MOTOROLA

ACCREDITED

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

Attention:	FCC
Date of Report:	November 22, 2002
Report Revision:	Rev. A
Manufacturer:	Motorola
Product Description:	Portable 380-470 MHz 1-5W; 3x6 keypad, 6 line display Digital 512 Channel
FCC ID:	**AZ489FT4855**
Device Model:	H18QDH9PW7AN

Test Period:	9/26/02,10/7/02-11/4/02
Test Engineer:	Stephen Whalen Sr. Test engineer
Author:	Michael Sailsman EME Regulatory Affairs

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	11/22/02
Ken Enger Senior Resource Manager, Laboratory Director, CGISS EME Lab	Date Approved

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REVISION HISTORY

Date	Revision	Comments
11/15/02	O	Initial release Prototype results
11/22/02	A	Changed the frequency range of the standard antenna from 380-470MHz to 380-520MHz; Changed the length of the optional antenna model NAE6546 from “3.44 in” to “3.46 in”, and changed the optional antenna model number from NAD6547 to NAE6547. All references to NAD6547 in Part 2 of 2 were changed to NAE6547.

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 H18QDH9PW7AN, FCC ID: AZ489FT4855.

The applicable exposure environment is Occupational/Controlled.

The test results included herein represent the highest S.A.R. levels applicable to this product and clearly demonstrate compliance with FCC Occupational/Controlled RF Exposure limits of 8.0 mW/g per the requirements of 47 CFR 2.1093(d).

2.0 Reference Standards and Guidelines

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

- United States Federal Communications Commission, Code of Federal Regulations; 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

The portable handheld transceiver, FCC ID: AZ489FT4855 operates using continuous carrier frequency modulation. The available modulation options are conventional analog voice, trunked analog voice, tone PL, or C4FM digital modulation (constant envelope carrier with no packet or duty cycle modulation configuration). The C4FM modulation has control channel data baud rates of 3600 and 9600. This product is intended for public safety professionals and Department of Defense (DOD). The intended operating positions are “at the face” with the microphone 1 to 2 inches from the mouth, and “at the abdomen” by means of the offered body-worn accessories. Audio and PTT operation while the radio is at the abdomen is accomplished by means of optional remote accessories that connect to the radio.

FCC ID: AZ489FT4855 is capable of operating in the 380-470 MHz band. The rated power is 1-5 watts with a maximum output capability of 5.8 watts as defined by the upper limit of the production line final test station.

FCC ID: AZ489FT4855 is offered with the following options and accessories:

Antenna

NAE6549	Wideband Whip380-520 MHz ¼ wave; 5.2 in; - 2.4 dBi
NAE6546	Helical 380-435 MHz ¼ wave; 3.46 in; - 2.4 dBi
NAE6547	Helical 435-470 MHz ¼ wave; 3.25 in; - 2.3 dBi

Batteries

NNTN4435AR	1800 mAh NiMH smart non-FM
NTN8294B	1525 mAh NiCad high capacity
NTN8295A	1525 mAh NiCad high capacity FM Intrinsically Safe
NTN8297A	1525 mAh NiCad high capacity FM Intrinsically Safe, Rugged
NTN8299B	1750 mAh NiMH ultra capacity FM Intrinsically Safe
NTN8923A	1800 mAh NiMH ultra capacity
NTN8610B	1650 mAh LiIon
NTN9177A	Battery Holder, Clamshell Black (Design limits DUT output power to 2.8W. See section 7.1*)
NTN9183A	Battery Holder, Clamshell Orange, same as NTN9177 (Design limits DUT output power to 2.8W. See section 7.1*)
HNN9031A	1525 mAh NiCad smart
HNN9032A	1525 mAh NiCad smart FM Intrinsically Safe
RNN4006AR	3000 mAh NiMH
RNN4007AR	3000 mAh NiMH FM Intrinsically Safe
NNTN4436AR	1750 mAh NiMH smart FM

Body-worn Accessories

NTN8040B	3” Swivel Belt Loop
HLN6875A	3” Public Safety Belt Clip
NTN8266B	2 ¼” Belt Clip Kit
NTN8725A	Nylon Carry Case with T Strap
NTN9179A	Hi Activity D Clip (NTN9212A) & Belt Loop (NTN9213A) Combo
NTN9212A	Swivel D Clip, High Activity
NTN9213A	3” Belt Loop, High Activity D Clip
NTN8381C	Carrying Case, High Activity, Includes 3” swivel Belt loop and T Strap. NiCad or NiMH
NTN9184A	Case, Carry with 3.25” Belt loop for Clamshell Batt
NTN8382B	Case with 3 “ Belt loop T Strap
NTN8383A	T-strap plain action snaps
NTN8384A	Case Leather T-Strap Hard Act
NTN8385B	Hard Leather Carry Case, High activity, includes 2.5"swivel belt loop and t-strap

NTN8386B	Hard Leather Carry Case High activity includes 3.0" swivel belt loop and t-strap.
NTN8387A	Case with 3” Belt loop t-strap Model I
NTN8039B	2 1/2" swivel belt loop for leather cases for use with High Activity cases
NTN8380B	Hard Leather Carry Case High activity includes 2.5" swivel belt loop and t-strap.

