

 MOTOROLA	 ACCREDITED TESTING CERT: 2518.01
---	---

FCC ID: IHDT56GP1
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 1 of 3

Networks & Enterprise EME Test Laboratory 8000 West Sunrise Blvd Fort Lauderdale, FL. 33322	Date of Report: January 10, 2007 Report Revision: 0 Report ID: ic902_Rev O_070110 SR4605
--	--

<p>Responsible Engineer: Stephen C. Whalen (EME Principle Staff Engineer) Date/s Tested: 12/12/06-12/21/06 Manufacturer/Location: Motorola – Chandler, AZ Sector/Group/Div.: iDEN Mobile Devices Date submitted for test: 12/01/06 DUT Description: CDMA2000 / EV-DO signaling; TDMA, 1:6 iDEN, 16QAM Modulation; MOTotalk, FHSS, 114:120 8FSK; Bluetooth Class 2 and GPS capable Test TX mode(s): CDMA2000 / EV-DO, iDEN 1:6, MOTotalk 114:120, Bluetooth CW Max. Power output: CDMA – 295.1mW, iDEN – 640mW, MOTotalk – 891mW, Bluetooth – 2.5mW Nominal Power: CDMA – 251.2mW (conducted), iDEN - 600mW (conducted), MOTotalk – 850mW (conducted), Bluetooth 1.0mW (conducted) Tx Frequency Bands: CDMA2000 - 1851.250-1909.950MHz, iDEN– 806-825MHz, MOTotalk - 902-928MHz, Bluetooth 2.402-2.480GHz Signaling type: CDMA2000 / EV-DO; iDEN TDMA; MOTotalk - (FHSS 8FSK), Bluetooth Class 2 Model(s) Tested: H93ZAH9JR7AN Model(s) Certified: H93ZAH9JR7AN Serial Number(s): 364AGW0262, 364AGW025D Classification: General Population/Uncontrolled Rule Part(s): 15C (MOTotalk and BT), 90 (iDEN) & 24E (CDMA)</p> <p>Approved Accessories: Antenna(s): 8575175B01, Multi-band retractable (1850-1990MHz, ½ wave, -0.15dBd; 902-928MHz, ¼ wave, -1.55dBd; 806-870MHz, ¼ wave, -1.75dBd)</p> <p>Battery(ies): SNN5782B (BT 70 High Capacity Battery, Li Ion), NTN2356NA (High Capacity Battery Cover) SNN5759A (BT 90 Maximum Capacity Battery, Li Ion), NTN2357NA (Maximum Capacity Battery Cover)</p> <p>Body worn accessory(ies): NNTN6757A (Swivel carry holster)</p> <p>Audio/Data cable accessory(ies): NNTN5330A (PTT headset, ear bud), NNTN5004A (PTT headset, over-the-ear), NNTN5005A (PTT headset, over-the-head), NNTN5006A (PTT headset, flexible ear wrap), NNTN5751A (Stereo mixing headset w/ PTT), NNTN5752A (Stereo mixing headset w/ PTT), NNTN5211A (2-wire surveillance headset w/ PTT), NNTN6312A (3-wire surveillance headset w/PTT), NNTN5774A (Stereo headset w/ PTT), NNTN6365A (Stereo headset adapter), NNTN6531A (USB data cable), SKN6371C (USB data cable)</p> <p style="text-align: center;">Max. Calc. : 1-g Avg. SAR: 1.41 W/kg (Body); 10-g Avg. SAR: 1.01 W/kg (Body) Max. Calc. : 1-g Avg. SAR: 0.72 W/kg (Face); 10-g Avg. SAR: 0.51 W/kg (Face) Max. Calc. : 1-g Avg. SAR: 1.53 W/kg (Head); 10-g Avg. SAR: 0.75 W/kg (Head)</p>	
---	---

Based on the information and the testing results provided herein, the undersigned certifies that when used as stated in the operating instructions supplied, said product complies with the national and international reference standards and guidelines listed in section 2.0 of this report. This report shall not be reproduced without written approval from an officially designated representative of the Motorola EME Laboratory.

This reporting format is consistent with the test report guidelines of the TIA TSB-150 December 2004
 The results and statements contained in this report pertain only to the device(s) evaluated.

Signature on file Deanna Zakharia N&E EME Lab Senior Resource Manager, Laboratory Director, Approval Date: 1/10/07	Certification Date: <input type="checkbox"/> Certification No.: <input type="checkbox"/>
---	---

Part 1 of 3

1.0 Introduction and Overview..... 3
 2.0 Referenced Standards and Guidelines..... 3
 2.1 SAR Limits..... 4
 3.0 Description of Device Under Test (DUT)..... 4
 4.0 Description of Test System 5
 4.1 Description of Robotics/Probes/Readout Electronics..... 5
 4.2 Description of Phantom(s)..... 5
 4.2.1 Flat Phantom..... 5
 4.2.2 SAM Phantom..... 6
 4.3 Description of Equivalent Tissues 6
 5.0 Additional Test Equipment..... 7
 6.0 SAR Measurement System Verification..... 7
 6.1 Equivalent Tissue Test results 7
 6.2 System Check Test results 8
 7.0 DUT Test Strategy and Methodology 9
 7.1 DUT Configuration(s) 9
 7.2 Device Positioning Procedures..... 12
 7.2.1 Body 12
 7.2.2 Head 12
 7.2.3 Face 12
 8.0 Environmental Test Conditions..... 12
 9.0 Test Results Summary..... 13
 9.1 Highest SAR results calculation methodology 22
 10.0 Conclusion..... 22

APPENDICES

A Measurement Uncertainty 23
 B Probe Calibration Certificates 26

Part 2 of 3

C Dipole Calibration Certificates..... 2
 D Test System Verification Scans..... 21

Part 3 of 3

E DUT Scans (Shortened Scans and Highest SAR configurations) 2
 F DUT Supplementary Data (e.g. Power Slump) 12
 G DUT Test Position Photos 14
 H DUT and Body-worn Accessory Photos 19
 I DUT Antenna Separation Distances and Offered Accessory Test Status 20

Report Revision History

Date	Revision	Comments
01/10/07	O	Initial release

1.0 Introduction and Overview

This report details the utilization, test setup, test equipment, and test results of the Specific Absorption Rate (SAR) measurements performed at the N&E EME Test Lab for the model number H93ZAH9JR7AN of FCC ID: IHDT56GP1. The results herein reflect initial test results.

2.0 Referenced Standards and Guidelines

This product is designed to comply with the following applicable national and international standards and guidelines.

- IEC62209-1(2005) Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)
- United States Federal Communications Commission, Code of Federal Regulations; Rule Part 47CFR § 2.1093 sub-part J:1999
- Federal Communications Commission, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.
- IEEE 1528, 2003 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques"
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-2005 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz, 1999
- Australian Communications Authority Radiocommunications (Electromagnetic Radiation - Human Exposure) Standard 2003
- ANATEL, Brazil Regulatory Authority, Resolution No. 303 of July 2, 2002 "Regulation of the limitation of exposure to electrical, magnetic, and electromagnetic fields in the radio frequency range between 9KHz and 300 GHz." and "Attachment to resolution # 303 from July 2, 2002"
- Federal Communications Commission, "SAR Measurement Procedures for 3G Devices, CDMA / Ev-Do, WCDMA / HSDPA", Laboratory Division OET, June 2006, Revision 1.

2.1 SAR Limits

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average - ANSI - (averaged over the whole body)	0.08	0.4
Spatial Peak - ANSI - (averaged over any 1-g of tissue)	1.60	8.0
Spatial Peak - ICNIRP/ANSI - (hands/wrists/feet/ankles averaged over 10-g)	4.0	20.0
Localized SAR - ICNIRP - (Head and Trunk 10-g)	2.0	10.0

3.0 Description of Device Under Test (DUT)

FCC ID: IHDT56GP1 is a digital multi-service data capable device that contains four independent transmitter circuits. The CDMA 2000 / EV-DO transmitter operates exclusively in the 1900MHz PCS band and supports phone and data modes. The iDEN transmitter operates in the 800MHz band and only supports dispatch (PTT) communications. Only one transmitter can be intentionally accessed at a time. Incidental and transitory signaling traffic may be present on the 800MHz iDEN network while a CDMA call is in progress but is limited to that required to maintain network mobility and is well under 30 seconds. The details of this operation can be found in Exhibit 12. This product also contains a MOTotalk transmitter which operates in the 900MHz ISM band. MOTotalk functionality is enabled by exiting the standard operating mode. This product is equipped with Bluetooth in the 2.4GHz band and is GPS capable.

