Certificate Number: 1449-01

FCC ID: AZ489FT5837
DECLARATION OF COMPLIANCE SAR ASSESSMENT Part 1 of 3

Government & Enterprise Mobility Solutions
EME Test Laboratory
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Date of Report:	**October 11, 2005**
Report Revision:	**Rev. O**
Report ID:	**FCC rpt_ATS2500_Rev O_051011 SR2859_60**

Responsible Engineer:	Deanna Zakharia (Elect. Principle Staff Eng.)
Date/s Tested:	9/16/2005 – 9/30/2005
Manufacturer/Location:	Motorola, Penang
Sector/Group/Div.:	GEMS
Date submitted for test:	9/7/2005
DUT Description:	Portable transceiver 800MHz 2.5W; POP & Pref KP; 1.5PPM
Test TX mode(s):	CW
Max. Power output:	2.95W (806-824MHz band); 2.40W (851-870MHz band)
Nominal Power:	2.5W (806-824MHz band); 2.0W (851-870MHz band)
Tx Frequency Bands:	806-824MHz; 851-870MHz
Signaling type:	FM
Model(s) Tested:	PMUF1063B & PMUF1064B
Model(s) Certified:	PMUF1063B & PMUF1064B
Serial Number(s):	921HFN4312, 921HFN4298, 921HFN4333(PMUF1064B)
Classification:	Occupational/Controlled
Rule Part(s):	90

Approved Accessories:

Antenna(s):
PMAF4000A (Whip 806-870MHz ½ wave; -3.0dBd); PMAF4001A (Stubby 806-941MHz ¼ wave)

Battery(ies):
HNN9008A (NiMH High Cap.), HNN9009A (NiMH Ultra High Cap.), HNN9010A (NiMH Ultra High Cap. FM), HNN9011A (NiCd High Cap. FM), HNN9012A (NiCd High Cap), HNN9013B (Li Ion High Cap.), HNN9013D (Li Ion High Cap.), PMNN4045BR (NiMH 1400mAH MAGONE)

Body worn accessory:
HLN9652A (Short, Plain, belt loop, thin bat.), HLN9665A (Short, Plain, belt loop, std bat.), HLN9670A (Short, Plain, swivel, thin bat), HLN9676A (Short, Plain, swivel, Std bat.), HLN9677A (Short, DTMF, belt loop, thin bat.), HLN9689A (Short, DTMF, belt loop, std. bat), HLN9690A (Short, DTMF, swivel, thin bat.), HLN9694A (Short, DTMF, swivel, std. bat.), HLN9701B (Short, Plain, belt loop, thin bat), NTN8039B (Belt swivel 2.5"), HLN9714A (Spring belt clip for 2.5" belt width), HLN9844A (Spring belt clip for 1.5" belt width), HLN9945A (Limited keypad, hard leather, w/ belt loop, thin bat.), HLN9946A (Limited keypad, hard leather, w/belt loop, std. bat), HLN9955A (Limited keypad, hard leather, w/swivel, thin bat), HLN9998A (Limited keypad, hard leather, w/swivel, std. bat.), NTN5243A (Carry strap), RLN4815A (Fanny pack carry acc., Universal radio pack), PMLN4280A (Carry case, Full thin leather), HLN9952A (Belt clip carry holder)

Audio Accessories
See section 3.0 for list of approved audio acc.

Max. Calc. 1-g/10-g Avg. SAR: 4.79/3.51 mW/g (Body-worn)
Max. Calc. 1-g/10-g Avg. SAR: 1.83/1.33 mW/g (Face)

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 – Ken Enger

Ken Enger GEMS EME Lab Senior Resource Manager, Laboratory Director,

Approval Date: 10/12/2005

Certification Date: 10/12/2005

Certification No.: L1051012 & L1051013

Part 1 of 2

APPENDICES

Part 2 of 3

Part 3 of 3

REVISION HISTORY

Date	Revision	Comments
10/11/05	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 (S.A.R.) measurements performed at the GEMS EME Test Lab for model numbers PMUF1063B and PMUF1064B, FCC ID: AZ489FT5837.

The test results presented herein clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of **8.0 mW/g** per the requirements of 47 CFR 2.1093(d).

2.0 Reference Standards and Guidelines

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

- 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) C95.1-1999 Edition
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998
- Ministry of Health (Canada) Safety Code 6. Limits of Human Exposure to Terminal 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"
- Health Canada, "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz", Safety Code 6.
- Industry Canada, "Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields", Radio Standards Specification RSS-102 Issue 1 (Provisional): September 1999.

2.1 SAR Limits

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

3.0 Description of Device Under Test (DUT)

FCC ID: AZ489FT5837 is an 800MHz portable two-way radio that operates using frequency modulation (FM) incorporating traditional simplex transmission protocol. This radio is intended to be assessed using CW transmission via its' inherent test mode signaling capability. There are two models represented under this filing – one without a keypad and one with a preferred keypad. Both models utilize removable antennas and are capable of transmitting in the 806-824MHz and 851-870MHz bands. The nominal output power is 2.5W (806-824MHz band) and 2.0W (851-870MHz band) with maximum output powers of 2.95W (806-824MHz) and 2.40W (851-870MHz) as defined by the upper limit of the production line final test station. The intended operating positions are "at the face" with the DUT 1 to 2 inches from the mouth, and "at the body" by means of the offered body-worn accessories. Body-worn audio and PTT operation is accomplished by means of optional remote accessories that connect to the radio. This device will be marketed to and used by employees solely for occupational operations, such as public safety agencies, e.g. police, fire and emergency medical. User training is the responsibility of these agencies, which can be expected to employ the usage instructions, safety information and operational cautions set forth in the user's manual, instructional sessions or other means. Motorola also makes available to its customers training classes on the proper use of two-way radios and wireless data devices.

FCC ID: AZ489FT5837 is offered with the options and accessories listed on the coversheet of this report as well as the audio accessories listed below:

Audio Acc.:

HMN9030A Remote Speaker Microphone with Coil Cord and Swivel
PMMN4027A Waris RSM with Membrane
AAHMN9053E Remote Speaker Microphone, Noise Canceling
AARLN4885A Receive Only earbud for use with Remote Speaker Microphone
RLN4941A Receive Only Earphone w/Translucent Tube for RSM
ENMN4015A Lightweight Headset
ENMN4012A Breeze Headset with PTT
ENMN4011A Helmet Com
ENMN4010A Noise Com
ENMN4013A 1-Wire Flexible Ear Receiver

