



MOTOROLA



CGISS EME Test Laboratory

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

Date of Report: June 19, 2003
Report Revision: Rev. 0
Manufacturer: Motorola
Product Description: 1:6, 2:6, 81:120 TDM; 64 QAM, 16
QAM & QPSK Modulation; 0.6 W
Pulse average
FCC ID: **AZ489FT5824**
Device Model: H63XAN6RR4AN

Test Period: 5/23/03-6/17/03
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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

6/19/03

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

Date Approved

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REVISION HISTORY

Date	Revision	Comments
6/19/03	O	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 H63XAN6RR4AN, FCC ID: AZ489FT5824.

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: AZ489FT5824 is a digital multi-service data capable device that employs time division multiplexing transmission technology with a duty cycle ranging from 16.67% to 33.33% using 16-QAM modulation for voice or circuit data transmission. There is a Split 3:1 mode that operates using a 16.67% transmission duty cycle. Two 7.5ms pulses occurs during the six time slots within the 90-msec frame format. This mode is available in both the 806-825MHz and 896-902MHz bands in the telephone interconnect mode only. Packet data transmission is also supported up to a maximum duty cycle of 67.5% using quad QPSK modulation.

This device will be marketed to and used by the general population. This device may be used while held against the head in voice mode, in front of the face in PTT mode, and against the body in both voice and data modes.

FCC ID: AZ489FT5824 is capable of operating in the 806-825 MHz and 896-902MHz bands. Packet data transmission is not available while transmitting in the 896-902 MHz band. The rated power is 0.6 watts pulsed averaged. The maximum output is 0.7 watts pulsed average as defined by the upper limit of the production line final test station.

FCC ID: AZ489FT5824 is offered with the following options and accessories:

Antenna

8585924E01 Retractable whip ¼ wave antenna; 806-941 MHz;
-1.30dBd @ 813MHz (extended) to 0.10dBd @ 896MHz (retracted)

Batteries

SNN5705B 750 mAh Lithium Ion
SNN5704A 600 mAh Lithium Ion

Body-worn Accessories

NNTN4682A Holster

Applicable attachments

SYN0547A Digital Camera
NTN8496A Light-weight headset w/ mic
SYN7875C Hearing Aid Neck loop (incl. SYN8608C, SNN5536A battery)
SYN8390B Privacy Earpiece and Microphone
NNTN4033A Privacy earpiece and Mic w/ PTT
NSN6066A Remote speaker w/PTT
NNTN4877A Mini Keyboard
SYN8146C Lightweight Over the Ear headset w/ boom microphone
NTN8513B Lightweight headband
NNTN4620A Silver Ear Bud
NKN6544B RS232 Data cable
NKN6540A Dual Port Adaptor cable
NNTN4007A USB Data cable
NNTN4049A USB Data cable
NNTN4766A Back Bezel (High Performance battery)
NNTN4767A Back Bezel (Maximum capacity battery)

3.1 Test Signal

Test Signal mode:

Test Mode ☒ Base Station ☐ Simulator ☐

Transmission Mode:

CW	
Native Transmission	X
TDMA: 1:6, 1:3, 81:120	X
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/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 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)
1384	FCC Body	5/15/03	D900V2/084	11.485+/-0.425	11.99 +/- 10%	5/23/03-6/17/03 9 test days
1384	IEEE/ CENELEC Head	5/15/03	D900V2/084	11.265+/-0.335	11.66 +/- 10%	6/2/03-6/10/03 7 test days

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 low loss acrylic material. The phantom is mounted on a wooden supporting structure that has a loss tangent of < 0.05 . The structure has a 60.96 cm x 15.24 cm opening at its center to allow positioning the DUT to the phantom's surface. The flat phantom dimensions used for S.A.R. performance assessment are L = 40cm, W = 23cm, H = 20cm, Surface Thickness = 0.2cm.

4.2.2 SAM Phantom

A SAM TP1208 phantom supplied by SPEAG was used to assess S.A.R. performance at the head.

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
IEEE Head	Head/Face

4.3.2 Simulated Tissue Composition

	Tissue Ingredients (%)					
	900 MHz		NA		NA	
	Head	Body	Head	Body	Head	Body
Sugar	57	44.9	NA	NA	NA	NA
DGBE (Glycol)	NA	NA	NA	NA	NA	NA
De ionized -Water	40.45	53.06	NA	NA	NA	NA
Salt	1.45	0.94	NA	NA	NA	NA
HEC	1	1	NA	NA	NA	NA
Bact.	0.1	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
813	55.3	53.3-53.4	0.97	0.93-0.94
900	55.0	52.4-53.7	1.05	1.02-1.05

IEEE/CENELEC Head				
Frequency (MHz)	Di-electric Constant Target	Di-electric Constant Meas. (Range)	Conductivity Target S/m	Conductivity Meas. (Range) S/m
813	41.6	43.0-43.6	0.90	0.93-0.93
900	41.5	42.0-42.6	0.97	0.99-1.01

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 $\pm 2^{\circ}\text{C}$ of the temperature at which the dielectric properties were determined. The liquid depth in the phantom used for measurements was 15cm $\pm$ 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: 20.8-24.7 °C Avg. 22.5°C
Relative Humidity	30 - 70 %	Range: 46.5-67.3% Avg. 58.7%
Tissue Temperature	NA	Range: 20.9-21.7°C Avg. 21.19°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 containing FCC body simulated tissue to assess performance at the abdomen and a SAM phantom containing IEEE head simulated tissue to assess performance at the side of the head and in front of the face using the applicable transmission modes.