Transmission within the CDMA 2000 1900MHz band employs code division multiple access and EV-DO schemes with 100% duty cycles. The iDEN 800MHz transmission band employs time division multiplexing transmission technology with a duty cycle of 16.67% using M16-QAM modulation for PTT transmissions. MOTotalk transmission employs a frequency hopping digital spread spectrum format operating in the 900 MHz ISM band. MOTotalk uses a transmission duty cycle of 114:120 with 8 FSK modulation. MOTotalk operates only in PTT mode in front of the face or at the abdomen with the applicable offered audio accessories. This device also contains 2.4 GHz Bluetooth class 2 technology.

This device will be marketed to and used by the general population. This device may be used while held against the head in CDMA 2000 phone and iDEN PTT (low audio output) modes, in front of the face in iDEN PTT and MOTotalk PTT modes (high audio output), as well as against the body using the appropriate audio and data accessories in CDMA 2000 /EV-DO phone/data, iDEN PTT and MOTotalk PTT modes. The Bluetooth technology allows you to connect wirelessly to a number of Bluetooth devices, such as headsets and hands-free car kits, and Bluetooth-enabled handhelds, PCs, printers, and wireless phones.

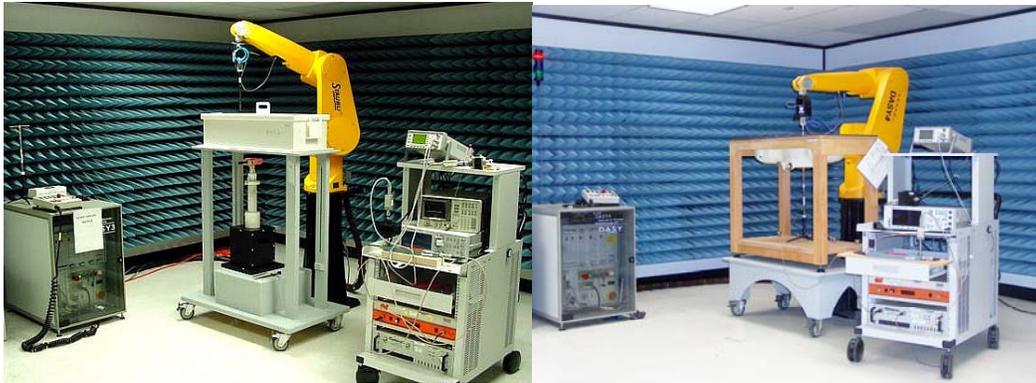
FCC ID: IHDT56GP1 is capable of operating in the CDMA 2000 / EV-DO in the 1851.250-1909.950MHz band, iDEN 806-825 MHz band, MOTotalk 902-928MHz band and Bluetooth 2.402-2.480 GHz band. The rated conducted power is 0.2512 watts in the CDMA 2000 band, 0.600 watts pulse average in iDEN band, 0.850 watts pulse average in the MOTotalk band and

1.0 mW for Bluetooth band. The maximum conducted output power is 0.2951 watts, 0.640 watts pulse average, 0.891 watts pulse average and 2.5 mW respectively as defined by the upper limit of the production line final test station.

Test Output Power

A table of the characteristic power slump versus time is provided in Appendix F.

4.0 Description of Test System



4.1 Descriptions of Robotics/probes/Readout Electronics

The laboratory utilizes a Dosimetric Assessment System (DASY4™) SAR measurement system Version 4.7 build 44 manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The test system consists of a Stäubli RX90L robot, DAE3V1, and ET3DV6 E-Field probes. Please reference the SPEAG user manual and application notes for detailed probe, robot, and SAR computational procedures. Section 5.0 presents relevant test equipment information. Appendices B and C present the applicable calibration certificates. The E-field probe first scans a coarse grid over a large area inside the phantom in order to locate the interpolated maximum SAR distribution. After the coarse scan measurement, the probe is automatically moved to a position at the interpolated maximum. The subsequent scan can directly use this position as reference for the cube evaluations.

4.2 Description of Phantom(s)

4.2.1 Flat Phantom

Phantom Type	Phantom Material	Phantom Dimensions (cm)	Support structure opening dimensions (cm)	Support structure material	Loss Tangent (wood)
Flat (CDMA/BT)	High Density Polyethylene (HDPE)	40x30x20x0.2	60.96x15.24	Wood	< 0.05
Flat (iDEN/MOTotalk)	High Density Polyethylene (HDPE)	80x30x20x0.2	68.58x20.32	Wood	< 0.05

4.2.2 SAM Phantom

Phantom Type	Material Parameters	Material Thickness (mm)	Support structure material	Loss Tangent (wood)
SAMTP1234 (CDMA)	200MHz -3GHz; Er = <5, Loss Tangent = <0.05	2mm +/- 0.2mm	Wood	< 0.05
SAMTP1022 (iDEN/MOTotalk)	200MHz -3GHz; Er = <5, Loss Tangent = <0.05	2mm +/- 0.2mm	Wood	< 0.05

4.3 Description of Equivalent tissues

Type of Simulated Tissue

The simulated tissue used is compliant to that specified in FCC Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01) and IEEE 1528, 2003 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

The sugar based simulate tissue is produced by placing the correct measured amount of De-ionized water into a large container. Each of the dried ingredients are weighed and added to the water carefully to avoid clumping. If the solution has a high sugar concentration the water is pre-heated to aid in dissolving the ingredients. For Diacetin and similar type simulates, sugar and HEC ingredients are not needed. The solution is mixed thoroughly, covered, and allowed to sit overnight prior to use.

Simulated Tissue Composition

% of listed ingredients	835MHz		900MHz		1900MHz		2450MHz	
	Head	Body	Head	Body	Head	Body	Head	Body
Sugar	57.0	44.9	56.5	44.9	NA	NA	NA	NA
Diacetin	NA	NA	NA	NA	47.0	30.8	NA	34.5
De ionized -Water	40.45	53.06	40.95	53.06	52.8	68.91	NA	65.20
Salt	1.45	0.94	1.45	0.94	0.20	0.29	NA	0.20
HEC	1.0	1.0	1.0	1.0	NA	NA	NA	NA
Bact.	0.1	0.1	0.1	0.1	NA	NA	NA	0.1

Reference section 6.1 for target parameters

5.0 Additional Test Equipment

Equipment Type	Model Number	Serial Number	Calibration Due Date
Power Meter (Agilent)	E4418B	GB40206553	4/21/2007
Power Meter (HP)	E4418B	US39251150	4/20/2007
Power Meter (HP)	E4418B	US39251152	3/29/2007
Power Sensor (HP)	8482B	3318A07546	10/17/2007
Power Sensor (HP)	8482B	3318A07393	1/27/2007
Power Sensor (HP)	8481H	2703A14631	4/17/2007
Bi-Directional Coupler (NARDA)	3022	77114	2/17/2008
Bi-Directional Coupler (NARDA)	3022	77115	3/23/2008
Bi-Directional Coupler (NARDA)	3020A	40295	6/6/2008
Bi-Directional Coupler (NARDA)	3022	70181	11/10/2007
Signal Generator (HP)	E4421B	US39270649	8/16/2008
AMP (ComTech PST)	AR88258-10	M3Y6A00-1007	CNR
Agilent 8960 Series 10 Wireless Communications Test Set	E5515C	GB45360363	10/5/2007
Tissue Station			
Agilent PNA-L Network Analyzer	N5230A	MY45001092	5/22/2007
Dielectric Probe Kit (HP)	85070C	US99360076	CNR
Dipole			
Speag Dipole	D1900V2	522	8/16/2008
Speag Dipole	D900V2	84	4/21/2008
Speag Dipole	D2450V2	704	11/10/2008

6.0 SAR Measurement System Verification

The SAR measurements were conducted with probe model/serial number ET3DV6/SN1384. The system performance check was conducted daily and within 24 hours prior to testing. DASY output files of the probe/dipole calibration certificates and system performance test results are included in appendices B, C, D respectively. The table below summarizes the system performance check results normalized to 1W.

Dipole validation scans at the head from SPEAG are provided in APPENDIX D. The N&E EME lab validated the dipole to the applicable IEEE system performance targets. Within the same day system validation was performed using FCC body tissue parameters to generate the system performance target values for body at the applicable frequency. The results of the N&E EME system performance validation are provided herein.

6.1 Equivalent Tissue Test Results

Simulated tissue prepared for SAR measurements is measured daily and within 24 hours prior to actual SAR testing to verify that the tissue is within +/- 5% of target parameters at the center of the transmit band. This measurement is done using the applicable equipment indicated in section 5.0.

