TEST REPORT OF A 2.4/5 GHZ IEEE 802.11a/g WLAN CARDBUS CARD, BRAND AGERE, MODEL 1106, IN CONFORMITY WITH FEDERAL REGULATED SAR (SPECIFIC ABSORPTION RATE) REQUIREMENTS IN THE USA AND CANADA.

FCC listed : 90828
Industry Canada : IC3501
VCCI registered : R-1518, C-1598

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Description of test item

Test item	:	2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card
Manufacturer	:	Agere Systems Nederland B.V.
Brand	:	Agere
Model	:	1106
Serial numbers	:	04NG12910086
Revision	:	n.a.
Receipt number	:	4
Receipt date	:	February 12, 2004

Applicant information

Applicant's representative	:	Mr. A. Visee
Company	:	Agere Systems Nederland B.V.
Address	:	Zadelstede 1-10
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City	:	Nieuwegein
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Test(s) performed

Location	:	Niekerk
Test(s) started	:	June 15, 2004
Test(s) completed	:	June 24, 2004
Purpose of test(s)	:	To verify compliance with Federal regulated SAR requirements in the USA and Canada
Test specification(s)		IEEE C95.1-1991, FCC OET Bulletin 65 (Supplement C), Industry Canada RSS-102 (Issue 1)
Test engineer	:	J. Schuurmans, B.Sc.E.E.
Project leader	:	H.J. Pieters
Report written by	:	J. Schuurmans, B.Sc.E.E.
Report approved by	:	P. de Beer
Report date	:	October 5, 2004

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Annexes:

- Calibration Certificate Dosimetric E-field Probe.
- Immersible SAR probe calibration report IXP – 050 S/N 0131
- IndexSAR report no. IXS-0223, Compensating for the finite size of SAR probes used in electric field gradients

1 General.

1.1 Purpose of tests.

Tests were conducted to verify compliance with Federal regulated SAR requirements in the USA and Canada.

1.2 Applied standards/publications.

The Equipment Under Test (EUT) was tested in conformity with the described test method(s) in the following standards and/or publications:

- IEEE Std C95.1-1999 edition: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300GHz

- FCC OET Bulletin 65 (Supplement C) edition 01-01: Evaluating Compliance with FCC Guidelines for Human Exposure to radio Frequency Fields. Additional information for evaluating Compliance of Mobile and Portable Devices with FCC limits for Human Exposure to Radiofrequency Emissions.

- Industry Canada RSS-102 (Issue 1).

1.3 References.

The methods and procedures applicable to measurements as performed and indicated in this test report are also described in detail in the following reference documents:

Publications	Year	Title
IEEE Std. 1528	2003	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
FCC OET Bulletin 65, Edition 97-01	1997	Evaluating Compliance with FCC Guidelines for Human Exposure to radio Frequency Fields
ANSI/IEEE C95.3	2002	IEEE Recommended Practice for the Measurement and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100kHz-300GHz

2 Summary and conclusion.

2.1 Exposure category.

The EUT is a portable device, intended for use near the body.

According to the characteristics of the EUT and the typical application and usage in accordance with the relevant product specifications of the manufacturer, the EUT is identified to fall within the scope of the exposure category:

General population/Uncontrolled exposure.

2.2 Summary of results.

In the 2.4 GHz frequency range (2412 - 2472 MHz) the maximum peak spatial-average SAR measured was **1.502** W/kg, averaged over 1g with the EUT transmitting on 2437 MHz (channel 6) at a power level of 21.4 dBm (conducted average output power including 3 dBi antenna gain) while the EUT was positioned in lapheld fashion.

In the 5 GHz frequency range (5150 - 5350 MHz) the maximum peak spatial-average SAR measured was **1.456** W/kg, averaged over 1g with the EUT transmitting on 5260 MHz (channel 52) at a power level of 20.4 dBm (conducted average output power including 4 dBi antenna gain) while the EUT was positioned in a lapheld fashion.

In the 5 GHz frequency range (5725 - 5850 MHz) the maximum peak spatial-average SAR measured was **0.422** W/kg, averaged over 1g with the EUT transmitting on 5825 MHz (channel 165) at a power level of 17.2 dBm (conducted average output power including 4 dBi antenna gain) while the EUT was positioned in a lapheld fashion.

2.3 Compliance.

The equipment was found to be compliant with requirements of standards as indicated in the table below:

Exposure category and SAR limits	Test requirements	Compliance (Yes/No)
General population/Uncontrolled exposure Limit value for this category as per 47 CFR 1.1093 (d)(2): Spatial Peak SAR shall not exceed **1.6 W/kg** as averaged over 1 g of tissue	Requirements using guidelines established in IEEE C95.1-1991 FCC OET Bulletin 65 (Supplement C) Industry Canada RSS-102 (Issue 1).	Yes/~~no~~ Yes/~~no~~ Yes/~~no~~

3 Identification of Equipment Under Test (EUT).

The following is the information as provided by the applicant.

3.1 Description of EUT.

Description	Model number	Serial number	FCC ID	Cable descriptions
2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card	1106	04NG22910025	IMR1106CB	None.
Laptop Compaq	N610C	CNU3520X3V	DoC	DC power cord
AC Adaptor	PA-1650-02	3Y09478704	DoC	AC power cord / DC power cord
Laptop Acer	Travelmate 350	9145H018S510800AC0M	DoC	DC power cord
AC Adaptor Acer 19VDC 3.2A	PA-1600-02	1229852CA	DoC	DC power cord / AC power cord
P/S2 mouse Microsoft	X04-72169	63618-OEM 7353451-6	DoC	Serial cable to laptop
Laptop IBM	1161-250	AA-FT4DD 00/05	DoC	DC power cord
IBM DC power supply 16V – 3A	O2k6543	1Z0rN857D91	DoC	DC power cord / AC power cord

3.2 EUT test operating configurations.

Modulation type/ operating modes	:	DSSS (1, 2, 5.5, 11 Mbit/s), OFDM (6, 9, 12, 18, 24, 36, 48, 54 Mbit/s), BPSK, QPSK, 16QAM, 64 QAM
Operating frequency range	:	2400 - 2483.5 MHz (13 channels) 5150 - 5350 MHz (8 channels), 5725 - 5850 MHz (5 channels)
Maximum indicated power	:	21.4 dBm average power incl antenna gain @ 2412 - 2472 MHz 20.4 dBm average power incl antenna gain @ 5180 - 5320 MHz 17.2 dBm average power incl antenna gain @ 5745 - 5825 MHz
Duty cycle during testing	:	100%
Antenna type(s) and gain	:	Integral, gain +3 dBi @ 2.4 GHz, gain +4 dBi @ 5 GHz
Power supply/ power source	:	See section 3.1
Primary User Functions of EUT	:	-Digital Transmission System (DTS) in the frequency ranges of 2400 - 2483.5 MHz and 5725 - 5850 MHz -Unlicensend National Information Infrastructure Device (U-NII in the frequency range of 5150 - 5350 MHz
EUT Accessories	:	See section 3.1
Hardware/software changes applied for testing	:	The EUT is configured to transmit with 100% duty cycle, by using specific test software as supplied by the applicant.

3.3 Additional operating configurations.

Power and signal distribution, grounding, interconnecting cabling and physical placement of the EUT under circumstances of testing at the test system are in accordance with the typical application and usage in so far as is practicable, and is in accordance with the relevant product specifications of the manufacturer.

The configuration of the EUT and its position are fully detailed and documented in this test report.

4 Test conditions.

4.1 Environmental conditions.

Requirement for	Specification	Actual value
Ambient temperature	+18 °C to +25 °C Temperature variation shall not exceed ± 2 °C during the test	+21 °C to +23 °C
Ambient humidity	20 % to 75 %	48 % to 58 %
ElectroMagnetic environment	The ambient interference power shall be less than 0,012 W/kg	Below the required lower detection limit of 0,010 W/kg, checked before and after test

4.2 System validation check at 2450 MHz.

The purpose of the system performance check (*system check*) is to verify that the system operates within its specifications at the device test frequency. The system check is to make sure that the system works correctly at the time of the compliance test.

The system check has been performed using the specified tissue-equivalent liquid and at a chosen fixed frequency that is within ± 10 % of the compliance test mid-band frequency.

The system check is performed prior to compliance tests and the result must always be within ± 10 % of the target value corresponding to the test frequency, liquid and the source used. A description of this check is given in section 10.3 of this test report.

Photographs of the 2.4 and 5 GHz check instrument setup and validation dipoles may be found on the next pages of this test report.

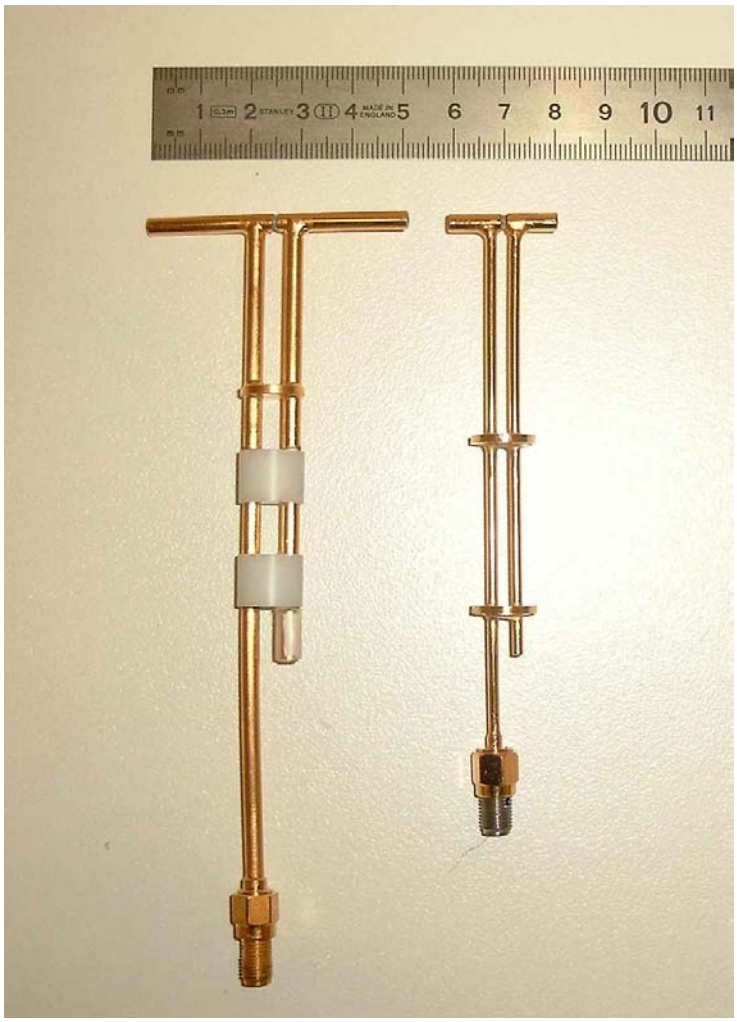


Photo 1: Validation dipoles

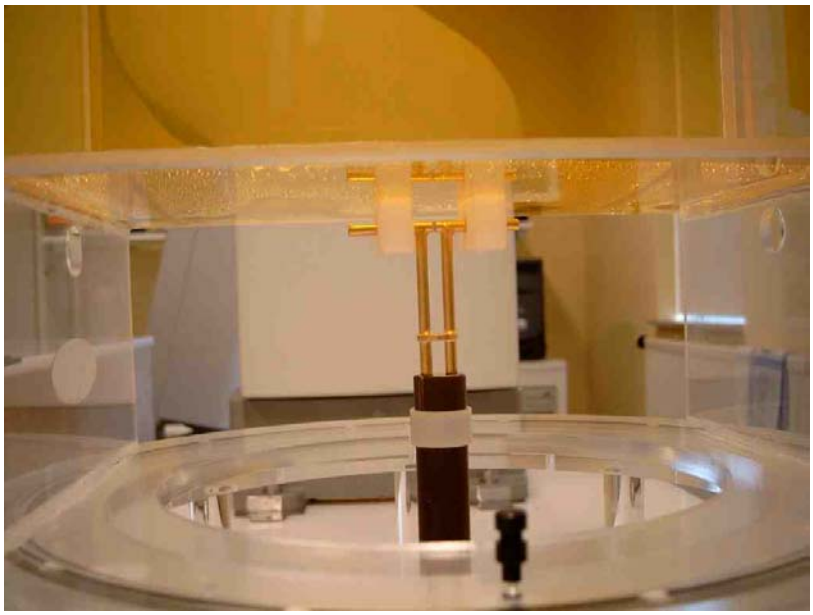


Photo 2: 2.4 GHz dipole validation

Photo 3: Instrument setup system check

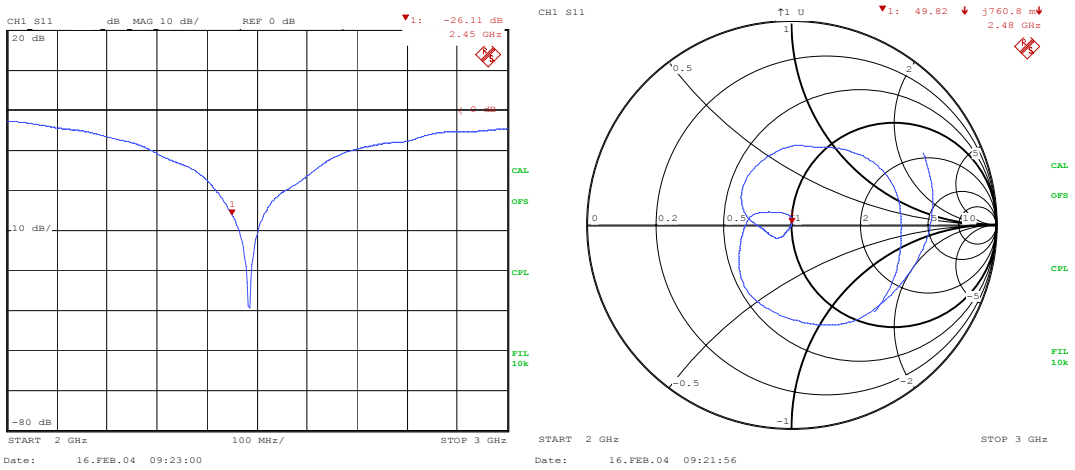


Figure 1: |S11| and S11 smith chart of the 2.4 GHz dipole placed underneath the filled phantom

The target values are 1 g or 10 g averaged SAR values, as measured on systems for which s*ystem validation* has been performed.

