



SAR EVALUATION REPORT

Report No. : 24DE0125-HO-5

Applicant : DENSO WAVE INCORPORATED
Type of Equipment : Wireless LAN adapter
Model No. : KCS
FCC ID : PZWKCS
Test standard : FCC47CFR 2.1093
FCC OET Bulletin 65, Supplement C
Test Result : Complied
Max SAR Measured : 0.266W/kg(Body, 2412MHz)

1. This test report shall not be reproduced except full or partial, without the written approval of UL Apex Co., Ltd.
2. The results in this report apply only to the sample tested.
3. This equipment is in compliance with above regulation. We hereby certify that the data contain a true representation of the SAR profile.
4. The test results in this test report are traceable to the national or international standards.

Date of test : November 28, 2003

Tested by : 

Miyo Ikuta
Head Office EMC Lab.

Approved by : 

Tetsuo Maeno
Site Manager of Head Office EMC Lab.

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SECTION 1 : Client information

Company Name : DENSO WAVE INCORPORATED
Brand Name : DENSO
Address : 1-1, Showa-cho, Kariya-shi, Aichi-ken 448-8661, Japan
Telephone Number : 81-566-61-3858
Facsimile Number : 81-566-25-4741
Contact Person : Noritaka Hirao

SECTION 2 : Equipment under test (Wireless LAN adapter)

2.1 Identification of Wireless LAN adapter

APPLICANT : DENSO WAVE INCORPORATED
Type of Equipment : Wireless LAN adapter
Model No. : KCS
Serial No. : K03633100001C01
Country of Manufacture : Taiwan
Receipt Date of Sample : November 20,2003
Condition of EUT : Production model
Category Identified : Portable device

2.2 Product description of Wireless LAN adapter

Tx Frequency : 2412MHz~2462MHz
Modulation : DSSS
Rating : DC3.3 - 3.5V
Max.Output Power Tested : 15.75 dBm Peak Conducted
Antenna Type : Chip Antenna:YOKOWO YCE-5208DN

SECTION 3 : Requirements for compliance testing defined by the FCC

The US Federal Communications Commission has released the report and order "Guidelines for Evaluating the Environmental Effects of RF Radiation", ET Docket No. 93-62 in August 1996. The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g for an uncontrolled environment and 8.0 mW/g for an occupational/controlled environment as recommended by the ANSI/IEEE standard C95.1-1992. According to the Supplement C of OET Bulletin 65 "Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

1 Specific Absorption Rate (SAR) is a measure of the rate of energy absorption due to exposure to an RF transmitting source (wireless portable device).

2 IEEE/ANSI Std. C95.1-1992 limits are used to determine compliance with FCC ET Docket 93-62.

SECTION 4 : Dosimetry assessment setup

These measurements were performed with the automated near-field scanning system DASY4 from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9 m), which positions the probes with a positional repeatability of better than +/- 0.02 mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines to the data acquisition unit. The SAR measurements were conducted with the dosimetry probe ET3DV6, SN: 1685 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the procedure described in [2] with accuracy of better than +/-10%. The spherical isotropy was evaluated with the procedure described in [3] and found to be better than +/-0.25 dB. The phantom used was the SAM Twin Phantom as described in FCC supplement C, IEE P1528 and CENELEC EN50361.

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4.2 System components

4.2.1 ET3DV6 Probe Specification

Construction:

Symmetrical design with triangular core
Built-in optical fiber for surface detection System
Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g., glycol ether)

Calibration:

Basic Broad Band calibration in air from 10 MHz to 2.5 GHz
In brain and muscle simulating tissue at
Frequencies of 450 MHz, 900 MHz, 1.8 GHz and 2.45GHz (accuracy +/-8%)

Frequency:

10 MHz to 3GHz; Linearity: +/-0.2 dB
(30 MHz to 3 GHz)

Directivity:

+/-0.2 dB in brain tissue (rotation around probe axis)
+/-0.4 dB in brain tissue (rotation normal probe axis)

Dynamic Range:

5 mW/g to > 100 mW/g; Linearity: +/-0.2 dB

Optical Surface Detection:

+/-0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces.

Dimensions:

Overall length: 330 mm (Tip: 16 mm)
Tip length: 16 mm
Body diameter: 12 mm (Body: 12 mm)
Tip diameter: 6.8 mm
Distance from probe tip to dipole centers: 2.7 mm

Application:

General dosimetric up to 3 GHz
Compliance tests of mobile phones
Fast automatic scanning in arbitrary phantoms



Inside view of
ET3DV6 E-field Probe

4.2.2 SAM Phantom

Construction:

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.

Shell Thickness:

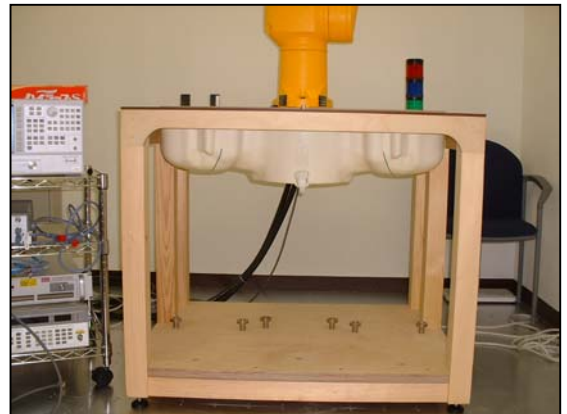
2 +/-0.2 mm

Filling Volume:

Approx. 25 liters

Dimensions:

(H x L x W): 810 x 1000 x 500 mm



SAM Phantom

4.2.3 Device Holder for Transmitters

In combination with the SAM Twin Phantom V4.0, the Mounting Device enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatedly positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

* Note: A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produced infinite number of configurations. To produce the worst-case condition (the hand absorbs antenna output power), the hand is omitted during the tests.



