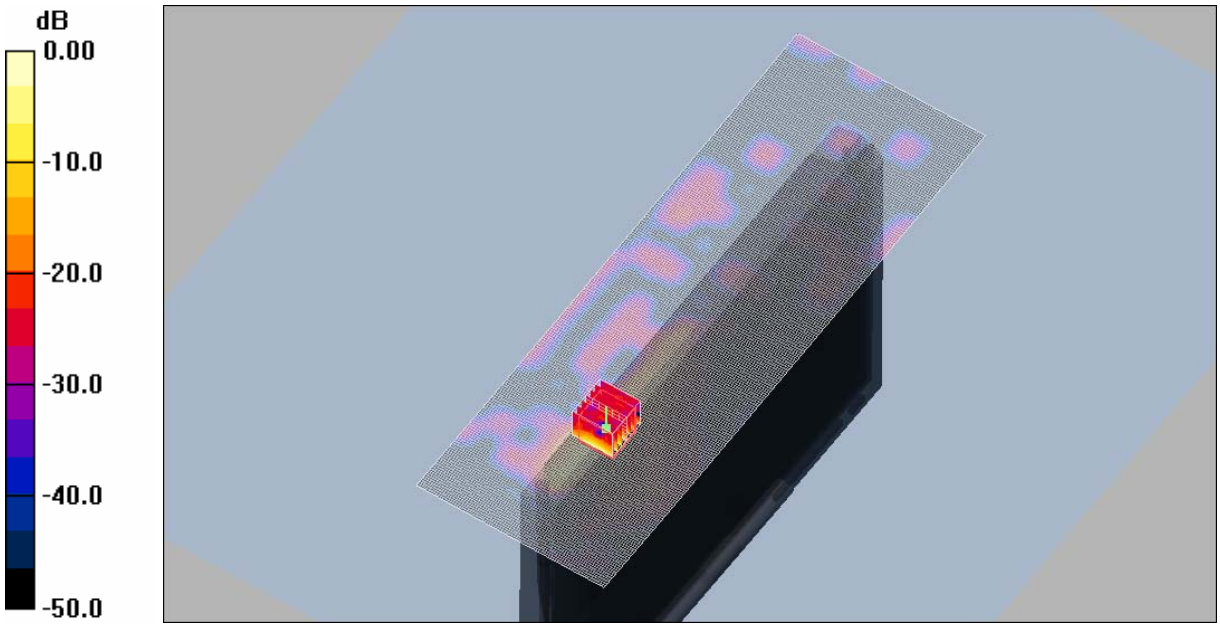
File Name: Edge On Top OFDM 5.8 GHz Champlain Antenna B Bluetooth On Prescan 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x241x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.57 mW/g



0 dB = 3.65mW/g

SAR MEASUREMENT PLOT 16

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 25 June 2007

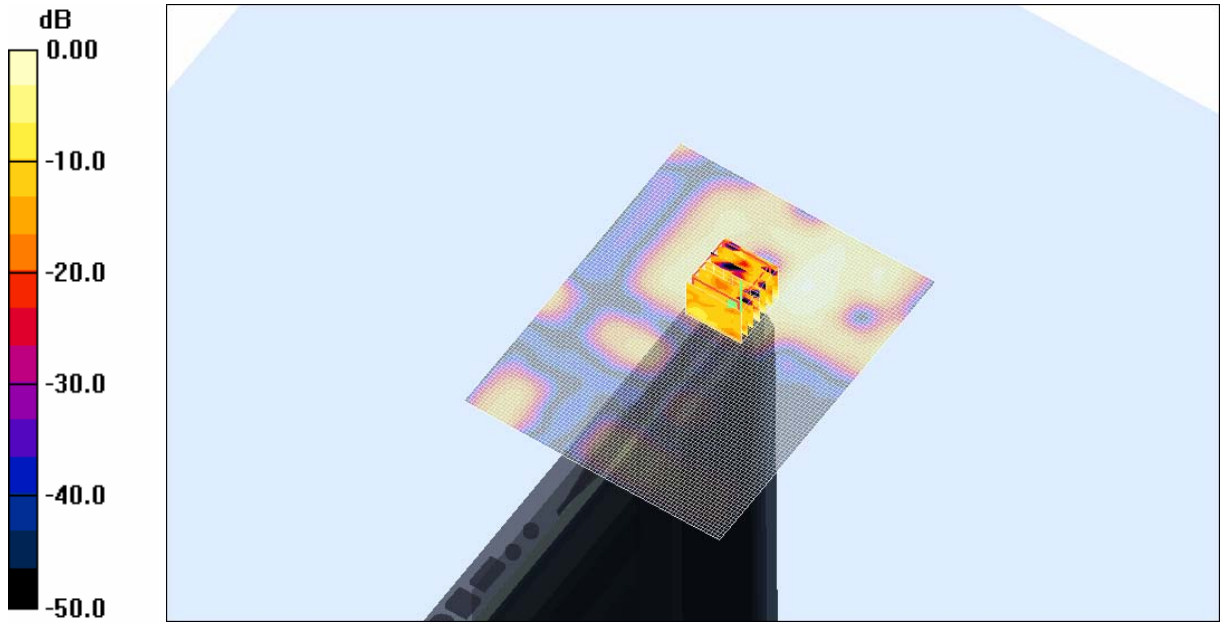
File Name: Edge On Left OFDM 5.8 GHz Champlain Antenna B Bluetooth Off 25-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.28578 mho/m, ε_r = 47.5011; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.089 mW/g

Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 3.97 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.264 W/kg
SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.023 mW/g
Maximum value of SAR (measured) = 0.142 mW/g



0 dB = 0.142mW/g

SAR MEASUREMENT PLOT 17

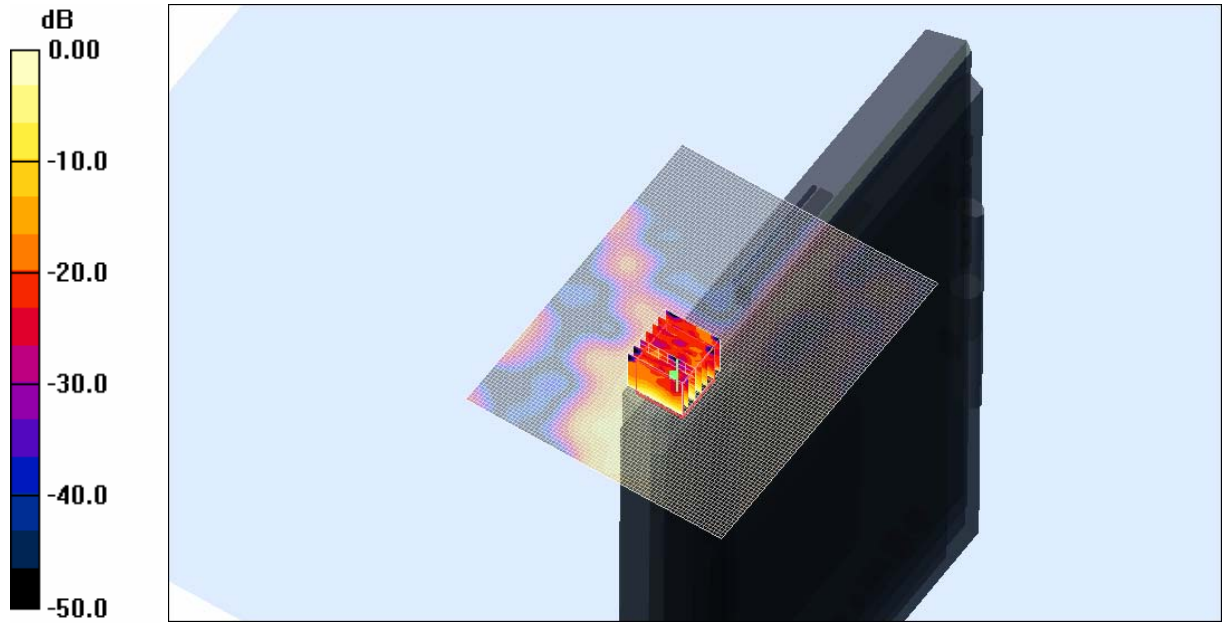
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

Test Date: 25 June 2007
File Name: Edge On Right OFDM 5.8 GHz Champlain Antenna A Bluetooth Off 25-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.28578 mho/m, ε_r = 47.5011; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.361 mW/g

Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 8.05 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 1.94 W/kg
SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.897 mW/g



