MOTOROLA

ACCREDITED

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

S.A.R. EME Compliance Test Report
Part 1 of 3

Date of Report:	October 20, 2003
Report Revision:	Rev. O
Manufacturer:	Motorola South - ARAD
Product Description:	Enhanced Power Pad w/ GPRS: 0.631W GSM800, 0.809W for PCS1900; TDMA: 1:8 duty cycle, GMSK modulation; Bluetooth: 1mW, Frequency Hopping Spread Spectrum (FHSS)
FCC ID:	**AZ489FT7008**
Device Model:	F4421A
Test Period:	9/06/03-9/08/03 & 10/02/03
EME Tech:	Ed Church
Responsible Engineer:	Deanna Zakharia (Elect. Principle Staff Eng.)
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 — 10/20/2003

Ken Enger
Senior Resource Manager, Product Safety and EME Director

Date Approved

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REVISION HISTORY

Date	Revision	Comments
10/15/03	O	Release of initial Prototype Results

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 F4421A, FCC ID: AZ489FT7008.

The applicable exposure environment is General Population/Uncontrolled.

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
- 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 Terminal communications (Electromagnetic Radiation - Human Exposure) Standard 2003
- 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: AZ489FT7008 is a hand held data terminal equipped with GSM/GPRS, and Bluetooth radio modems. The GSM/GPRS radio modem operates within the GSM800, and PCS bands. The maximum transmit duty cycle is 12.5% using TDMA 1:8 (577 micro seconds out of 4.165 milliseconds). The GSM/GPRS modem is used for packet switching data applications. The TDMA protocol is used by enabling the radio modem to transmit its' data information only in the allocated slot 1 out of 8. The Bluetooth radio modem is used for any application in which data exchanged with an external Bluetooth device is relayed by the Bluetooth to the GSM radio modem. The maximum transmission duty cycle is 92%. The Bluetooth transmitter only transmits simultaneously with the GSM co-located transmitter. 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: AZ489FT7008 operates at 824.2-848.8 MHz in the GSM800 band, 1850.2 - 1909.8 MHz in the PCS1900 band, and 2.40-2.48 GHz for Bluetooth in the IEEE 802.11 band. The rated power is 0.631W for GSM800, 0.809W for PCS1900, and 1mW for the Bluetooth transmitter. The maximum output is 0.757W for the GSM800, 0.971W for PCS1900, and 1.0mW for the Bluetooth (FHSS).

FCC ID: AZ489FT7008 is offered with the following options and accessories:

Antenna

8587526V02	Dual Band: Internal ½ antenna: GSM 824.2-848.8MHz, 0.5dBi; 52x30x11mm Internal ¼ antenna: PCS1900 1850.2-1909.8 MHz; 2dBi; 52x30x11mm
8589488U01	Internal Monopole ¼ wave antenna, 2.402-2.48 GHz; 2.5dBi; 25mm

Batteries

FTN6032A	7.2V/1400mAh Lithium Ion Rechargeable Battery

Body-worn Accessories

FHN6498A	Holster

3.1 Test Signal

Test Signal mode:

Test Mode	X	Base Station		Simulator	

Transmission Mode:

CW	
Native Transmission	**X**
TDMA:	**1:8**
Other:	

3.2 Test Output Power

The DASY3™ system's S.A.R. drift function was used to determine the power slump characteristic of the device. A characteristic power slump table based on 50 ohms measurements is provided in APPENDIX A for the battery producing the highest S.A.R. results.

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/SN1393. 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)
1393	FCC Body	4/16/03	D835V2/427	10.39 +/- 0.30	11.09 +/- 10%	9/6/03 & 10/2/03
1393	FCC Body	4/16/03	D1900V2/521	39.08 +/- 0.31	38.77 +/- 10%	9/7/03-9/8/03

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. Two phantoms were used to assess compliance. The phantoms were mounted on wooden supporting structures having loss tangents of < 0.05. The structures have 68.58cm x 20.32cm and 60.96cm x 15.24cm openings at their respective centers to allow positioning the DUT relative to the phantom's surface. The flat phantom dimensions used for S.A.R. performance assessment at the body were: Length=80cm, Width=30cm, Height=20cm, Surface thickness=0.2cm and Length=40cm, 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	Torso/hand