The DUT was assessed at the TX center frequency of the 806-825MHz band, with the antenna in and out, at the left ear of the SAM phantom, in the 1:3 transmission mode, in the cheek touch position, using the offered batteries.

The DUT was assessed at the TX center frequency of the 806-825MHz band, with the antenna in and out, at the left ear of the SAM phantom, in 1:3 transmission mode, in the 15° tilt position, using the battery above that produced the highest S.A.R. result.

The DUT was assessed at the band edges of the 806-825MHz band, with the antenna in and out, at the left ear of the SAM phantom, in the 1:3 transmission mode, using the configuration from the left ear assessment above that produced the highest S.A.R. results.

The DUT was assessed at the TX center frequency of the 806-825MHz band, with the antenna in and out, at the right ear of the SAM phantom, in 1:3 transmission mode, in the cheek touch and 15° tilt positions, using the battery that produced the highest S.A.R. results at the left ear.

The DUT was assessed at the transmission band edges of the 806-825MHz band, with antenna in and out, at the right ear of the SAM phantom, in 1:3 transmission mode, using the test configuration that produced the highest S.A.R. results at the right ear above.

The DUT was assessed at the TX center frequency, with the antenna in and out, with the tip of the opened flip and the bottom edge of the device towards the phantom and separated 2.5cm from the phantom, using the flat area of the SAM phantom, in 1:6 transmission mode, using the battery that produced the highest S.A.R. results from the head assessments above. The band edges of the 806-825 MHz band were assessed using the antenna position that produced the highest S.A.R. from above.

The DUT was assessed at the TX center frequency, with the antenna in and out, with the closed flip of the device towards the phantom and separated 2.5cm from the phantom, using the flat area of the SAM phantom, in 1:6 transmission mode, using the battery that produced the highest S.A.R. results

from the head assessments above. The band edges of the 806-825 MHz band were assessed using the antenna position that produced the highest S.A.R. from above.

The DUT was assessed at 900.98125MHz within the 896-902 MHz band, with the antenna in and out, at the left ear of the SAM phantom, in the 1:3 transmission mode, in the cheek touch position, using the offered batteries.

The DUT was assessed at 900.98125MHz within the 896-902MHz band, with the antenna in and out, at the left ear of the SAM phantom, in 1:3 transmission mode, in the 15° tilt position, using the battery above that produced the highest S.A.R. result.

The DUT was assessed at the band edges of the 896-902MHz band, with the antenna in and out, at the left ear of the SAM phantom, in the 1:3 transmission mode, in the cheek touch position, using the configuration from the left ear assessment above that produced the highest S.A.R. results.

The DUT was assessed at 900.98125MHz within the 896-902MHz band, with the antenna in and out, at the right ear of the SAM phantom, in 1:3 transmission mode, in the cheek touch and 15° tilt positions, using the battery that produced the highest S.A.R. results at the left ear.

The DUT was assessed at the transmission band edges of the 896-902 MHz band, with antenna in and out, at the right ear of the SAM phantom, in 1:3 transmission mode, using the test configuration that produced the highest S.A.R. results at the right ear above.

The DUT was assessed at 900.98125MHz and at the band edges of the 896-902MHz band, with the tip of the opened flip and the bottom edge of the device towards the phantom and separated 2.5cm from the phantom, using the flat area of the SAM phantom, with the antenna in and out, in 1:6 transmission mode, using the battery that produced the highest S.A.R. results from the head assessments.

The DUT was assessed at 900.98125MHz, with the antenna in and out, with the closed flip of the device towards the phantom, and separated 2.5cm, using the flat area of the SAM phantom, in 1:6 transmission mode, using the battery that produced the highest S.A.R. results from the right head assessments above. The band edges of the 896-902 MHz band were assessed using the antenna position that produced the highest S.A.R. from above.

A “shortened” scan was performed using the configuration from the SAM phantom assessment above that produced the highest S.A.R. results.

The DUT was assessed at the TX center frequency of the 806-825MHz band, against the flat phantom, in the 81:120 transmission mode, with antenna in and out, using the offered carry case accessory, standard data cable accessory, along with each offered batteries.

The DUT was assessed at the TX center frequency of the 806-825MHz band, against the flat phantom, with the front of the DUT at 2.5 cm separation distance, in the 81:120 transmission mode, with antenna in and out, using the battery from above that produced the highest S.A.R. results, with and without the applicable data cable attachments.

The DUT was assessed at the TX center frequency of the 806-825MHz band, against the flat phantom, with antenna in and out, in the 1:3 and 1:6 transmission modes, using the battery from above that produced the highest S.A.R., along with each applicable audio accessories.

The DUT was assessed at the TX band edges of the 806-825MHz band, against the flat phantom, in the 81:120 transmission mode, using the configuration from the 800MHz accessory assessment above that produced the highest S.A.R.

The DUT was assessed in the 81:120 transmission mode, with its front and back separated 2.5 cm from the flat phantom, using the configuration from the 800MHz assessment above that produced the highest S.A.R. results.