0 dB = 0.897mW/g

SAR MEASUREMENT PLOT 18

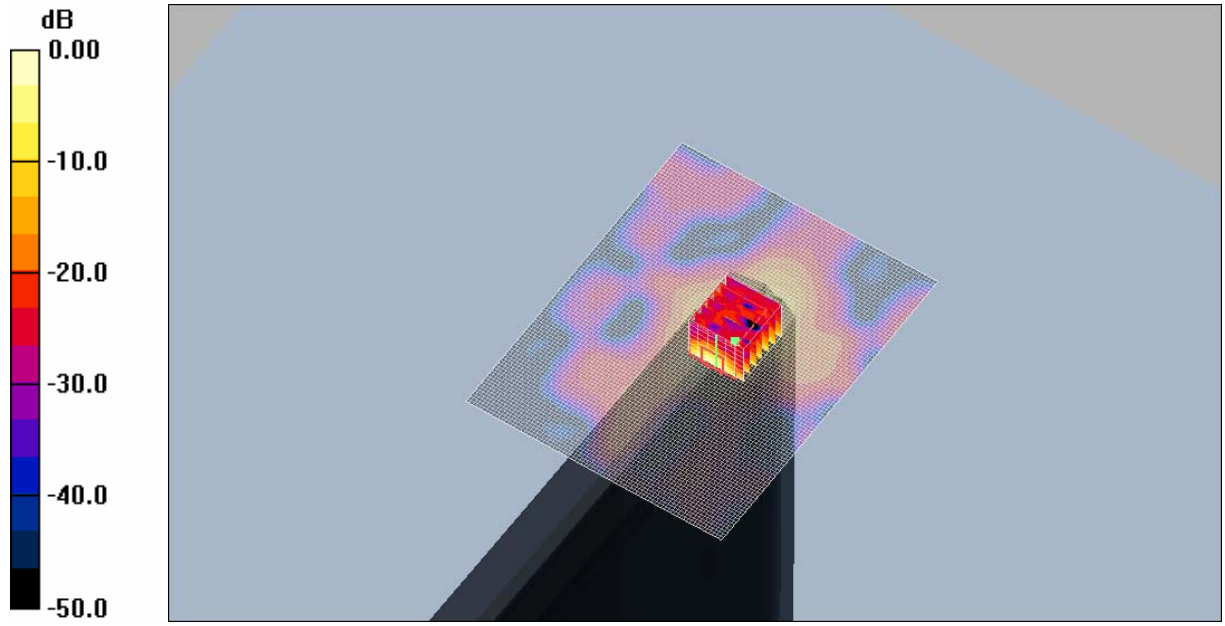
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

Test Date: 26 June 2007
File Name: Edge On Top OFDM 5.8 GHz Champlain Antenna A Bluetooth Off 26-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.836 mW/g

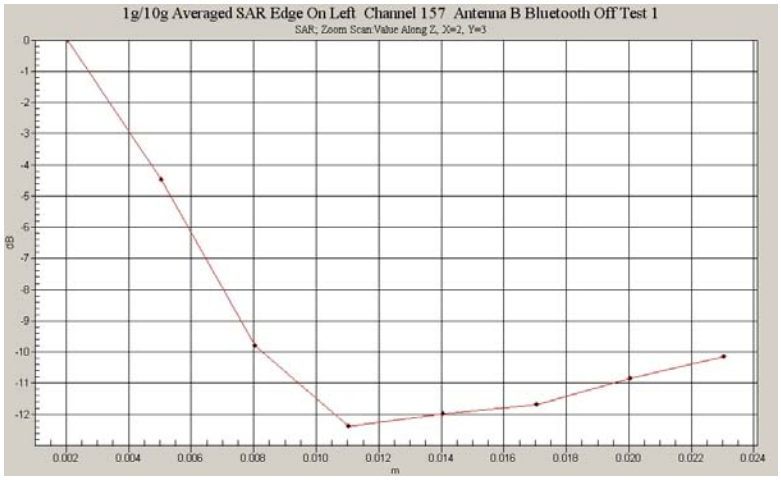
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 17.6 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 6.18 W/kg
SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.39 mW/g
Maximum value of SAR (measured) = 2.63 mW/g

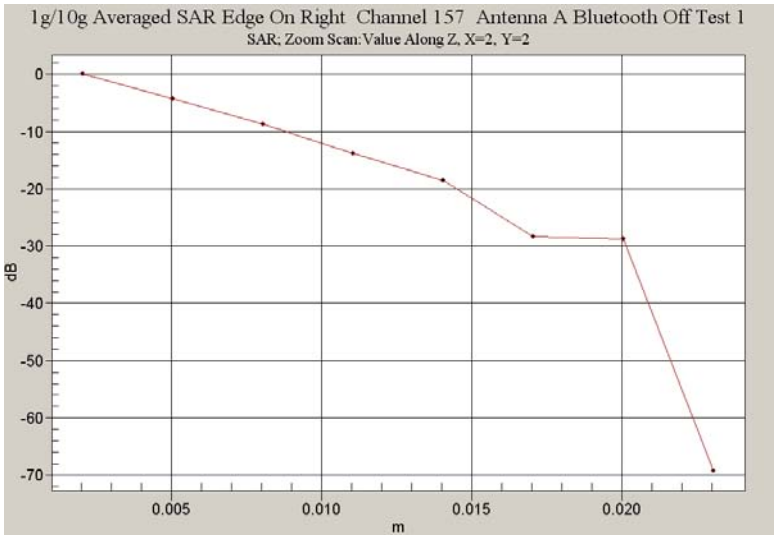


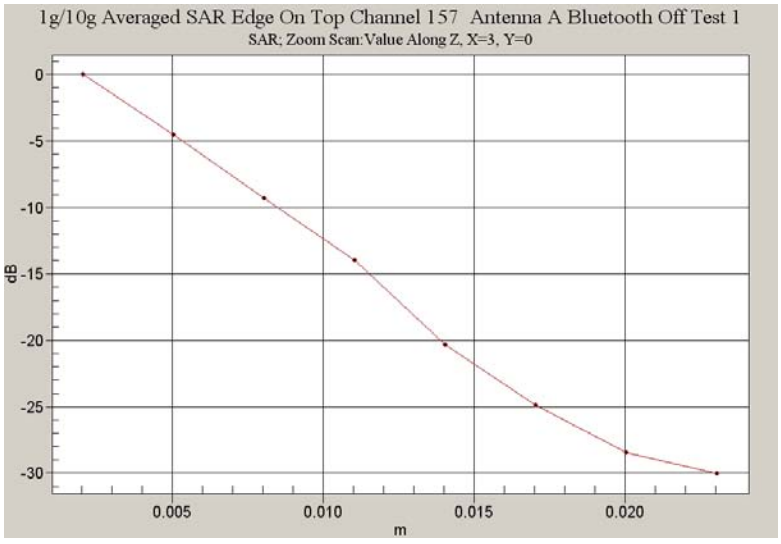
0 dB = 2.63mW/g

SAR MEASUREMENT PLOT 19

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**







Test Date: 26 June 2007

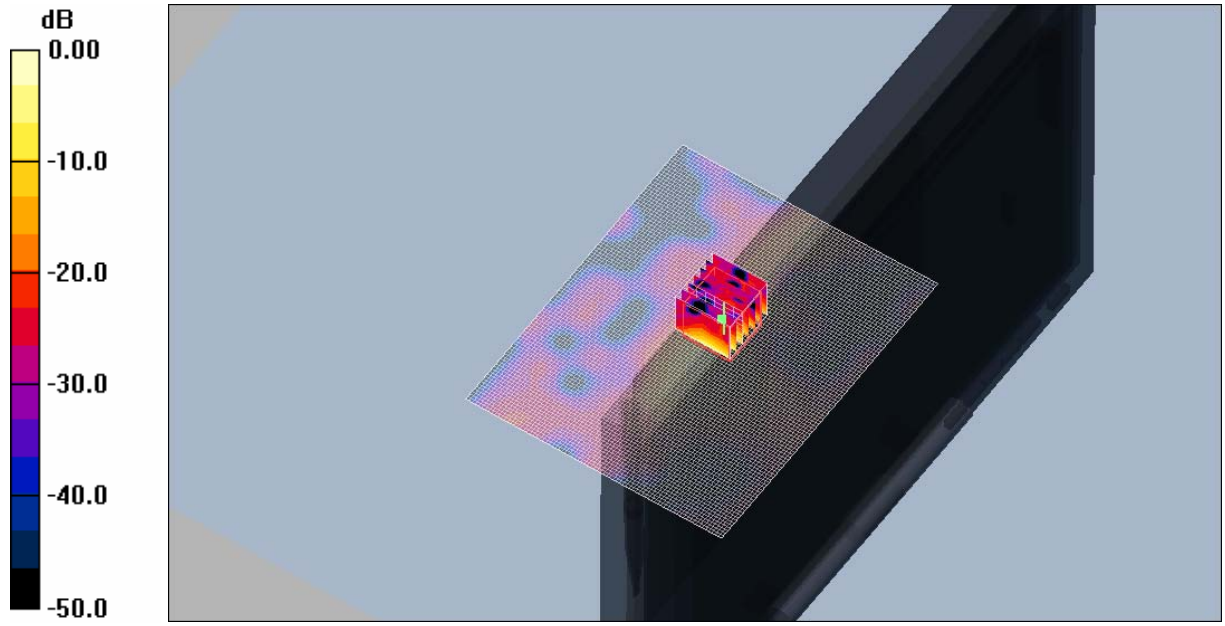
File Name: Edge On Top OFDM 5.8 GHz Champlain Antenna B Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.636 mW/g

Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 11.5 V/m; Power Drift = -0.483 dB
Peak SAR (extrapolated) = 7.13 W/kg
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.227 mW/g
Maximum value of SAR (measured) = 3.13 mW/g



