Certificate Number: 1449-01

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:	March 25, 2004
Report Revision:	Rev. O
Manufacturer:	Motorola
Product Description:	XTS5000 UHF R2; 450-520MHz, 1-5 watts nominal; 6 line display; 512 channel
FCC ID:	**AZ489FT4864**
Device Model:	H18SDH9PW7AN

Test Period:	2/23/04-3/15/04
EME Tech:	Clint Miller
Responsible Eng:	Jim Fortier (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 — 3/25/04

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

Date Approved

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REVISION HISTORY

Date	Revision	Comments
3/25/04	O	Release of 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 H18SDH9PW7AN, FCC ID: AZ489FT4864.

The applicable exposure environment is Occupational/Controlled.

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 Radiocommunications (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: AZ489FT4864 is a conventional analog voice, trunked analog voice, tone PL, or C4FM digital modulated PTT device. The intended operating positions are “at the face” with the DUT 1 to 2 inches from the mouth, and “at the body” by means of the offered body-worn accessories. Audio and PTT operation while the radio is at the body is accomplished by means of optional remote accessories that connect to the radio. The maximum transmit duty cycle is a conservative 50% and is controlled by the user via the PTT function.
This device will be marketed to and used by employees solely for work-related operations, such as public safety agencies, e.g. police, fire and emergency medical. User training is the responsibility of these agencies, which can be expected to employ the usage instructions, safety information and operational cautions set forth in the user's manual, instructional sessions or other means. Motorola also makes available to its customers training classes on the proper use of two-way radios and wireless data devices.

FCC ID: AZ489FT4864 is capable of operating in the 450-520 MHz band. The nominal conducted output power is 1 or 5 watts and the maximum conducted output power is 5.3 watts. Note that when using the alkaline battery the maximum output power is 2.4watts. The stated maximum output powers are as defined by the upper limit of the production line final test station.

FCC ID: AZ489FT4864 is offered with the following options and accessories:

Antenna	**Description**
NAE6549A	¼ wave Whip antenna; 380-520 MHz; 13.208 cm; -2.4 dBi
NAE6547A	¼ wave Helical antenna; 435-470 MHz; 8.255 cm; -2.3 dBi
NAE6548A	¼ wave Helical antenna; 470-512 MHz; 7.899 cm; -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	AA Battery Holder, Clamshell Black (output power limited to 2.4W)
NTN9183A	AA Battery Holder, Clamshell Orange, same as NTN9177 (output power limited to 2.4W)
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.
NTN5243A	Shoulder Strap
NTN6875A	3 ½ inch belt clip kit

Applicable Audio accessories

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
RMN5023A	Enhanced Remote Speaker Microphone
RMN5025A	Enhanced Remote Speaker Microphone
RMN5021A	Enhanced Remote Speaker Microphone
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

Other applicable options:

NA

3.1 Test Signal

Test Signal mode:

Test Mode	X	Base Station		Simulator	

Transmission Mode:

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

3.2 Test Output Power

A table of the characteristic power slump versus time is provided in Appendix A for the worst case tested battery.

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 ET3DV6R/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. 1-g S.A.R. Result when normalized to 1W (mW/g)	Reference 1-g S.A.R @ 1W (mW/g)	Test Date(s)
1393	FCC Body	4/16/03	D450V2/1001	4.505 +/- 0.225	4.61 +/- 10%	2/23/04-3/8/04 (12 test days)
1393	IEEE Head	4/16/03	D450V2/1001	4.58 +/- 0.120	4.85 +/- 10%	3/11/04-3/15/04 (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 S.A.R. EME compliance was calibrated according to 17025 A2LA guidelines.

4.2 Description of Phantom

4.2.1 Flat Phantom

A rectangular shaped box made of high-density polyethylene (HDPE) with a dielectric constant of 2.26 and a loss tangent of less than 0.00031. The phantom is mounted on a wooden supporting structure that has a loss tangent of < 0.05. The structure has a 68.58 cm x 20.32 cm opening at its center to allow positioning the DUT to the phantom's surface. The flat phantom dimensions used for S.A.R. performance assessment are L = 80cm, W = 30cm, H = 20cm, Surface Thickness = 0.2cm.

