MOTOROLA

ACCREDITED

CGISS EME Test Laboratory
8000 West Sunrise Blvd
Fort Lauderdale, FL. 33322

S.A.R. EME Compliance Test Report
Part 1 of 2

Attention:	FCC
Date of Report:	July 10, 2003
Report Revision:	Rev. B
Manufacturer:	Motorola South - ARAD
Product Description:	Data Terminal w/ 1.8W Data TAC: FDMA, 4-level FSK modulation; 1mW Bluetooth: Frequency Hopping Spread Spectrum (FHSS)
FCC ID:	**AZ489FT7004**
Device Model:	F4415A (VA00052AA)

Test Period: 11/27/02 – 12/05/02

Test Engineer: Stephen Whalen (Sr. EME engineer)

Author: Michael Sailsman
Global EME Regulatory Affairs Liaison

Note: 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.

Signature on File   7/11/03

_____   _____
Ken Enger   Date Approved
Senior Resource Manager, Laboratory Director, CGISS EME Lab

Note: This report shall not be reproduced without written approval from an officially designated representative of the Motorola EME Laboratory.

TABLE OF CONTENTS

REVISION HISTORY

Date	Revision	Comments
12/13/02	O	Initial release Prototype results
6/04/03	A	Additional system validation clarification information added to APPENDIX C
7/10/03	B	Re-stated product exposure classification. Updated the uncertainty budget tables

1.0 Introduction

This report details the utilization, test setup, test equipment, and test results of the Specific Absorption Rate (S.A.R.) measurements performed at the CGISS EME Test Lab for model number F4415A (VA00052AA), FCC ID: AZ489FT7004.

The applicable exposure environment is General Population/Uncontrolled.

The test results included herein represent the highest S.A.R. levels applicable to this product and clearly demonstrate compliance with FCC General Population/Uncontrolled RF Exposure limits of 1.6 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; 47CFR part 2 sub-part J
- 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 Terminal communications (Electromagnetic Radiation - Human Exposure) Standard 2001
- ANATEL, Brazil Regulatory Authority, Resolution 256 (April 11, 2001) "additional requirements for SMR, cellular and PCS product certification."

3.0   Description of Test Sample
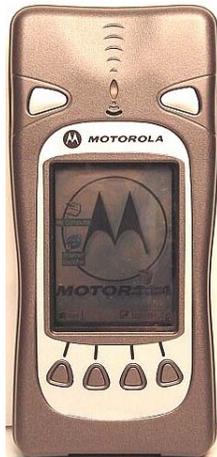
FCC ID: AZ489FT7004 is a hand held data terminal equipped with Bluetooth and DataTAC radio modems. The Bluetooth radio modem uses Frequency hopping Spread Spectrum (FHSS) modulation. The Bluetooth modem is used for applications where data is exchanged between an external Bluetooth device. The Bluetooth modem's maximum duty cycle is set by the 802.11 standards. For single-slot operation the Bluetooth device transmits 366 out of 625 micro-seconds. The DataTAC radio modem (FCC ID: PQS-BM28001) operates using FDMA 4-level FSK modulation supporting RD-LAP 19200 and RD-LAP 9600 protocols. Using a detection methodology called Slotted Digital Sense Multiple Access (S-DSMA), transmissions are initiated only if a channel is free. The radio transmits one single packet of 512 bytes of data. Subsequent packets are sent after intervals of 200msec. There is a 1 second interval after a predefined number of packets. The duty cycle of the DataTAC radio transmission is limited by the DataTAC RF modem to 10%. The Bluetooth and DataTAC transmitters do not transmit simultaneously. This device is used for data acquisition. While this product will be marketed to and used by employees solely for work related operations such as data acquisition and transmission for package/parcel/mail shipments by commercial freight carriers, public agencies and utilities, it also meets the General Population/Uncontrolled limits. User training is the responsibility of these agencies, who 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: AZ489FT7004 is capable of operating in the 2.40-2.48 GHz for Bluetooth mode, 806 - 821 MHz band for DataTAC RD-LAP19200 mode, and 806 - 824.9875MHz for DataTAC RD-LAP 9600 mode. The rated power is 1mW for the Bluetooth transmitter and 1.8 watts for the DataTAC transmitter. The maximum output is 1.15mW for the Bluetooth transmitter and 1.9 watts for the DataTAC transmitter as defined by the upper limit of the production line final test station.

