TEST REPORT

TEST REPORT
FROM
RFI GLOBAL SERVICES LTD

Test of: WiMAX USB Modem GWU-200

To: OET Bulletin 65 Supplement C: (2001-01)

Test Report Serial No:
RFI/SAR/RP79027JD01A V3.0

Version 3.0 supersedes all previous versions

This Test Report Is Issued Under The Authority Of Chris Guy, Head of Global Approvals:	
Checked By: Richeleiu Quoi	 (APPROVED SIGNATORY)
Issue Date:	**28 September 2011**
Test Dates:	**10 November 2010 to 19 January 2011**

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1. Customer Information

Company Name:	Airspan Networks (Israel) Ltd
Address:	Unitronics Building Harava St. Airport City 70100

2. Equipment Under Test (EUT)

2.1. Identification of Equipment Under Test (EUT)

Description:	Mobile WiMAX USB Modem
Brand Name:	IGI Mobile
Model Name or Number:	Wimaxion (GWU-200)
Serial Number:	C00E30
IMEI Number:	Not Applicable
Hardware Version Number:	None Stated
Software Version Number:	None Stated
Hardware Revision of GSM Module:	Not Applicable
Software Revision of GSM Module:	Not Applicable
FCC ID Number:	PIDGWU-200
Country of Manufacture:	Korea
Date of Receipt:	10 November 2010

2.2. Description of EUT

The Equipment Under Test is a WiMAX USB Dongle Modem operating at 3700 MHz Band with maximum Downlink to Uplink ratio scaled to 29:18 for 5 MHz and 10 MHz channels. The device support QPSK and 16-QAM modulation only and operates using the 5MHz and 10MHz channel bandwidths.

2.3. Modifications Incorporated in the EUT

There were no modifications incorporated in the EUT during the test.

2.4. Accessories

The following accessories were supplied with the EUT during testing:

Description:	USB Cable
Brand Name:	None Stated on cable
Model Name or Number:	None Stated on cable
Serial Number:	Not Applicable
Cable Length and Type:	~132.5mm USB Cable
Country of Manufacture:	None Sated
Connected to Port	USB Port on Laptop to USB Connection on Dongle

2.5. Support Equipment

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

Description:	Laptop PC with Vertical and Horizontal USB port
Brand Name:	Dell
Model Name or Number:	Latitude D620
Serial Number:	None Stated
Cable Length and Type:	Not Applicable
Connected to Port:	Standard USB Port

2.6. Additional Information Related to Testing

Equipment Category	WiMAX 3700		
Type of Unit	Portable Transceiver		
Intended Operating Environment:	Within WiMAX 3700 MHz coverage		
Transmitter Maximum Output Power Characteristics:	WiMAX (5MHz Bandwidth)		Rated Power 19.0 dBm
	WiMAX (10 MHz Bandwidth)		Rated Power 23.0 dBm
Transmitter Frequency Range:	WiMAX (5MHz Bandwidth)		(3652 to 3697) MHz
	WiMAX (10 MHz Bandwidth)		(3655 to 3695) MHz
Transmitter Frequency Allocation of EUT When Under Test:	**Bandwidth (MHz)**	**Channel Description**	**Frequency (MHz)**
	5	Low	3652.5
	5	Middle	3675.0
	5	High	3697.5
	10	Low	3655.0
	10	Middle	3675.0
	10	High	3695.0
Modulation(s):	0 Hz		
Modulation Scheme (Crest Factor):	5MHz Bandwidth: 1/(18/48) 10MHz Bandwidth: 1/(15/48)		
Antenna Type:	Internal Unknown		
Antenna Length:	Unknown		
Number of Antenna Positions:	1 Fixed		
Power Supply Requirement:	3.5V to 5V USB Port Supply		
Battery Type(s):	Not Applicable		

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:

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.

KDB 447498 D01 Mobile Portable RF Exposure v04

KDB 447498 D02 SAR Procedures for Dongle Xmtr v02

KDB 615223 D01 802.16e WiMax SAR Measurement Guidance v01

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

SAR test was performed as per FCC KDB procedures 447498 D01 and D02, 615223 and FCC April 2010 TCB workshop procedures for guidance and October 2010 presentation 'RF Exposure Procedures Update' for WiMAX devices.

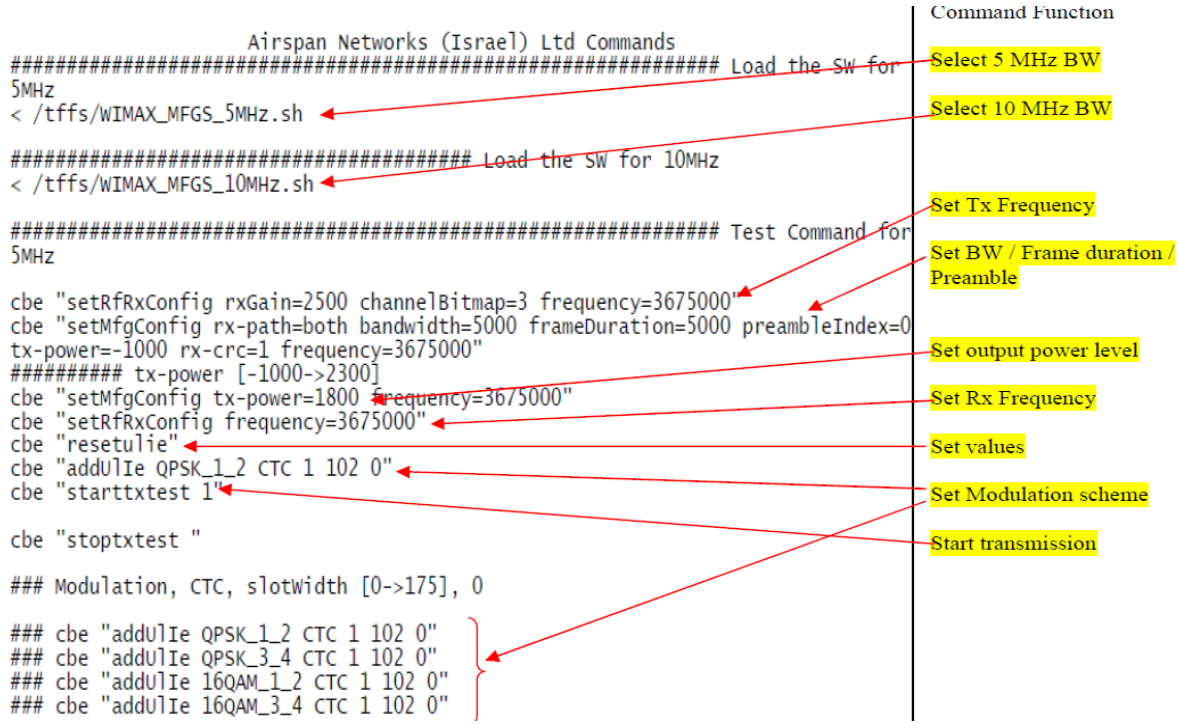
Prior to testing the device test approach was discussed with the FCC under the following tracking number: 602952.

5. Operation and Configuration of the EUT during Testing

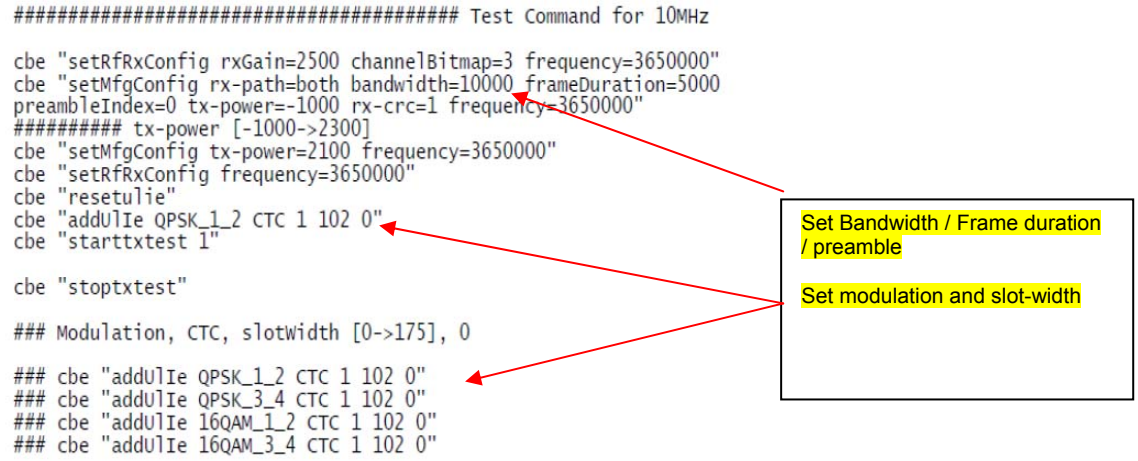
5.1. Operating Modes

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

- WiMAX allocated test mode at QPSK on both the 5 MHz and 10 MHz channel bandwidth, using a test mode provided by the device chip manufacturer to allow a transmission at up to 18 dBm on the uplink channel.
- With 5 MHz tested with 18 traffic and control channels inactive. And 10 MHz tested with 15 traffic and control channels active.
- The test mode software uses a setting 102 which uses 17 sub-channels for the 5 MHz channel bandwidth and the band width is set using a figure of 5000 for 5 MHz bandwidth. See below:



- The test mode software uses a setting 102 which uses 17 sub-channels for the 10 MHz channel bandwidth and the band width is set using a figure of 10000 for 10 MHz bandwidth. As the software setting only uses half the sub-channels the measured SAR value for the 10 MHz bandwidth is multiple by 2 to correct the sub-channel to 35.



5.2. Configuration and Peripherals

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

- Powered via a USB port.
- EUT was tested in the body-worn position with all 5 edges facing the SAR phantom at a separation distance of 5mm. The following configuration were used:
    1) Horizontal-up (See Appendix 4; photo PHT/79027JD01/002)
    2) Horizontal-down (See Appendix 4; photo PHT/79027JD01/002)
    3) Vertical-front (See Appendix 4; photo PHT/79027JD01/002)
    4) Vertical-back (See Appendix 4; photo PHT/79027JD01/002)

(A)	(B)	(C)	(D)
Horizontal-Up	Horizontal-Down	Vertical-Front	Vertical-Back

Note: These are USB connector orientations on laptop computers; USB dongles have the reverse configuration for plugging into the corresponding laptop computers.

USB Connector Orientations Implemented on Laptop Computers

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 EUT 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 EUT and its antenna.

h) The EUT was transmitting at full power throughout the duration of the test powered by a USB port.

6. Summary of Test Results

Test Name	Specification Reference	Result
Specific Absorption Rate-WiMAX 3700 5MHz BW/QPSK Body Configuration 1g	OET Bulletin 65 Supplement C: (2001-01)	Complied
Specific Absorption Rate-WiMAX 3700 5MHz BW/16-QAM Body Configuration 1g	OET Bulletin 65 Supplement C: (2001-01)	Complied
Specific Absorption Rate-WiMAX 3700 10MHz BW/QPSK Body Configuration 1g	OET Bulletin 65 Supplement C: (2001-01)	Complied
Specific Absorption Rate-WiMAX 3700 10MHz BW/16-QAM Body Configuration 1g	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, Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire, RG23 8BG United Kingdom

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. Downlink (DL): Uplink (UL) Ratio SAR Scaling

The information provided by the customer for the approved equipment fillings states the following:

1) The control channel for PUSC zone may occupy up to 5 slots of which a slot is equivalent to a sub-channel with 3 symbol duration.
2) There are 35 slots in the 10 MHz channel configuration which corresponds to DL:UL of 29:18 and 17 slots in the 5 MHz channel configuration which corresponds to DL:UL of 29:18. As 5 slot are used for the control channel the control symbol maximum power are as follows:
    a. 10 MHz channel: traffic symbol maximum power * 5/35 = 251 mW *5/35 = 36 mW
    b. 5 MHz channel: traffic symbol maximum power * 5/17 = 141 mW *5/17 = 41 mW
3) The control symbol used for the test are active, therefore the "*cf*" factor used are:
    a. 10 MHz channel: *cf* = 1/(15/48)
    b. 5 MHz channel: *cf* = 1/(15/48)
4) The 10 MHz test mode used only 17 slots therefore the measured values for 10 MHz power and SAR level need to be multiplied by a factor of 2 for the equivalent value of 35 slots settings.

7.2.1. Scaling Factor QPSK

Tx Power (mW)	High	Middle	Low	Max Rated (tuned) Power mW
5 MHz	74	85	93	141
10 MHz	66	78	85	251
Note: Conducted Average Power Measurements				

5 MHz Bandwidth Scale Factor: 29:18 with 18 symbols in UL consisting of 15 traffic symbol and 3 control symbols

High Ch: [(141*5/17)*3 + (141*15)] / (74*15) = 2.017

Middle Ch: [(141*5/17)*3 + (141*15)] / (85*15) = 1.756

Low Ch: [(141*5/17)*3 + (141*15)] / (93*15) = 1.605

10 MHz Bandwidth Scale Factor: 29:18 with 18 symbols in UL consisting of 15 traffic symbol and 3 control symbols

High Ch: [(251*5/35)*3 + (251*15)] / (66*15) = 3.894

Middle Ch: [(251*5/35)*3 + (251*15)] / (78*15) = 3.295

Low Ch: [(251*5/35)*3 + (251*15)] / (85*15) = 3.023

7.2.2. Scaling Factor 16-QAM

Tx Power (mW)	High	Middle	Low	Max Rated (tuned) Power mW
5 MHz	74	85	89	141
10 MHz	71	59	71	251
Note: Conducted Average Power Measurements				

5 MHz Bandwidth Scale Factor: 29:18 with 18 symbols in UL consisting of 15 traffic symbol and 3 control symbols

High Ch: [(141*5/17)*3 + (141*15)] / (74*15) = 2.017

Middle Ch: [(141*5/17)*3 + (141*15)] / (85*15) = 1.756

Low Ch: [(141*5/17)*3 + (141*15)] / (89*15) = 1.677

10 MHz Bandwidth Scale Factor: 29:18 with 18 symbols in UL consisting of 15 traffic symbol and 3 control symbols

High Ch: [(251*5/35)*3 + (251*15)] / (71*15) = 3.619

Middle Ch: [(251*5/35)*3 + (251*15)] / (59*15) = 4.356

Low Ch: [(251*5/35)*3 + (251*15)] / (71*15) = 3.619

7.2.3. PAR Measurement QPSK

Tx Power (mW)	High	Middle	Low	Max
5 MHz	8.08	8.00	8.25	8.25
10 MHz	9.25	9.53	9.40	9.53

7.2.4. PAR Measurement 16-QAM

Tx Power (mW)	High	Middle	Low	Max
5 MHz	8.40	8.40	8.40	8.40
10 MHz	9.18	9.22	9.60	9.60

7.3. Test Results

7.3.1. Specific Absorption Rate - WiMAX 3700 / 5 MHz Bandwidth QPSK Body Configuration 1g
Test Summary:

Tissue Volume:	1g
Maximum Scaled Level (W/kg):	0.766

Environmental Conditions:

Temperature Variation in Lab (°C):	23.0 to 23.0
Temperature Variation in Liquid (°C):	22.8 to 22.8

Results:

EUT Position	Phantom Config.	Ch.	Scale Factor	Measured SAR (W/kg)	Scaled SAR (W/kg)	Limit (W/Kg)	Margin (W/kg)	Result
Horizontal-Up	Flat (SAM)	Middle	1.756	0.292	0.513	1.600	1.087	Complied
Horizontal-Down	Flat (SAM)	Middle	1.756	0.318	0.558	1.600	1.042	Complied
Vertical-Front	Flat (SAM)	Middle	1.756	0.206	0.362	1.600	1.238	Complied
Vertical-Back	Flat (SAM)	Middle	1.756	0.134	0.235	1.600	1.365	Complied
Top or Tip	Flat (SAM)	Middle	1.756	0.191	0.335	1.600	1.265	Complied
Horizontal-Down	Flat (SAM)	Low	1.605	0.333	0.534	1.600	1.066	Complied
Horizontal-Down	Flat (SAM)	High	2.017	0.380	0.766	1.600	0.834	Complied

Note(s):

1. SAR measurements were performed with the EUT at a separation distance of 5mm from the 'SAM' phantom flat section.
2. SAR scaled to a DL:UL symbol of 29:18

7.3.2. Specific Absorption Rate - WiMAX 3700 5 MHz Bandwidth 16-QAM Body Configuration 1g
Test Summary:

Tissue Volume:	1g
Maximum Scaled Level (W/kg):	0.738
Environmental Conditions:	
Temperature Variation in Lab (°C):	23.0 to 23.0
Temperature Variation in Liquid (°C):	22.8 to 22.8

Results:

EUT Position	Phantom Config.	Ch.	Scale Factor	Measured SAR (W/kg)	Scaled SAR (W/kg)	Limit (W/Kg)	Margin (W/kg)	Result
Horizontal-Up	Flat (SAM)	Middle	1.756	0.290	0.509	1.600	1.091	Complied
Horizontal-Down	Flat (SAM)	Middle	1.756	0.305	0.536	1.600	1.064	Complied
Vertical-Front	Flat (SAM)	Middle	1.756	0.224	0.393	1.600	1.207	Complied
Vertical-Back	Flat (SAM)	Middle	1.756	0.114	0.200	1.600	1.400	Complied
Top or Tip	Flat (SAM)	Middle	1.756	0.201	0.353	1.600	1.247	Complied
Horizontal-Down	Flat (SAM)	Low	1.677	0.322	0.540	1.600	1.060	Complied
Horizontal-Down	Flat (SAM)	High	2.017	0.366	0.738	1.600	0.862	Complied

Note(s):

1. SAR measurements were performed with the EUT at a separation distance of 5mm from the 'SAM' phantom flat section.
2. SAR scaled to a DL:UL symbol of 29:18

7.3.3. Specific Absorption Rate - WiMAX 3700 10 MHz Bandwidth QPSK Body Configuration 1g
Test Summary:

Tissue Volume:	1g
Maximum Scaled Level (W/kg):	1.160
Environmental Conditions:	
Temperature Variation in Lab (°C):	23.0 to 23.0
Temperature Variation in Liquid (°C):	22.8 to 22.8

Results:

EUT Position	Phantom Config.	Ch.	Scale Factor	Measured SAR * 2 for 35 slot (W/kg)	Scaled SAR (W/kg)	Limit (W/Kg)	Margin (W/kg)	Result
Horizontal-Up	Flat (SAM)	Middle	3.295	0.232	0.764	1.600	0.836	Complied
Horizontal-Down	Flat (SAM)	Middle	3.295	0.248	0.817	1.600	0.783	Complied
Vertical-Front	Flat (SAM)	Middle	3.295	0.140	0.461	1.600	1.139	Complied
Vertical-Back	Flat (SAM)	Middle	3.295	0.094	0.310	1.600	1.290	Complied
Top or Tip	Flat (SAM)	Middle	3.295	0.148	0.488	1.600	1.112	Complied
Horizontal-Down	Flat (SAM)	Low	3.023	0.27	0.816	1.600	0.784	Complied
Horizontal-Down	Flat (SAM)	High	3.894	0.298	1.160	1.600	0.440	Complied

Note(s):

1. SAR measurements were performed with the EUT at a separation distance of 5mm from the 'SAM' phantom flat section.
2. SAR scaled to a DL:UL symbol of 29:18

7.3.4. Specific Absorption Rate - WiMAX 3700 10MHz Bandwidth 16-QAM Body Configuration 1g
Test Summary:

Tissue Volume:	1g
Maximum Scaled Level (W/kg):	1.446

Environmental Conditions:

Temperature Variation in Lab (°C):	23.0 to 23.0
Temperature Variation in Liquid (°C):	22.8 to 22.8

Results:

EUT Position	Phantom Config.	Ch.	Scale Factor	Measured SAR * 2 for 35 slot (W/kg)	Scaled SAR (W/kg)	Limit (W/Kg)	Margin (W/kg)	Result
Horizontal-Up	Flat (SAM)	Middle	4.356	0.286	1.246	1.600	0.354	Complied
Horizontal-Down	Flat (SAM)	Middle	4.356	0.332	1.446	1.600	0.154	Complied
Vertical-Front	Flat (SAM)	Middle	4.356	0.164	0.714	1.600	0.886	Complied
Vertical-Back	Flat (SAM)	Middle	4.356	0.154	0.671	1.600	0.929	Complied
Top or Tip	Flat (SAM)	Middle	4.356	0.132	0.575	1.600	1.025	Complied
Horizontal-Down	Flat (SAM)	Low	3.619	0.340	1.231	1.600	0.369	Complied
Horizontal-Down	Flat (SAM)	High	3.619	0.346	1.252	1.600	0.348	Complied

Note(s):

1. SAR measurements were performed with the EUT at a separation distance of 5mm from the 'SAM' phantom flat section.
2. SAR scaled to a DL:UL symbol of 29:18

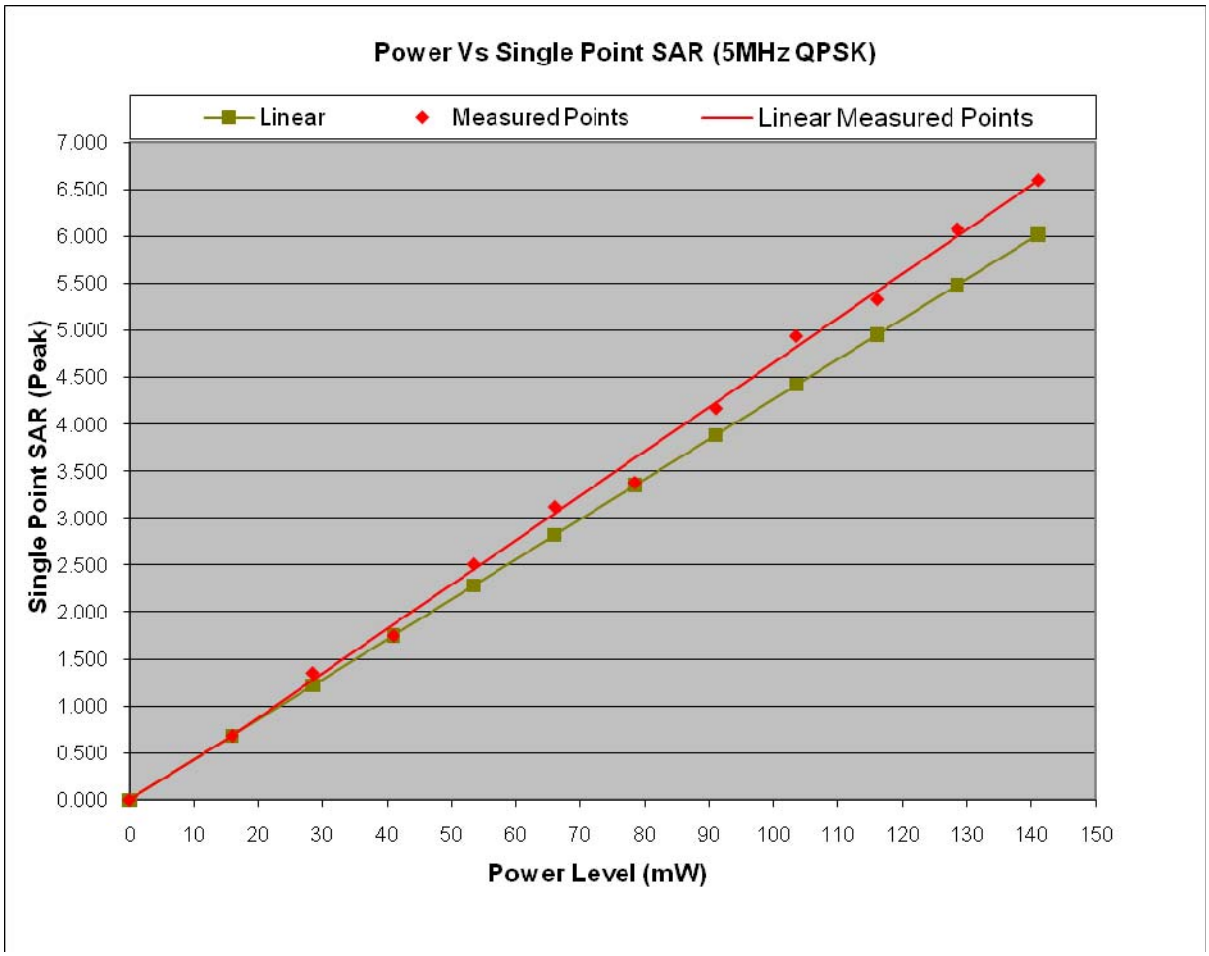
7.3.5. SAR Linearity Plots

5 MHz Bandwidth QPSK:

Power Level (mW)	16.0	28.5	41.0	53.5	66.0	78.5	91.0	103.5	116.0	128.5	141.0
Single Point Peak SAR(w/kg)	0.683	1.275	1.866	2.458	3.050	3.642	4.233	4.825	5.417	6.008	6.600
Linear Line	0.683	1.217	1.750	2.284	2.817	3.351	3.885	4.418	4.952	5.485	6.019
Estimation (%)	0.0	4.8	6.6	7.6	8.2	8.7	9.0	9.2	9.4	9.5	9.7

Note(s):

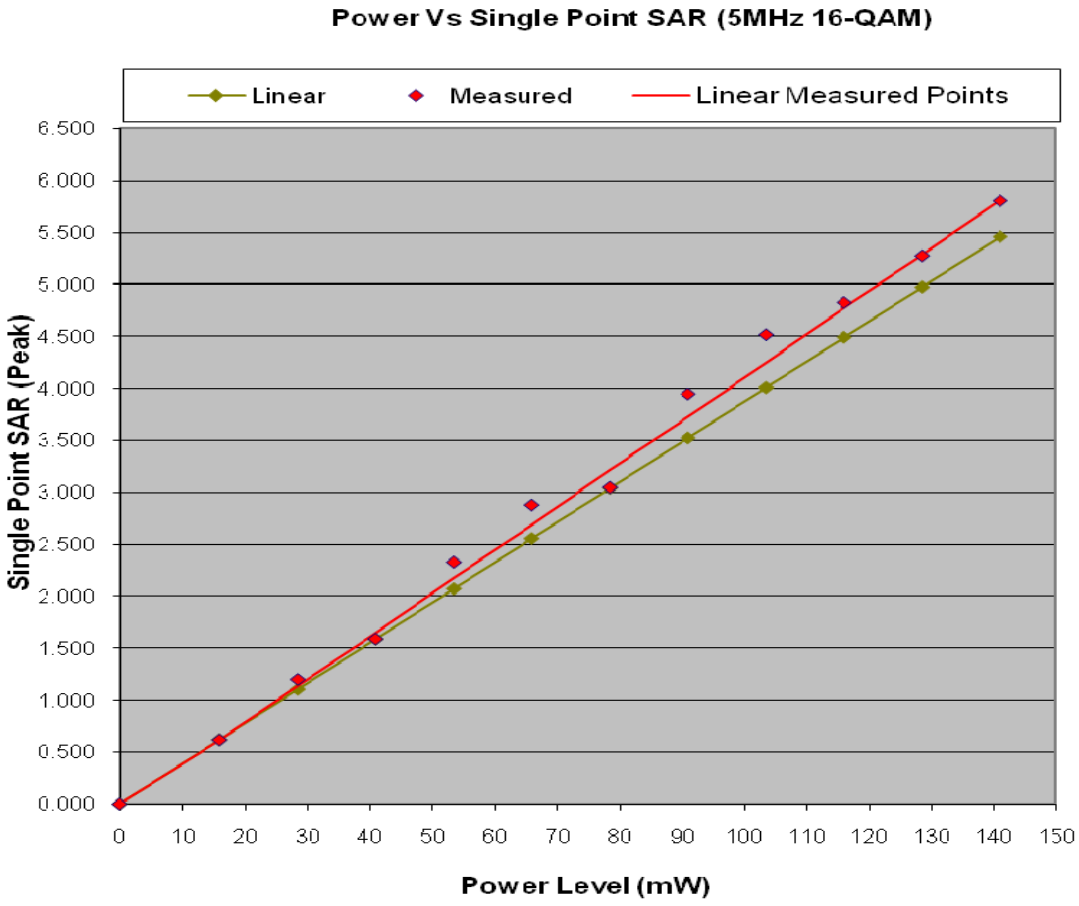
1. Single Point Peak SAR measurements were performed with the EUT at a separation distance of 0mm from the 'SAM' phantom flat section.
2. As per FCC KDB inquiry 602952 the power interval used was 12.5 mW up to the device maximum rated output power.
3. Appendix for photo setup



