TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

Test Report Serial No:
RFI/SARE2/RP48886JD01A

Supersedes Test Report Serial No:
RFI/SARE1/RP48886JD01A

This Test Report Is Issued Under The Authority Of Michael Derby, Wireless Radio Performance Group Leader: 	
Tested By: Nirav Modi 	**Checked By: Richelieu Quoi** 
Report Copy No: PDF01	
Issue Date: 24 April 2007	**Test Dates: 19 March 2007**

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Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

Table of Contents

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

1. Customer Information

Company Name:	Datalogic S.p.A
Address:	Via Candini, 2 Lippo di Calderara di Reno Bologna Italy 40012
Contact Name:	Mr P Guerzoni

2. Equipment Under Test (EUT)

The following information (with the exception of the date of receipt) has been supplied by the customer:

2.1. Description of EUT

The equipment under test is a DLBJET 711-104-455 module with WiFi 802.11b/g Tri-band, GPRS Class 10 and *Bluetooth* capabilities. It also has a laser to capture bar codes.

2.2. Identification of Equipment Under Test (EUT)

Description:	*Bluetooth*, WiFi and GSM mobile station
Brand Name:	Datalogic
Model Name or Number:	DLBJET 711-104-455
Serial Number:	D07B03029
IMEI Number:	352021008334450
Hardware Version Number:	D07B03029
Software Version Number:	D07B03029
Driver Version:	V1.02.09
Software Revision of GSM Module:	Not Applicable
FCC ID Number:	U4G0019
Country of Manufacture:	Italy
Date of Receipt:	12 March 2007

2.3. Modifications Incorporated in the EUT

During the course of testing the EUT was not modified.

2.4. Accessories

The following accessories were supplied with the EUT during testing:

Description:	Belt Clip and Belt Clip Pivot
Brand Name:	Datalogic
Model Name or Number:	None Stated
Serial Number:	None Stated
Cable Length and Type:	Not Applicable
Connected to Port	Not Applicable

Description:	Adjustable Elastic Strap with Stylus Holder
Brand Name:	Datalogic
Model Name or Number:	None Stated
Serial Number:	None Stated
Cable Length and Type:	Not Applicable
Connected to Port	Not Applicable

2.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

Description:	Radio Communication Test Set
Brand Name:	Anritsu
Model Name or Number:	MT8820A
Serial Number:	6K00000647
Cable Length and Type:	1.5m utiflex
Connected to Port:	RF (Input/ Output) Air Link

2.6. Additional Information Related to Testing

Equipment Category	PCS1900 WiFi 802.11b/g *Bluetooth*		
Type of Unit	Portable (Standalone battery powered device)		
Intended Operating Environment:	Within WiFi, *Bluetooth* and GSM Coverage		
Transmitter Maximum Output Power Characteristics:	WiFi *Bluetooth* PCS1900	20dBm Max 0dBm 30dBm	
Transmitter Frequency Range:	WiFi	2412 to 2462 MHz	
Transmitter Frequency Allocation of EUT When Under Test:	**Channel Number**	**Channel Description**	**Frequency (MHz)**
	1	Low	2412
	6	Middle	2437
	11	High	2462
Modulation(s):	0 Hz		
Modulation Scheme (Crest Factor):	1		
Antenna Type:	Unknown		
Antenna Length:	Internal Antenna		
Number of Antenna Positions:	2 Fixed		
Power Supply Requirement:	Internal Battery Supply 7.4 V / 1070mAh		
Battery Type(s):	Lithium-ion		

3. Test Specification, Methods and Procedures

3.1. Test Specification

Reference:	OET Bulletin 65 Supplement C: (2001-01)
Title:	Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
Purpose of Test:	To determine whether the equipment met the basic restrictions as defined in OET Bulletin 65 Supplement C: (2001-01) using the SAR averaging method as described in the test specification above.

3.2. Methods and Procedures Reference Documentation

The methods and procedures used were as detailed in:

EN 62209-1: 2006
Title: Basic standard for the measurement of specific absorption rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz).

ANSI/IEEE C95.1: 1999
IEEE standard for safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz.

Federal Communications Commission, “Evaluating compliance with FCC Guidelines for human exposure to radio frequency electromagnetic fields”, OET Bulletin 65 Supplement C, FCC, Washington, D.C, 20554, 2001.

Thomas Schmid, Oliver Egger and Neils Kuster, “Automated E-field scanning system for dosimetric assessments”, IEEE Transaction on microwave theory and techniques,
Vol. 44, pp. 105-113, January 1996.

Neils Kuster, Ralph Kastle and Thomas Schmid, “Dosimetric evaluation of mobile communications equipment with know precision”, IEICE Transactions of communications, Vol. E80-B, No.5, pp. 645-652, May 1997.

3.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

4. Deviations from the Test Specification

At the customers request the EUT was tested in WiFi 802.11b/g modes using the Main and Aux antenna with the EUT in PCS1900 call allocated mode.

5. Operation and Configuration of the EUT during Testing

5.1. Operating Modes

The EUT was tested in the following operating modes unless otherwise stated:

TX Main: WiFi 802.11b (11MBps) / 802.11g (54MBps) data allocated test mode with PCS1900 call allocated.

TX Aux: WiFi 802.11b (11MBps) / 802.11g (54MBps) data allocated test mode with PCS1900 call allocated.

The software used to exercise the EUT in test mode was SDCFCC version SCU V1.02.09. This software was installed and provided by the manufacturer. The software enabled the EUT to transmit continuously.

The reason for choosing this configuration was that it has been defined by the customer as being typical of normal use and likely to be worst case.

5.2. Configuration and Peripherals

The EUT was tested in the following configuration(s) unless otherwise stated:

Standalone *Bluet*ooth, WiFi and GSM mobile station with adjustable elastic strap and stylus.

Standalone *Bluetooth*, WiFi and GSM mobile station with belt clip.

Body Configuration

a) The EUT was placed in a normal operating position where the centre of EUT was aligned with the centre reference point on the flat section of the 'SAM' phantom.

b) With the EUT touching the phantom at an imaginary centre line. The EUT was aligned with a marked plane (X and Y axis) consisting of two lines.

c) For the touch-safe position the handset was gradually moved towards the flat section of the 'SAM' phantom until any point of the EUT touched the phantom.

d) For position(s) greater then 0mm separation the EUT was positioned as per the touch-safe position, and then the vertical height was decreased/adjusted as required.

e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.

f) The device was keyed to operate continuously in the transmit mode for the duration of the test.

g) The location of the maximum spatial SAR distribution (hot spot) was determined relative to the handset and its antenna.

h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charge battery.

6. Summary of Test Results

Test Name	Specification Reference	Compliancy Status
Specific Absorption Rate (SAR) WiFi 802.11b – Body Configuration	OET Bulletin 65 supplement C: 2001-01	Complied
Specific Absorption Rate (SAR) WiFi 802.11g – Body Configuration	OET Bulletin 65 supplement C: 2001-01	Complied

6.1. Location of Tests

All the measurements described in this report were performed at the premises of
RFI Global Services Ltd, Ewhurst Park, Ramsdell, Basingstoke, Hampshire, RG26 5RQ.

7. Measurements, Examinations and Derived Results

7.1. General Comments

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to section 8 for details of measurement uncertainties.

7.2. Test Results

7.2.1. Specific Absorption Rate – WiFi 802.11b – Body Configuration

Test Summary:

Tissue Volume:	1g
Maximum Level (W/kg):	0.826

Environmental Conditions:

Temperature Variation in Lab (°C):	20 to 21
Temperature Variation in Liquid (°C):	20 to 20.8

Results:

EUT Position	Phantom Configuration	Channel Number	Level (W/kg)	Limit (W/kg)	Margin (W/kg)	Note(s)	Result
Front of EUT Close Facing Phantom	Flat (SAM)	6	0.043	1.600	1.557	1,3	Complied
Front of EUT Close Facing Phantom	Flat (SAM)	6	0.040	1.600	1.560	2,3	Complied
Rear of EUT Facing Phantom With Strap	Flat (SAM)	6	0.333	1.600	1.267	1,4	Complied
Rear of EUT Facing Phantom With Belt Clip	Flat (SAM)	6	0.813	1.600	0.787	1,3	Complied
Rear of EUT Facing Phantom With Belt Clip	Flat (SAM)	1	0.768	1.600	0.832	1,3	Complied
Rear of EUT Facing Phantom With Belt Clip	Flat (SAM)	11	0.826	1.600	0.774	1,3	Complied

Note(s):

1. *802.11b Main Antenna*
2. *802.11b Aux Antenna*
3. *SAR measurements were performed with the EUT at a separation distance of 0mm from the SAM phantom flat section.*
4. *SAR measurements were performed with the EUT at a separation distance of 15mm from the SAM phantom flat section.*

7.2.2. Specific Absorption Rate – WiFi 802.11g – Body Configuration

Test Summary:

Tissue Volume:	1g
Maximum Level (W/kg):	0.823

Environmental Conditions:

Temperature Variation in Lab (°C):	20 to 21
Temperature Variation in Liquid (°C):	20.0 to 20.8

Results:

EUT Position	Phantom Configuration	Channel Number	Level (W/kg)	Limit (W/kg)	Margin (W/kg)	Note(s)	Result
Front of EUT Close Facing Phantom	Flat (SAM)	6	0.043	1.600	1.558	1,3	Complied
Front of EUT Close Facing Phantom	Flat (SAM)	6	0.038	1.600	1.562	2,3	Complied
Rear of EUT Facing Phantom With Strap	Flat (SAM)	6	0.291	1.600	1.309	1,4	Complied
Rear of EUT Facing Phantom With Belt Clip	Flat (SAM)	6	0.801	1.600	0.799	1,3	Complied
Rear of EUT Facing Phantom With Belt Clip	Flat (SAM)	1	0.782	1.600	0.818	1,3	Complied
Rear of EUT Facing Phantom With Belt Clip	Flat (SAM)	11	0.823	1.600	0.777	1,3	Complied

Note(s):

1. *802.11g Main Antenna*
2. *802.11g Aux Antenna*
3. *SAR measurements were performed with the EUT at a separation distance of 0mm from the SAM phantom flat section.*
4. *SAR measurements were performed with the EUT at a separation distance of 15mm from the SAM phantom flat section.*

7.2.3. EIRP Measurement 802.11b (Aux Antenna)

Channel	Frequency (MHz)	TX Power before Test (dBm)
Low	2412	12.5
Middle	2437	13.5
High	2462	12.5