ENMN4014A 3-Wire Min Lapel Kit, Black
ENMN4016A Medium Weight Behind-the-head Headset with PTT
ENMN4017A 3-Wire Min Lapel Kit, Beige
AZRMN4019A Medium Weight Headset, Over the Head
AARMN4020B Heavy Weight Headset, w/ boom microphone
PMMN4002B Noise Canceling Remote Speaker Microphone
PMLN4558A Headset w/PTT/VOX Switch
PMMN4009A Remote Speaker Microphone, MAG ONE
ENLN4135A PTT Module
PMLN4418A Ear Bud with PTT microphone
AARMN4017A Earpiece w/boom microphone, black
AARMN4044A Ear Microphone System, Push To Talk Only
RMN4048A Temple Transducer, noise canceling
WADN4190B Flexible Ear Receiver
PMLN4557A Earpiece with PTT Mic/Vox Switch
PMLN4556A Ear Bud w/PTT Mic/Vox Switch
HMN9013A Light Weight Headset with Swivel Boom Microphone (without VOX)
HMN9727B Earpiece w/o Volume Control
HMN9752B Earpiece w/ Volume Control
HMN9754D Earpiece w/ Microphone & PTT
NTN1722A Ear Microphone up to 100 db Noise Level
NTN1723A Ear Microphone w/ Palm PTT up to 100 db Noise Level
NTN1724A Ear Microphone w/ Ring PTT up to 100 db Noise Level
NMN6245A Light Weight Headset
NMN6246B Headset, Ultra-Light w/ Boom Microphone
NTN8370A Headset Extreme Noise Reduction
NTN8371A Headset Low Noise Reduction
RLN4760A Earpiece Clear & Comfortable Small, Right Ear
RLN4761A Earpiece Clear & Comfortable Medium, Right Ear
RLN4762A Earpiece Clear & Comfortable Large, Right Ear
RLN4763A Earpiece Clear & Comfortable Small, Left Ear
RLN4764A Earpiece Clear & Comfortable Medium, Left Ear
RLN4765A Earpiece Clear & Comfortable Large, Left Ear
RLN4922A Complete Discrete Earpiece
AARMN4018B Light Weight headset with Swivel Boom Microphone (in-line PTT)
AARMN4021A Earpiece without Volume Control (Beige)
AARMN4022A 2 Wire Surveillance Earpiece with Microphone and PTT (Beige)
AARMN4028A Earpiece w/ Standard Earphone - Black
AARMN4029A 2 Wire Ear piece W/Mic and PTT (Black)
AARMN4031B Lightweight Headset w/Swivel Boom Mic
AZRMN4032A Headset, Over the Head - Medium Weight
AARMN4045A PTT & VOX Interface Module for Ear Microphone System
RMN4051B Noise Canceling Boom Mic Hardhat Mount
RMN4052B Noise Canceling Boom Mic w/ PTT
RMN4053A Noise Canceling Boom Mic w/ PTT Hardhat Mount
RMN4054B Noise Canceling Receive Only Headset Hardhat Mount
RMN4055B Noise Canceling Headset Receive Only Hardhat Mount
BDN6641A High Noise Ear Microphone, grey (for noise levels up to 105 db)
BDN6646C Ear Microphone System w/ PTT
BDN6647G Medium Weight Single Speaker Headset with Boom Microphone
BDN6648C Heavy Duty Headset with Noise Canceling Boom Microphone
BDN6664A Earpiece w/ Standard Earphone Beige
BDN6665A Earpiece w/ Extra Loud Earphone Beige
BDN6666A Earpiece w/ Volume Control Beige
BDN6667A Earpiece Mic & PTT Combined Beige
BDN6668A Earpiece Mic & PTT Separate Beige
BDN6669A Xtra Loud Earpiece, Mic & PTT Combined Beige

BDN6670A Xtra Loud Earpiece, Mic & PTT Separate Beige
BDN6677A Standard Ear Microphone, black (for noise levels up to 95 db)
BDN6678A Standard Ear Microphone, beige (for noise levels up to 95 db)
BDN6719A Flexible Ear Receiver Light Weight Black
BDN6720A Flexible Ear Receiver
PMLN4653A D-style Mic Earset w/VOX SW
BDN6726A Earpiece w/ Standard Earphone Black
BDN6727A Earpiece w/ Extra Loud Earphone Black
BDN6728A Earpiece w/ Volume Control Black
BDN6729A Earpiece Mic & PTT Combined Black
BDN6730A Earpiece Mic & PTT Separate Black
BDN6731A XL Earpiece, Mic & PTT Combined Black
BDN6732A XL Earpiece, Mic & PTT Separate Black
BDN6780A Earpiece w/ PTT/Mini Microphone
BDN6781A Earbud Single Speaker Black
NNTN4187A CommPort Integrated Mic/Rcvr.
0180358B38 Remote Ring SW PTT
0180300E83 Body Switch Push-To-Talk Accy.

Other cable options:
AAHLN9717A 3.5 mm Accessory Adaptor
HLN9716C Audio Accessory Adaptor, Use w/GP300 Audio Accessories
RKN4097A HT750/HT1250 In-line PTT Adapter

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™) S.A.R. measurement system Version 4.5 B19.2 manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The test system consists of a Stäubli RX90L robot with ET3DV6 and EX3DV3 E-Field probes. Please reference the SPEAG user manual and application notes for detailed probe, robot, and S.A.R. 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 S.A.R. 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	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)
NA	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 simulated 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. The solution is mixed thoroughly, covered, and allowed to sit overnight prior to use.

4.3.2 Simulated Tissue Composition

% of listed ingredients	835MHz		900MHz	
	Head	Body	Head	Body
Sugar	57	44.9	56.5	44.9
Diacetin	NA	NA	NA	NA
De ionized - Water	40.45	53.06	40.95	53.06
Salt	1.45	0.94	1.45	0.94
HEC	1	1	1	1
Bact.	0.1	0.1	0.1	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 (HP)	E4419B	MY40330364	1/28/2006
Power Sensor (HP)	8482B	3318A05259	3/28/2006
Power Sensor (HP)	8482B	3318A06773	3/22/2006
Directional Coupler (NARDA)	3020A	40296	2/27/2006
Signal Generator (Agilent)	E4438C	MY42082269	1/11/2006
AMP (ComTech PST)	AR88258-10	N1R1A00-1015	CNR
Network Analyzer (HP)	8753D	3410A06417	7-Feb-06
Dielectric Probe Kit (HP)	85070C	US99360076	CNR
SPEAG Dipole	D900V2	85	8/19/2006

6.0 SAR Measurement System Verification

The S.A.R. 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 system performance test results and the probe/dipole calibration certificates are included in appendices B and C 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 GEMS 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 GEMS EME system performance validation are provided herein.

6.1 Equivalent Tissue Test Results

Simulated tissue prepared for S.A.R. measurements is measured daily and within 24 hours prior to actual S.A.R. 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 Agilent (HP) probe kit model 85070C and a HP8753D Network Analyzer.

Target versus measured tissue parameters (9/16/2005-9/30/2005)

FCC Body				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
815	55.3	53.3-54.3	0.97	0.96-0.98
860.5	55.1	52.8-53.8	1.00	1.0-1.04
900	55.0	52.3-53.4	1.05	1.05-1.06

IEEE Head				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
815	41.6	41.7-43.6	0.90	0.94-0.94
860.5	41.5	41.1-41.3	0.93	0.94-0.97
900	41.5	40.6-42.4	0.97	1.0-1.01

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	FCC Body	5/26/2005	D900V2/085	11.85 +/- 0.12	11.41 +/- 10%	9/16/05-9/28/05 8 test days
1384	IEEE Head	5/26/2005	D900V2/085	11.65 +/- 0.06	11.26 +/- 10%	9/26/05-9/30/2005 3 test days

Note: See Appendix D for an explanation of the reference S.A.R. 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 S.A.R. compliance was calibrated according to 17025 A2LA guidelines.