Actual versus Target tissue parameters (12/12/06 – 12/21/06)

FCC Body				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
1880.5	53.3	53.0-53.3	1.52	1.52-1.53
915	55.0	53.8	1.06	1.07
815.5	55.3	54.5	0.97	0.97
2441	52.7	50.7-51.6	1.94	1.99-2.03
2450	52.7	50.7-51.6	1.95	2.01-2.04

IEEE Head				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
1880.5	40.0	39.2-40.2	1.40	1.42-1.43
1900	40.0	39.1-40.1	1.40	1.44-1.45
915	41.5	40.8-40.9	0.98	1.01-1.02
900	41.5	40.9-41.0	0.97	0.99-1.01
815.5	41.6	41.9	0.90	0.93

6.2 System Check Test Results

Probe Serial #	Tissue Type	Probe Cal Date	Dipole Kit / Serial #	System Perf. Result when normalized to 1W (mW/g)	Reference S.A.R @ 1W (mW/g)	Test Date(s)
1384	IEEE Head	5/30/06	SPEAG D1900V2 /522	40.13 +/- 0.83	39.99 +/- 10%	12/12/06-12/16/06 5 test days
1384	IEEE Head	5/30/06	SPEAG D900V2 /084	11.05 +/- 0.15	11.35 +/- 10%	12/16/06-12/19/06 4 test days
1384	FCC Body	5/30/06	SPEAG D2450V2 /704	57.49 +/- 2.79	58.28 +/- 10%	12/20/06-12/21/06 2 test days

Note: See APPENDIX D for an explanation of the reference SAR targets stated above.
 (System performance results reflects the median performance +/- ½ of the test date(s) performance ranges)

The DASY4™ system is operated per the instructions in the DASY4™ Users Manual. The complete manual is available directly from SPEAG™. All measurement equipment used to assess EME SAR compliance was calibrated according to 17025 A2LA guidelines.

7.0 DUT Test Strategy and Methodology

7.1 DUT Configuration(s)

The DUT is a portable device with CDMA 2000 / EV-DO (100%), iDEN (16.67%), MOTOtalk (95% FHSS 8FSK) and Bluetooth (100%) transmission signaling operational at the body, head, and face as outlined in the Test Plan below using the applicable offered accessories. The device is placed in the test positions presented in Appendix G.

Test Plan

All options and accessories listed on the cover page of this report were considered in order to develop the SAR test plan for this product. SAR measurements were performed using flat phantoms and SAM phantoms with the applicable simulated tissue to assess performance at the body, head, and face respectively using the relevant transmission modes.

Note that a coarse-to-cube approximation methodology was utilized to determine the worst-case SAR performance configuration for each applicable body location. The test configurations that produced the highest SAR results for each body position using the coarse-to-cube approximation methodology were assessed using the full DASY4™ coarse and 7x7x7 cube scans refer to section 9.0 table 5.

Please reference exhibits 7 and 12 for detailed test setup and confidential signaling information.

The table below shows the initial conducted output power for the CDMA service options and EV-DO.

Radio Config.	FCH Service Option	RVS Power Control	Voice / Data	1.88GHz	1.851GHz	1.908GHz
				Output Power (dBm)		
RC3	SO55	All Up bits	Voice	24.87	24.59	24.62
RC1	SO2	All Up bits	Voice	24.96	24.67	24.70
RC3	SO32 (FCH) 9.6kbps	All Up bits	Data	24.86	24.55	24.52
RC3	SO32 (FCH+SCH) 9.6kbps	All Up bits	Data	24.83	24.55	24.53
EV-DO	NA	All Up bits	Data	24.93	24.64	24.65

CDMA 2000 Assessments:

Head (100%; 1851.250-1909.950MHz) Pages 13-14 of 37; Table 1

Voice Mode

- Assessment using RC3-SO55 at the center of the band with the offered batteries in the applicable test positions at both sides of head with antenna in and out.
- Assessment at the band edges using the worst case configurations (left and right) from above.
- Assessment using RC1-SO2 was done using the worst case configuration from above.

Body (100%; 1851.250-1909.950MHz) [Pages 14-15 of 37; Table 1](#)**Voice Mode**

- Assessment using RC3-SO55 for voice mode at the center of the band with one of the offered batteries, an audio accessory and carry holster with antenna in and out. The other battery was assessed using the worst case antenna position.
- Assessment using RC3-SO55 for voice mode at the center of the band for the offered audio accessories with the worst case position from above.
- Assessment using RC1-SO2 for voice mode was done using the worst case configuration from above.

Data Mode

- Assessment using RC3-SO32 (FCH only) for data mode at the center of the band with carry holster, with and without offered data cable attachments, with the antenna in and out using the worst case battery from Voice above.
- Assessment using RC3-SO32 (FCH+SCH) for data mode was done using the worst case configuration from above.
- Assessment using EV-DO for data mode was done using the worst case configuration from above.
- Assessment at the band edges using the overall worst case configuration from Voice and Data modes above.

Body 2.5cm (100%; 1851.250-1909.950MHz) [Page 15 of 37; Table 1](#)

- Assessment using the overall worst case test configuration at the body from above with the antenna (DUT back to phantom) and front housing of the DUT separated 2.5cm from the phantom.

Shortened scan assessment at the head [Page 21 of 37; Table 5 and APPENDIX E Part 3 of 3](#)

A “shortened” scan was performed using the offered battery and test configuration (CDMA Head) that produced the highest SAR results overall. Note that the shortened scan is obtained by first running a coarse scan to find the peak area and then, using a newly charged battery, a cube scan only was performed. The shortened scan represents the cube scan performance results.

MOTotalk (PTT) Assessments:**Face (MOTotalk mode 114:120; 902-928MHz)** [Page 16 of 37; Table 2](#)

- Assessment at the center frequency with one of the offered batteries with the flip opened and closed and antenna in and out. The other battery was assessed using the worst case antenna position.
- Assessment of the band edges using the worst case configuration from above.

Body (MOTotalk mode 114:120; 902-928MHz) [Page 16-17 of 37; Table 2](#)

- Assessment at the center of the band with one of the offered batteries, an audio accessory and carry holster with antenna in and out. The other battery was assessed using the worst case antenna position.

- Assessment at the center of the band for the additional offered audio accessories with the worst case antenna position from above.
- Assessment of the band edges using the worst case configuration from above.

Body 2.5cm (MOTOtalk mode 114:120; 902-928MHz) Page 17 of 37; Table 2

- Assessment using the worst case test configuration at the body overall from above with the back and front housing of the DUT separated 2.5cm from the phantom.

iDEN (PTT) Assessments:

Head (iDEN mode 1:6; 806-825MHz) Page 18 of 37; Table 3

- Assessment at the center of the band with the offered batteries in the applicable test positions at both sides of head with antenna in and out.
- Assessment at the band edges using the worst case configurations (left and right) from above.

Face (iDEN mode 1:6; 806-825MHz) Pages 18-19 of 37; Table 3

- Assessment at the center frequency with the worst case battery from above head with the flip opened and closed and antenna in and out.
- Assessment of the band edges using the worst case configuration from above.

Body (iDEN mode 1:6; 806-825MHz) Page 19 of 37; Table 3

- Assessment at the center of the band with one of the offered batteries, an audio accessory and carry holster with antenna in and out. The other battery was assessed using the worst case antenna position.
- Assessment at the center of the band with the worst case audio accessory from MOTOtalk.
- Assessment of the band edges using the worst case configuration from above.

Body 2.5cm (iDEN mode 1:6; 806-825MHz) Page 20 of 37; Table 3

- Assessment using the worst case test configuration at the body overall from above with the back and front housing of the DUT separated 2.5cm from the phantom.

Bluetooth Assessments:

Body (100%; 2402-2480MHz) Page 20 of 37; Table 4

- Assessment at the center of the band with one of the offered batteries and carry holster with antenna in and out. The other battery was assessed using the worst case antenna position.
- Assessment of the band edges using the worst case configuration from above.

Body 2.5cm (100%; 2402-2480MHz) Page 20 of 37; Table 4

- Assessment using the worst case test configuration at the body overall from above with the back and front housing of the DUT separated 2.5cm from the phantom.

7.2 Device Positioning Procedures

Reference Appendix G for photos of the DUT tested positions.

7.2.1 Body

The DUT was positioned in normal use configuration against the phantom with the offered body worn accessory.

The DUT was positioned with its' front and back sides separated 2.5cm from the phantom.

7.2.2 Head

The DUT was placed against the right and left heads of the SAM phantom in the cheek touch and tilt positions.

7.2.3 Face

The DUT was positioned with its' front side separated 2.5cm from the phantom with the flip opened and closed.

8.0 Environmental Test Conditions

The EME Laboratory ambient environment is well controlled resulting in very stable simulated tissue temperature and therefore stable dielectric properties. Simulated tissue temperature is measured prior to each scan to insure it is within +/- 2°C of the temperature at which the dielectric properties were determined. The liquid depth within the phantom used for measurements was 15cm +/- 0.5cm. Additional precautions are routinely taken to ensure the stability of the simulated tissue such as covering the phantoms when scans are not actively in process in order to minimize evaporation. The lab environment is continuously monitored. The table below presents the range and average environmental conditions during the SAR tests reported herein:

	Target	Measured
Ambient Temperature	20 - 25 °C	Range: 21.8-24.1 °C Avg. 22.5 °C
Relative Humidity	30 - 70 %	Range: 51.2-66.7% Avg. 58.9%
Tissue Temperature	NA	Range: 20.0-21.8 °C Avg. 20.6 °C

The EME Lab RF environment uses a Spectrum Analyzer to monitor for extraneous large signal RF contaminants that could possibly affect the test results. If such unwanted signals are discovered the SAR scans are repeated.