Device Holder

Device holder couldn't be used at this SAR measurement.

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SECTION 5 : Test system specifications

Robot RX60L

Number of Axes	:	6
Payload	:	1.6 kg
Reach	:	800mm
Repeatability	:	+/-0.025mm
Control Unit	:	CS7M
Programming Language	:	V+
Manufacture	:	Stäubli Unimation Corp. Robot Model: RX60

DASY4 Measurement sever

Features	:	166MHz low power Pentium MMX 32MB chipdisk and 64MB RAM Serial link to DAE (with watchdog supervision) 16 Bit A/D converter for surface detection system Two serial links to robot (one for real-time communication which is supervised by watchdog) Ethernet link to PC (with watchdog supervision) Emergency stop relay for robot safety chainTwo expansion slots for future applications
Manufacture	:	Schimid & Partner Engineering AG

Data Acquisition Electronic (DAE)

Features	:	Signal amplifier, multiplexer, A/D converter and control logic Serial optical link for communication with DASY4 embedded system (fully remote controlled) 2 step probe touch detector for mechanical surface detection and emergency robot stop (not in -R version)
Measurement Range	:	1 μ V to > 200 mV (16 bit resolution and two range settings: 4mV, 400mV)
Input Offset voltage	:	< 1 μ V (with auto zero)
Input Resistance	:	200 M Ω
Battery Power	:	> 10 h of operation (with two 9 V accus)
Dimension	:	60 x 60 x 68 mm
Manufacture	:	Schimid & Partner Engineering AG

Software

Item	:	Dosimetric Assesment System DASY4
Type No.	:	SD 000 401A, SD 000 402A
Software version No.	:	4.1
Manufacture / Origin	:	Schimid & Partner Engineering AG

E-Field Probe

Model	:	ET3DV6
Serial No.	:	1685
Construction	:	Triangular core fiber optic detection system
Frequency	:	10 MHz to 6 GHz
Linearity	:	+/-0.2 dB (30 MHz to 3 GHz)
Manufacture	:	Schimid & Partner Engineering AG

Phantom

Type	:	SAM Twin Phantom V4.0
Shell Material	:	Fiberglass
Thickness	:	2.0 +/-0.2 mm
Volume	:	Approx. 20 liters
Manufacture	:	Schimid & Partner Engineering AG

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SECTION 6 : Measurement outline

This EUT was manufactured by DENSO and will be inserted into only Bar-code Handy Terminal which was manufactured by DENSO.

The detail of host device that we used for SAR testing is shown in the following.

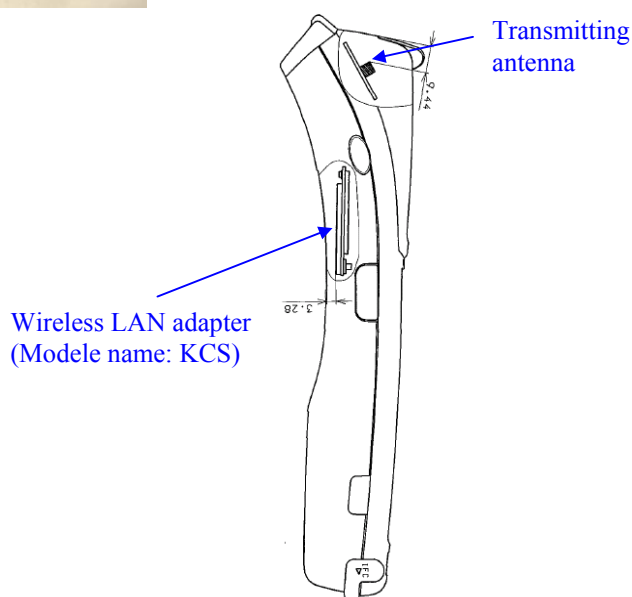
6.1 Information of PC

Type of Equipment : Bar-code Handy Terminal

Model No. : BHT-7500W

Serial No. : None

Manufacture : DENSO CORPORATION



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SECTION 7 : Test setup of EUT

7.1 Photographs of test setup

We tested the Bar-code Handy Terminal (Model No.: BHT-7500W) with which this EUT was inserted.
When users operate or carry the Bar-code Handy Terminal, it could be considered to touch or get close to their bodies.
In order to assume this situation, we performed the test at the following positions. Please refer to "APPENDIX 1" for more details.

- 1.Front : The test was performed in touch with front surface of Bar-code Handy Terminal to the flat phantom.
- 2.Back : The test was performed in touch with back surface of Bar-code Handy Terminal to the flat phantom.
- 3.Right Side : The test was performed in touch with right side of Bar-code Handy Terminal to the flat phantom.
- 4.Left Side : The test was performed in touch with left side of Bar-code Handy Terminal to the flat phantom.
- 5.Top : The test was performed in touch and distanced 5mm ,10mm and 15mm with top of Bar-code Handy Terminal to the flat phantom.