0 dB = 3.13mW/g

SAR MEASUREMENT PLOT 20

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007

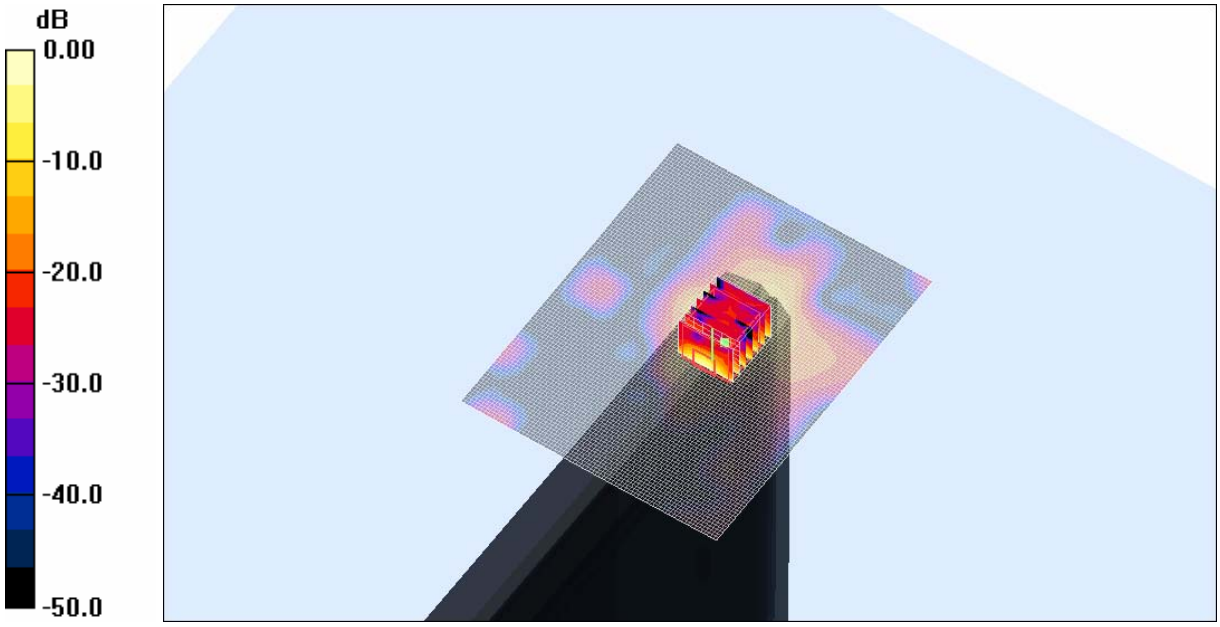
File Name: Edge On Top OFDM (HT0 Mbps 40 MHz) 5.8 GHz Champlain Antenna A Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5795 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.33669 mho/m, ε_r = 47.2669; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 159 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.659 mW/g

Channel 159 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 14.9 V/m; Power Drift = 0.337 dB
Peak SAR (extrapolated) = 5.10 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.322 mW/g
Maximum value of SAR (measured) = 2.40 mW/g



0 dB = 2.40mW/g

SAR MEASUREMENT PLOT 21

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007

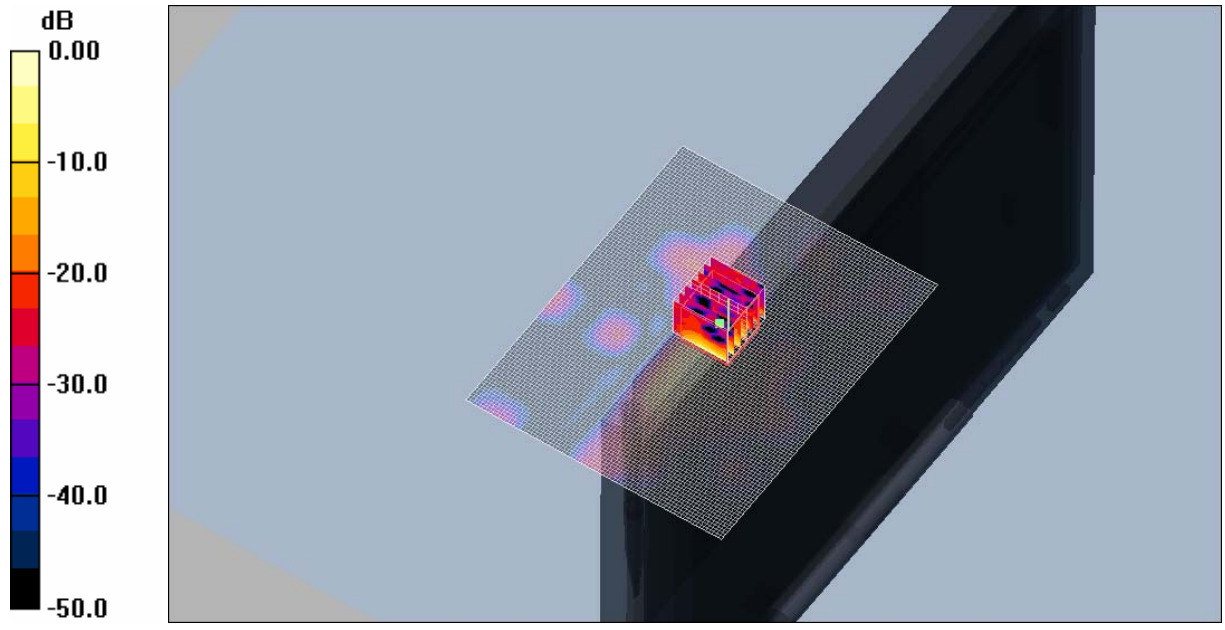
File Name: Edge On Top OFDM (HT0 Mbps 40 MHz) 5.8 GHz Champlain Antenna B Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5795 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.33669 mho/m, ε_r = 47.2669; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 159 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.501 mW/g

Channel 159 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 8.96 V/m; Power Drift = 0.167 dB
Peak SAR (extrapolated) = 4.80 W/kg
SAR(1 g) = 0.795 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 2.21 mW/g



0 dB = 2.21mW/g

SAR MEASUREMENT PLOT 22

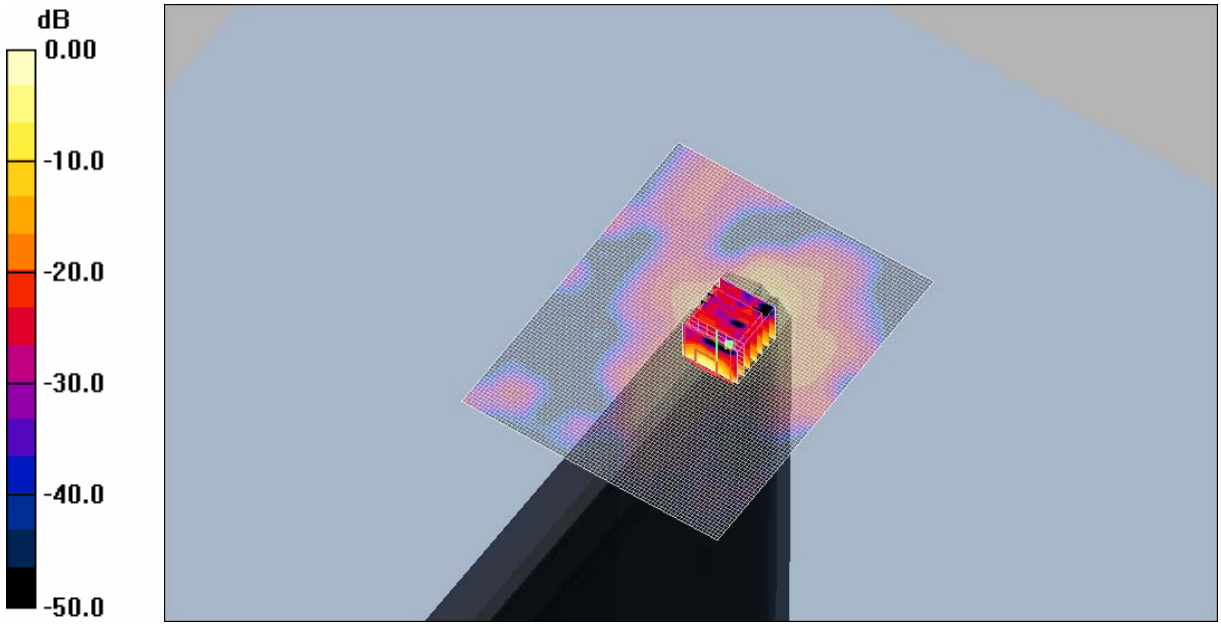
Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna A Bluetooth Off 26-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5745 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.2321 mho/m, ε_r = 47.468; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 149 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.809 mW/g

Channel 149 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 16.2 V/m; Power Drift = 0.392 dB
Peak SAR (extrapolated) = 5.55 W/kg
SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.361 mW/g
Maximum value of SAR (measured) = 2.48 mW/g