The DUT was assessed at 900.98125MHz within the 896-902MHz band, against the flat phantom, in the 1:3 transmission mode (81:120 Packet Data mode not functional in the 896-902Mhz band), with antenna in and out, using the audio accessory configuration from the 806-825MHz assessment above that produced the highest S.A.R. results.

The DUT was assessed at the TX band edges of the 896-902MHz band, against the flat phantom, in the 1:3 transmission mode, using the configuration from above that produced the highest S.A.R. results.

The DUT was assessed against the flat phantom, with the DUT back, ant, and front 2.5cm separation distance, using the configuration from the 896-902MHz assessment above that produced the highest S.A.R. results.

A “shortened” scan was performed using the configuration from the flat phantom assessments at 896-902 MHz above that produced the highest S.A.R. results.

Note: NNTN4766A was introduced after testing was originally completed. NNTN4766A was later tested in the 2.5cm abdomen configuration and results indicate no change in SAR between the two back bezels (NNTN4766A and NNTN4767A). This addition data is located at the end of section 7.1.

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 it was centered against the flat phantom with and without the carry case and applicable accessory attachments. The front side, backside, and antenna of the DUT were positioned with 2.5cm separation distance from the flat phantom.

5.1.2 Head

The DUT was placed in the cheek touch and 15° tilt positions at the left and right ears of the SAM phantom

5.1.3 Face

The DUT was placed with 2.5cm separation from the flat area of the SAM phantom.

5.2 Test Position Photographs

Figure 1: Highest S.A.R. Test Position (@ the Abdomen)
(DUT with carry case model NNTN4681A against the phantom, antenna retracted)

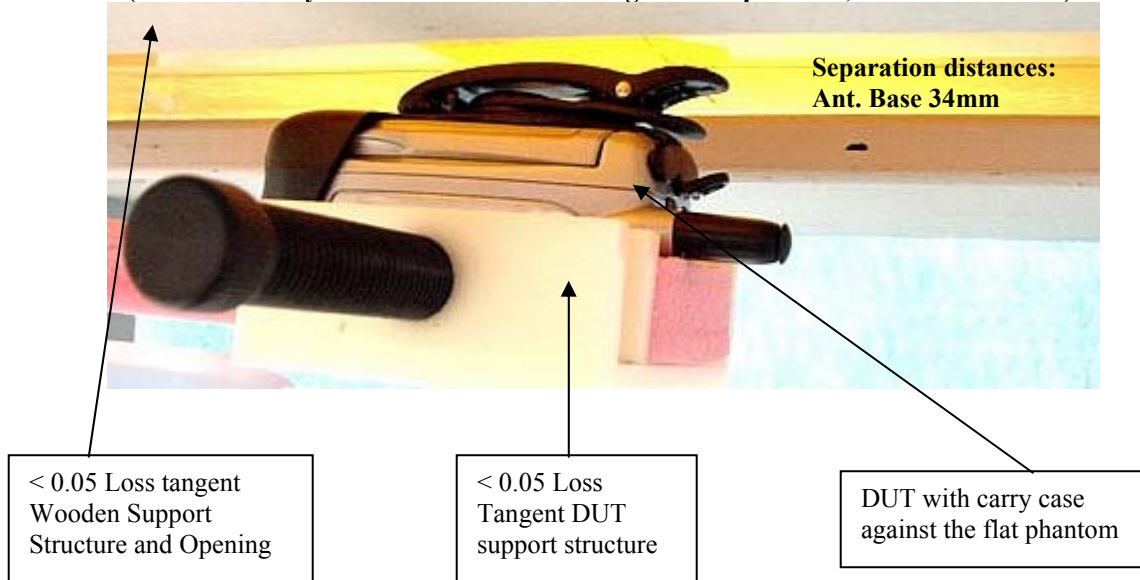


Figure 2. Assessment @ the Left ear; Cheek touch position; with antenna retracted.
Same position used for antenna extended.



Figure 3. Assessment @ the Left ear; 15° tilt position; with antenna retracted. Same position used for antenna extended.



Figure 4. Assessment @ the Right ear; Cheek touch position; with antenna retracted. Same position used for antenna extended.



Figure 5. Assessment @ the Right ear; 15° tilt position; with antenna retracted. Same position used for antenna extended.



Figure 6. Assessment @ the Face; DUT flip open w/ ends separated 2.5cm from the flat area of SAM phantom. Same position used for antenna extended