Audio attachments

BDN6676D	Jedi Adapter
BDN6671B	PTT & VOX Interface Module for use with BDN6677B, BDN6678A & BDN6641A
BDN6708B	PTT Interface Module for use with BDN6677B, BDN6678A & BDN6641A
BDN6673B	Headset adapter cable for use with the BDN6645A, BDN6635B & BDN6673B
NMN6193C	Remote Speaker Microphone
NMN6193BSP03	Remote Speaker Microphone
NMN6193BSP04	Remote Speaker Microphone
NMN6250A	Public Safety Microphone with straight cord, 24”
NMN6251A	Public Safety Microphone with straight cord, 18”
NMN6247A	Public Safety Microphone with straight cord, 30”
NTN8327A	External RF switch
BDN6665A	Earpiece w/ XL Earphone
BDN6666A	Earpiece w/ Volume Control
BDN6667A	Earpiece, Mic & PTT Combo
BDN6668A	Earpiece, Mic & PTT Separate
BDN6780A	Earbud Single w/ Mic & PTT
NTN1624A	Commport w/ Palm PTT NTN8819A & NKN6510A
BDN6677B	Ear Microphone System part A
BDN6678A	Ear Microphone System part B
BDN6635B	Boom Mic Headset w/ Vox, (adapter BDN6673B)
BDN6636B	Throat Mic Headset w/ Vox (adapter , BDN6673B)
NMN6245A	Light Weight Headset
NMN6259A	Med. Weight Dual Headset w/ NC Mic
NMN1020A	Safety Helmet Headset (adapter BDN6676D) NKN6498A & NKN6050A
RMN4049A	Jedi “TEMCO” Temple Transducer
NMN6191C	RSM Noise Canceling Includes: 6.0' coiled cord assembly , 3.5mm ear jack, swivel clip, quick disconnect
NTN7660B	Tilt / Man Down Switch
BDN6664A	Earpiece with standard earpiece BEIGE
BDN6726A	Earpiece with standard earpiece BLACK
BDN6727A	Earpiece with extra loud earphone BLACK
BDN6728A	Earpiece with volume control BLACK
BDN6729A	Earpiece, Mic and PTT combined BLACK
BDN6730A	Earpiece, Mic and PTT separate BLACK
BDN6669A	Earpiece, Mic and PTT combined with extra loud earpiece BEIGE
BDN6731A	Earpiece, Mic and PTT combined with extra loud earpiece BLACK

BDN6670A	Earpiece, Mic and PTT separate with extra loud earpiece BEIGE
BDN6732A	Earpiece, Mic and PTT separate with extra loud earpiece BLACK
BDN6781A	Earbud, single, receive only, black
NTN1625A	Commport ear mic, with PTT for noise levels up to 100 db (ship w/ BDN6676 adapter)
NTN1663A	Commport ear mic, with Ring PTT for noise levels up to 100 db (ship w/ BDN6676 adapter)
NTN1736A	Commport ear mic, with Snap-On Side PTT for noise levels up to 100 db (ship w/ BDN6676 adapter)
BDN6641A	Ear mic, high noise level up to 105dB, grey (must order interface module)
0180300E83	Remote Push-To-Talk Body Switch
BDN6645A	Noise-Canceling Boom Mic Headset with PTT on earcup
NMN6246B	Ultralite Headset w/Boom Microphone
NMN6258A	Over the Head Headset w/ In Line PTT
NTN8613A	Keyload Adapter
ZMN6031A	SPKR MIC 3 PIECE
ZMN6032A	SPKR MIC 2 PIECE
ZMN6038A	SPKR MIC 2 PC XL
ZMN6039A	SPKR MIC 3 PC XL
NTN5243A	Shoulder Strap
PLN7737A	Hand Held Control Head used with vehicular adapter

3.1 Test Signal

Test Signal mode:

Test Mode	X	Base Station		Simulator	

Transmission Mode:

CW	**X**
Native Transmission	
TDM:	
Other	

3.2 Test Output Power

Output power was measured before and after each test. A characteristic power slump table 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 following websites for detailed specifications of the robot and E-Field probe: http://www.speag.com/robot_acc.html, http://www.speag.com/probes.html.
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	CGISS 450 MHz /002	4.790 +/- 0.210	4.82 +/- 10%	9/26/02-10/28/02 17 test days
1545	IEEE Head	5/21/02	CGISS 450 MHz /002	4.935 +/- 0.045	4.79 +/- 10%	10/29/02-11/04/02 3 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 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 used for abdomen assessment has a 68.58 cm x 25.4 cm opening at its center to allow positioning the DUT to the phantom's surface. The phantom used for face assessment has a 68.58 cm x 20.32 opening at its center to allow positioning the DUT to the phantom's surface. The supporting structures are assembled with wooden pegs and glue. The table below shows the flat phantom dimensions used for S.A.R. performance assessment.

Phantom dimensions used for abdomen assessment

Length	80cm
Width	60cm
Height	20cm
Surface Thickness	0.2cm

Phantom dimensions used for face 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
IEEE Head	Face

4.3.2 Simulated Tissue Composition

Tissue Ingredient (%) @ 450 MHz		
	Head	Body
Sugar	56	46.5
DGBE (Glycol)	-	-
De ionized -Water	39.1	50.53
Salt	3.8	1.87
HEC	1.0	1.0
Bact.	0.1	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**
450	56.7	54.10 - 56.10	0.94	0.91 - 0.95
425	57.0	54.90 - 56.30	0.94	0.90 - 0.93

IEEE Head				
Frequency (MHz)	**Di-electric Constant Target**	**Di-electric Constant Meas. (Range)**	**Conductivity Target S/m**	**Conductivity Meas. S/m**
450	43.5	42.7 - 43.4	0.87	0.87 - 0.90
425	43.8	43.3 - 43.9	0.87	0.85 - 0.87

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: 21.1 - 24.1˚C Avg. 22.6 ˚C
Relative Humidity	30 - 70 %	Range: 42.3 - 66.2% Avg. 49.6%
Tissue Temperature	NA	Range: 20.1 - 21.7˚C Avg. 20.97 ˚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 face. All assessments were done using the flat phantom with the DUT in CW mode. Compliance assessments were done according to the procedures outlined in the

following 6 phases:
In phase I an assessment at the abdomen was performed using each offered antenna with each offered battery along with body worn accessory NTN8266B and Remote Speaker Microphone (RSM) model NMN6191C at the center frequency of each respective antenna.

In phase II an assessment at the abdomen was performed at the center frequency of each respective antenna along with the body worn accessory, and the battery that produced the highest S.A.R. performance from phase I. Band edge assessment for each antenna was performed with the battery and body-worn accessory that produced the highest S.A.R. from above.