9.0 Test Results Summary

All SAR results obtained by the tests described in Section 7.1 are listed below. As noted in section 7.1, a coarse-to-cube approximation methodology, was utilized to ascertain the worst-case test configuration for each body location. The worst case test configurations observed for each body location and band (in bold with *) were then assessed using the full DASY4™ coarse and 7x7x7 cube methodology, and they are presented in the worst case configuration table below. The associated SAR plots are provided in APPENDIX E. Appendix E also presents shortened SAR cube scans to assess the validity of the calculated results presented herein. Note: The results of the shortened cube scans presented in Appendix E demonstrate that the scaling methodology used to determine the calculated SAR results presented herein are valid.

Table1

Assessments at the Head (Phone) 1851.25-1909.95MHz band												
Run Number/ SN	Antenna Pos.	Freq. (MHz)	Battery	Test Position	Carry Case	Additional Attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Right ear CDMA RC3-SO55 - antenna positions, offered batteries, touch and tilt												
MeC-REAR-061212-10 / 364AGW0262	In	1880.00	SNN5782B NTN2356NA	Touch	None	None	0.290	-0.001	1.20	0.63	1.22	0.64
MeC-REAR-061212-11 / 364AGW0262	Out	1880.00	SNN5782B NTN2356NA	Touch	None	None	0.288	0.005	0.30	0.17	0.31	0.17
JsT-Rear-061213-02 / 364AGW0262	In	1880.00	SNN5759A NTN2357NA	Touch	None	None	0.288	-0.268	1.18	0.61	1.29	0.67
JsT-Rear-061215-03 / 364AGW0262	In	1880.00	SNN5759A NTN2357NA	Tilt	None	None	0.288	0.038	0.14	0.08	0.14	0.08
JsT-Rear-061215-05 / 364AGW0262	Out	1880.00	SNN5759A NTN2357NA	Tilt	None	None	0.288	-0.209	0.17	0.10	0.18	0.11
Right ear CDMA RC3-SO55 – using worst case from above, band edges												
JsT-Rear-061215-06 / 364AGW0262	In	1851.250	SNN5759A NTN2357NA	Touch	None	None	0.307	0.019	1.39	0.72	1.39	0.72
*JsT-Rear-061215-07 / 364AGW0262	In	1908.750	SNN5759A NTN2357NA	Touch	None	None	0.295	-0.174	1.36	0.70	1.42	0.73
Left ear CDMA RC3-SO55 - antenna positions, offered batteries, touch and tilt												
JsT-Lear-061213-06 / 364AGW0262	In	1880.000	SNN5782B NTN2356NA	Touch	None	None	0.288	0.173	0.81	0.41	0.83	0.42
MeC-LEAR-061213-07 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Touch	None	None	0.289	0.219	0.24	0.13	0.25	0.13
MeC-LEAR-061213-08 / 364AGW0262	In	1880.000	SNN5759A NTN2357NA	Touch	None	None	0.290	-0.039	0.73	0.42	0.75	0.43
MeC-LEAR-061213-09 / 364AGW0262	In	1880.000	SNN5782B NTN2356NA	Tilt	None	None	0.290	-0.211	0.17	0.10	0.18	0.11
MeC-LEAR-061213-10 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Tilt	None	None	0.288	-0.230	0.16	0.10	0.17	0.10
Left ear CDMA RC3-SO55 – using worst case from above, band edges												
MeC-LEAR-061213-11 / 364AGW0262	In	1851.250	SNN5782B NTN2356NA	Touch	None	None	0.306	0.118	0.70	0.36	0.70	0.36
MeC-LEAR-061213-12 / 364AGW0262	In	1908.750	SNN5782B NTN2356NA	Touch	None	None	0.297	-0.205	0.74	0.38	0.77	0.40

Table1 (continued)

Assessments at the Head (Phone) 1851.25-1909.95MHz band

Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Right ear CDMA RC1-S02 - using worst case position from above												
JsT-Rear-061215-08 / 364AGW0262	In	1908.750	SNN5759A NTN2357NA	Touch	None	None	0.299	-0.168	1.31	0.67	1.36	0.69

Assessment at the Body (Phone) 1851.25-1909.95MHz band

Body CDMA RC3-S055 - antenna positions, offered batteries

JsT-Ab-061214-05 / 364AGW0262	In	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5774A Stereo Headset w/ PTT	0.289	0.018	0.33	0.20	0.33	0.20
JsT-Ab-061214-06 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5774A Stereo Headset w/ PTT	0.290	-0.041	0.38	0.23	0.39	0.23
JsT-Ab-061214-07 / 364AGW0262	Out	1880.000	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5774A Stereo Headset w/ PTT	0.288	-0.059	0.36	0.22	0.38	0.23

Body CDMA RC3-S055 – using worst case from above, offered audio accessories

JsT-Ab-061214-08 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5330A PTT Headset, Earbud	0.289	-0.003	0.37	0.22	0.38	0.23
JsT-Ab-061214-09 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5211A 2-Wire Surveillance Headset	0.289	-0.028	0.37	0.23	0.38	0.23
JsT-Ab-061214-10 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN6312A 3-Wire Surveillance Headset	0.289	-0.080	0.36	0.22	0.38	0.23
JsT-Ab-061214-11 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5004A PTT headset, over-the-ear	0.287	-0.019	0.37	0.22	0.38	0.23
ErC-Ab-061216-05 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5005A PTT headset, over-the-head	0.289	0.005	0.41	0.25	0.42	0.25
ErC-Ab-061216-06 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5751A Stereo mixing headset w/ PTT	0.287	-0.050	0.38	0.23	0.40	0.24
ErC-Ab-061216-07 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.289	-0.076	0.35	0.21	0.37	0.22

Body CDMA RC1-S02 - using worst case position from above

ErC-Ab-061216-08 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5005A PTT headset, over-the-head	0.296	-0.075	0.42	0.25	0.42	0.26
----------------------------------	-----	----------	-----------------------	--------------------	----------------------	--	-------	--------	------	------	------	------

Table1 (continued)

Assessment at the Body (Data) 1851.25-1909.95MHz band												
Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Body CDMA RC3-SO32 (FCH only) – using worst case battery from above, antenna positions, with / without offered data cable accessories												
ErC-Ab-061216-09 / 364AGW0262	In	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.280	0.021	0.36	0.21	0.38	0.23
ErC-Ab-061216-10 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.279	-0.014	0.43	0.26	0.46	0.27
ErC-Ab-061216-11 / 364AGW0262	In	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN6531A Data Cable	0.278	0.006	0.29	0.17	0.30	0.18
ErC-Ab-061216-12 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN6531A Data Cable	0.277	-0.064	0.40	0.24	0.43	0.26
ErC-Ab-061216-13 / 364AGW0262	In	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	SKN6371C Data Cable	0.279	0.085	0.29	0.17	0.30	0.18
ErC-Ab-061216-14 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	SKN6371C Data Cable	0.278	-0.035	0.39	0.23	0.42	0.25
Body CDMA RC3-SO32 (FCH +SCH) - using worst case position from above												
ErC-Ab-061216-15 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.280	-0.041	0.40	0.24	0.43	0.26
Body CDMA / EV-DO - using worst case position from above												
ErC-Ab-061216-16 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.285	-0.015	0.43	0.26	0.44	0.27
Body CDMA - using worst case position at the body, band edges												
JsT-Ab-061216-17 / 364AGW0262	Out	1851.250	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.297	-0.056	0.39	0.24	0.39	0.24
JsT-Ab-061216-18 / 364AGW0262	Out	1908.750	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.290	-0.324	0.30	0.18	0.32	0.19
Body CDMA – using worst case position at the body, 2.5cm separation												
JsT-Ab-061216-20 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	DUT back w/ ant. @ 2.5cm	None	None	0.288	0.021	0.67	0.39	0.68	0.40
*JsT-Ab-061216-24 / 364AGW025D	Out	1880.000	SNN5782B NTN2356NA	DUT back w/ ant. @ 2.5cm	None	None	0.283	0.019	0.70	0.41	0.73	0.43
JsT-Ab-061216-22 / 364AGW0262	Out	1880.000	SNN5782B NTN2356NA	DUT front 2.5cm	None	None	0.288	0.042	0.28	0.18	0.29	0.18