0 dB = 2.48mW/g

SAR MEASUREMENT PLOT 23

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007

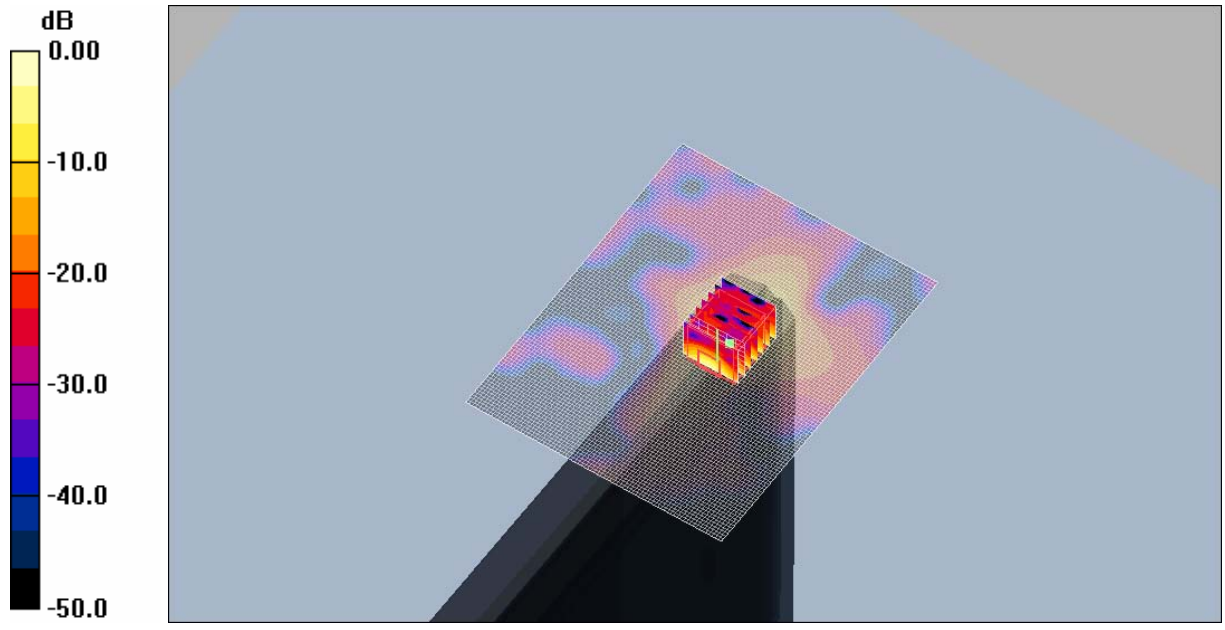
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna A Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.812 mW/g

Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 16.1 V/m; Power Drift = 0.321 dB
Peak SAR (extrapolated) = 6.17 W/kg
SAR(1 g) = 1.28 mW/g; SAR(10 g) = 0.385 mW/g
Maximum value of SAR (measured) = 2.88 mW/g



0 dB = 2.88mW/g

SAR MEASUREMENT PLOT 24

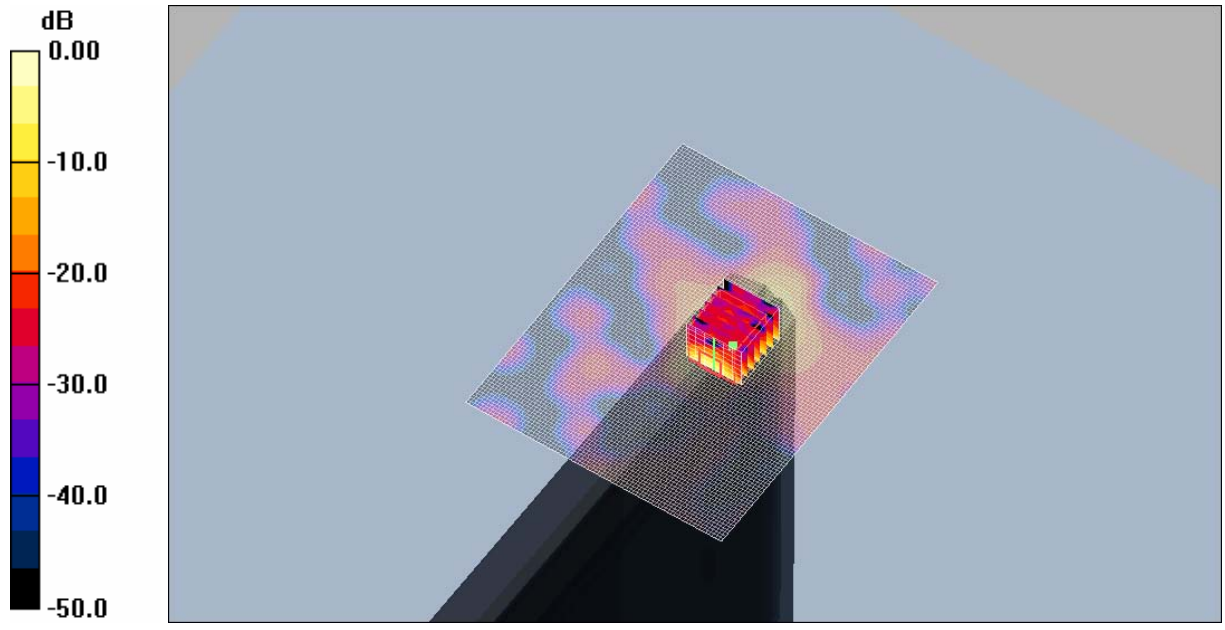
Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna A Bluetooth Off 26-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5825 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.37485 mho/m, ε_r = 47.1815; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 165 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.864 mW/g

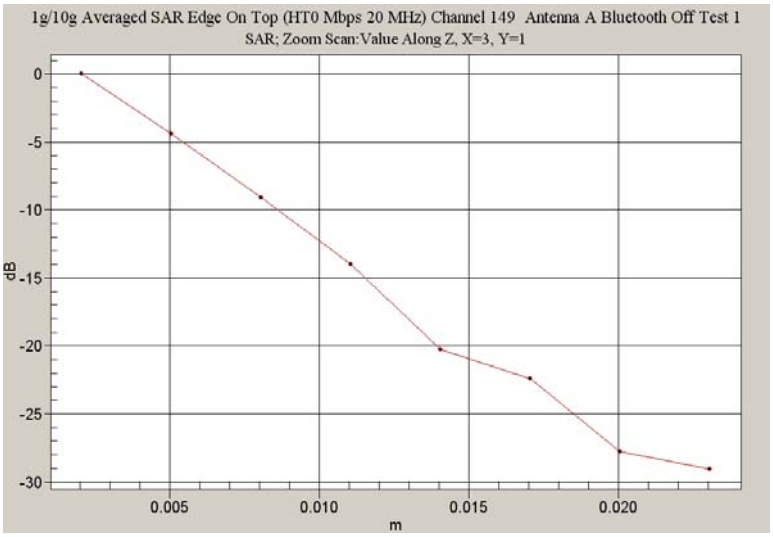
Channel 165 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 17.0 V/m; Power Drift = 0.260 dB
Peak SAR (extrapolated) = 6.61 W/kg
SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.38 mW/g
Maximum value of SAR (measured) = 2.69 mW/g