In phase III an assessment at the abdomen was performed using the configuration that produced the highest S.A.R. from above with each applicable audio accessory.

In Phase IV an assessment at the abdomen was performed with the front and back of the DUT at 2.5cm separation distance from the flat phantom using the antenna, audio accessory, battery, and frequency from above that produced the highest S.A.R. result.

In phase V an assessment at the abdomen was performed with each of the offered Public Safety Microphones (PSM) and each offered antenna at the center of the antenna frequency band. Testing at the band edges was done using the configuration that produced the highest S.A.R. result for each respective antenna.

In phase VI an assessment at the face was performed with the highest capacity battery from each of the offered battery chemistry categories as well as the battery that produced the highest S.A.R. from the abdomen assessments along with each offered antenna at the center of the antenna frequency band. Testing at the band edges was done using the configuration that produced the highest S.A.R. result for each respective antenna.

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 the applicable body-worn accessories or with 2.5cm separation distance from the phantom. Refer to figures 2 and 3.

5.1.2 Head

Assessments at the head was not applicable for this filing

5.1.3 Face

The DUT was positioned at the center of the flat phantom with a 2.5cm separation distance from the microphone. Refer to figure 4.

5.2 Test Position Photographs

Figure 1: Highest S.A.R. test position; Assessment @ the abdomen
PSM model NMN6251A & NTN8327A against the phantom
w/ NAE6547 antenna

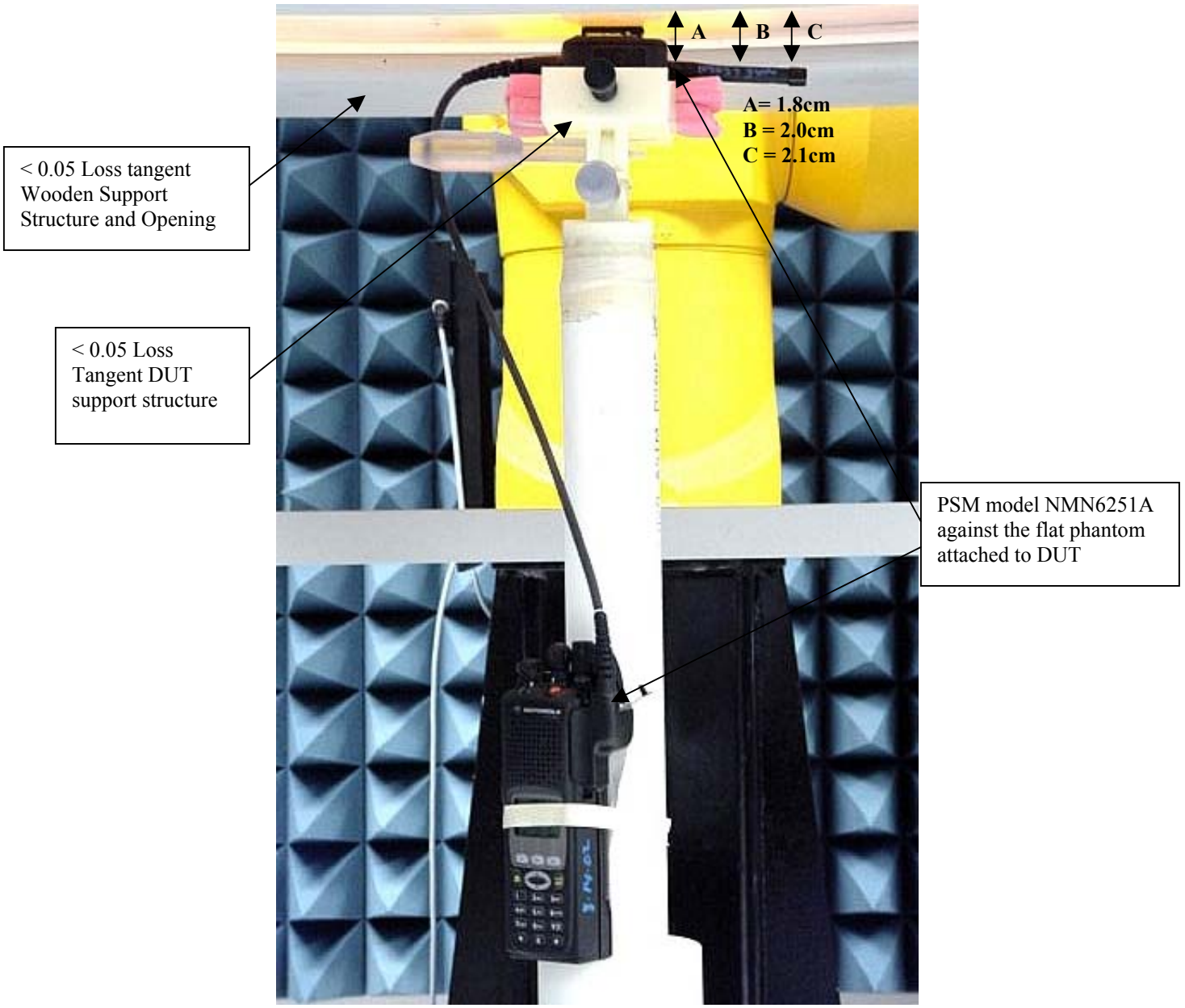


Figure 2: Assessment @ the abdomen
(DUT with belt clip NTN8266A, RNN4006A battery and attached RSM model NMN6191C against the flat phantom)