7.0 DUT Test Strategy and Methodology

DUT Configuration

PTT operation using Frequency Modulation (FM) in CW transmission mode
The DUT's PTT switch is engaged and the radio is placed in the reported test positions presented in Appendix G.

7.1 Test Plan

All options and accessories listed on the cover page and sec 3.0 of this report were considered in order to develop the S.A.R. test plan for this product. S.A.R. measurements were performed using a flat phantom with the applicable simulated tissue to assess performance at the body and face using CW transmission mode.
Note that a coarse-to-cube approximation methodology was utilized to determine the worst-case S.A.R. performance configuration for each applicable body location. The test configurations that produced the highest S.A.R. results for each body position using the coarse-to-cube approximation methodology were assessed using the full DASY4™ coarse and 7x7x7 cube scans.

Assessments at the Body **[Page 12-14 of 30; Table 1]**

- Assessment of offered antennas at the center frequencies of the 806-824MHz and 851-870MHz bands.
- Assessment of worst case antenna from above with the offered batteries.
- Assessment of offered body worn accessories with the worst case configuration from above.
- Assessment of offered audio accessories with the worst case configuration from above.
- Assessment of each offered antennas' band edges using the worst case configuration from above.

Assessments at the body (@ 2.5cm) **[Page 14 of 30; Table 1]**

- Assessment with the DUT's back and front separated 2.5cm from the phantom without a body worn accessory using the worst case test configuration from the body assessment above.

Assessments at the face **[Page 15-17 of 30; Table 2]**

- Assessment of offered antennas at the center frequencies of the 806-824MHz and 851-870MHz bands.
- Assessment of worst case antenna from above with the offered batteries.
- Assessment of offered audio accessories with the worst case configuration from above.
- Assessment of each offered antennas' band edges using the worst case configuration from above.

Shortened scan assessment at the body **[Appendix E Part 3 of 3]**

A "shortened" scan was performed using the test configuration that produced the highest S.A.R. results overall at the body. 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, perform a cube scan only. The shortened scan represents the cube scan performance results.

7.2 Device Positioning Procedures

Reference Appendix G for photos of the DUT tested positions.

7.2.1 Body

The DUT was positioned such that the applicable body worn accessories were centered against the body phantom as close as possible according to a normal use position. The DUT back housing and front housing were positioned with 2.5cm separation distance from the flat phantom. Attached accessories are allowed to hang straight down from the radio.

7.2.2 Head

NA

7.2.3 Face

The DUT was positioned at the center of the flat phantom with a 2.5cm separation distance from the front housing with and without the offered applicable audio accessories.

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^{o}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 S.A.R. tests reported herein:

	Target	Measured
Ambient Temperature	20 - 25 ˚C	Range: 21.0-23.0˚C Avg. 21.9˚C
Relative Humidity	30 - 70 %	Range: 43.0-55.0% Avg. 49.8%
Tissue Temperature	NA	Range: 21.3-23.1˚C Avg. 22.2 ˚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 S.A.R scans are repeated. However, the lab environment is sufficiently protected such that no S.A.R. impacting interference has been experienced to date.

9.0 Test Results Summary

All S.A.R. 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 were then assessed using the full DASY4™ coarse and 7x7x7 cube methodology, and they are presented as bolded results. The associated S.A.R. plots are provided in Appendix E. Appendix E also presents a shortened S.A.R. cube scan to assess the validity of the calculated results presented herein. Note: The results of the shortened cube scan presented in Appendix E demonstrates that the scaling methodology used to determine the calculated S.A.R. results presented herein are valid.

Table 1

DUT assessment at the body; CW mode												
Run Number/ SN	**Antenna**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessment of offered antennas												
JsT-Ab-050921-13/921HFN4312	PMAF4000A	815.0	HNN9008A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	2.97	-0.1180	2.37	1.69	1.22	0.87
JsT-Ab-050922-02/921HFN4312	PMAF4000A	860.5	HNN9008A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	2.45	-0.585	1.56	1.10	0.89	0.63
JsT-Ab-050922-03/921HFN4312	PMAF4001A	815.0	HNN9008A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	3.01	-0.263	6.24	4.39	3.31	2.33
JsT-Ab-050922-04/921HFN4312	PMAF4001A	860.5	HNN9008A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	2.48	-0.348	3.85	2.69	2.09	1.46
Assessment of offered batteries												
JsT-Ab-050922-05/921HFN4312	PMAF4001A	815.0	HNN9009A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	3.02	-0.229	5.73	4.06	3.02	2.14
JsT-Ab-050922-06/921HFN4312	PMAF4001A	815.0	HNN9010A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	2.98	-0.201	5.54	3.91	2.90	2.05
JsT-Ab-050922-07/921HFN4312	PMAF4001A	815.0	HNN9011A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	2.97	-0.255	5.80	4.11	3.08	2.18
JsT-Ab-050922-08/921HFN4312	PMAF4001A	815.0	HNN9012A	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	3.00	-0.265	5.20	3.66	2.76	1.95
JsT-Ab-050923-02/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	3.01	-0.109	8.09	5.67	4.15	2.91
JsT-Ab-050923-03/921HFN4312	PMAF4001A	815.0	PMNN4045BR	Against Phantom	HLN9844A	HMN9030A w/HLN9716C	3.01	-0.202	6.49	4.59	3.40	2.40
Assessment of offered body worn accessories												
JsT-Ab-050923-04/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9652A	HMN9030A w/HLN9716C	2.96	-0.104	4.22	2.99	2.16	1.53
JsT-Ab-050923-05/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9665A	HMN9030A w/HLN9716C	2.96	-0.0809	4.78	3.39	2.43	1.73
JsT-Ab-050923-06/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9670A w/NTN8039B	HMN9030A w/HLN9716C	2.97	-0.0953	2.62	1.87	1.34	0.96
JsT-Ab-050923-07/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9676A w/NTN8039B	HMN9030A w/HLN9716C	2.94	-0.0688	2.79	1.99	1.42	1.01
JsT-Ab-050923-08/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9701B	HMN9030A w/HLN9716C	2.96	-0.109	4.71	3.32	2.41	1.70
JsT-Ab-050923-09/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9701B w/NTN5243A	HMN9030A w/HLN9716C	2.94	-0.0922	4.59	3.24	2.35	1.66
JsT-Ab-050923-10/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9952A w/HLN9714A	HMN9030A w/HLN9716C	2.95	-0.0055	5.65	4.00	2.83	2.00
JsT-Ab-050923-11/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9952A w/HLN9844A	HMN9030A w/HLN9716C	2.95	-0.115	6.39	4.52	3.28	2.32
JsT-Ab-050923-12/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9714A	HMN9030A w/HLN9716C	2.94	-0.0659	7.38	5.19	3.76	2.64
ErC-Ab-050923-02/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	RLN4815A	HMN9030A w/HLN9716C	2.95	-0.133	4.13	2.88	2.13	1.48
ErC-Ab-050924-03/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	PMLN4280A	HMN9030A w/HLN9716C	2.96	-0.150	5.92	4.17	3.06	2.16