FCC ID: AZ489FT7004 is offered with the following options and accessories:

Antenna

FAF5213A   DataTAC Internal ¼ wave Helical antenna; 806-824.9875MHz; 0dBi
FCG6003A   Bluetooth Internal ¼ wave Inverted F antenna; 2.4-2.48GHz; 3dBi

Batteries

FNN5105A   7.2V/1400mAh Lithium Ion Rechargeable Battery

Body-worn Accessories

FHN6394A   Leather Pocket style carry case w/ D-ring belt loop
FHN6395A   Leather shoulder strap carry case w/ D-Ring belt loop
FHN6396A   Leather shoulder strap carry case w/ fixed belt loop

3.1   Test Signal

Test Signal mode:

| Test Mode | X | Base Station | | Simulator | |

Transmission Mode:

CW	X
Native Transmission	
TDMA:	
Other:	

3.2   Test Output Power

A table of the characteristic power slump versus time is provided in Appendix A for all tested batteries.

4.0   Description of Test Equipment

4.1   Descriptions of S.A.R. Measurement System

The laboratory utilizes a Dosimetric Assessment System (DASY3™) S.A.R. measurement system manufactured by Schmid & Partner Engineering AG (SPEAG™), of Zurich Switzerland. The test system consists of a Stäubli RX90L robot with an ET3DV6 E-Field probe. Please reference the SPEAG user manual and application notes for detailed probe, robot, and S.A.R. computational procedures.

The S.A.R. measurements were conducted with probe model/serial number ET3DV6/SN1545. 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 C and D respectively. The table below summarizes the system performance check results normalized to 1W.

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)
1545	FCC Body	5/21/02	D835V2/427	10.73 +/- 0.27	11.09 +/- 10%	11/27/02 –12/05/02 5 test days

Note: see APPENDIX C for an explanation of the reference S.A.R. targets stated above.

The DASY3™ system is operated per the instructions in the DASY3™ 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.

4.2   Description of Phantom

4.2.1 Flat Phantom

A rectangular shaped box made of high-density polyethylene (HDPE) with a dielectric constant of 2.26 and a loss tangent of less than 0.00031. The phantom is mounted on a wooden supporting structure that has a loss tangent of < 0.05. The structure has a 68.58 cm x 20.32 cm opening at its center to allow positioning the DUT to the phantom's surface. The supporting structure is assembled with wooden pegs and glue. The table below shows the flat phantom dimensions used for S.A.R. performance assessment.

Length	80cm
Width	30cm
Height	20cm
Surface Thickness	0.2cm

4.2.2   SAM Phantom

SAM Phantom assessment was not applicable for this filing.

4.3   Simulated Tissue Properties

4.3.1 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).

Simulated Tissue	Body Position
FCC Body	Abdomen

4.3.2   Simulated Tissue Composition

Tissue Ingredient (%) @ 835 MHz		
	Head	Body
Sugar	-	44.90
DGBE (Glycol)	-	-
De ionized -Water	-	53.06
Salt	-	0.94
HEC	-	1.0
Bact.	-	0.1

Characterization of Simulated tissue materials and ambient conditions:

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 tissue parameters

FCC Body				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
835	55.2	53.00 - 53.60	0.97	1.00 - 1.01
814	55.3	53.10 - 53.80	0.97	0.98 - 1.00

4.4   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. 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: 21.5 - 23.4˚C Avg. 22.7˚C
Relative Humidity	30 - 70 %	Range: 42.0 - 54.4 % Avg. 46.5%
Tissue Temperature	NA	Range: 20.7 - 21.7˚C Avg. 21.26 ˚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.

5.0   Description of Test Procedure

All options and accessories listed in section 3.0 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 to assess performance at the abdomen and hand. All assessments were done using the flat phantom with the DUT in CW mode.

The DUT was assessed with the display side against the phantom at the center of the DataTAC RD-LAP 9600 and RD-LAP 19200 transmission bands along with the offered battery.

The back, top, bottom, left, and right sides of the DUT were assessed using the configuration above that produced the highest S.A.R. results.

The display side and backside of the DUT were assessed with the applicable carry case accessories.

The band edges of the DataTAC RD-LAP 9600 and RD-LAP 19200 transmission bands were assessed using the configuration from above that produced the highest S.A.R. results.

The display side and backside of the DUT was assessed at 2.5cm separation distance from the phantom using the offered battery.