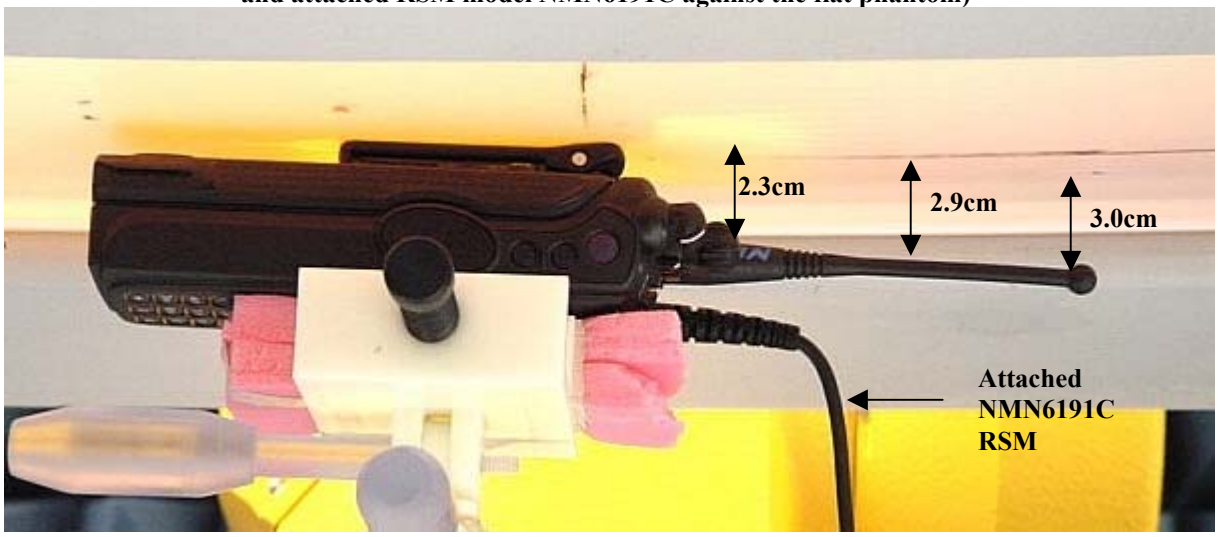


Figure 3. Assessment @ the Abdomen; DUT (back) 2.5cm separation distance
(DUT with attached BDN6671B & BDN6678A, battery RNN4006A)

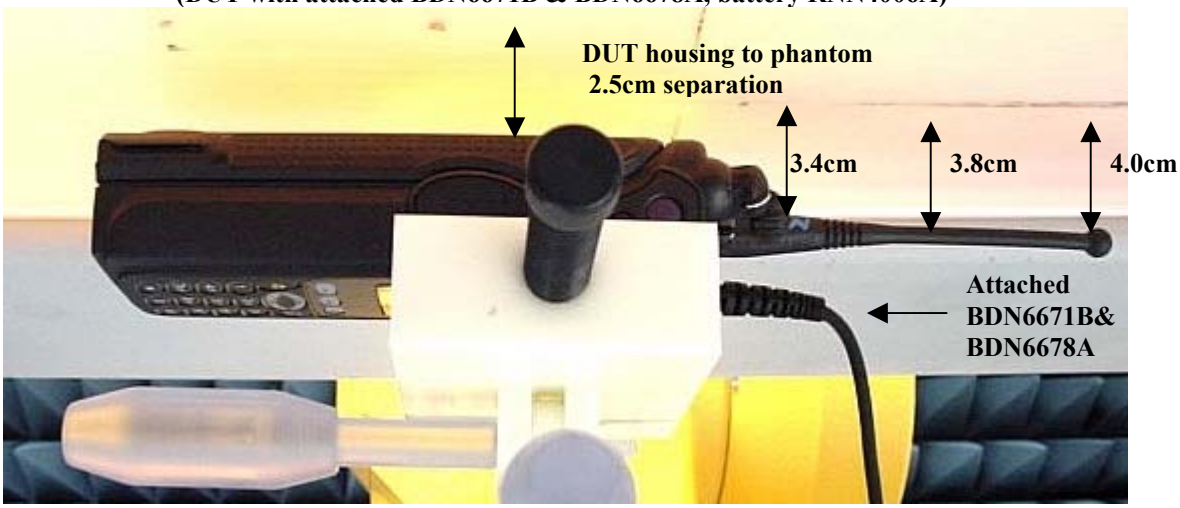


Figure 4. Assessment @ the Face; DUT 2.5cm separation distance
(DUT with antenna NAE6549, and battery NTN8610B)