7.2.4. EIRP Measurement 802.11b (Main Antenna)

Channel	Frequency (MHz)	TX Power before Test (dBm)
Low	2412	11.7
Middle	2437	13.1
High	2462	8.4

7.2.5. EIRP Measurement 802.11g (Aux Antenna)

Channel	Frequency (MHz)	TX Power before Test (dBm)
Low	2412	11.0
Middle	2437	11.0
High	2462	11.1

7.2.6. EIRP Measurement 802.11g (Main Antenna)

Channel	Frequency (MHz)	TX Power before Test (dBm)
Low	2412	8.3
Middle	2437	6.4
High	2462	5.5

8. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Test Name	Confidence Level	Calculated Uncertainty
Specific Absorption Rate Uncertainty at 2450 MHz Body 1g, WiFi Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528	95%	±19.33%

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

Measurement Uncertainty (Continued)

8.1. WiFi – Body Configuration

Specific Absorption Rate Uncertainty at 2450 MHz Body 1g, WiFi Modulation Scheme calculated in accordance with IEC 62209-1 & IEEE 1528

Type	Source of uncertainty	+ Value	- Value	Probability Distribution	Divisor	$c_{i\ (1g)}$	Standard Uncertainty		υ_i or υ_{eff}
							+ u (%)	- u (%)	
B	Probe calibration	11.800	11.800	normal (k=2)	2.0000	1.0000	5.900	5.900	∞
B	Axial Isotropy	0.500	0.500	normal (k=2)	2.0000	1.0000	0.250	0.250	∞
B	Hemispherical Isotropy	2.600	2.600	normal (k=2)	2.0000	1.0000	1.300	1.300	∞
B	Spatial Resolution	0.500	0.500	Rectangular	1.7321	1.0000	0.289	0.289	∞
B	Boundary Effect	0.769	0.769	Rectangular	1.7321	1.0000	0.444	0.444	∞
B	Linearity	0.600	0.600	Rectangular	1.7321	1.0000	0.346	0.346	∞
B	Detection Limits	0.200	0.200	Rectangular	1.7321	1.0000	0.115	0.115	∞
B	Readout Electronics	0.560	0.560	normal (k=2)	2.0000	1.0000	0.280	0.280	∞
B	Response Time	0.000	0.000	Rectangular	1.7321	1.0000	0.000	0.000	∞
B	Integration Time	0.000	0.000	Rectangular	1.7321	1.0000	0.000	0.000	∞
B	RF Ambient conditions	3.000	3.000	Rectangular	1.7321	1.0000	1.732	1.732	∞
B	Probe Positioner Mechanical Restrictions	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Probe Positioning with regard to Phantom Shell	2.850	2.850	Rectangular	1.7321	1.0000	1.645	1.645	∞
B	Extrapolation and integration/ Maximum SAR evaluation	5.080	5.080	Rectangular	1.7321	1.0000	2.933	2.933	∞
A	Test Sample Positioning	2.920	2.920	normal (k=1)	1.0000	1.0000	2.920	2.920	10
A	Device Holder uncertainty	0.154	0.154	normal (k=1)	1.0000	1.0000	0.154	0.154	10
B	Phantom Uncertainty	4.000	4.000	Rectangular	1.7321	1.0000	2.309	2.309	∞
B	Drift of output power	5.000	5.000	Rectangular	1.7321	1.0000	2.887	2.887	∞
B	Liquid Conductivity (target value)	5.000	5.000	Rectangular	1.7321	0.6400	1.848	1.848	∞
A	Liquid Conductivity (measured value)	3.930	3.930	normal (k=1)	1.0000	0.6400	2.515	2.515	5
B	Liquid Permittivity (target value)	5.000	5.000	Rectangular	1.7321	0.6000	1.732	1.732	∞
A	Liquid Permittivity (measured value)	3.940	3.940	normal (k=1)	1.0000	0.6000	2.364	2.364	5
	Combined standard uncertainty			t-distribution			9.86	9.86	>400
	Expanded uncertainty			k = 1.96			19.33	19.33	>400

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval
A034	Narda 20W Termination	Narda	374BNM	8706	Calibrated as part of system	0 Months
A1094	Digital Camera	Sony	MVC - FD81	125805	None	0 Months
A1097	SMA Directional Coupler	MiDISCO	MDC6223-30	None	Calibrated as part of system	0 Months
A1137	3dB Attenuator	Narda	779	04690	Calibrated as part of system	0 Months
A1174	Dielectric Probe Kit	Agilent Technologies	85070C	Us99360072	Calibrate Before Use	0 Months
A1184	Data Acquisition Electronics	Schmid & Partner	DAE3	394	19 May 2006	12 Months
A1322	D2450V2	Schmid & Partner Engineering AG	D2450V2	725	17 Jan 2007	24 Months
A1378	EX3DV3	Schmid & Partner	EX3DV3	3508	16 Nov 2006	12 Months
A1410	DC-4.0GHz 3dB	Omni Spectra	FSC 16179	20510-3	Calibrated as part of system	0 Months
A1497	Amplifier	Mini-Circuits	zhl-42w (sma)	e020105	Calibrated as part of system	0 Months
A1531	Antenna	AARONIA AG	7025	02458	None	0 Months
A1566	SAM Phantom	SPEAG	002	002	Calibrate Before Use	0 Months
A215	20 dB Attenuator to 4GHz 20W	Narda	766-20	9402	Calibrated as part of system	0 Months
C1092	Cable	RS	293-334	1087200-33402	Internal Calibration	12 Months
C1144	155 mm UTIFLEX Cable	Rosenberger MICRO-COAX	FA147AF001503030	41842-1	Calibrated as part of system	0 Months
C1145	300 mm UTIFLEX Cable	Rosenberger MICRO-COAX	FA147AF003003030	41843-1	Calibrated as part of system	0 Months

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

Test Equipment Used (Continued)

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval
C1146	3 m UTIFLEX Cable	Rosenberger MICRO-COAX	FA147A F030003 030	41752-1	Calibrated as part of system	0 Months
G051	10 MHz to 20.1 GHz	Gigatronics	7100/.01 -20	749472	06 Nov 2006	12 Months
G0528	Robot Power Supply	Schmid & Partner	DASY	None	Calibrate Before Use	0 Months
G087	Dual 35V 10A	Thurlby Thandar	CPX200	100701	None	0 Months
M010	NRV Power Meter	Rohde & Schwarz	NRV	882 317/065	19 Jun 2006	12 Months
M1015	Network Analyser	Agilent Technologies	8753ES	US39172406	19 Sep 2006	12 Months
M1047	Robot Arm	Staubli	RX908 L	F00/SD89A1/A /01	Calibrate Before Use	0 Months
M1069	Power Head	Rohde & Schwarz	NRV-Z2	838824/010	05 Apr 2006	12 Months
M1129	URY-Z2	Rohde & Schwarz	URY-Z2	890242/16	Calibrated as part of system	0 Months
M1140	Radio Communications Analyser	Anritsu	MT8820 A	6K0000647	None	0 Months
M136	4 Display Digital Version	RS Components	None	None	Internal Calibration	12 Months
M509	High Accuracy Digital Thermometer	Testo	110	40378800433	20 Mar 2006	12 Months
S256	SAR Laboratory	RFI	Site56	N/A	Calibrate Before Use	0 Months

NB In accordance with UKAS requirements, all the measurement equipment is on a calibration schedule.

A.1.1. Calibration Certificates

This section contains the calibration certificates and data for the Probe(s) and Dipole(s) used, which are not included in the total number of pages for this report.

Appendix 2. Measurement Methods

A.2.1. Evaluation Procedure

The Specific Absorption Rate (SAR) evaluation was performed in the following manner:

a) (i) The evaluation was performed in an applicable area of the phantom depending on the type of device being tested. For devices worn about the ear during normal operation, both the left and right ear positions were evaluated at the centre frequency of the band at maximum power. The side, which produced the greatest SAR, determined which side of the phantom would be used for the entire evaluation. The positioning of the head worn device relative to the phantom was dictated by the test specification identified in section 3.1 of this report.

   (ii) For body worn devices or devices which can be operated within 20 cm of the body, the flat section of the phantom was used. The type of device being evaluated dictated the distance of the EUT to the outer surface of the phantom flat section.

b) The SAR was determined by a pre-defined procedure within the DASY4 software. The exposed region of the phantom was scanned near the inner surface with a grid spacing of 20mm x 20mm or appropriate resolution.

c) A 7x7x7 matrix was performed around the greatest spatial SAR distribution found during the area scan of the applicable exposed region. SAR values were then calculated using a 3-D spline interpolation algorithm and averaged over spatial volumes of 1 and 10 grams.

d) If the EUT had any appreciable drift over the course of the evaluation, then the EUT was re-evaluated. Any unusual anomalies over the course of the test also warranted a re-evaluation.

A.2.2. Specific Absorption Rate (SAR) Measurements to OET Bulletin 65 Supplement C: (2001-01)

Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields

SAR measurements were performed in accordance with Appendix D of the standard FCC OET Bulletin 65 Supplement C: 2001, against appropriate limits for each measurement position in accordance with the standard.

The test was performed in a shielded enclosure with the temperature controlled to remain between +18.0ºC and +25.0ºC. The tissue equivalent material fluid temperature was controlled to give a maximum variation of ± 2.0ºC

Prior to any SAR measurements on the EUT, system validation and material dielectric property measurements were conducted. In the absence of a detailed procedure within the specification, system validation and material dielectric property measurements were performed in accordance with Appendix C and Appendix D of FCC OET Bulletin 65 Supplement C: 2001.

Following the successful system validation and material dielectric property measurements, a SAR versus time sweep shall be performed within 10 mm of the phantom inner surface. If the EUT power output is stable after three minutes then the measurement probe will perform a coarse surface level scan at each test position in order to ascertain the location of the maximum local SAR level. Once this area had been established, a 7x7x7 cube of 343 points (5 mm spacing in each axis ≈ 27g) will be centred at the area of concern. Extrapolation and interpolation will then be carried out on the 27g of tissue and the highest averaged SAR over a 10g cube determined.

Once the maximum interpolated SAR measurement is complete; the coarse scan is visually assessed to check for secondary peaks within 50% of the maximum SAR level. If there are any further SAR measurements required, extra 7x7x7 cubes shall be centred on each of these extra local SAR maxima.

At the end of each position test case a second time sweep shall be performed to check whether the EUT has remained stable throughout the test.

Appendix 3. SAR Distribution Scans

This appendix contains SAR distribution scans which are not included in the total number of pages for this report.