4.2.2 SAM Phantom

NA

4.3 Simulated Tissue Properties

4.3.1 Type of Simulated Tissue

The simulated tissues used are 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
IEEE Head	Head/Face

4.3.2 Simulated Tissue Composition (System Performance)

	Tissue Ingredients (%)					
	450MHz		NA		NA	
	Head	Body	Head	Body	Head	Body
Sugar	56.0	46.5	NA	NA	NA	NA
DGBE (Glycol)	NA	NA	NA	NA	NA	NA
De ionized -Water	39.1	50.53	NA	NA	NA	NA
Salt	3.8	1.87	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.

Tested Tissue Target 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	54.9-56.6	0.94	0.91-0.95
485	56.6	55.0-56.3	0.94	0.94-0.98

IEEE Head				
Frequency (MHz)	**Di-electric Constant Target**	**Di-electric Constant Meas. (Range)**	**Conductivity Target S/m**	**Conductivity Meas. (Range) S/m**
450	43.5	44.3-44.8	0.87	0.86-0.88
485	43.3	43.6-44.1	0.87	0.88-0.91

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: 20.0-22.8˚C Avg. 21.5˚C
Relative Humidity	30 - 70 %	Range: 40.2-58.0% Avg. 47.5%
Tissue Temperature	NA	Range: 19.0-20.8˚C Avg. 19.9˚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 body and in front of the face in CW mode.

Assessments at the body (450-520 MHz)

The DUT was assessed at the center frequency of all offered antennas, in CW mode, using battery model NTN8295A, belt clip model NTN8266B, and RSM model NMN6191C.

The DUT was assessed at the center frequency of the antenna with highest S.A.R. results from above, in CW mode, with each of the other offered batteries, with belt clip model NTN8266B, and audio accessory model NMN6191C.

The DUT was assessed at the center frequency of the antenna from above, in CW mode, with each of the other offered body worn accessories, using the battery with the highest S.A.R. results from above, along with the audio accessory model NMN6191C.

The DUT was assessed at the center frequency of the antenna from above, in CW mode, with each of the other applicable offered audio accessories, using the battery and body worn accessory with the highest S.A.R. results from above.

The DUT was assessed at the band edges of the antenna tested above as well as across the frequency band of all the other offered antennas not tested in the audio accessories assessment, in CW mode, using the audio accessories, batteries, and body worn accessory that exhibited the worst case performance.

The DUT was assessed at the center frequency of the worst case antenna, in CW mode, using the worst case antenna, and audio accessory from above with the back and front of the DUT separated 2.5cm from the phantom.

The DUT was assessed using PSM model NMN6250A and belt clip, at the center frequency of each applicable antenna, with the worst case battery from above.

The DUT was assessed using PSM model NMN6251A and belt clip, using the worst case configuration from above.

The DUT was assessed using PSM model NMN6247A and belt clip, using the worst case configuration from above.

The DUT was assessed at the band edges of each applicable PSM antenna using the worst case PSM model assessed above.

Assessments at the face (450-520MHz)

The DUT was assessed at the center frequency of antenna model NAE6549A, in CW mode, with 2.5 cm separation from the phantom, using each of the offered batteries.

The DUT was assessed at the center frequency of antenna model NAE6549A, in CW mode, with 2.5 cm separation from the phantom, with the applicable audio accessory attachments using the worst case battery from above.

DUT was assessed at the band edges of the antenna assessed above as well as across the frequency band of all the other offered antennas, in CW mode, with 2.5 cm separation from the phantom, using the worst case battery from the assessment above.

Shortened scan assessment at the Body

A "shortened" scan assessment was done using the test configuration from above that produced the highest S.A.R. results overall at the body.

5.1 Device Test Positions

Reference Figure 1 for the device orientation and position which exhibits the highest S.A.R. performance.