Table 2

Assessments at the Face (MOTotalk 114:120) 902-928MHz band												
Run Number/ SN	Antenna Pos.	Freq. (MHz)	Battery	Test Position	Carry Case	Additional Attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Face MOTotalk - flip opened/closed, antenna positions, offered batteries												
JsT-Face-061219-02 / 364AGW0262	In	915.525	SNN5782B NTN2356NA	Flip opened front 2.5cm	None	None	0.859	0.050	0.33	0.24	0.17	0.12
JsT-Face-061219-03 / 364AGW0262	Out	915.525	SNN5782B NTN2356NA	Flip opened front 2.5cm	None	None	0.860	0.139	0.44	0.32	0.23	0.16
JsT-Face-061216-28 / 364AGW0262	In	915.525	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.921	0.001	0.86	0.61	0.43	0.30
JsT-Face-061216-29 / 364AGW0262	Out	915.525	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.915	-0.052	1.27	0.90	0.64	0.45
JsT-Face-061216-30 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Flip closed front 2.5cm	None	None	0.911	0.043	1.21	0.86	0.61	0.43
Face MOTotalk – using worst case position from above, band edges												
*JsT-Face-061216-31 / 364AGW0262	Out	902.525	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.845	0.033	1.32	0.93	0.70	0.49
ErC-Face-061217-02 / 364AGW0262	Out	927.475	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.826	0.056	1.16	0.82	0.63	0.44
Assessments at the Body (MOTotalk 114:120) 902-928MHz band												
Body MOTotalk – antenna positions, offered batteries												
ErC-Ab-061217-03 / 364AGW0262	In	915.525	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5774A Stereo Headset w/ PTT	0.842	-0.115	1.55	1.08	0.84	0.59
ErC-Ab-061217-04 / 364AGW0262	Out	915.525	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5774A Stereo Headset w/ PTT	0.845	0.142	2.29	1.60	1.21	0.84
ErC-Ab-061217-05 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5774A Stereo Headset w/ PTT	0.844	0.064	2.38	1.66	1.26	0.88
Body MOTotalk – using worst case position from above, offered audio accessories												
ErC-Ab-061217-06 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5330A PTT Headset, Earbud	0.845	0.037	2.43	1.69	1.28	0.89
ErC-Ab-061217-07 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5211A 2-Wire Surveillance Headset	0.844	-0.024	2.47	1.72	1.31	0.91
ErC-Ab-061217-08 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN6312A 3-Wire Surveillance Headset	0.844	-0.034	2.49	1.73	1.32	0.92

Table 2 (continued)

Assessments at the Body (MOTotalk 114:120) 902-928MHz band

Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Body MOTotalk – using worst case position from above, offered audio accessories (continued)												
ErC-Ab-061217-09 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5004A PTT headset, over-the-ear	0.844	0.005	2.37	1.64	1.25	0.87
ErC-Ab-061217-10 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5005A PTT headset, over-the-head	0.845	-0.025	2.36	1.65	1.25	0.87
ErC-Ab-061217-11 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5751A Stereo mixing headset w/ PTT	0.842	-0.006	2.35	1.64	1.25	0.87
*ErC-Ab-061217-12 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.844	0.034	2.64	1.83	1.39	0.97
Body MOTotalk - using worst case position from above, band edges												
ErC-Ab-061217-13 / 364AGW0262	Out	902.525	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.839	-0.078	1.80	1.26	0.97	0.68
ErC-Ab-061217-14 / 364AGW0262	Out	927.475	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.823	-0.006	2.44	1.69	1.32	0.92
Body MOTotalk– using worst case position from above, 2.5cm separation												
ErC-Ab-061217-18 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	DUT back 2.5cm	None	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.844	0.179	1.75	1.23	0.92	0.65
ErC-Ab-061217-15 / 364AGW0262	Out	915.525	SNN5759A NTN2357NA	DUT front 2.5cm	None	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.844	-0.066	1.20	0.84	0.64	0.45

Table 3

Assessments at the Head (iDEN 1:6) 806-825MHz band

Run Number/ SN	Antenna Pos.	Freq. (MHz)	Battery	Test Position	Carry Case	Additional Attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Right ear iDEN - antenna positions, offered batteries, touch and tilt												
JsT-Rear-061218-02 / 364AGW0262	In	813.513	SNN5782B NTN2356NA	Touch	None	None	0.634	-0.050	0.36	0.24	0.18	0.12
*JsT-Rear-061218-03 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	Touch	None	None	0.624	0.055	0.48	0.32	0.25	0.16
JsT-Rear-061218-04 / 364AGW0262	Out	813.513	SNN5759A NTN2357NA	Touch	None	None	0.625	0.039	0.45	0.30	0.23	0.15
JsT-Rear-061218-05 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	Tilt	None	None	0.622	0.069	0.12	0.09	0.06	0.05
JsT-Rear-061218-06 / 364AGW0262	In	813.513	SNN5782B NTN2356NA	Tilt	None	None	0.623	-0.038	0.10	0.07	0.05	0.04
Right ear iDEN – using worst case position from above, band edges												
JsT-Rear-061218-07 / 364AGW0262	Out	806.013	SNN5782B NTN2356NA	Touch	None	None	0.627	-0.104	0.47	0.31	0.24	0.16
JsT-Rear-061218-08 / 364AGW0262	Out	824.988	SNN5782B NTN2356NA	Touch	None	None	0.631	-0.079	0.43	0.29	0.22	0.15
Left ear iDEN - antenna positions, offered batteries, touch and tilt												
JsT-Lear-061218-09 / 364AGW0262	In	813.513	SNN5782B NTN2356NA	Touch	None	None	0.625	-0.046	0.32	0.19	0.17	0.10
JsT-Lear-061218-10 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	Touch	None	None	0.623	-0.051	0.42	0.26	0.22	0.14
JsT-Lear-061218-11 / 364AGW0262	Out	813.513	SNN5759A NTN2357NA	Touch	None	None	0.625	0.162	0.44	0.27	0.22	0.14
JsT-Lear-061218-12 / 364AGW0262	In	813.513	SNN5759A NTN2357NA	Tilt	None	None	0.626	0.099	0.10	0.07	0.05	0.04
JsT-Lear-061218-13 / 364AGW0262	Out	813.513	SNN5759A NTN2357NA	Tilt	None	None	0.629	0.053	0.13	0.09	0.07	0.05
Left ear iDEN – using worst case position from above, band edges												
JsT-Lear-061218-14 / 364AGW0262	Out	806.013	SNN5759A NTN2357NA	Touch	None	None	0.622	0.094	0.45	0.28	0.23	0.14
JsT-Lear-061218-15 / 364AGW0262	Out	824.988	SNN5759A NTN2357NA	Touch	None	None	0.632	0.054	0.40	0.24	0.20	0.12
Assessments at the Face (iDEN 1:6) 806-825MHz band												
Face iDEN – using worst case battery from head position, flip opened/closed												
JsT-Face-061219-04 / 364AGW0262	In	813.513	SNN5782B NTN2356NA	Flip opened front 2.5cm	None	None	0.628	-0.022	0.08	0.05	0.04	0.03
JsT-Face-061219-05 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	Flip opened front 2.5cm	None	None	0.627	0.018	0.08	0.06	0.04	0.03
JsT-Face-061219-06 / 364AGW0262	In	813.513	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.629	0.059	0.12	0.09	0.06	0.04
JsT-Face-061219-07 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.626	-0.087	0.18	0.13	0.09	0.07

Table 3 (continued)

Assessments at the Face (iDEN 1:6) 806-825MHz band													
Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)	
Face iDEN – using worst case from above, band edges													
*JsT-Face-061219-08 / 364AGW0262	Out	806.013	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.623	0.051	0.19	0.14	0.10	0.07	
JsT-Face-061219-09 / 364AGW0262	Out	824.988	SNN5782B NTN2356NA	Flip closed front 2.5cm	None	None	0.633	0.012	0.17	0.12	0.09	0.06	
Assessments at the Body (iDEN 1:6) 806-825MHz band													
Body iDEN – using worst case audio from MOTotalk, antenna positions, offered batteries													
MeC-AB-061219-13 / 364AGW0262	In	813.513	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.631	0.011	0.18	0.12	0.09	0.06	
*MeC-AB-061219-14 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.628	-0.128	0.29	0.20	0.15	0.11	
MeC-AB-061219-15 / 364AGW0262	Out	813.513	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.630	0.025	0.28	0.20	0.14	0.10	
Body iDEN - using worst case position from above, band edges													
MeC-AB-061219-16 / 364AGW0262	Out	806.013	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.631	-0.016	0.27	0.20	0.14	0.10	
MeC-AB-061219-17 / 364AGW0262	Out	824.988	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.635	0.053	0.25	0.18	0.13	0.09	

Table 3 (continued)

Assessments at the Body (iDEN 1:6) 806-825MHz band												
Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Body iDEN – using worst case from above, 2.5cm separation												
MeC-AB-061219-19 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	DUT back 2.5cm	None	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.630	-0.030	0.23	0.16	0.12	0.08
MeC-AB-061219-20 / 364AGW0262	Out	813.513	SNN5782B NTN2356NA	DUT front 2.5cm	None	NNTN5752A Stereo mixing headset tested w/NNTN6365 A Stereo Headset Adapter	0.630	-0.089	0.15	0.11	0.08	0.06