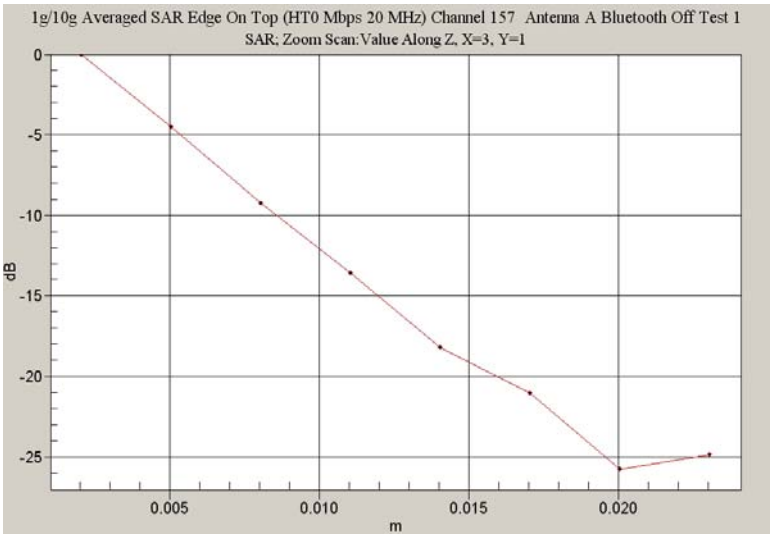


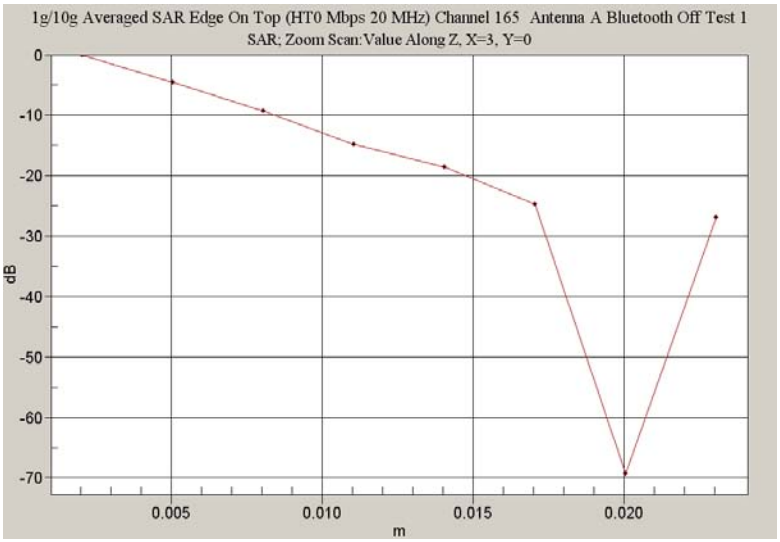
0 dB = 2.69mW/g

SAR MEASUREMENT PLOT 25

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**







Test Date: 26 June 2007

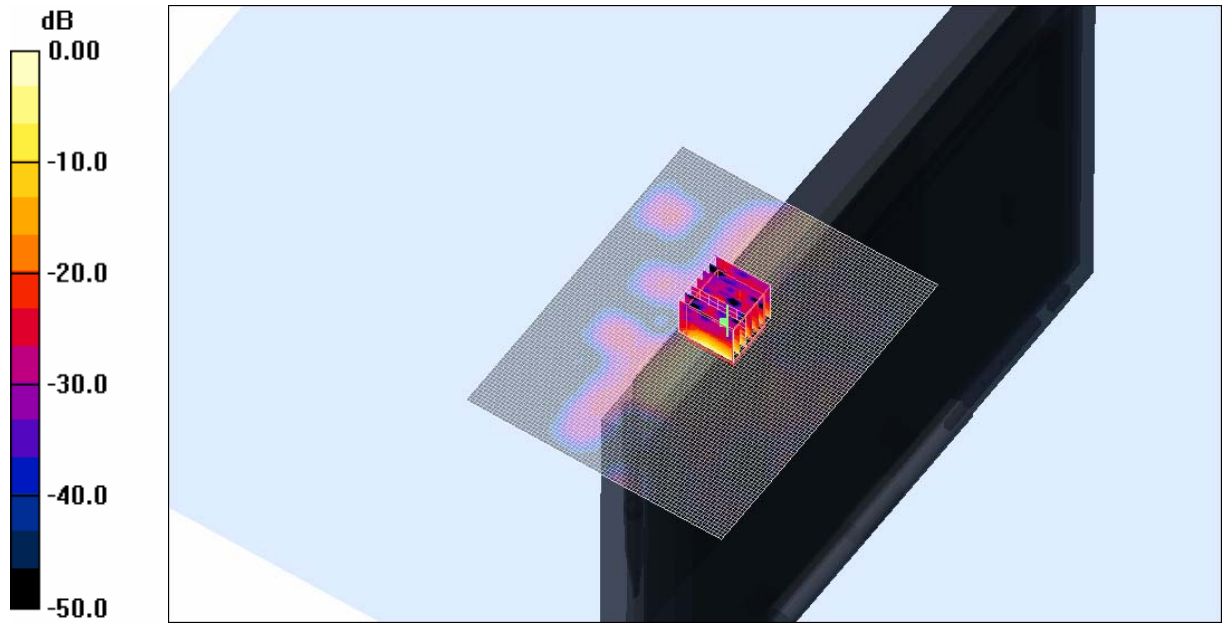
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna B Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5745 MHz; Duty Cycle: 1:1
* Medium parameters used: $\sigma = 6.2321$ mho/m, $\varepsilon_r = 47.468$; $\rho = 1000$ kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 149 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.741 mW/g

Channel 149 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 11.4 V/m; Power Drift = -0.300 dB
Peak SAR (extrapolated) = 7.60 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.234 mW/g
Maximum value of SAR (measured) = 2.96 mW/g



0 dB = 2.96mW/g

SAR MEASUREMENT PLOT 26

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007

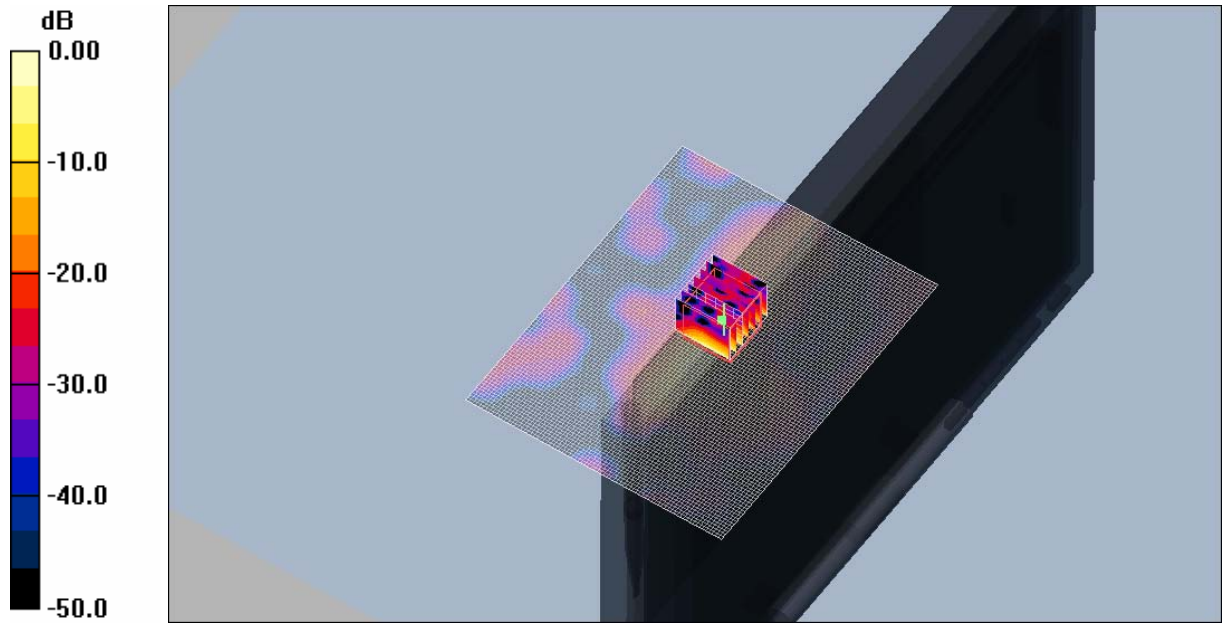
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna B Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.739 mW/g

Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 10.7 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 7.02 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 3.16 mW/g



0 dB = 3.16mW/g

SAR MEASUREMENT PLOT 27

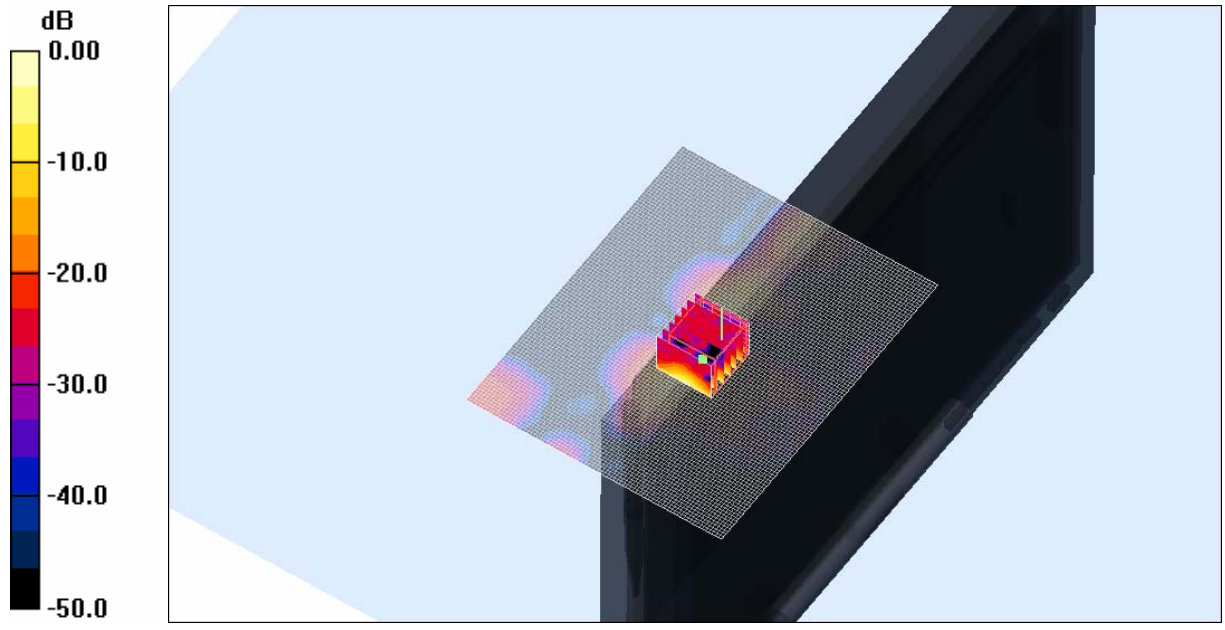
Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna B Bluetooth Off 26-06-07.da4
DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5825 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.37485 mho/m, ε_r = 47.1815; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 165 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.719 mW/g