4.2.1 2450 MHz validation parameters.

At 2450 MHz a system validation check was performed in accordance with chapter 8 of IEEE Std. 1528-2003. Please refer to Photo 1 for a picture of the dipole which has been used during this system validation check.

Frequency = 2450 MHz		Target value (W/kg)	Measured value (W/kg)	Deviation[1] (%)
Date: June 17, 2004	**Peak Spatial-Average SAR 1g**	52.00	51.76	-0.46
	Peak Spatial-Average SAR 10g	24.00	26.12	+8.3
Date June 18, 2004	**Peak Spatial-Average SAR 1g**	52.00	50.08	-3.7
	Peak Spatial-Average SAR 10g	24.00	25.60	+6.7
Date June 23, 2004	**Peak Spatial-Average SAR 1g**	52.00	55.35	+6.4
	Peak Spatial-Average SAR 10g	24.00	28.22	+17.6

Detailed validation results may be found in section 8 of this test report.

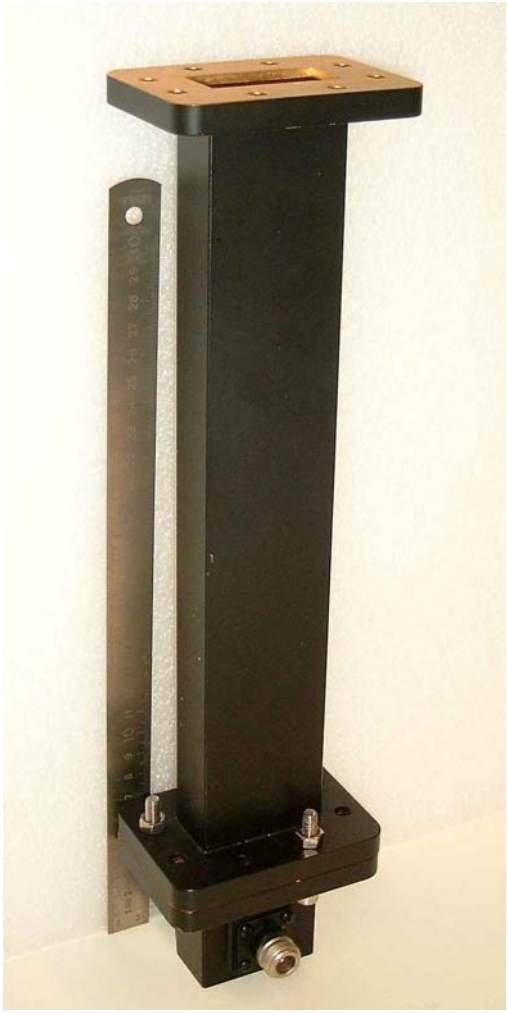
[1] Deviation is calulated: 100% *((measured value)/(reference value) –1)

4.3 System validation check at 5 GHz.

During a system validation at 5800 MHz the proposed method in "*First Draft- Annex X: Frequency Extension to 3GHz-6GHz of IEEE Std. 1528-2003 recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communication Devices: Measurement Techniques*" February 28, 2003, was used, but the described/required value of SAR could not be obtained.

This is consistent with the experience of the manufacturer of our SAR system, IndexSar Inc. from the UK. As an alternative, the waveguide method as proposed by Ghandi was used to validate the system setup.

The results show that the results of the validation while using the waveguide method is within 10 % of the expected values. Detailed information is included in section 10.3 of this test report. A picture of the waveguide which was used during the system validation checks may be found below.



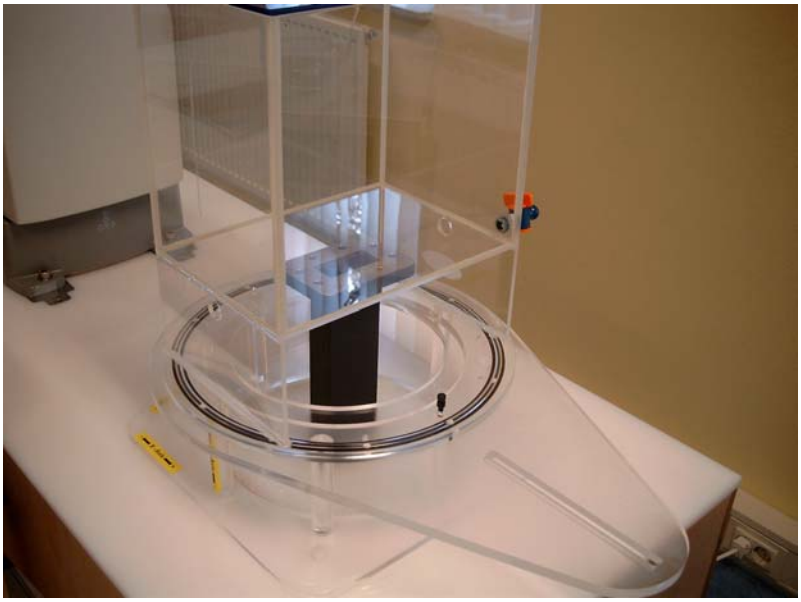


Photo 4: (above) Waveguide in position under phantom

Photo 5: (left) Waveguide

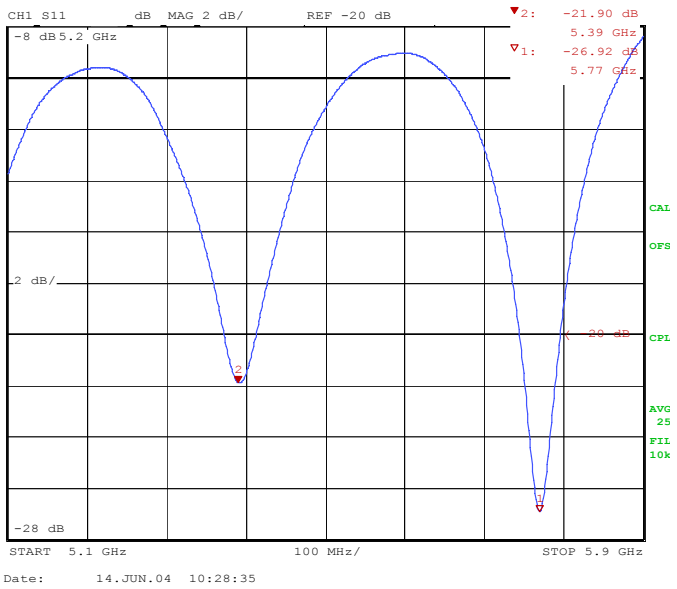


Figure 2: |S11| of the Waveguide spaced 8mm from the filled phantom.

4.3.1 5 GHz validation parameters.

The measurement was performed at 5360 MHz, and 5740 MHz (which is within 10 % of the frequency band of interest).

Frequency = 5360 MHz		Target value (W/kg)	Measured value (W/kg)	Deviation[2] (%)
Date June 14, 2004	**Peak Spatial-Average SAR 1g**	35.8	35.5	-0.8
Date June 15, 2004	**Peak Spatial-Average SAR 1g**	35.8	35.4	-1.1
Date June 16, 2004	**Peak Spatial-Average SAR 1g**	35.8	35.4	-1.1
Date: June 24, 2004	**Peak Spatial-Average SAR 1g**	35.8	33.3	-7.0

Frequency = 5740 MHz		Target value (W/kg)	Measured value (W/kg)	Deviation[3] (%)
Date: June 15, 2004	**Peak Spatial-Average SAR 1g**	39.5	41.67	5.5
Date June 16, 2004	**Peak Spatial-Average SAR 1g**	39.5	40.28	2.0
Date June 24, 2004	**Peak Spatial-Average SAR 1g**	39.5	40.77	3.2

[2] Deviation is calulated: 100% *((measured value)/(reference value) –1)
[3] Deviation is calulated: 100% *((measured value)/(reference value) –1)

4.4 Measured maximum output power of EUT.

The EUT has been set to the maximum output power level as stated by the manufacturer and/or the operating requirements of the system (see section 3.3 of this test report, EUT test operating configurations).

The results of tests on the EUT are depicted in table below. Listed is the higher of the conducted average power including antenna gain (EIRP).

4.4.1 Measured average power at 2.4 GHz.

Transmission bit-rate DSSS mode (Mbit/s)	Average transmit output power (conducted + antenna gain, dBm)		
	Channel 1 (2412 MHz)	Channel 6 (2437 MHz)	Channel 11 (2462 MHz)
1	21.3	21.2	21.2
2	21.3	21.2	21.2
5.5	20.6	21.3	21.4
11	21.4	21.3	21.3

Table 1: Average output power (EIRP)

Transmission bit-rate OFDM mode (Mbit/s)	Average transmit output power (conducted + antenna gain, dBm)		
	Channel 1 (2412 MHz)	Channel 6 (2437 MHz)	Channel 11 (2462 MHz)
6	20.6	21.4	21.2
18	20.6	21.4	21.2
36	20.6	21.4	21.2
54	18.0	18.0	17.6

Table 2: Average output power (EIRP)

From table 1 and 2 it can be derived that at channel 6 the highest power is found. Therefore, the first SAR scan will be performed at channel 6 while using OFDM at bit-rate of 6 Mb/s (see also section 7.1 of this test report).

4.4.2 Measured average power at 5 GHz.

Transmission bit-rate (Mbit/s)	Average transmit output power (conducted + antenna gain, dBm)			
	Channel 36 (5180 MHz)	Channel 48 (5240 MHz)	Channel 52 (5260 MHz)	Channel 64 (5320 MHz)
6	17.4	19.0	20.4	17.9
18	17.4	19.0	20.4	17.9
36	17.4	19.0	20.4	17.9
54	17.4	17.0	17.2	17.0

Table 3: Average output power (EIRP)

Transmission bit-rate (Mbit/s)	Average transmit output power (conducted + antenna gain, dBm)		
	Channel 157 (5785 MHz)	Channel 161 (5805 MHz)	Channel 165 (5825 MHz)
6	17.1	16.8	17.2
18	17.1	16.8	17.2
36	17.1	16.8	17.2
54	14.2	13.8	13.6

Table 4: Average output power (EIRP)

From tables 3 and 4 it can be derived that at channels 52 and 165 the highest output power is found. Therefore, the first SAR scan will be performed at those channels (see also section 7.1 of this test report).

The power levels were monitored before and after each full 3D scan. In addition a 30 minutes power stability measurement was done. The drift occurs in the first 10 minutes of the measurement.

Transmission bit-rate (Mbit/s)	Average transmit output power drift (dB)		
	Channel 6 (2437 MHz)	Channel 52 (5240 MHz)	Channel 165 (5825 MHz)
OFDM 9	0.4	0.4	0.4

Table 5: Average output power drift

4.5 Tissue simulating liquid dielectric parameters.

For the purpose of the tests as described in this report the following tissue dielectric parameters have been determined.

The tables indicate the dielectric parameters of the liquids used during the tests. The indicated required values are derived from IEEE Std. 1528-2003 and OET Bulletin 65 supplement C.

At frequencies other than reference frequencies, for which tissue parameters are given in the standards, the parameters have been determined by the linear interpolation. Depending the intended use of the EUT the interpolated values will refer to the mid-band frequency of each operating mode.

The measurement method is described in section 10.4 of this test report.

Deviation of the actual parameters vs. the prescribed parameters is calculated according: D = (A/T –1) * 100%, where D is deviation in %, A is the actual value and T is the target value.

Note: The liquids are mixed in december 2003. During several SAR evaluations throughout 2004, the liquids proved to be stable. Deviation from target are always whithin 10 %. Because of the stability, only one measurement for these liquids has been done.

Liquids as obtained from Bristol University have been used during all tests.

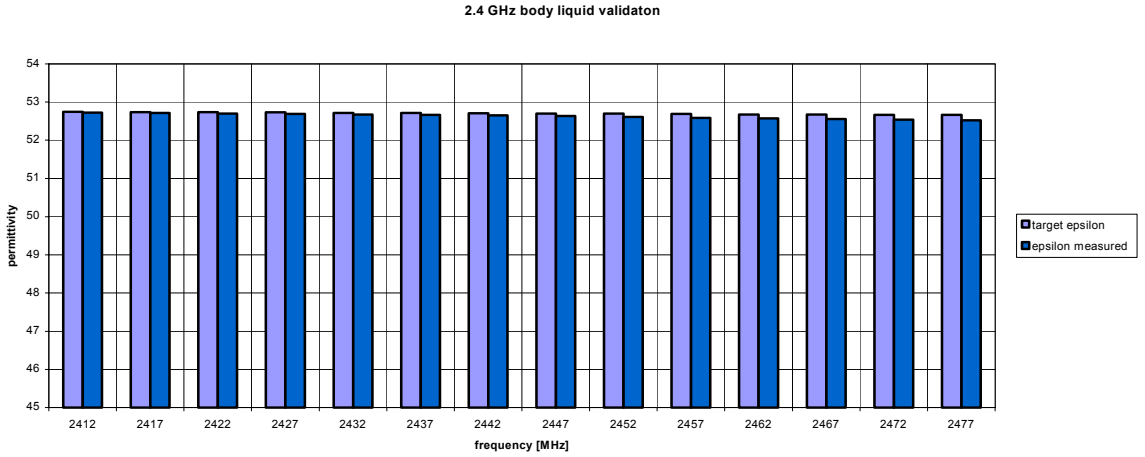
4.5.1 Mixing procedures and recipe.