5.1.1 Body

The DUT was positioned such that it was centered against the flat phantom with the offered body worn accessories and applicable attachments. The DUT was positioned with its back towards the phantom with the housing 2.5cm from the flat phantom and with its front housing at 2.5cm from the flat phantom.

5.1.2 Head

NA

5.1.3 Face

The DUT was placed with 2.5cm separation from the phantom.

5.2 Test Position Photographs

Figure 1. Highest SAR Test Position @ the body.
DUT with belt clip against the phantom. With attached audio accessory NTN1663A (w/ NKN6512A & BDN6676D)
Same position used with all applicable audio accessory attached

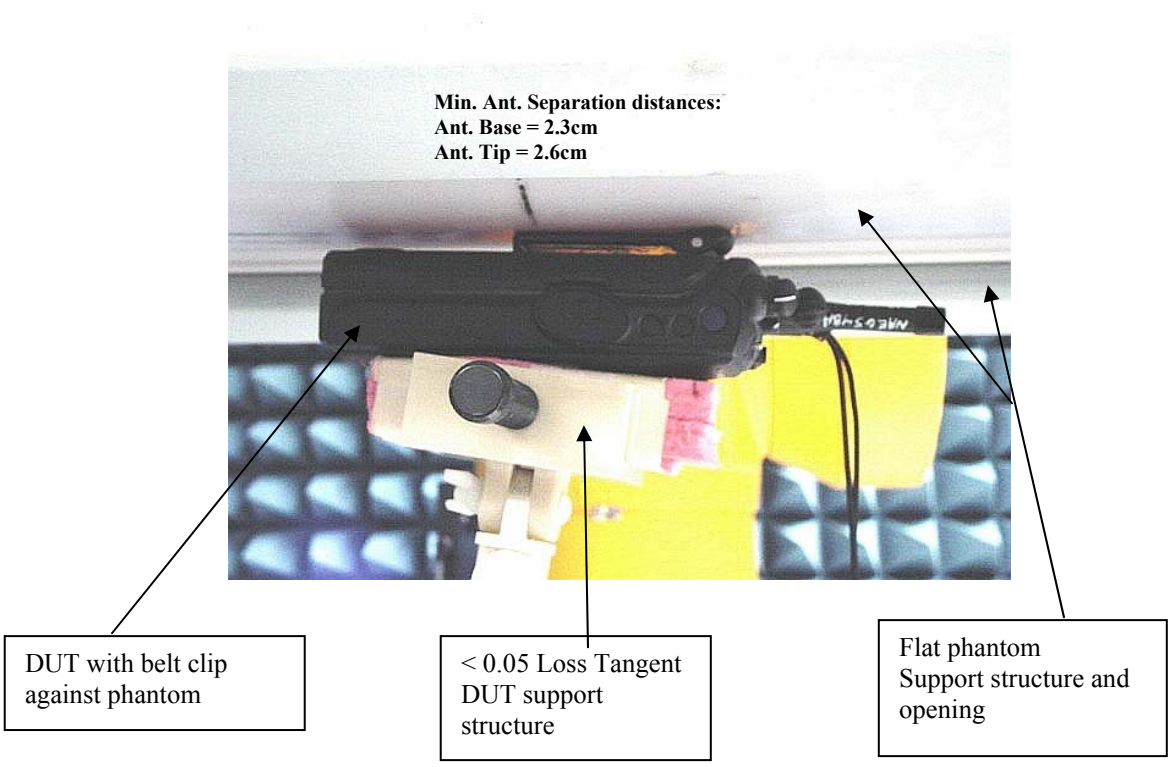


Figure 2. Assessment @ the body.
DUT with carry case accessory model NTN9179A (w/ NTN9212A & NTN9213A) against the phantom,
With attached audio accessory NMN6191C