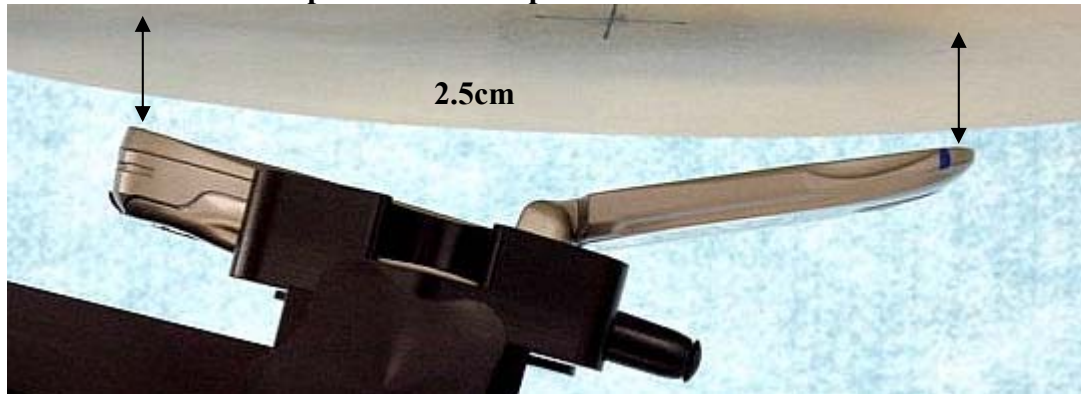


Figure 7. Assessment @ the Face; DUT flip closed w/ flip separated 2.5cm from the flat area of SAM phantom. Same position used for antenna extended

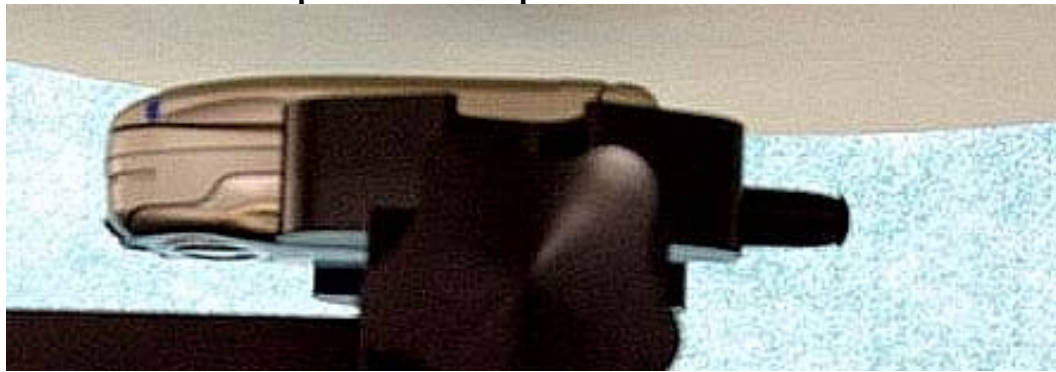


Figure 8. Assessment @ abdomen; DUT w/ carry case model NNTN4682A against the flat phantom and attached data cable model NKN6544B. Same position used to assess data cable models NKN6540A, NNTN4007A, NNTN4049A, NNTN4877A, and SYN0547A w/ antenna in and out.



Figure 9. Assessment @ the Abdomen; with carry case model NNTN4682A against the phantom and attached digital camera model SYN0547A. Same position used for antenna extended



Figure 10. Assessment @ the Abdomen; with carry case model NNTN4682A against the phantom and attached audio accessory model SYN8390B. Same position used to assess audio accessory models SYN8146C, NTN8513B, SYSN7875C, NTN8496A, NNTN4033A, and NSN6066A w/ antenna in and out.



Figure 11. Assessment @ the Abdomen; DUT front 2.5cm separation. Similar position used for DUT back 2.5cm from phantom

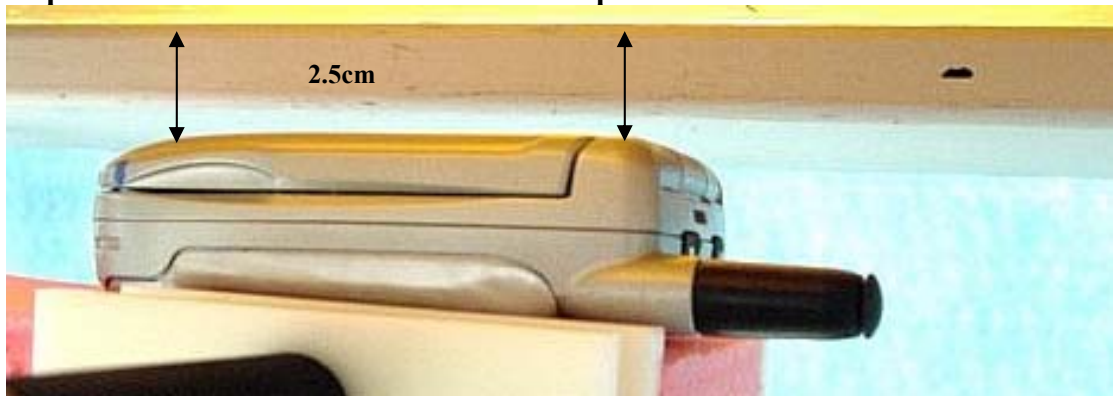


Figure 12: Robot Test System (Flat Phantom)