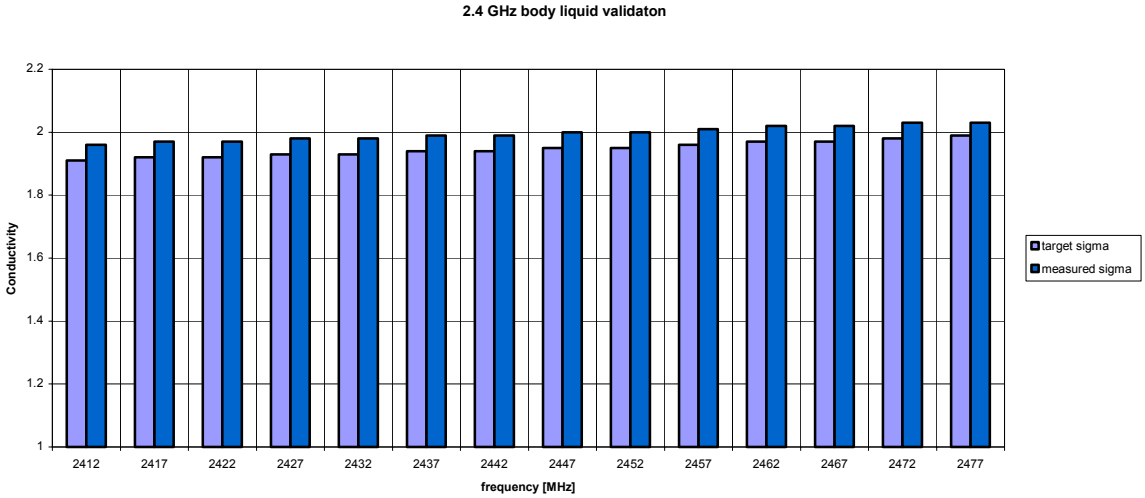
All Tissue Equivalent Liquids are obtained from Bristol University. The recipe is proprietary.

Contact details:
Medical Physics Department
University of Bristol, Bristol Haemotology & Oncology Centre
Horfield road, Bristol BS2 8 ED, United Kingdom
Tel. 44 117 928 2469.

4.5.2 Dielectric parameters for 2.4 GHz, body tissue.

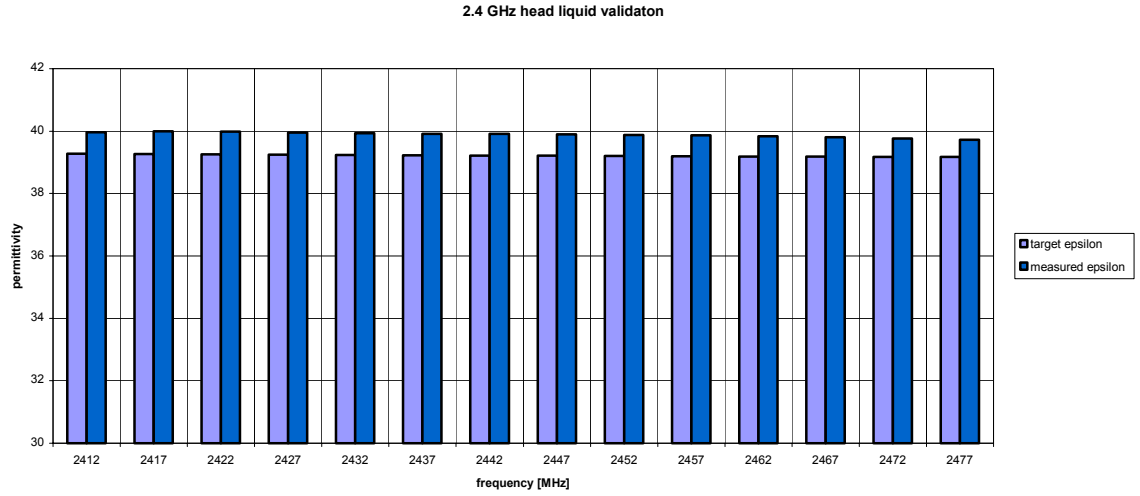
Freq (MHz)	ε	σ	ε		σ		Measured			
			Min	Max	Min	Max	ε	Δ	σ	Δ
2412	52.75	1.91	47.78	58.03	1.72	2.11	**52.72**	**-0.05%**	**1.96**	**2.57%**
24.37	52.72	1.94	47.45	57.99	1.74	2.13	**52.67**	**-0.1%**	**1.99**	**2.48%**
2462	5268	1.97	47.42	57.95	1.77	2.16	**52.57**	**-0.2%**	**2.02**	**2.46%**

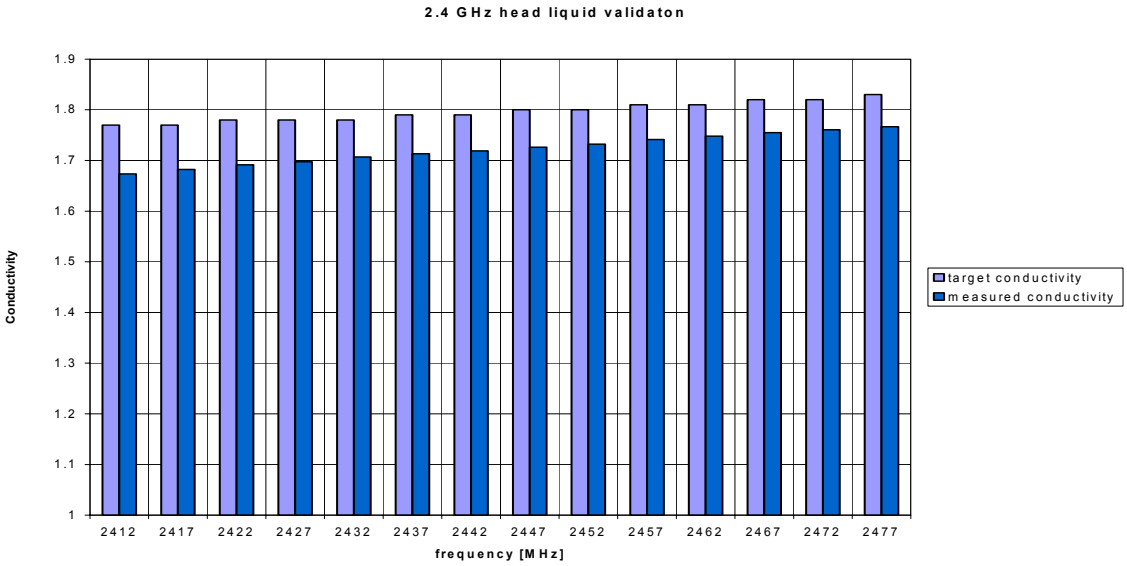




4.5.3 Dielectric parameters for 2.4 GHz, head tissue.

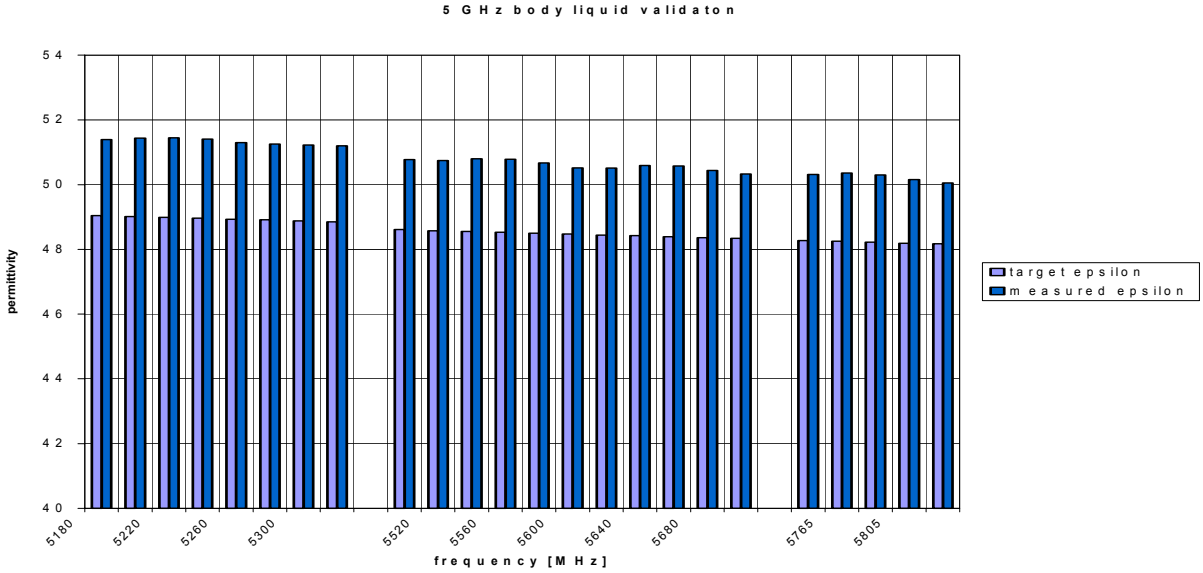
Freq (MHz)	ε	σ	ε		σ		Measured			
			Min	Max	Min	Max	ε	Δ	σ	Δ
2412	39.27	1.77	35.34	43.10	1.63	1.99	**39.97**	**1.78%**	**1.67**	**-5.44%**
24.37	39.22	1.79	35.30	43.15	1.61	1.97	**39.92**	**1.77%**	**1.71**	**-4.27%**
2462	39.18	1.81	35.27	35.27	43.10	1.99	**39.83**	**1.67%**	**1.75**	**-3.42%**

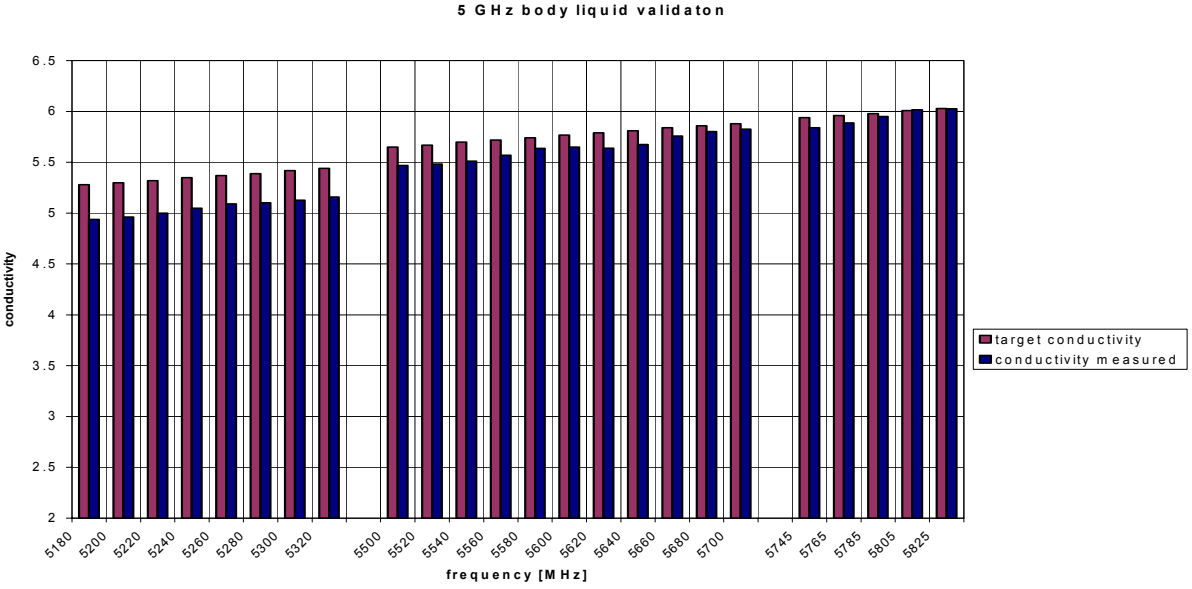




4.5.4 Dielectric parameters for 5 GHz body tissue.

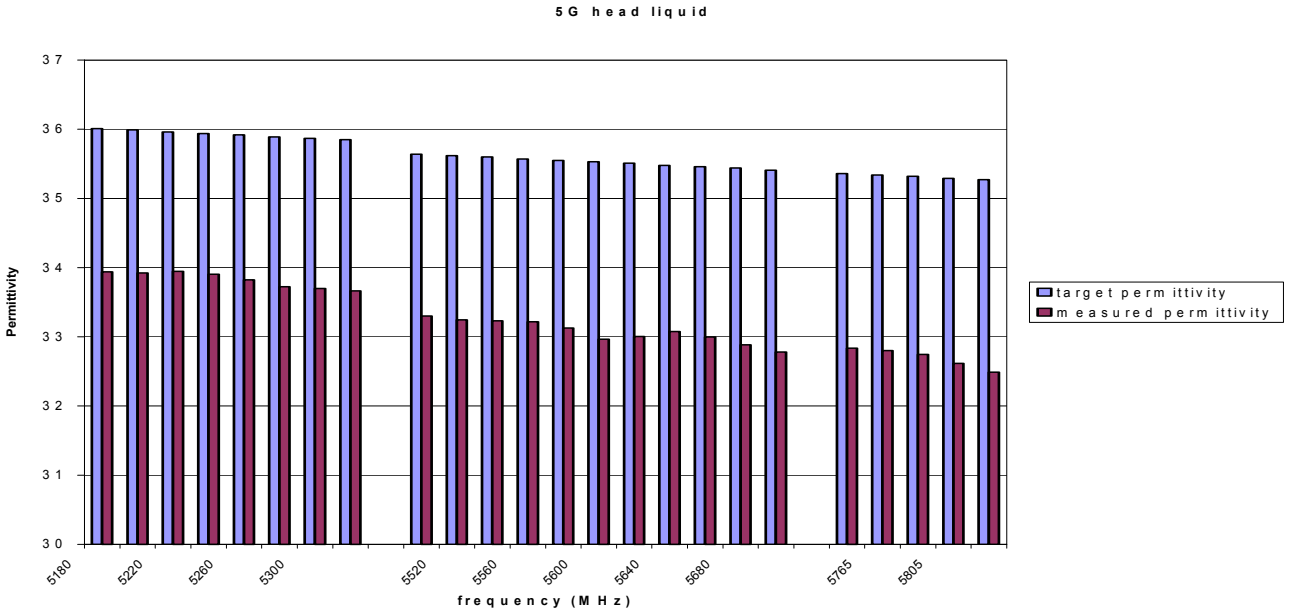
Freq (MHz)	ε	σ	ε		σ		Measured			
			Min	Max	Min	Max	ε	Δ	σ	Δ
5180	49.04	5.28	44.14	53.95	4.75	5.8	**51.39**	**4.79%**	**4.94**	**-6.48%**
5600	48.47	5.77	43.62	53.32	5.19	6.34	**50.67**	**4.48%**	**5.64**	**-1.79%**
5825	48.17	6.03	43.35	52.98	5.43	6.63	**50.05**	**3.91%**	**6.03**	**-0.06%**