5.1   Device Test Positions

Reference figure 1 for the device orientation and position which exhibited the highest S.A.R. performance.

5.1.1   Abdomen

The DUT was positioned such that the display side and backside of the DUT were centered against the flat phantom with and without the applicable carry case accessories. The DUT was positioned such that the top, bottom, left, and right sides were centered against the flat phantom without the carry case accessories. The DUT was positioned 2.5cm separation distance from the phantom.

5.1.2 Head

Assessment at the head was not applicable for this filing

5.1.3 Face

Assessment at the head was not applicable for this filing

5.2 Test Position Photographs

Figure 1: Highest S.A.R. Test Position
(DUT with display against the phantom with battery model FNN5105A)

| < 0.05 Loss tangent Wooden Support Structure and Opening | < 0.05 Loss Tangent DUT support structure | DUT with Display against the flat phantom |
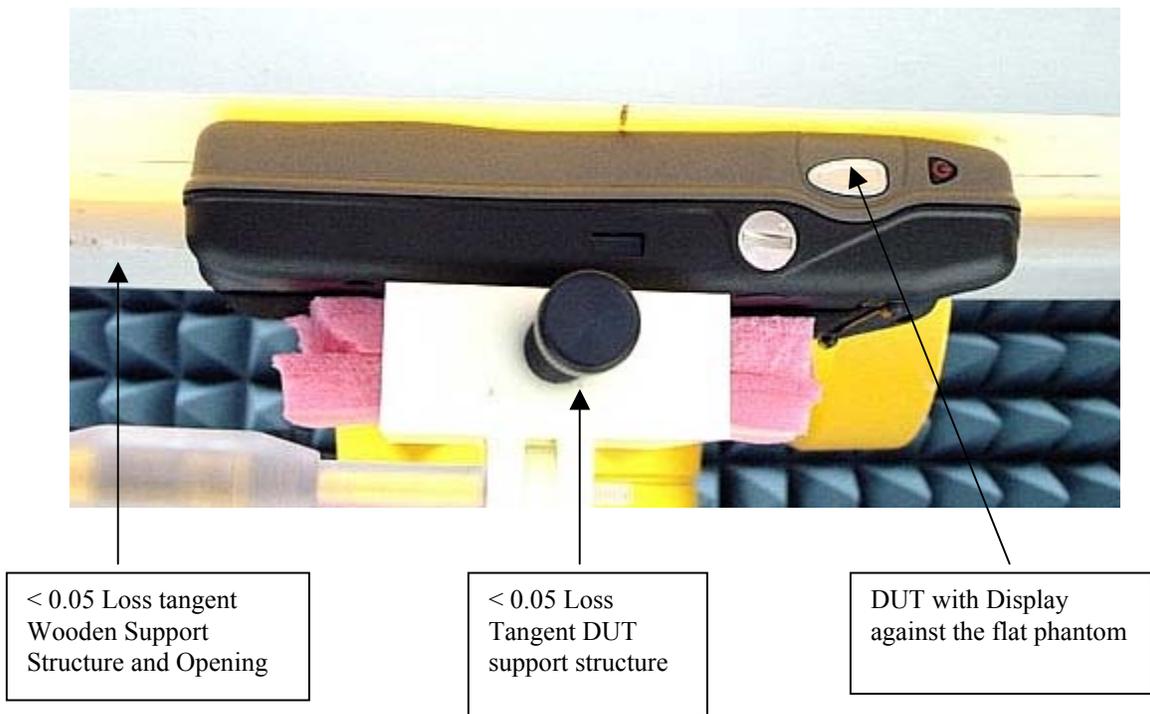
Figure 2. Assessment @ the Abdomen; Top side of DUT against the phantom w/ battery model FNN5105A

Figure 3. Assessment @ the Abdomen; bottom side of DUT against the phantom w/ battery model FNN5105A

Figure 4. Assessment @ the Abdomen; Right side of DUT against the phantom w/ battery model FNN5105A

Figure 5. Assessment @ the Abdomen; Left side of DUT against the phantom w/ battery model FNN5105A

Figure 6. Assessment @ the Abdomen; Backside of DUT towards the phantom w/ battery model FNN5105A and carry case model FHN6395A

Figure 7. Assessment @ the Abdomen; Display side of DUT towards the phantom w/ battery model FNN5105A and carry case model FHN6395A