4.3.2 Simulated Tissue Composition

	Tissue Ingredients (%)					
	835 MHz		1900 MHz		NA	
	Head	Body	Head	Body	Head	Body
Sugar	NA	44.9	NA	NA	NA	NA
DGBE (Glycol)	NA	NA	NA	30.8	NA	NA
De ionized -Water	NA	53.06	NA	68.91	NA	NA
Salt	NA	0.94	NA	0.29	NA	NA
HEC	NA	1	NA	NA	NA	NA
Bact.	NA	0.1	NA	NA	NA	NA

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	53.0-53.2	0.97	0.97-0.98
1900	53.3	51.1-53.4	1.52	1.59-1.59

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. The liquid depth in 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: 19.3-23.6˚C Avg. 22.8˚C
Relative Humidity	30 - 70 %	Range: 41.1-54.3 % Avg. 44.8%
Tissue Temperature	NA	Range: 20.5-21.7˚C Avg. 20.96˚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. All assessments were done using a flat phantom containing applicable FCC body tissue simulant and with the DUT in TDM 1:8 mode.

Assessment of the GSM band in normal user configuration against the body:
The DUT was tested with its back against the phantom with the offered carry case accessory.
The DUT was tested with the bottom side towards the phantom, to assess performance in the normal user position.

Assessment of the GSM band in normal user configuration while in the hand:
The DUT was tested against the phantom to assess performance in the normal user position with the hand at right side, left side, and backside of the DUT.

Assessment of the GSM band in normal user configuration with by-stander at 2.5cm separation distance:
The DUT was tested with the topside separated 2.5cm from the phantom to assess by-stander exposure.

Assessment of the GSM band at the band edges using the worst-case test configuration from above:
The DUT was assessed at the GSM band edges using the worst-case configuration from the assessments above.

Assessment of DUT with both co-located Bluetooth and GSM transmitters on:
The DUT was set to simultaneously transmit both co-located transmitters using the worst-case test configuration from the GSM band assessment above.

Assessment of the PCS band in normal user configuration against the body:
The DUT was tested with its back against the phantom with the offered carry case accessory.
The DUT was tested with the bottom side towards the phantom, to assess performance in the normal user position.

Assessment of the PCS band in normal user configuration while in the hand:
The DUT was tested against the phantom to assess performance in the normal user position with the hand at the right side, left side, and backside of the DUT.

Assessment of the PCS band in normal user configuration with by-stander at 2.5cm separation distance:
The DUT was tested with the topside separated 2.5cm from the phantom to assess by-stander exposure.

Assessment of the PCS band at the band edges using the worst-case test configuration from above:
The DUT was assessed at the PCS band edges using the worst-case configuration from the assessments above.

Shortened scan assessment:
A shortened scan was performed using the worst-case test configuration from the GSM and PCS bands.

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 backside, bottom side, right side, and left side of the DUT were centered against the flat phantom. The DUT was positioned with the topside separated 2.5cm from the phantom. The DUT was positioned with the offered carry case against the phantom.

5.1.2 Head

Assessment at the head was not applicable for this filing

5.1.3 Face

Assessment at the face was not applicable for this filing

5.2 Test Position Photographs

Figure 1: Highest S.A.R. Test Position
DUT with right side against the phantom (Hand assessment)