Table 4

Assessments at the Body (BT 100%) 2.402-2.480GHz band												
Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
Body BT – antenna positions, offered batteries												
*MeC-AB-061220-04 / 364AGW0262	In	2.441	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.0016	0.187	0.004	0.001	0.006	0.002
MeC-AB-061220-05 / 364AGW0262	Out	2.441	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.0016	-0.143	0.003	0.001	0.004	0.002
MeC-AB-061220-06 / 364AGW0262	In	2.441	SNN5759A NTN2357NA	Against Phantom	NNTN6757A Holster	None	0.0016	0.650	0.002	0.001	0.004	0.002
Body BT - using worst case position from above, band edges												
MeC-AB-061220-07 / 364AGW0262	In	2.402	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.0016	0.366	0.003	0.002	0.004	0.003
MeC-AB-061220-08 / 364AGW0262	In	2.480	SNN5782B NTN2356NA	Against Phantom	NNTN6757A Holster	None	0.0016	0.699	0.003	0.001	0.005	0.002
Body BT - using worst case position from above, 2.5cm separation												
MeC-AB-061221-04 / 364AGW0262	In	2.441	SNN5782B NTN2356NA	DUT back 2.5cm	None	None	0.0016	-0.636	0.002	0.001	0.003	0.002
MeC-AB-061221-06 / 364AGW0262	In	2.441	SNN5782B NTN2356NA	DUT front 2.5cm	None	None	0.0016	0.660	0.001	0.000	0.002	0.001

Table 5

*Worst case configuration per body location and mode from above –using the DASY 4 full coarse and 7x7x7 cube scan measurements.												
Run Number/ SN	Antenna	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	SAR Drift (dB)	Meas. 1g-SAR (mW/g)	Meas. 10g-SAR (mW/g)	Max Calc. 1g-SAR (mW/g)	Max Calc. 10g-SAR (mW/g)
CDMA Head												
FULL SCAN-JsT-Rear-061215-09 / 364AGW0262	In	1908.750	SNN5759A NTN2357N A	Touch	None	None	0.290	-0.449	1.36	0.67	1.53	0.75
SHORT SCAN-JsT-Rear-061215-10 / 364AGW0262	In	1908.750	SNN5759A NTN2357N A	Touch	None	None	0.289	-0.125	1.45	0.71	1.52	0.74
CDMA Body												
FULL SCAN-JsT-Ab-061216-25 / 364AGW025D	Out	1880.000	SNN5782B NTN2356N A	DUT back w/ ant. @ 2.5cm	None	None	0.289	0.076	0.75	0.46	0.76	0.47
MOTotalk Face												
FULL SCAN-JsT-Face-061219-12 / 364AGW0262	Out	902.525	SNN5782B NTN2356N A	Flip closed front 2.5cm	None	None	0.850	0.111	1.38	0.97	0.72	0.51
MOTotalk Body												
FULL SCAN-ErC-Ab-061217-19 / 364AGW0262	Out	915.525	SNN5759A NTN2357N A	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN636 5A Stereo Headset Adapter	0.842	-0.167	2.56	1.84	1.41	1.01
iDEN Head												
FULL SCAN-JsT-Rear-061218-16 / 364AGW0262	Out	813.513	SNN5782B NTN2356N A	Touch	None	None	0.626	0.218	0.47	0.31	0.24	0.16
iDEN Face												
FULL SCAN-JsT-Face-061219-10 / 364AGW0262	Out	806.013	SNN5782B NTN2356N A	Flip closed front 2.5cm	None	None	0.626	-0.002	0.20	0.14	0.10	0.07
iDEN Body												
FULL SCAN-MeC-AB-061219-23 / 364AGW0262	Out	813.513	SNN5782B NTN2356N A	Against Phantom	NNTN6757A Holster	NNTN5752A Stereo mixing headset tested w/NNTN636 5A Stereo Headset Adapter	0.629	0.104	0.29	0.22	0.15	0.11
BT Body												
FULL SCAN-MeC-AB-061221-08 / 364AGW0262	In	2.441	SNN5782B NTN2356N A	Against Phantom	NNTN6757A Holster	None	0.0016	-0.324	0.002	0.001	0.004	0.002

9.1 Highest SAR results calculation methodology

The calculated maximum 1-gram and 10-gram averaged SAR results reported herein for the full DASYS™ coarse and 7x7x7 cube measurements are determined by scaling the measured SAR to account for power leveling variations and power slump. For this device the Maximum Calculated 1-gram and 10-gram averaged peak SAR is calculated using the following formula:

$$\text{Max. Calc. 1-g/10-g Avg. SAR} = ((\text{SAR meas.} / (10^{(\text{Pdrift}/10)})) * (\text{Pmax}/\text{Pint})) * \text{DC}\%$$

P_{max} = Maximum Power (W)

P_{int} = Initial Power (W)

Pdrift = DASYS drift results (dB) - (for conservative results positive drifts are not accounted for)

SAR_{meas.} = Measured 1-g/10-g Avg. SAR (mW/g)

DC % = Transmission mode duty cycle in % where applicable

50% duty cycle is applied for PTT operation.

10.0 Conclusion

The highest Operational Maximum Calculated 1-gram and 10-gram average SAR values found for FCC ID: IHDT56GP1 models H93ZAH9JR7AN.

Max. Calc. : 1-g Avg. SAR: 1.41 W/kg (Body); 10-g Avg. SAR: 1.01 W/kg (Body)

Max. Calc. : 1-g Avg. SAR: 0.72 W/kg (Face); 10-g Avg. SAR: 0.51 W/kg (Face)

Max. Calc. : 1-g Avg. SAR: 1.53 W/kg (Head); 10-g Avg. SAR: 0.75 W/kg (Head)

These test results clearly demonstrate compliance with FCC General Population/Uncontrolled RF Exposure limits of **1.6W/kg** per the requirements of 47 CFR 2.1093(d).

APPENDIX A
Measurement Uncertainty

Uncertainty Budget for Device Under Test, for 30 MHz to 3 GHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob Dist	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration	E.2.1	5.9	N	1.00	1	1	5.9	5.9	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	0.3	N	1.00	1	1	0.3	0.3	∞
Response Time	E.2.7	1.1	R	1.73	1	1	0.6	0.6	∞
Integration Time	E.2.8	1.1	R	1.73	1	1	0.6	0.6	∞
RF Ambient Conditions - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mech. Tolerance	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t Phantom	E.6.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Test sample Related									
Test Sample Positioning	E.4.2	3.2	N	1.00	1	1	3.2	3.2	29
Device Holder Uncertainty	E.4.1	4.0	N	1.00	1	1	4.0	4.0	8
SAR drift	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	3.3	N	1.00	0.64	0.43	2.1	1.4	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	1.9	N	1.00	0.6	0.49	1.1	0.9	∞
Combined Standard Uncertainty			RSS				11	11	411
Expanded Uncertainty (95% CONFIDENCE LEVEL)			<i>k</i> =2				22	22	

FCD-0558 Rev 5

Uncertainty Budget for System Validation (dipole & flat phantom) for 30 MHz to 3 GHz

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	IEEE 1528 section	Tol. (± %)	Prob. Dist.	Div.	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	<i>v_i</i>
Measurement System									
Probe Calibration	E.2.1	5.9	N	1.00	1	1	5.9	5.9	∞
Axial Isotropy	E.2.2	4.7	R	1.73	1	1	2.7	2.7	∞
Spherical Isotropy	E.2.2	9.6	R	1.73	0	0	0.0	0.0	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	0.3	N	1.00	1	1	0.3	0.3	∞
Response Time	E.2.7	1.1	R	1.73	1	1	0.6	0.6	∞
Integration Time	E.2.8	0.0	R	1.73	1	1	0.0	0.0	∞
RF Ambient Conditions - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t. Phantom	E.6.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	2.0	R	1.73	1	1	1.2	1.2	∞
Input Power and SAR Drift Measurement	8, 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	3.3	R	1.73	0.64	0.43	1.2	0.8	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	1.9	R	1.73	0.6	0.49	0.6	0.5	∞
Combined Standard Uncertainty			RSS				9	9	99999
Expanded Uncertainty (95% CONFIDENCE LEVEL)			<i>k</i> =2				18	17	

FCD-0558 Rev 5

Notes for Tables 1 and 2

- a) Column headings *a-k* are given for reference.
- b) Tol. - tolerance in influence quantity.
- c) Prob. Dist. – Probability distribution
- d) N, R - normal, rectangular probability distributions
- e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
- f) *c_i* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
- g) *u_i* – SAR uncertainty
- h) *v_i* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty.