Figure 8. Assessment @ the Abdomen; Backside of DUT towards the phantom w/ battery model FNN5105A and carry case model FHN6396A

Figure 9. Assessment @ the Abdomen; Display side of DUT towards the phantom w/ battery model FNN5105A and carry case model FHN6396A

Figure 10. Assessment @ abdomen; Back of DUT 2.5cm separation distance w/ battery model FNN5105A

Figure 11. Assessment @ the Abdomen; Display of DUT 2.5cm separation distance w/ battery model FNN5105A

Figure 12: Robot Test System

Flat phantom used for S.A.R. testing

DASY3™ Robot

< 0.05 Loss Tangent Wooden support structure

< 0.05 Loss tangent DUT support structure
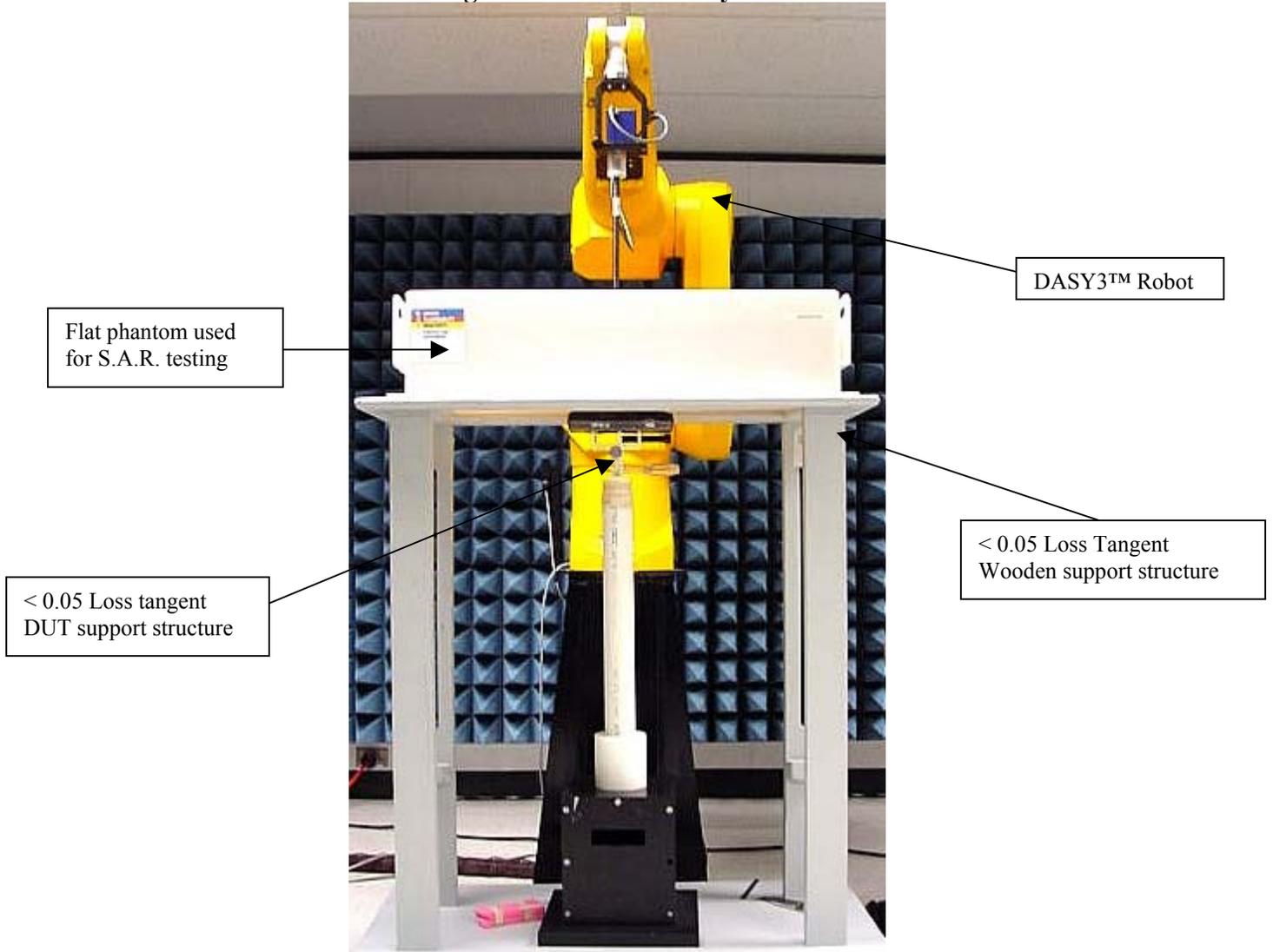
5.3 Probe Scan Procedures

The E-field probe is first scanned in 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.