1. Front



2. Back



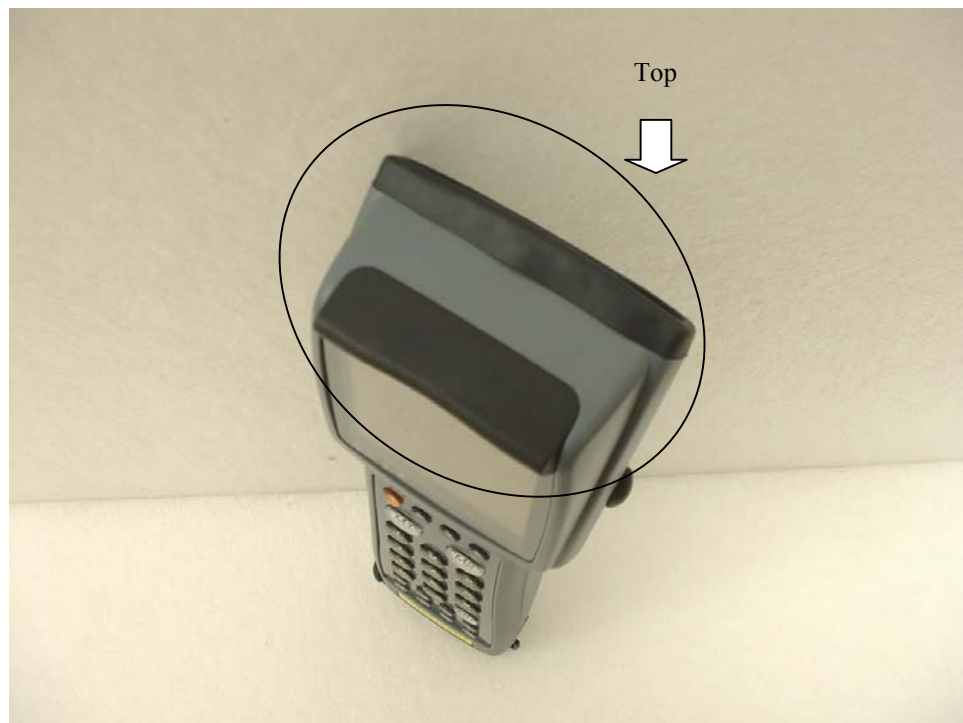
3. Right Side



4. Left Side



5. Top



7.2 EUT Tune-up procedure

We determined following conditions ;

Transmitter was continuous mode.

Crest Factor = 1

Frequency channel were low , middle and high (2412MHz ,2437MHz and 2462MHz)

7.3 Distance between Bar-code Handy Terminal and Phantom

The position for the highest SAR value of this EUT was at "Top" position.

The measurement was performed with the distance, 5mm, 10mm, and 15mm to check if the distance 0mm may not have the worst value. As a result, the distance 0mm had the worst value.

SECTION 8: Measurement uncertainty

The uncertainty budget has been determined for the DASY4 measurement system according to the NIS81 [13] and the NIST1297 [6] documents and is given in the following Table.

Error Description	Uncertainty value \pm %	Probability distribution	divisor	(ci)1 lg	Standard Uncertainty (1g)	vi or v _{eff}
Measurement System						
Probe calibration	± 4.8	Normal	1	1	± 4.8	∞
Axial isotropy of the probe	± 4.7	Rectangular	$\sqrt{3}$	$(1-c_p)^{1/2}$	± 1.9	∞
Spherical isotropy of the probe	± 9.6	Rectangular	$\sqrt{3}$	$(c_p)^{1/2}$	± 3.9	∞
Boundary effects	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Probe linearity	± 4.7	Rectangular	$\sqrt{3}$	1	± 2.7	∞
Detection limit	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Readout electronics	± 1.0	Normal	1	1	± 1.0	∞
Response time	± 0.8	Rectangular	$\sqrt{3}$	1	± 0.5	∞
Integration time	± 2.6	Rectangular	$\sqrt{3}$	1	± 1.5	∞
RF ambient conditions	± 3.0	Rectangular	$\sqrt{3}$	1	± 1.7	∞
Mech. constraints of robot	± 0.4	Rectangular	$\sqrt{3}$	1	± 0.2	∞
Probe positioning	± 2.9	Rectangular	$\sqrt{3}$	1	± 1.7	∞
Extrap. and integration	± 1.0	Rectangular	$\sqrt{3}$	1	± 0.6	∞
Test Sample Related						
Device positioning	± 2.9	Rectangular	$\sqrt{3}$	1	± 2.9	6
Device holder uncertainty	± 3.6	Rectangular	$\sqrt{3}$	1	± 3.6	4
Power drift	± 5.0	Rectangular	$\sqrt{3}$	1	± 2.9	∞
Phantom and Setup						
Phantom uncertainty	± 4.0	Rectangular	$\sqrt{3}$	1	± 2.3	∞
Liquid conductivity (target)	± 5.0	Rectangular	$\sqrt{3}$	0.64	± 1.8	∞
Liquid conductivity (meas.)	± 5.0	Rectangular	$\sqrt{3}$	0.64	± 3.7	∞
Liquid permittivity (target)	± 10.0	Rectangular	$\sqrt{3}$	0.6	± 3.5	∞
Liquid permittivity (meas.)	± 10.0	Rectangular	$\sqrt{3}$	0.6	± 1.7	∞
Combined Standard Uncertainty					± 11.26	
Expanded Uncertainty (k=2)					± 22.5	

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SECTION 9 : Simulated tissue liquid parameter

8.1 Simulated Tissue Liquid Parameter confirmation

The dielectric parameters were checked prior to assessment using the HP85070D dielectric probe kit.
The dielectric parameters measurement are reported in each correspondent section.