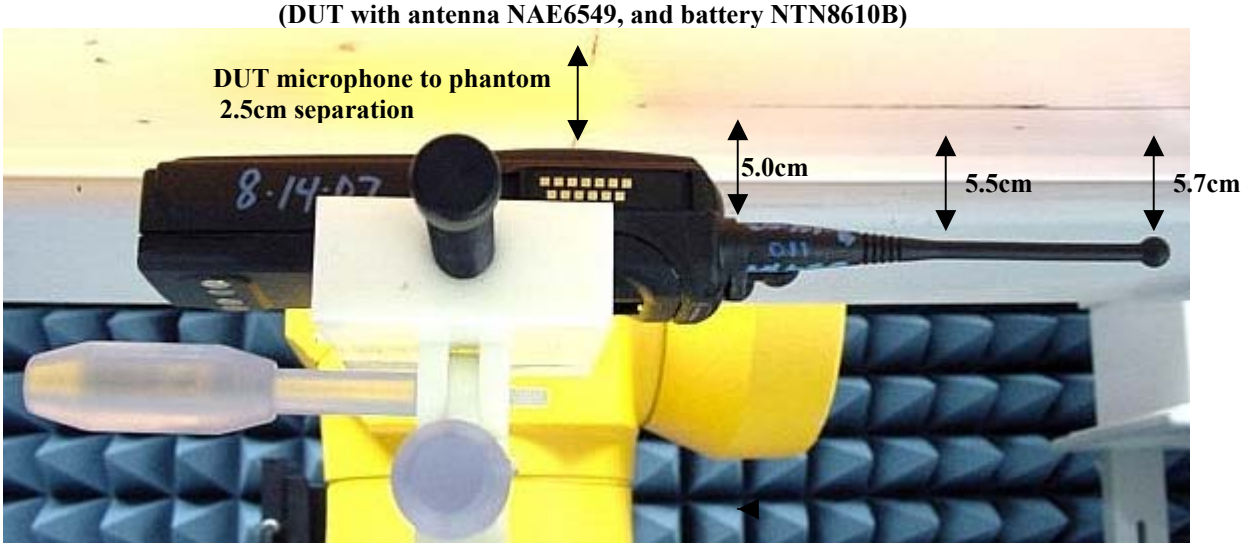
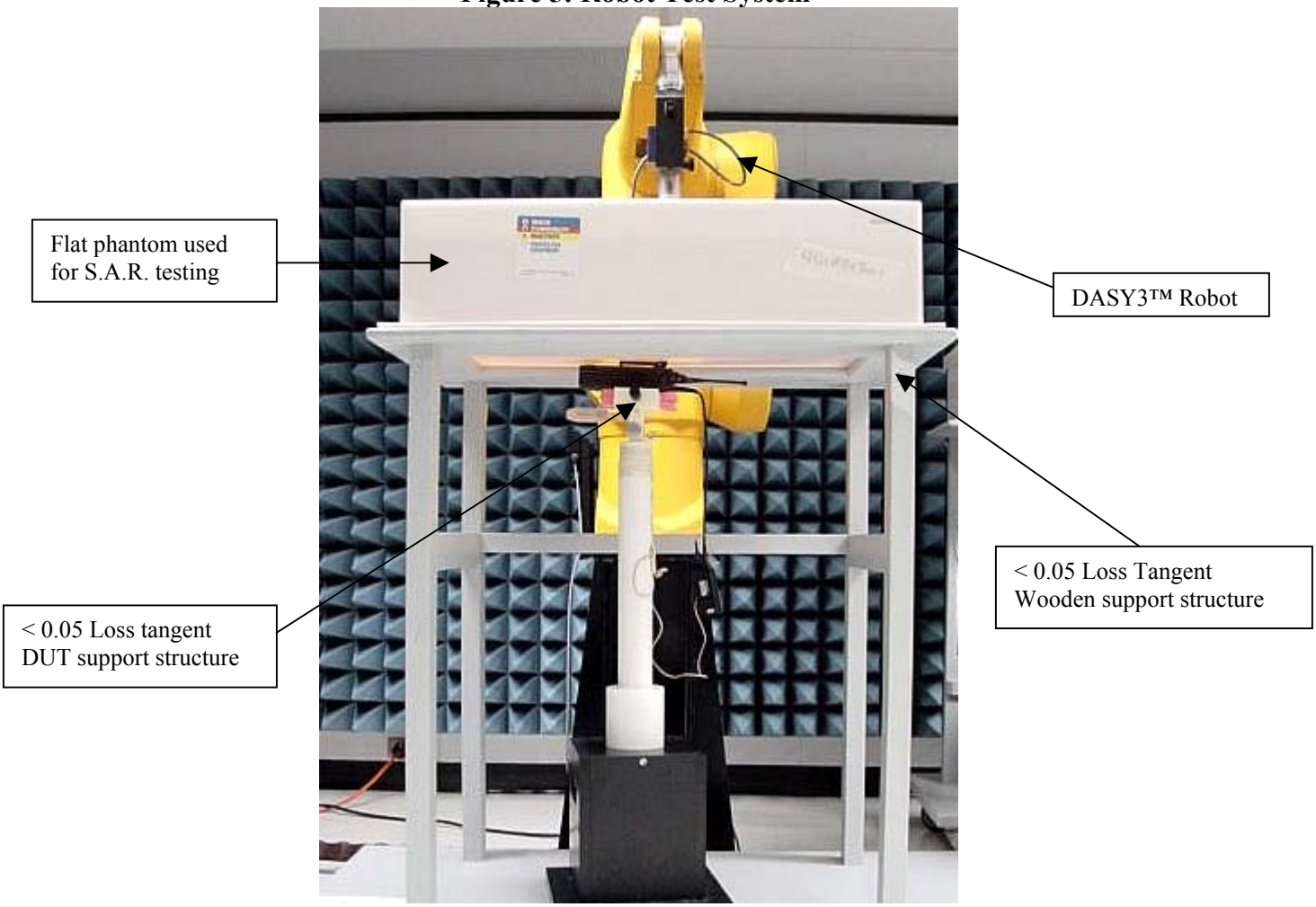


Figure 5: Robot Test System



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				11.72	11.09	1363
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				22.98	21.75	

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				10.16	9.43	∞
Expanded Uncertainty (95% CONFIDENCE LEVEL)			*k*=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) *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 that 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

***(Note: Battery design for models NTN9177A and NTN9183A limits DUT output power to 2.8W.)**

Compliance assessment at the abdomen CW mode										
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)**
Phase I - Search for highest S.A.R. producing Battery w/ Antenna model NAE6549										
Ab-R1-020926-03/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.91	5.90	11.70	**5.85**
Ab-R1-021009-05/ B212C0011	425	NAE6549	NNTN4435AR	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.96	10.60	5.30
Ab-R1-021008-02/ B212C0011	425	NAE6549	NTN8299B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.96	5.91	11.00	5.50
Ab-R1-021007-05/ B212C0011	425	NAE6549	NNTN4436AR	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.96	5.93	10.70	5.35
Ab-R1-021007-02/ B212C0011	425	NAE6549	NTN8923A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.91	5.96	10.40	5.20
Ab-R1-021009-04/ B212C0011	425	NAE6549	NTN8294B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.94	5.95	10.30	5.15
Ab-R1-021008-04/ B212C0011	425	NAE6549	NTN8295A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.89	5.94	11.00	5.50
Ab-R1-021008-03/ B212C0011	425	NAE6549	NTN8297A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.93	5.93	11.10	5.55
Ab-R1-021008-06/ B212C0011	425	NAE6549	HNN9031A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.95	5.97	8.67	4.34
Ab-R1-021007-04/ B212C0011	425	NAE6549	HNN9032A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.96	5.91	9.11	4.56
Ab-R1-021009-03/ B212C0011	425	NAE6549	NTN9183A	Against phantom	NTN8266B belt clip	NMN6191C RSM	2.22	2.23	2.93	1.84
Ab-R1-021009-02/ B212C0011	425	NAE6549	NTN8610B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.96	5.90	8.46	4.23
Phase I - Search for highest S.A.R. producing Battery w/ Antenna model NAE6546										
Ab-R1_021011-02/ B212C0011	407	NAE6546	NNTN4435AR	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.89	5.90	10.40	5.20
Ab-R1-021010-03/ B212C0011	407	NAE6546	NTN8299B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.88	5.62	10.30	5.31