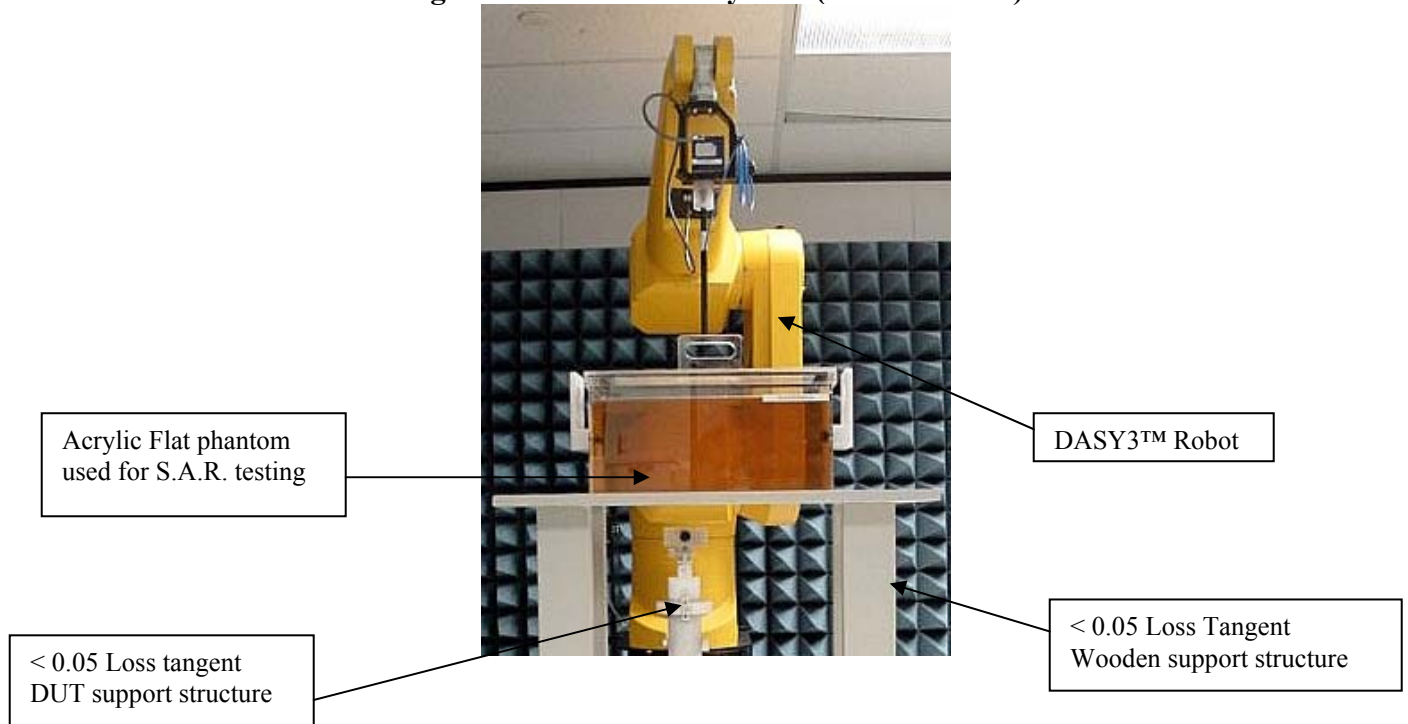


Figure 13: Robot Test System (SAM phantom)



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

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e = f(d,k)</i>	<i>f</i>	<i>g</i>	<i>h = c x f / e</i>	<i>i = c x g / e</i>	<i>k</i>
Uncertainty Component	Section of IEEE P1528	Tol. (± %)	Prob. Dist.	Divisor	<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (± %)	10 g <i>u_i</i> (± %)	<i>v_i</i>
Measurement System									
Probe Calibration	E.2.1	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				11.72	11.09	1363
Expanded Uncertainty (95% CONFIDENCE LEVEL)			<i>k</i> =2				22.98	21.75	

Table 2: Uncertainty Budget for System Performance Check

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i> = <i>f</i> (<i>d</i> , <i>k</i>)	<i>f</i>	<i>g</i>	<i>h</i> = <i>c</i> <i>x</i> <i>f</i> / <i>e</i>	<i>i</i> = <i>c</i> <i>x</i> <i>g</i> / <i>e</i>	<i>k</i>
	Section of IEEE P1528	Tol. (± %)	Prob. Dist.		<i>c_i</i> (1 g)	<i>c_i</i> (10 g)	1 g <i>u_i</i> (±%)	10 g <i>u_i</i> (±%)	
Uncertainty Component				Div.					<i>v_i</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				10.16	9.43	∞
Expanded Uncertainty									
(95% CONFIDENCE LEVEL)			<i>k</i> =2				19.92	18.48	

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.

7.1 S.A.R. results

Batteries and band edges assessment at the Left ear; Cheek Touch and Tilt; 1:3 mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
Worst-case battery search and test position assessment												
CM-LEAR-R1-030523-04/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Cheek touch	None	None	0.698	-0.670	0.712	0.83	0.475	0.56
SW-LEAR-R1-030527-02/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Cheek touch	None	None	0.722	-0.450	0.843	0.94	0.567	0.63
SW-LEAR-R1-030610-04/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.714	-0.940	0.955	1.186	0.613	0.76
SW-LEAR-R1-030527-04/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.711	-0.360	0.872	0.95	0.593	0.64
CM-LEAR-R1-030527-05/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	15° tilt	None	None	0.712	-0.720	0.194	0.23	0.137	0.16
CM-LEAR-R1-030527-06/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	15° tilt	None	None	0.707	0.120	0.242	0.24	0.169	0.17
Band edge assessment												
CM-LEAR-R1-030527-07/364ADJ0002	806.0125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.687	-0.660	0.736	0.87	0.497	0.59
CM-LEAR-R1-030527-08/364ADJ0002	806.0125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.688	-0.460	0.789	0.89	0.536	0.61
CM-LEAR-R1-030527-09/364ADJ0002	824.9875	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.680	-0.440	0.751	0.86	0.508	0.58
CM-LEAR-R1-030527-10/364ADJ0002	824.9875	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.680	-0.110	0.766	0.81	0.524	0.55