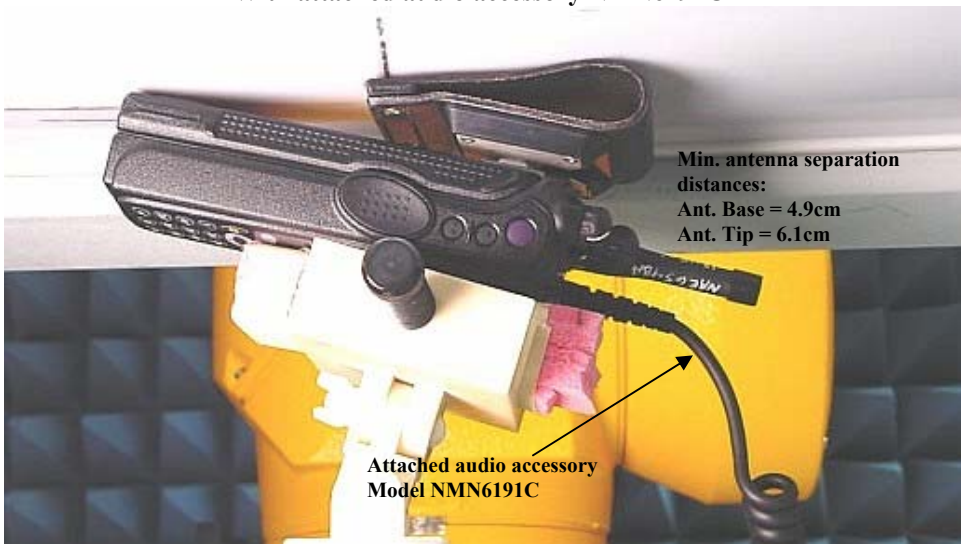


Figure 3. Assessment @ body.
DUT with carry case accessory model NTN8381C against the phantom with attached audio accessory model NMM6191C.

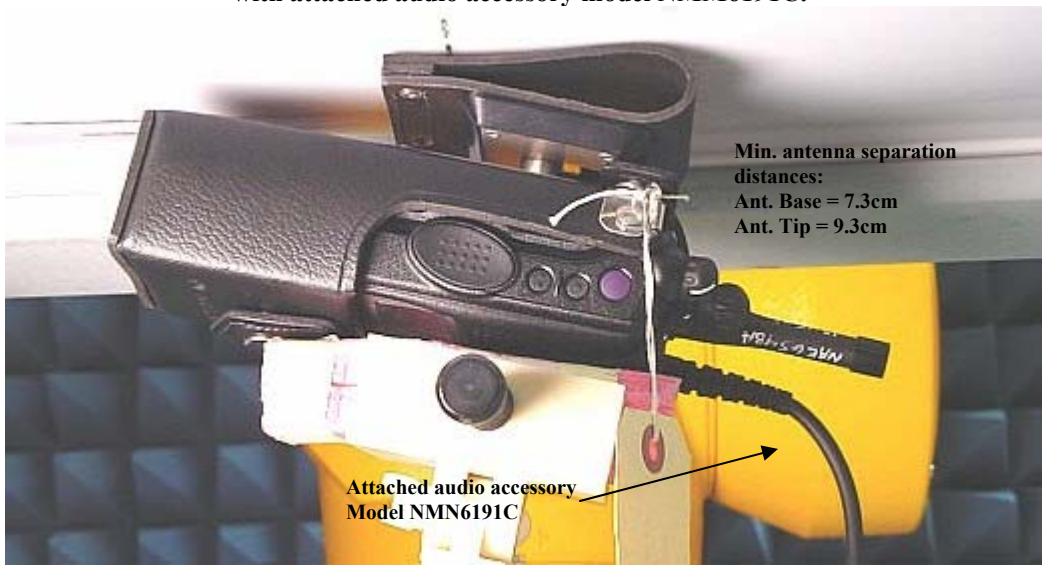


Figure 4. Assessment @ the body.
DUT with carry case accessory model NTN9184A against the phantom With attached audio accessory model NMN6191C