Ab-R1-021010-08/ B212C0011	407	NAE6546	NNTN4436AR	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.92	9.66	4.83
Ab-R1_021011-03/ B212C0011	407	NAE6546	NTN8923A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.92	9.93	4.97
Ab-R1-021010-06/ B212C0011	407	NAE6546	RNN4006A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.70	10.50	5.34
Ab-R1_021011-04/ B212C0011	407	NAE6546	NTN8294B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.93	5.90	9.87	4.94
Ab-R1-021010-04/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.85	5.74	10.90	**5.51**
Ab-R1_021011-05/ B212C0011	407	NAE6546	NTN8297A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.82	5.82	10.50	5.25
Ab-R1-021010-05/ B212C0011	407	NAE6546	HNN9031A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.86	5.88	10.40	5.20
Ab-R1-021010-07/ B212C0011	407	NAE6546	HNN9032A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.90	9.45	4.73
Ab-R1_021011-07/ B212C0011	407	NAE6546	NTN9183A	Against phantom	NTN8266B belt clip	NMN6191C RSM	2.24	2.17	2.81	1.81
Ab-R1_021011-06/ B212C0011	407	NAE6546	NTN8610B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.91	9.22	4.61
Phase I - Search for highest S.A.R. producing Battery w/ Antenna model NAD6547										
Ab-R1_021014-02/ B212C0011	452	NAE6547	NNTN4435AR	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.86	5.82	4.73	2.37
Ab-R1_021014-05/ B212C0011	452	NAE6547	NTN8299B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.91	5.92	5.19	2.60
Ab-R1_021014-07/ B212C0011	452	NAE6547	NNTN4436AR	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.95	5.93	4.65	2.33
Ab-R1_021014-04/ B212C0011	452	NAE6547	NTN8923A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.86	5.88	4.51	2.26
Ab-R1_021014-03/ B212C0011	452	NAE6547	RNN4006A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.87	5.81	5.44	2.72
Ab-R1_021011-10/ B212C0011	452	NAE6547	NTN8294B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.98	5.88	3.63	1.82
Ab-R1_021011-11/ B212C0011	452	NAE6547	NTN8295A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.97	5.88	4.28	2.14
Ab-R1_021014-06/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.90	5.88	5.48	**2.74**
Ab-R1_021011-08/ B212C0011	452	NAE6547	HNN9031A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.82	5.93	3.86	1.93
Ab-R1_021011-09/ B212C0011	452	NAE6547	HNN9032A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.98	5.82	4.49	2.25
Ab-R1_021014-09/ B212C0011	452	NAE6547	NTN9183A	Against phantom	NTN8266B belt clip	NMN6191C RSM	2.12	2.09	1.79	1.20
Ab-R1_021014-08/ B212C0011	452	NAE6547	NTN8610B	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.88	5.92	4.46	2.23
Phase II -Assessment of body worn accessories w/ antenna NAE6549										
Ab-R1_021014-11	425	NAE6549	RNN4006A	Against phantom	NTN8725A nylon	NMN6191C RSM	5.88	5.84	9.07	**4.54**

Ab-R1_021015-02/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN9179A swivel	NMN6191C RSM	5.78	5.70	6.34	3.23
Ab-R1_021015-03/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN9184A belt loop	NMN6191C RSM	5.85	5.84	4.78	2.39
Ab-R1_021015-04/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN8387A belt loop	NMN6191C RSM	5.81	5.82	4.69	2.35
Ab-R1_021016-03/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN8380B swivel	NMN6191C RSM	5.79	5.82	3.64	1.82
Ab-R1_021016-04/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN5243A shoulder & NTN9184A belt loop	NMN6191C RSM	5.85	5.80	4.48	2.24
Ab-R1_021021-08/ B212C0011	425	NAE6549	RNN4006A	Against phantom	HLN6875A belt clip	NMN6191C RSM	5.91	5.94	7.81	3.91
Ab-R1_021016-05/ B212C0011	380	NAE6549	RNN4006A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.66	5.87	4.03	2.02
Ab-R1_021016-06/ B212C0011	470	NAE6549	RNN4006A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.88	4.94	7.35	4.31
Phase II -Assessment of body worn accessories w/ antenna NAE6546										
Ab-R1_021016-07/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN8725A nylon	NMN6191C RSM	5.83	5.79	7.62	**3.79**
Ab-R1_021016-08/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN9179A swivel	NMN6191C RSM	5.83	5.53	6.13	3.21
Ab-R1_021016-09/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN9184A belt loop	NMN6191C RSM	5.82	5.65	4.27	2.19
Ab-R1_021016-10/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN8387A belt loop	NMN6191C RSM	5.83	5.73	4.70	2.38
Ab-R1_021016-11/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN8380B swivel	NMN6191C RSM	5.83	5.56	3.29	1.72
Ab-R1_021017-03/ B212C0011	407	NAE6546	NTN8295A	Against phantom	NTN5243A shoulder & NTN8387 belt loop	NMN6191C RSM	5.82	5.57	4.75	2.47
Ab-R1_021021-07/ B212C0011	407	NAE6546	NTN8295A	Against phantom	HLN6875A belt clip	NMN6191C RSM	5.86	5.68	6.90	3.52
Ab-R1_021017-07/ B212C0011	380	NAE6546	NTN8295A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.80	5.99	5.16	2.58
Ab-R1_021017-06/ B212C0011	435	NAE6546	NTN8295A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.94	5.90	2.01	1.01
Phase II -Assessment of body worn accessories w/ antenna NAD6547										
Ab-R1_021017-08/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN8725A nylon	NMN6191C RSM	5.87	5.89	5.14	2.57
Ab-R1_021017-09/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN9179A swivel	NMN6191C RSM	5.89	5.89	4.55	2.28
Ab-R1_021018-02/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN9184A belt loop	NMN6191C RSM	5.77	5.75	2.97	1.50
Ab-R1_021018-03/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN8387A belt loop	NMN6191C RSM	5.88	5.87	3.16	1.58