Appendix B
Probe Calibration Certificates

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



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Motorola CGISS**

Certificate No: **ET3-1384_May06**

CALIBRATION CERTIFICATE

Object **ET3DV6 - SN: 1384**

Calibration procedure(s) **QA CAL-01.v5 and QA CAL-12.v4
Calibration procedure for dosimetric E-field probes**

Calibration date: **May 30, 2006**

Condition of the calibrated item **In Tolerance**

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 E4419B	GB41293874	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41495277	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41498087	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Reference 3 dB Attenuator	SN: S5054 (3c)	11-Aug-05 (METAS, No. 251-00499)	Aug-06
Reference 20 dB Attenuator	SN: S5086 (20b)	4-Apr-06 (METAS, No. 251-00558)	Apr-07
Reference 30 dB Attenuator	SN: S5129 (30b)	11-Aug-05 (METAS, No. 251-00500)	Aug-06
Reference Probe ES3DV2	SN: 3013	2-Jan-06 (SPEAG, No. ES3-3013_Jan06)	Jan-07
DAE4	SN: 654	2-Feb-06 (SPEAG, No. DAE4-654_Feb06)	Feb-07

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-05)	In house check: Nov 06

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: May 31, 2006

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
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:

- 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
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}*: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). *NORM_{x,y,z}* are only intermediate values, i.e., the uncertainties of *NORM_{x,y,z}* does not effect the E^2 -field uncertainty inside TSL (see below *ConvF*).
- NORM(f)_{x,y,z}* = *NORM_{x,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*.
- DCP_{x,y,z}*: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters*: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ 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 *NORM_{x,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.

ET3DV6 SN:1384

May 30, 2006

Probe ET3DV6

SN:1384

Manufactured:	August 16, 1999
Last calibrated:	May 26, 2005
Recalibrated:	May 30, 2006

Calibrated for DASY Systems

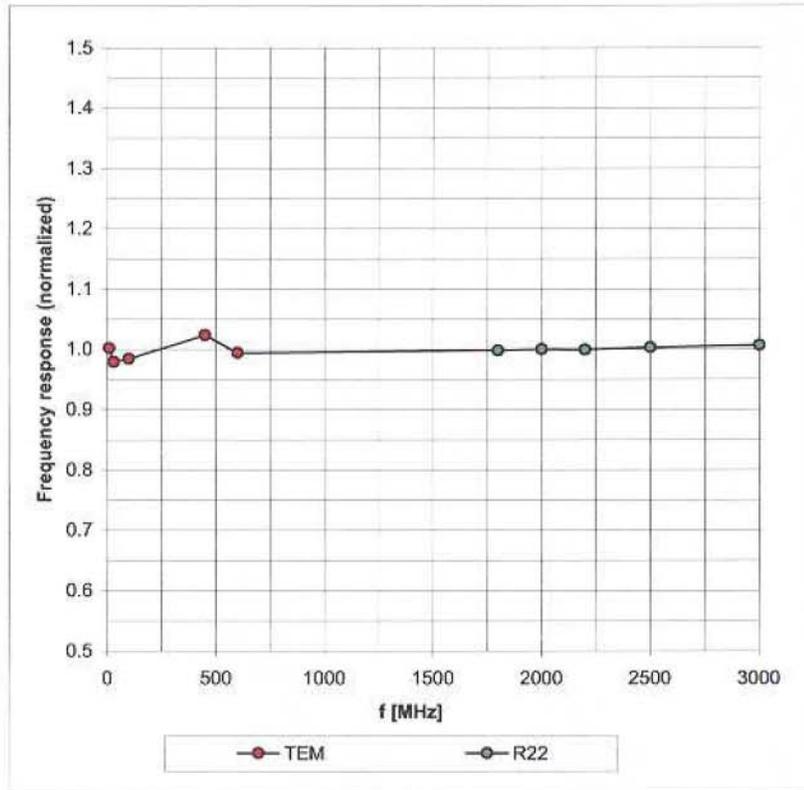
(Note: non-compatible with DASY2 system!)

ET3DV6 SN:1384

May 30, 2006

Frequency Response of E-Field

(TEM-Cell: ifi110 EXX, Waveguide: R22)

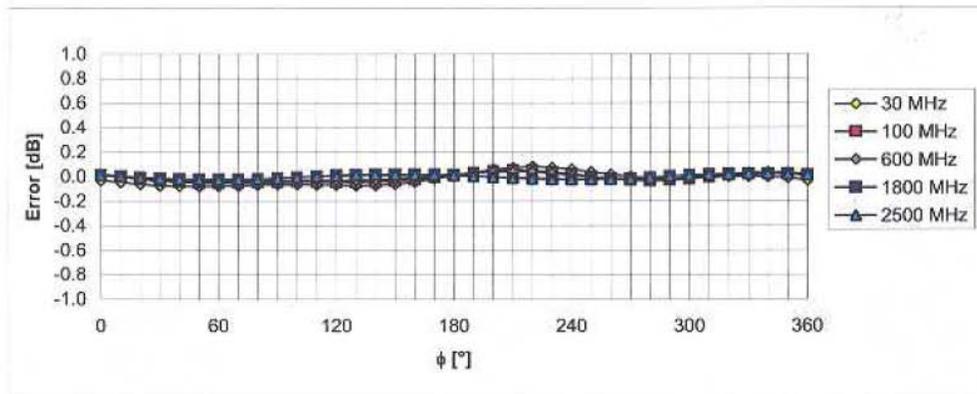
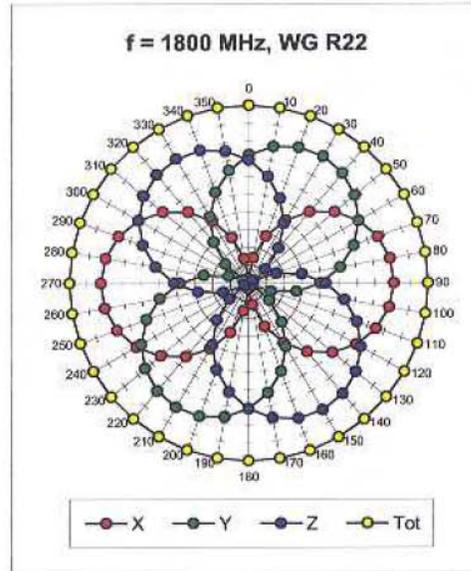
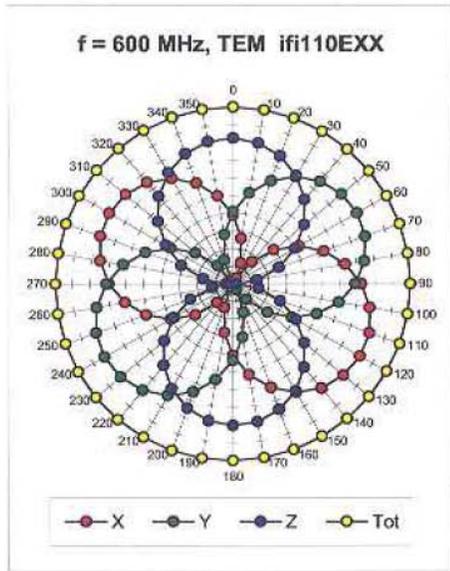