5 MHz Bandwidth 16-QAM:											
Power Level (mW)	16.0	28.5	41.0	53.5	66.0	78.5	91.0	103.5	116.0	128.5	141.0
Single Point Peak SAR(w/kg)	0.619	1.138	1.657	2.176	2.695	3.215	3.734	4.253	4.772	5.291	5.810
Linear Line	0.619	1.103	1.586	2.070	2.553	3.037	3.521	4.004	4.488	4.971	5.455
Estimation (%)	0.0	3.2	4.5	5.1	5.6	5.8	6.1	6.2	6.3	6.4	6.5

Note(s):

1. Single Point Peak SAR measurements were performed with the EUT at a separation distance of 0mm from the 'SAM' phantom flat section.
2. As per FCC KDB inquiry 602952 the power interval used was 12.5 mW up to the device maximum rated output power.
3. Appendix for photo setup



10 MHz Bandwidth QPSK:

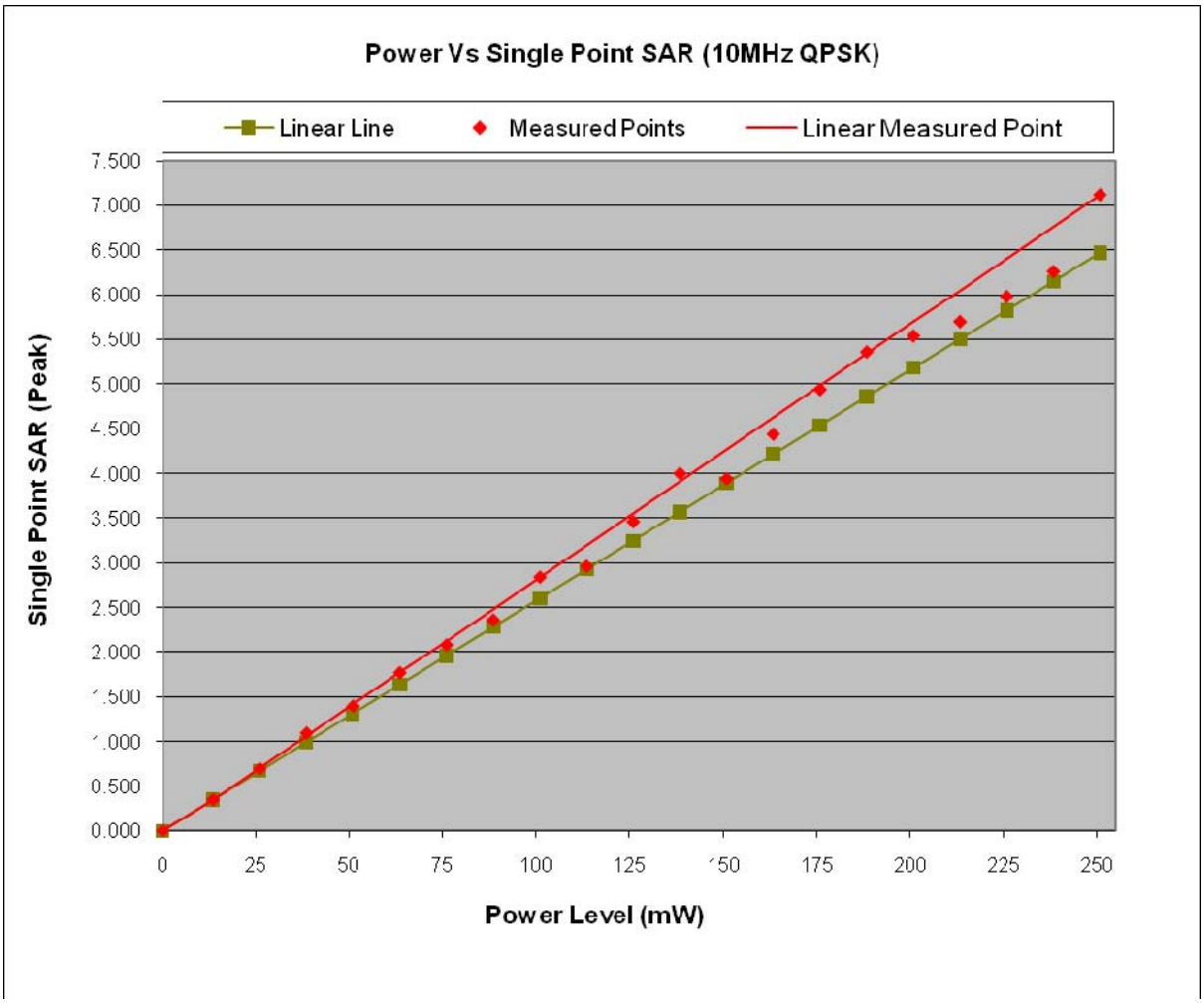
Power Level (mW)	13.5	26.0	38.5	51.0	63.5	76.0	88.5	101.0	113.5	126.0	138.5
Single Point Peak SAR(w/kg)	0.348	0.704	1.061	1.417	1.774	2.130	2.487	2.843	3.199	3.556	3.912
Linear Line	0.348	0.670	0.992	1.315	1.637	1.959	2.281	2.604	2.926	3.248	3.570
Estimation (%)	0.0	5.1	6.9	7.8	8.4	8.7	9.0	9.2	9.4	9.5	9.6

Table Continue

Power Level (mW)	151.0	163.5	176.0	188.5	201.0	213.5	226.0	238.5	251.0
Single Point Peak SAR(w/kg)	4.269	4.625	4.981	5.338	5.694	6.051	6.407	6.764	7.120
Linear Line	3.892	4.215	4.537	4.859	5.181	5.504	5.826	6.148	6.470
Estimation (%)	9.7	9.7	9.8	9.9	9.9	9.9	10.0	10.0	10.0

Note(s):

1. Single Point Peak SAR measurements were performed with the EUT at a separation distance of 0mm from the 'SAM' phantom flat section.
2. As per FCC KDB inquiry 602952 the power interval used was 12.5 mW up to the device maximum rated output power.
3. Appendix for photo setup



10 MHz Bandwidth 16-QAM:

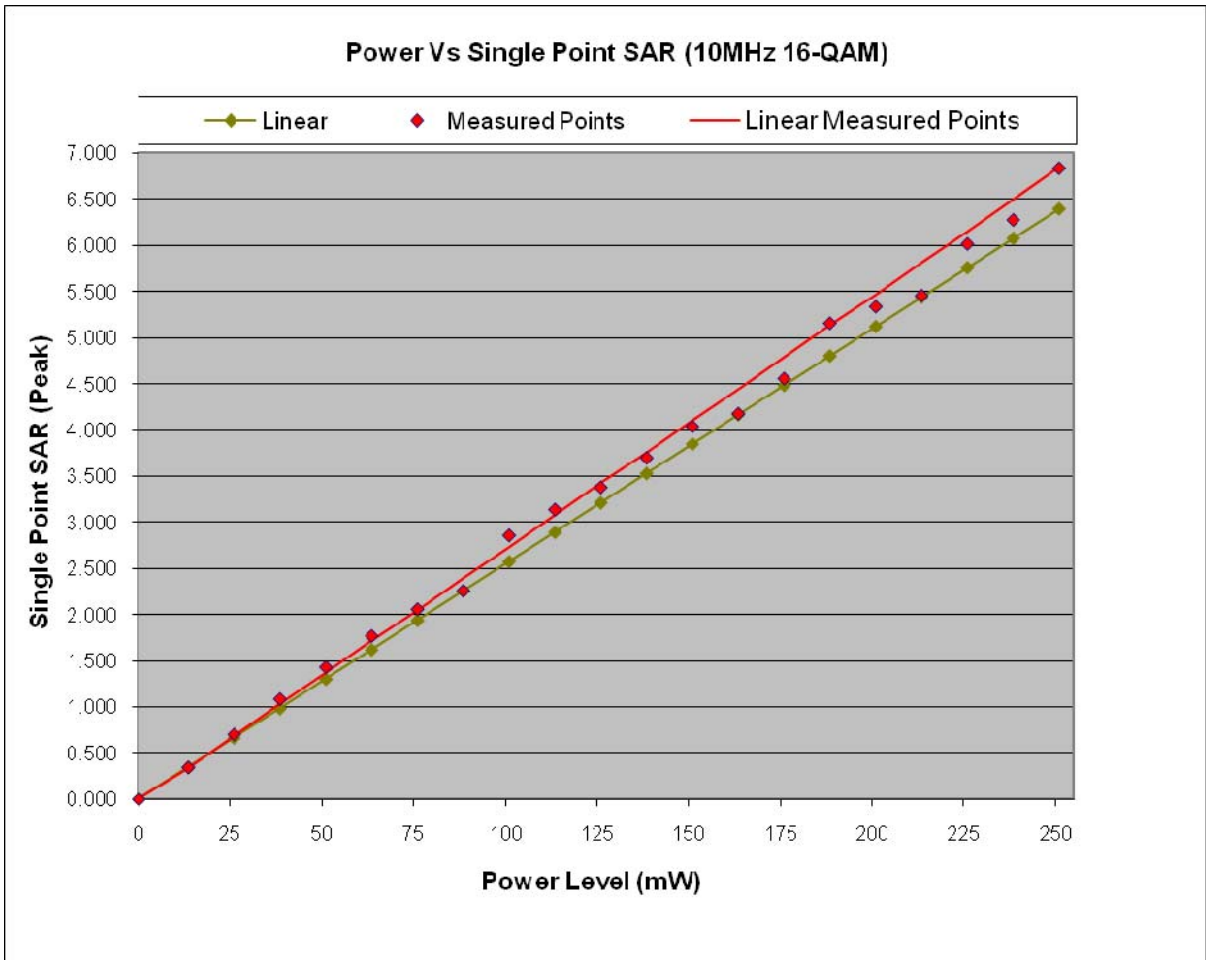
Power Level (mW)	13.5	26.0	38.5	51.0	63.5	76.0	88.5	101.0	113.5	126.0	138.5	151.0
Single Point Peak SAR(w/kg)	0.344	0.686	1.028	1.370	1.712	2.053	2.395	2.737	3.079	3.421	3.763	4.105
Linear Line	0.344	0.663	0.981	1.300	1.618	1.937	2.255	2.574	2.892	3.211	3.529	3.848
Estimation (%)	0.0	3.5	4.8	5.4	5.8	6.0	6.2	6.4	6.5	6.6	6.6	6.7

Table Continue

Power Level (mW)	163.5	176.0	188.5	201.0	213.5	226.0	238.5	251.0
Single Point Peak SAR(w/kg)	4.447	4.789	5.131	5.472	5.814	6.156	6.498	6.840
Linear Line	4.166	4.485	4.803	5.122	5.440	5.759	6.077	6.396
Estimation (%)	6.7	6.8	6.8	6.8	6.9	6.9	6.9	6.9

Note(s):

1. Single Point Peak SAR measurements were performed with the EUT at a separation distance of 0mm from the 'SAM' phantom flat section.
2. As per FCC KDB inquiry 602952 the power interval used was 12.5 mW up to the device maximum rated output power.
3. Appendix for photo setup



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-WiMAX 3700 Body Configuration 1g	95%	±20.80%

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.

8.1. Specific Absorption Rate- WiMAX 3700 MHz Body Configuration 1g

Type	Source of uncertainty	+ Value	- Value	Probability Distribution	Divisor	$c_{i\ (10g)}$	Standard Uncertainty		υ_i or υ_{eff}
							+ u (%)	- u (%)	
B	Probe calibration	13.100	13.100	normal (k=2)	2.0000	1.0000	6.550	6.550	∞
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)	5.000	5.000	normal (k=1)	1.0000	0.6400	3.200	3.200	5
B	Liquid Permittivity (target value)	5.000	5.000	Rectangular	1.7321	0.6000	1.732	1.732	∞
A	Liquid Permittivity (measured value)	5.000	5.000	normal (k=1)	1.0000	0.6000	3.000	3.000	5
	Combined standard uncertainty			t-distribution			10.61	10.61	>250
	Expanded uncertainty			k = 1.96			20.80	20.80	>250

Appendix 1. Test Equipment Used

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
A034	Narda 20W Termination	Narda	374BNM	8706	Calibrated as part of system	-
A1097	SMA Directional Coupler	MiDISCO	MDC6223-30	None	Calibrated as part of system	-
A1137	3dB Attenuator	Narda	779	04690	Calibrated as part of system	-
A1174	Dielectric Probe Kit	Agilent Technologies	85070C	Us99360072	Calibrated before use	-
A1328	Handset Positioner	Schmid & Partner Engineering AG	Modification	SD 000 H01 DA	-	-
A1182	Handset Positioner	Schmid & Partner Engineering AG	V3.0	None	-	-
A1184	Data Acquisition Electronics	Schmid & Partner Engineering AG	DAE3	394	19 April 2010	12
A1238	SAM Phantom	Schmid & Partner Engineering AG	SAM b	001	Calibrated before use	-
A1378	Probe	Schmid & Partner Engineering AG	EX3 DV3	3508	16 Sept 2010	12
A1961	3700 MHz Dipole Kit	Schmid & Partner Engineering AG	D2450V2	725	14 Sept 2010	24
A1497	Amplifier	Mini-Circuits	zhl-42w (sma)	e020105	Calibrated as part of system	-
A1566	SAM Phantom	Schmid & Partner Engineering AG	SAM a	002	Calibrated before use	-
A1990	Digital Camera	Samsung	E515	A23WC90 8A05431K	-	-
A215	20 dB Attenuator	Narda	766-20	9402	Calibrated as part of system	-
A1531	Antenna	AARONIA AG	7025	02458	-	-
C1042	Network Analyzer Cable	Agilent	8120-4779	349	-	-
C1145	Cable	Rosenberger MICRO-COAX	FA147A F003003030	41843-1	Calibrated as part of system	-
C1146	Cable	Rosenberger MICRO-COAX	FA147A F030003030	41752-1	Calibrated as part of system	-

RFI No.	Instrument	Manufacturer	Type No.	Serial No.	Date Last Calibrated	Cal. Interval (Months)
G0528	Robot Power Supply	Schmid & Partner Engineering AG	DASY4	None	Calibrated before use	-
G087	PSU	Thurlby Thandar	CPX200	100701	Calibrated before use	-
M1015	Network Analyser	Agilent Technologies	8753ES	US39172406	27 Sept 2010	12
M1047	Robot Arm	Staubli	RX908 L	F00/SD8 9A1/A/01	Calibrated before use	-
M1159	Signal Generator	Agilent Technologies	E8241A	US42110332	Internal Checked 16 Aug 2010	4
M1159	Signal Generator	Agilent Technologies	E8241A	US42110332	Internal Checked 15 Dec 2010	4
M1071	Spectrum Analyzer	Agilent	HP8590E	3647U00514	(Monitoring use only)	-
M1270	Temperature/ Humidity/ Pressure Meter	RS Components	None	None	Internal Checked 31 March 2010	12
S256	SAR Lab	RFI	Site 56	N/A	Calibrated before use	-
M1071	Spectrum Analyzer	Agilent	HP8590E	3647U00514	(Monitoring use only)	-
M1044	Diode Power Sensor	Rohde & Schwarz	NRV-Z1	893350/019	26 May 2010	12
M265	Diode Power Sensor	Rohde & Schwarz	NRV-Z1	893350/017	26 May 2010	12
M263	Dual Channel Power Meter	Rohde & Schwarz	NRVD	826558/004	27 May 2010	12

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.

Checked by [redacted] 22/09/2010
RFI Asset: A1378

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client RFI

Certificate No: EX3-3508_Sep10

CALIBRATION CERTIFICATE

Object: EX3DV3 - SN:3508

Calibration procedure(s): QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2
Calibration procedure for dosimetric E-field probes

Calibration date: September 16, 2010 (Additional Conversion Factor)

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Fin Bomholt	R&D Director	

Issued: September 16, 2010

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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S Swiss Calibration Service

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization $\vartheta = 0$ ($f \le 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *Ax,y,z; Bx,y,z; Cx,y,z, VRx,y,z*: *A, B, C* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \le 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV3

SN:3508

Additional Conversion Factors

Manufactured:	December 19, 2003
Last calibrated:	February 19, 2010
Recalibrated:	September 16, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV3 SN:3508

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.77	0.63	0.65	± 10.1%
DCP (mV)[B]	99.8	95.0	92.6	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300	± 1.5%
			Y	0.00	0.00	1.00	300	
			Z	0.00	0.00	1.00	300	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).

[B] Numerical linearization parameter: uncertainty not required.

[E] Uncertainty is determined using the maximum deviation from linear response applying recatangular distribution and is expressed for the square of the field value.

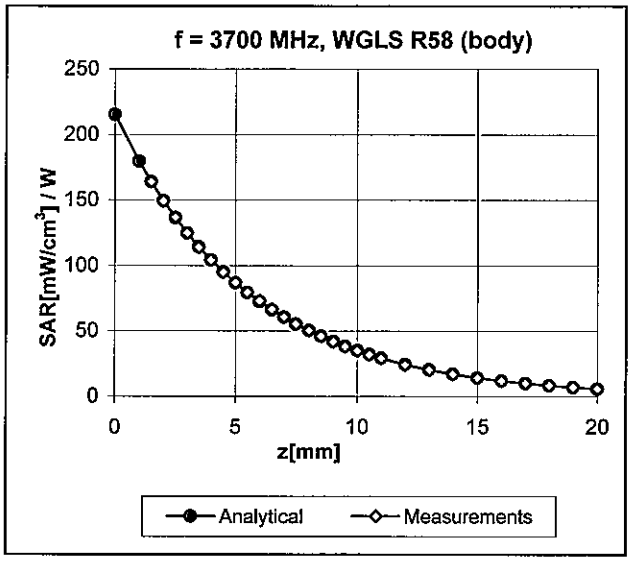
DASY/EASY - Parameters of Probe: EX3DV3 SN:3508

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
3700	± 50 / ± 100	51.0 ± 5%	3.55 ± 5%	6.48	6.48	6.48	0.26	1.60 ± 13.1%

[C] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Conversion Factor Assessment



Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

Checked by RB 22/09/2010
RFE Asset ; A 1961

Calibration Laboratory of
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Accreditation No.: SCS 108

Client RFI

Certificate No: D3700V2-1003_Sep10

CALIBRATION CERTIFICATE

Object: D3700V2 - SN: 1003

Calibration procedure(s): QA CAL-22.v1
Calibration procedure for dipole validation kits between 3-6 GHz

Calibration date: September 14, 2010

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe EX3DV4	SN: 3503	05-Mar-10 (No. EX3-3503_Mar10)	Mar-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 14, 2010

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S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEC Std 62209 Part 2, "Evaluation of Human Exposure to Radio Frequency Fields from Handheld and Body-Mounted Wireless Communication Devices in the Frequency Range of 30 MHz to 6 GHz: Human models, Instrumentation, and Procedures"; Part 2: "Procedure to determine the Specific Absorption Rate (SAR) for including accessories and multiple transmitters", Draft Version 0.9, December 2004

b) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

c) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.3 mm, dz = 3 mm	
Frequency	3700 MHz ± 1 MHz	

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	51.0	3.55 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	50.2 ± 6 %	3.48 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	-----	-----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	condition	
SAR measured	100 mW input power	6.51 mW / g
SAR normalized	normalized to 1W	65.1 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**65.1 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.34 mW / g
SAR normalized	normalized to 1W	23.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**23.3 mW / g ± 19.5 % (k=2**

Appendix

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.5 Ω - 4.6 jΩ
Return Loss	-26.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.134ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	July 01, 2005

DASY5 Validation Report for Body TSL

Date/Time: 06.02.2009 11:48:32

Test Laboratory: SPEAG, Zurich, Switzerland

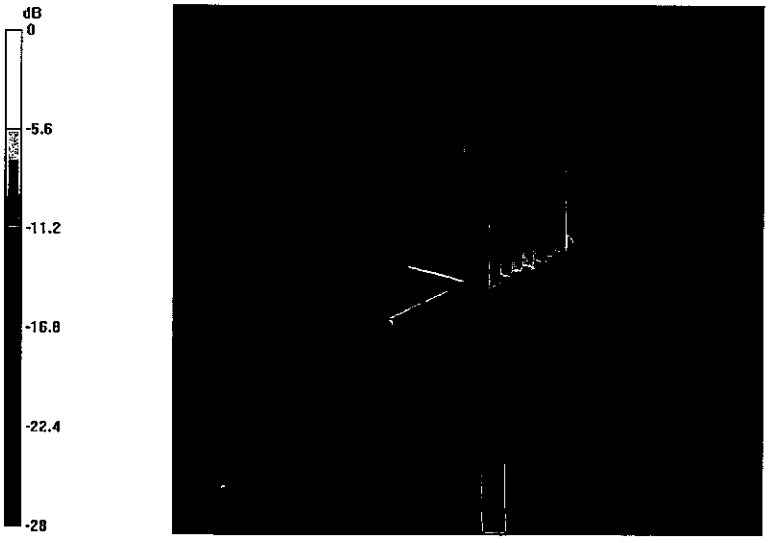
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: SN:1003

Communication System: CW; Frequency: 3700 MHz; Duty Cycle: 1:1
Medium: MSL 3-6 GHz
Medium parameters used: f = 3700 MHz; σ = 3.48 mho/m; ε_r = 50.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

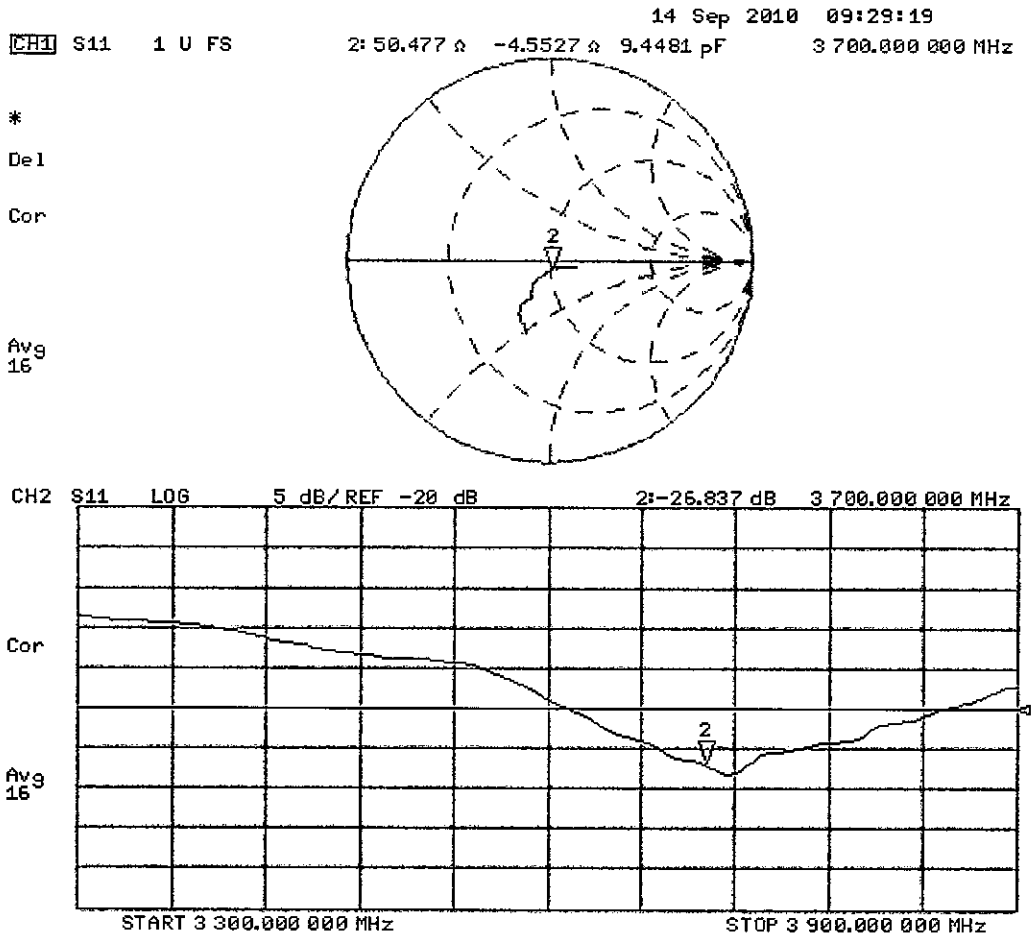
- Probe: EX3DV4 - SN3503; ConvF(6.73, 6.73, 6.73); Calibrated: 05.03.2010
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

Pin = 20dBm; d = 10 mm (EX-Probe)/Zoom Scan (4.3x4.3x3mm), dist=2.5mm (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 56.2 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 6.51 mW/g; SAR(10 g) = 2.34 mW/g
Maximum value of SAR (measured) = 10 mW/g



0 dB = 10mW/g

Impedance Measurement Plot for Body TSL



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 SAM phantom was used were the size of the device(s) is normal. For bigger devices and base station the 2mm Oval phantom is used for evaluation. 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, IEEE 1528 and FCC KDB procedures, against appropriate limits for each measurement position in accordance with the standard. In some cases the FCC was contacted using a PBA or KDB process to ensure test is performed correctly.

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 and FCC KDB publication 450824.

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.