Ab-R1-021018-04 & Ab-R1-021021-02/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN8380B swivel	NMN6191C RSM	5.79	5.85	1.97	0.99
Ab-R1_021021-03/ B212C0011	452	NAE6547	NTN8297A	Against phantom	NTN5243A shoulder & NTN8387 belt loop	NMN6191C RSM	5.91	5.93	3.34	1.67
Ab-R1_021021-04/ B212C0011	452	NAE6547	NTN8297A	Against phantom	HLN6875A belt clip	NMN6191C RSM	5.92	5.94	4.99	2.50
Ab-R1_021021-05/ B212C0011	435	NAE6547	NTN8297A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.86	5.90	11.30	**5.65**
Ab-R1_021021-06/ B212C0011	470	NAE6547	NTN8297A	Against phantom	NTN8266B belt clip	NMN6191C RSM	5.82	5.86	4.52	2.26
Phase III -Assessment of audio accessories w/ antenna NAE6549 (antenna w/ highest S.A.R. from above)										
Ab-R1-021022-03/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN6193C RSM	5.90	5.89	12.50	6.25
Ab-R1-021022-02/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN6193B SPO4 RSM	5.88	5.93	11.80	5.90
Ab-R1-021022-04/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN6258A headset	5.93	5.88	12.50	6.25
Ab-R1-021022-07/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	RMN4049A headset	5.86	5.86	11.40	5.70
Ab-R1-021022-06/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN6246B headset & BDN6676D	5.92	5.85	13.10	6.55
Ab-R1-021024-04/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6645A headset & BDN6673B	5.88	5.86	13.30	6.65
Ab-R1-021024-05/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6635B headset & BDN6673B	5.90	5.84	13.10	6.55
Ab-R1-021024-06/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6636B headset & BDN6673B	5.86	5.80	13.30	6.65
Ab-R1-021024-03/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN6245A headset & BDN6676D	5.79	5.86	13.20	6.60
Ab-R1-021022-05/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN6259A headset	5.93	5.89	12.10	6.05
Ab-R1-021023-09/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NMN1020A headset & BDN6676D	5.85	5.86	13.20	6.60
Ab-R1-021023-08/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	ZMN6031A ear piece & NTN8613A	5.84	5.83	12.50	6.25
Ab-R1-021022-08/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	ZMN6032A ear piece & NTN8613A	5.85	5.91	12.60	6.30
Ab-R1-021023-02/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6780A ear piece & BDN6676D	5.87	5.85	13.00	6.50

Ab-R1-021023-03/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6726A ear piece & BDN6676D	5.88	5.88	13.30	6.65
Ab-R1-021023-04/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6728A ear piece & BDN6676D	5.90	5.85	13.30	6.65
Ab-R1-021023-05/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6729A ear piece & BDN6676D	5.85	5.88	13.20	6.60
Ab-R1-021023-06/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6730A ear piece & BDN6676D	5.78	5.87	13.00	6.50
Ab-R1-021024-07/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NTN1624A comport & BDN6676D	5.88	5.92	13.40	6.70
Ab-R1-021024-08/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NTN1625A comport & BDN6676D	5.93	5.93	13.20	6.60
Ab-R1-021024-09/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NTN1663A comport & BDN6676D	5.92	5.88	13.40	6.70
Ab-R1-021024-10/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	NTN1736A comport & BDN6676D	5.90	5.91	13.30	6.65
Ab-R1-021024-02/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6671B & BDN6678A	5.86	5.89	14.00	**7.00**
Ab-R1-021023-10/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	NTN8266B belt clip	BDN6708B & BDN6678A &0180300E83	5.83	5.86	12.50	6.25
Ab-R1-021023-07/ B212C0011	425	NAE6549	RNN4006A	Against phantom	NTN8266B belt clip	NTN7660B tilt/man down	5.87	5.84	13.60	6.80
Phase IV – Assessment at the abdomen with 2.5cm separation from phantom										
Ab-R1-021025-02/ B212C0011	425	NAE6549	RNN4006A	back of radio @ 2.5cm	None	BDN6671B & BDN6678A	5.79	5.80	8.58	**4.29**
Ab-R1-021025-03/ B212C0011	425	NAE6549	RNN4006A	front of radio @2.5cm	None	BDN6671B & BDN6678A	5.80	5.87	5.84	2.92
Phase V – Assessment at the abdomen w/ PSM										
Ab-R1-021025-04/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	PSM clip	NMN6250A PSM & NTN8327A	5.83	5.80	4.99	2.50
Ab-R1-021025-05/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	PSM clip	NMN6251A PSM & NTN8327A	5.79	5.91	11.30	5.65
Ab-R1-021025-06/ B212C0011	425	NAE6549	RNN4006A	Against Phantom	PSM clip	NMN6247A PSM & NTN8327A	5.92	5.93	11.60	5.80