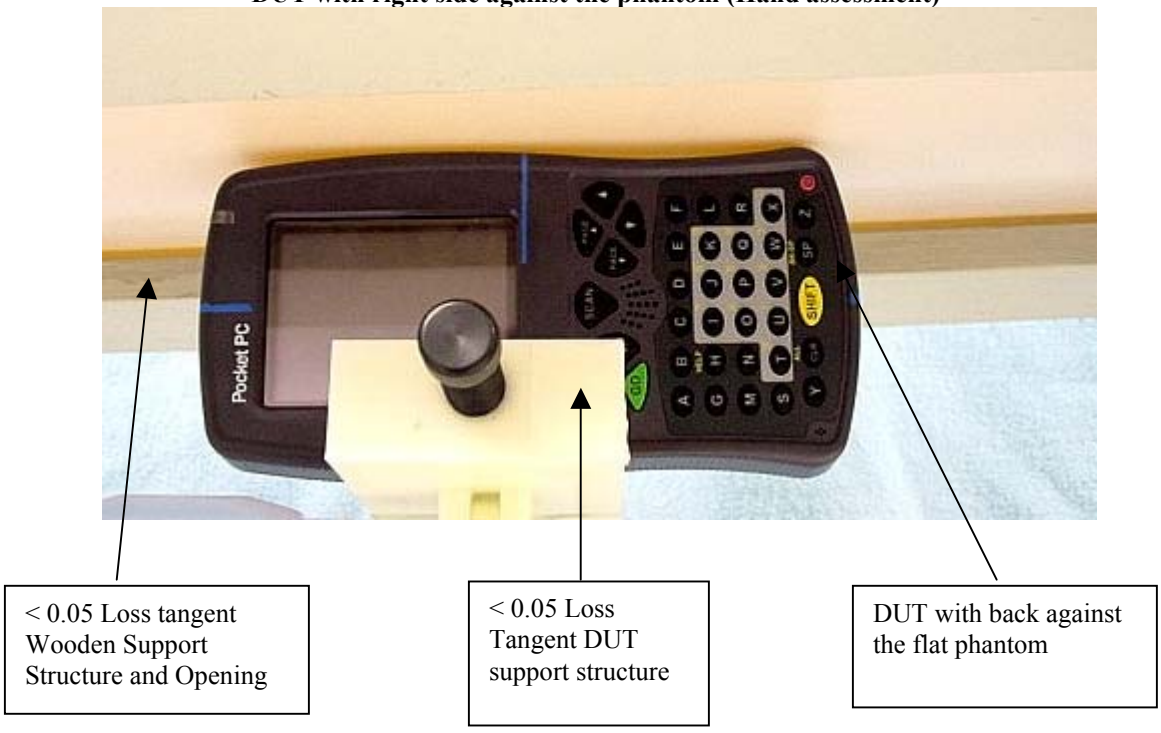


Figure 2. DUT left side against the phantom (Hand assessment)

Figure 3. DUT back against the phantom (Hand assessment)

Figure 4. DUT with bottom side against the phantom.
(User Body Assessment)

Figure 5. DUT w/ topside separated 2.5cm from phantom (Bystander Assessment)

Figure 6. DUT w/ carry case model FHN6498A against the phantom (Body worn accessory Assessment)