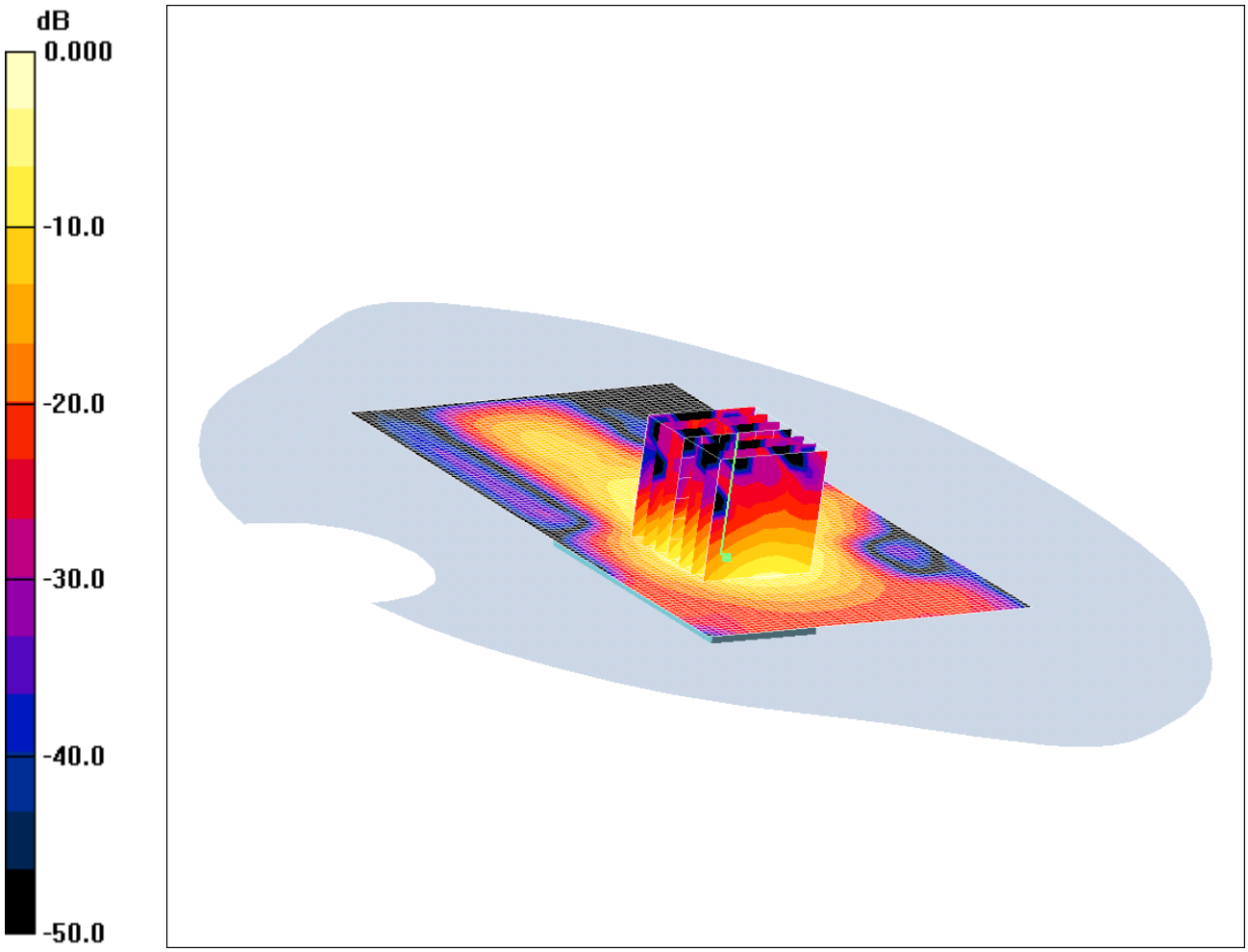
Appendix 3. SAR Distribution Scans

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

Scan Reference Number	Title
SCN/79027JD01/001	Horizontal-Up EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18dBm
SCN/79027JD01/002	Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18dBm
SCN/79027JD01/003	Vertical- Front EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18 dBm
SCN/79027JD01/004	Vertical- Back EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18 dBm
SCN/79027JD01/005	Top or Tip EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18 dBm
SCN/79027JD01/006	Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3652.5 MHz 18dBm
SCN/79027JD01/007	Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3697.5 MHz 18dBm
SCN/79027JD01/008	Horizontal-Up EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18dBm
SCN/79027JD01/009	Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18dBm
SCN/79027JD01/010	Vertical- Front EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18 dBm
SCN/79027JD01/011	Vertical- Back EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18 dBm
SCN/79027JD01/012	Top or Tip EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18 dBm
SCN/79027JD01/013	Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3652.5 MHz 18dBm
SCN/79027JD01/014	Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3697.5 MHz 18dBm
SCN/79027JD01/015	Horizontal-Up EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18dBm
SCN/79027JD01/016	Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18dBm
SCN/79027JD01/017	Vertical- Front EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18 dBm
SCN/79027JD01/018	Vertical- Back EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18 dBm

Scan Reference Number	Title
SCN/79027JD01/019	Top or Tip EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18 dBm
SCN/79027JD01/020	Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3655 MHz 18dBm
SCN/79027JD01/021	Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3695 MHz 18dBm
SCN/79027JD01/022	Horizontal-Up EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18dBm
SCN/79027JD01/023	Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18dBm
SCN/79027JD01/024	Vertical- Front EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18 dBm
SCN/79027JD01/025	Vertical- Back EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18 dBm
SCN/79027JD01/026	Top or Tip EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18 dBm
SCN/79027JD01/027	Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3655 MHz 18dBm
SCN/79027JD01/028	Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3695 MHz 18dBm
SCN/79027JD01/029	System Performance Check 3700 MHz Body 10 11 10
SCN/79027JD01/030	System Performance Check 3700 MHz Body 01 12 10
SCN/79027JD01/031	System Performance Check 3700 MHz Body 03 12 10
SCN/79027JD01/032	System Performance Check 3700 MHz Body 06 12 10
SCN/79027JD01/033	System Performance Check 3700 MHz Body 07 12 10
SCN/79027JD01/034	System Performance Check 3700 MHz Body 18 01 11
SCN/79027JD01/035	System Performance Check 3700 MHz Body 19 01 11

SCN/79027JD01/001: Horizontal-Up EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18dBm
Date 10/11/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

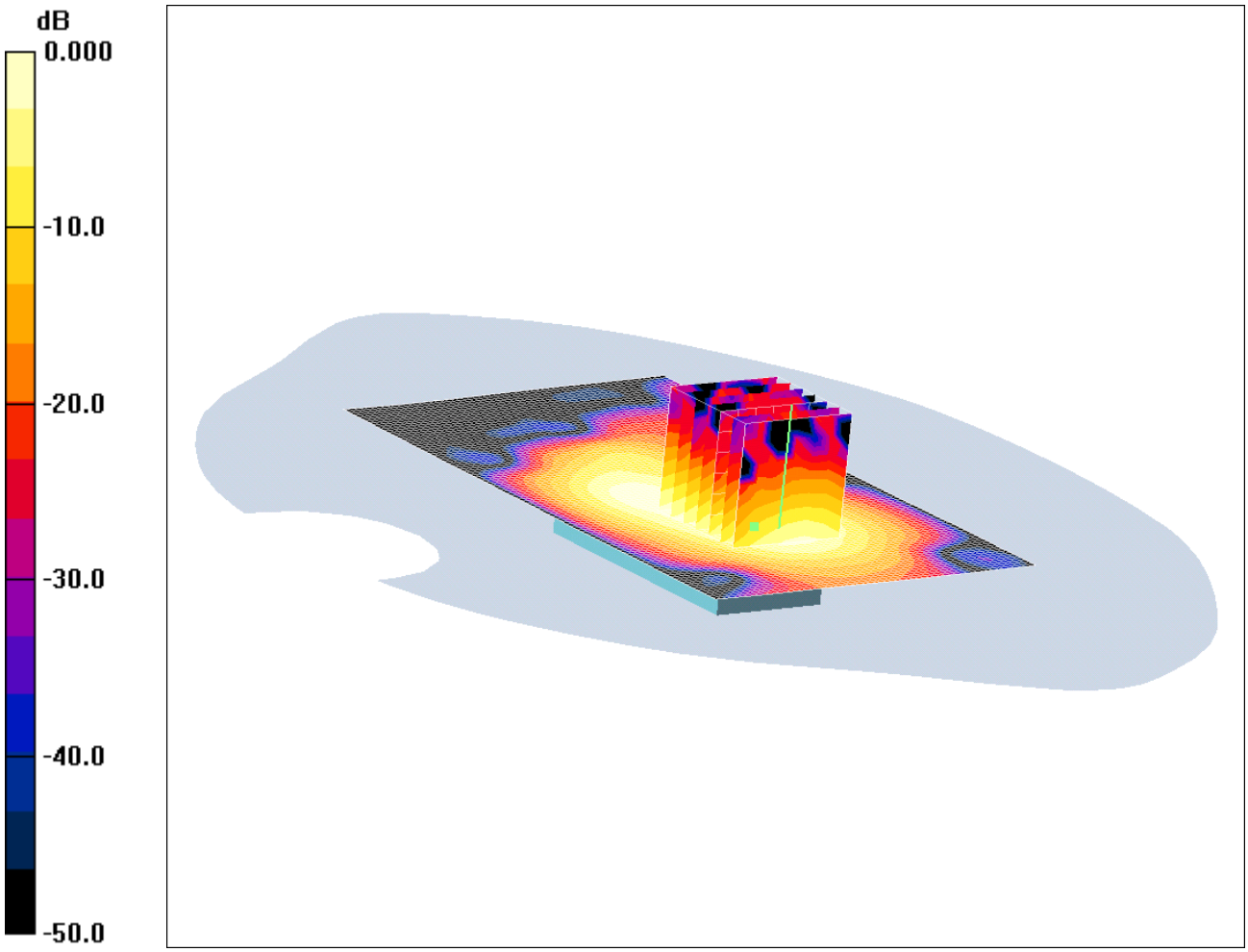


0 dB = 0.318mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3600 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.69 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Up EUT Facing Phantom - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.384 mW/g
Horizontal- Up EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.26 V/m; Power Drift = 0.228 dB
Peak SAR (extrapolated) = 0.881 W/kg
SAR(1 g) = 0.292 mW/g; SAR(10 g) = 0.111 mW/g
Maximum value of SAR (measured) = 0.318 mW/g

SCN/79027JD01/002: Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18dBm Date 10/11/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

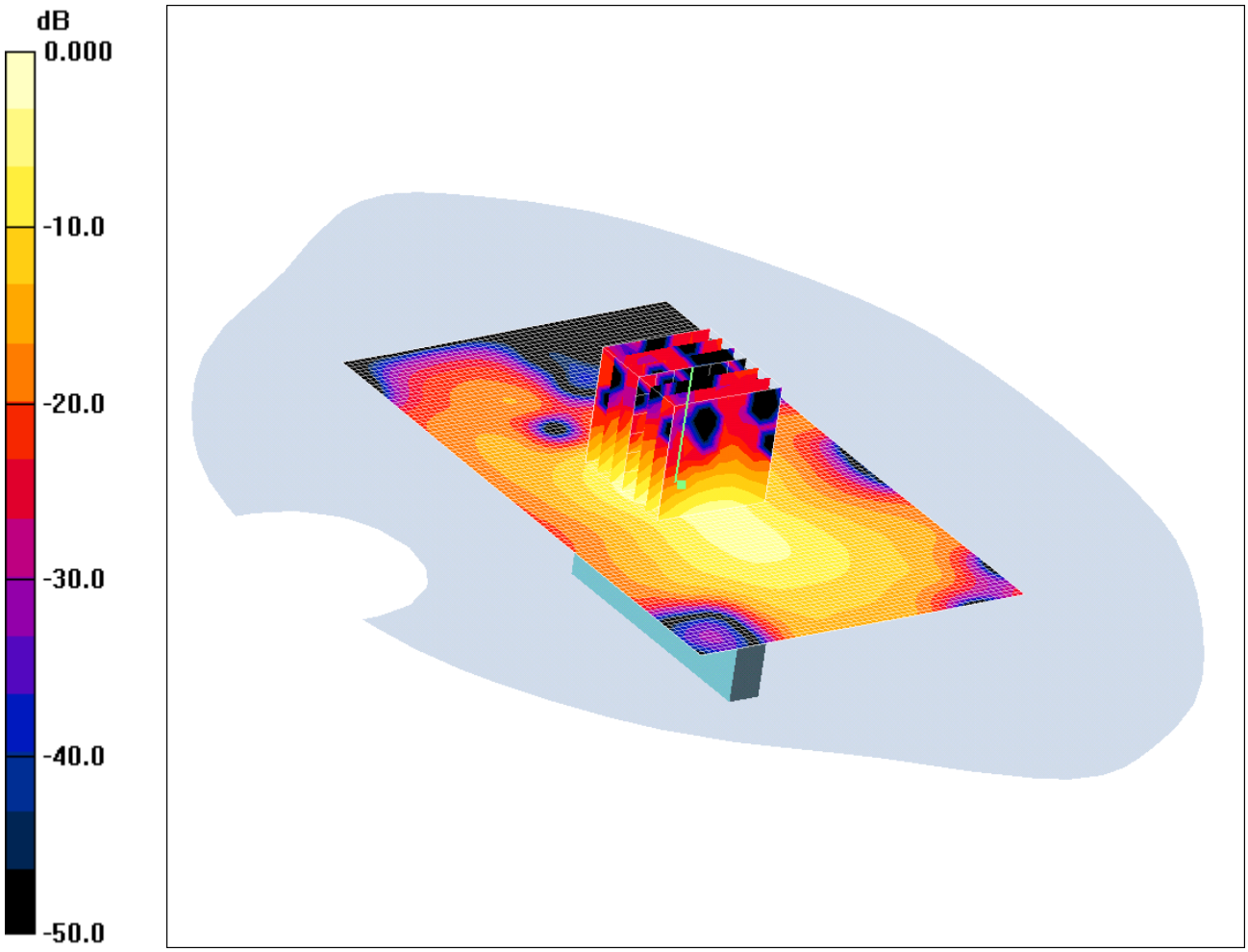


0 dB = 0.326mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3600 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.69 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.325 mW/g
Horizontal- Down EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.40 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.905 W/kg
SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.326 mW/g

SCN/79027JD01/003: Vertical- Front EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18 dBm
Date 10/11/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

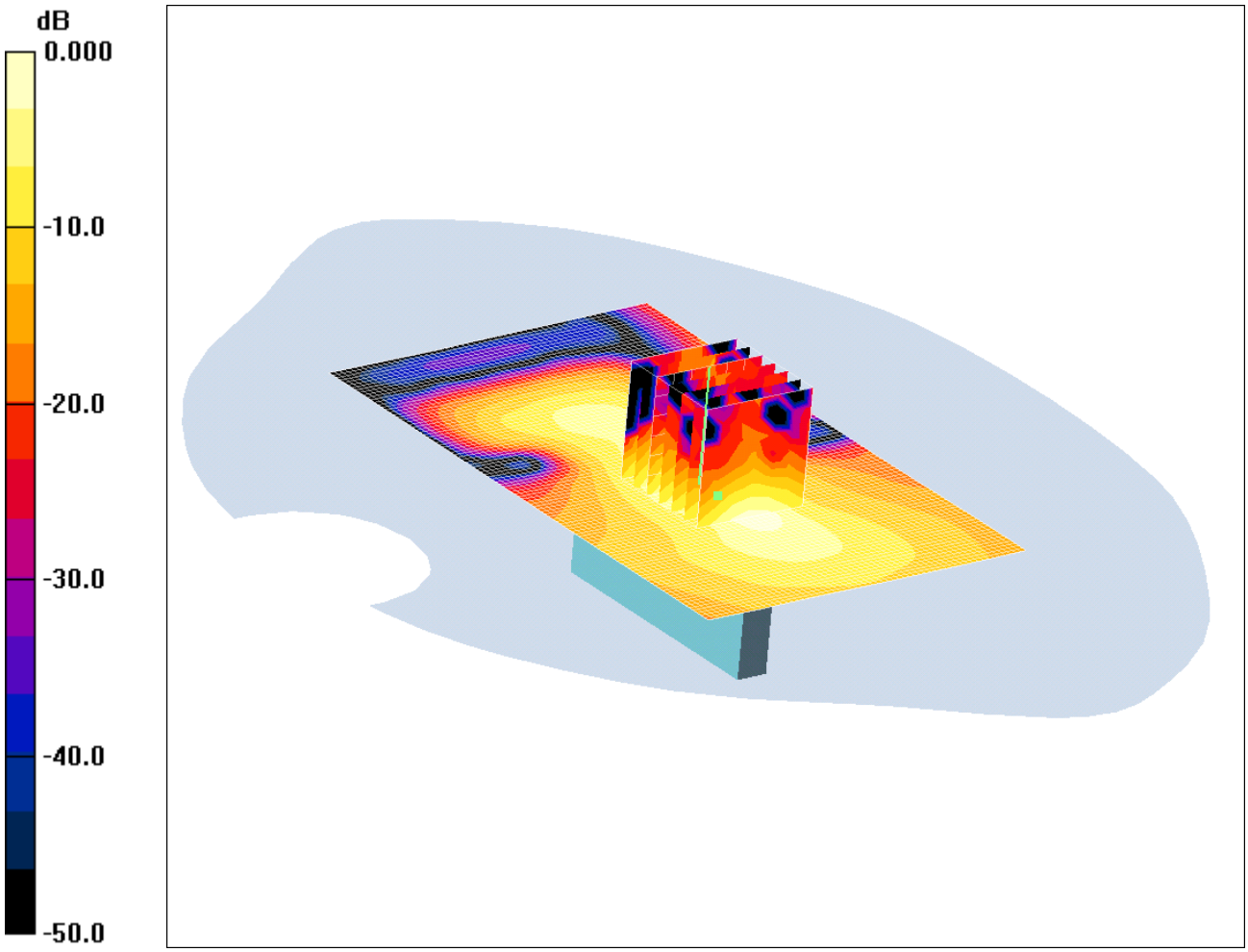


0 dB = 0.238mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3600 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.69 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Vertical-Front EUT Facing Phantom - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.220 mW/g
Vertical-Front EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.69 V/m; Power Drift = -0.203 dB
Peak SAR (extrapolated) = 0.584 W/kg
SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.074 mW/g
Maximum value of SAR (measured) = 0.238 mW/g

SCN/79027JD01/004: Vertical- Back EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18 dBm
Date 10/11/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

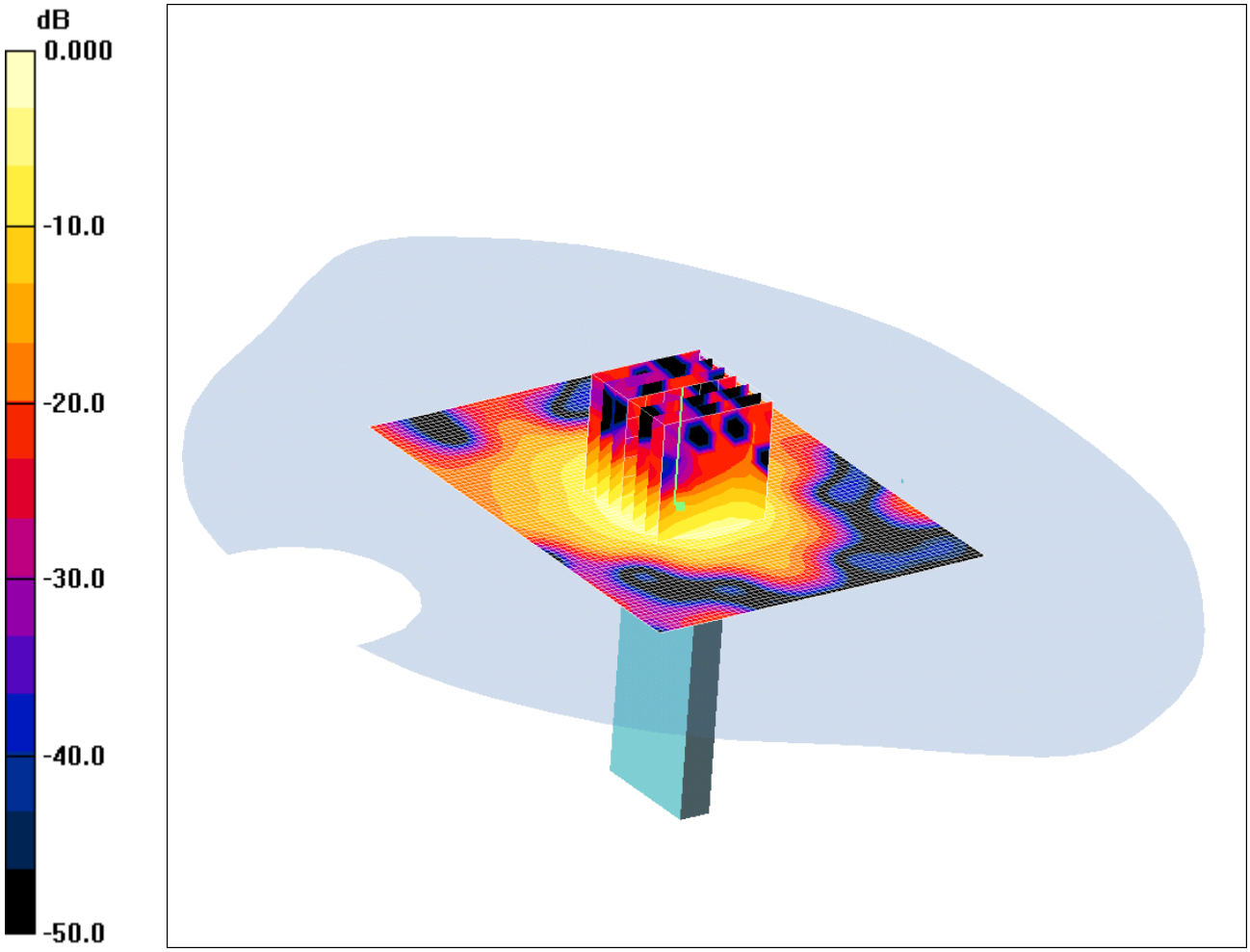


0 dB = 0.153mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3600 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.69 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Vertical- Back EUT Facing Phantom - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.143 mW/g
Vertical- Back EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.82 V/m; Power Drift = 0.180 dB
Peak SAR (extrapolated) = 0.398 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.153 mW/g

SCN/79027JD01/005: Top or Tip EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3675 MHz 18 dBm
Date 10/11/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

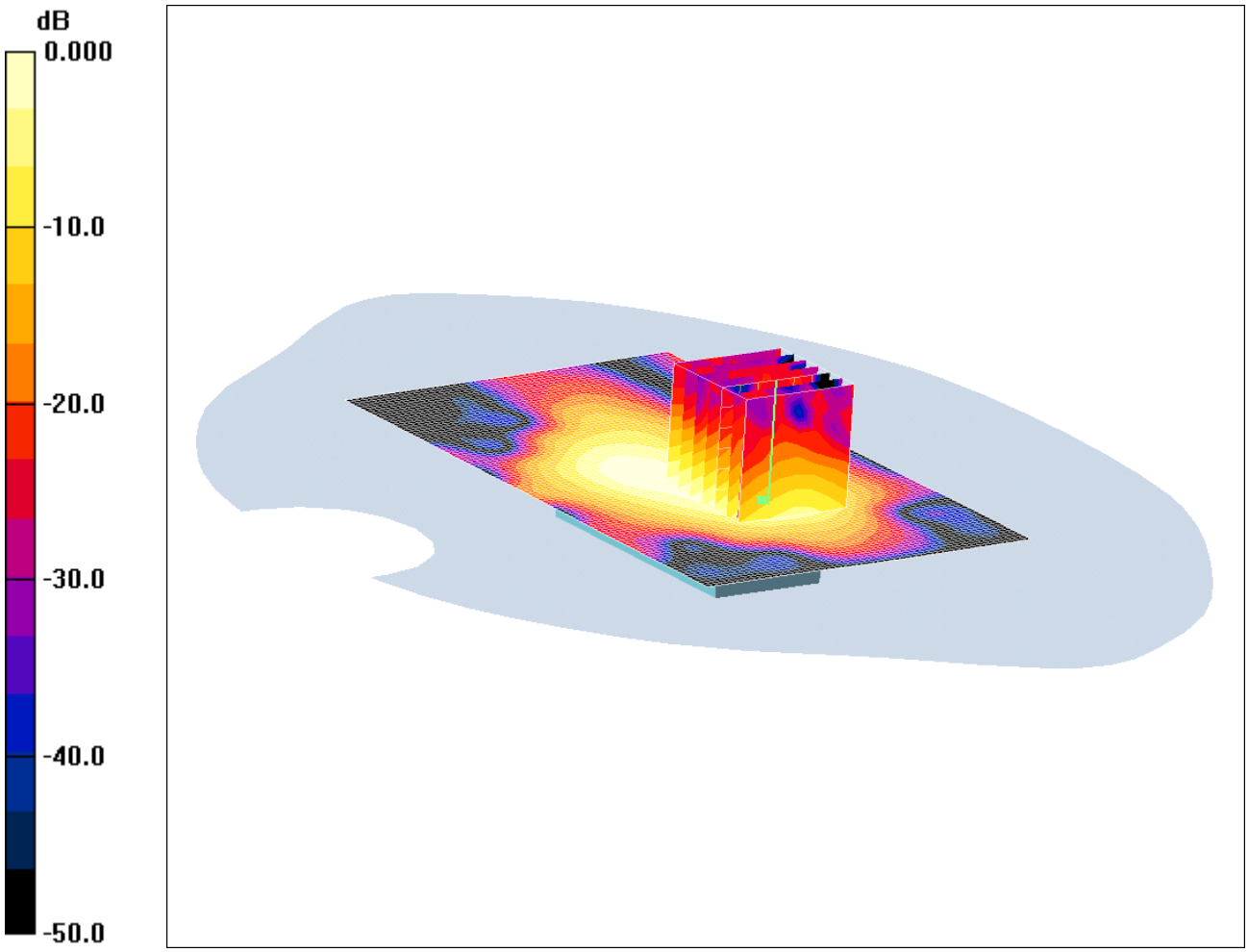


0 dB = 0.210mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3600 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.69 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Top or Tip EUT Facing Phantom - Middle/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.181 mW/g
Top or Tip EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.64 V/m; Power Drift = 0.094 dB
Peak SAR (extrapolated) = 0.534 W/kg
SAR(1 g) = 0.191 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.210 mW/g

SCN/79027JD01/006: Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3652.5 MHz 18dBm
Date 06/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