8.1.1 Head 2450MHz

Type of liquid : Head 2450 MHz
Ambient temperature (deg.c.) : 24.5
Relative Humidity (%) : 48
Liquid depth (cm) : 15.9

Date : November 28,2003

Measured By : Miyo Ikuta

DIELECTRIC PARAMETERS MEASUREMENT RESULTS						
Liquid Temp [deg.c]		Parameters	Target Value	Measured	Deviation [%]	Limit [%]
Before	After					
23.2	23.2	Relative Permittivity ϵ_r	39.2	35.9	-8.4	+/-10
		Coductivity σ [mho/m]	1.80	1.87	3.9	+/-5

8.1.2 Muscle 2450MHz

Type of liquid : Muscle 2450 MHz
Ambient temperature (deg.c.) : 24.5
Relative Humidity (%) : 41
Liquid depth (cm) : 15.6

Date : November 28,2003

Measured By : Miyo Ikuta

DIELECTRIC PARAMETERS MEASUREMENT RESULTS						
Liquid Temp [deg.c]		Parameters	Target Value	Measured	Deviation [%]	Limit [%]
Before	After					
23.0	23.0	Relative Permittivity ϵ_r	52.7	50.2	-4.7	+/-10
		Coductivity σ [mho/m]	1.95	1.93	-1.0	+/-5

8.2 Simulated Tissues

Ingredient	MiXTURE(%)	
	Head 2450MHz	Muscle 2450MHz
Water	45.0	69.83
DGMBE	55.0	30.17

Note:DGMBE(Diethyleneglycol-monobuthyl ether)

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SECTION 10 : System validation data

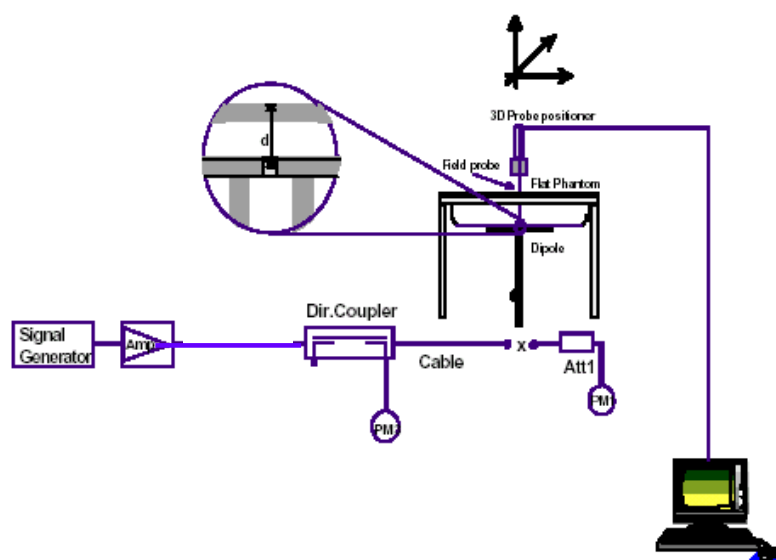
Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of +/-10%. The validation results are tabulated below. Please refer to APPENDIX 3.

Type of liquid : **HEAD 2450MHz**
Frequency : **2450MHz**
Liquid depth (cm) : **15.9**
Ambient temperature (deg.c.) : **24.5**
Relative Humidity (%) : **48**
Dipole : **D2450V2 SN:713**
Power : **250mW**

Date : November 28,2003
Measured By : Miyo Ikuta

SYSTEM PERFORMANCE CHECK									
Liquid (HEAD 2450MHz)						System dipole validation target & measured			
Liquid Temp [deg.c.]		Relative Permittivity ϵ_r		Conductivity σ [mho/m]		SAR 1g [W/kg]		Deviation [%]	Limit [%]
Before	After	Target	Measured	Target	Measured	Target	Measured		
23.2	23.2	39.2	35.9	1.80	1.87	13.1	13.5	3.1	+/-10

Note: Please refer to Attachment for the result representation in plot format



2450MHz System
performance check setup

Test system for the system performance check setup diagram

SECTION 11 : Evaluation procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position of flat phantom was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of head or body position was measured at a distance of each device from the inner surface of the shell. The area covered the entire dimension of the EUT(180 x 260) and the horizontal grid spacing was 20 mm x 20 mm. Based on these data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point found in the Step 2 (area scan) , a volume of 32 mm x 32 mm x 30 mm was assessed by measuring 5 x 5 x 7 points. And for any secondary peaks found in the Step2 which are within 2dB of maximum peak and not with this Step3 (Zoom scan) is repeated. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm [4]. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
2. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by 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-directions) [4], [5]. The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
3. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. It is measured SAR-drift(the difference between the SAR measured in Step 4 and Step 1)

SECTION 12 : Exposure limit

(A) Limits for Occupational/Controlled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.4	8.0	20.0

(B) Limits for General population/Uncontrolled Exposure (W/kg)

Spatial Average (averaged over the whole body)	Spatial Peak (averaged over any 1g of tissue)	Spatial Peak (hands/wrists/feet/ankles averaged over 10g)
0.08	1.6	4.0

Occupational/Controlled Environments: are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments: are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

<p>NOTE:GENERAL POPULATION/UNCONTROLLED EXPOSURE SPATIAL PEAK(averaged over any 1g of tissue) LIMIT 1.6 W/kg</p>

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SECTION 13 : SAR Measurement results

12.1 Conducted power measurement results

Date : November 28, 2003

Measured By : Miyo Ikuta

CONDUCTED POWER MEASUREMENT RESULTS												
Frequency [MHz]	Before					After					Deviation [%]	Limit [%]
	Reading [dBm]	Att. [dB]	Cable loss [dB]	Result [dBm]	Convert [mW]	Reading [dBm]	Att. [dB]	Cable loss [dB]	Result [dBm]	Convert [mW]		
2412	3.8	10	1.95	15.75	37.6	3.7	10	1.95	15.65	36.7	-2.3	+/-5
2437	3.4	10	1.95	15.35	34.3	3.2	10	1.95	15.15	32.7	-4.5	+/-5
2462	3.2	10	1.95	15.15	32.7	3.2	10	1.95	15.15	32.7	0.0	+/-5