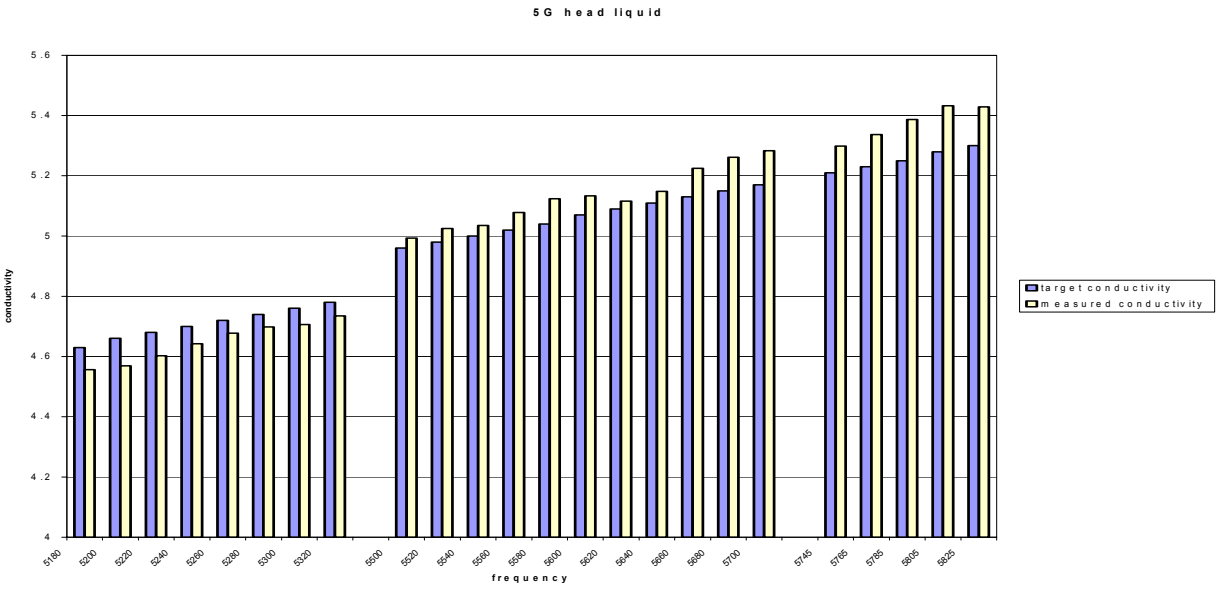




4.5.5 Dielectric parameters for 5 GHz, head tissue.

Freq (MHz)	ε	σ	ε		σ		Measured			
			Min	Max	Min	Max	ε	Δ	σ	Δ
5180	36.01	4.63	32.41	39.61	4.17	5.10	**33.9**	**-5.86%**	**4.56**	**-1.51%**
5600	35.53	5.07	31.98	39.08	4.56	5.57	**33.3**	**-6.57%**	**4.99**	**0.60%**
5825	35.27	5.30	31.74	38.80	4.77	5.83	**32.49**	**-7.88%**	**5.42**	**2.26%**





4.5.6 Tissue simulating liquid temperature requirements.

The variation of the liquid temperature shall not exceed ± 2 ºC during all tests. The actual tissue simulating liquid temperature was recorded and the variation in temperature was found to be within this limit.

5 Photographs of EUT in host.

5.1 Host IBM

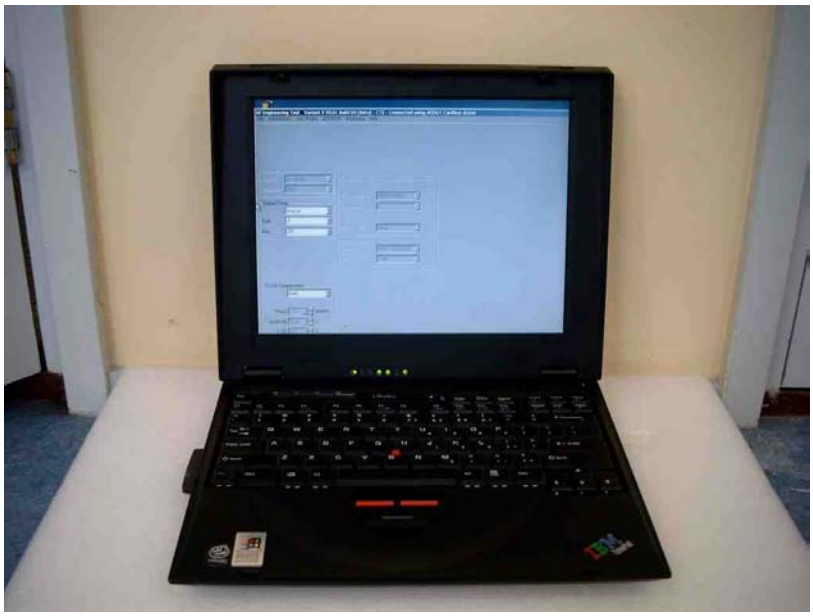


Figure 3: Front view with card in bottom slot

Figure 4: Side view. Offset Card to base = 13 mm

5.2 Host COMPAQ.

Figure 5: Front view with card in bottom slot

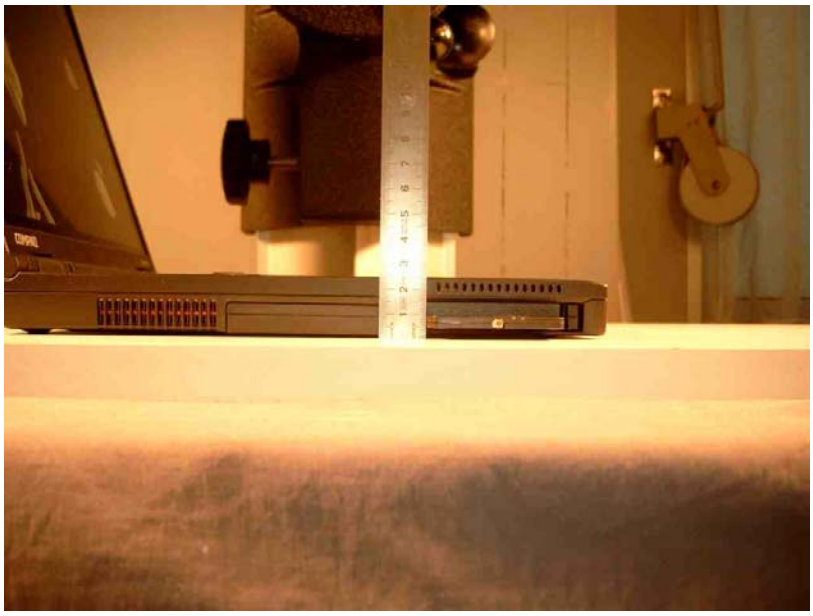


Figure 6: Side view. Offset Card to base = 5 mm

5.3 Host ACER.

Figure 7: Front view with card in bottom slot

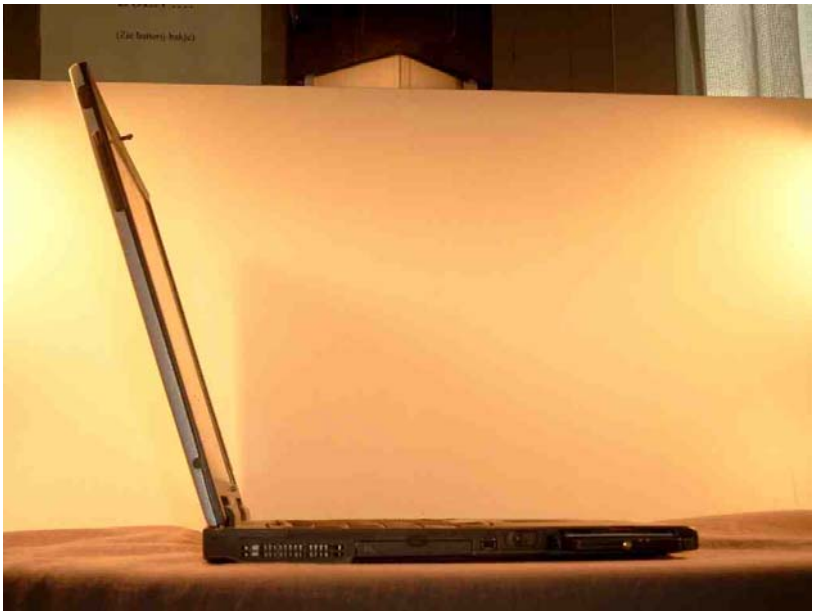


Figure 8: Side view. Offset Card to base = 8 mm

6 Identification of EUT-Phantom positions.

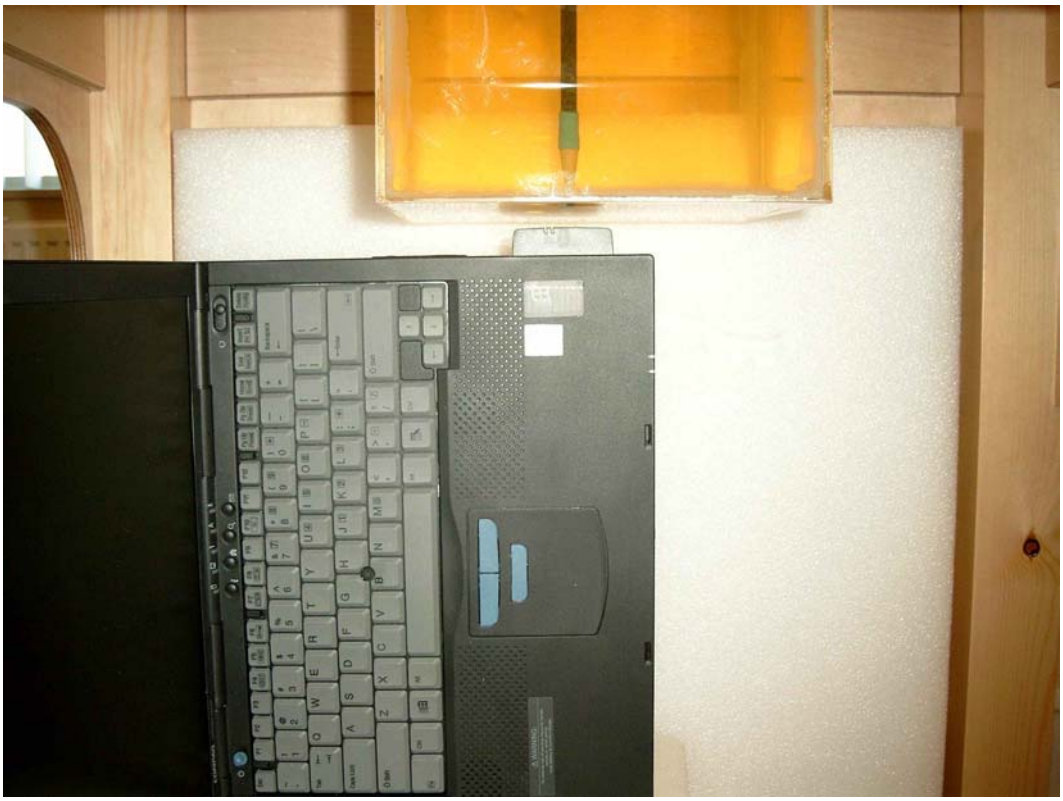
6.1 Portable device operating near the body.

Following the guidelines from FCC OET bulletin 65 C and the TCB RF exposure training notes, 2 positions were investigated. The 'lapheld' position reflects the situation where the laptop is placed on the users lap. The laptop containing the EUT is placed underneath the flat phantom with the EUT placed in the bottom slot, thus minimizing the distance of the EUT and the users body.

The second position reflects bystander SAR. This position means that the card is facing the phantom bottom shell perpendicularly. The position is referred to as 'perpendicular'. The separation distance is 5 mm, which still yields a useful reading of the field strength in the liquid.

6.1.1 Position perpendicular.

The separation distance, *d* of 10 mm measured from side of the EUT to the bottom of the phantom.



6.1.2 Position lapheld

This position follows the directions from FCC TCB training notes dated April 2002. This position reflects the situation where the user had the laptop on his or her lap, with the card inserted in the lower slot.

The separation distance, *d* was determined to be 13 mm, and reflects the position where the host would be positioned on the lap.

7 Test results.

7.1 Test methodology.

SAR evaluation starts with determining at which channels/modulation type/bit-rate combinations the SAR scans have to be performed.

In order to make this determination, the average conducted output power is measured at three channels for all combinations of modulation types and bit-rates.