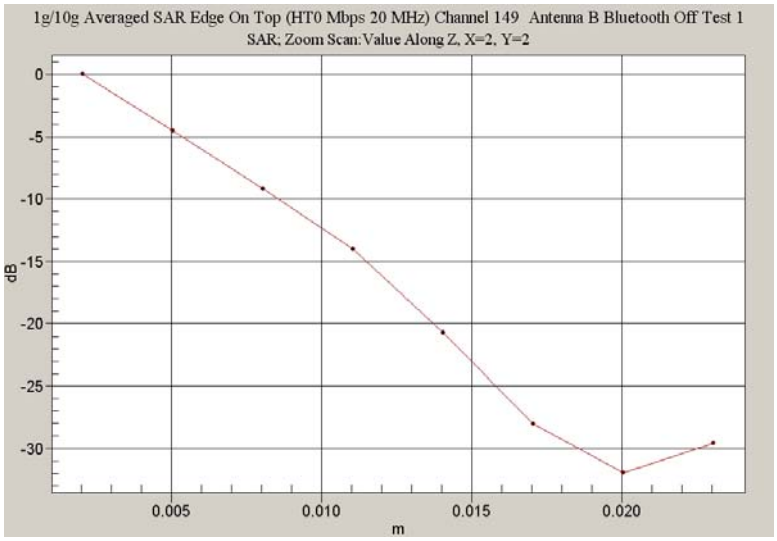
Channel 165 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 9.56 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 8.38 W/kg
SAR(1 g) = 0.810 mW/g; SAR(10 g) = 0.195 mW/g
Maximum value of SAR (measured) = 2.79 mW/g

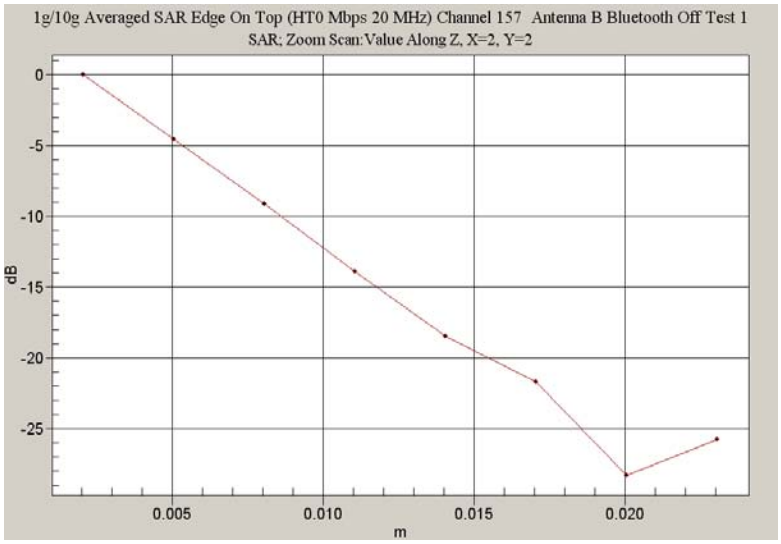


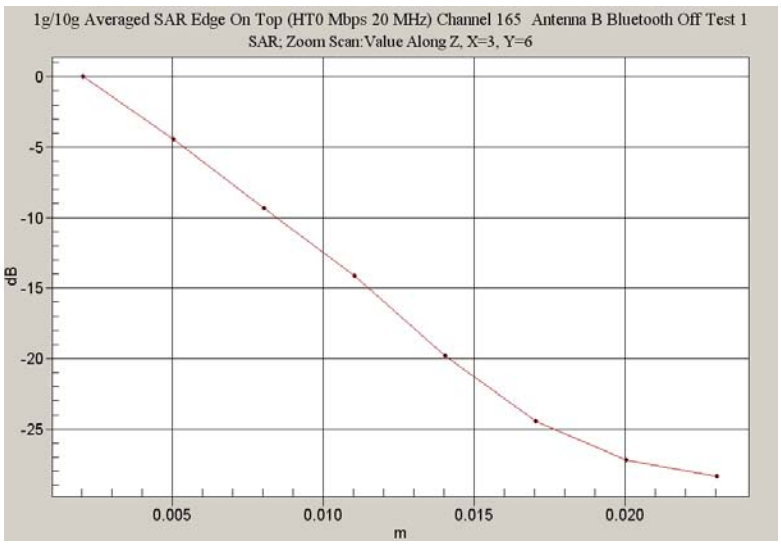
0 dB = 2.79mW/g

SAR MEASUREMENT PLOT 28

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**







Test Date: 26 June 2007

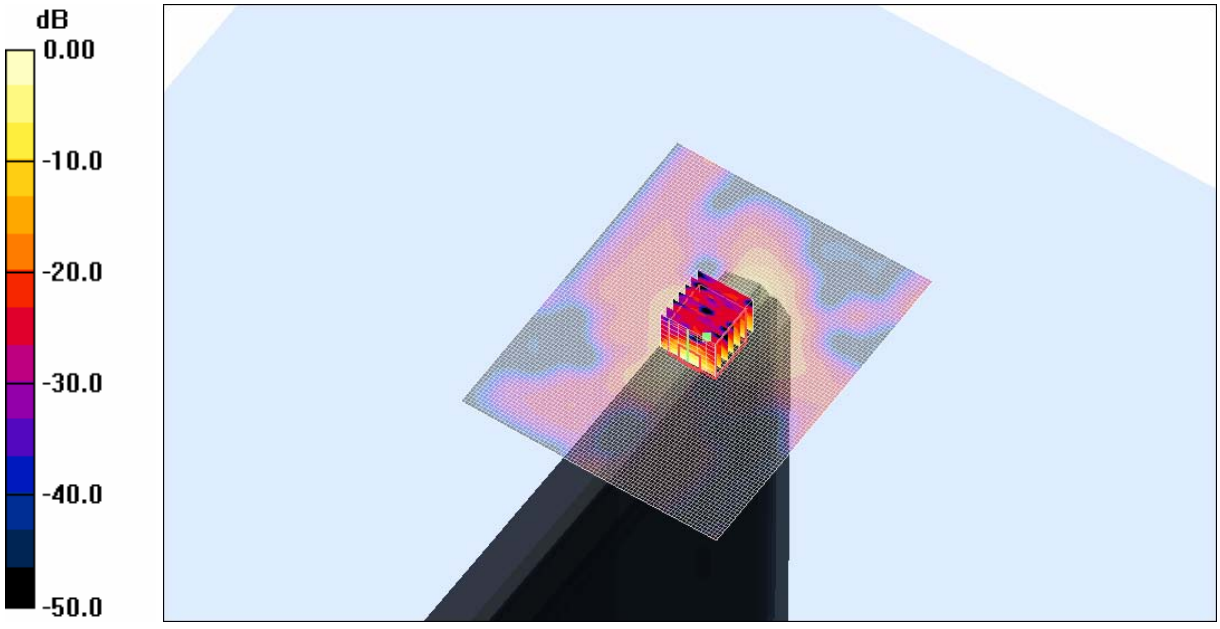
File Name: Edge On Top OFDM (HT0 Mbps 20 MHz) 5.8 GHz Champlain Antenna A Bluetooth On 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.12 mW/g

Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 9.54 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 4.98 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.322 mW/g
Maximum value of SAR (measured) = 2.34 mW/g



0 dB = 2.34mW/g

SAR MEASUREMENT PLOT 29

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**

Test Date: 26 June 2007

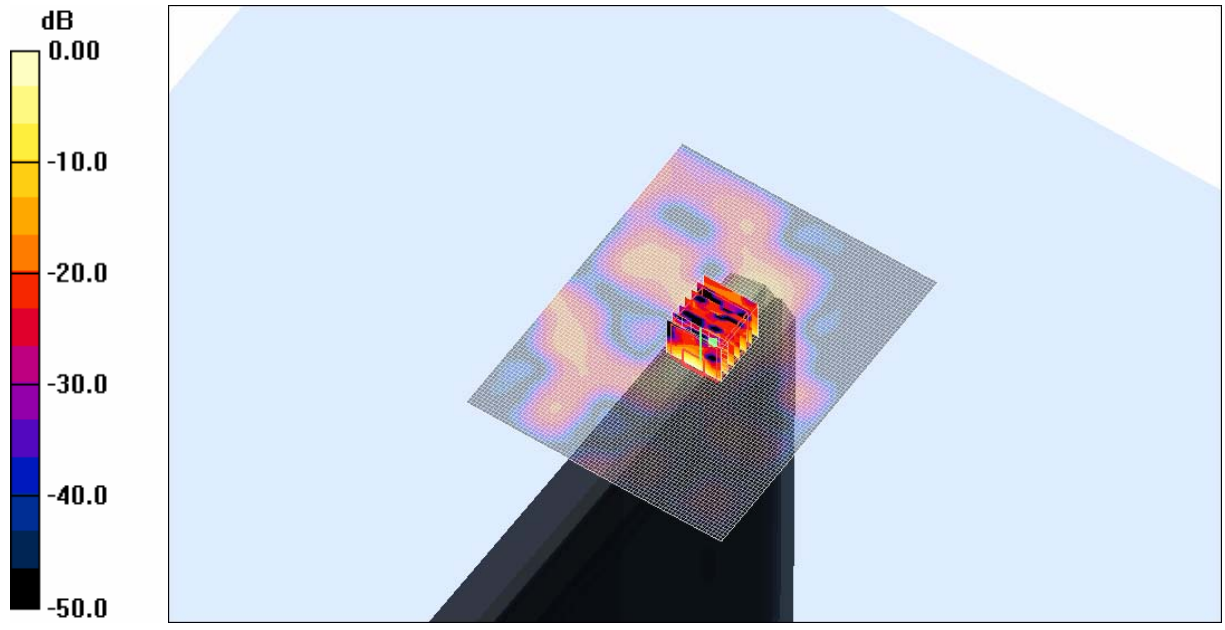
File Name: Edge On Top OFDM (HT8 Mbps 20 MHz) 5.8 GHz Champlain Antenna A Bluetooth Off 26-06-07.da4