12.2 Body 2450MHz SAR

Liquid Depth (cm) : 15.6
Parameters : $\epsilon_r = 50.2$, $\sigma = 1.93$
Ambient Temperature[deg.c.] : 24.5
Relative Humidity (%) : 41

Model : KCS
Serial No. : K03633100001C01
Modulation : DSSS
Crest factor : 1

Date : November 28, 2003

Measured By : Miyo Ikuta

BODY SAR MEASUREMENT RESULTS								
Frequency		Phantom Section	EUT Set-up Conditions			Liquid Temp.[deg.c]		SAR(1g) [W/kg]
Channel	[MHz]		Antenna	Position	Separation [mm]	Before	After	Maximum value of multi-peak)
Mid	2437	Flat	Fixed	Front	0	22.7	22.7	0.0526
Mid	2437	Flat	Fixed	Back	0	22.6	22.6	0.145
Mid	2437	Flat	Fixed	Right Side	0	22.6	22.6	0.0586
Mid	2437	Flat	Fixed	Left Side	0	22.6	22.6	0.0714
Mid	2437	Flat	Fixed	Top	0	22.7	22.6	0.21
Low	2412	Flat	Fixed	Top	0	22.6	22.6	0.266
High	2462	Flat	Fixed	Top	0	22.9	22.9	0.19
Low	2412	Flat	Fixed	Top	5	22.6	22.6	0.216
Low	2412	Flat	Fixed	Top	10	22.6	22.6	0.118
Low	2412	Flat	Fixed	Top	15	22.6	22.6	0.0635
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure / General Population						Body SAR: 1.6 W/kg (averaged over 1 gram)		

* The position of EUT of the highest SAR value is touch to the flat phantom at Top position and 2412MHz.

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SECTION 14 : Equipment & calibration information

Name of Equipment	Manufacture	Model number	Serial number	Calibration	
				Last Cal	due date
Power Meter	Agilent	E4417A	GB41290639	2003/11/12	2004/11/11
Power Sensor	Agilent	E9327A	US40440544	2003/02/21	2004/02/20
Power Sensor	Agilent	E9327A	US40440545	2003/03/18	2004/03/17
S-Parameter Network Analyzer	Agilent	E8358A	US41080381	2003/08/13	2004/08/12
Signal Generator	Rohde&Schwarz	SML03	100331	2003/09/11	2004/09/10
RF Amplifier	OPHIR	5056F	1005	2003/02/06	2004/02/05
Dosimetric E-Field Probe	Schmid&Partner Engineering AG	ET3DV6	1685	2003/10/10	2004/10/09
Data Acquisition Electronics	Schmid&Partner Engineering AG	DAE3 V1	509	2003/04/10	2004/04/09
Robot,SAM Phantom	Schmid&Partner Engineering AG	DASY4	I021834	N/A	N/A
Attenuator	HIROSE ELECTRIC CO.,LTD.	AT-120	901247	2003/02/03	2004/02/02
Attenuator	Orient Microwave	BX10-0476-00	-	2003/03/31	2004/03/30
Microwave Cable	Storm	-	90-011-080/03-04-001	2003/04/30	2004/04/29
2450MHz System Validation Dipole	Schmid&Partner Engineering AG	D2450V2	713	2002/11/15	2004/11/14
Dual Directional Coupler	N/A	Narda	03702	N/A	N/A
Head 2450MHz	N/A	N/A	N/A	N/A	N/A
Body 2450MHz	N/A	N/A	N/A	N/A	N/A