6.0 Measurement Uncertainty

Table 1: Uncertainty Budget for Device Under Test

a	b	c	d	e = f(d,k)	f	g	h = c x f / e	i = c x g / e	k
Uncertainty Component	Section of IEEE P1528	Tol. (± %)	Prob. Dist.	Divisor	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	4.8	N	1.00	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	0.707	0.707	1.9	1.9	∞
Spherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	5.8	R	1.73	1	1	3.3	3.3	∞
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	1.0	N	1.00	1	1	1.0	1.0	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	1.3	R	1.73	1	1	0.8	0.8	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.3	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	1.1	R	1.73	1	1	0.6	0.6	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	3.9	R	1.73	1	1	2.3	2.3	∞
Test sample Related									
Test Sample Positioning	E.4.2	3.6	N	1.00	1	1	3.6	3.6	29
Device Holder Uncertainty	E.4.1	2.8	N	1.00	1	1	2.8	2.8	8
Output Power Variation - SAR drift measurement	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	E.3.3	10.0	R	1.73	0.64	0.43	3.7	2.5	∞
Liquid Permittivity - deviation from target values	E.3.2	10.0	R	1.73	0.6	0.49	3.5	2.8	∞
Liquid Permittivity - measurement uncertainty	E.3.3	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Combined Standard Uncertainty			RSS				12	11	1363
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				23	22	

Table 2: Uncertainty Budget for System Performance Check

a	b	c	d	e = f(d,k)	f	g	h = $c \times f/e$	i = $c \times g/e$	k
	Section of IEEE P1528	Tol. (± %)	Prob. Dist.		c_i (1 g)	c_i (10 g)	1 g u_i	10 g u_i	
Uncertainty Component				Div.			(±%)	(±%)	v_i
Measurement System									
Probe Calibration	E.2.1	4.8	N	1.00	1	1	4.8	4.8	∞
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	5.8	R	1.73	1	1	3.3	3.3	∞
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	1.0	N	1.00	1	1	1.0	1.0	∞
Response Time	E.2.7	0.0	R	1.73	1	1	0.0	0.0	∞
Integration Time	E.2.8	0.0	R	1.73	1	1	0.0	0.0	∞
RF Ambient Conditions	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.3	R	1.73	1	1	0.2	0.2	∞
Probe Positioning with respect to Phantom Shell	E.6.3	1.1	R	1.73	1	1	0.6	0.6	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E.5	3.9	R	1.73	1	1	2.3	2.3	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	1.0	R	1.73	1	1	0.6	0.6	∞
Input Power and SAR Drift Measurement	8, 6.6.2	4.7	R	1.73	1	1	2.7	2.7	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (shape and thickness tolerances)	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity - measurement uncertainty	E.3.3	10.0	R	1.73	0.64	0.43	3.7	2.5	∞
Liquid Permittivity - deviation from target values	E.3.2	10.0	R	1.73	0.6	0.49	3.5	2.8	∞
Liquid Permittivity - measurement uncertainty	E.3.3	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Combined Standard Uncertainty			RSS				10	9.4	∞
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				20	18	

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.

7.0 S.A.R. Test Results

All S.A.R. results obtained by the tests described in Section 5.0 are listed in section 7.1 below. The bolded result indicates the highest observed S.A.R. performance. DASY3™ S.A.R. measurement scans are provided in APPENDIX B for the highest observed S.A.R.

Appendix A 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 scans presented in Appendix A demonstrate that the scaling methodology used to determine the calculated S.A.R. results presented herein are valid.

Note: Assessment with the Bluetooth transmitter on was not performed because the S.A.R. results cannot exceed the specification limits due to the very low power levels of the Bluetooth transmitter, and the fact that simultaneous transmission with the DataTAC transmitter is not a functional characteristic of the device.