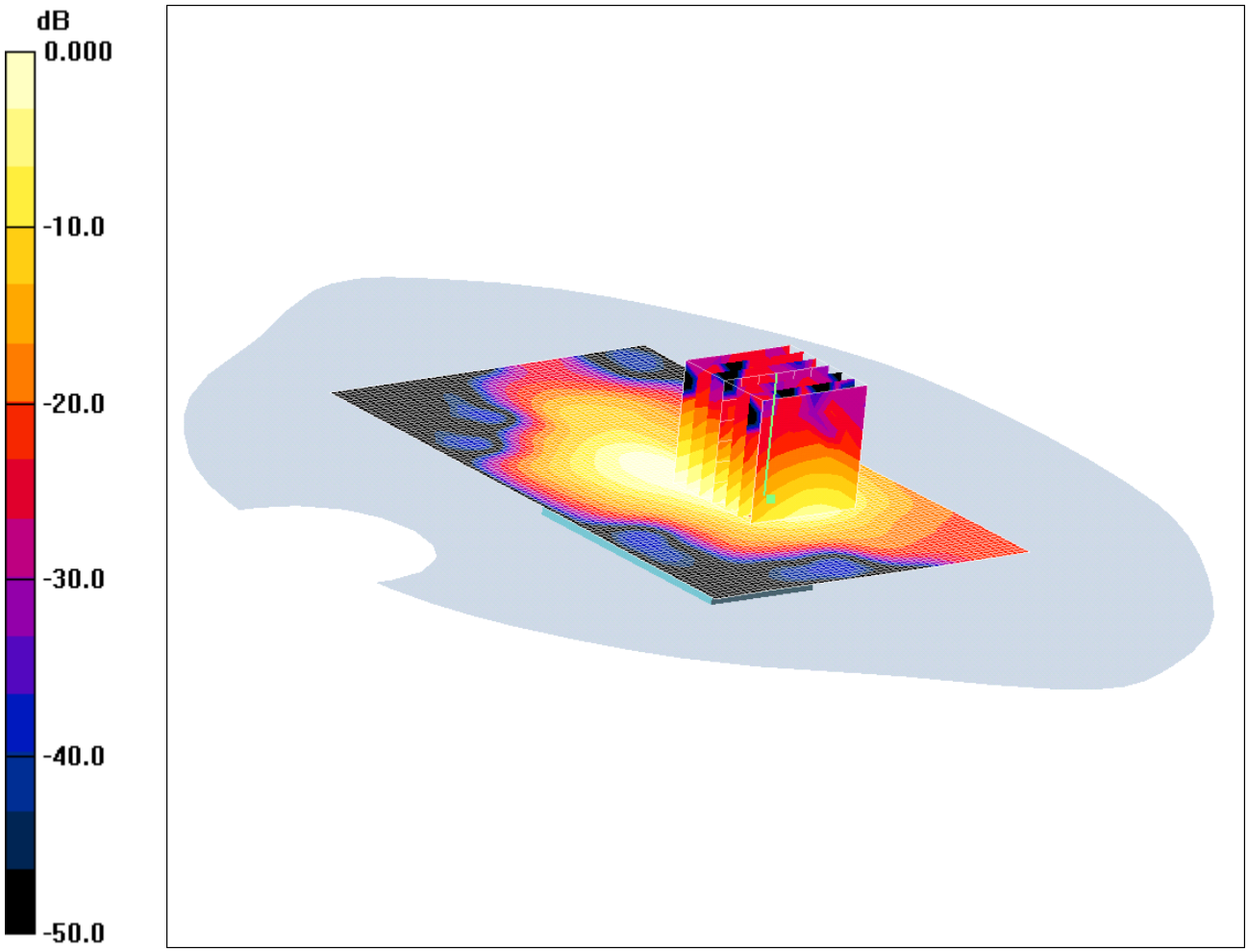


0 dB = 0.344mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3652.5 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3652.5 MHz; σ = 3.63 mho/m; ε_r = 49.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.437 mW/g
Horizontal- Down EUT Facing Phantom - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.20 V/m; Power Drift = 0.121 dB
Peak SAR (extrapolated) = 0.924 W/kg
SAR(1 g) = 0.333 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.344 mW/g

SCN/79027JD01/007: Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 5MHz BW 3697.5 MHz 18dBm
Date 06/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

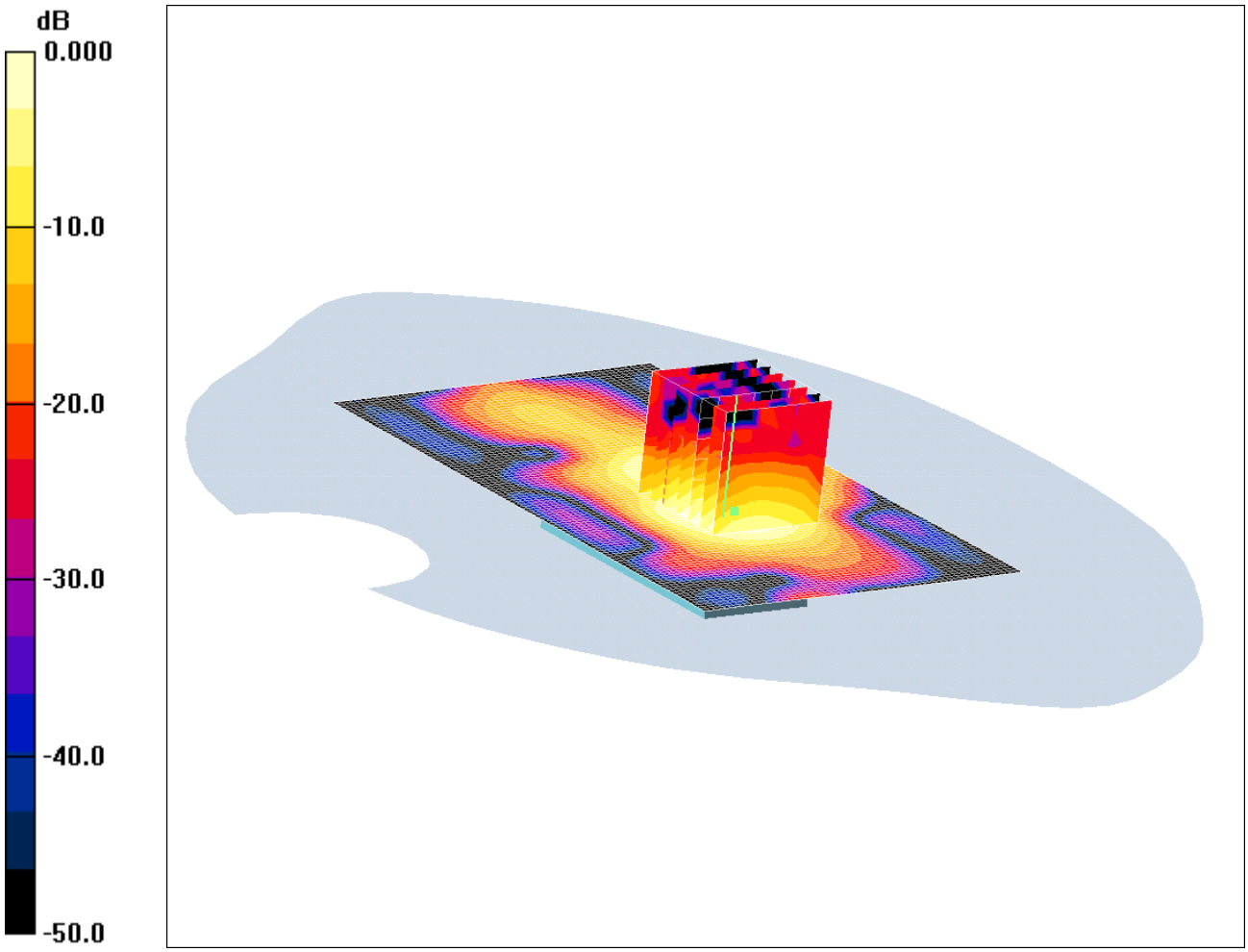


0 dB = 0.388mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3697.5 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3697.5 MHz; σ = 3.7 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.462 mW/g
Horizontal- Down EUT Facing Phantom - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.98 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.161 mW/g
Maximum value of SAR (measured) = 0.388 mW/g

SCN/79027JD01/008: Horizontal-Up EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18dBm
Date 01/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

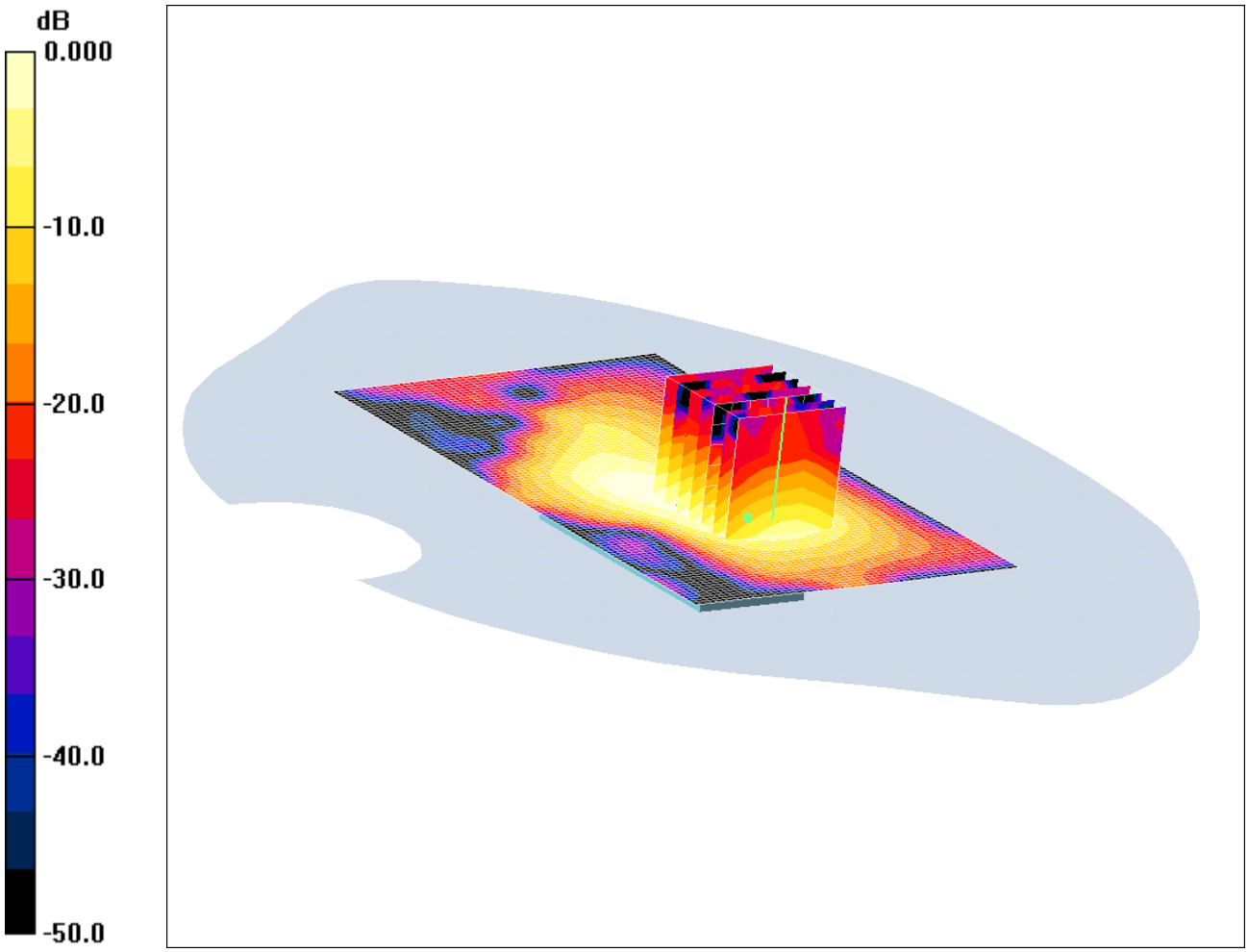


0 dB = 0.316mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.68 mho/m; ε_r = 48.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Up EUT Facing Phantom - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.358 mW/g
Horizontal- Up EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.15 V/m; Power Drift = -0.411 dB
Peak SAR (extrapolated) = 0.868 W/kg
SAR(1 g) = 0.290 mW/g; SAR(10 g) = 0.110 mW/g
Maximum value of SAR (measured) = 0.316 mW/g

SCN/79027JD01/009: Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18dBm
Date 06/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

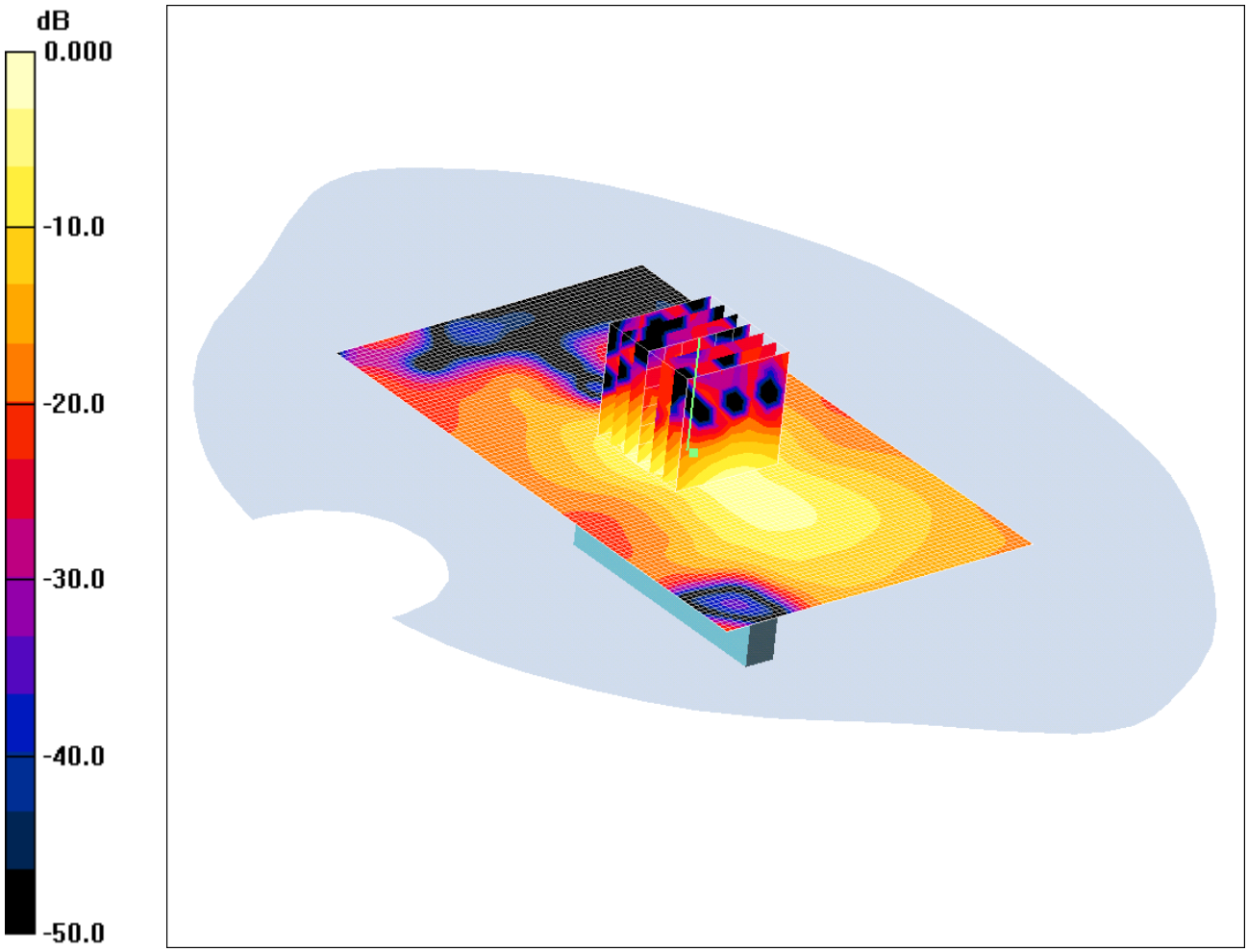


0 dB = 0.319mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.373 mW/g
Horizontal- Down EUT Facing Phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.63 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 0.830 W/kg
SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.131 mW/g
Maximum value of SAR (measured) = 0.319 mW/g

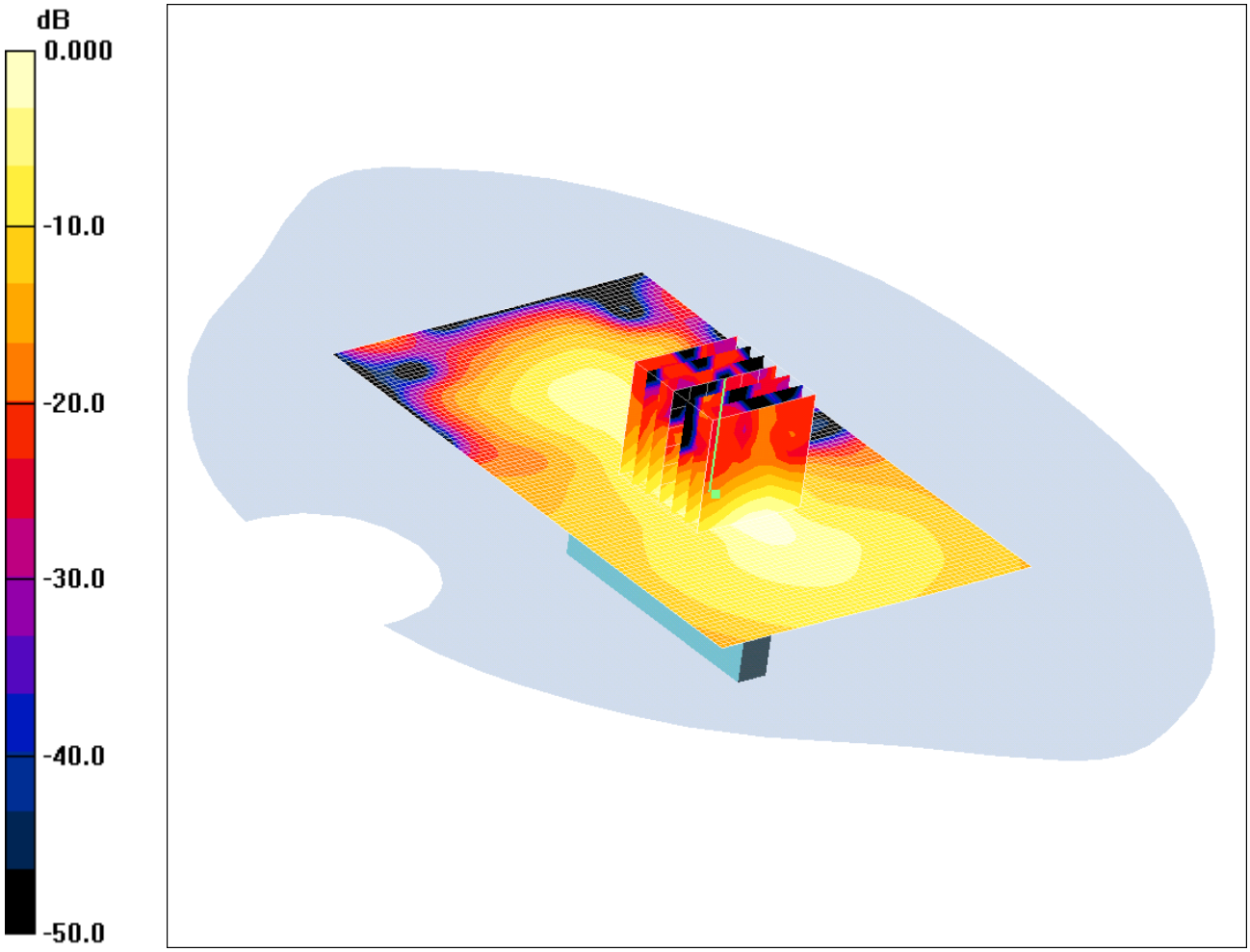
SCN/79027JD01/010: Vertical- Front EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18 dBm Date 01/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.248mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.68 mho/m; ε_r = 48.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
Vertical-Front EUT Facing Phantom - Middle 2/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.255 mW/g
Vertical-Front EUT Facing Phantom - Middle 2/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.93 V/m; Power Drift = 0.413 dB
Peak SAR (extrapolated) = 0.625 W/kg
SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.082 mW/g
Maximum value of SAR (measured) = 0.248 mW/g

SCN/79027JD01/011: Vertical- Back EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18 dBm
Date 06/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

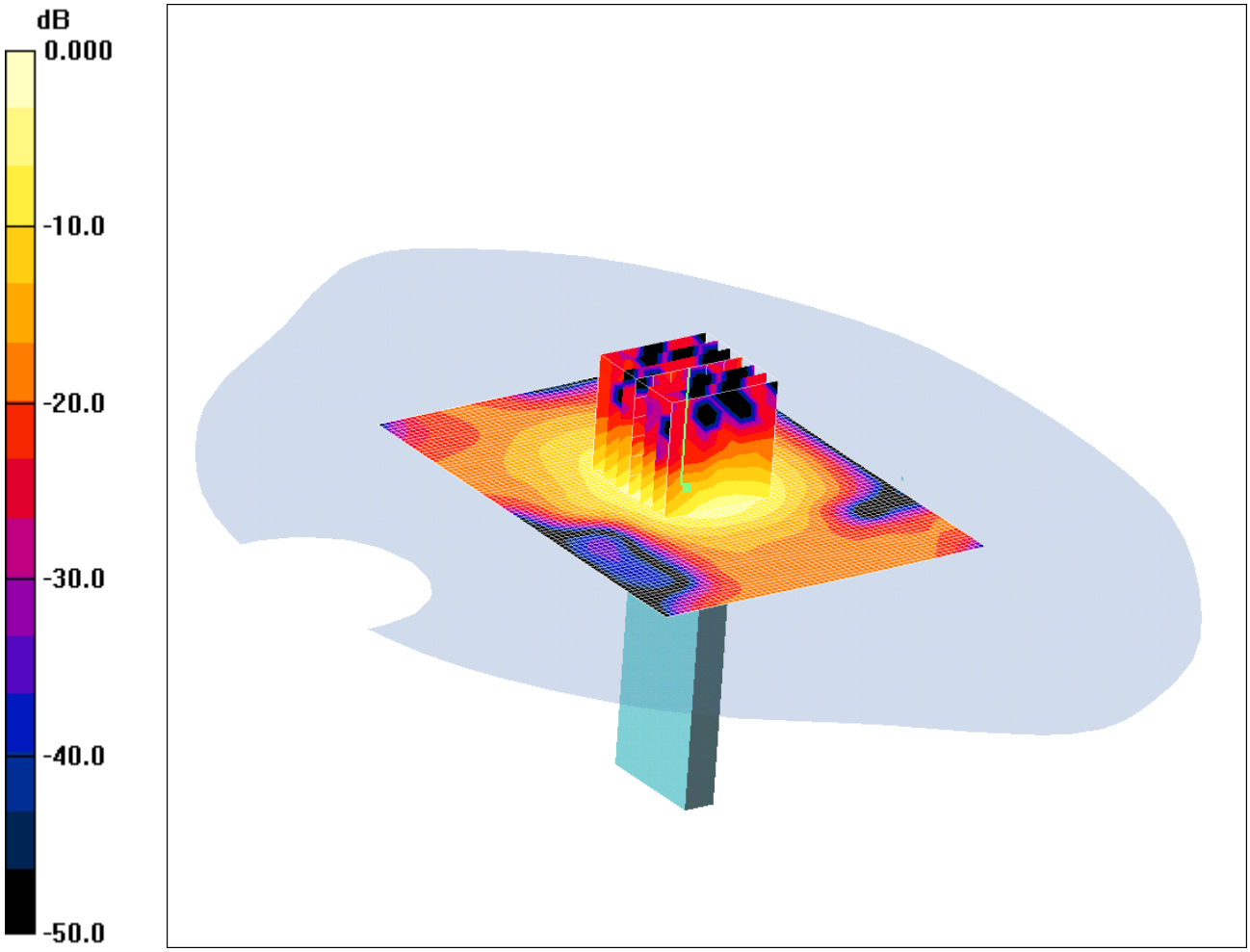


0 dB = 0.124mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Vertical-Back EUT Facing Phantom - Middle /Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.129 mW/g
Vertical-Back EUT Facing Phantom - Middle /Zoom Scan (7x7x7) 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.97 V/m; Power Drift = 0.259 dB
Peak SAR (extrapolated) = 0.309 W/kg
SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.124 mW/g

SCN/79027JD01/012: Top or Tip EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3675 MHz 18 dBm
Date 03/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

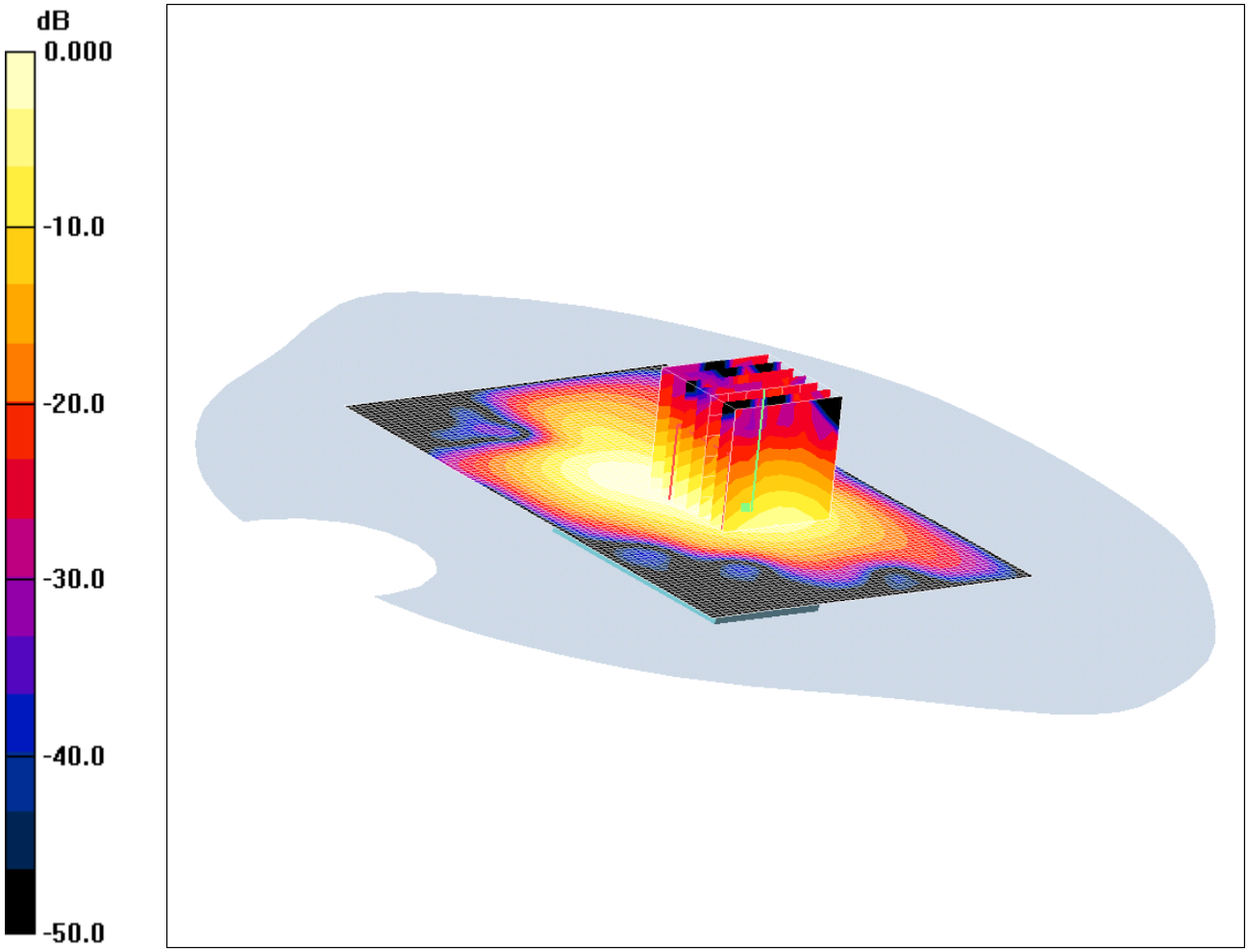


0 dB = 0.233mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.54 mho/m; ε_r = 50.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Top or Tip EUT Facing Phantom - Middle/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.193 mW/g
Top or Tip EUT Facing Phantom - Middle/Zoom Scan (7x7x7) 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.70 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.583 W/kg
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.072 mW/g
Maximum value of SAR (measured) = 0.233 mW/g