Batteries and band edges assessment at the Right ear; Cheek Touch and Tilt; 1:3 mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
Worst-case battery search and test position assessment												
CM-REAR-R1-030527-11/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.706	-0.310	0.745	0.80	0.510	0.55
CM-REAR-R1-030527-12/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.706	-0.290	0.849	0.91	0.563	0.60
CM-REAR-R1-030527-13/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	15° tilt	None	None	0.707	-0.090	0.212	0.21	0.154	0.16
SW-REAR-R1-030528-02/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	15° tilt	None	None	0.705	-0.200	0.176	0.18	0.129	0.14
Band edge assessment												
SW-REAR-R1-030528-03/364ADJ0002	806.0125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.679	-0.160	0.742	0.79	0.497	0.53
SW-REAR-R1-030528-04/364ADJ0002	806.0125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.685	0.120	0.741	0.76	0.504	0.52
SW-REAR-R1-030528-05/364ADJ0002	824.9875	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.670	0.330	0.866	0.90	0.596	0.62
SW-REAR-R1-030528-06/364ADJ0002	824.9875	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.674	-0.070	0.798	0.84	0.534	0.56

Assessment at the Face; Flip open and closed; 2.5cm separation; 1:6 mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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 with flip open												
CM-Face-R1-030530-13/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.700	-0.140	0.064	0.03	0.046	0.02
CM-Face-R1-030601-02/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.704	0.140	0.054	0.03	0.039	0.02
CM-Face-R1-030601-03/364ADJ0002	806.0125	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.685	-0.130	0.066	0.04	0.047	0.03
CM-Face-R1-030601-04/364ADJ0002	824.9875	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.680	0.050	0.056	0.03	0.040	0.02
Assessment with flip closed												
CM-Face-R1-030601-05/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.703	0.040	0.171	0.09	0.122	0.06
CM-Face-R1-030601-06/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.704	-0.090	0.174	0.09	0.125	0.06
CM-Face-R1-030601-07/364ADJ0002	806.0125	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.688	-0.160	0.184	0.10	0.133	0.07
CM-Face-R1-030601-08/364ADJ0002	824.9875	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.674	0.090	0.147	0.08	0.106	0.06

Batteries and band edges assessment at the Left ear; Cheek Touch and Tilt; 1:3 mode; 896-902 MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
Worst-case battery search and test position assessment												
CM-LEAR-R1-030528-09/364ADJ0002	900.98125	In	SNN5705B NNTN4767A	Cheek touch	None	None	0.730	-0.910	0.725	0.89	0.494	0.61
CM-LEAR-R1-030528-10/364ADJ0002	900.98125	Out	SNN5705B NNTN4767A	Cheek touch	None	None	0.732	-0.470	0.798	0.89	0.548	0.61
SW-LEAR-R1-030528-07/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.734	-0.690	0.731	0.86	0.502	0.59
SW-LEAR-R1-030528-08/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.736	-0.480	0.885	0.99	0.608	0.68
CM-LEAR-R1-030528-11/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	15° tilt	None	None	0.732	-0.240	0.175	0.19	0.120	0.13
CM-LEAR-R1-030528-12/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	15° tilt	None	None	0.735	0.190	0.254	0.25	0.174	0.17
Band edge assessment												
CM-LEAR-R1-030528-13/364ADJ0002	896.01875	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.655	-0.040	0.639	0.69	0.432	0.47
CM-LEAR-R1-030528-14/364ADJ0002	896.01875	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.655	0.160	0.704	0.75	0.492	0.53
CM-LEAR-R1-030528-15/364ADJ0002	901.98125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.740	-0.030	0.651	0.66	0.450	0.45
CM-LEAR-R1-030528-16/364ADJ0002	901.98125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.745	0.230	0.880	0.88	0.619	0.62

Batteries and band edges assessment at the Right ear; Cheek Touch and Tilt; 1:3 mode; 896-902 MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
Worst-case battery search and test position assessment												
CM-REAR-R1-030528-17/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.727	0.140	0.810	0.81	0.543	0.54
SW-REAR-R1-030529-02/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.738	-0.010	0.789	0.79	0.555	0.56
SW-REAR-R1-030529-03/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	15° tilt	None	None	0.736	-0.580	0.144	0.17	0.102	0.12
SW-REAR-R1-030529-04/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	15° tilt	None	None	0.739	-0.340	0.171	0.19	0.123	0.13
Band edge assessment												
SW-REAR-R1-030529-05/364ADJ0002	896.01875	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.642	0.160	0.653	0.71	0.454	0.50
SW-REAR-R1-030529-06/364ADJ0002	896.01875	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.644	-0.040	0.661	0.73	0.457	0.50

CM-REAR-R1-030529-07/364ADJ0002	901.98125	In	SNN5704A NNTN4767A	Cheek touch	None	None	0.746	-0.150	0.587	0.61	0.401	0.42
CM-REAR-R1-030529-08/364ADJ0002	901.98125	Out	SNN5704A NNTN4767A	Cheek touch	None	None	0.740	0.480	0.845	0.85	0.585	0.59