The worst-case combination of channel/modulation type/bit-rate is determined by the highest level of output power found during all measurements.

At the channel where the highest level of output power is found, SAR is measured at the corresponding modulation type and bit-rate. Should it appear that SAR tests in this channel show higher SAR than half the limit, SAR is also measured in the highest and lowest channel of that frequency band.

After testing, the channel where the highest SAR value is found is rechecked by measuring spot SAR in that channel while setting all modulation types and bit-rates. Should a higher value be found, a full SAR scan is performed for that particular combination of modulation type/bit-rate.. The highest value found is reported.

7.2 Measurement results.

Host	Distance base to slot	Channel / modulation	Lapheld contact PSA[4] SAR 1g (W/kg)	Perpendicular + 10 mm PSA SAR (1g) (W/kg)
ACER	8 mm	1 (2412) OFDM 6 Mbit/s	0.548	n.a.
		6 (2437) OFDM 6 Mbit/s	0.891	0.436
		11 (2462) OFDM 6 Mbit/s	0.808	n.a.
		36 (5180) OFDM 6 Mbit/s	0.693	n.a.
		48 (5240) OFDM 6 Mbit/s	1.021	n.a.
		52 (5260) OFDM 6 Mbit/s	0.956	0.713
		64 (5320) OFDM 6 Mbit/s	0.652	n.a.
		157 (5785) OFDM 6 Mbit/s	n.a.	n.a.
		161 (5805) OFDM 6 Mbit/s	n.a.	n.a.
		165 (5825) OFDM 6 Mbit/s	0.529	0.406
IBM	10 mm	1 (2412) OFDM 6 Mbit/s	0.455	n.a.
		6 (2437) OFDM 6 Mbit/s	0.934	0.518
		11 (2462) OFDM 6 Mbit/s	0.884	n.a.
		36 (5180) OFDM 6 Mbit/s	n.a.	n.a.
		48 (5240) OFDM 6 Mbit/s	n.a.	n.a.
		52 (5260) OFDM 6 Mbit/s	0.363	0.501
		64 (5320) OFDM 6 Mbit/s	n.a.	n.a.
		157 (5785) OFDM 6 Mbit/s	n.a.	n.a.
		161 (5805) OFDM 6 Mbit/s	n.a.	n.a.
		165 (5825) OFDM 6 Mbit/s	0.188	0.203
COMPAQ EVO	5 mm	1 (2412) OFDM 6 Mbit/s	0.793	n.a.
		6 (2437) OFDM 6 Mbit/s	1.502	0.468
		11 (2462) OFDM 6 Mbit/s	1.414	n.a.
		36 (5180) OFDM 6 Mbit/s	0.507	n.a.
		48 (5240) OFDM 6 Mbit/s	1.02	n.a.
		52 (5260) OFDM 6 Mbit/s	1.456	0.703
		64 (5320) OFDM 6 Mbit/s	0.487	n.a.
		157 (5785) OFDM 6 Mbit/s	0.422	0.288
		161 (5805) OFDM 6 Mbit/s	n.a.	n.a.
		165 (5825) OFDM 6 Mbit/s	n.a.	n.a.

Note: When the SAR value, as measured at the channel with the highest output power level, is more than 3 dB below the SAR limit, testing of the other channels is optional (ref: OET Bulletin 65, Supplement C, page 40). No measurements have been performed at the channels indicated with **"n.a."**.

[4] PSA SAR is Peak Spatial-Average SAR.

7.3 Step size and scan information.

For 2412 - 2472 MHz a 35x35 mm area is scanned centered around the hotspot using 7 steps in the x-y plane and 10 steps of 3.5 mm in the z plane. The first area scan is performed with the probe tip 5 mm above the phantom bottom shell.

For 5150 - 5350 MHz a 21x21 mm area is scanned centered around the hotspot using 7 steps of 3 mm in the x-y plane, and 7 steps of 2 mm in the z plane. The first area scan is performed with the probe tip 2 mm above the phantom bottom shell.

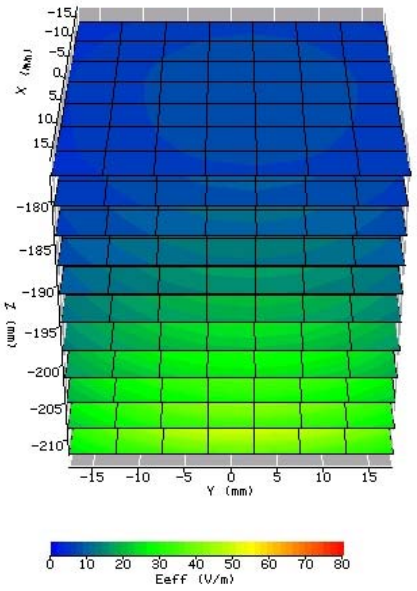
For 5745 - 5825 MHz a 24x24 mm area is scanned centered around the hotspot using 8 steps of 3 mm in the x-y plane, and 7 steps of 2 mm in the z plane. The first area scan is performed with the probe tip 1 mm above the phantom bottom shell.

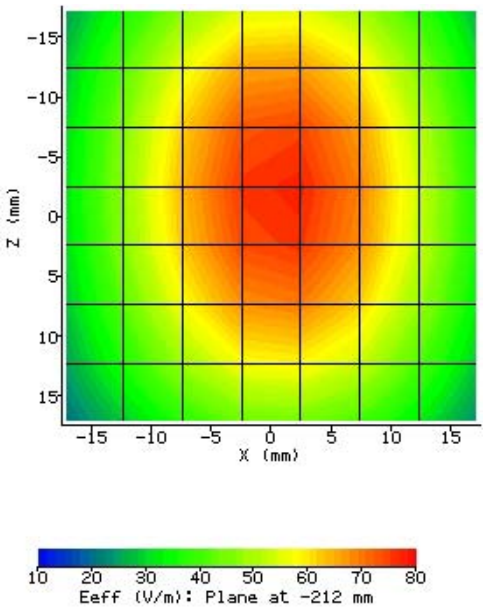
The location of the hotspot is determined prior to each 3D scan by means of an area scan.

8 Plots of measurement data.

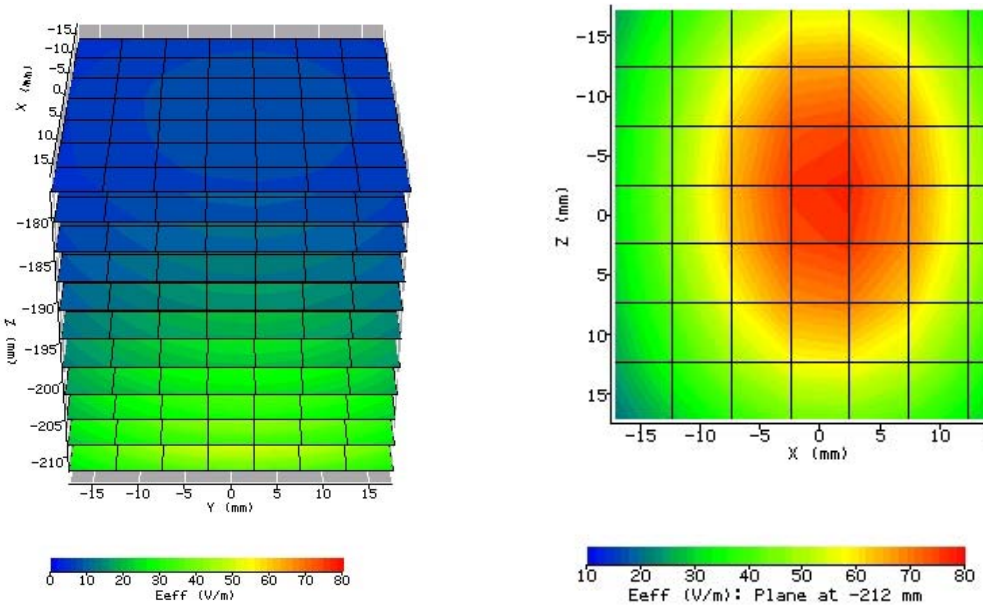
8.1.1 System validation at 2450 MHz.

Device Under Test:		**Validation dipole**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**17-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2450	Stepsize x and y [mm]	5
Antenna Configuration:	Dipole	No of steps z	10
Power / (setting(s) [dBm]	24	Stepsize z [mm]	3.5
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.534
Probe Serial Number:	131	Probe battery check [d/m/y]:	17-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	72.14
Permittivity / Conductivity [S/m]	39.2 / 1.8	Location of max. X= [mm]	3.5
Liquid Temperature [C]	20	Location of max Y= [mm]	0.5
Ambient Temperature [C]	22	Location of max Z= [mm]	-212
Relative Humidity [%]	50	SAR Drift: [dB]	0
Results:			
SAR 1g [W/kg]:			12.94
SAR 10g [W/kg]:			6.53

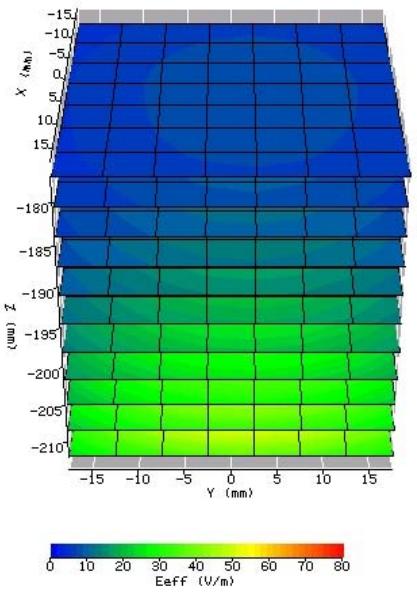


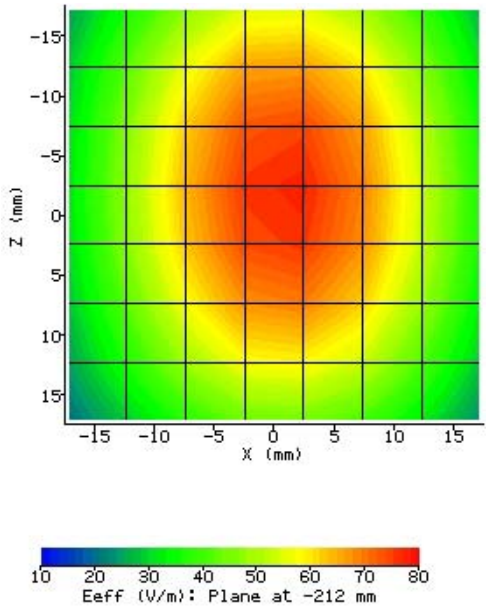


Device Under Test:		**Validation dipole**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**18-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2450	Stepsize x and y [mm]	5
Antenna Configuration:	Dipole	No of steps z	10
Power / (setting(s) [dBm]	24	Stepsize z [mm]	3.5
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.534
Probe Serial Number:	131	Probe battery check [d/m/y]:	18-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	77.13
Permittivity / Conductivity [S/m]	39.2 / 1.8	Location of max. X= [mm]	1.5
Liquid Temperature [C]	20	Location of max Y= [mm]	2
Ambient Temperature [C]	22	Location of max Z= [mm]	-212
Relative Humidity [%]	50	SAR Drift: [dB]	0
Results:			
SAR 1g [W/kg]:			12.52
SAR 10g [W/kg]:			6.40



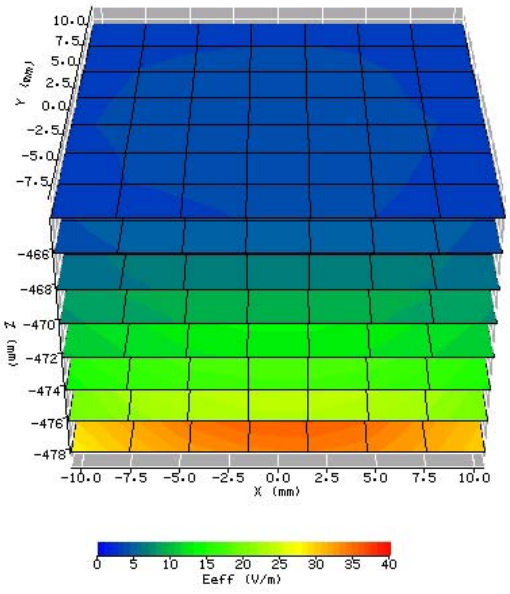
Device Under Test:		**Validation dipole**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**23-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2450	Stepsize x and y [mm]	5
Antenna Configuration:	Dipole	No of steps z	10
Power / (setting(s) [dBm]	24	Stepsize z [mm]	3.5
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.534
Probe Serial Number:	131	Probe battery check [d/m/y]:	23-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	75.64
Permittivity / Conductivity [S/m]	35.2 / 1.80	Location of max. X= [mm]	1.5
Liquid Temperature [C]	20	Location of max Y= [mm]	2
Ambient Temperature [C]	22	Location of max Z= [mm]	-212
Relative Humidity [%]	50	SAR Drift: [dB]	0.0
Results:			
SAR 1g [W/kg]:			13.837
SAR 10g [W/kg]:			7.054