SCN/79027JD01/013: Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3652.5 MHz 18dBm
Date 06/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

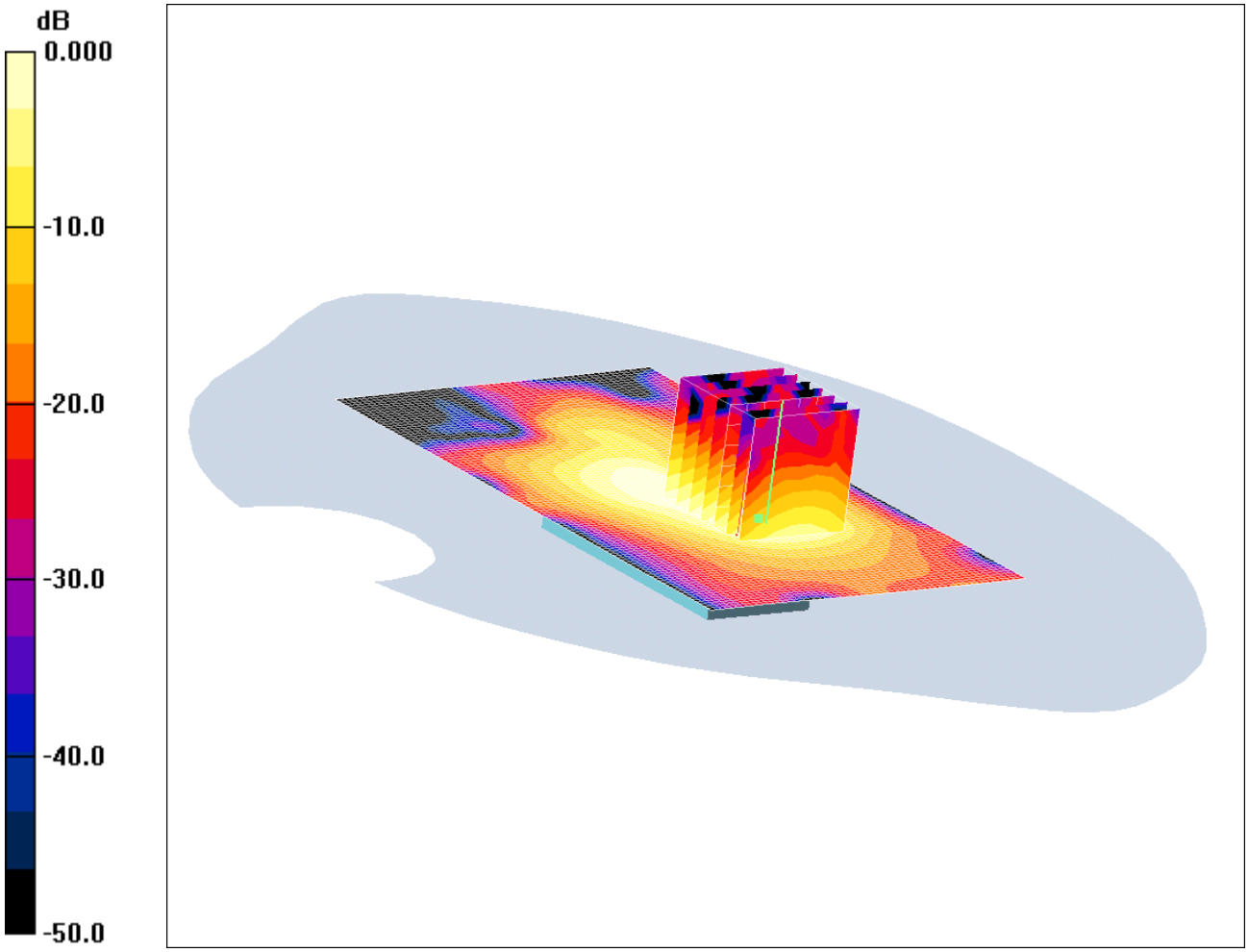


0 dB = 0.337mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3652.5 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3652.5 MHz; σ = 3.63 mho/m; ε_r = 49.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.362 mW/g
Horizontal- Down EUT Facing Phantom - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.92 V/m; Power Drift = -0.269 dB
Peak SAR (extrapolated) = 0.879 W/kg
SAR(1 g) = 0.322 mW/g; SAR(10 g) = 0.136 mW/g
Maximum value of SAR (measured) = 0.337 mW/g

SCN/79027JD01/014: Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 5MHz BW 3697.5 MHz 18dBm
Date 06/12/2010
DUT: Airspan Networks (Israeli) Ltd - Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30

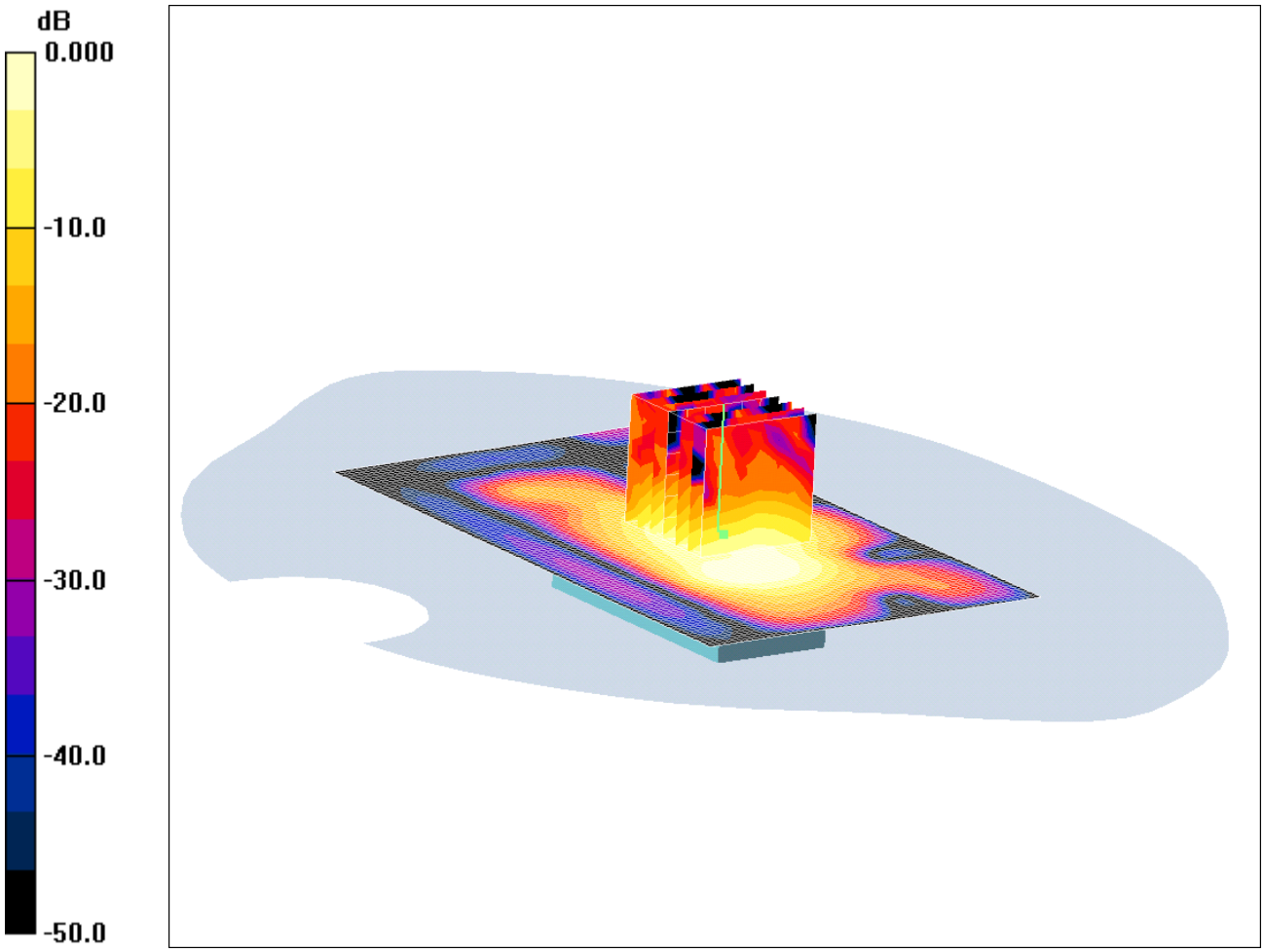


0 dB = 0.377mW/g

Communication System: WiMAX - 5 MHz BW; Frequency: 3697.5 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3697.5 MHz; σ = 3.7 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 - SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.486 mW/g
Horizontal- Down EUT Facing Phantom - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.93 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.997 W/kg
SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.156 mW/g
Maximum value of SAR (measured) = 0.377 mW/g

SCN/79027JD01/015: Horizontal-Up EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18dBm
Date: 07/12/2010
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.134mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

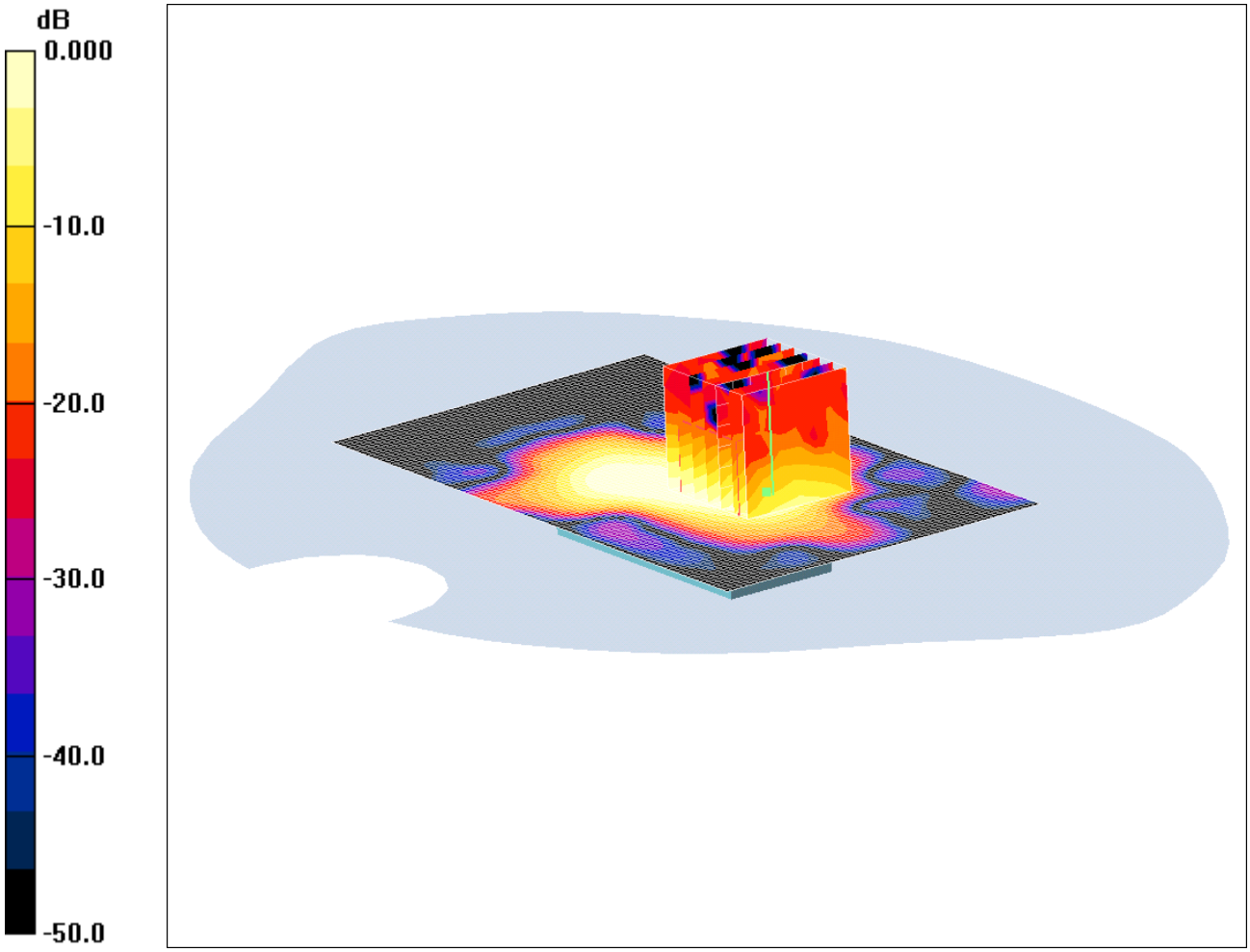
Horizontal- Up EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.146 mW/g

Horizontal- Up EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.85 V/m; Power Drift = 0.413 dB
Peak SAR (extrapolated) = 0.287 W/kg
SAR(1 g) = 0.116 mW/g; SAR(10 g) = 0.044 mW/g

Maximum value of SAR (measured) = 0.134 mW/g

SCN/79027JD01/016: Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18dBm
Date: 07/12/2010
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.132mW/g

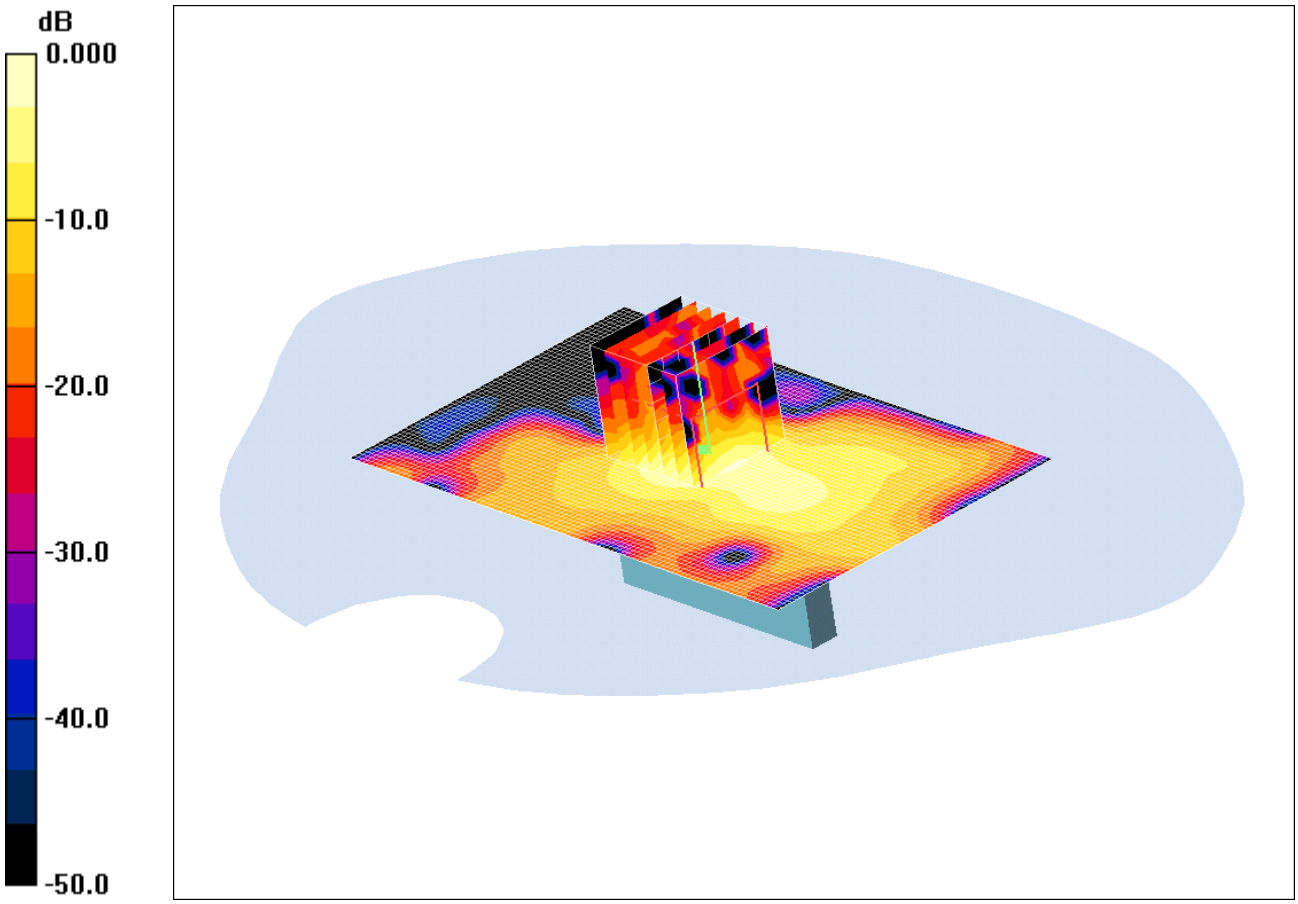
Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Horizontal- Down EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.220 mW/g

Horizontal- Down EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.29 V/m; Power Drift = 0.202 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.051 mW/g

Maximum value of SAR (measured) = 0.132 mW/g

SCN/79027JD01/017: Vertical- Front EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18 dBm
Date: 07/12/2010
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.084mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

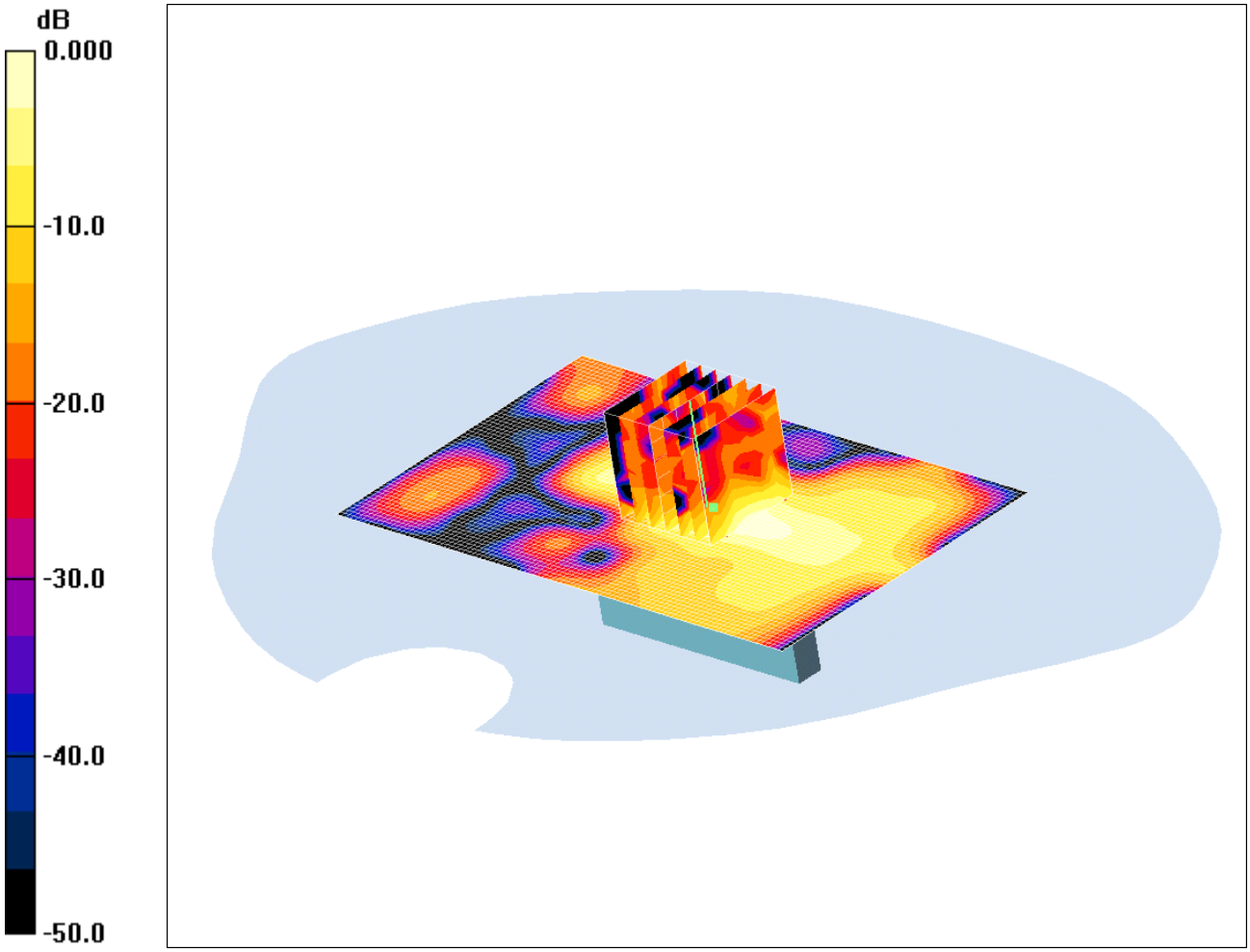
Vertical-Front EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.089 mW/g

Vertical-Front EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.96 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.164 W/kg
SAR(1 g) = 0.070 mW/g; SAR(10 g) = 0.025 mW/g

Maximum value of SAR (measured) = 0.084 mW/g

SCN/79027JD01/018: Vertical- Back EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18 dBm
Date: 07/12/2010
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.059mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

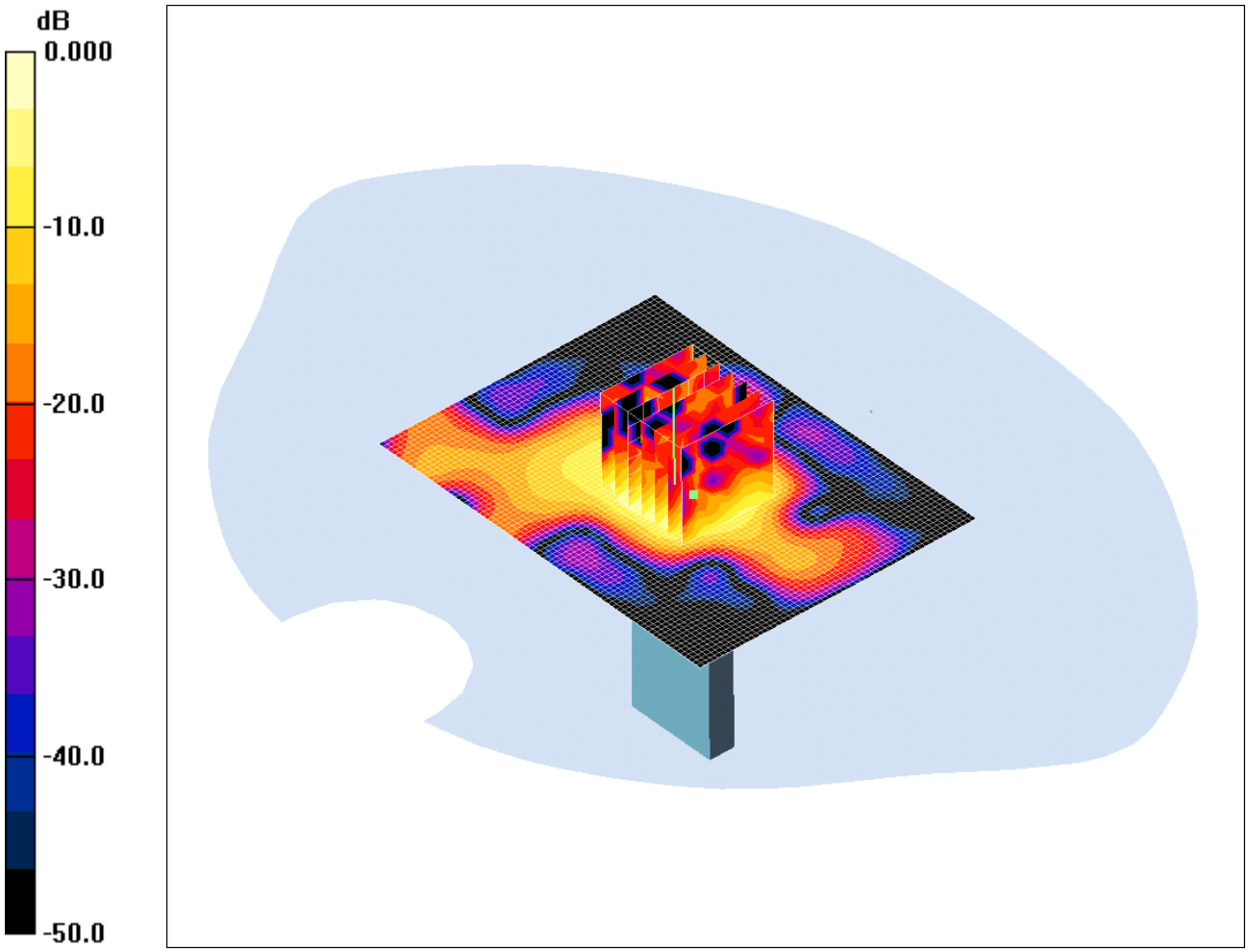
Vertical – Back EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.056 mW/g

Vertical – Back EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.17 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.103 W/kg
SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.016 mW/g

Maximum value of SAR (measured) = 0.059 mW/g

SCN/79027JD01/019: Top or Tip EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3675 MHz 18 dBm
Date/: 07/12/2010
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.093mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.66 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