Table 1 (continued)

Run Number/ SN	Antenna model	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	S.A.R. Drift (dB)	Meas. 1g-S.A.R. (mW/g)	Meas. 10g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)	Max Calc. 10g-S.A.R. (mW/g)
DUT assessment at the body; CW mode												
Assessment of audio accessories												
ErC-Ab-050924-04/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	HMN9053E w/ WADN4190B	2.96	-0.114	8.96	6.3	4.60	3.23
ErC-Ab-050924-05/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	ENMN4015A	2.96	-0.0875	8.76	6.16	4.47	3.14
ErC-Ab-050924-06/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	ENMN4012A	2.96	-0.0606	8.84	6.21	4.48	3.15
ErC-Ab-050924-07/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	ENMN4011A w/ ENLN4135A	2.95	-0.117	8.87	6.23	4.56	3.20
ErC-Ab-050924-08/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	ENMN4010A	2.94	-0.102	8.84	6.20	4.54	3.18
ErC-Ab-050924-09/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	ENMN4014A w/ RLN4922A	2.95	-0.101	8.52	5.98	4.36	3.06
ErC-Ab-050924-10/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4019A	2.94	-0.0981	8.57	6.01	4.40	3.08
ErC-Ab-050924-11/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4020B	2.94	-0.113	8.76	6.16	4.51	3.17
ErC-Ab-050924-12/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	PMMN4009A	2.94	-0.113	8.42	5.91	4.34	3.04
ErC-Ab-050924-13/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	PMLN4418A	2.94	-0.141	9.03	6.34	4.68	3.29
ErC-Ab-050924-14/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4017A	2.94	-0.0080	8.75	6.14	4.51	3.17
ErC-Ab-050924-15/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4044A w/ BDN6641A & 0180358B38	2.95	-0.108	8.07	5.69	4.14	2.92
ErC-Ab-050924-16/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4048A	2.94	-0.158	8.46	5.96	4.40	3.10
ErC-Ab-050924-17/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	PMLN4556A	2.95	-0.0989	8.86	6.24	4.53	3.19
ErC-Ab-050924-18/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	HMN9013A w/ HLN9716C	2.95	-0.201	7.5	5.27	3.93	2.76
ErC-Ab-050924-19/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	HMN9754D w/ HLN9716C	2.96	-0.1390	8.75	6.14	4.52	3.17
ErC-Ab-050924-20/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	NTN1722A	2.94	-0.0923	8.64	6.08	4.43	3.12
ErC-Ab-050924-21/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	NTN1723A	2.94	-0.103	8.79	6.16	4.52	3.16
ErC-Ab-050924-22/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	NMN6245A w/ HLN9717A	2.94	-0.0872	8.70	6.11	4.45	3.13
ErC-Ab-050924-23/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	NMN6246B w/ HLN9717A	2.94	-0.0771	7.92	5.56	4.04	2.84
CM-Ab-050924-24/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4018B	2.95	-0.126	9.14	6.41	4.70	3.30
CM-Ab-050924-25/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4022A	2.96	-0.0565	8.52	5.97	4.32	3.02

Table 1 (continued)

Run Number/ SN	Antenna Position	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	S.A.R. Drift (dB)	Meas. 1g-S.A.R. (mW/g)	Meas. 10g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)	Max Calc. 10g-S.A.R. (mW/g)
DUT assessment at the body; CW mode												
Assessment of offered audio accessories												
CM-Ab-050924-26/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4032A	2.95	-0.101	8.51	5.98	4.36	3.06
CM-Ab-050924-27/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	RMN4051B w/ RKN4097A	2.95	-0.0239	9.06	6.35	4.55	3.19
CM-Ab-050924-28/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	BDN6646C w/HLN9716C	2.95	-0.0739	8.45	5.93	4.30	3.02
CM-Ab-050924-29/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	BDN6647G w/HLN9716C	2.95	-0.118	8.43	5.93	4.33	3.05
CM-Ab-050924-30/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	BDN6648C w/HLN9716C	2.95	-0.0874	8.44	5.92	4.31	3.02
CM-Ab-050924-31/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	BDN6729A w/HLN9717A	2.97	0.00717	9.14	6.42	4.57	3.21
CM-Ab-050924-32/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.97	-0.0549	9.42	6.60	4.77	3.34
CM-Ab-050924-33/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	NNTN4187A w/HLN9717A	2.95	0.0269	9.04	6.33	4.52	3.17
CM-Ab-050924-34/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	PMMN4027A	2.95	-0.0721	9.19	9.47	4.67	3.29
CM-Ab-050924-35/921HFN4312	PMAF4001A	815.0	HNN9013D	Against Phantom	HLN9844A	PMLN4653A	2.97	-0.0415	8.98	6.30	4.53	3.18
Assessment across the band of antenna model PMAF4001A												
***CM-Ab-050924-36/921HFN4312**	PMAF4001A	806.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.94	-0.092	9.66	6.79	4.95	3.48
CM-Ab-050924-37/921HFN4312	PMAF4001A	823.9875	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.94	-0.0525	9.28	6.51	4.71	3.31
CM-Ab-050924-38/921HFN4312	PMAF4001A	851.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.41	-0.189	7.79	5.45	4.07	2.85
CM-Ab-050924-39/921HFN4312	PMAF4001A	860.5	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.45	-0.257	8.33	5.80	4.42	3.08
CM-Ab-050924-40/921HFN4312	PMAF4001A	868.9875	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.41	-0.263	7.52	5.24	3.99	2.78
Assessment across the band of antenna model PMAF4000A												
CM-Ab-050924-41/921HFN4312	PMAF4000A	806.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.95	-0.228	2.31	1.64	1.22	0.86
CM-Ab-050924-42/921HFN4312	PMAF4000A	815.0	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.97	-0.146	2.53	1.79	1.31	0.93
ErC-Ab-050925-02/921HFN4312	PMAF4000A	823.9875	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.94	-0.553	3.36	2.37	1.91	1.35
ErC-Ab-050925-03/921HFN4312	PMAF4000A	851.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.43	-0.619	2.04	1.44	1.18	0.83
ErC-Ab-050925-04/921HFN4312	PMAF4000A	860.5	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.47	-0.589	1.80	1.26	1.03	0.72
ErC-Ab-050925-05/921HFN4312	PMAF4000A	868.9875	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/HLN9717A	2.48	-0.60	1.30	0.914	0.75	0.52
Assessment at 2.5cm separation												
ErC-Ab-050925-07/921HFN4312	PMAF4001A	806.0125	HNN9013D	DUT back 2.5cm	None	BDN6730A w/HLN9717A	2.97	-0.163	3.13	2.24	1.62	1.16
ErC-Ab-050925-08/921HFN4312	PMAF4001A	806.0125	HNN9013D	DUT back 2.5cm	None	BDN6730A w/HLN9717A	2.94	-0.242	2.70	1.94	1.43	1.03