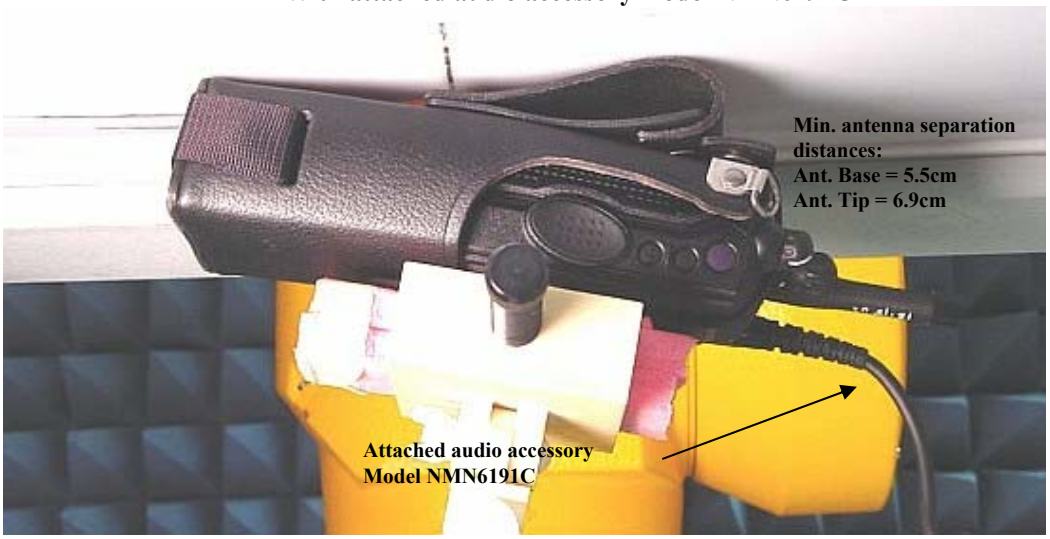


Figure 5. Assessment @ the body.
DUT with carry case accessory model NTN8382B against the phantom
With attached audio accessory model NMN6191C

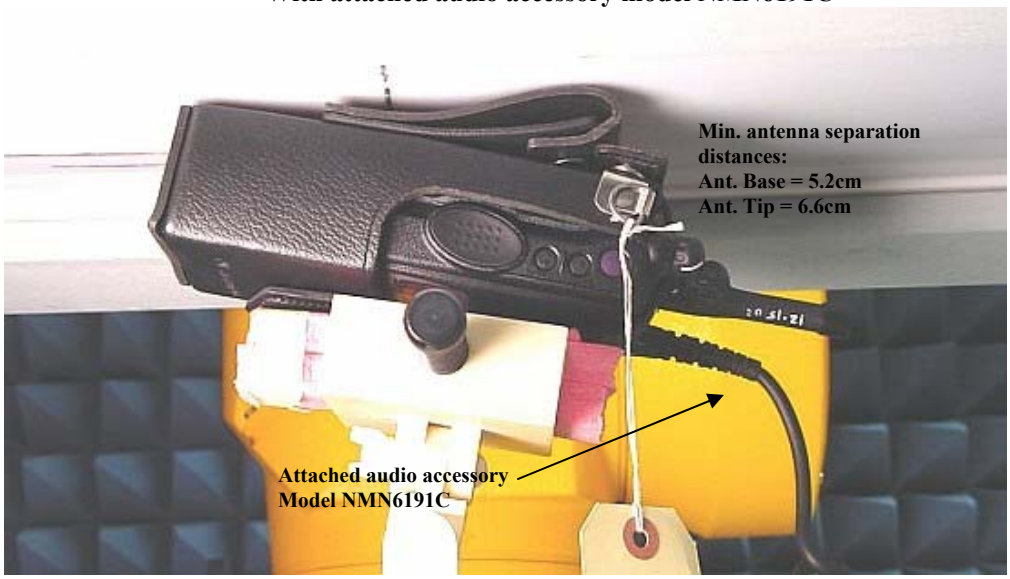


Figure 6. Assessment @ the body.
DUT with carry case accessory model NTN8385A(w/ 2.5" swivel) against the phantom.
With attached audio accessory model NMN6191C