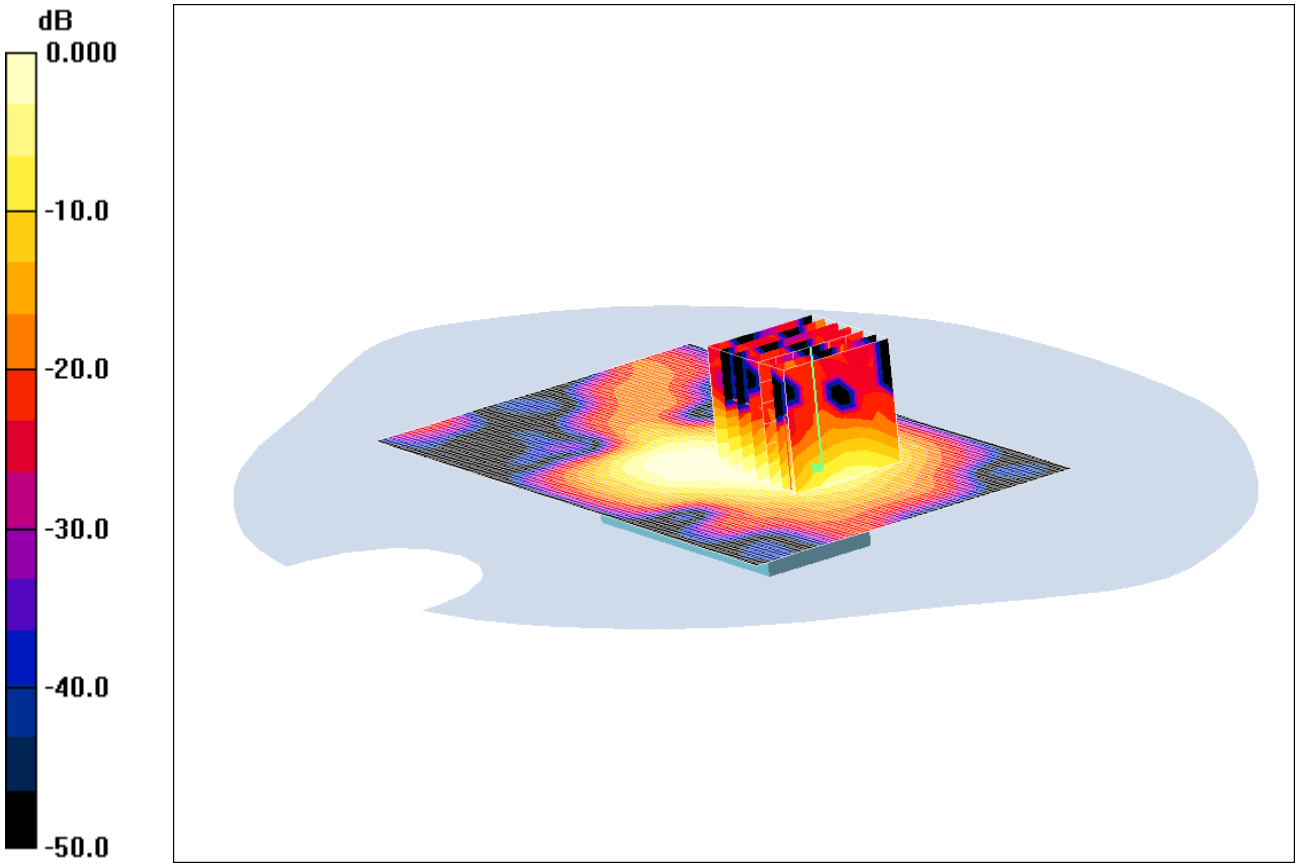
Top or Tip EUT Facing Phantom – Middle/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.102 mW/g

Top or Tip EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.04 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.027 mW/g

Maximum value of SAR (measured) = 0.093 mW/g

SCN/79027JD01/020: Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3655 MHz 18dBm
Date: 18/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.141mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3655 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3655 MHz; σ = 3.45 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

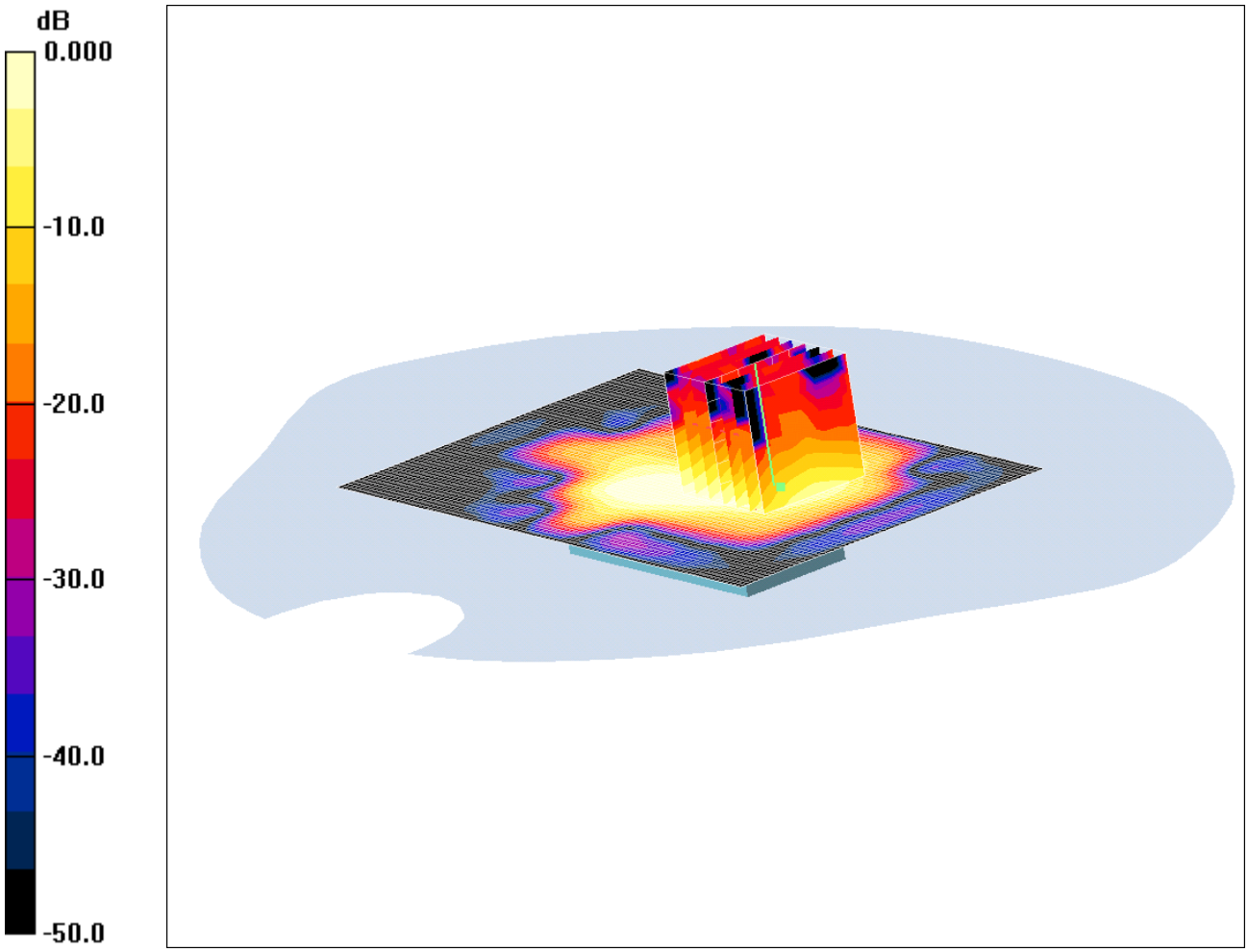
Horizontal- Down EUT Facing Phantom – Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.161 mW/g

Horizontal- Down EUT Facing Phantom – Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.73 V/m; Power Drift = 0.096 dB
Peak SAR (extrapolated) = 0.387 W/kg
SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.053 mW/g

Maximum value of SAR (measured) = 0.141 mW/g

SCN/79027JD01/021: Horizontal-Down EUT Facing Phantom Wi-MAX QPSK 10MHz BW 3695 MHz 18dBm
Date: 18/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.154mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3695 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3695 MHz; σ = 3.52 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

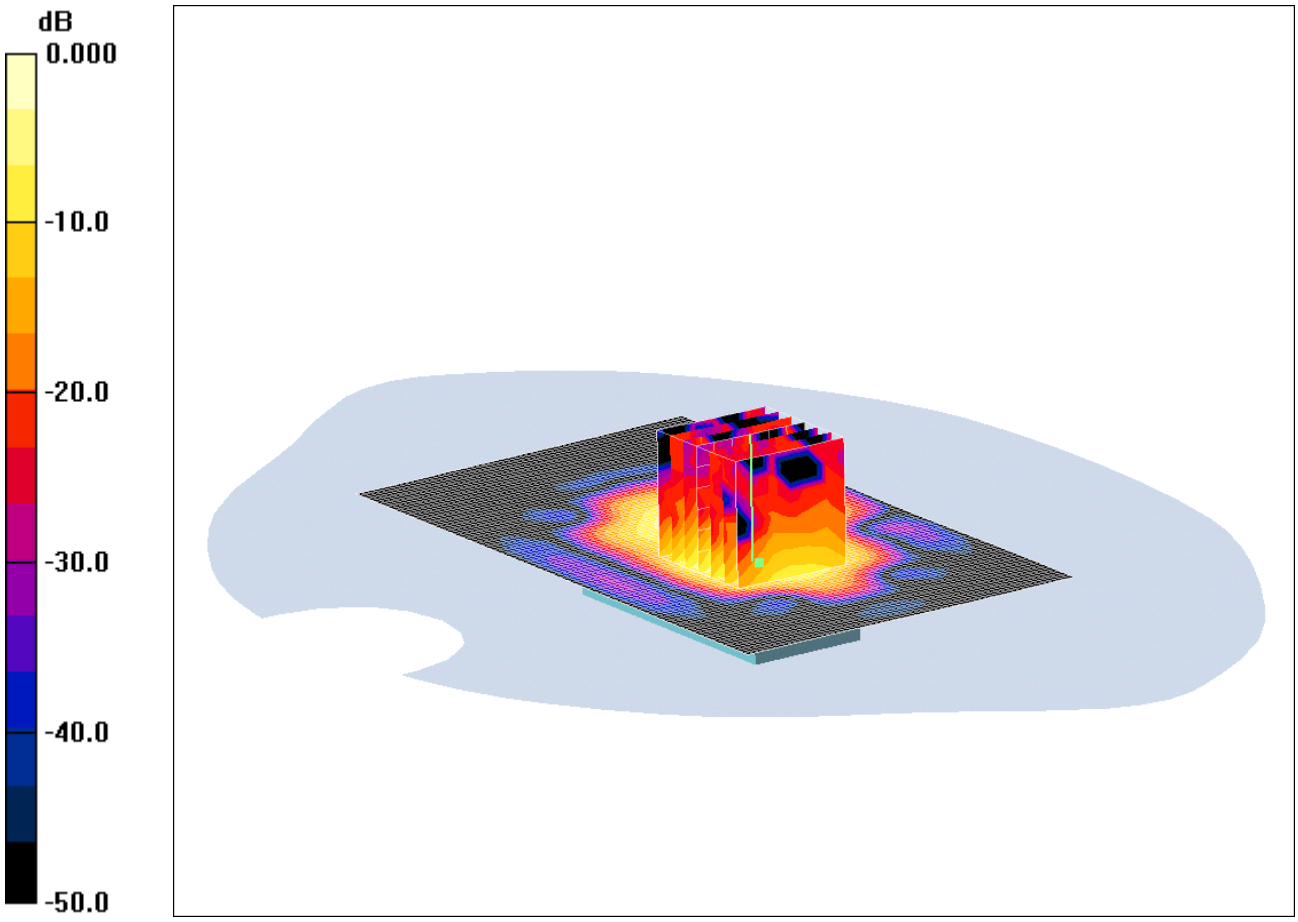
Horizontal- Down EUT Facing Phantom – High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.227 mW/g

Horizontal- Down EUT Facing Phantom – High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.26 V/m; Power Drift = -0.399 dB
Peak SAR (extrapolated) = 0.435 W/kg
SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.062 mW/g

Maximum value of SAR (measured) = 0.154 mW/g

SCN/79027JD01/022: Horizontal-Up EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18dBm
Date: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.161mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.48 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

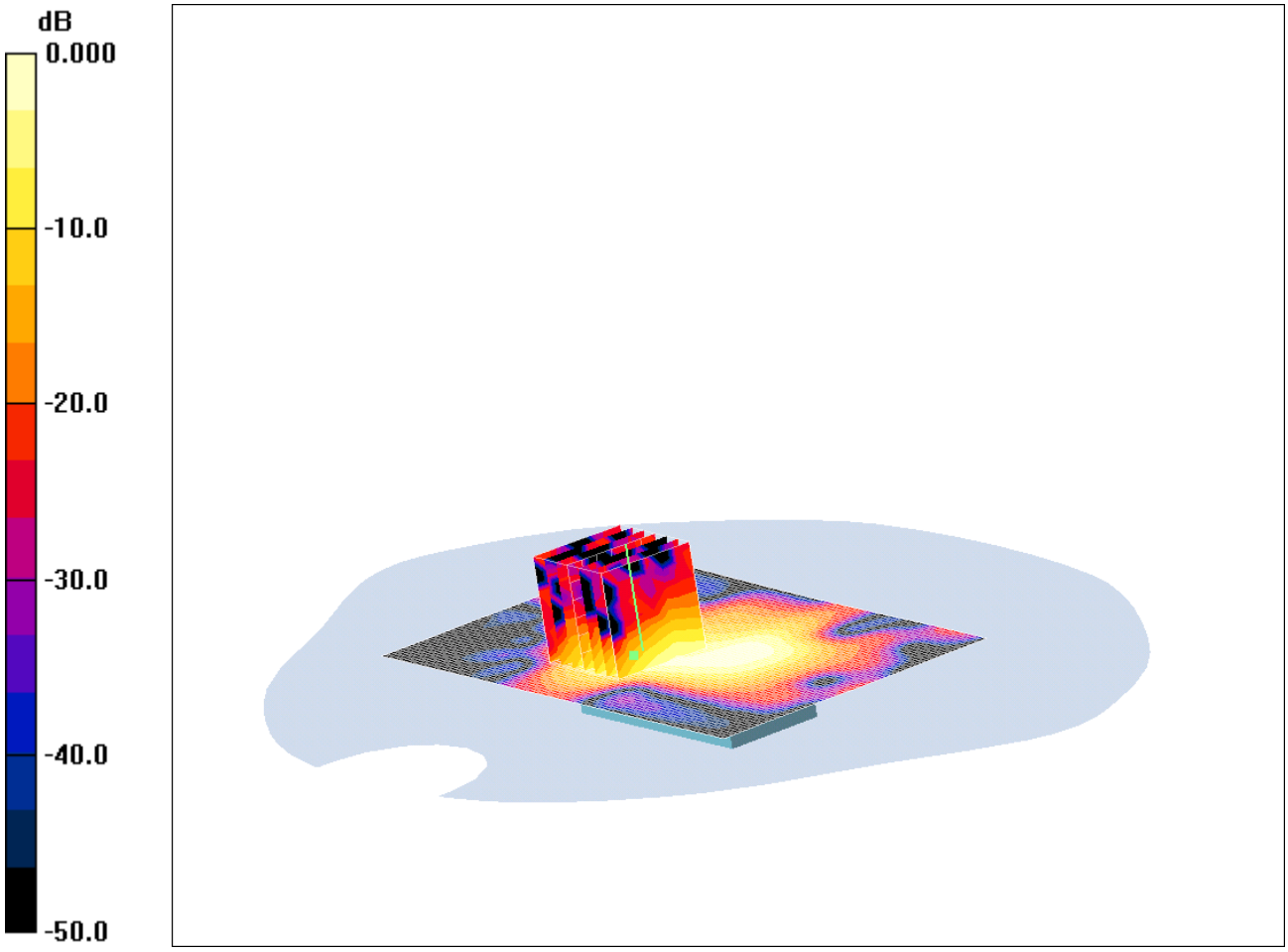
Horizontal- Up EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.145 mW/g

Horizontal- Up EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.87 V/m; Power Drift = 0.142 dB
Peak SAR (extrapolated) = 0.439 W/kg
SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.054 mW/g

Maximum value of SAR (measured) = 0.161 mW/g

SCN/79027JD01/023: Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18dBm
Date: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.198mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.48 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

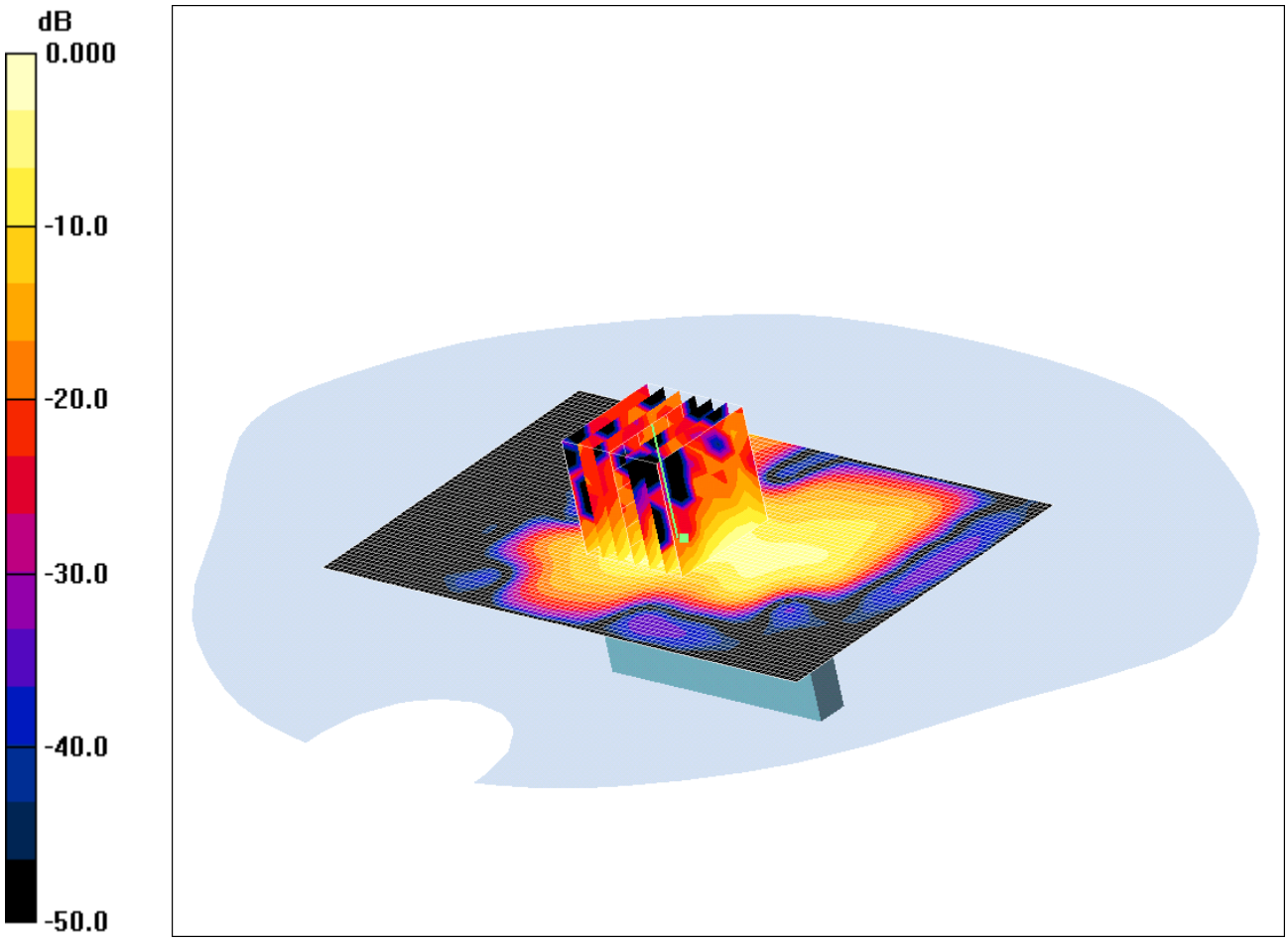
Horizontal- Down EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.186 mW/g

Horizontal- Down EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.24 V/m; Power Drift = 0.234 dB
Peak SAR (extrapolated) = 0.495 W/kg
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.057 mW/g

Maximum value of SAR (measured) = 0.198 mW/g

SCN/79027JD01/024: Vertical- Front EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18 dBm
Date/: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.094mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.48 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

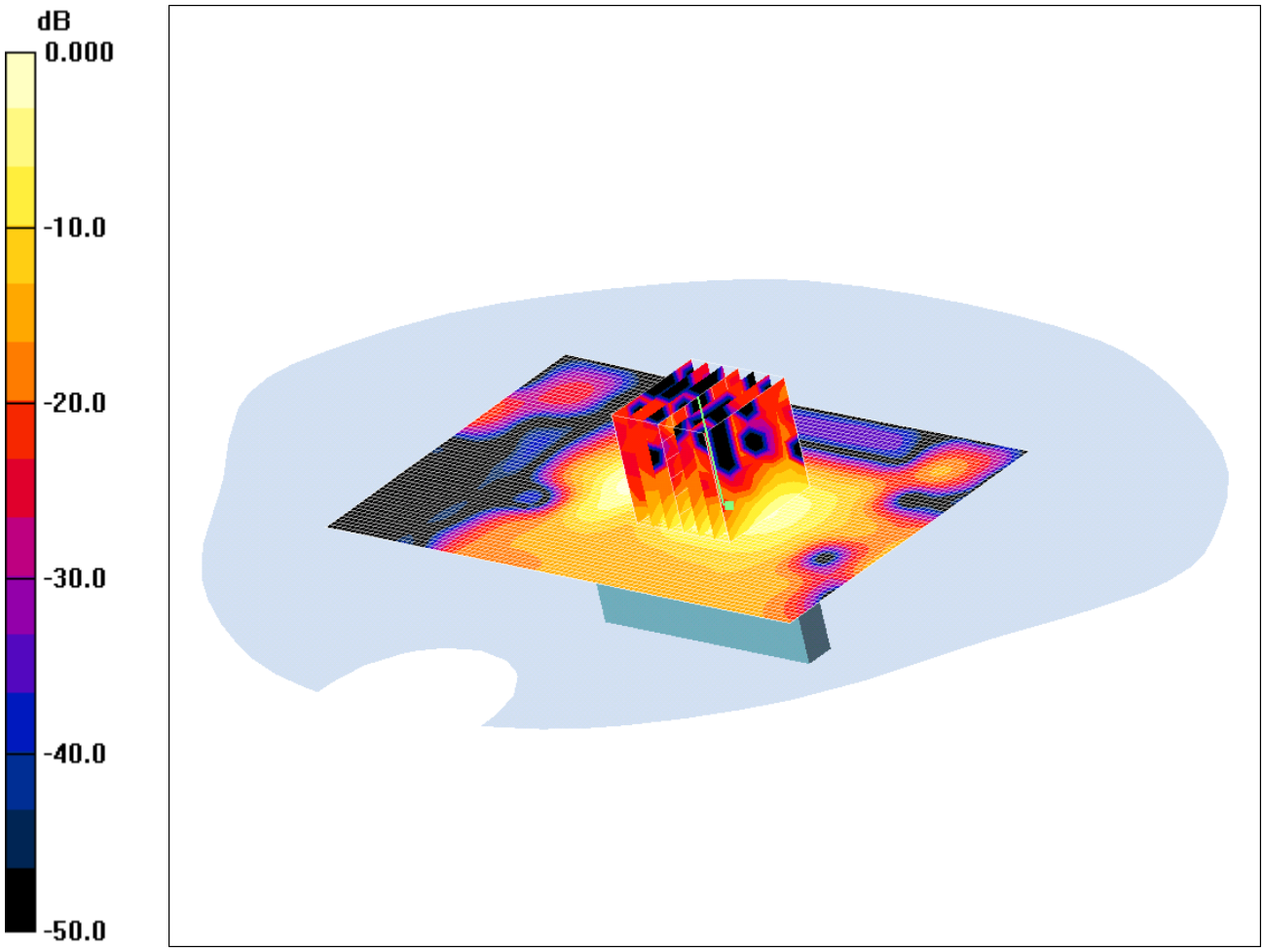
Vertical-Front EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.093 mW/g

Vertical-Front EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.09 V/m; Power Drift = 0.133 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.082 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.094 mW/g

SCN/79027JD01/025: Vertical- Back EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18 dBm
Date: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.090mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.48 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

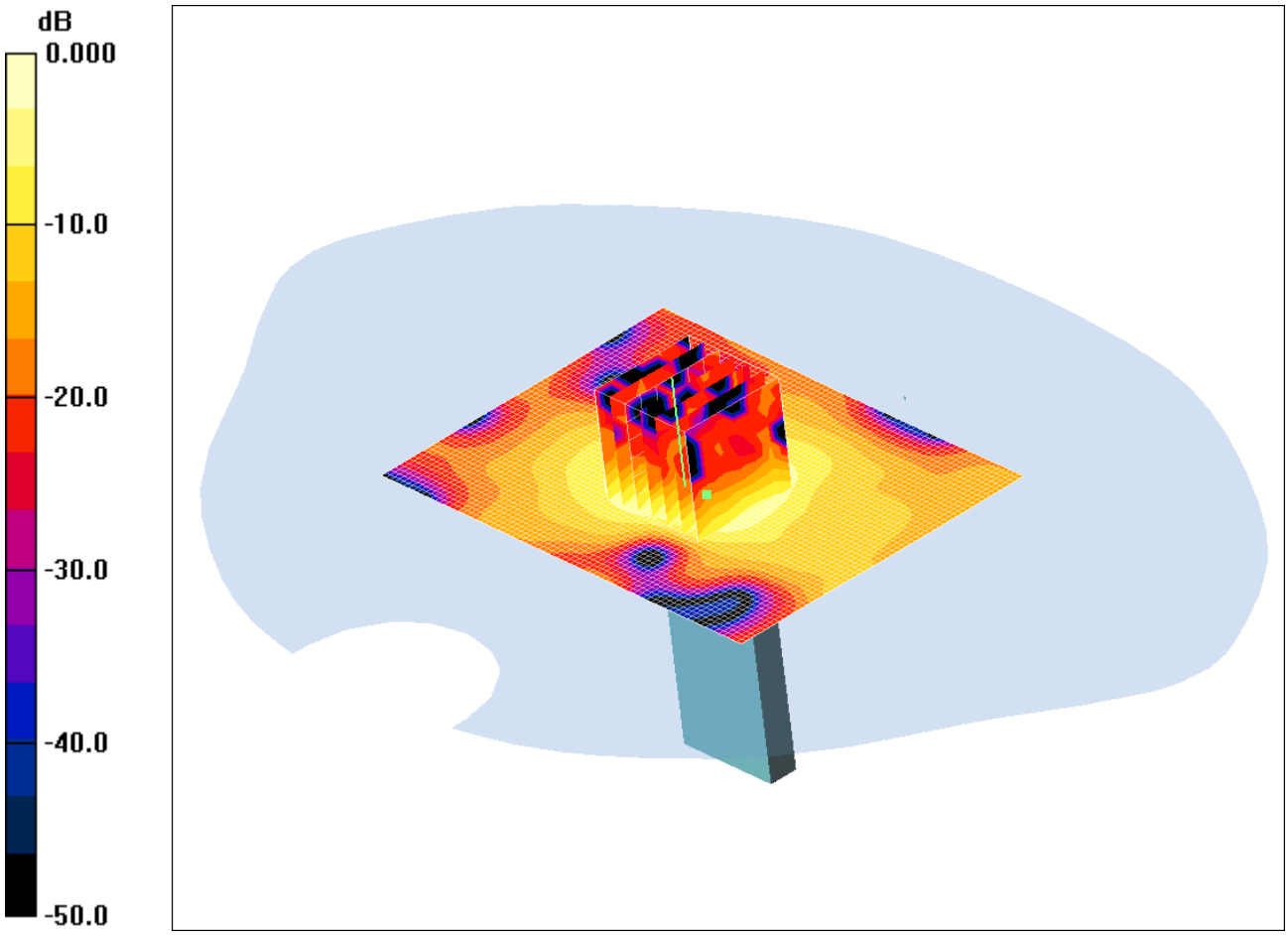
Vertical-Back EUT Facing Phantom – Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.103 mW/g

Vertical-Back EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.48 V/m; Power Drift = 0.320 dB
Peak SAR (extrapolated) = 0.196 W/kg
SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.027 mW/g