Scan Reference Number	Title
SCN/48886JD01A/001	Front Of EUT Facing Phantom WiFi 802_11b Main Antenna CH6
SCN/48886JD01A/002	Front Of EUT Facing Phantom WiFi 802_11b Aux Antenna CH6
SCN/48886JD01A/004	Rear Of EUT Facing Phantom WiFi 802_11b Main Antenna 15mm Separation CH6
SCN/48886JD01A/005	Rear Of EUT Facing Phantom WiFi 802_11b Main Antenna with Belt Clip CH6
SCN/48886JD01A/006	Rear Of EUT Facing Phantom WiFi 802_11b Main Antenna with Belt Clip CH1
SCN/48886JD01A/007	Rear Of EUT Facing Phantom WiFi 802_11b Main Antenna with Belt Clip CH11
SCN/48886JD01A/008	Front Of EUT Facing Phantom WiFi 802_11g Main Antenna CH6
SCN/48886JD01A/009	Front Of EUT Facing Phantom WiFi 802_11g Aux Antenna CH6
SCN/48886JD01A/011	Rear Of EUT Facing Phantom WiFi 802_11g Main Antenna 15mm Separation CH6
SCN/48886JD01A/012	Rear Of EUT Facing Phantom WiFi 802_11g Main Antenna with Belt Clip CH6
SCN/48886JD01A/013	Rear Of EUT Facing Phantom WiFi 802_11g Main Antenna with Belt Clip CH1
SCN/48886JD01A/014	Rear Of EUT Facing Phantom WiFi 802_11g Main Antenna with Belt Clip CH11
SCN/48886JD01A/015	System Performance Check_2450MHz Body 19_03_07

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

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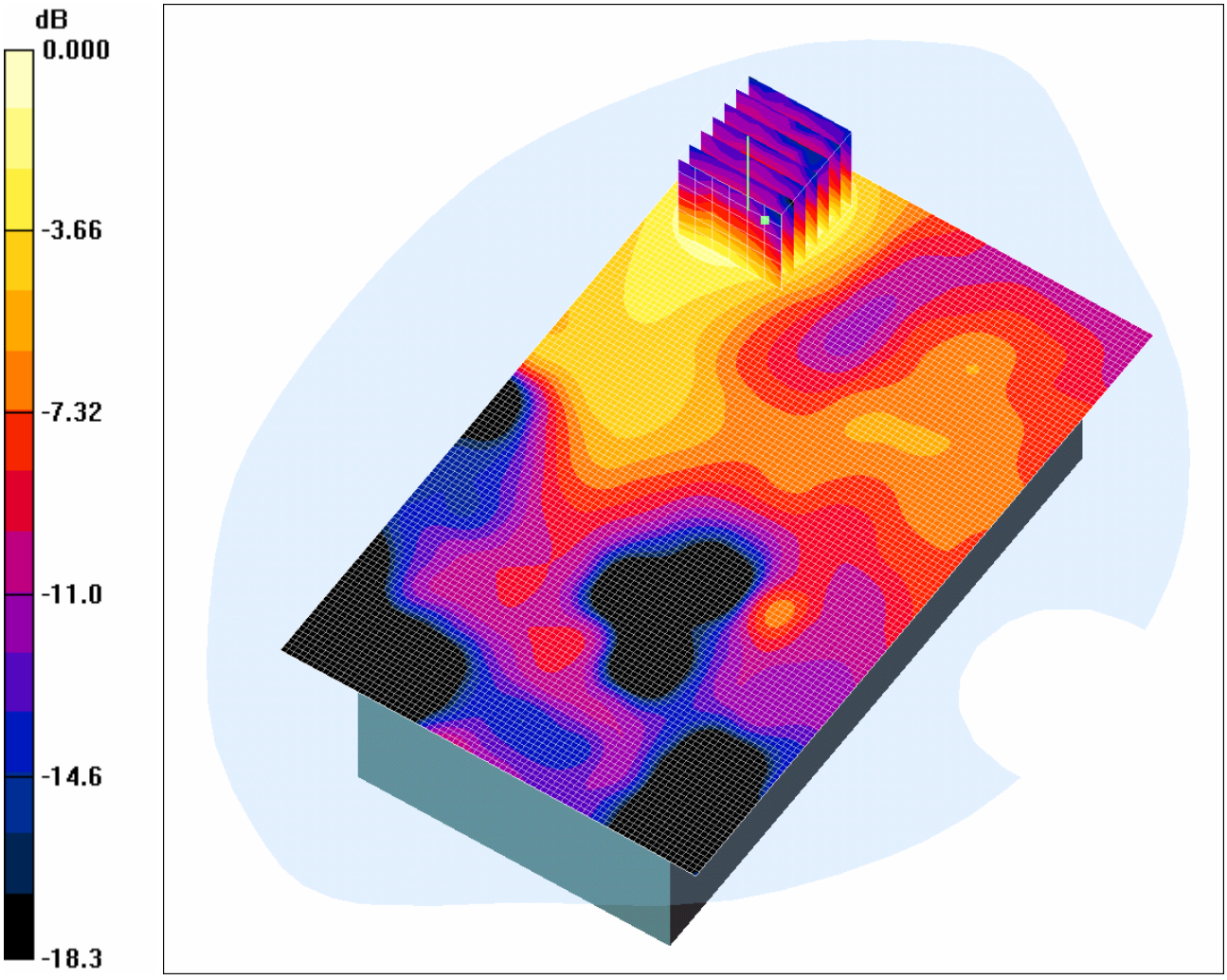
001 Front Of EUT Facing Phantom WiFi 802.11b Main Antenna CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.048mW/g

Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Front Of EUT Facing Phantom WiFi 802.11b Main ANT- Middle/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.044 mW/g
Front Of EUT Facing Phantom WiFi 802.11b Main ANT- Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.55 V/m; Power Drift = 0.265 dB
Peak SAR (extrapolated) = 0.077 W/kg
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.025 mW/g Maximum value of SAR (measured) = 0.048 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

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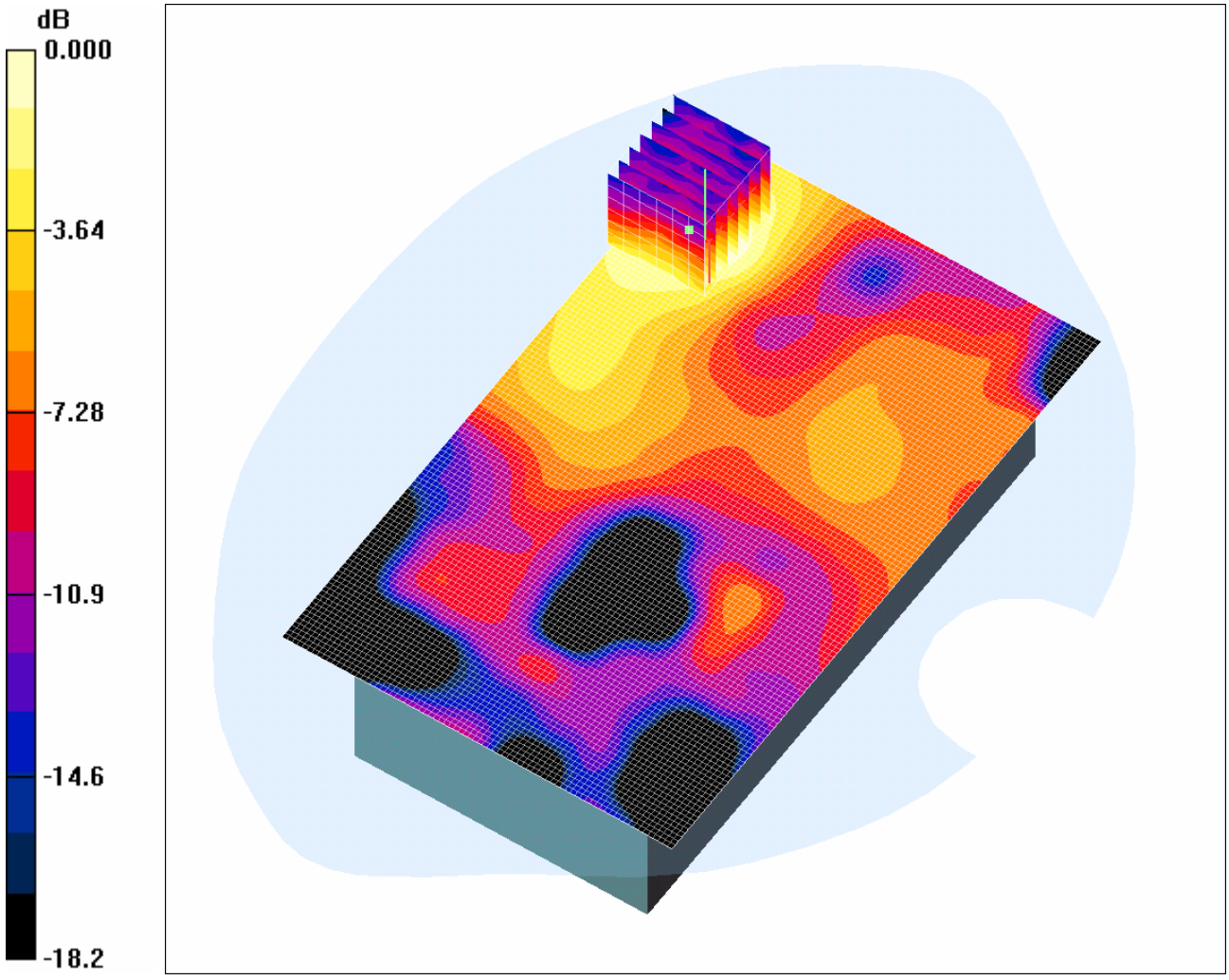
002 Front Of EUT Facing Phantom WiFi 802.11b Aux Antenna CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.044mW/g

Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Front Of EUT Facing Phantom 802.11b Aux ANT- Middle/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.051 mW/g
Front Of EUT Facing Phantom 802.11b Aux ANT- Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.60 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.073 W/kg
SAR(1 g) = 0.040 mW/g; SAR(10 g) = 0.023 mW/g Maximum value of SAR (measured) = 0.044 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