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

ET3DV6 SN:1384

May 30, 2006

Receiving Pattern (ϕ), $\theta = 0^\circ$

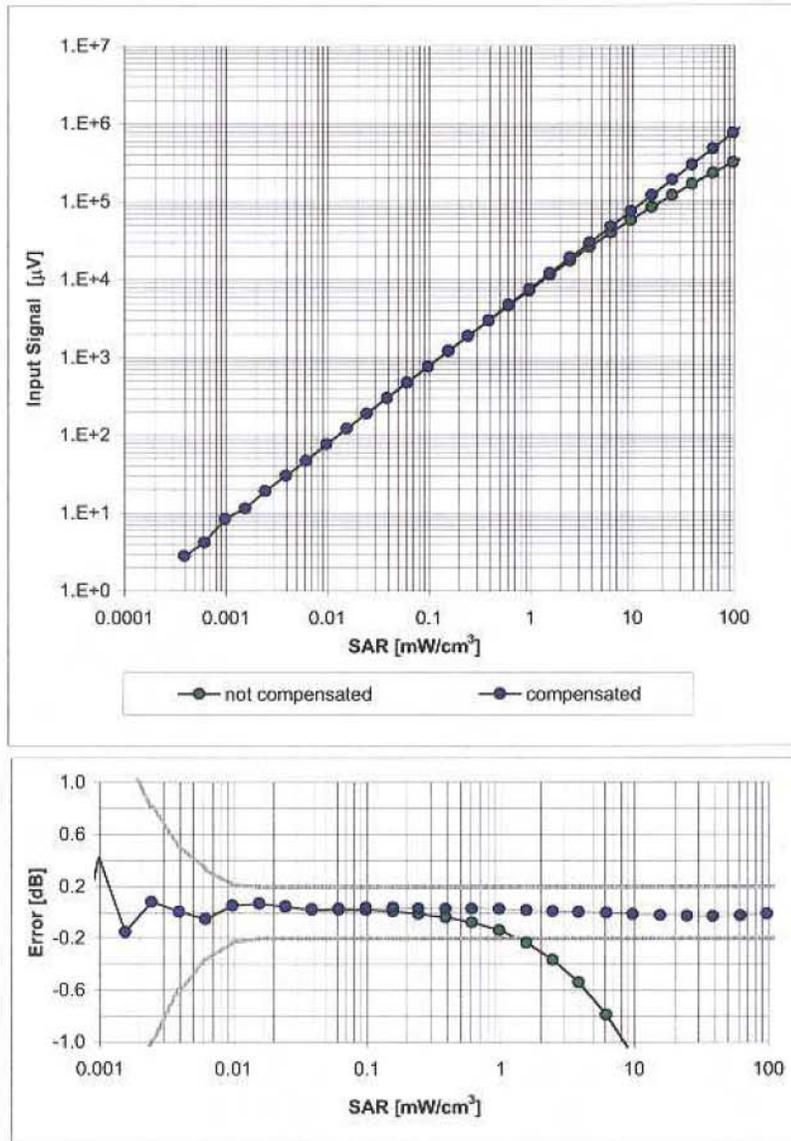


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

ET3DV6 SN:1384

May 30, 2006

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800 \text{ MHz}$)

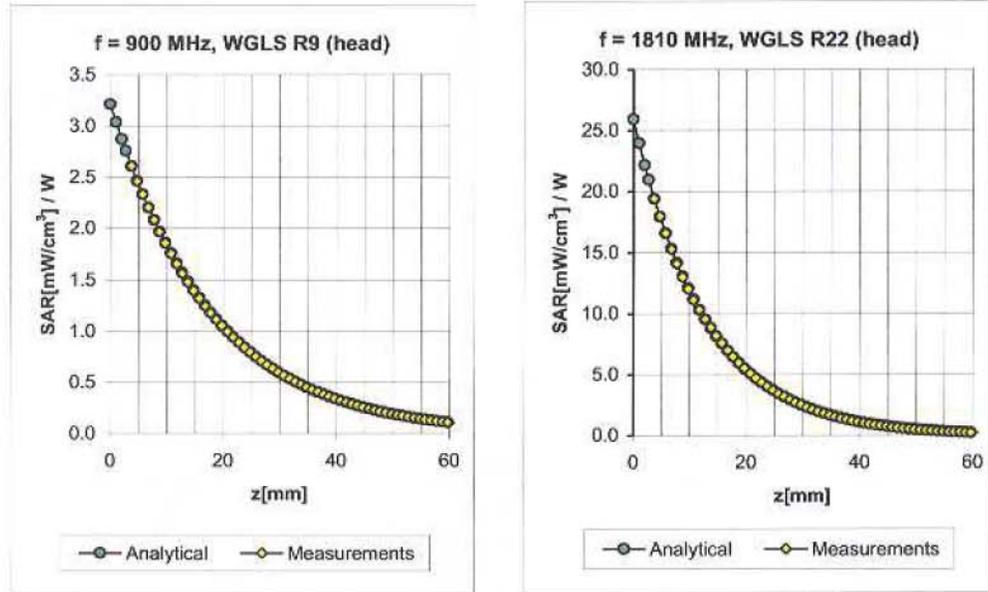


Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

ET3DV6 SN:1384

May 30, 2006

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
450	± 50 / ± 100	Head	43.5 ± 5%	0.87 ± 5%	0.38	1.96	6.94 ± 13.3% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.68	1.79	6.12 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.55	2.64	5.11 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.79	1.77	4.52 ± 11.8% (k=2)
450	± 50 / ± 100	Body	56.7 ± 5%	0.94 ± 5%	0.33	2.01	7.53 ± 13.3% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.53	2.10	5.95 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.66	2.50	4.58 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.74	1.91	4.18 ± 11.8% (k=2)

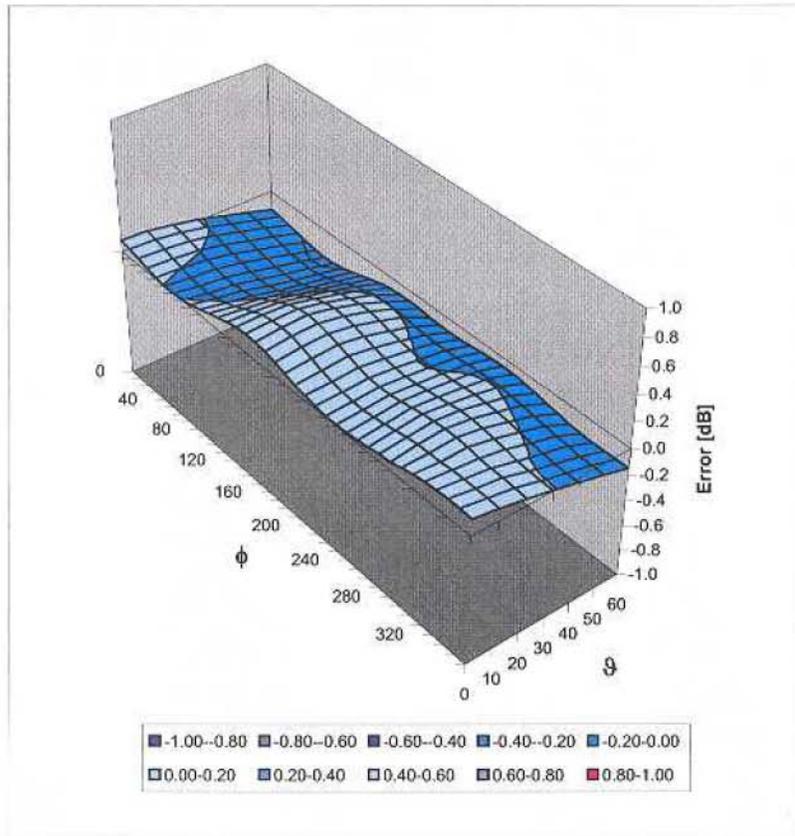
^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

ET3DV6 SN:1384

May 30, 2006

Deviation from Isotropy in HSL

Error (ϕ, θ), $f = 900$ MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ ($k=2$)

Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

Additional Conversion Factors for Dosimetric E-Field Probe

Type:

ET3DV6

Serial Number:

1384

Place of Assessment:

Zurich

Date of Assessment:

June 1, 2006

Probe Calibration Date:

May 30, 2006

Schmid & Partner Engineering AG hereby certifies that conversion factor(s) of this probe have been evaluated on the date indicated above. The assessment was performed using the FDTD numerical code SEMCAD of Schmid & Partner Engineering AG. Since the evaluation is coupled with measured conversion factors, it has to be recalculated yearly, i.e., following the re-calibration schedule of the probe. The uncertainty of the numerical assessment is based on the extrapolation from measured value at 900 MHz or at 1810 MHz.

Assessed by:



Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
 Phone +41 1 245 9700, Fax +41 1 245 9779
 info@speag.com, http://www.speag.com

Dosimetric E-Field Probe ET3DV6 SN:1384

Conversion factor (\pm standard deviation)

150 MHz	<i>ConvF</i>	8.3 \pm 10%	$\epsilon_r = 52.3$ $\sigma = 0.76$ mho/m (head tissue)
250 MHz	<i>ConvF</i>	7.6 \pm 10%	$\epsilon_r = 47.6$ $\sigma = 0.83$ mho/m (head tissue)
300 MHz	<i>ConvF</i>	7.5 \pm 9%	$\epsilon_r = 45.3$ $\sigma = 0.87$ mho/m (head tissue)
750 MHz	<i>ConvF</i>	6.4 \pm 7%	$\epsilon_r = 41.9$ $\sigma = 0.89$ mho/m (head tissue)
150 MHz	<i>ConvF</i>	7.9 \pm 10%	$\epsilon_r = 61.9$ $\sigma = 0.80$ mho/m (body tissue)
250 MHz	<i>ConvF</i>	7.6 \pm 10%	$\epsilon_r = 59.4$ $\sigma = 0.88$ mho/m (body tissue)
300 MHz	<i>ConvF</i>	7.5 \pm 9%	$\epsilon_r = 58.2$ $\sigma = 0.92$ mho/m (body tissue)
750 MHz	<i>ConvF</i>	6.2 \pm 7%	$\epsilon_r = 55.5$ $\sigma = 0.96$ mho/m (body tissue)

Important Note:

For numerically assessed probe conversion factors, parameters Alpha and Delta in the DASY software must have the following entries: Alpha = 0 and Delta = 1.

Please see also Section 4.7 of the DASY4 Manual.