Maximum value of SAR (measured) = 0.090 mW/g

SCN/79027JD01/026: Top or Tip EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3675 MHz 18 dBm
Date: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.077mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3675 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3675 MHz; σ = 3.48 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

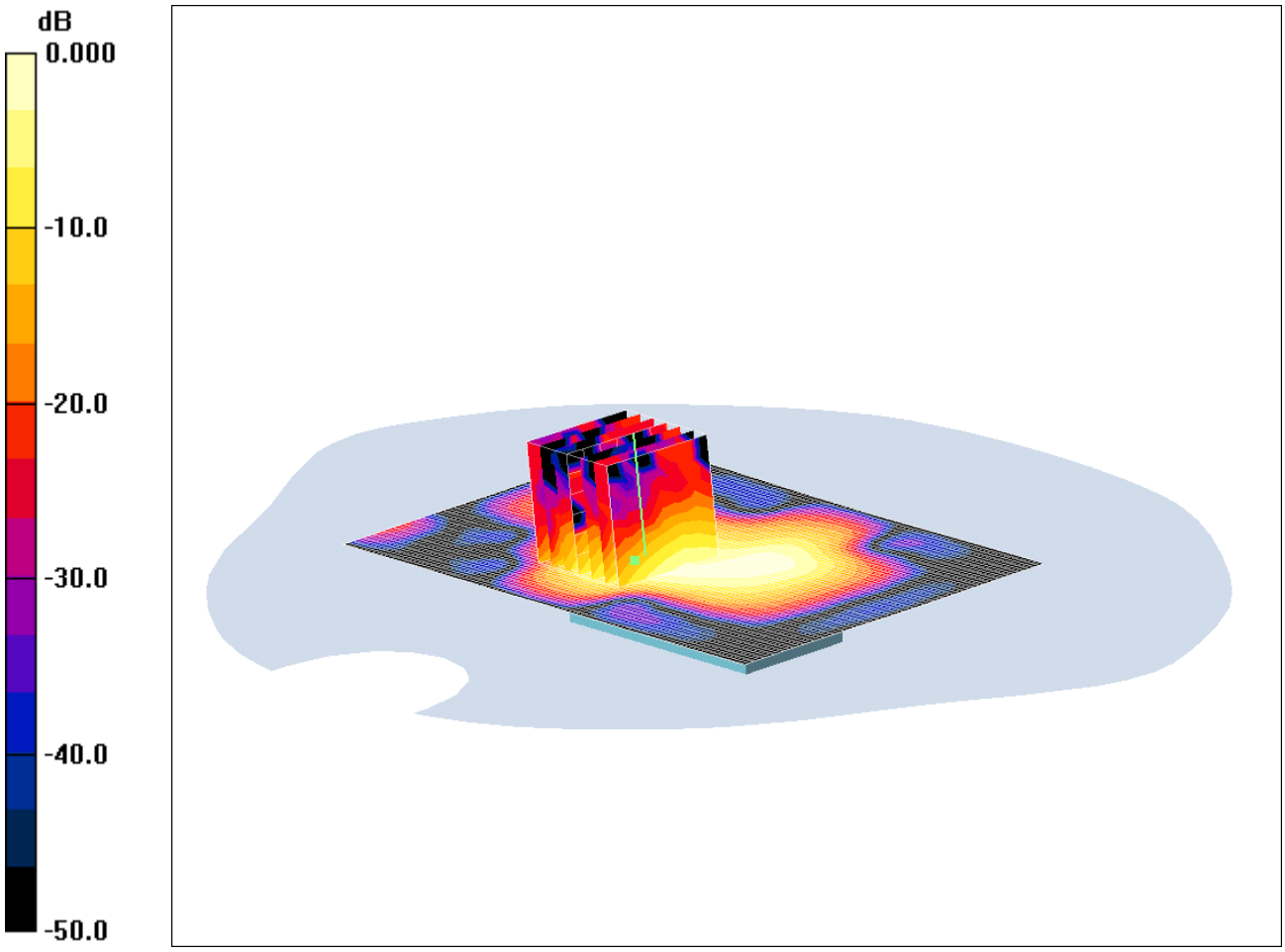
Top or Tip EUT Facing Phantom – Middle/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.085 mW/g

Top or Tip EUT Facing Phantom – Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.42 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.152 W/kg
SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.024 mW/g

Maximum value of SAR (measured) = 0.077 mW/g

SCN/79027JD01/027: Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3655 MHz 18dBm
Date: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.202mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3655 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3655 MHz; σ = 3.45 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

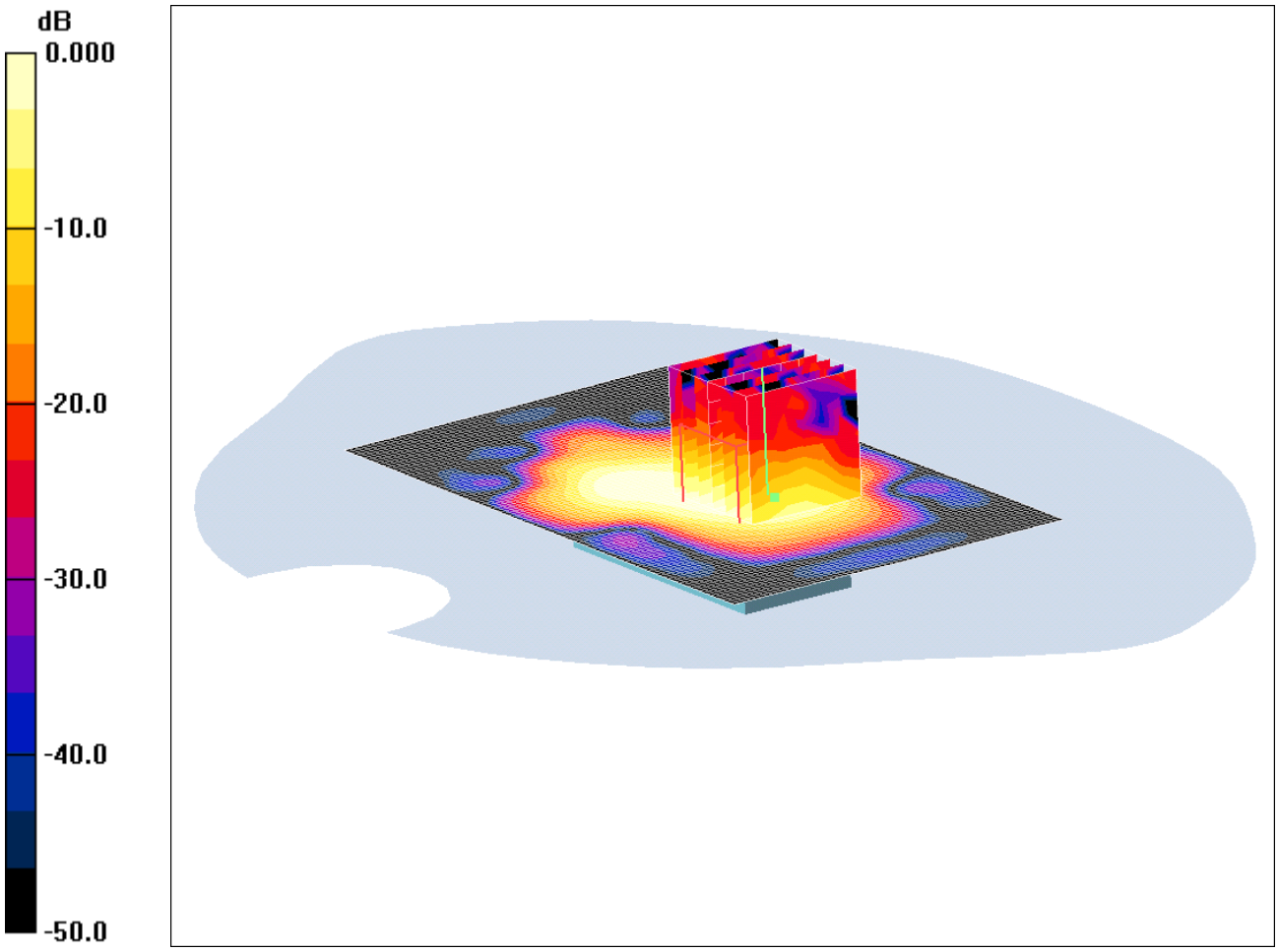
Horizontal- Down EUT Facing Phantom – Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.226 mW/g

Horizontal- Down EUT Facing Phantom – Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.24 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.505 W/kg
SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (measured) = 0.202 mW/g

SCN/79027JD01/028: Horizontal-Down EUT Facing Phantom Wi-MAX 16-QAM 10MHz BW 3695 MHz 18dBm
Date: 19/01/2011
DUT: Airspan Networks (Israeli) Ltd – Mobile WiMAX USB Modem; Type: USB Modem; Model: GWU-200; Serial: C00E30



0 dB = 0.176mW/g

Communication System: WiMAX – 10 MHz BW; Frequency: 3695 MHz;Duty Cycle: 1:3.2
Medium: 3700 MHz MSL Medium parameters used (interpolated): f = 3695 MHz; σ = 3.52 mho/m; ε_r = 49.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

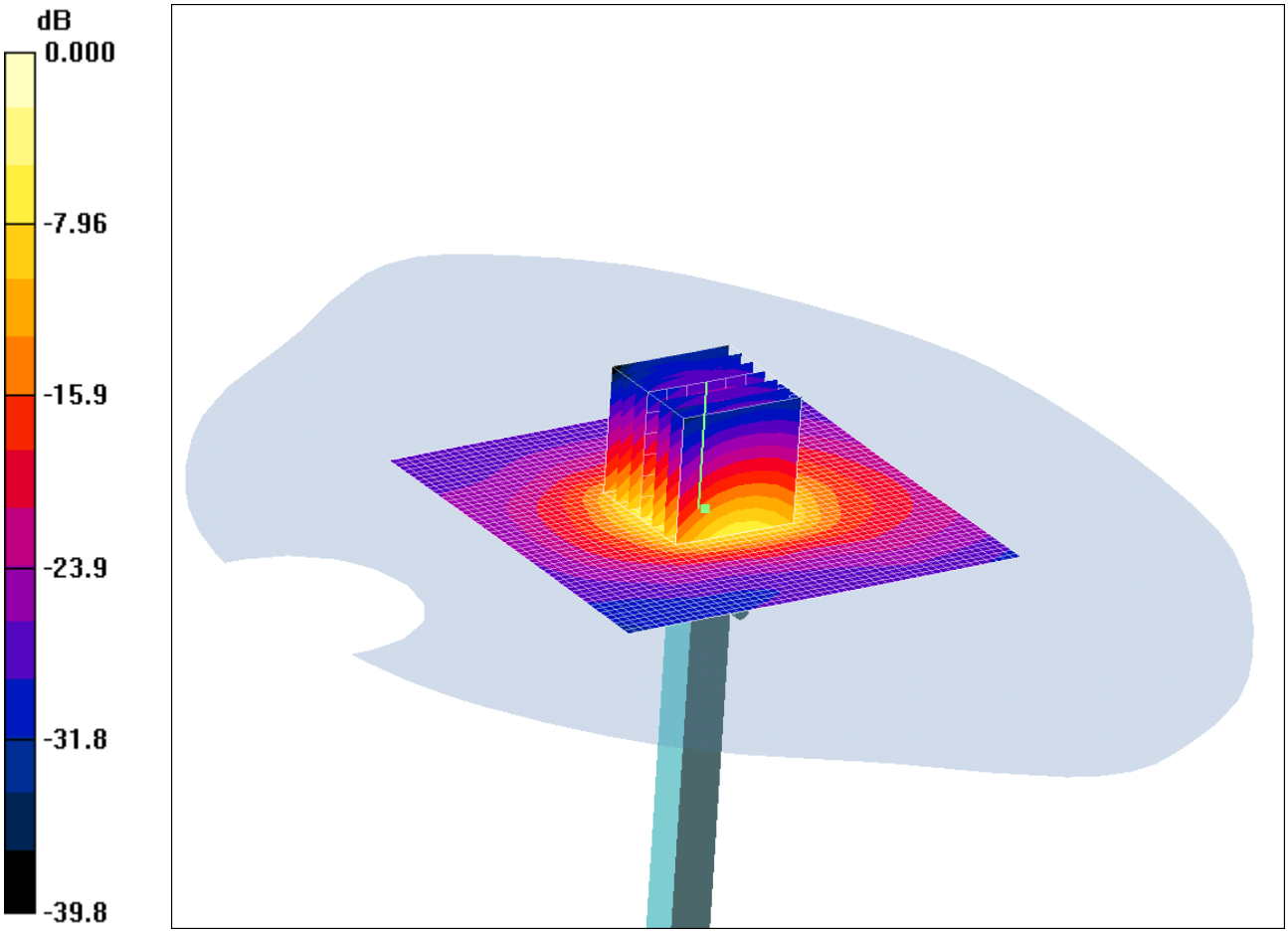
Horizontal- Down EUT Facing Phantom – High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.197 mW/g

Horizontal- Down EUT Facing Phantom – High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.98 V/m; Power Drift = 0.265 dB
Peak SAR (extrapolated) = 0.519 W/kg
SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.176 mW/g

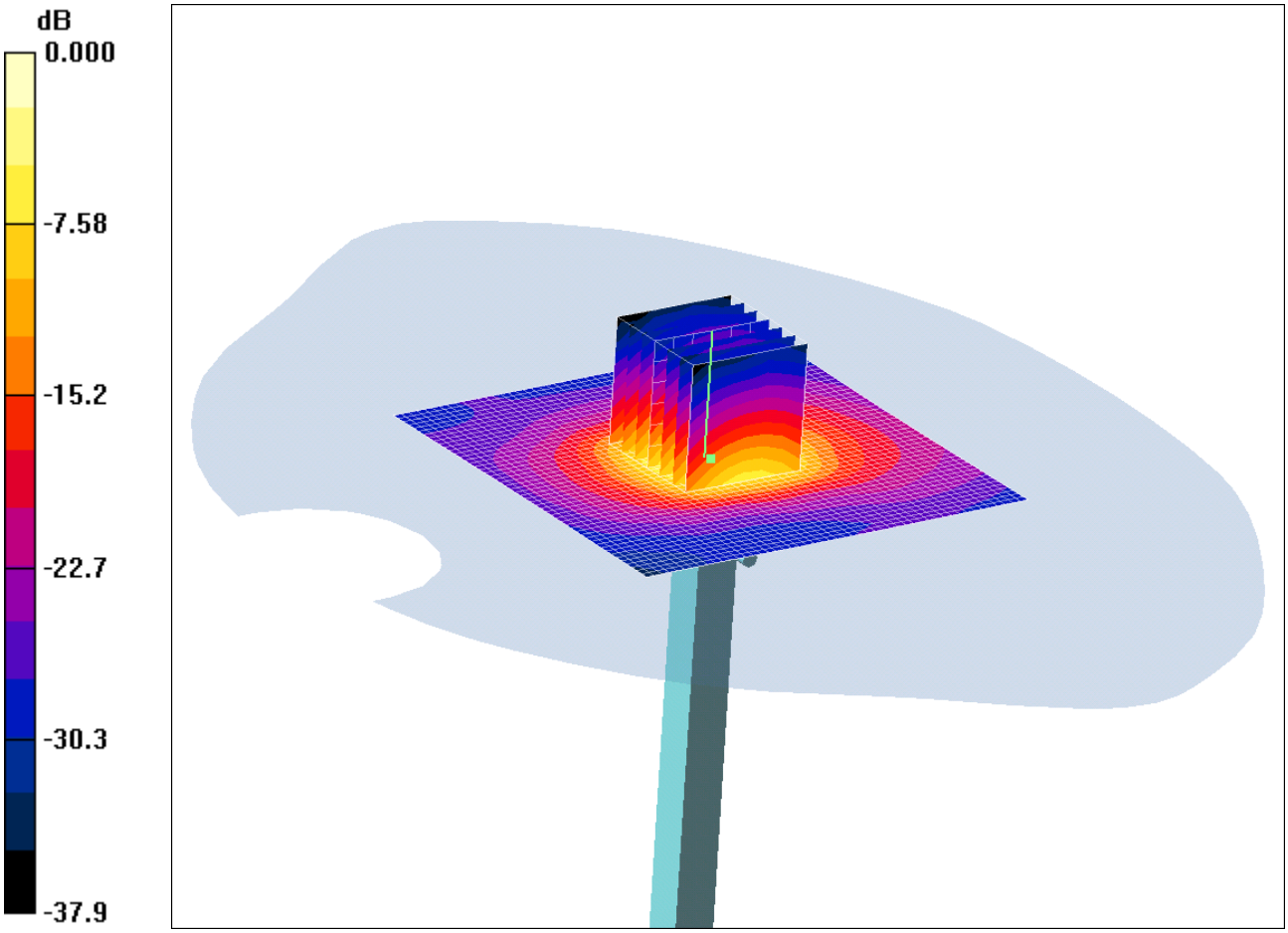
SCN/79027JD01/029: System Performance Check 3700 MHz Body 10 11 10
Date 10/11/2010
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003



0 dB = 18.3mW/g

Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3600 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.72 mho/m; ε_r = 48.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 20.1 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 72.0 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 51.8 W/kg
SAR(1 g) = 16.9 mW/g; SAR(10 g) = 5.89 mW/g
Maximum value of SAR (measured) = 18.3 mW/g

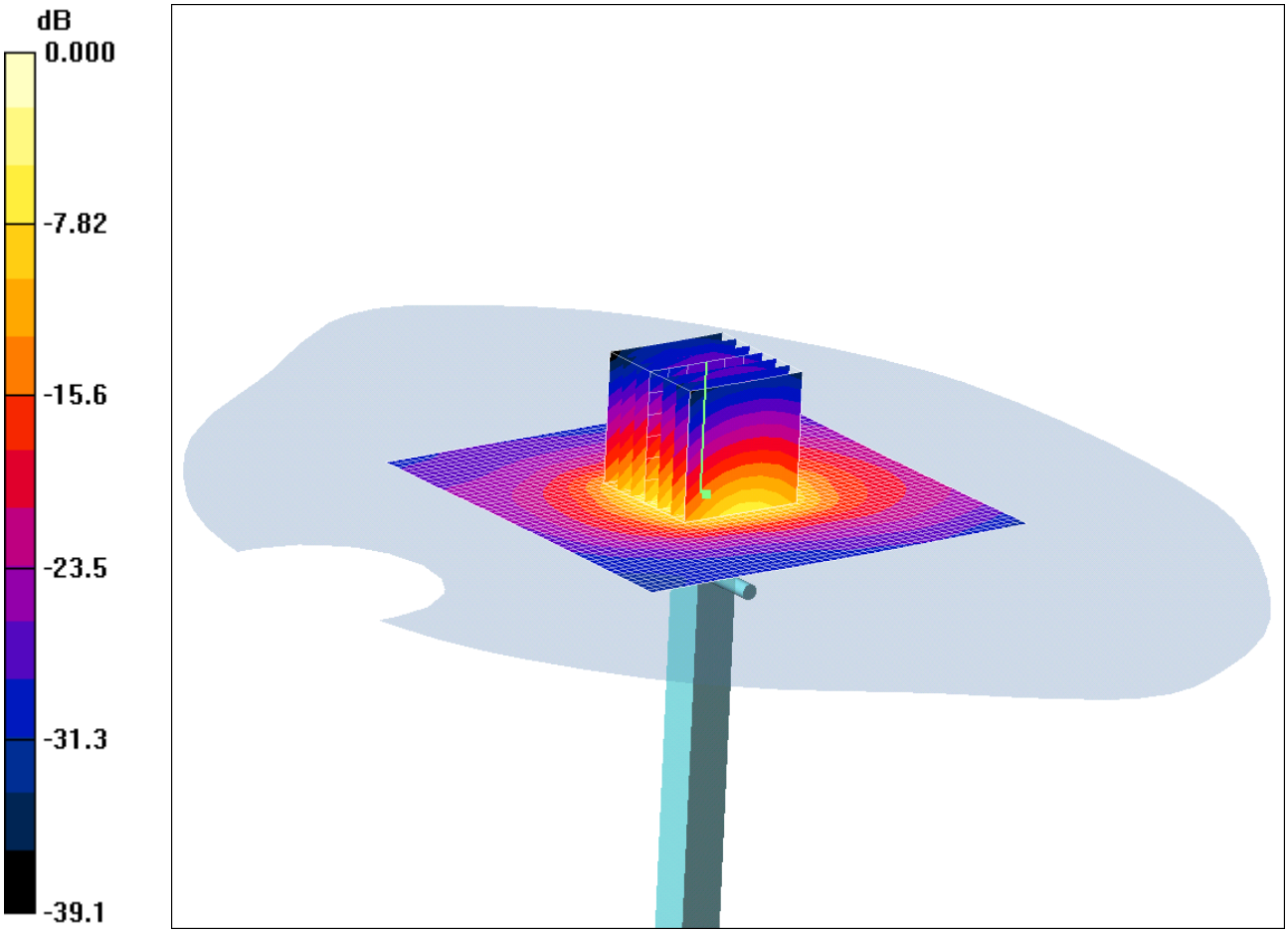
SCN/79027JD01/030: System Performance Check 3700 MHz Body 01 12 10
Date 01/12/2010
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003



0 dB = 18.6mW/g

Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3700 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.72 mho/m; ε_r = 48.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 20.8 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 72.0 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 51.7 W/kg
SAR(1 g) = 16.9 mW/g; SAR(10 g) = 5.89 mW/g
Maximum value of SAR (measured) = 18.6 mW/g

SCN/79027JD01/031: System Performance Check 3700 MHz Body 03 12 10
Date 03/12/2010
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003

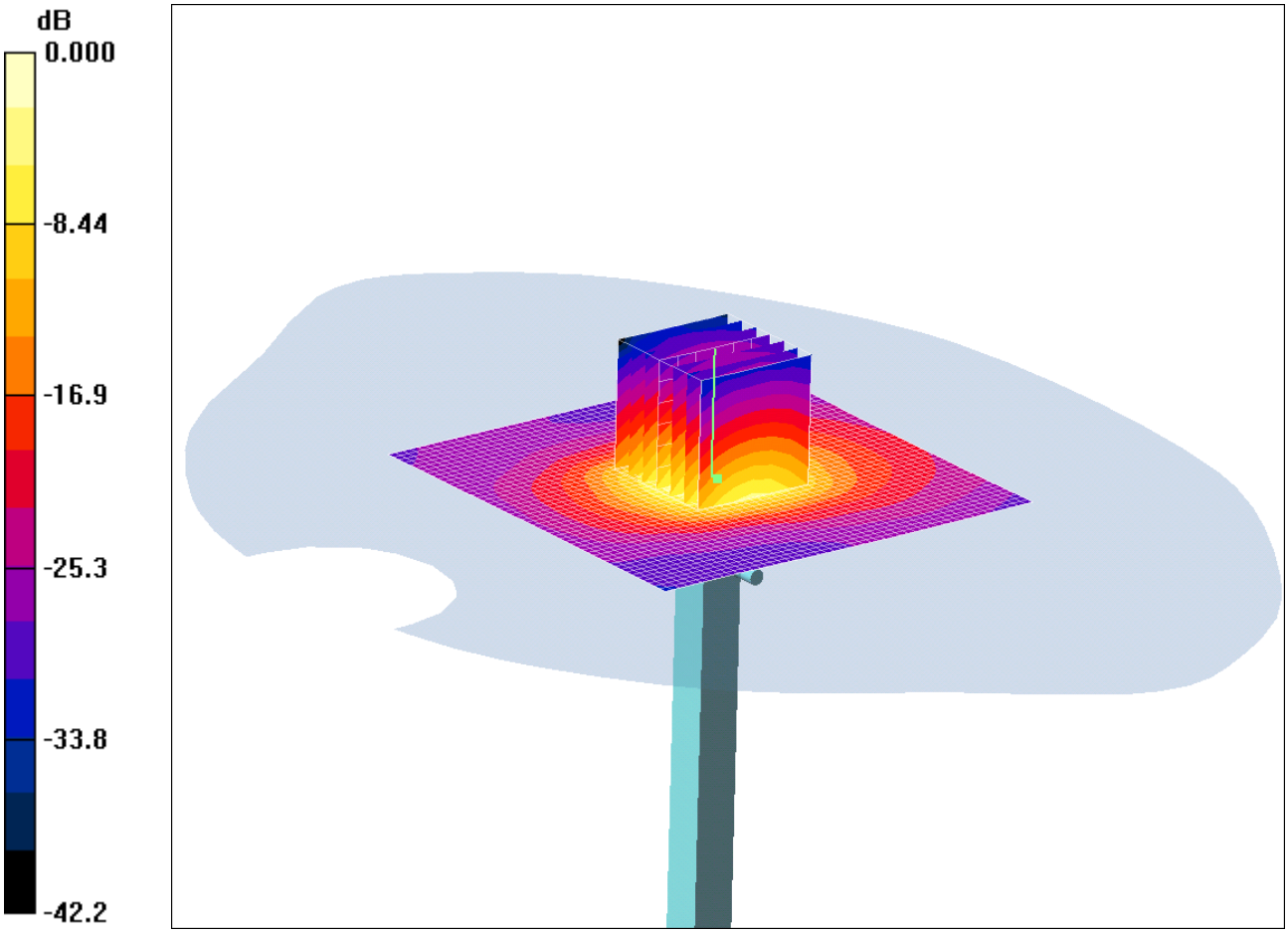


0 dB = 18.4mW/g

Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3700 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.58 mho/m; ε_r = 50.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 20.2 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 73.7 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 50.5 W/kg
SAR(1 g) = 16.8 mW/g; SAR(10 g) = 5.89 mW/g
Maximum value of SAR (measured) = 18.4 mW/g

SCN/79027JD01/032: System Performance Check 3700 MHz Body 06 12 10
Date 06/12/2010
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003