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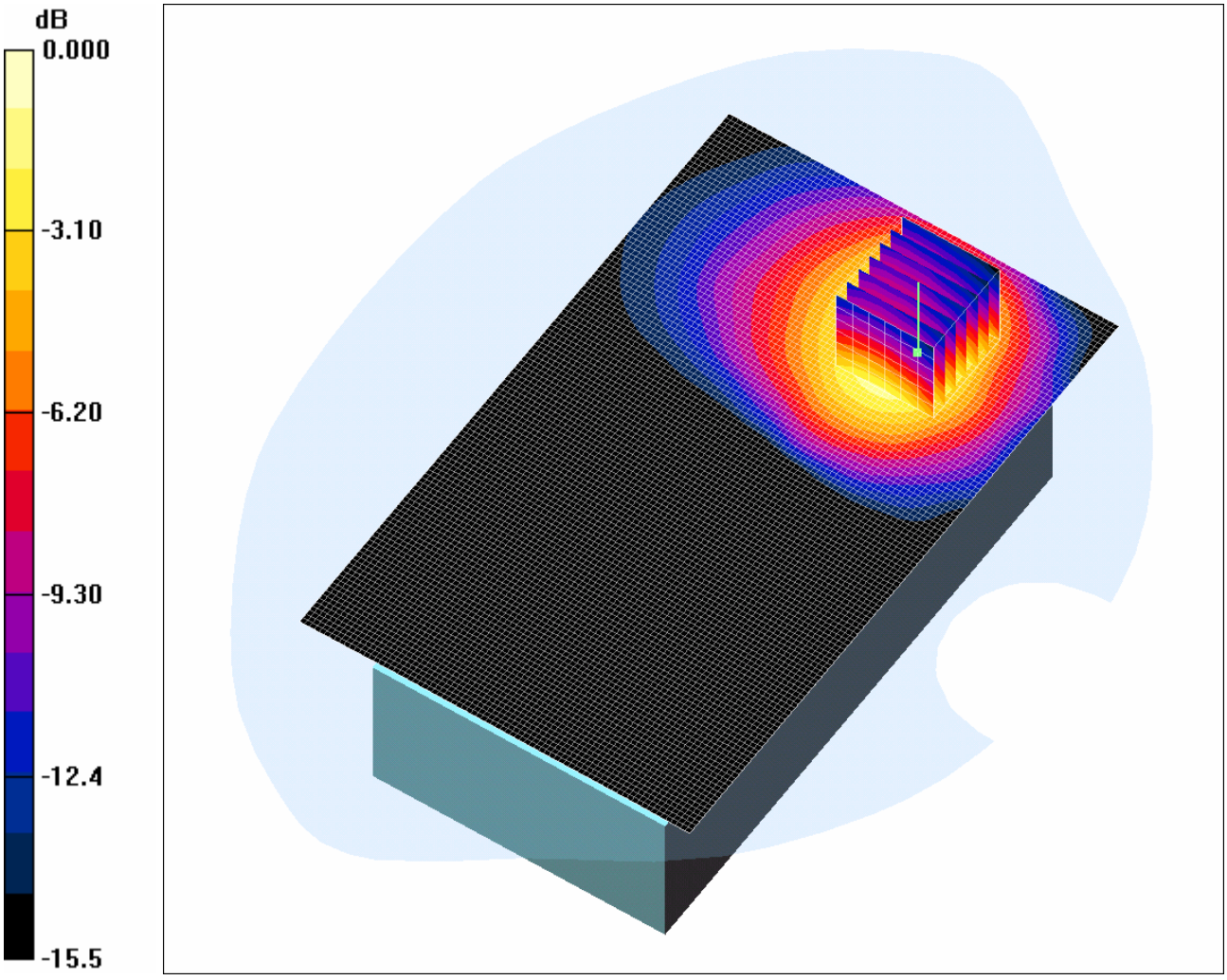
004 Rear Of EUT Facing Phantom WiFi 802.11b Main Antenna 15mm Separation CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.376mW/g

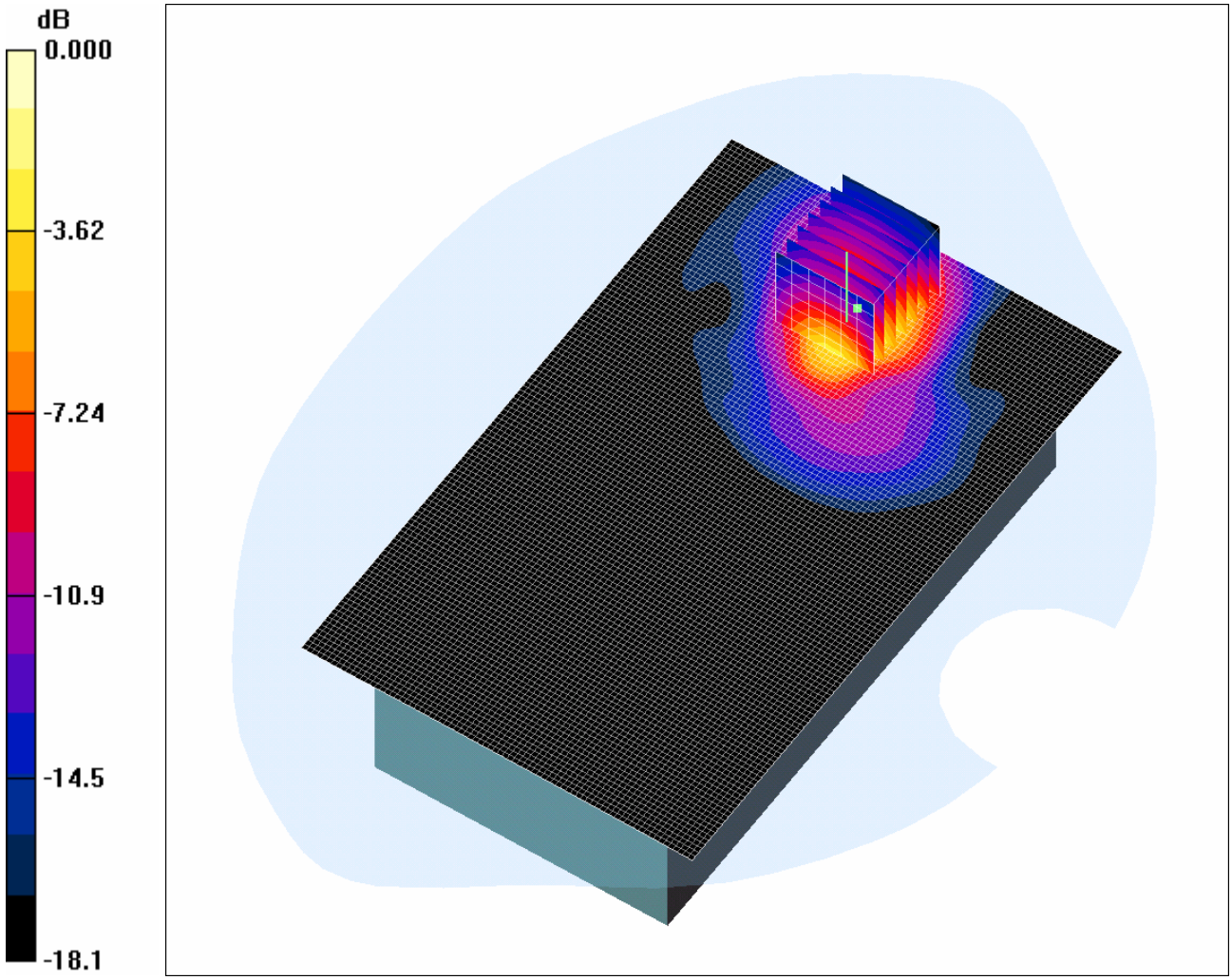
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11b Main ANT 15mm Separation - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.357 mW/g
Rear Of EUT Facing Phantom WiFi 802.11b Main ANT 15mm Separation - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.27 V/m; Power Drift = -0.225 dB
Peak SAR (extrapolated) = 0.514 W/kg
SAR(1 g) = 0.333 mW/g; SAR(10 g) = 0.204 mW/g Maximum value of SAR (measured) = 0.376 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

005 Rear Of EUT Facing Phantom WiFi 802.11b Main Antenna with Belt Clip CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.909mW/g

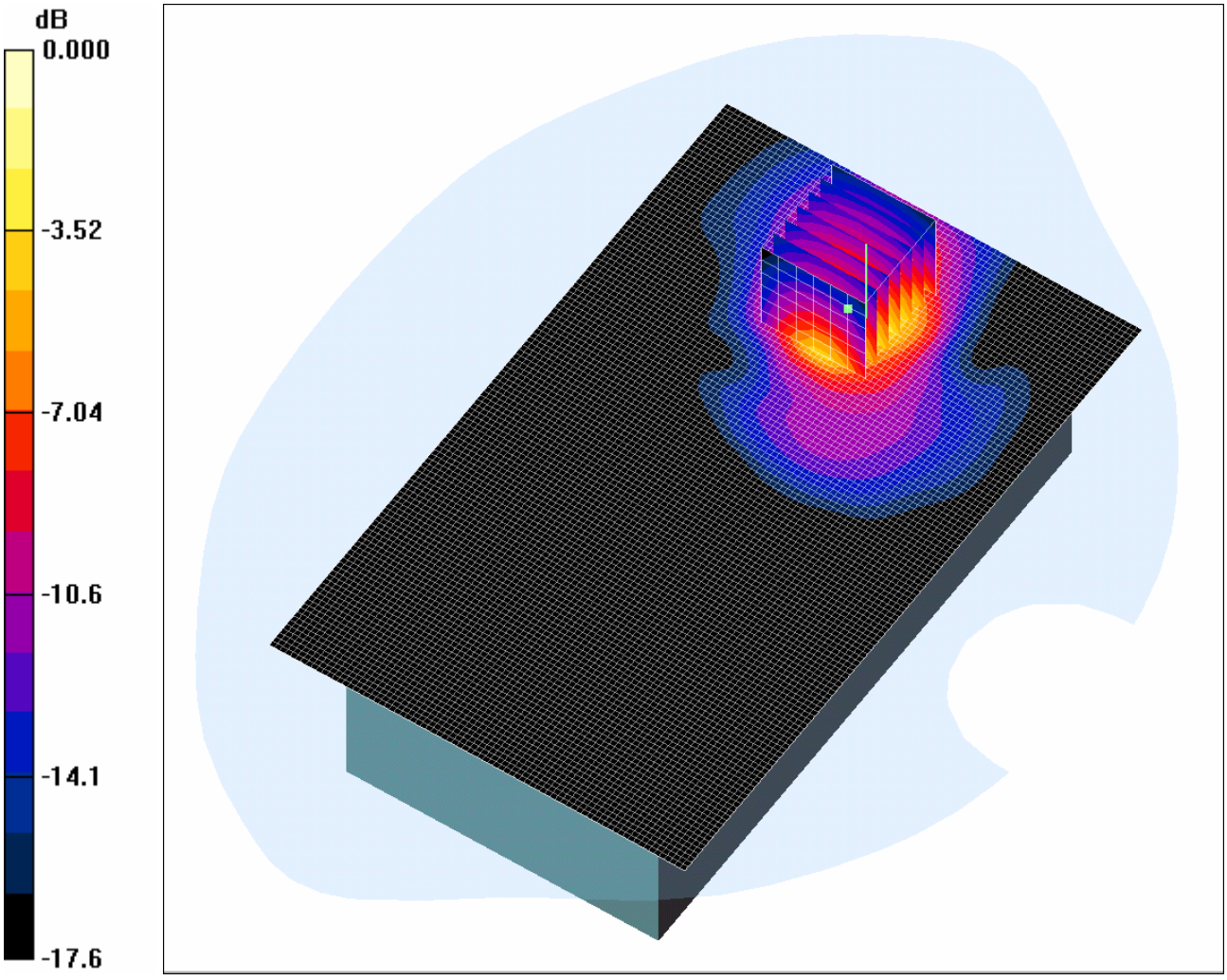
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11b Main ANT with Belt Clip - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.964 mW/g
Rear Of EUT Facing Phantom WiFi 802.11b Main ANT with Belt Clip - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.09 V/m; Power Drift = -0.219 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.813 mW/g; SAR(10 g) = 0.425 mW/g Maximum value of SAR (measured) = 0.909 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