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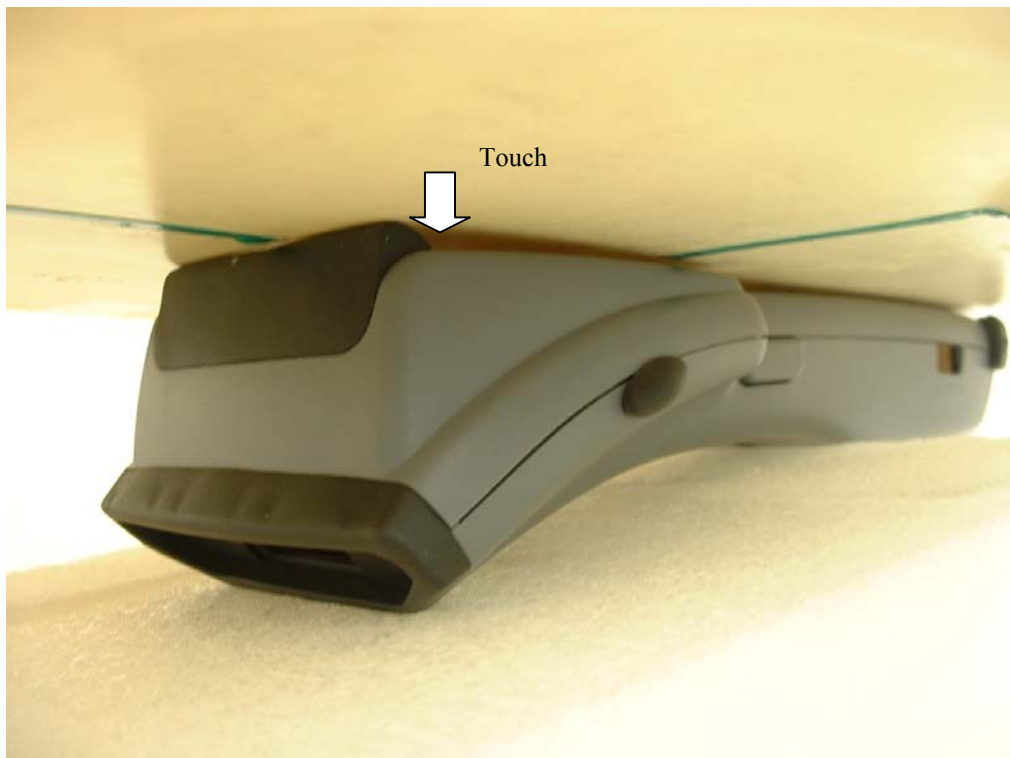
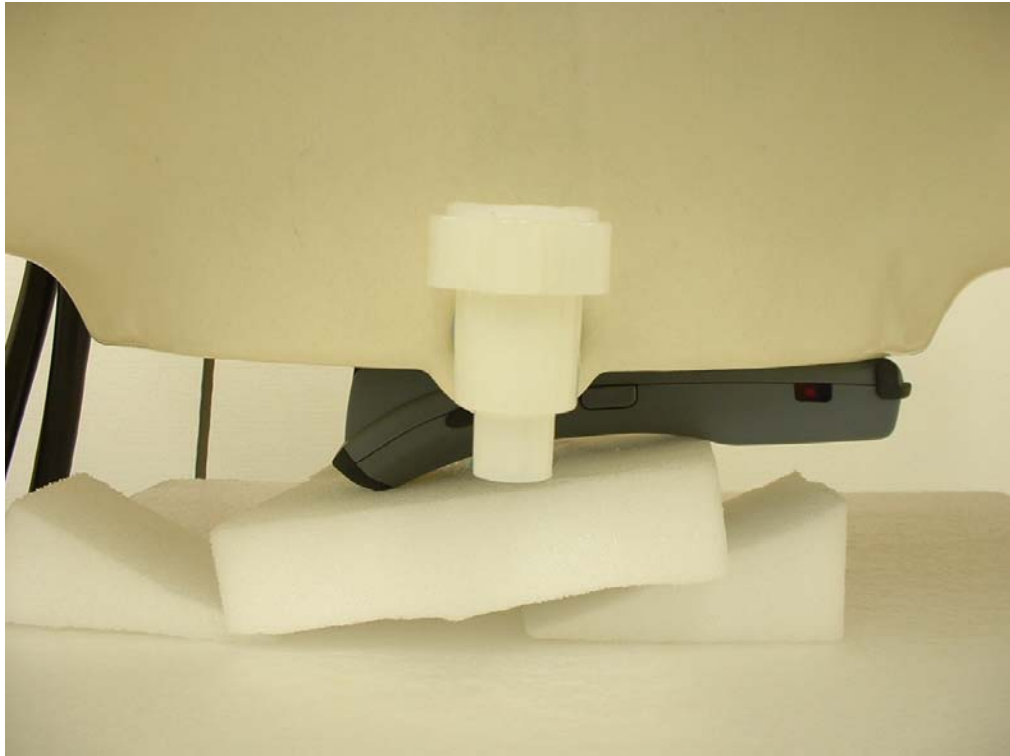
Facsimile: +81 596 24 8124