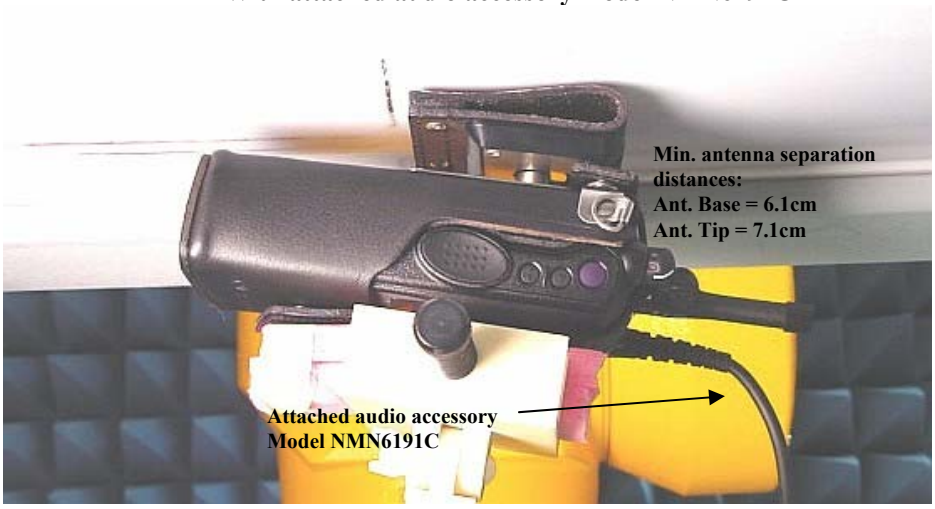


Figure 7. Assessment @ body.
DUT with carry case accessory model NTN8385B (w/ 3" swivel) against the phantom
With attached audio accessory model NMN6191C

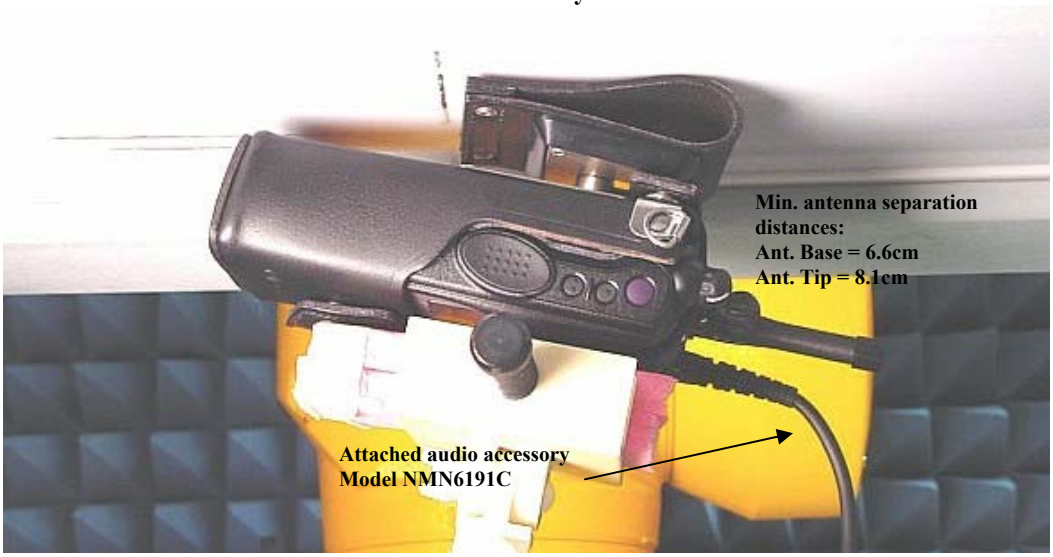


Figure 8. Assessment @ the body.
DUT with carry case accessory model NTN8387A against the phantom
With attached audio accessory model NMN6191C and shoulder strap model NTN5243A