006 Rear Of EUT Facing Phantom WiFi 802.11b Main Antenna with Belt Clip CH1
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.852mW/g

Communication System: WLAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2412 MHz; σ = 2.21 mho/m; ε_r = 49.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11b Main ANT with Belt Clip - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.879 mW/g
Rear Of EUT Facing Phantom WiFi 802.11b Main ANT with Belt Clip - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.36 V/m; Power Drift = -0.294 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.405 mW/g Maximum value of SAR (measured) = 0.852 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

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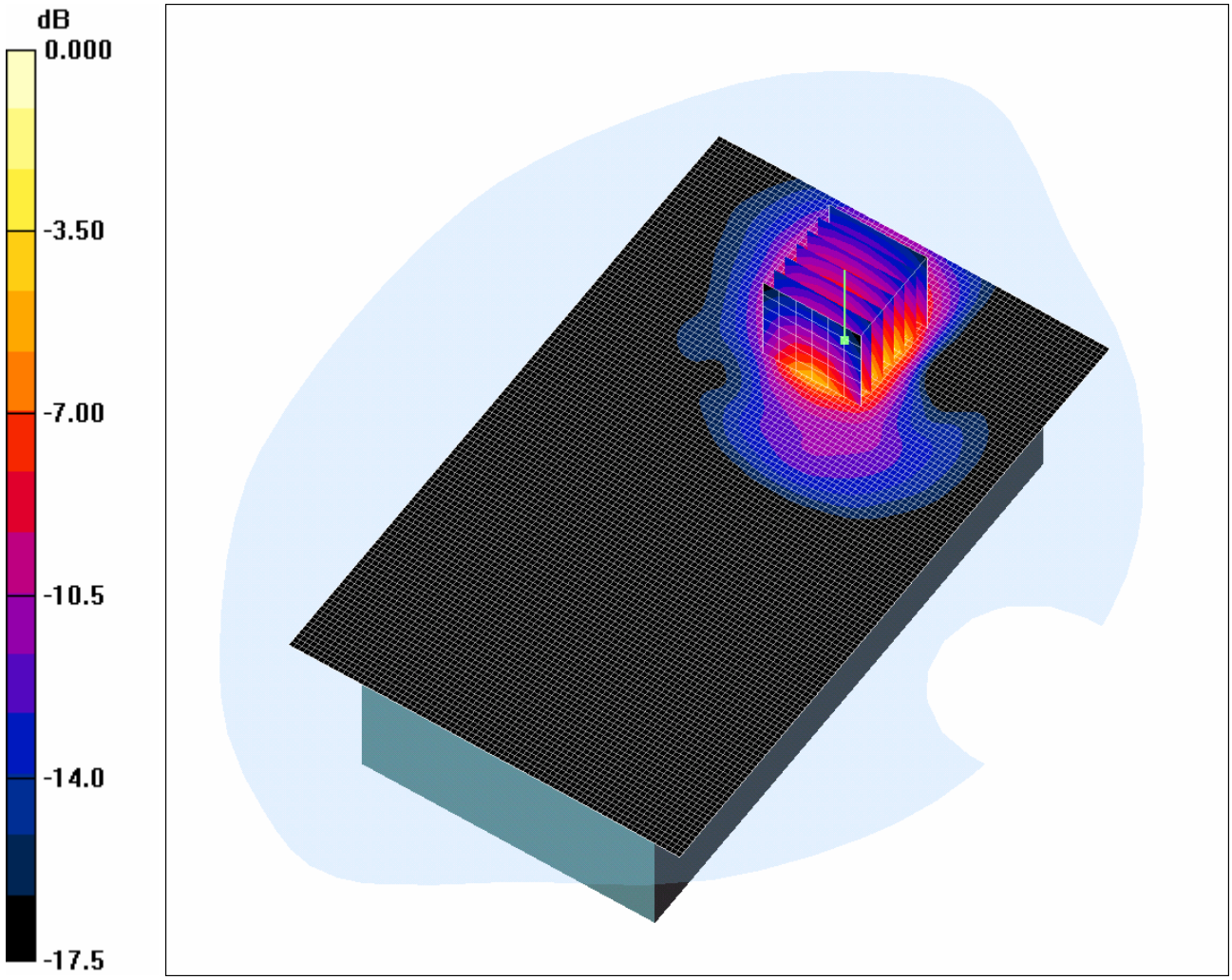
007 Rear Of EUT Facing Phantom WiFi 802.11b Main Antenna with Belt Clip CH11
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.950mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 2.29 mho/m; ε_r = 49.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11b Main ANT with Belt Clip - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.938 mW/g

Rear Of EUT Facing Phantom WiFi 802.11b Main ANT with Belt Clip - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.959 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.826 mW/g; SAR(10 g) = 0.438 mW/g Maximum value of SAR (measured) = 0.950 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

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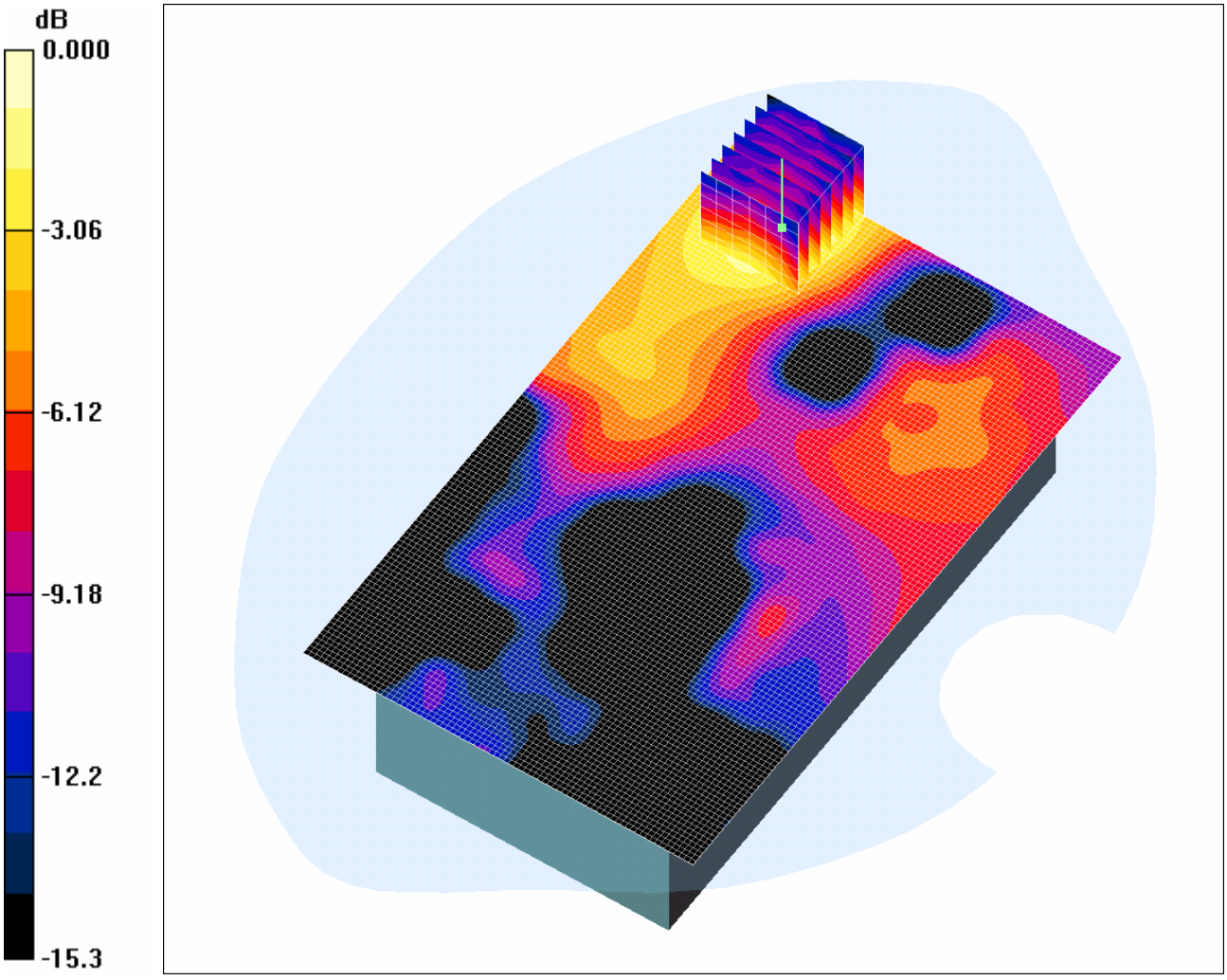
008 Front Of EUT Facing Phantom WiFi 802.11g Main Antenna CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.047mW/g

Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Front Of EUT Facing Phantom WiFi 802.11g Main ANT- Middle/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.045 mW/g
Front Of EUT Facing Phantom WiFi 802.11g Main ANT- Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.01 V/m; Power Drift = 0.572 dB
Peak SAR (extrapolated) = 0.066 W/kg
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.026 mW/g Maximum value of SAR (measured) = 0.047 mW/g