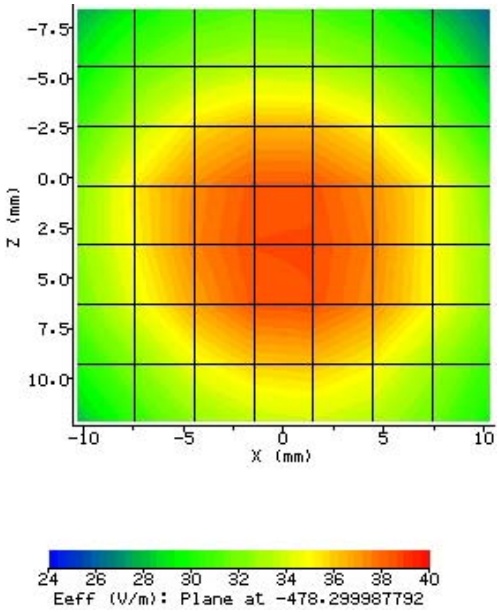




8.1.2 System validation at 5360 MHz.

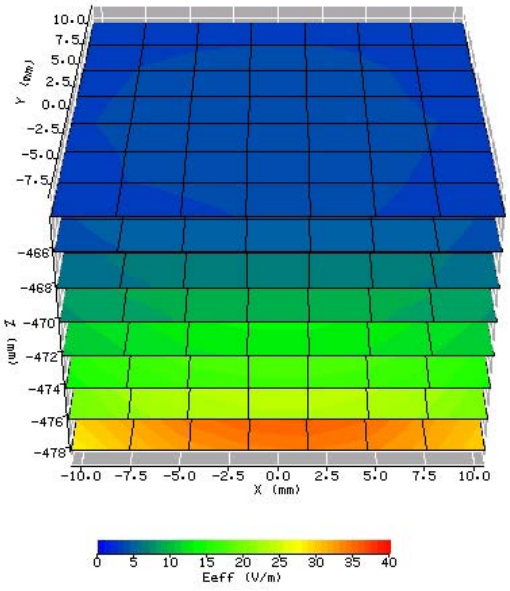
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**14-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5360	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	7
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.480
Probe Serial Number:	131	Probe battery check [d/m/y]:	14-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	44.43
Permittivity / Conductivity [S/m]	35.9 / 4.8	Location of max. X= [mm]	-0.7
Liquid Temperature [C]	21.2	Location of max Y= [mm]	-10.3
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-478.3
Relative Humidity [%]	50	SAR Drift: [dB]	0.03
Results:			
SAR 1g [W/kg]:			8.882
SAR 10g [W/kg]:			4.199

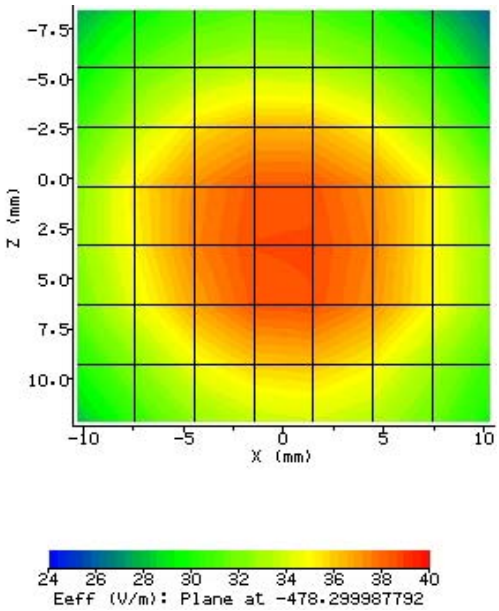




8.1.3 System validation at 5360 MHz.

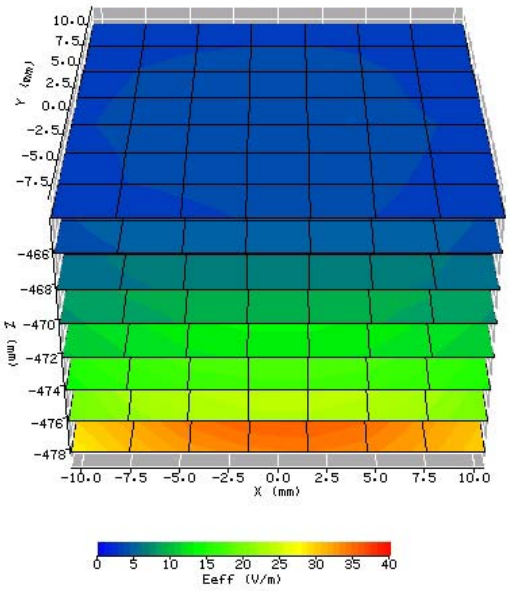
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**15-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5360	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	10
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.48
Probe Serial Number:	131	Probe battery check [d/m/y]:	15-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	45.2
Permittivity / Conductivity [S/m]	35.9 / 4.8	Location of max. X= [mm]	-9.2
Liquid Temperature [C]	23.0	Location of max Y= [mm]	1.5
Ambient Temperature [C]	23.0	Location of max Z= [mm]	478.3
Relative Humidity [%]	50.0	SAR Drift: [dB]	-0.51
Results:			
SAR 1g [W/kg]:			8.829
SAR 10g [W/kg]:			4.100

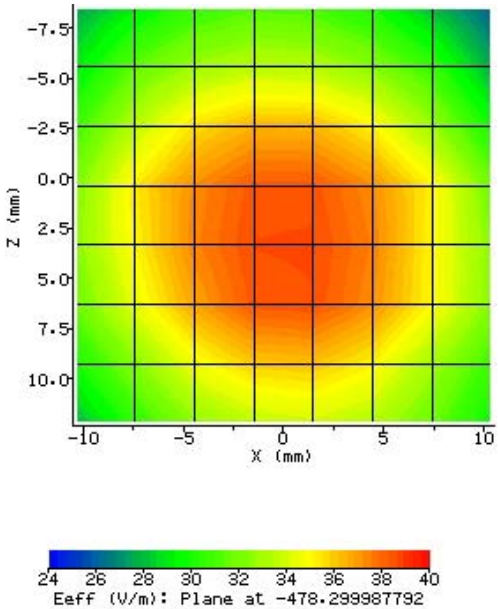




8.1.4 System validation at 5360 MHz.

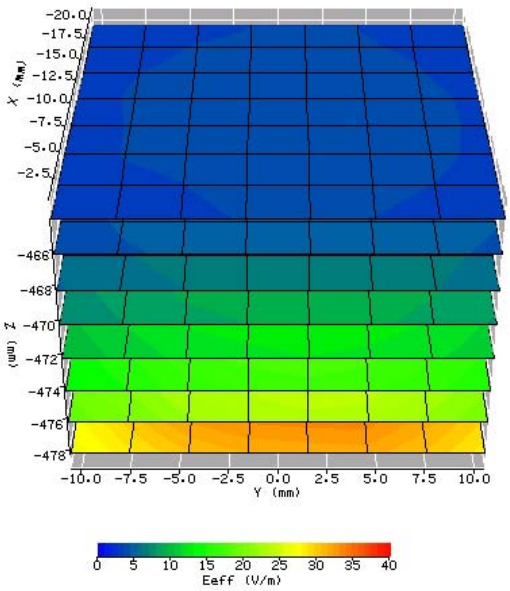
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**16-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5360	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	10
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.48
Probe Serial Number:	131	Probe battery check [d/m/y]:	16-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	38.5
Permittivity / Conductivity [S/m]	35.9 / 4.8	Location of max. X= [mm]	0.3
Liquid Temperature [C]	21.2	Location of max Y= [mm]	0.38
Ambient Temperature [C]	22	Location of max Z= [mm]	-478.3
Relative Humidity [%]	48	SAR Drift: [dB]	0.03
Results:			
SAR 1g [W/kg]:			8.849
SAR 10g [W/kg]:			4.001

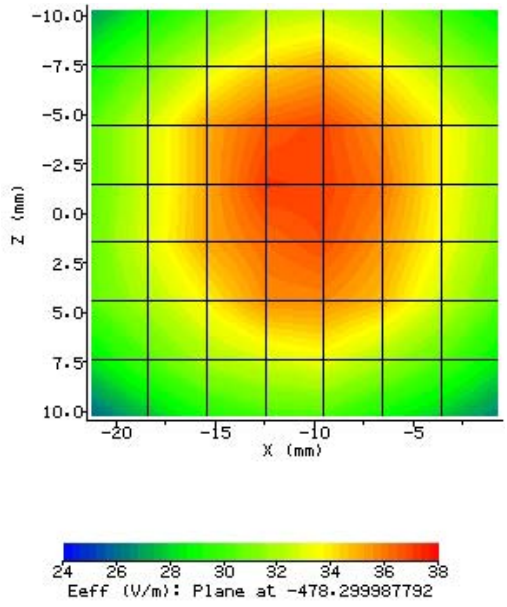




8.1.5 System validation at 5360 MHz.

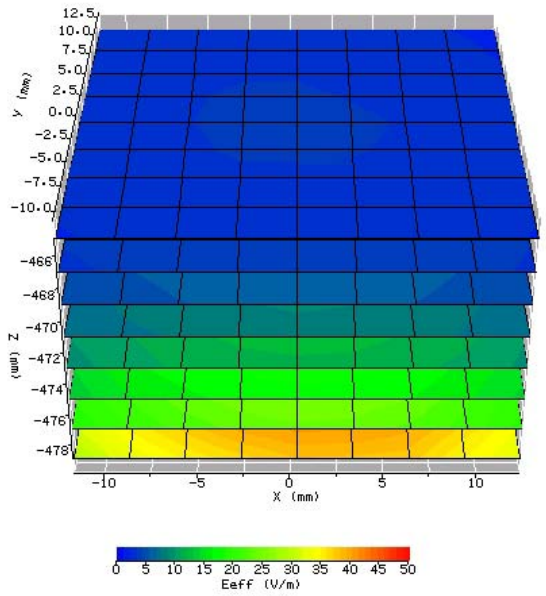
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**24-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5360	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	10
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.48
Probe Serial Number:	131	Probe battery check [d/m/y]:	24-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	37.3
Permittivity / Conductivity [S/m]	35.9 / 4.8	Location of max. X= [mm]	-11.3
Liquid Temperature [C]	20.5	Location of max Y= [mm]	1.8
Ambient Temperature [C]	21	Location of max Z= [mm]	-478.3
Relative Humidity [%]	56	SAR Drift: [dB]	0.13
Results:			
SAR 1g [W/kg]:			8.316
SAR 10g [W/kg]:			3.728

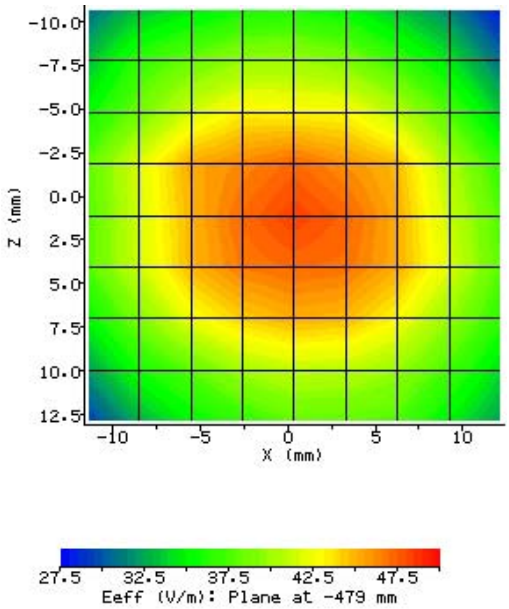




8.1.6 System validation at 5740 MHz.

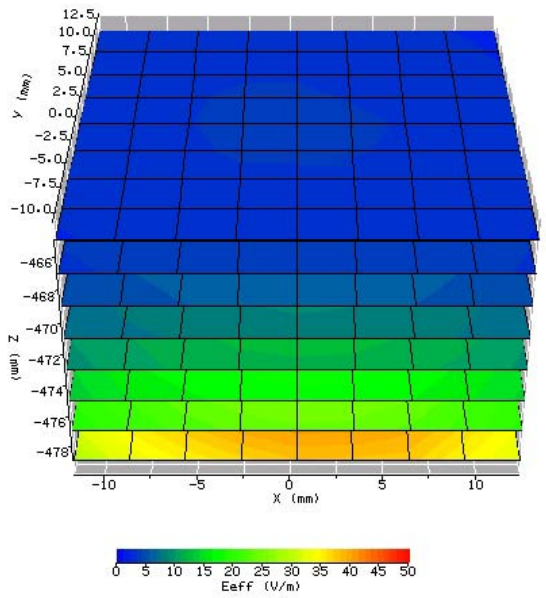
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**15-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	8
Test Frequency [MHz]	5740	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	7
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	1
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.435
Probe Serial Number:	131	Probe battery check [d/m/y]:	15-6-2004
Liquid Simulant:	Head	Max E-field [V/m in liquid]	43.8
Permittivity / Conductivity [S/m]	35.4 / 5.2	Location of max. X= [mm]	-8.55
Liquid Temperature [C]	21.2	Location of max Y= [mm]	1.7
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-479
Relative Humidity [%]	50	SAR Drift: [dB]	0
Results:			
SAR 1g [W/kg]:			10.417
SAR 10g [W/kg]:			4.517