Table 1 (continued)

Run Number/ SN	Antenna Position	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	S.A.R. Drift (dB)	Meas. 1g-S.A.R. (mW/g)	Meas. 10g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)	Max Calc. 10g-S.A.R. (mW/g)
DUT assessment at the body; CW mode												
*Assessment with the worst case test configuration at the body using the full DASY coarse and 7x7x7 cube scan measurements.												
ErC-Ab-050925-12/921HFN4312	PMAF4001A	806.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/ HLN9717A	2.96	-0.0737	9.07	6.65	4.61	3.38
CM-Ab-050925-19/921HFN4298	PMAF4001A	806.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/ HLN9717A	2.93	-0.151	9.19	6.74	4.79	3.51
CM-Ab-050924-36/921HFN4312 (Shorten Scan)	PMAF4000A	806.0125	HNN9013D	Against Phantom	HLN9844A	BDN6730A w/ HLN9717A	2.97	-0.0327	9.30	6.84	4.69	3.45

Table 2

Run Number/ SN	Antenna Position	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	S.A.R. Drift (dB)	Meas. 1g-S.A.R. (mW/g)	Meas. 10g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)	Max Calc. 10g-S.A.R. (mW/g)
DUT assessment at the face; CW mode												
Assessment of offered antennas												
CM-Face-050925-24/921HFN4312	PMAF4001A	815.0	HNN9008A	DUT front 2.5cm	None	None	3.01	-0.399	2.11	1.52	1.16	0.83
CM-Face-050925-25/921HFN4312	PMAF4001A	860.5	HNN9008A	DUT front 2.5cm	None	None	2.42	-0.156	2.30	1.64	1.19	0.85
CM-Face-050925-26/921HFN4312	PMAF4000A	815.0	HNN9008A	DUT front 2.5cm	None	None	2.98	0.00862	2.60	1.86	1.30	0.93
CM-Face-050925-27/921HFN4312	PMAF4000A	860.5	HNN9008A	DUT front 2.5cm	None	None	2.50	-0.563	1.77	1.26	1.01	0.72
Assessment of offered batteries												
CM-Face-050925-28/921HFN4312	PMAF4000A	815.0	HNN9009A	DUT front 2.5cm	None	None	2.99	0.00202	2.52	1.80	1.26	0.90
CM-Face-050925-29/921HFN4312	PMAF4000A	815.0	HNN9010A	DUT front 2.5cm	None	None	2.98	-0.0184	2.61	1.86	1.31	0.93
CM-Face-050925-30/921HFN4312	PMAF4000A	815.0	HNN9011A	DUT front 2.5cm	None	None	2.98	-0.0596	2.53	1.81	1.28	0.92
CM-Face-050925-31/921HFN4312	PMAF4000A	815.0	HNN9012A	DUT front 2.5cm	None	None	2.99	0.0232	2.58	1.85	1.29	0.93
JsT-Face-050928-04/921HFN4312	PMAF4000A	815.0	HNN9013D	DUT front 2.5cm	None	None	2.91	0.110	3.06	2.18	1.55	1.10
JsT-Face-050928-05/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	None	2.95	0.0208	3.21	2.28	1.61	1.14

Table 2 (continued)

Run Number/ SN	Antenna Position	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	S.A.R. Drift (dB)	Meas. 1g-S.A.R. (mW/g)	Meas. 10g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)	Max Calc. 10g-S.A.R. (mW/g)
DUT assessment at the face; CW mode												
Assessment of audio accessories												
JsT-Face-050928-06/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.96	0.00	3.33	2.37	1.67	1.19
JsT-Face-050928-07/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	HMN9727B w/ HLN9716C	2.96	0.0356	3.06	2.17	1.53	1.09
JsT-Face-050928-08/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	HMN9752B w/ HLN9716C	2.95	0.0588	3.16	2.24	1.58	1.12
JsT-Face-050928-09/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	RMN4054B w/HLN9717A	2.95	-0.0013	3.12	2.22	1.56	1.11
JsT-Face-050928-10/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	RMN4055B w/HLN9717A	2.96	0.0287	2.99	2.13	1.50	1.07
JsT-Face-050929-02/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	BDN6665A w/HLN9717A	3.06	-0.0689	3.07	2.18	1.56	1.11
JsT-Face-050929-03/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	BDN6666A w/HLN9717A	3.05	-0.114	3.17	2.25	1.63	1.15
JsT-Face-050929-04/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	BDN6702A w/HLN9716C	3.04	0.0241	3.11	2.21	1.56	1.11
JsT-Face-050929-05/921HFN4312	PMAF4000A	815.0	PMNN4045BR	DUT front 2.5cm	None	BDN6781A w/HLN9717A	3.05	-0.338	2.16	1.54	1.17	0.83
Assessment across the band of antenna model PMAF4001A												
JsT-Face-050929-06/921HFN4312	PMAF4001A	806.0125	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.99	-0.188	2.72	1.95	1.42	1.02
JsT-Face-050929-12/921HFN4312	PMAF4001A	815.0	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	3.02	-0.247	2.20	1.59	1.16	0.84
JsT-Face-050929-07/921HFN4312	PMAF4001A	823.9875	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	3.06	-0.162	2.09	1.51	1.08	0.78
JsT-Face-050929-08/921HFN4312	PMAF4001A	851.0125	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.50	-0.0591	1.87	1.34	0.95	0.68
JsT-Face-050929-09/921HFN4312	PMAF4001A	860.5	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.52	0.0508	2.23	1.59	1.12	0.80
JsT-Face-050929-10/921HFN4312	PMAF4001A	868.9875	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.51	-0.167	2.60	1.85	1.35	0.96

Table 2 (continued)

Run Number/ SN	Antenna Position	Freq. (MHz)	Battery	Test position	Carry Case	Additional attachments	Initial Power (W)	S.A.R. Drift (dB)	Meas. 1g-S.A.R. (mW/g)	Meas. 10g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)	Max Calc. 10g-S.A.R. (mW/g)
Assessment across the band of antenna model PMAF4000A												
JsT-Face-050929-11/921HFN4312	PMAF4000A	806.0125	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.99	0.0595	2.90	2.06	1.45	1.03
***JsT-Face-050929-13/921HFN4312**	PMAF4000A	823.9875	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	3.05	-0.134	3.60	2.56	1.86	1.32
JsT-Face-050930-02/921HFN4312	PMAF4000A	851.0125	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.51	-0.550	2.15	1.53	1.22	0.87
JsT-Face-050930-03/921HFN4312	PMAF4000A	860.5	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.52	-0.416	1.69	1.20	0.93	0.66
JsT-Face-050930-04/921HFN4312	PMAF4000A	868.9875	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	2.49	-0.383	1.32	0.938	0.72	0.51
*Assessment with the worst case test configuration at the face using the full DASY coarse and 7x7x7 cube scan measurements.												
JsT-Face-050930-06/921HFN4312	PMAF4000A	823.9875	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	3.04	-0.132	3.47	2.53	1.79	1.30
JsT-Face-050930-07/921HFN4333 (PMUF1064B)	PMAF4000A	823.9875	PMNN4045BR	DUT front 2.5cm	None	ENMN4013A	3.10	-0.338	3.38	2.47	1.83	1.33