Test of: **Datalogic S.p.A**
DLBJET

To: **OET Bulletin 65 Supplement C: 2001-01**

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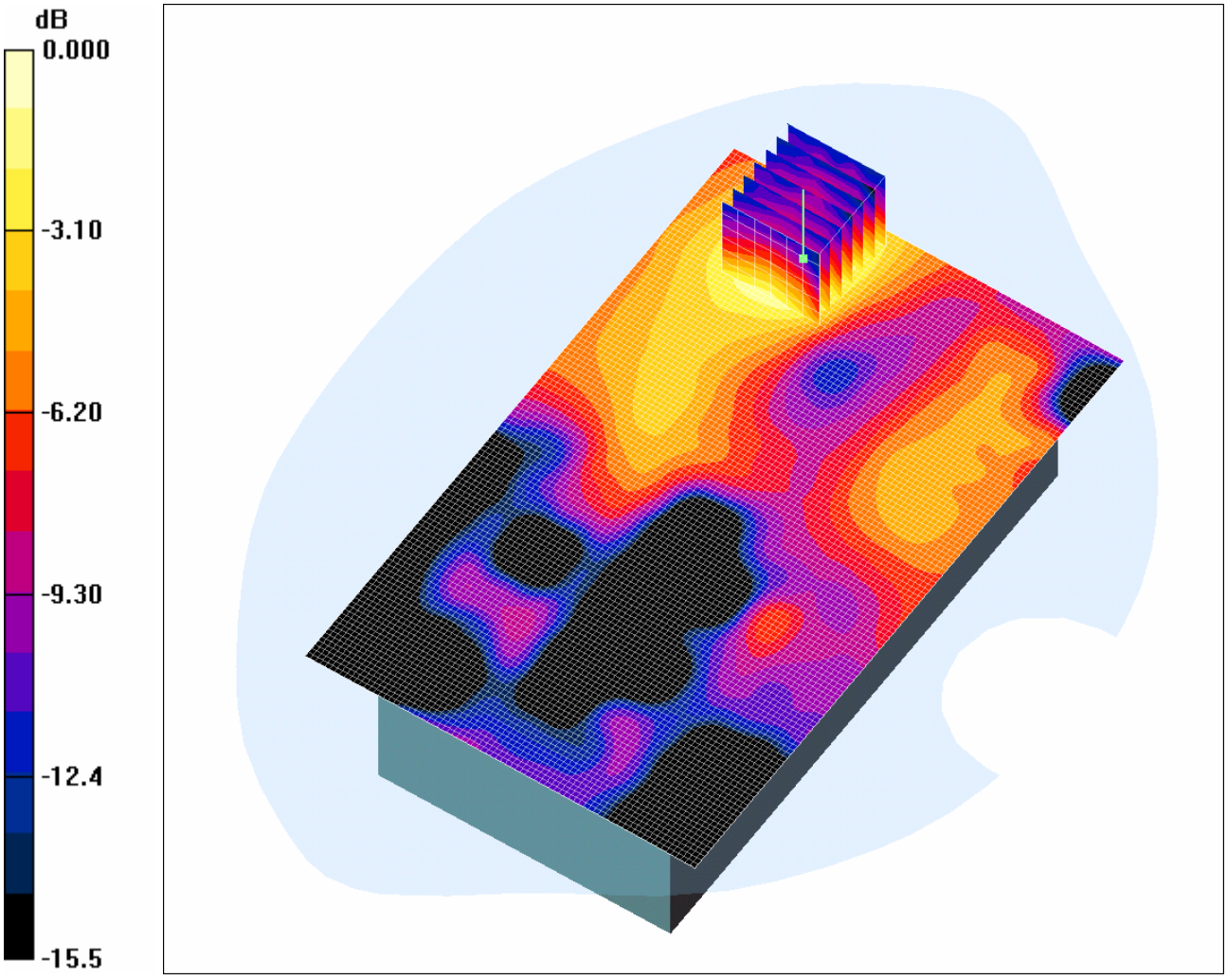
009 Front Of EUT Facing Phantom WiFi 802.11g Aux Antenna CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.041mW/g

Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Front Of EUT Facing Phantom 802.11g Aux ANT- Middle/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.040 mW/g
Front Of EUT Facing Phantom 802.11g Aux ANT- Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.51 V/m; Power Drift = -0.176 dB
Peak SAR (extrapolated) = 0.059 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.023 mW/g Maximum value of SAR (measured) = 0.041 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

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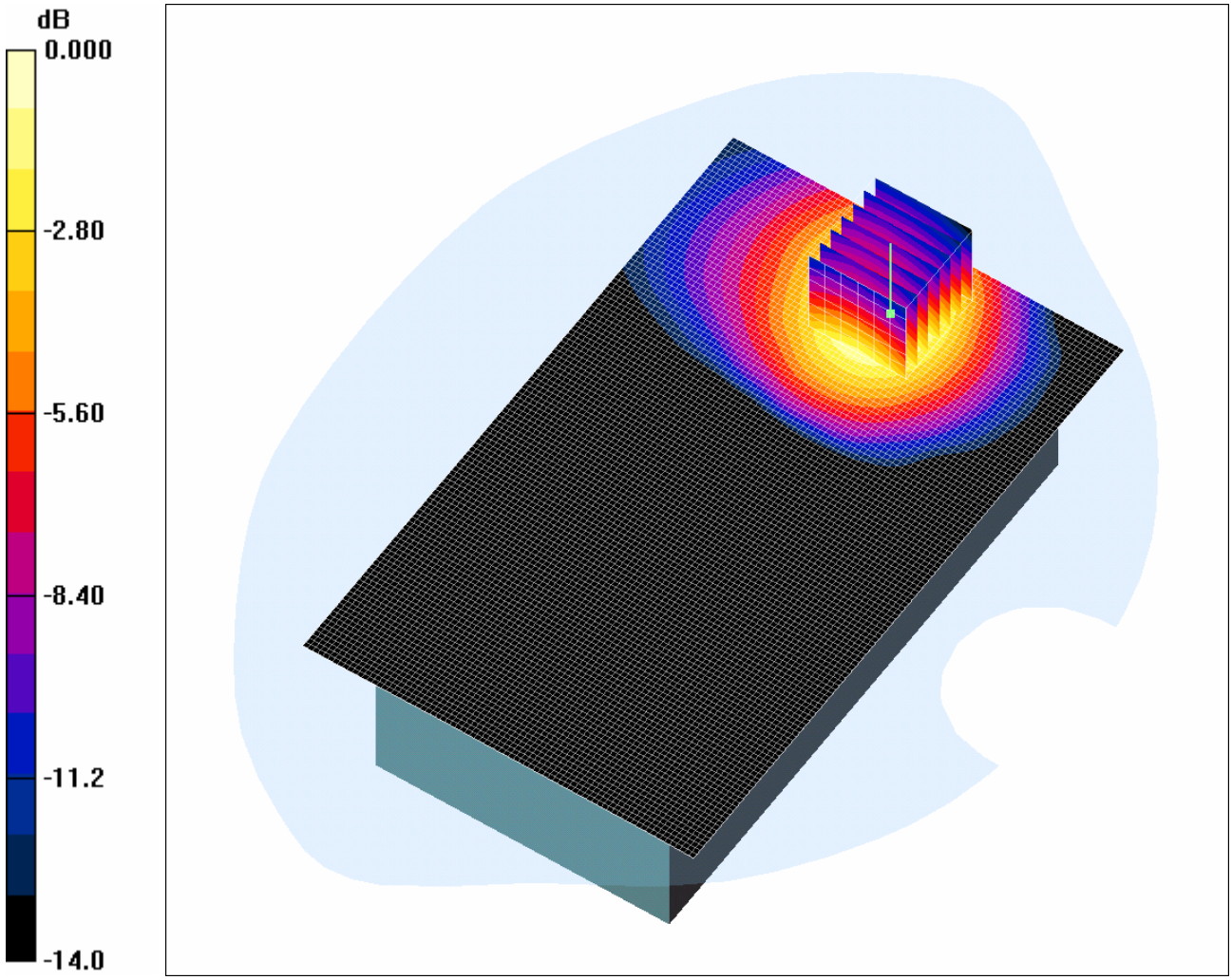
011 Rear Of EUT Facing Phantom WiFi 802.11g Main Antenna 15mm Separation CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.317mW/g