SECTION 15 : References

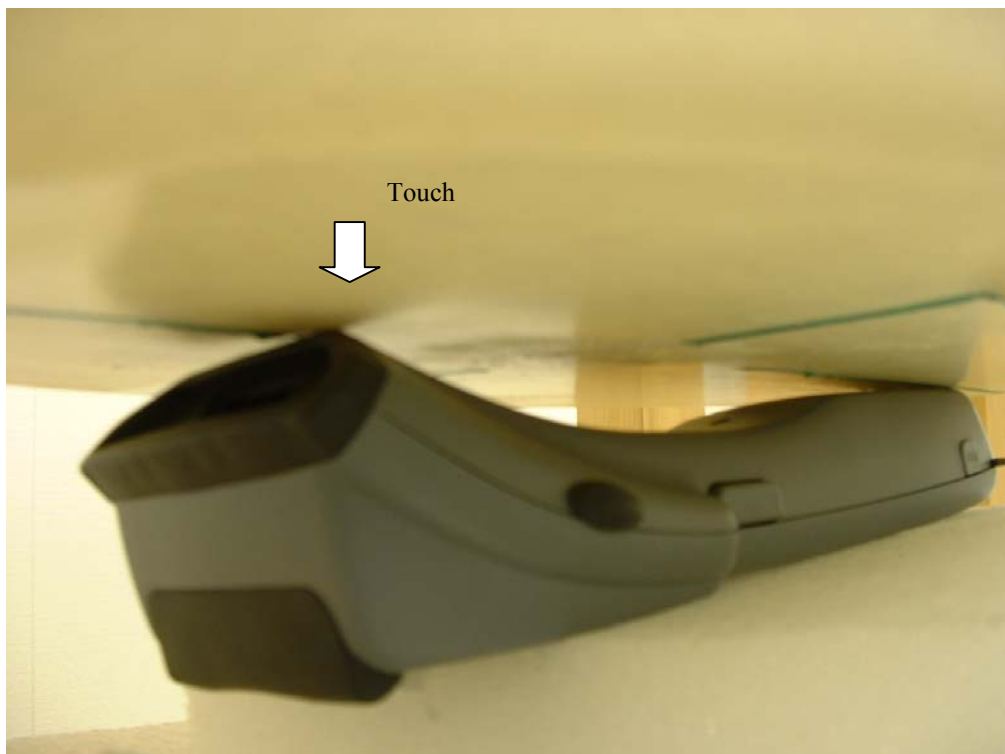
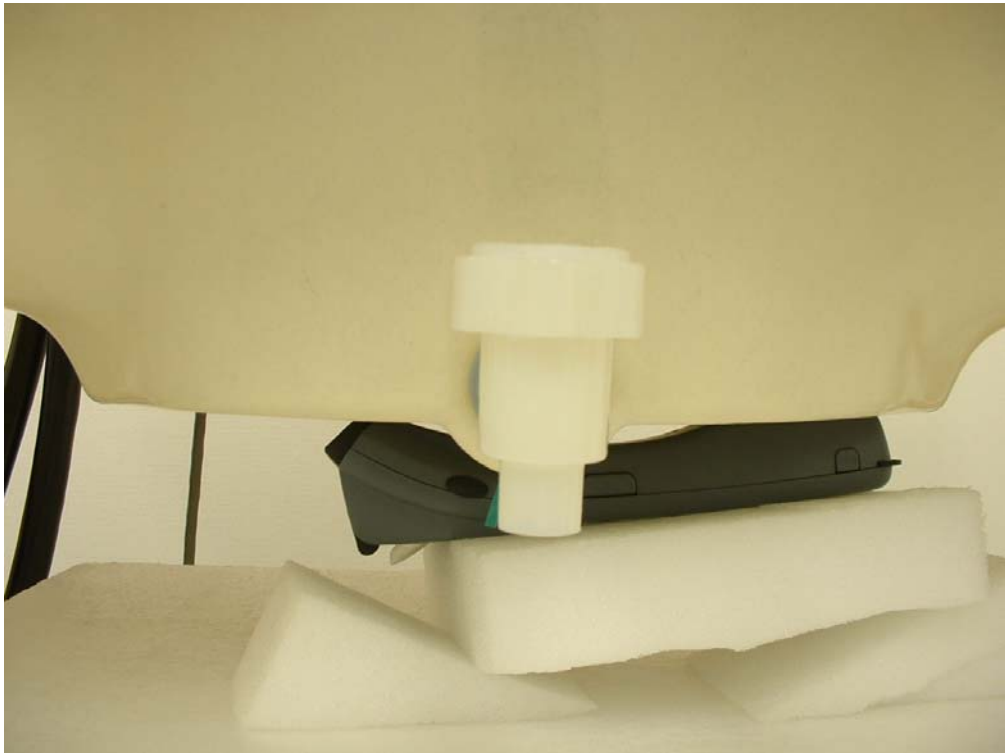
- [1]ANSI, ANSI/IEEE C95.1-1992: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992.
- [2] Katja Pokovic, Thomas Schmid, and Niels Kuster, "Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies", in ICECOM '97, Dubrovnik, October 15-17, 1997, pp. 120-124.
- [3] Katja Pokovic, Thomas Schmid, and Niels Kuster, "E- _field probe with improved isotropy in brain simulating liquids", in Proceedings of the ELMAR, Zadar, Croatia, 23-25 June, 1996, pp.172-175.
- [4] W. Gander, Computermathematik, Birkhaeuser, Basel, 1992.
- [5] W. H. Press, S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery, Numerical Recepies in C, The Art of Scientific Computing, Second Edition, Cambridge University Press, 1992.
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APPENDIX 1 : Photographs of test setup