Assessment at the Face; Flip open and closed; 2.5cm separation; 1:6 mode; 896-902 MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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 with flip open												
CM-Face-R1-030530-04/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.733	0.120	0.053	0.03	0.037	0.02
SW-Face-R1-030530-03/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.730	0.610	0.054	0.03	0.038	0.02
CM-Face-R1-030530-05/364ADJ0002	896.01875	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.653	0.050	0.045	0.02	0.032	0.02
CM-Face-R1-030530-06/364ADJ0002	901.98125	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.693	0.420	0.051	0.03	0.035	0.02
Assessment with flip closed												
CM-Face-R1-030530-07/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.679	0.460	0.162	0.08	0.114	0.06
CM-Face-R1-030530-08/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	2.5cm separation	None	None	0.685	0.500	0.145	0.07	0.102	0.05
CM-Face-R1-030530-09/364ADJ0002	896.01875	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.647	0.130	0.145	0.08	0.102	0.06
CM-Face-R1-030530-10/364ADJ0002	901.98125	In	SNN5704A NNTN4767A	2.5cm separation	None	None	0.685	0.380	0.147	0.08	0.104	0.05

Assessment of offered batteries at the abdomen; 81:120mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
Worst-case battery search												
SW-Ab-R1-030602-02/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NKN6544B	0.635	0.830	0.621	0.68	0.430	0.47
SW-Ab-R1-030602-03/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NKN6544B	0.641	0.160	0.653	0.71	0.456	0.50
SW-Ab-R1-030602-04/364ADJ0002	813.5125	In	SNN5704A NNTN4767A	Against phantom	NNTN4682A	NKN6544B	0.644	0.320	0.612	0.67	0.443	0.48
SW-Ab-R1-030602-05/364ADJ0002	813.5125	Out	SNN5704A NNTN4767A	Against phantom	NNTN4682A	NKN6544B	0.666	0.220	0.698	0.70	0.473	0.47

Assessment of offered data cable accessories at the abdomen; 81:120mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
CM-Ab-R1-030602-06/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	None	0.649	0.210	0.988	1.07	0.697	0.75
CM-Ab-R1-030602-07/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	None	0.639	0.020	1.030	1.13	0.731	0.80
CM-Ab-R1-030602-08/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NKN6540A	0.640	0.350	0.559	0.61	0.389	0.43
CM-Ab-R1-030602-09/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NKN6540A	0.640	0.260	0.577	0.63	0.410	0.45
CM-Ab-R1-030602-10/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NNTN4007A	0.648	0.280	0.464	0.50	0.335	0.36
CM-Ab-R1-030602-11/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NNTN4007A	0.720	0.300	0.605	0.61	0.429	0.43
CM-Ab-R1-030602-12/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NNTN4049A	0.638	0.360	0.484	0.53	0.343	0.38
CM-Ab-R1-030602-13/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NNTN4049A	0.646	0.300	0.588	0.64	0.419	0.45
CM-Ab-R1-030602-14/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	DUT front 2.5cm	None	NNTN4877A	0.711	0.280	0.334	0.33	0.235	0.24
SW-Ab-R1-030603-02/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	DUT front 2.5cm	None	NNTN4877A	0.644	0.420	0.510	0.55	0.366	0.40
SW-Ab-R1-030606-03/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN0547A	0.654	-0.260	0.978	1.11	0.695	0.79
SW-Ab-R1-030606-04/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN0547A	0.648	-0.140	0.812	0.91	0.565	0.63

Assessment of offered audio accessories at the abdomen; 1:3mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
SW-Ab-R1-030603-03/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.699	-0.42	0.359	0.40	0.261	0.29
SW-Ab-R1-030604-03/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.711	-0.39	0.403	0.44	0.291	0.32
SW-Ab-R1-030604-04/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8146C	0.707	0.07	0.319	0.32	0.231	0.23
SW-Ab-R1-030604-05/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8146C	0.709	0.01	0.378	0.38	0.274	0.27
CM-Ab-R1-030603-17/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN7875C	0.707	0.19	0.253	0.25	0.182	0.18

CM-Ab-R1-030604-10/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN7875C	0.704	-0.12	0.290	0.30	0.208	0.21
SW-Ab-R1-030604-06/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NTN8496A	0.705	-0.07	0.292	0.30	0.211	0.21
SW-Ab-R1-030604-07/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NTN8496A	0.718	-0.03	0.326	0.33	0.236	0.24
SW-Ab-R1-030604-08/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NTN8513B	0.713	0.08	0.291	0.29	0.210	0.21
CM-Ab-R1-030604-09/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NTN8513B	0.710	-0.17	0.372	0.39	0.270	0.28
CM-Ab-R1-030603-13/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NNTN4033A	0.704	0.23	0.295	0.30	0.212	0.21
CM-Ab-R1-030603-14/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NNTN4033A	0.707	-0.47	0.331	0.37	0.238	0.27
CM-Ab-R1-030604-11/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NSN6066A	0.705	-0.36	0.279	0.30	0.200	0.22
CM-Ab-R1-030603-16/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NSN6066A	0.704	-1.00	0.314	0.40	0.225	0.28
Assessment at 6:1 transmission mode												
DZ-Ab-R1-030605-02/364ADJ0002	813.5125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NSN6066A	0.718	0.04	0.132	0.07	0.095	0.05
DZ-Ab-R1-030605-03/364ADJ0002	813.5125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	NSN6066A	0.723	-0.01	0.164	0.08	0.119	0.06