9.1 Highest S.A.R. results calculation methodology

The calculated maximum 1-gram and 10-gram averaged S.A.R. results reported herein for the full DASY 4™ coarse and 7x7x7 cube measurements are determined by scaling the measured S.A.R. to account for power leveling variations and power slump. For this device the Maximum Calculated 1-gram and 10-gram averaged peak S.A.R. is calculated using the following formula:

Max. Calc. 1-g/10-g Avg. SAR = ((S.A.R. meas. / (10^(Pdrift/10)))*(Pmax/Pint))* DC%
P_{max} = Maximum Power (W)
P_{int} = Initial Power (W)
Pdrift = DASY drift results (dB) - (for conservative results positive drifts are not accounted for)
SAR_{meas}. = Measured 1 gram averaged peak S.A.R. (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 S.A.R. values found for FCC ID: AZ489FT5837 model PMUF1063B and PMUF1064B.

At the Body: **1-g Avg. = 4.79mW/g; 10-g Avg. = 3.51mW/g**
At the Face: **1-g Avg. = 1.83mW/g; 10-g Avg. = 1.33mW/g**

These test results clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of **8.0 mW/g** per the requirements of 47 CFR 2.1093(d).

APPENDIX A
Measurement Uncertainty

Table 1: Uncertainty Budget for Device Under Test for 30 MHz to 3 GHz

a	b	c	d	e = f(d,k)	f	g	h = c x f / e	i = c x g / e	k
Uncertainty Component	IEEE 1528 section	**Tol. (± %)**	Prob Dist	**Div.**	c_i (1 g)	c_i (10 g)	1 g u_i (±%)	10 g u_i (±%)	v_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)			k=2				22	22	

Table 2: Uncertainty Budget for System Performance Check (dipole & flat phantom) for 30 MHz to 3 GHz

a	*b*	*c*	*d*	*e = f(d,k)*	*f*	*g*	*h = c x f / e*	*i = c x g / e*	*k*
Uncertainty Component	IEEE 1528 section	**Tol. (± %)**	**Prob. Dist.**	**Div.**	c_i (1 g)	c_i (10 g)	**1 g** u_i **(±%)**	**10 g** u_i **(±%)**	v_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	9999 9
Expanded Uncertainty (95% CONFIDENCE LEVEL)			*k*=2				18	17	

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) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty.

Appendix B
Probe Calibration Certification

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

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
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_May05

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 26, 2005
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	3-May-05 (METAS, No. 251-00466)	May-06
Power sensor E4412A	MY41495277	3-May-05 (METAS, No. 251-00466)	May-06
Power sensor E4412A	MY41498087	3-May-05 (METAS, No. 251-00466)	May-06
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-04 (METAS, No. 251-00403)	Aug-05
Reference 20 dB Attenuator	SN: S5086 (20b)	3-May-05 (METAS, No. 251-00467)	May-06
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-04 (METAS, No. 251-00404)	Aug-05
Reference Probe ES3DV2	SN: 3013	7-Jan-05 (SPEAG, No. ES3-3013_Jan05)	Jan-06
DAE4	SN: 617	19-Jan-05 (SPEAG, No. DAE4-617_Jan05)	Jan-06

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Dec-03)	In house check: Dec-05
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Nov-04)	In house check: Nov 05

	Name	Function	Signature
Calibrated by:	Nico Vetterli	Laboratory Technician	D. Vetterli
Approved by:	Katja Pokovic	Technical Manager	Katja

Issued: May 26, 2005

DASY - Parameters of Probe: ET3DV6 SN:1384

Sensitivity in Free Space[A]

NormX	**1.78** ± 10.1%	$\mu V/(V/m)^2$
NormY	**1.76** ± 10.1%	$\mu V/(V/m)^2$
NormZ	**1.94** ± 10.1%	$\mu V/(V/m)^2$

Diode Compression[B]

DCP X	**92** mV
DCP Y	**92** mV
DCP Z	**92** mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	10.1	5.1
SAR_{be} [%]	With Correction Algorithm	0.1	0.2

TSL 1810 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	14.5	9.5
SAR_{be} [%]	With Correction Algorithm	1.0	0.1

Sensor Offset

Probe Tip to Sensor Center **2.7** mm

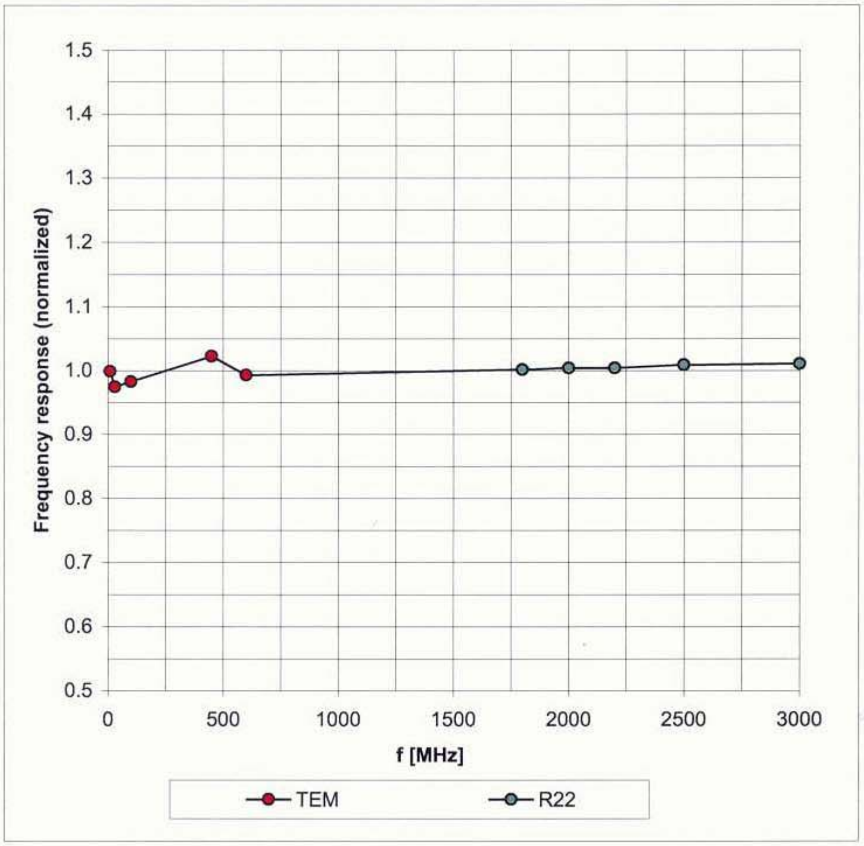
The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