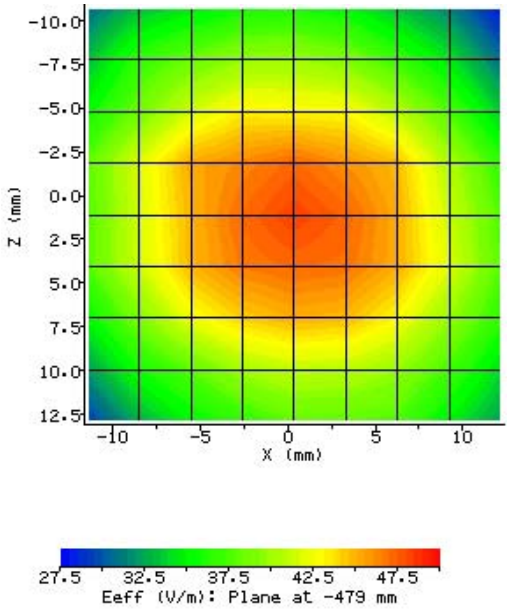




8.1.7 System validation at 5740 MHz.

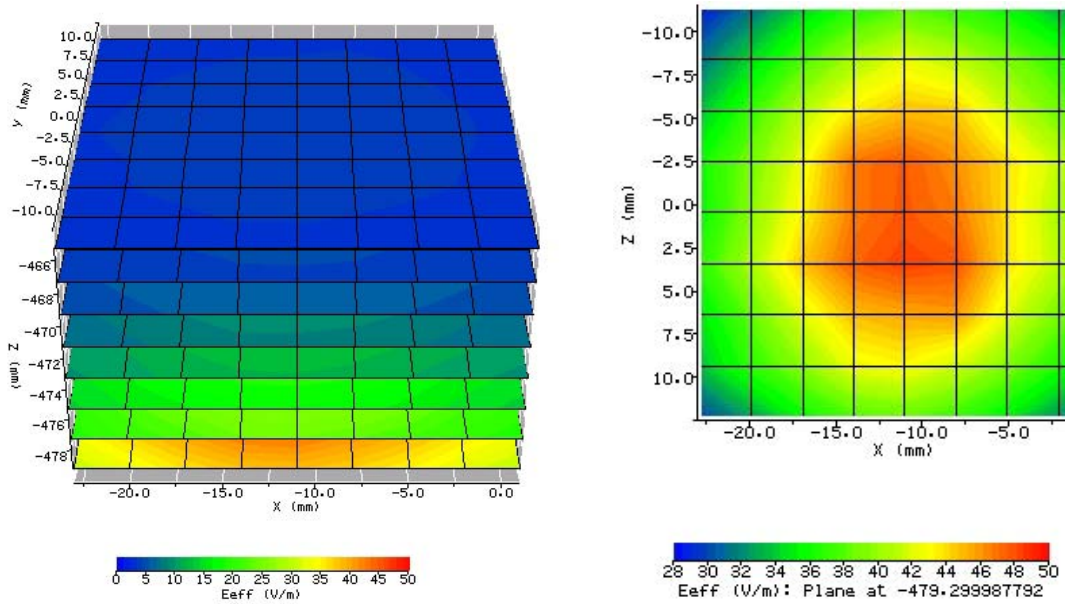
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**16-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	8
Test Frequency [MHz]	5740	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	7
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	1
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.435
Probe Serial Number:	131	Probe battery check [d/m/y]:	16-6
Liquid Simulant:	Head	Max E-field [V/m in liquid]	47.7
Permittivity / Conductivity [S/m]	35.4 / 5.2	Location of max. X= [mm]	0.38
Liquid Temperature [C]	21.2	Location of max Y= [mm]	1.13
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-479
Relative Humidity [%]	48	SAR Drift: [dB]	0
Results:			
SAR 1g [W/kg]:			10.07
SAR 10g [W/kg]:			4.367





8.1.8 System validation at 5740 MHz.

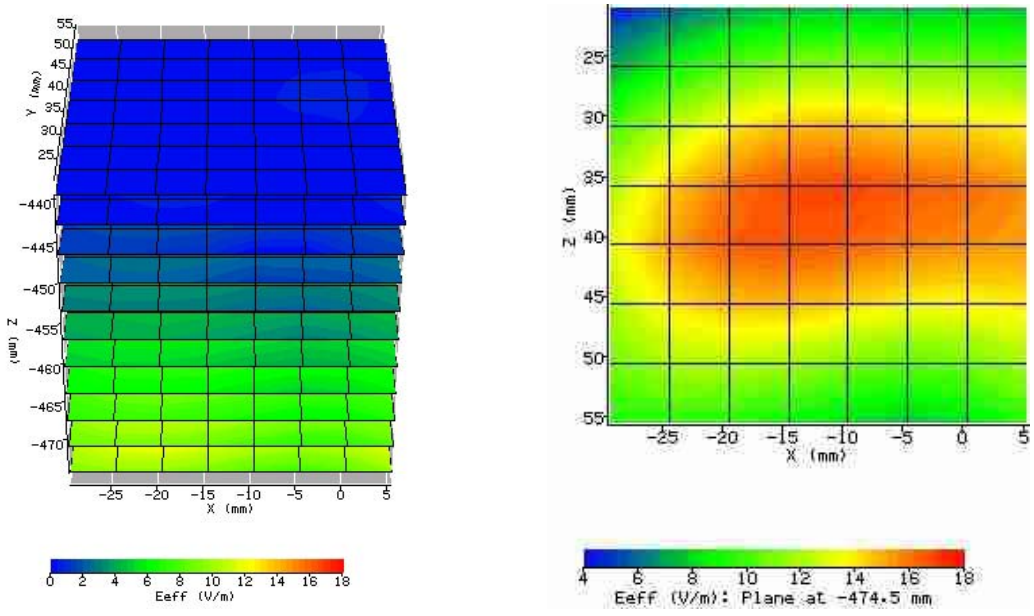
Device Under Test:		**Validation Waveguide**	
HOST		**n.a.**	
Position / Channel		**n.a.**	
DATE [dd/mm/yyyy]		**24-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	8
Test Frequency [MHz]	5740	Stepsize x and y [mm]	3
Antenna Configuration:	Waveguide	No. of steps z	7
Power / (setting(s) [dBm]	24	Stepsize z [mm]	2
Type of Modulation:	CW	Dist probe tip – phantom shell [mm]	1
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.435
Probe Serial Number:	131	Probe battery check [d/m/y]:	24-6
Liquid Simulant:	Head	Max E-field [V/m in liquid]	48.94
Permittivity / Conductivity [S/m]	35.4 / 5.2	Location of max. X= [mm]	-11
Liquid Temperature [C]	21.2	Location of max Y= [mm]	-0.7
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-479.3
Relative Humidity [%]	50	SAR Drift: [dB]	0.07
Results:			
SAR 1g [W/kg]:			10.192
SAR 10g [W/kg]:			4.343



8.2 Host: ACER.

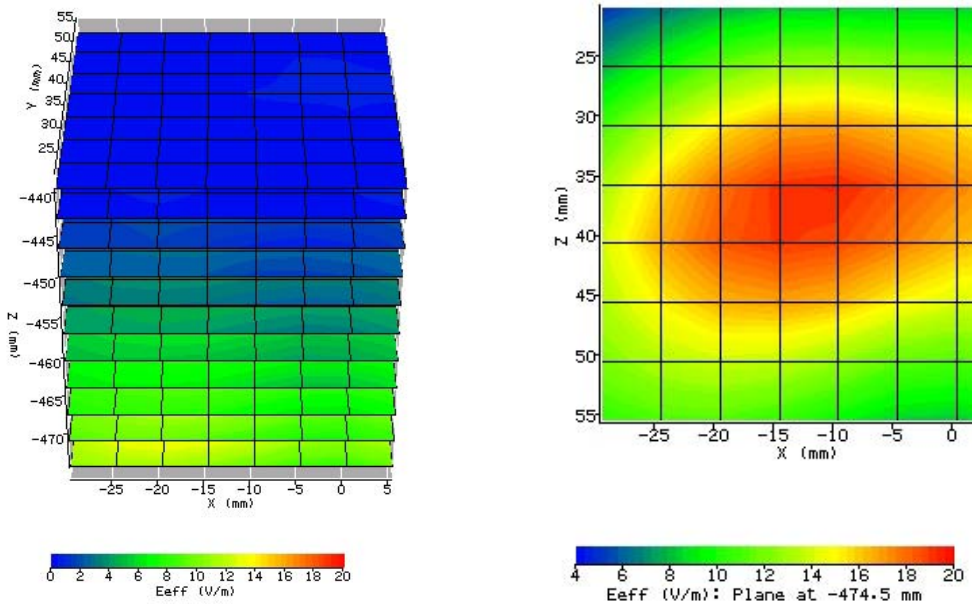
8.2.1 Host ACER, Lapheld, channel 1.

Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 1**	
DATE [dd/mm/yyyy]		**17-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2412	Stepsize x and y [mm]	5
Antenna Configuration:	Integral	No. of steps z	10
Power / (setting(s) [dBm]	21.4	Stepsize z [mm]	3.5
Type of Modulation / bitrate[Mbit/s]	DSSS 11	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.54
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	17-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	15.19
Permittivity / Conductivity [S/m]	52.8 / 1.9	Location of max. X= [mm]	-0.25
Liquid Temperature [C]	22.5	Location of max Y= [mm]	33.25
Ambient Temperature [C]	23.0	Location of max Z= [mm]	-474.5
Relative Humidity [%]	49	SAR Drift: [dB]	0.02
Results:			
SAR 1g [W/kg]:			0.548
SAR 10g [W/kg]:			0.299



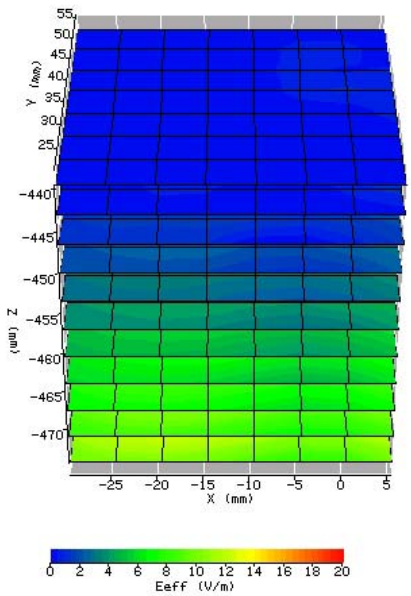
8.2.2 Host ACER, Lapheld, channel 6.

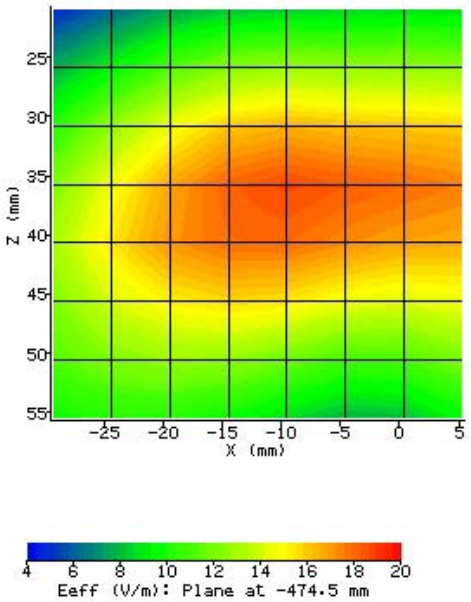
Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 6**	
DATE [dd/mm/yyyy]		**18-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2437	Stepsize x and y [mm]	5
Antenna Configuration:	Integral	No. of steps z	10
Power / (setting(s) [dBm]	21.4	Stepsize z [mm]	3.5
Type of Modulation / bitrate[Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.54
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	18-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	21.4
Permittivity / Conductivity [S/m]	52.7 / 1.9	Location of max. X= [mm]	-12.5
Liquid Temperature [C]	21.5	Location of max Y= [mm]	38.755
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-474.5
Relative Humidity [%]	50.0	SAR Drift: [dB]	0.02
Results:			
SAR 1g [W/kg]:			0.891
SAR 10g [W/kg]:			0.480



8.2.3 Host ACER, Lapheld, channel 11.

Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 11**	
DATE [dd/mm/yyyy]		**18-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2462	Stepsize x and y [mm]	5
Antenna Configuration:	Integral	No. of steps z	10
Power / (setting(s) [dBm]	21.4	Stepsize z [mm]	3.5
Type of Modulation / bitrate[Mbit/s]	DSSS 5.5	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.54
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	18-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	18.8
Permittivity / Conductivity [S/m]	52.7 / 2.0	Location of max. X= [mm]	-9.5
Liquid Temperature [C]	21.5	Location of max Y= [mm]	39.25
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-474.5
Relative Humidity [%]	51.0	SAR Drift: [dB]	0.06
Results:			
SAR 1g [W/kg]:			0.808
SAR 10g [W/kg]:			0.488



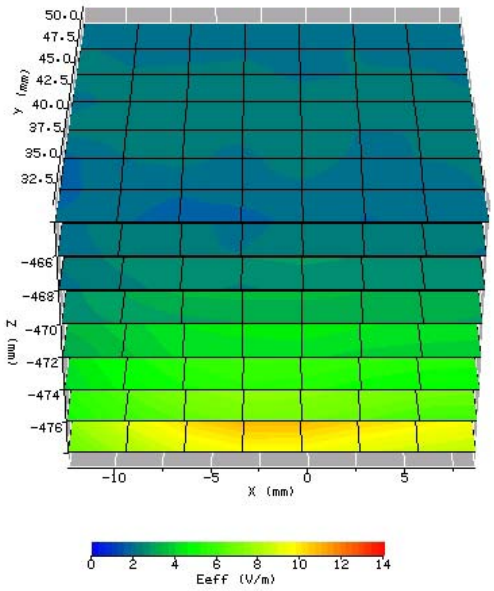


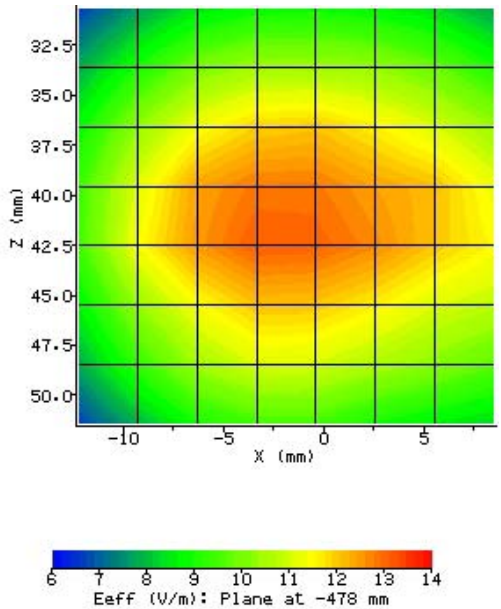
8.2.4 Host ACER, Lapheld, channel 36.

Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 36**	
DATE [dd/mm/yyyy]		**14-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5180	Stepsize x and y [mm]	3
Antenna Configuration:	Integral	No. of steps z	7
Power / (setting(s) [dBm]	17.4	Stepsize z [mm]	2
Type of Modulation / bitrate[Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.870
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	14-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	12.27
Permittivity / Conductivity [S/m]	49.0 / 5.3	Location of max. X= [mm]	-17.4
Liquid Temperature [C]	21.5	Location of max Y= [mm]	-9.7
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-479.0
Relative Humidity [%]	51.0	SAR Drift: [dB]	-0.05
Results:			
SAR 1g [W/kg]:			0.693
SAR 10g [W/kg]:			0.304

8.2.5 Host ACER, Lapheld, channel 48.

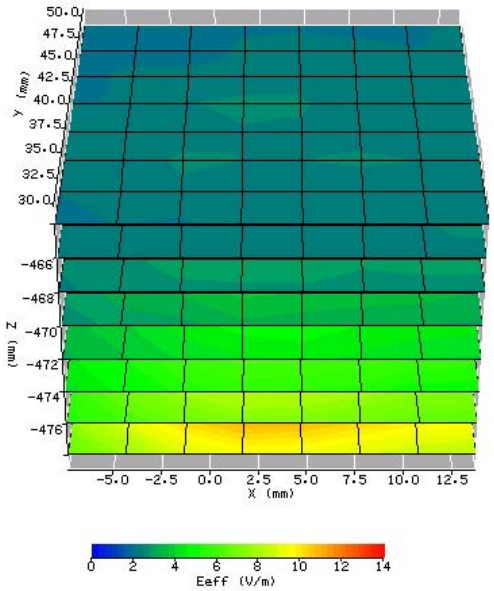
Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 48**	
DATE [dd/mm/yyyy]		**14-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5240	Stepsize x and y [mm]	3
Antenna Configuration:	Integral	No. of steps z	7
Power / (setting(s) [dBm]	19.0	Stepsize z [mm]	2
Type of Modulation / bitrate[Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.870
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	14-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	12.93
Permittivity / Conductivity [S/m]	49.0 / 5.3	Location of max. X= [mm]	-2.7
Liquid Temperature [C]	20.0	Location of max Y= [mm]	40.5
Ambient Temperature [C]	21.0	Location of max Z= [mm]	-478
Relative Humidity [%]	56.0	SAR Drift: [dB]	-0.05
Results:			
SAR 1g [W/kg]:			1.021
SAR 10g [W/kg]:			0.446

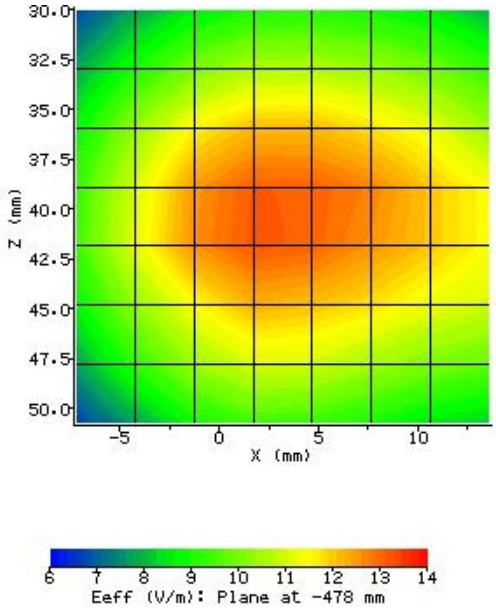




8.2.6 Host ACER, Lapheld, channel 52.

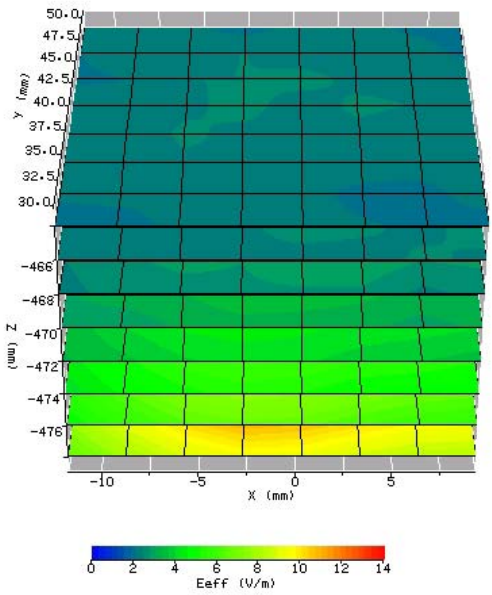
Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 52**	
DATE [dd/mm/yyyy]		**14-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5260	Stepsize x and y [mm]	3
Antenna Configuration:	Integral	No. of steps z	7
Power / (setting(s) [dBm]	20.4	Stepsize z [mm]	2
Type of Modulation / bitrate[Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.870
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	14-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	13.07
Permittivity / Conductivity [S/m]	48.9 / 5.3	Location of max. X= [mm]	2.9
Liquid Temperature [C]	20.0	Location of max Y= [mm]	40.4
Ambient Temperature [C]	21.0	Location of max Z= [mm]	-478
Relative Humidity [%]	56.0	SAR Drift: [dB]	-0.23
Results:			
SAR 1g [W/kg]:			0.956
SAR 10g [W/kg]:			0.416

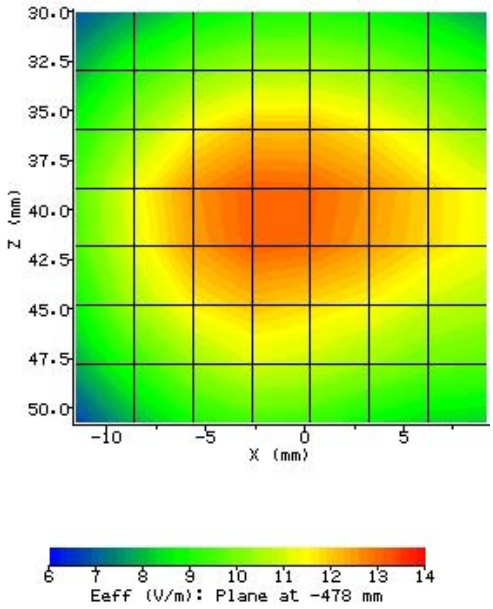




8.2.7 Host ACER, Lapheld, channel 64.

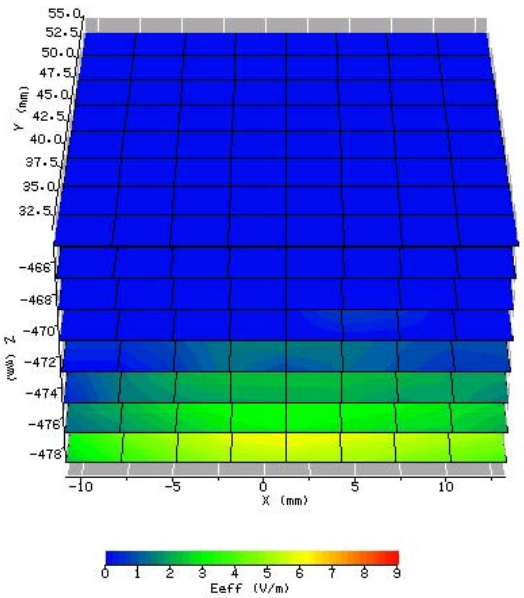
Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 64**	
DATE [dd/mm/yyyy]		**15-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5320	Stepsize x and y [mm]	3
Antenna Configuration:	Integral	No. of steps z	7
Power / (setting(s) [dBm]	17.9	Stepsize z [mm]	2
Type of Modulation / bitrate[Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.870
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	15-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	11.00
Permittivity / Conductivity [S/m]	48.9 / 5.4	Location of max. X= [mm]	-3.0
Liquid Temperature [C]	21.0	Location of max Y= [mm]	40.0
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-478.0
Relative Humidity [%]	56.0	SAR Drift: [dB]	0
Results:			
SAR 1g [W/kg]:			0.652
SAR 10g [W/kg]:			0.282

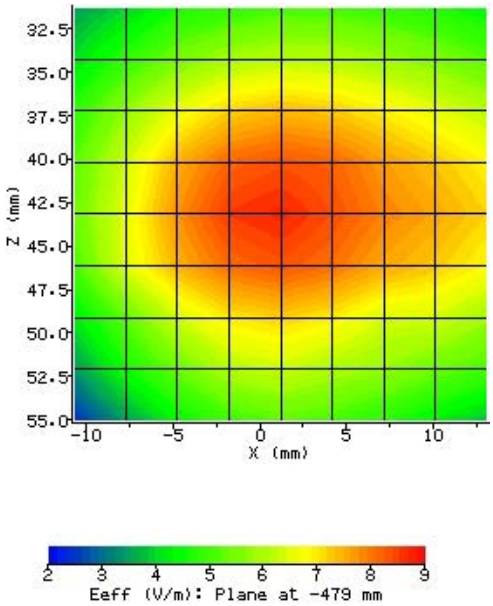




8.2.8 Host ACER, Lapheld, channel 165.

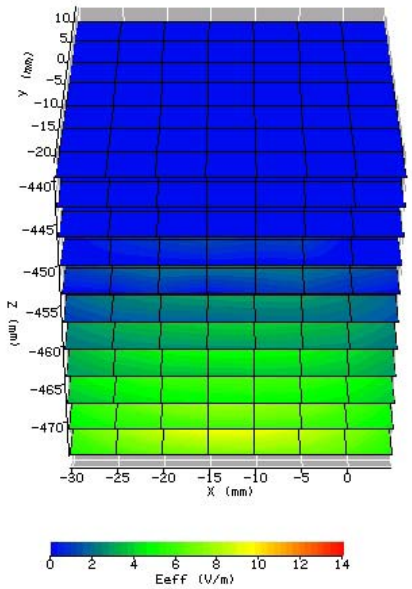
Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**Lapheld / 165**	
DATE [dd/mm/yyyy]		**15-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	8
Test Frequency [MHz]	5825	Stepsize x and y [mm]	3
Antenna Configuration:	Integral	No. of steps z	7
Power / (setting(s) [dBm]	17.2	Stepsize z [mm]	2
Type of Modulation / bitrate[Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	1
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.750
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	14-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	8.53
Permittivity / Conductivity [S/m]	48.2 / 6.0	Location of max. X= [mm]	0.6
Liquid Temperature [C]	21.0	Location of max Y= [mm]	43.2
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-479.0
Relative Humidity [%]	58.0	SAR Drift: [dB]	-0.93
Results:			
SAR 1g [W/kg]:			0.529
SAR 10g [W/kg]:			0.212

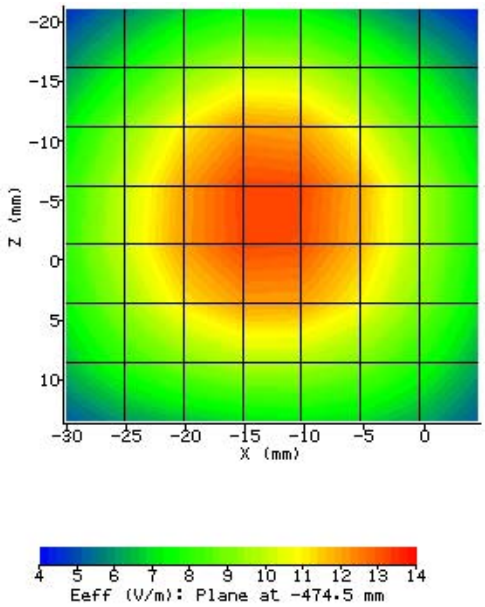




8.2.9 Host ACER, Perpendicular + 10 mm, channel 6.

Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**perpendicular / channel 6**	
DATE [dd/mm/yyyy]		**18-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	2437	Stepsize x and y [mm]	5
Antenna Configuration:	Integral	No. of steps z	10
Power / (setting(s) [dBm]	21.4	Stepsize z [mm]	3.5
Type of Modulation / bitrate [Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	5
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.54
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	18-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	13.12
Permittivity / Conductivity [S/m]	52.7 / 1.9	Location of max. X= [mm]	-13.25
Liquid Temperature [C]	21.5	Location of max Y= [mm]	-3.25
Ambient Temperature [C]	22.0	Location of max Z= [mm]	-475.5
Relative Humidity [%]	54.0	SAR Drift: [dB]	0.18
Results:			
SAR 1g [W/kg]:			0.436
SAR 10g [W/kg]:			0.239





8.2.10 Host ACER, Perpendicular + 10 mm, channel 52.

Device Under Test:		**Agere CB 1106 2.4/5 GHz IEEE 802.11g/a WLAN Cardbus card**	
HOST		**ACER**	
Position / Channel		**perpendicular / channel 52**	
DATE [dd/mm/yyyy]		**15-6-2004**	
System / software:		SARA v2.3	
Phantom S/No:	Box phantom.	No. of steps x and y	7
Test Frequency [MHz]	5260	Stepsize x and y [mm]	3
Antenna Configuration:	Integral	No. of steps z	7
Power / (setting(s) [dBm]	20.4	Stepsize z [mm]	2
Type of Modulation / bitrate [Mbit/s]	OFDM 6	Dist probe tip – phantom shell [mm]	2
Modn. Duty Cycle [%]	100	Prove conversion factor …..	0.870
Probe Serial Number:	131	Probe battery check [dd/mm/yyyy]:	14-6-2004
Liquid Simulant:	Body	Max E-field [V/m in liquid]	12.2
Permittivity / Conductivity [S/m]	49.0 / 5.4	Location of max. X= [mm]	-0.3
Liquid Temperature [C]	22.5	Location of max Y= [mm]	0.5
Ambient Temperature [C]	23.0	Location of max Z= [mm]	-478.0
Relative Humidity [%]	57.0	SAR Drift: [dB]	0.09
Results:			
SAR 1g [W/kg]:			0.713
SAR 10g [W/kg]:			0.299