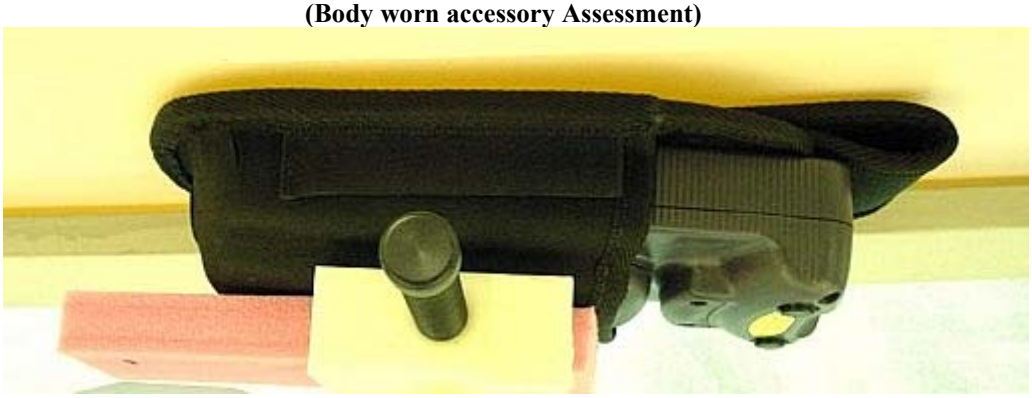
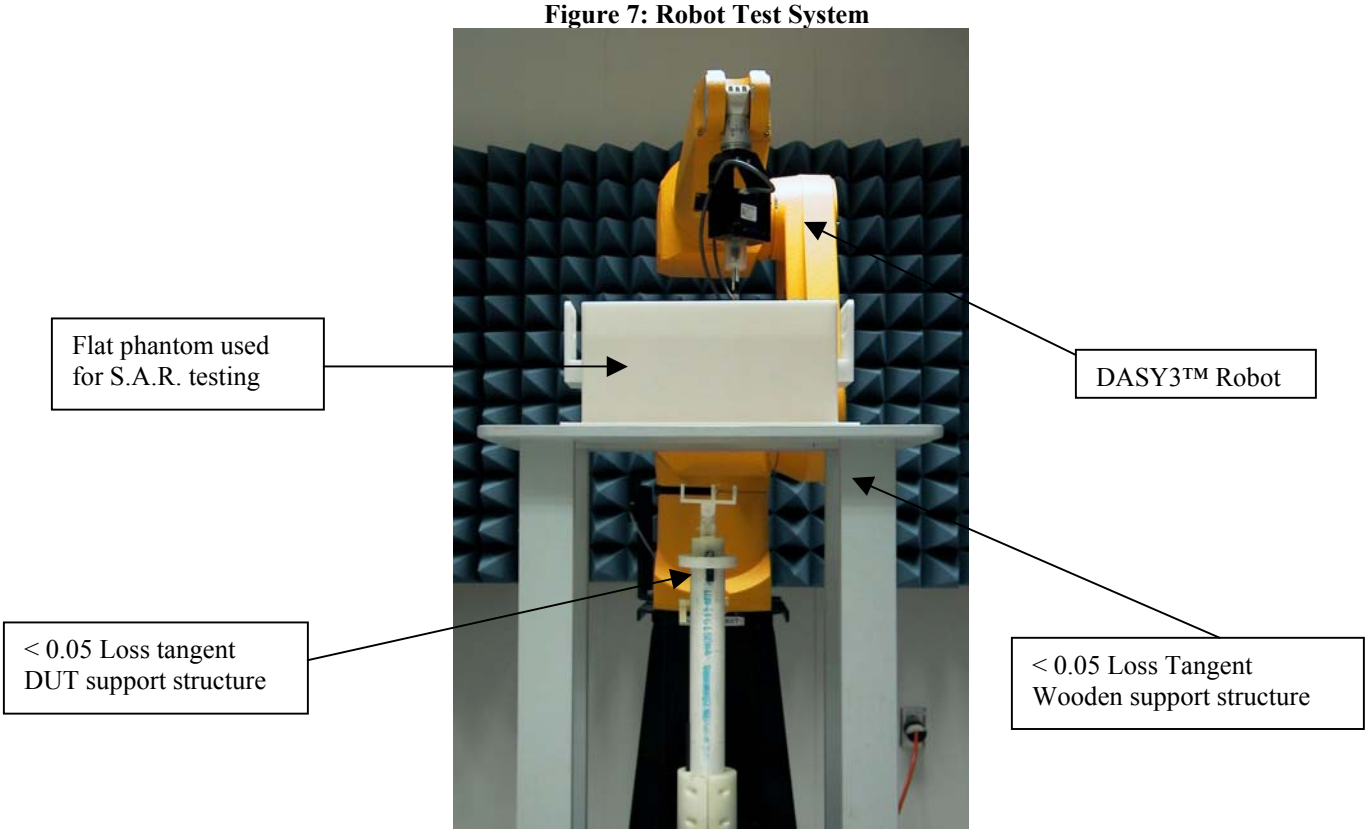


Figure 7: Robot Test System



5.3 Probe Scan Procedures

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.

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 x f / e*	*i* = *c x g / e*	*k*
Uncertainty Component	**Section of IEEE P1528**	**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	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) *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.

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: The Bluetooth transmitter only transmits simultaneously with the GSM co-located transmitter and does not transmit simultaneously with the PCS co-located transmitters.

7.1 S.A.R. results

Note: Measurements at the left side, right side, and back side were performed to the applicable exposure limits for the hand (4.0 mw/g). Measurements at the top and bottom sides were performed to the applicable exposure limit for the body. Measurements at the topside are to assess by-stander exposure performance.