Front



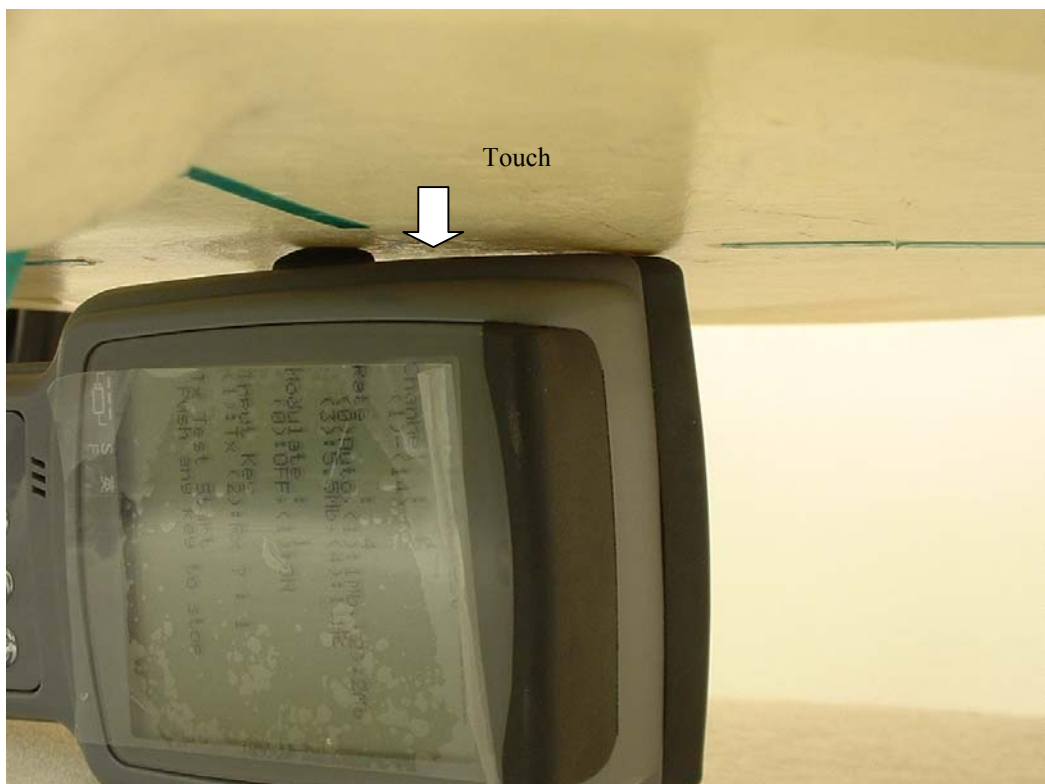
Back



Right Side



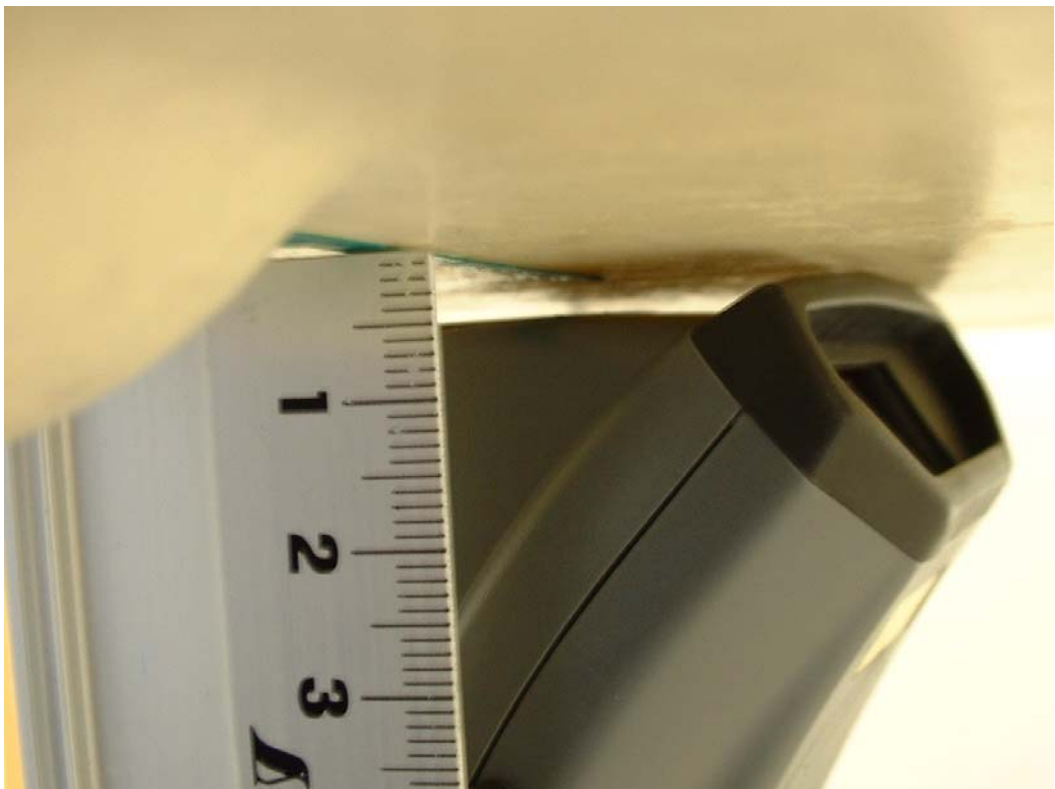
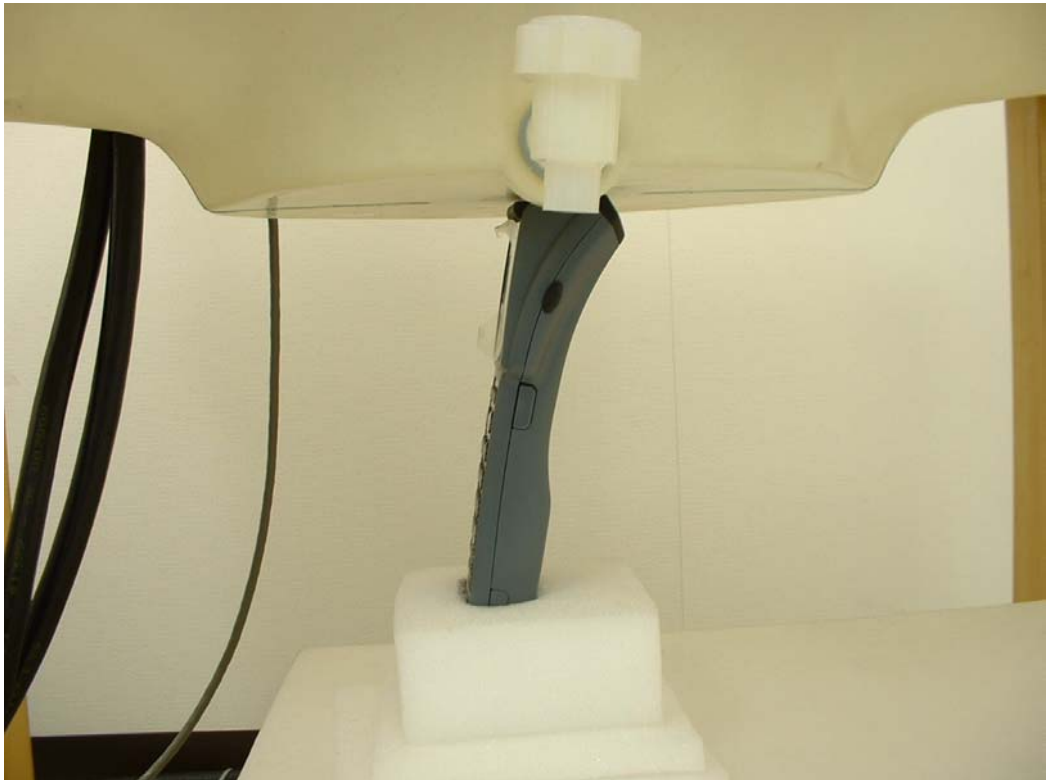
Left Side



Top 0mm



Top 5mm



Top 10mm