DUT: Fujitsu Tablet Champlain with Kedron 11abgn and Bluetooth; Type: 4965ABG; Serial: MAC: 0013E8175E6F

* Communication System: OFDM 5770 MHz; Frequency: 5785 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 6.31221 mho/m, ε_r = 47.3112; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.64, 3.64, 3.64)
- Phantom: Flat Phantom 10.1; Serial: P 10.1; Phantom section: Flat 2.2 Section

Channel 157 Test/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.487 mW/g

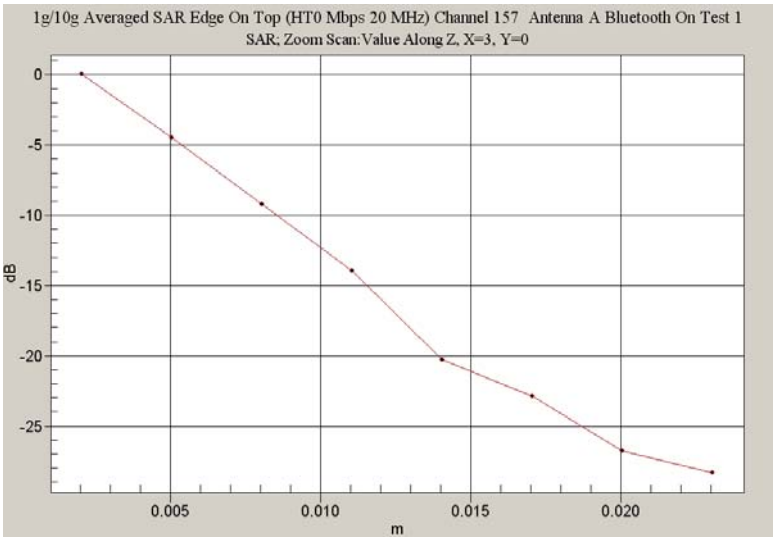
Channel 157 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 6.84 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.401 mW/g; SAR(10 g) = 0.118 mW/g
Maximum value of SAR (measured) = 0.976 mW/g

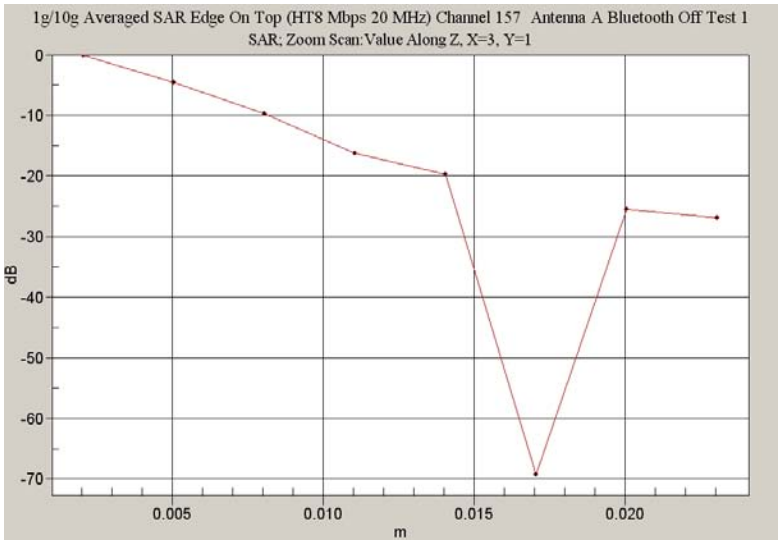


0 dB = 0.976mW/g

SAR MEASUREMENT PLOT 30

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**



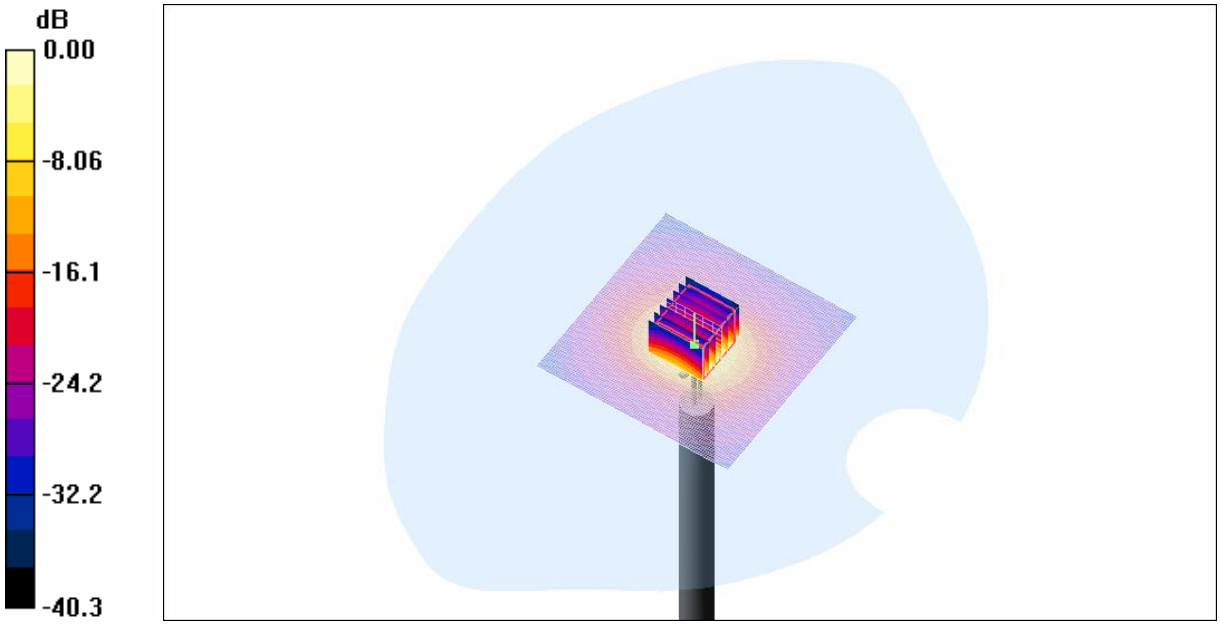


Test Date: 27 June 2007
File Name: Validation 5200MHz (DAE 442 Probe EX3DV4) 27-06-07.da4
DUT: Dipole 5200_5800 MHz; Type: D5GHzV2; Serial: 1008

* Communication System: CW 5200 MHz; Frequency: 5200 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 4.65028 mho/m, ε_r = 36.7861; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(4.18, 4.18, 4.18)
- Phantom: SAM 22; Serial: 1260; Phantom section: Flat Section

Channel 1 Test/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 38.7 mW/g

Channel 1 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 93.2 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 71.4 W/kg
SAR(1 g) = 18.6 mW/g; SAR(10 g) = 5.3 mW/g
Maximum value of SAR (measured) = 39.0 mW/g



0 dB = 39.0mW/g

SAR MEASUREMENT PLOT 31

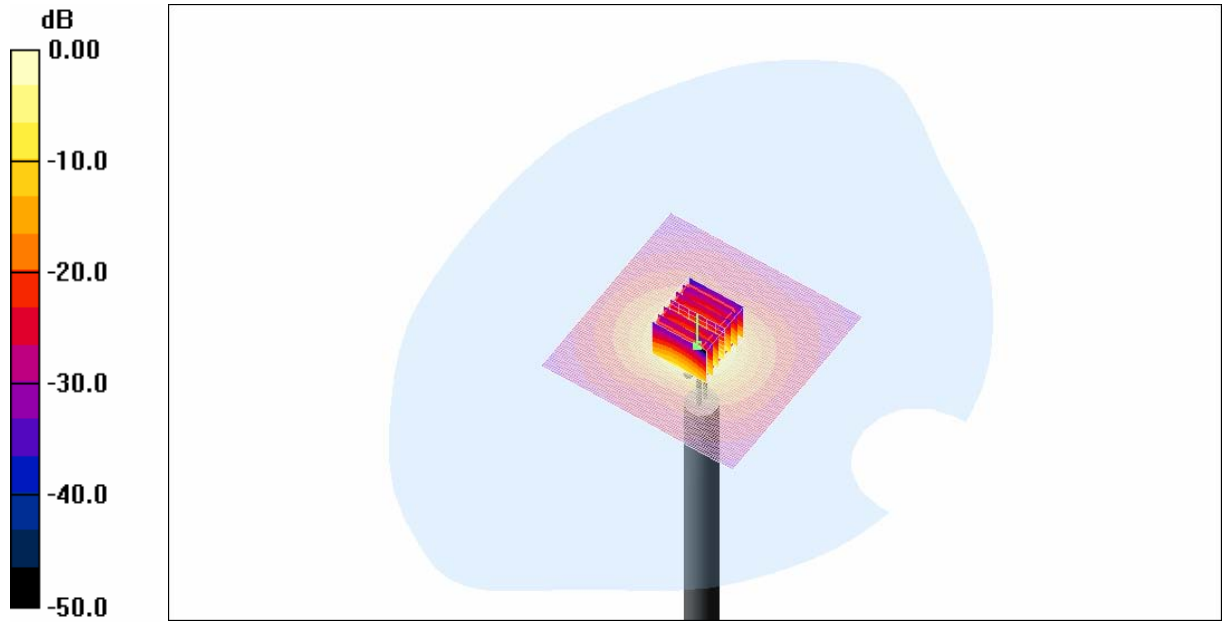
Ambient Temperature	**21.9 Degrees Celsius**
Liquid Temperature	**21.5 Degrees Celsius**
Humidity	**43.0 %**