Compliance Assessment at the body and hands; TDM 1:8 mode												
Run Number/ SN	**Freq. (MHz)**	**Antenna/ Position**	**Battery**	**Test position**	**Body- worn Acc.**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Measured 1g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessment of the GSM band in normal user configuration against the body:												
Ab-R3-030906-03/1041	836.6	Fixed Internal	FTN6032A	Against phantom	FHN6498A	None	0.741	-0.07	0.038	**0.04**	0.029	0.03
Ab-R3-030906-08/1041	836.6	Fixed Internal	FTN6032A	Bottom Side Against phantom	None	None	0.741	0.02	0.022	**0.02**	0.015	0.02
Assessment of the GSM band in normal user configuration while in the hand:												
Ab-R3-030906-09/1041	836.6	Fixed Internal	FTN6032A	Back Side Against phantom	None	None	0.741	-0.03	0.162	0.17	0.112	0.12
Ab-R3-030906-10/1041	836.6	Fixed Internal	FTN6032A	Right Side Against phantom	None	None	0.741	0.00	0.194	**0.20**	0.119	0.12
Ab-R3-030906-11/1041	836.6	Fixed Internal	FTN6032A	Left Side Against phantom	None	None	0.741	0.00	0.0475	0.05	0.032	0.03
Assessment of the GSM band in normal user configuration with by-stander at 2.5cm separation distance:												
Ab-R3-030906-12/1041	836.6	Fixed Internal	FTN6032A	DUT top side 2.5cm separation	None	None	0.741	0.01	0.025	**0.03**	0.018	0.02
Assessment of the GSM band at the band edges using the worst-case test configuration from above (Hand):												
Ab-R3-030906-13/1041	824.2	Fixed Internal	FTN6032A	Right Side Against phantom	None	None	0.746	-0.02	0.230	0.23	0.141	0.14
Ab-R3-030906-14/1041	848.8	Fixed Internal	FTN6032A	Right Side Against phantom	None	None	0.743	-0.06	0.171	0.18	0.106	0.11
Ab-R3-030906-15/1056	824.2	Fixed Internal	FTN6032A	Right Side Against phantom	None	None	0.736	-0.02	0.288	**0.30**	0.177	0.18
Assessment of GSM band with Bluetooth co-located transmitter on												
Ab-R3-031002-03/1041	824.2	Fixed Internal	FTN6032A	Right Side Against phantom	None	None	0.746	-0.060	0.216	**0.22**	0.128	0.13

Compliance Assessment at the body and hands; TDM 1:8 mode												
Run Number/ SN	**Freq. (MHz)**	**Antenna/ Position**	**Battery**	**Test position**	**Body- worn Acc.**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Measured 1g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessment of the PCS band in normal user configuration against the body:												
Ab-R3-030907-02/1041	1880.00	Fixed internal	FTN6032A	Against phantom	FHN6498A	None	0.935	0.18	0.007	**0.007**	0.004	0.004
Ab-R3-030907-03/1041	1880.00	Fixed internal	FTN6032A	Bottom Side Against phantom	None	None	0.935	0.20	0.010	**0.01**	0.006	0.006
Assessment of the PCS band in normal user configuration while in the hand:												
Ab-R3-030907-04/1041	1880.00	Fixed internal	FTN6032A	Back Side Against phantom	None	None	0.935	0.23	0.481	0.50	0.247	0.26
Ab-R3-030907-05/1041	1880.00	Fixed internal	FTN6032A	Right Side Against phantom	None	None	0.935	0.03	0.731	**0.76**	0.378	0.39
Ab-R3-030907-06/1041	1880.00	Fixed internal	FTN6032A	Left Side Against phantom	None	None	0.935	-0.06	0.022	0.02	0.012	0.01
Assessment of the PCS band in normal user configuration with by-stander at 2.5cm separation distance:												
Ab-R3-030907-08/1041	1880.00	Fixed internal	FTN6032A	DUT top side 2.5cm separation	None	None	0.935	-0.19	0.035	**0.04**	0.022	0.024
Assessment of the PCS band at the band edges using the worst-case test configuration from above:												
Ab-R3-030907-09/1041	1850.20	Fixed internal	FTN6032A	Right Side Against phantom	None	None	0.950	-0.05	0.607	**0.628**	0.313	0.324
Ab-R3-030908-02/1041	1909.80	Fixed internal	FTN6032A	Right Side Against phantom	None	None	0.935	0.07	0.545	0.566	0.283	0.294

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 and 10-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 and 10-gram averaged peak S.A.R. is calculated using the following formula:

Max. Calc. 1-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)
$SAR_{meas.}$ = Measured 1 gram averaged peak S.A.R. (mW/g)
DC % = Transmission mode duty cycle in % where applicable
Note: The relationship between max power, initial power, and SAR drift should be considered when applying the above formula

8.0 Conclusion

The highest Operational Maximum Calculated 1-gram and 10-gram average S.A.R. values found for FCC ID: AZ489FT7008

At the body: **1-g Avg. = 0.76 mW/g; 10-g Avg. = 0.39 mW/g**

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).