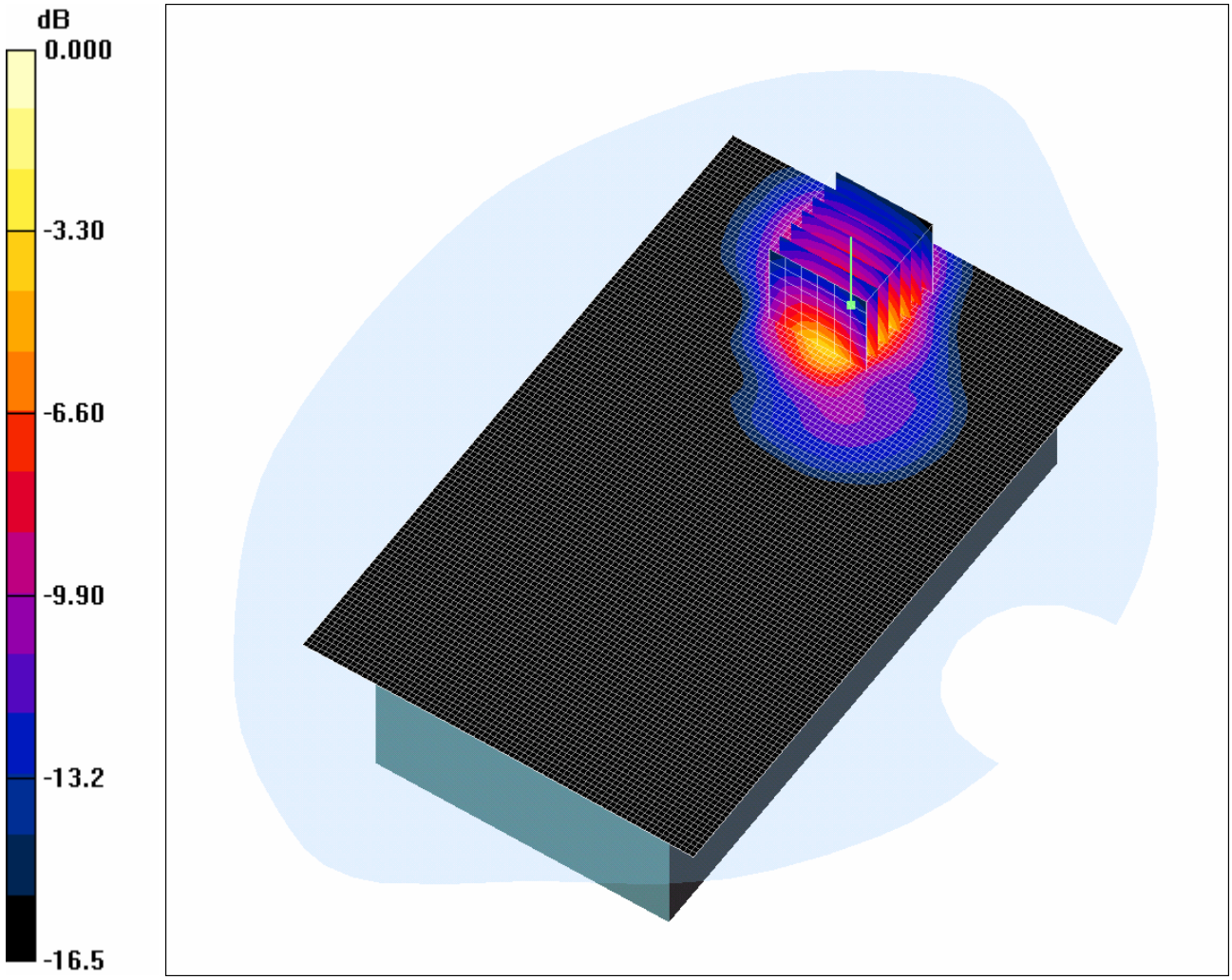
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11g Main ANT15mm Separation - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.316 mW/g
Rear Of EUT Facing Phantom WiFi 802.11g Main ANT15mm Separation - Middle/Zoom Scan (7x7x7)
(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.87 V/m; Power Drift = 0.306 dB
Peak SAR (extrapolated) = 0.432 W/kg
SAR(1 g) = 0.291 mW/g; SAR(10 g) = 0.185 mW/g Maximum value of SAR (measured) = 0.317 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

012 Rear Of EUT Facing Phantom WiFi 802.11g Main Antenna with Belt Clip CH6
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.918mW/g

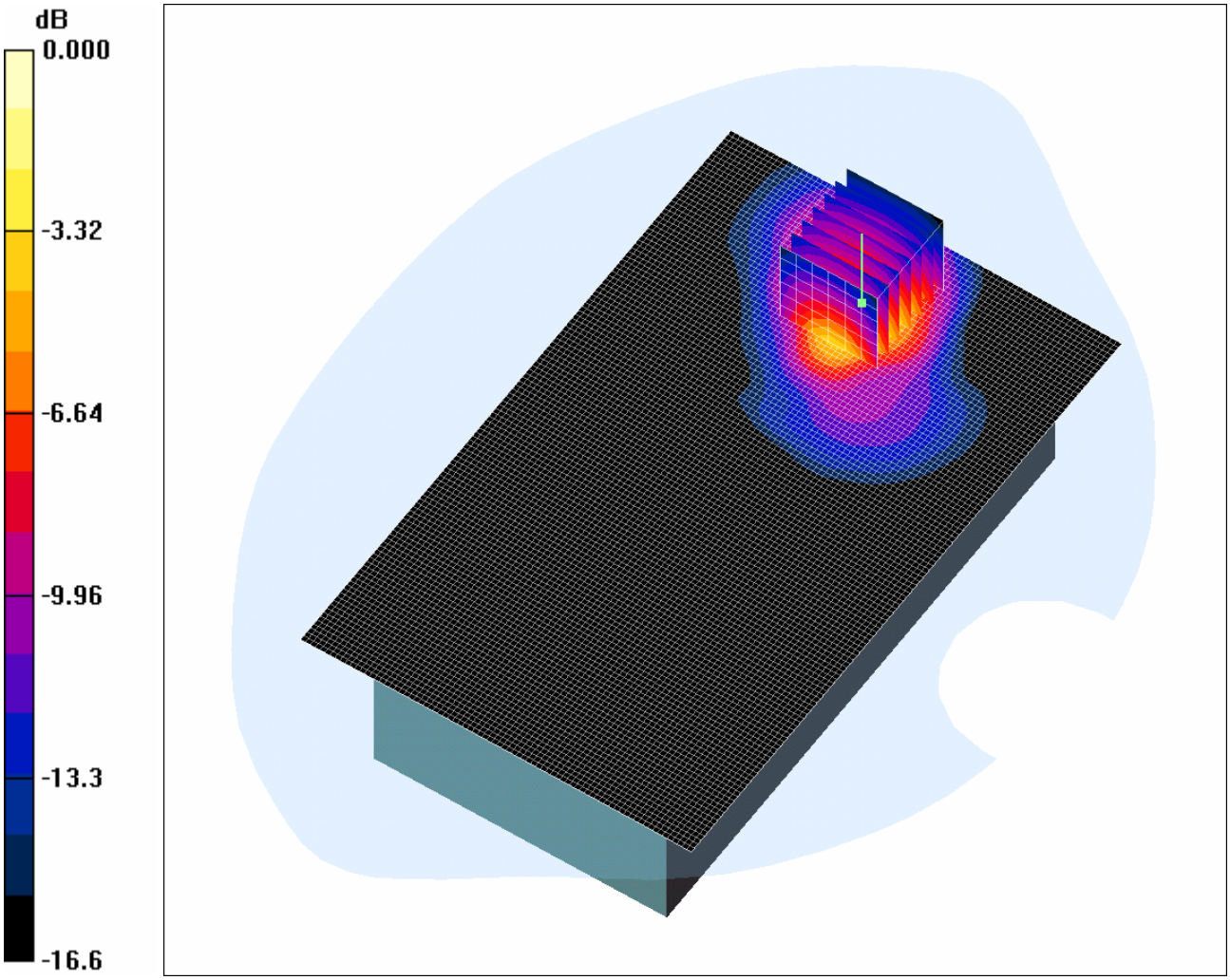
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2437 MHz; σ = 2.25 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11g Main ANT - Middle/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.965 mW/g
Rear Of EUT Facing Phantom WiFi 802.11g Main ANT - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.671 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.801 mW/g; SAR(10 g) = 0.431 mW/g Maximum value of SAR (measured) = 0.918 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

013 Rear Of EUT Facing Phantom WiFi 802.11g Main Antenna with Belt Clip CH1
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.894mW/g

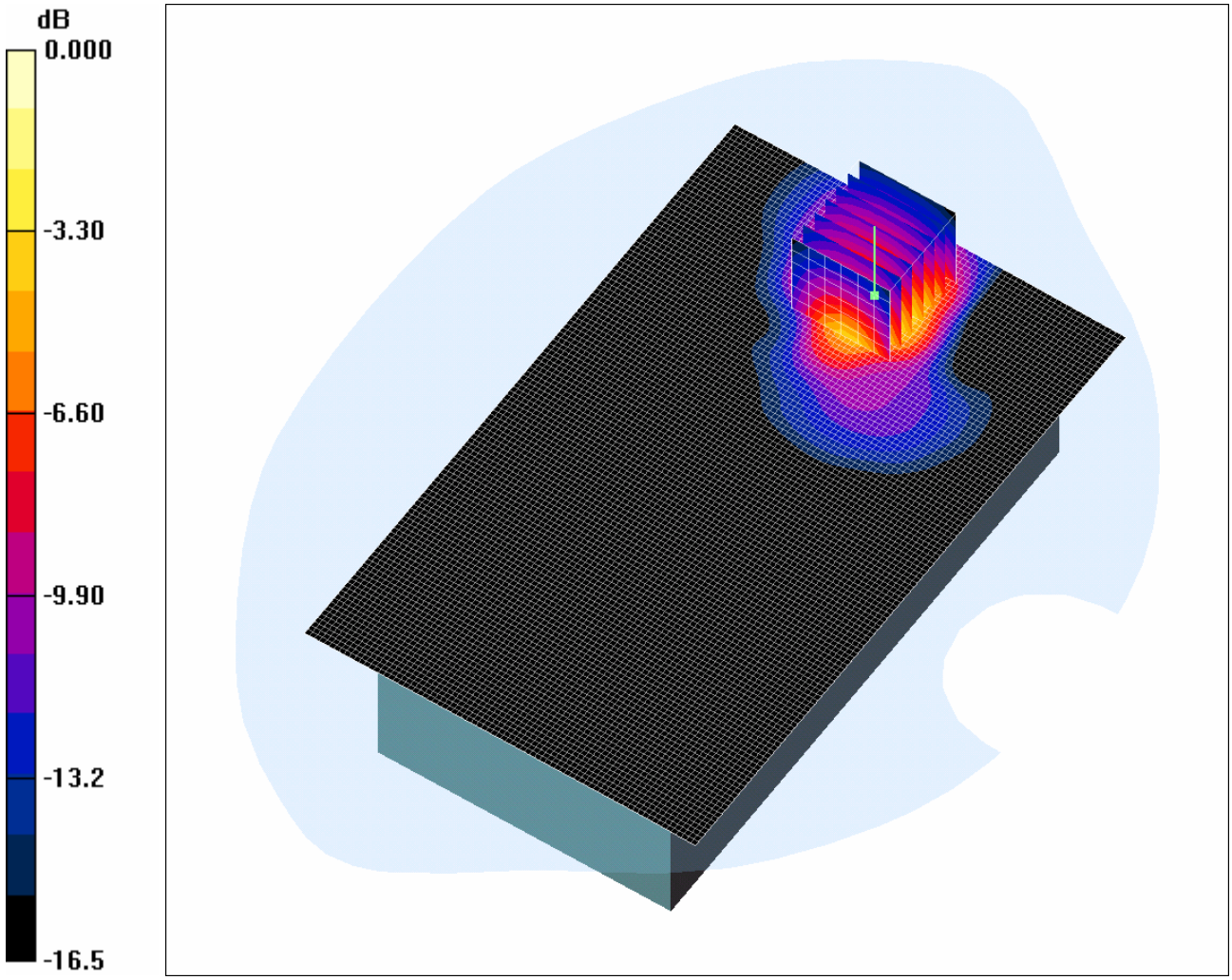
Communication System: WLAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2412 MHz; σ = 2.21 mho/m; ε_r = 49.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11g Main ANT With Belt Clip - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.961 mW/g
Rear Of EUT Facing Phantom WiFi 802.11g Main ANT With Belt Clip - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.375 V/m; Power Drift = 0.286 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.782 mW/g; SAR(10 g) = 0.421 mW/g Maximum value of SAR (measured) = 0.894 mW/g