Frequency Response of E-Field

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



Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

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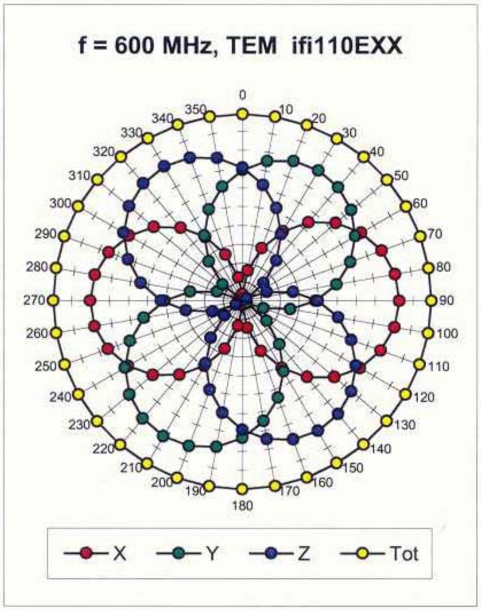
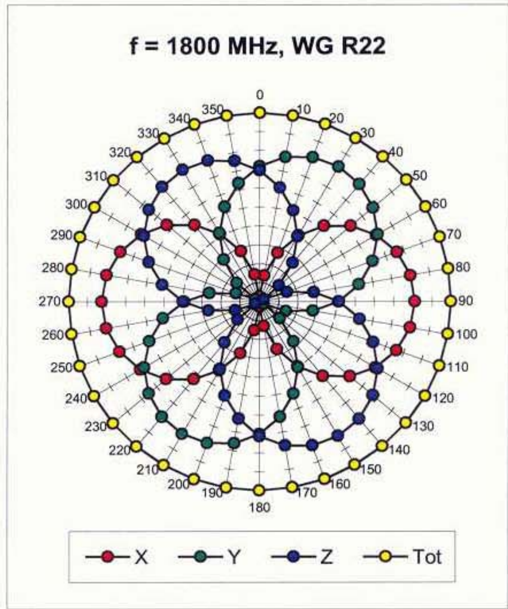
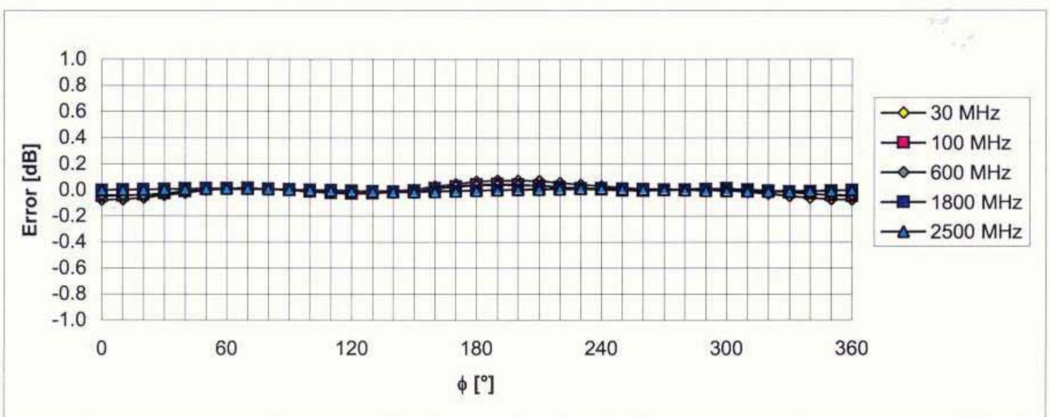
Receiving Pattern (ϕ), ϑ = 0°



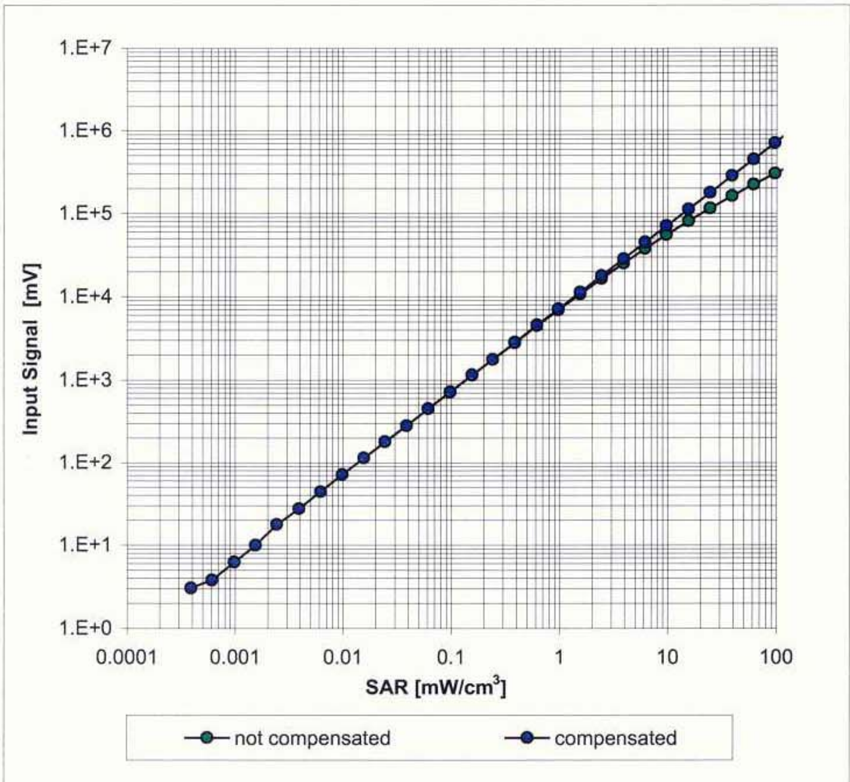


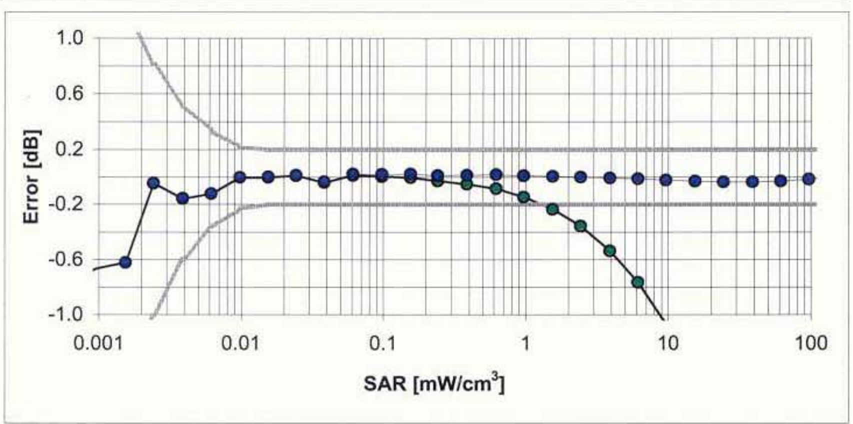


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)