Band edges assessment at the abdomen; 81:120mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
CM-Ab-R1-030604-14/364ADJ0002	806.0125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	None	0.654	0.240	0.886	0.95	0.627	0.67
CM-Ab-R1-030604-15/364ADJ0002	806.0125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	None	0.664	0.430	1.050	1.11	0.752	0.79
CM-Ab-R1-030604-16/364ADJ0002	824.9875	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	None	0.639	0.250	1.050	1.15	0.741	0.81
CM-Ab-R1-030604-17/364ADJ0002	824.9875	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	None	0.636	0.250	0.970	1.07	0.695	0.76

Assessment at the abdomen; 2.5cm separation; w/ overall worst case configuration; 81:120mode; 806-825MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
CM-Ab-R1-030605-05/364ADJ0002	824.9875	In	SNN5705B NNTN4767A	DUT Back 2.5cm separation	None	None	0.630	0.230	0.900	1.00	0.642	0.71
CM-Ab-R1-030604-18/364ADJ0002	824.9875	In	SNN5705B NNTN4767A	DUT Front 2.5cm separation	None	None	0.635	0.320	0.646	0.70	0.453	0.50

Worst-case battery search and band edges assessments; w/ worst-case audio accessory from 800 band assessment; 1:3mode; 896-902MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
Worst-case battery search assessment												
CM-Ab-R1-030606-05/364ADJ0002	900.98125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.744	0.080	0.428	0.43	0.301	0.30
CM-Ab-R1-030606-06/364ADJ0002	900.98125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.740	0.120	0.480	0.48	0.339	0.34
CM-Ab-R1-030606-07/364ADJ0002	900.98125	In	SNN5704A NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.745	0.170	0.455	0.46	0.320	0.32
CM-Ab-R1-030606-08/364ADJ0002	900.98125	Out	SNN5704A NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.745	0.280	0.446	0.45	0.315	0.32
Band edge assessment												
CM-Ab-R1-030606-09/364ADJ0002	896.01875	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.665	0.040	0.317	0.33	0.223	0.23
CM-Ab-R1-030606-10/364ADJ0002	896.01875	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.670	0.120	0.343	0.36	0.243	0.25
CM-Ab-R1-030606-11/364ADJ0002	901.98125	In	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.757	-0.110	0.475	0.49	0.332	0.34
CM-Ab-R1-030606-12/364ADJ0002	901.98125	Out	SNN5705B NNTN4767A	Against phantom	NNTN4682A	SYN8390B	0.758	-0.320	0.369	0.40	0.262	0.28

Assessment at the abdomen; 2.5cm separation; w/ overall worst case configuration; 1:3mode; 896-902MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
CM-Ab-R1-030606-14/364ADJ0002	901.98125	In	SNN5705B NNTN4767A	DUT back 2.5cm separation	None	SYN8390B	0.757	0.100	0.410	0.41	0.291	0.29
CM-Ab-R1-030606-13/364ADJ0002	901.98125	In	SNN5705B NNTN4767A	DUT Front 2.5cm separation	None	SYN8390B	0.762	0.200	0.208	0.21	0.148	0.15

*NNTN4766A vs. NNTN4767A assessment at the abdomen; 2.5cm separation; w/ overall worst case configuration; 1:3mode; 896-902MHz band												
Run Number/ SN	Freq. (MHz)	Antenna Position	Battery	Test position	Carry Case	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)
CM-Ab-R1-030606-14/364ADJ0002	901.98125	In	SNN5705B NNTN4767A	DUT back 2.5cm separation	None	SYN8390B	0.757	0.100	0.410	0.41	0.291	0.29
SW-Ab-R1-030617-02/364ADJ0002	901.98125	In	SNN5705B NNTN4767A	DUT back 2.5cm separation	None	SYN8390B	0.740	-0.310	0.372	0.40	0.257	0.28

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. values 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:

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

P_{max} = Maximum Power (mW)

P_{int} = Initial Power (mW)

$\text{SAR}_{\text{meas.}}$ = Measured 1 or 10 gram averaged peak S.A.R. (mW/g)

Note: for positive drift values Max. Calc. S.A.R. = (measured S.A.R. * (Max Pwr/Init. Pwr.))

Note: 50% duty cycle is applied for PTT operation.

Note: for initial power greater than max power then ($P_{\text{max}}/P_{\text{int}}$) = 1

8.0 Conclusion

The highest Operational Maximum Calculated 1-gram and 10-gram average S.A.R. values found for FCC ID: AZ489FT5824 model H63XAN6RR4AN.

At the abdomen: 1-g Avg. = 1.15mW/g; 10-g Avg. = 0.81 mW/g

At the Face: 1-g Avg. = 0.10 mW/g; 10-g Avg. = 0.07 mW/g

At the Head: 1-g Avg. = 1.19 mW/g; 10-g Avg. = 0.76 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).