7.1 S.A.R. results

Run Number/ SN	Freq. (MHz)	Antenna	Battery	Test position	Carry Case	Additional attachments	Initial Power (mW)	End Power (mW)	Measured 1g-S.A.R. (mW/g)	Max Calc. 1g-S.A.R. (mW/g)
Compliance assessment at the abdomen CW mode										
Assessment at the center of the DataTAC RD-LAP 9600 and RD-LAP 19200 transmission modes										
DataTAC RD-LAP 9600										
Ab-R1-021127-03/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Display against phantom	None	None	1.929	1.896	12.20	**1.22**
DataTAC RD-LAP 19200										
Ab-R1-021202-03/ 296SCQ0268	813.5	FAF5213A	FNN5105A	Display against phantom	None	None	1.968	1.858	11.50	1.18
Assessment w/ DUT back, top, bottom, right and left sides against the phantom (RD-LAP 9600)										
Ab-R1-021202-04/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Back against phantom	None	None	1.929	1.896	6.52	0.65
Ab-R1-021202-05/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Top against phantom	None	None	1.929	1.917	2.11	0.21
Ab-R1-021202-07/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Bottom against phantom	None	None	1.929	1.917	0.68	0.07
Ab-R1-021202-08/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Right side against phantom	None	None	1.929	1.909	6.65	**0.67**
Ab-R1-021202-09/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Left side against phantom	None	None	1.929	1.909	0.76	0.08

DUT assessment w/ Carry Case (RD-LAP 9600)										
Ab-R1-021203-02/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Display against phantom	FHN6395A	None	1.929	1.896	1.16	0.12
Ab-R1-021203-03/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Back against phantom	FHN6395A	None	1.929	1.896	0.68	0.07
Ab-R1-021203-05/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Display against phantom	FHN6396A	None	1.929	1.896	5.29	**0.53**
Ab-R1-021203-04/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Back against phantom	FHN6396A	None	1.929	1.896	2.86	0.29
Band edge assessments for both transmission modes (RD-LAP 9600/19200)										
RD-LAP 9600										
Ab-R1-021204-02/ 296SCQ0268	806.0	FAF5213A	FNN5105A	Display against phantom	None	None	1.960	1.927	11.70	**1.15**
Ab-R1-021204-03/ 296SCQ0268	824.9875	FAF5213A	FNN5105A	Display against phantom	None	None	1.920	1.888	10.10	1.02
RD-LAP 19200										
Ab-R1-021204-04/ 296SCQ0268	806.0	FAF5213A	FNN5105A	Display against phantom	None	None	1.970	1.858	11.00	1.12
Ab-R1-021204-05/ 296SCQ0268	821.0	FAF5213A	FNN5105A	Display against phantom	None	None	1.929	1.811	10.60	1.11
Assessment at 2.5 cm separation distance from phantom (RD-LAP 9600)										
Ab-R1-021204-06/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Display against phantom	None	None	1.929	1.896	2.03	**0.20**
Ab-R1-021204-07/ 296SCQ0268	815.5	FAF5213A	FNN5105A	Back against phantom	None	None	1.929	1.896	1.20	0.12

7.2 Peak S.A.R. location

Refer to APPENDIX B for detailed S.A.R. scan distributions.

7.3 Highest S.A.R. results calculation methodology

The calculated maximum 1-gram averaged S.A.R. value is determined by scaling the measured S.A.R. to account for power leveling variations and power output slump below the reported maximum power during the S.A.R. measurements. For this device the Maximum Calculated 1-gram averaged peak S.A.R. is calculated using the following formula:

Max. Calc. 1-g Avg. SAR = (Pmax/Pint) x ((Pint/Pend) x DC % x S.A.R. meas.)
P_{max} = Maximum Power (W)
P_{int} = Initial Power (W)
P_{end} = End Power (W)
$SAR_{meas.}$ = Measured 1 gram averaged peak S.A.R. (mW/g)
DC % = 10% (Transmission mode duty cycle in % where applicable)

Highest Max. Calc. 1-g Avg. SAR = (1.900/1.929) x ((1.929/1.896) x 0.10 x 12.2) = 1.22 mW/g
Note: for P(end) < P(int) or P(max); max. calc. = P(max)/P(end)*S.A.R. (meas.)*10% DC
For P(end) > P(int) or P(max); max. calc. = S.A.R.(meas.)*10% DC

8.0   Conclusion

The highest Operational Maximum Calculated 1-gram average S.A.R. values found for FCC ID: AZ489FT7004

At the abdomen: 1.22 mW/g
At the Face: N/A
At the Head: N/A

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