Uncertainty of Linearity Assessment: ± 0.6% (k=2)

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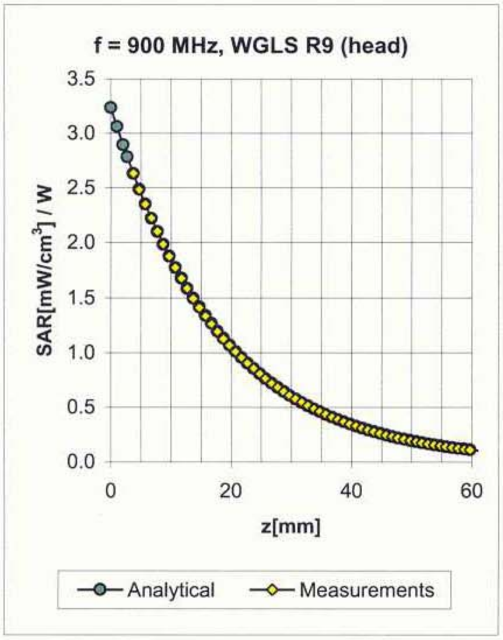
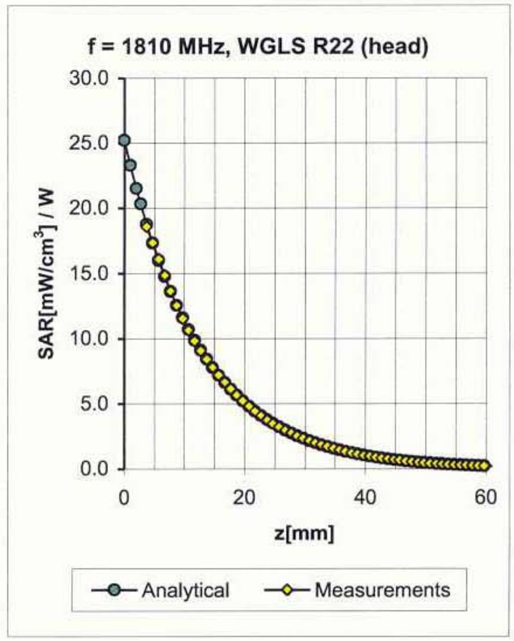
Conversion Factor Assessment



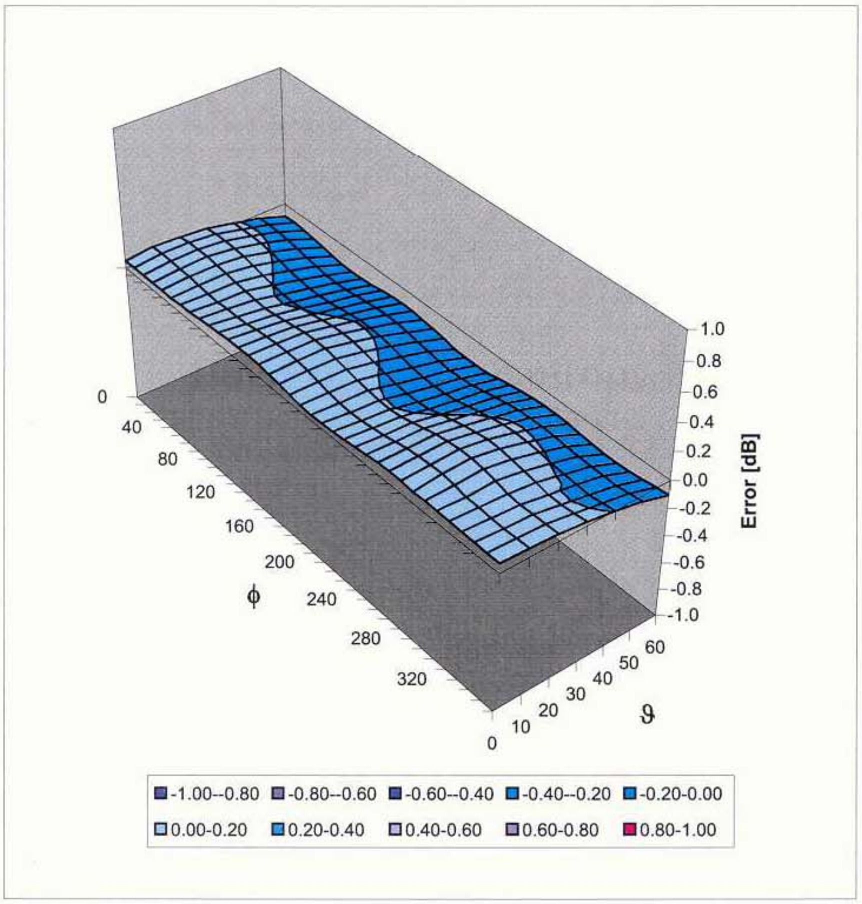


f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
450	± 50 / ± 100	Head	43.5 ± 5%	0.87 ± 5%	0.08	1.62	7.51	± 13.3% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.84	1.67	6.53	± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.73	2.19	5.31	± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.81	2.05	4.71	± 11.8% (k=2)
450	± 50 / ± 100	Body	56.7 ± 5%	0.94 ± 5%	0.10	1.75	7.10	± 13.3% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.66	1.95	6.19	± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.67	2.58	4.80	± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.93	1.80	4.46	± 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.

Deviation from Isotropy in HSL

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Schmid & Partner Engineering AG

s p e a g

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Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1384**
Place of Assessment:	**Zurich**
Date of Assessment:	**May 30, 2005**
Probe Calibration Date:	**May 26, 2005**

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 1800 MHz.

Assessed by:

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Dosimetric E-Field Probe ET3DV6 SN:1384

Conversion factor (± standard deviation)

150 MHz	*ConvF*	**8.9 ± 10%**	ε_r = 52.3 σ = 0.76 mho/m (head tissue)
250 MHz	*ConvF*	**8.1 ± 10%**	ε_r = 47.6 σ = 0.83 mho/m (head tissue)
300 MHz	*ConvF*	**8.0 ± 9%**	ε_r = 45.3 σ = 0.87 mho/m (head tissue)
750 MHz	*ConvF*	**6.8 ± 7%**	ε_r = 41.9 σ = 0.89 mho/m (head tissue)
150 MHz	*ConvF*	**8.6 ± 10%**	ε_r = 61.9 σ = 0.80 mho/m (body tissue)
250 MHz	*ConvF*	**8.1 ± 10%**	ε_r = 59.4 σ = 0.88 mho/m (body tissue)
300 MHz	*ConvF*	**8.0 ± 9%**	ε_r = 58.2 σ = 0.92 mho/m (body tissue)
750 MHz	*ConvF*	**6.6 ± 7%**	ε_r = 55.5 σ = 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.