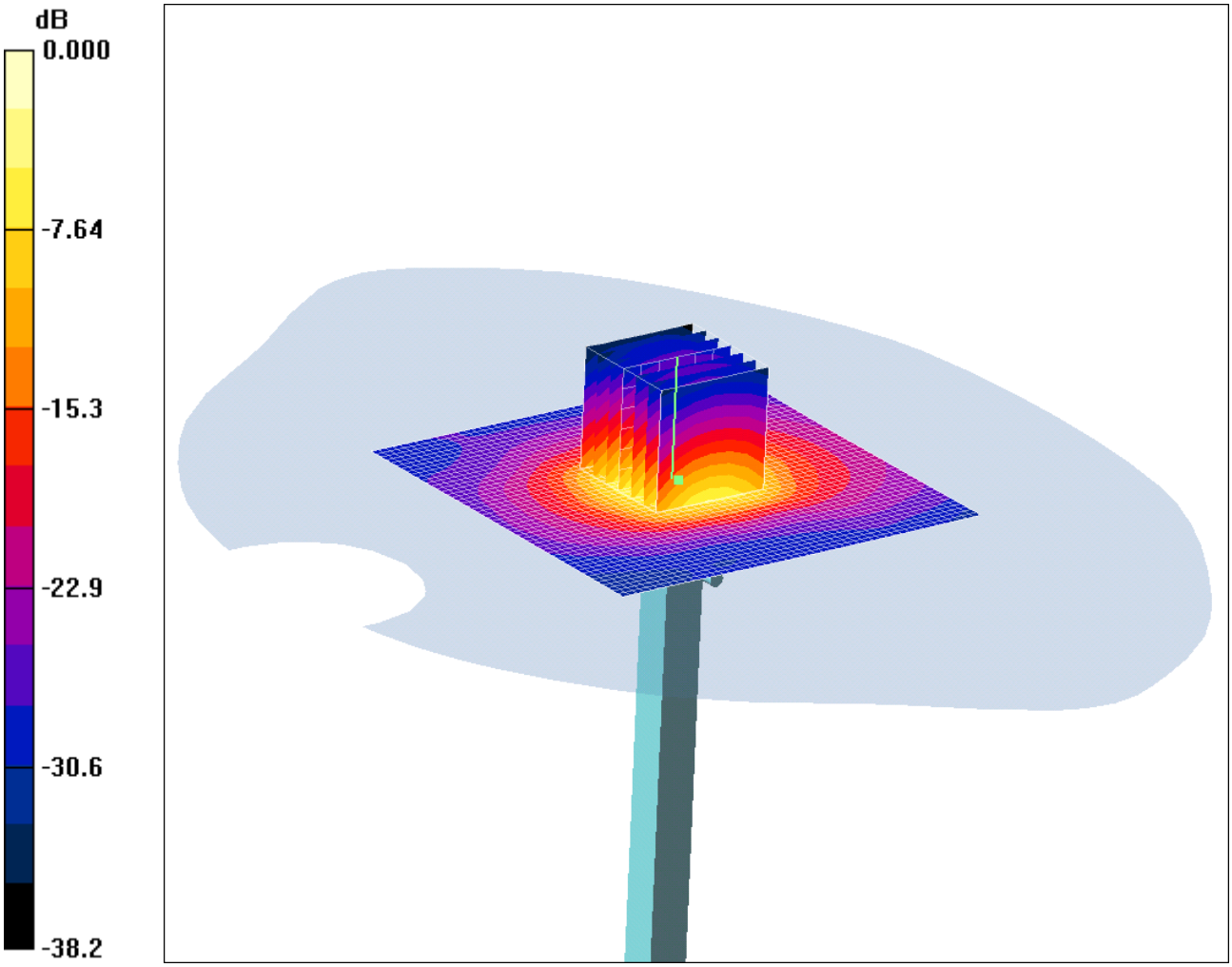


0 dB = 19.3mW/g

Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3700 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.7 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 21.2 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 72.0 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 50.1 W/kg
SAR(1 g) = 16.9 mW/g; SAR(10 g) = 5.93 mW/g
Maximum value of SAR (measured) = 19.3 mW/g

SCN/79027JD01/033: System Performance Check 3700 MHz Body 07 12 10
Date 07/12/2010
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003

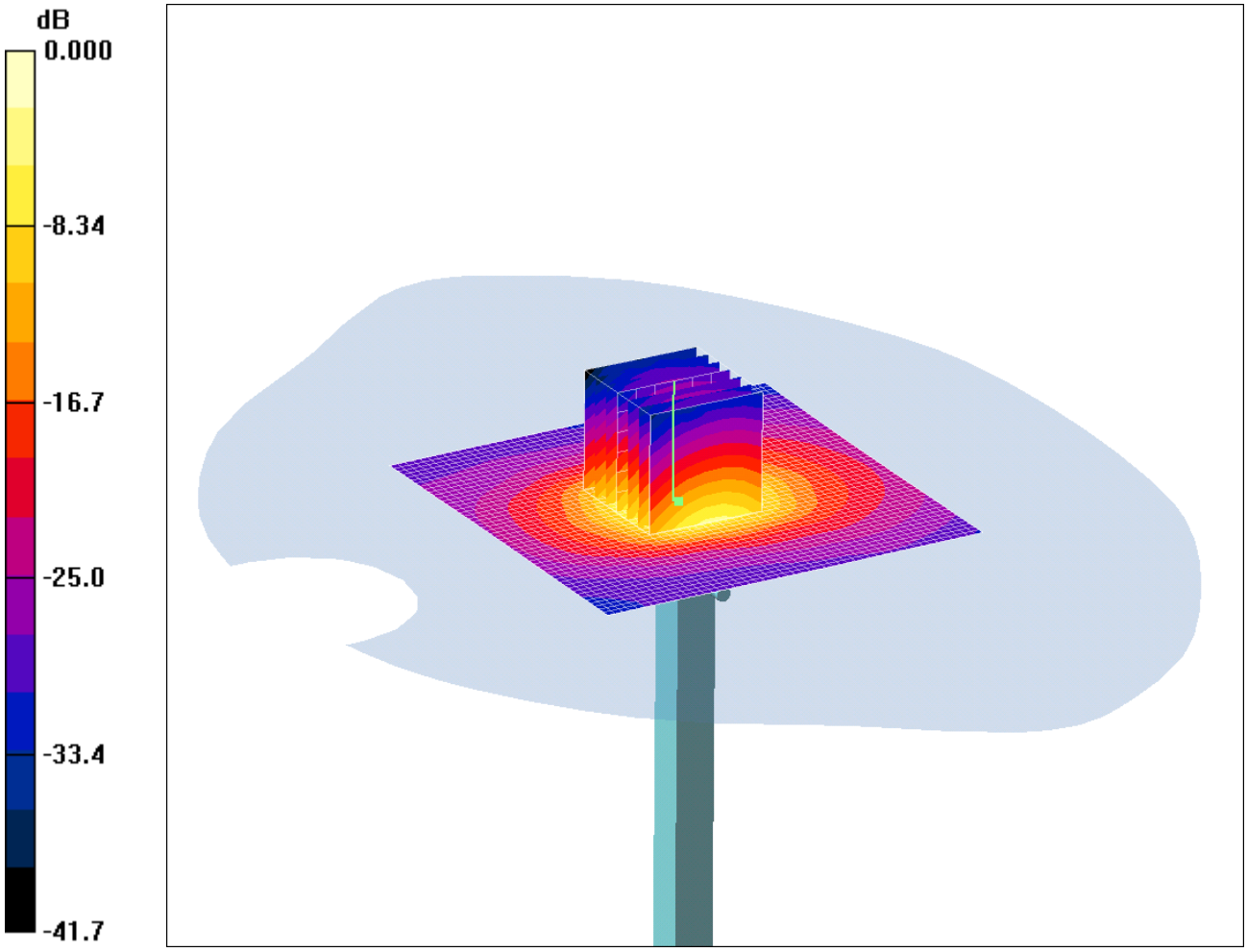


0 dB = 17.9mW/g

Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3700 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.7 mho/m; ε_r = 49; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 17.6 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 69.0 V/m; Power Drift = 0.073 dB
Peak SAR (extrapolated) = 47.0 W/kg
SAR(1 g) = 15.9 mW/g; SAR(10 g) = 5.61 mW/g
Maximum value of SAR (measured) = 17.9 mW/g

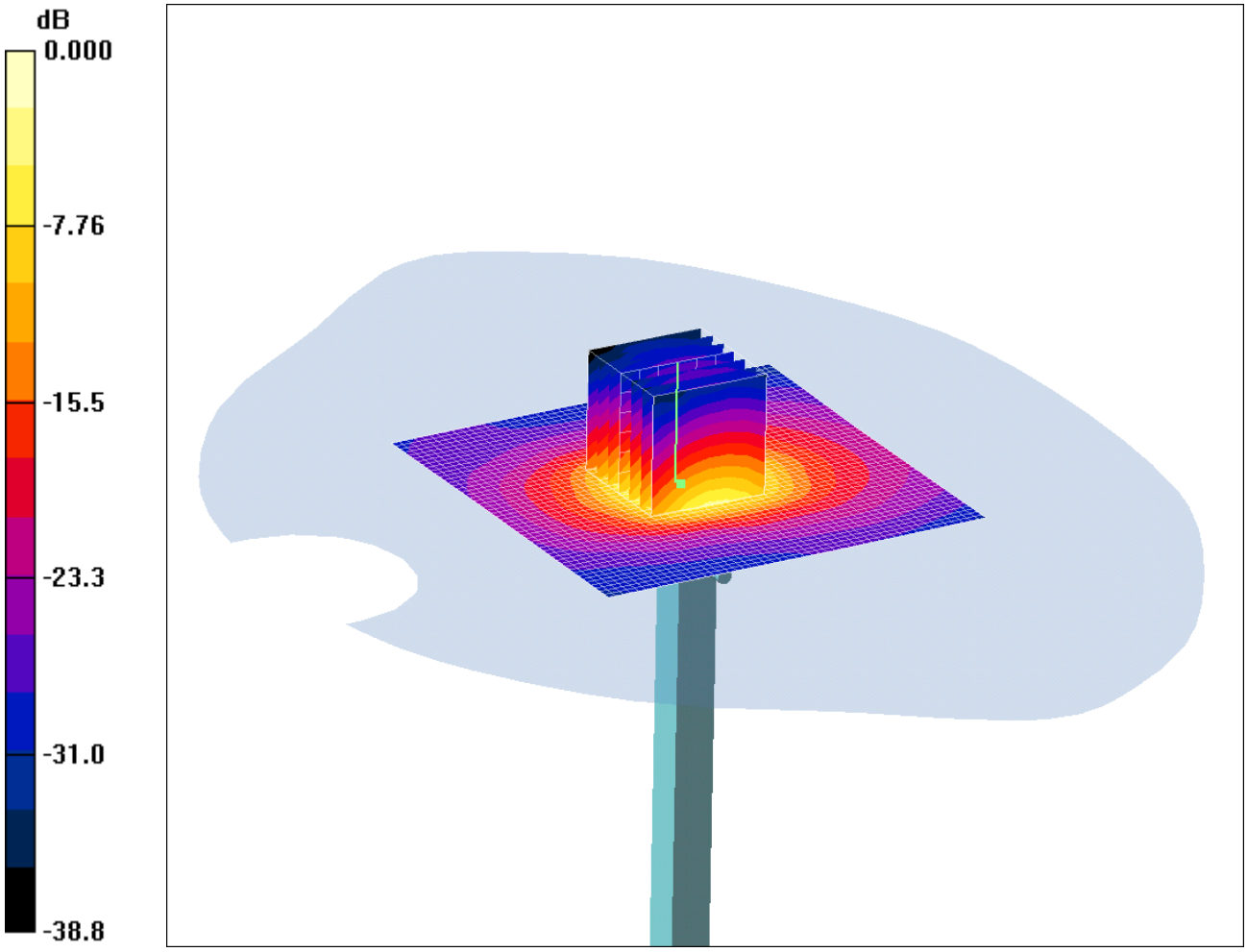
SCN/79027JD01/034: System Performance Check 3700 MHz Body 18 01 11
Date 18/01/2011
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003



0 dB = 17.7mW/g

Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3700 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.52 mho/m; ε_r = 49.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 20.9 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 73.0 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 51.8 W/kg
SAR(1 g) = 16.7 mW/g; SAR(10 g) = 5.86 mW/g
Maximum value of SAR (measured) = 17.7 mW/g

SCN/79027JD01/035: System Performance Check 3700 MHz Body 19 01 11
Date 19/01/2011
DUT: Dipole 3700 MHz; Type: D3700V2; Serial: D3700V2 – SN:1003



0 dB = 17.6mW/g

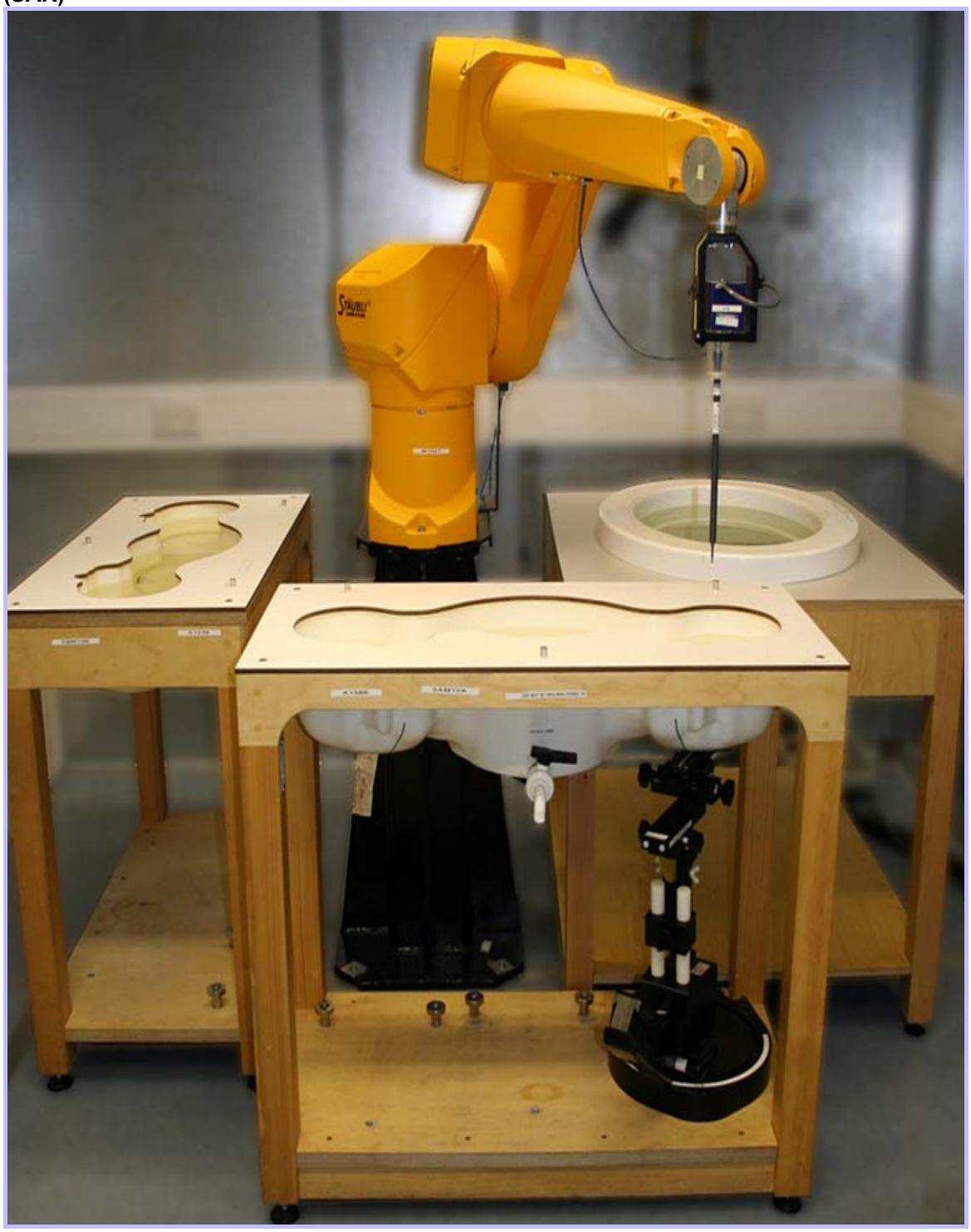
Communication System: CW; Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: 3700 MHz MSL Medium parameters used: f = 3700 MHz; σ = 3.52 mho/m; ε_r = 49.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: EX3DV3 – SN3508 (add ConvF); ConvF(6.48, 6.48, 6.48); Calibrated: 16/09/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn394; Calibrated: 19/04/2010
- Phantom: SAM 12b; Type: SAM 4.0; Serial: TP:1207
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176
d=10mm, Pin=250mW/Area Scan (51x51x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 21.3 mW/g
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 74.1 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 52.1 W/kg
SAR(1 g) = 16.8 mW/g; SAR(10 g) = 5.89 mW/g
Maximum value of SAR (measured) = 17.6 mW/g

Appendix 4. Photographs

This appendix contains the following photographs:

Photo Reference Number	Title
PHT/79027JD01/001	Test configuration for the measurement of Specific Absorption Rate (SAR)
PHT/79027JD01/002	Horizontal – Up of EUT Facing Phantom
PHT/79027JD01/003	Horizontal – Down of EUT Facing Phantom
PHT/79027JD01/004	Vertical – Front of EUT Facing Phantom
PHT/79027JD01/005	Vertical – Back of EUT Facing Phantom
PHT/79027JD01/006	Top or Tip of EUT Facing Phantom
PHT/79027JD01/007	Horizontal – Up View
PHT/79027JD01/008	Horizontal – Down View
PHT/79027JD01/009	Vertical – Front View
PHT/79027JD01/010	Vertical-Back View
PHT/79027JD01/011	Top or Tip View
PHT/79027JD01/012	USB Extension
PHT/79027JD01/013	3700 MHz Body Fluid Level
PHT/79027JD01/014	Linearity Test configuration
PHT/79027JD01/015	Internal View of EUT

PHT/79027JD01/001: Test configuration for the measurement of Specific Absorption Rate (SAR)



PHT/79027JD01/002: Horizontal - Up of EUT Facing Phantom

PHT/79027JD01/003: Horizontal - Down of EUT Facing Phantom

PHT/79027JD01/004: Vertical - Front of EUT Facing Phantom

PHT/79027JD01/005: Vertical - Back of EUT Facing Phantom

PHT/79027JD01/006: Top or Tip of EUT Facing Phantom

PHT/79027JD01/007: Horizontal - Up View

PHT/79027JD01/008: Horizontal - Down View

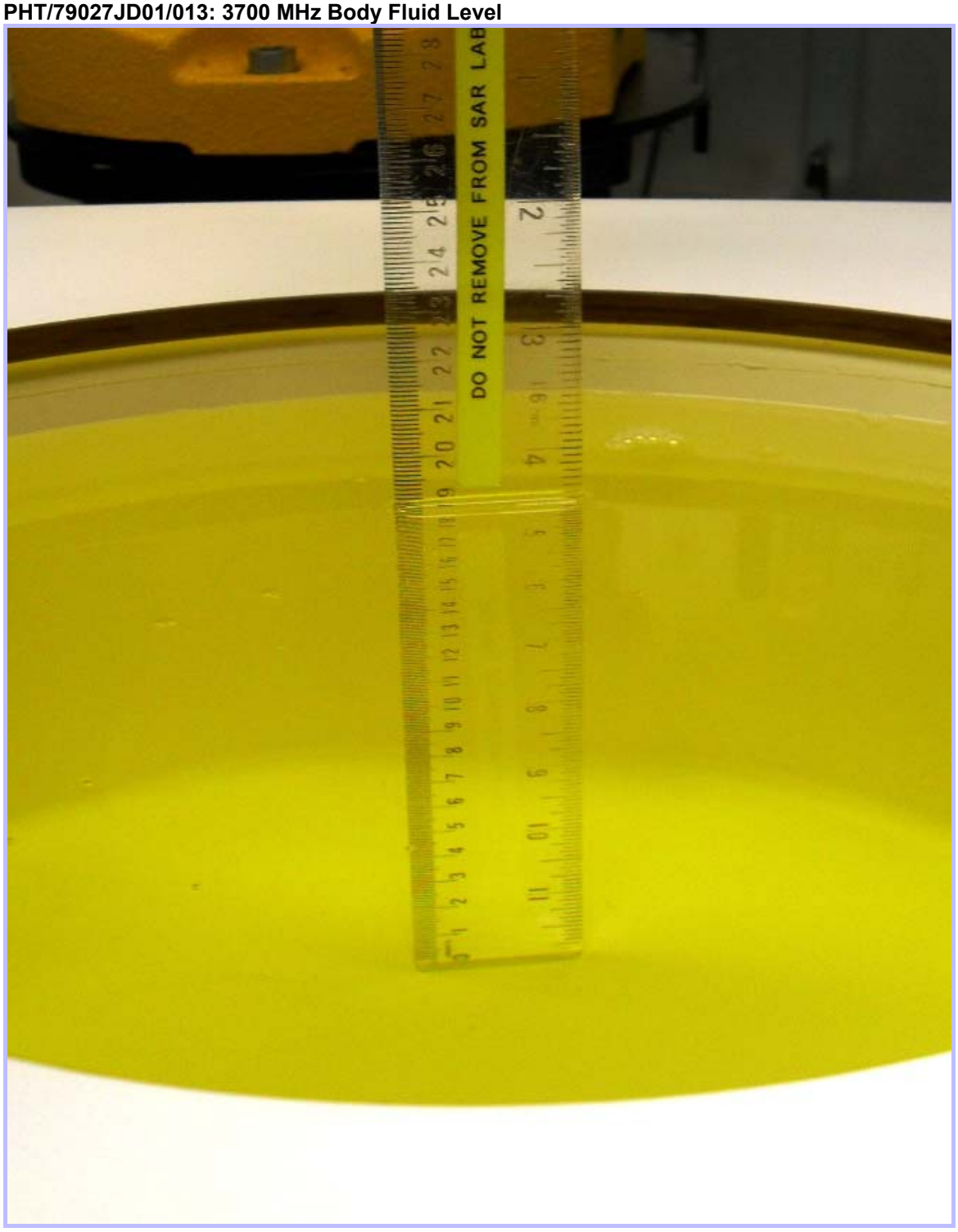
PHT/79027JD01/009: Vertical - Front View

PHT/79027JD01/010: Vertical-Back View

PHT/79027JD01/011: Top or Tip View

PHT/79027JD01/012: USB Extension

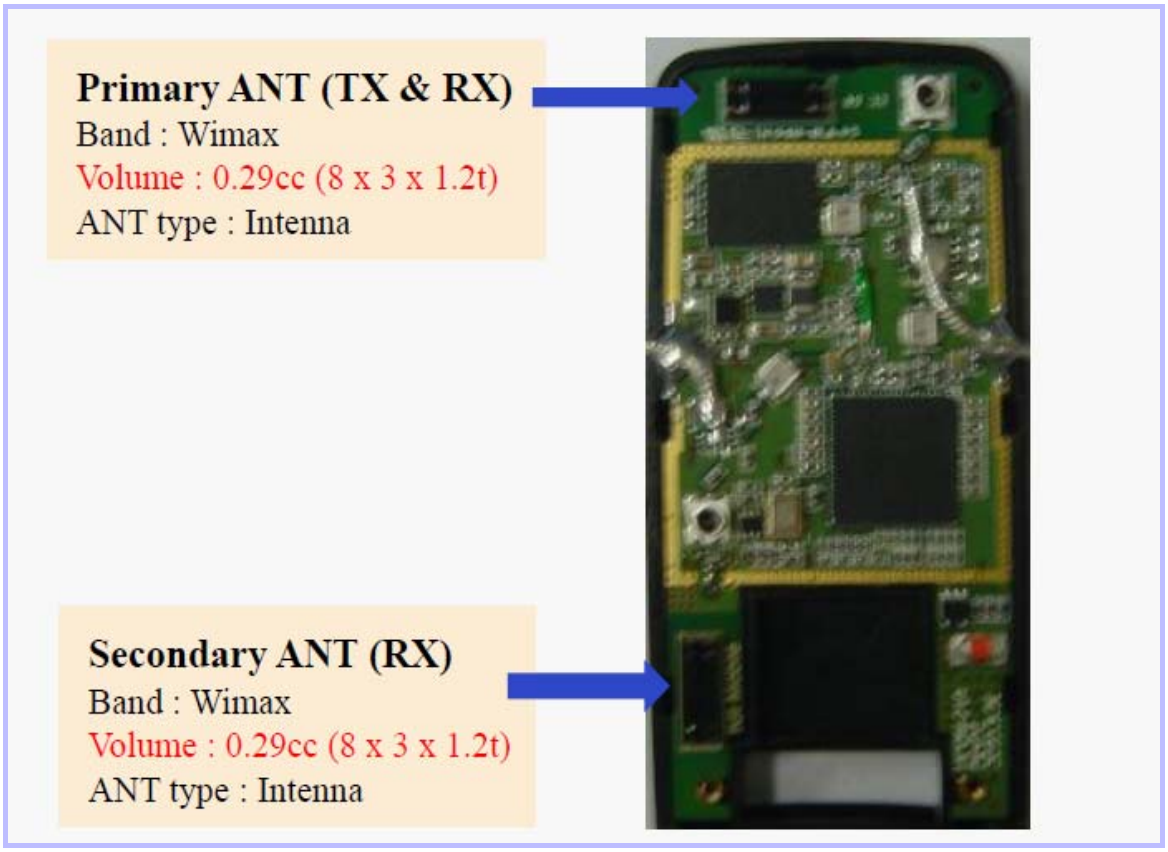
PHT/79027JD01/013: 3700 MHz Body Fluid Level



PHT/79027JD01/014: Linearity Test configuration

Note: Separation between the outer casing of the dongle and the phantom flat section was 0mm. The separation between the actual device antenna and phantom flat section was <2.5mm.

PHT/79027JD01/015: Internal View of EUT



Appendix 5. Validation of System

Prior to the assessment, the system was verified in the flat region of the phantom.
A 3700 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 3700 MHz dipole. The applicable verification (normalised to 1 Watt).

Date: 10/11/2010
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	21.6 ºC	ε_r	51.00	48.69	-4.53	5.00
				σ	3.55	3.72	4.66	5.00
				1g SAR	65.10	67.60	3.84	5.00
				10g SAR	23.30	23.56	1.12	5.00

Date: 01/12/2010
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	22.1 ºC	ε_r	51.00	48.77	-4.38	5.00
				σ	3.55	3.71	4.63	5.00
				1g SAR	65.10	67.60	3.84	5.00
				10g SAR	23.30	23.56	1.12	5.00

Date: 03/12/2010
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	22.2 ºC	ε_r	51.00	50.10	-1.76	5.00
				σ	3.55	3.57	0.62	5.00
				1g SAR	65.10	67.20	3.23	5.00
				10g SAR	23.30	23.56	1.12	5.00

Validation of System (Continued)

Date: 06/12/2010
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	22.8ºC	ε_r	51.00	48.97	-3.99	5.00
				σ	3.55	3.70	4.10	5.00
				1g SAR	65.10	67.60	3.84	5.00
				10g SAR	23.30	23.72	1.80	5.00

Date: 07/12/2010
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	22.8 ºC	ε_r	51.00	48.97	-3.99	5.00
				σ	3.55	3.70	4.10	5.00
				1g SAR	65.10	63.60	-2.30	5.00
				10g SAR	23.30	22.44	-3.69	5.00

Date: 18/01/2011
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	22.8 ºC	ε_r	51.00	49.34	-3.25	5.00
				σ	3.55	3.52	-0.90	5.00
				1g SAR	65.10	66.80	2.61	5.00
				10g SAR	23.30	23.44	0.60	5.00

Date: 19/01/2011
Validation Dipole and Serial Number: D3700V2; SN: 1003

Simulant	Frequency (MHz)	Room Temp	Liquid Temp	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)
Body	3700	23.0 ºC	22.8 ºC	ε_r	51.00	49.34	-3.25	5.00
				σ	3.55	3.52	-0.90	5.00
				1g SAR	65.10	67.20	3.23	5.00
				10g SAR	23.30	23.56	1.12	5.00

Appendix 6. Simulated Tissues

The body mixture consists of Polysorbate 20, Water and salt. 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
	2450/3700 MHz Body
De-Ionized Water	71.70
Polysorbate 20 (Tween 20)	28.00
Salt	0.30

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	
Serial Number:	DAE3 SN:394
PC 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
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