Test Date: 28 June 2007
File Name: Validation 5200MHz (DAE 442 Probe EX3DV4) 28-06-07.da4
DUT: Dipole 5200_5800 MHz; Type: D5GHzV2; Serial: 1008

* Communication System: CW 5200 MHz; Frequency: 5200 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 4.72084 mho/m, ε_r = 36.889; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(4.18, 4.18, 4.18)
- Phantom: SAM 22; Serial: 1260; Phantom section: Flat Section

Channel 1 Test/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 38.7 mW/g

Channel 1 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 93.0 V/m; Power Drift = -0.126 dB
Peak SAR (extrapolated) = 73.0 W/kg
SAR(1 g) = 19 mW/g; SAR(10 g) = 5.42 mW/g
Maximum value of SAR (measured) = 39.7 mW/g



0 dB = 39.7mW/g

SAR MEASUREMENT PLOT 32

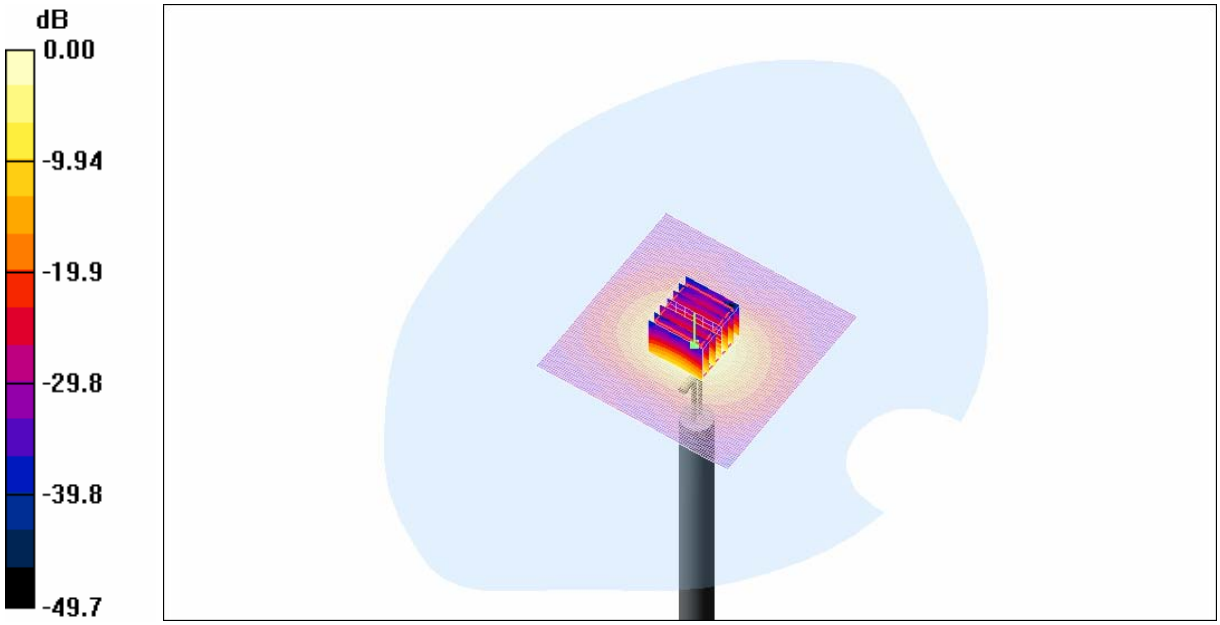
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.3 Degrees Celsius**
Humidity	**51.0 %**

Test Date: 25 June 2007
File Name: Validation 5800MHz (DAE 442 Probe EX3DV4) 25-06-07.da4
DUT: Dipole 5200_5800 MHz; Type: D5GHzV2; Serial: 1008

* Communication System: CW 5800 MHz; Frequency: 5800 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.50637 mho/m, ε_r = 35.1772; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.66, 3.66, 3.66)
- Phantom: SAM 22; Serial: 1260; Phantom section: Flat Section

Channel 1 Test/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 40.7 mW/g

Channel 1 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 90.7 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 87.3 W/kg
SAR(1 g) = 19.5 mW/g; SAR(10 g) = 5.5 mW/g
Maximum value of SAR (measured) = 41.9 mW/g



0 dB = 41.9mW/g

SAR MEASUREMENT PLOT 33

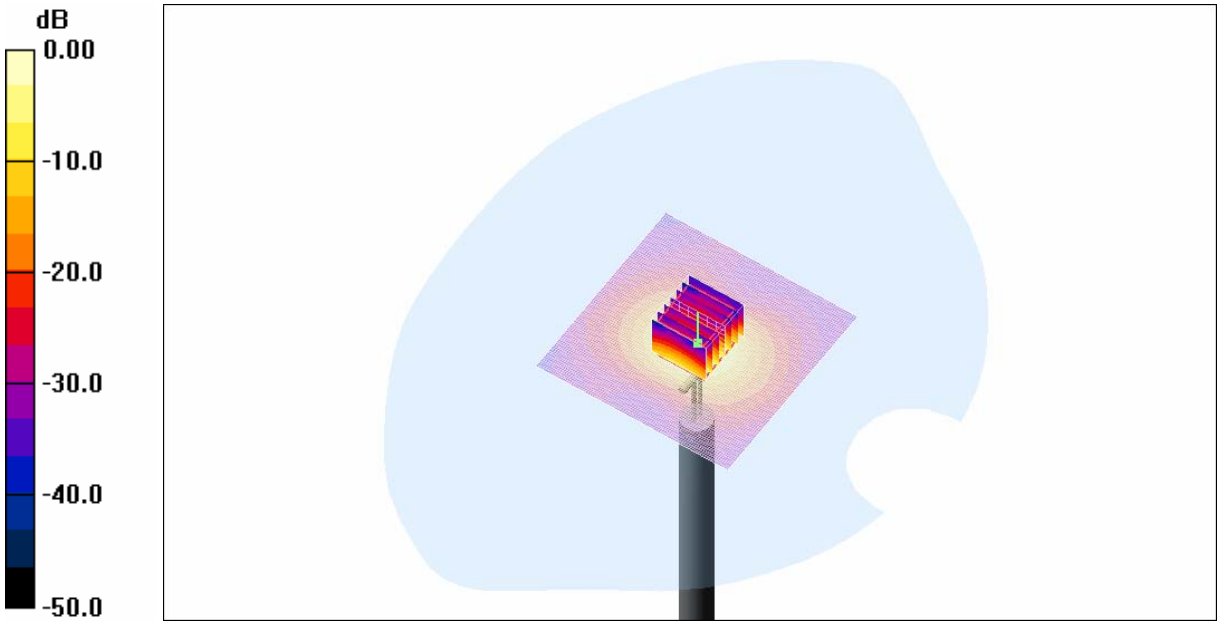
Ambient Temperature	**21.8 Degrees Celsius**
Liquid Temperature	**21.6 Degrees Celsius**
Humidity	**31.0 %**

Test Date: 26 June 2007
File Name: Validation 5800MHz (DAE 442 Probe EX3DV4) 26-06-07.da4
DUT: Dipole 5200_5800 MHz; Type: D5GHzV2; Serial: 1008

* Communication System: CW 5800 MHz; Frequency: 5800 MHz; Duty Cycle: 1:1
* Medium parameters used: σ = 5.4711 mho/m, ε_r = 34.6632; ρ = 1000 kg/m^3
- Electronics: DAE3 Sn442; Probe: EX3DV4 - SN3563; ConvF(3.66, 3.66, 3.66)
- Phantom: SAM 22; Serial: 1260; Phantom section: Flat Section

Channel 1 Test/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 41.4 mW/g

Channel 1 Test/Zoom Scan (7x7x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 89.1 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 85.3 W/kg
SAR(1 g) = 19.3 mW/g; SAR(10 g) = 5.46 mW/g
Maximum value of SAR (measured) = 41.0 mW/g



0 dB = 41.0mW/g

SAR MEASUREMENT PLOT 34

Ambient Temperature	**21.7 Degrees Celsius**
Liquid Temperature	**21.1 Degrees Celsius**
Humidity	**34.0 %**