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

014 Rear Of EUT Facing Phantom WiFi 802.11g Main Antenna with Belt Clip CH11
DUT: DATALOGIC; Type: DLBJET Module; IMEI: 352021008334450



0 dB = 0.933mW/g

Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used (interpolated): f = 2462 MHz; σ = 2.29 mho/m; ε_r = 49.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Rear Of EUT Facing Phantom WiFi 802.11g Main ANT With Belt Clip - Middle/Area Scan (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.02 mW/g
Rear Of EUT Facing Phantom WiFi 802.11g Main ANT With Belt Clip - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.366 V/m; Power Drift = 3.80 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.823 mW/g; SAR(10 g) = 0.444 mW/g Maximum value of SAR (measured) = 0.933 mW/g

Test of: **Datalogic S.p.A**
DLBJET

To: **OET Bulletin 65 Supplement C: 2001-01**

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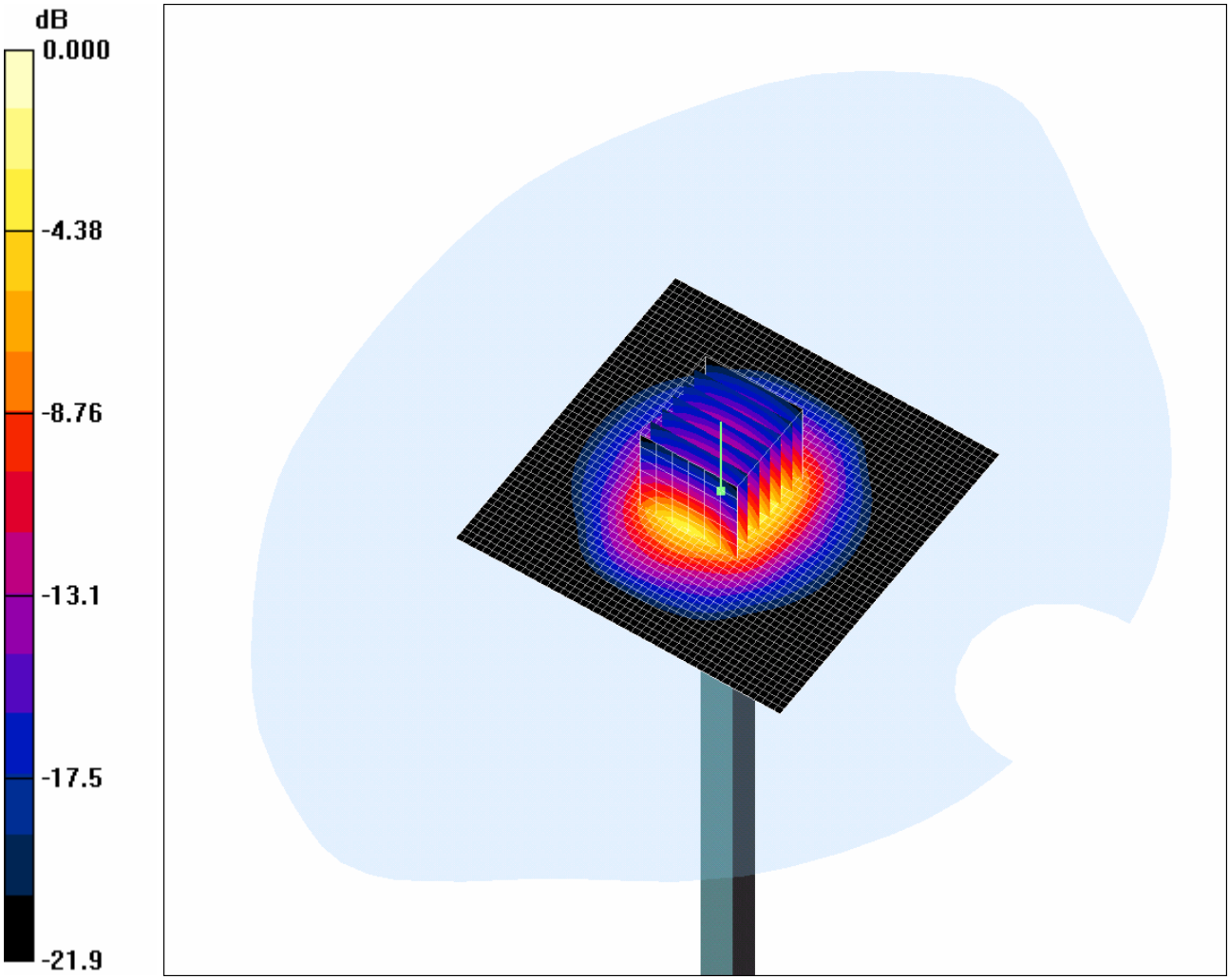
015 System Performance Check_19_03_07
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:725



0 dB = 15.8mW/g

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: 2450 MHz MSL Medium parameters used: f = 2450 MHz; σ = 2.27 mho/m; ε_r = 49.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508add; ConvF(7.89, 7.89, 7.89); Calibrated: 16/11/2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/05/2006
- Phantom: SAM 12a; Type: SAM 4.0; Serial: TP:1193
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 22.1 mW/g
d=10mm, Pin=250mW/Zoom Scan 7x7x7 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.8 V/m; Power Drift = -0.302 dB
Peak SAR (extrapolated) = 28.8 W/kg
SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.34 mW/g Maximum value of SAR (measured) = 15.8 mW/g

Appendix 4. Photographs

This appendix contains the following photographs:

Photo Reference Number	Title
PHT/48886JD01A/001	Test configuration for the measurement of Specific Absorption Rate (SAR)
PHT/48886JD01A/002	Front Of EUT Facing Phantom At 0mm Separation
PHT/48886JD01A/003	Rear Of EUT Facing Phantom With Strap At 0mm Separation
PHT/48886JD01A/004	Rear of EUT Facing Phantom With Strap At 15mm Separation
PHT/48886JD01A/005	Rear of EUT Facing Phantom With Belt Clip At 0mm Separation
PHT/48886JD01A/006	Front View Of EUT
PHT/48886JD01A/007	Rear View Of EUT
PHT/48886JD01A/008	Internal View Of EUT
PHT/48886JD01A/009	Battery View
PHT/48886JD01A/010	Belt Clip View
PHT/48886JD01A/011	Adjustable Strap View
PHT/48886JD01A/012	1900 MHz Fluid View

Test of: Datalogic S.p.A
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To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/001: SAR Configuration

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/002: Front Of EUT Facing Phantom At 0mm Separation

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/003: Rear Of EUT Facing Phantom With Strap At 0mm Separation

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/004: Rear of EUT Facing Phantom With Strap At 15mm Separation

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/005: Rear of EUT Facing Phantom With Belt Clip At 0mm Separation

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/006: Front View Of EUT

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/007: Rear View Of EUT

Test of: **Datalogic S.p.A**
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To: **OET Bulletin 65 Supplement C: 2001-01**

PHT/48886JD01A/008: Internal View Of EUT

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/009: Battery View

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/010: Belt Clip View

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/011: Adjustable Strap View

Test of: Datalogic S.p.A
DLBJET

To: OET Bulletin 65 Supplement C: 2001-01

PHT/48886JD01A/012: 1900 MHz Fluid View

Appendix 5. Validation of System

Prior to the assessment, the system was verified in the flat region of the phantom.
A 2450 MHz dipole was used. A forward power of 250 mW was applied to the dipole and the system was verified to a tolerance of ±5% for the 2450 MHz dipole. The applicable verification (normalised to 1 Watt).

Date: 19 March 2007

Validation Dipole and Serial Number: D2450V2 - 725

Simulant	Frequency (MHz)	Room Temperature (ºC)	Liquid Temperature (ºC)	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	2450	20 to 21	20 to 20.8	ε_r	52.70	51.66	-1.98	±5
				σ	1.95	1.94	-0.70	±5
				1g SAR	53.30	55.20	3.56	±5

Appendix 6. Simulated Tissues

The body mixture consists of water and glycol. Visual inspection is made to ensure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the tissue.

Ingredient	Frequency
	2450 MHz Body
De-Ionised Water	68.64
Diglycol Butyl Ether (DGBE)	31.37

Appendix 7. DASY4 System Details

A.7.1. DASY4 SAR Measurement System

RFI Global Services Ltd, SAR measurement facility utilises the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 system is comprised of the robot controller, computer, near-field probe, probe alignment sensor, and the SAM phantom containing brain or muscle equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller; teach pendant (Joystick), and remote control. This is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. The data acquisition electronics (DAE) performs signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection etc. The DAE is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card. The DAE3 utilises a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching mulitplexer, a fast 16-bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

A.7.2. DASY4 SAR System Specifications

Robot System

Positioner:	Stäubli Unimation Corp. Robot Model: RX90L
Repeatability:	0.025 mm
No. of Axis:	6
Serial Number:	F00/SD89A1/A/01
Reach:	1185 mm
Payload:	3.5 kg
Control Unit:	CS7
Programming Language:	V+

Data Acquisition Electronic (DAE) System

DAE3	SN: 394

Cell Controller

PC:	Dell Precision 340
Operating System:	Windows 2000
Data Card:	DASY4 Measurement Server
Serial Number:	1080

Data Converter

Features:	Signal Amplifier, multiplexer, A/D converted and control logic.
Software:	DASY4 Software
Connecting Lines:	Optical downlink for data and status info. Optical uplink for commands and clock.

PC Interface Card

Function:	24 bit (64 MHz) DSP for real time processing Link to DAE3 16 nit A/D converter for surface detection system serial link to robot direct emergency stop output for robot.

DASY4 SAR System Specifications (Continued)

E-Field Probe

Model:	EX3DV3
Serial No:	3508
Construction:	Triangular core fibre optic detection system
Frequency:	10 MHz to > 6 GHz
Linearity:	±0.2 dB (30 MHz to 6 GHz)
Probe Length (mm):	330
Probe Diameter (mm):	12
Tip Length (mm):	20
Tip Diameter (mm):	2.5
Sensor X Offset (mm):	1
Sensor Y Offset (mm):	1
Sensor Z Offset (mm):	1

Phantom

Phantom:	SAM Phantom
Shell Material:	Fibreglass
Thickness:	2.0 ±0.1 mm

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