Ab-R1-021028-12/ B212C0011	380	NAE6549	RNN4006A	Against Phantom	PSM clip	NMN6247A PSM & NTN8327A	5.80	5.93	5.80	2.90
Ab-R1-021028-13/ B212C0011	470	NAE6549	RNN4006A	Against Phantom	PSM clip	NMN6247A PSM & NTN8327A	5.94	5.69	9.52	4.76
Ab-R1-021028-02/ B212C0011	407	NAE6546	NTN8295A	Against Phantom	PSM clip	NMN6250A PSM & NTN8327A	5.81	5.86	8.62	4.31
Ab-R1-021028-03/ B212C0011	407	NAE6546	NTN8295A	Against Phantom	PSM clip	NMN6251A PSM & NTN8327A	5.83	5.85	14.40	**7.20**
Ab-R1-021028-04/ B212C0011	407	NAE6546	NTN8295A	Against Phantom	PSM clip	NMN6247A PSM & NTN8327A	5.87	5.86	13.60	6.80
Ab-R1-021028-10/ B212C0011	380	NAE6546	NTN8295A	Against Phantom	PSM clip	NMN6251A PSM & NTN8327A	5.78	5.91	10.60	5.30
Ab-R1-021028-11/ B212C0011	435	NAE6546	NTN8295A	Against Phantom	PSM clip	NMN6251A PSM & NTN8327A	5.96	5.93	3.87	1.94
Ab-R1-021028-05/ B212C0011	452	NAE6547	NTN8297A	Against Phantom	PSM clip	NMN6250A PSM & NTN8327A	5.94	5.94	12.60	6.30
Ab-R1-021028-06/ B212C0011	452	NAE6547	NTN8297A	Against Phantom	PSM clip	NMN6251A PSM & NTN8327A	5.93	5.97	5.55	2.78
Ab-R1-021028-07/ B212C0011	452	NAE6547	NTN8297A	Against Phantom	PSM clip	NMN6247A PSM & NTN8327A	5.92	5.97	8.91	4.46
Ab-R1-021028-08/ B212C0011	435	NAE6547	NTN8297A	Against Phantom	PSM clip	NMN6251A PSM & NTN8327A	5.89	5.96	9.50	4.75
Ab-R1-021028-09/ B212C0011	470	NAE6547	NTN8297A	Against Phantom	PSM clip	NMN6247A PSM & NTN8327A	5.88	5.88	5.57	2.79

Phase VI - Compliance assessment at the Face (Flat phantom); CW mode										
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. 50% DC (mW/g)**
Phase VI - With antenna NAE6549										
Face-R1-021029-02/ B212C0011	425	NAE6549	RNN4006A	Radio Mic 2.5cm separation	None	None	5.92	5.94	6.58	3.29
Face-R1-021029-05/ B212C0011	425	NAE6549	NTN9183A	Radio Mic 2.5cm separation	None	None	2.18	2.24	2.12	1.06
Face-R1-021029-04/ B212C0011	425	NAE6549	NTN8610B	Radio Mic 2.5cm separation	None	None	5.93	5.78	7.33	**3.68**
Face-R1-021029-03/ B212C0011	425	NAE6549	NTN8294B	Radio Mic 2.5cm separation	None	None	5.95	5.90	7.01	3.51

Face-R1-021029-06/ B212C0011	380	NAE6549	NTN8610B	Radio Mic 2.5cm separation	None	None	5.75	5.85	1.58	0.79
Face-R1-021029-07/ B212C0011	470	NAE6549	NTN8610B	Radio Mic 2.5cm separation	None	None	5.91	5.76	2.92	1.47
Phase VI - With antenna NAE6546										
Face-R1-021029-09/ B212C0011	407	NAE6546	RNN4006A	Radio Mic 2.5cm separation	None	None	5.89	5.69	6.06	3.09
Face-R1-021030-02/ B212C0011	407	NAE6546	NTN9183A	Radio Mic 2.5cm separation	None	None	2.22	2.24	2.17	1.36
Face-R1-021029-08/ B212C0011	407	NAE6546	NTN8610B	Radio Mic 2.5cm separation	None	None	5.83	5.89	7.13	**3.57**
Face-R1-021029-11/ B212C0011	407	NAE6546	NTN8294B	Radio Mic 2.5cm separation	None	None	5.91	5.86	6.97	3.49
Face-R1-021029-10/ B212C0011	407	NAE6546	NTN8295A	Radio Mic 2.5cm separation	None	None	5.86	5.63	6.20	3.19
Face-R1-021030-03/ B212C0011	380	NAE6546	NTN8610B	Radio Mic 2.5cm separation	None	None	5.76	5.98	1.55	0.78
Face-R1-021030-04/ B212C0011	435	NAE6546	NTN8610B	Radio Mic 2.5cm separation	None	None	5.96	5.83	0.91	0.45
Phase VI - With antenna NAD6547										
Face-R1-021030-06/ B212C0011	452	NAE6547	RNN4006A	Radio Mic 2.5cm separation	None	None	5.96	5.90	3.14	1.57
Face-R1-021104-05/ B212C0011	452	NAE6547	NTN9183A	Radio Mic 2.5cm separation	None	None	2.17	2.19	1.11	0.71
Face-R1-021030-05/ B212C0011	452	NAE6547	NTN8610B	Radio Mic 2.5cm separation	None	None	5.96	5.96	1.97	0.99
Face-R1-021030-07/ B212C0011	452	NAE6547	NTN8294B	Radio Mic 2.5cm separation	None	None	5.98	5.90	2.18	1.09
Face-R1-021104-02/ B212C0011	452	NAE6547	NTN8297A	Radio Mic 2.5cm separation	None	None	5.92	5.92	3.37	1.69
Face-R1-021104-03/ B212C0011	435	NAE6547	NTN8297A	Radio Mic 2.5cm separation	None	None	5.96	5.91	6.31	**3.16**
Face-R1-021104-04/ B212C0011	470	NAE6547	NTN8297A	Radio Mic 2.5cm separation	None	None	5.95	4.91	2.10	1.24

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 % = Transmission mode duty cycle in % where applicable

Highest Max. Calc. 1-g Avg. SAR = (14.4x 0.50) = 7.20 mW/g
Note that since the configuration that produced the highest S.A.R. exhibited an end power higher than the initial power the maximum calculated 1-g Avg. S.A.R. formula is reduced to being 50% of the measured S.A.R. This yields a conservative result.

8.0 Conclusion

The highest Operational Maximum Calculated 1-gram average S.A.R. values found for FCC ID: AZ489FT4855

At the abdomen: 7.20 mW/g
At the Face: 3.68 mW/g
At the Head: N/A

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