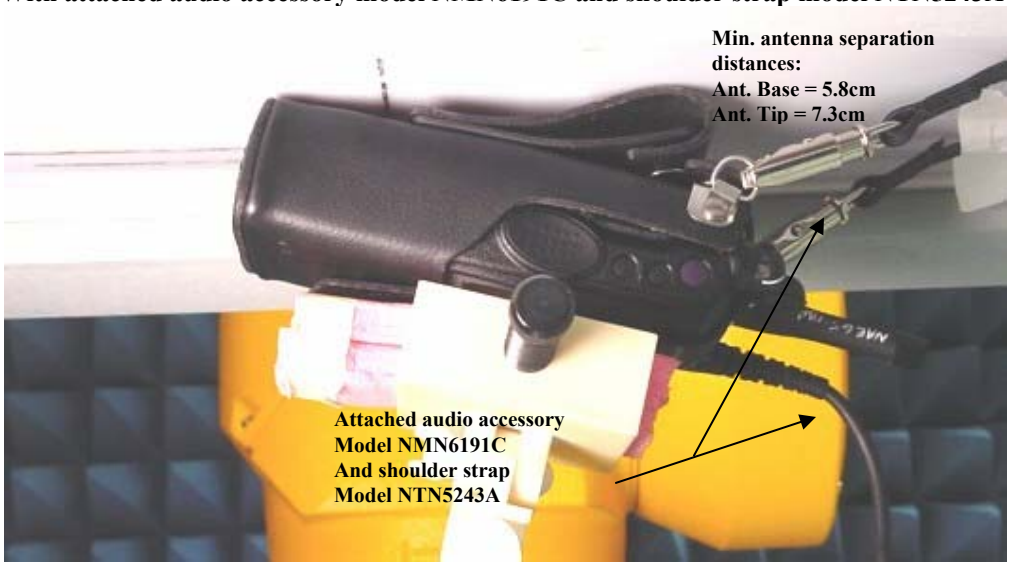


Figure 9. Assessment @ the body.
DUT with carry case accessory model NTN8380B (w/ NTN8039B belt loop) against the phantom
With attached audio accessory model NMN6191C

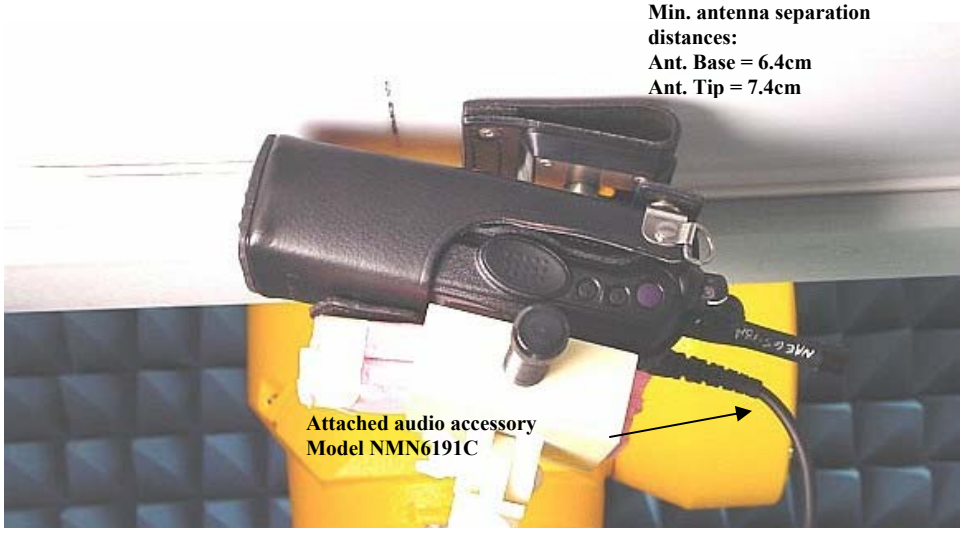


Figure 10. Assessment @ the body.
DUT with carry case accessory model NTN8725A (w/ NTN8383A T-Strap) against the phantom
With attached audio accessory model NMN6191C

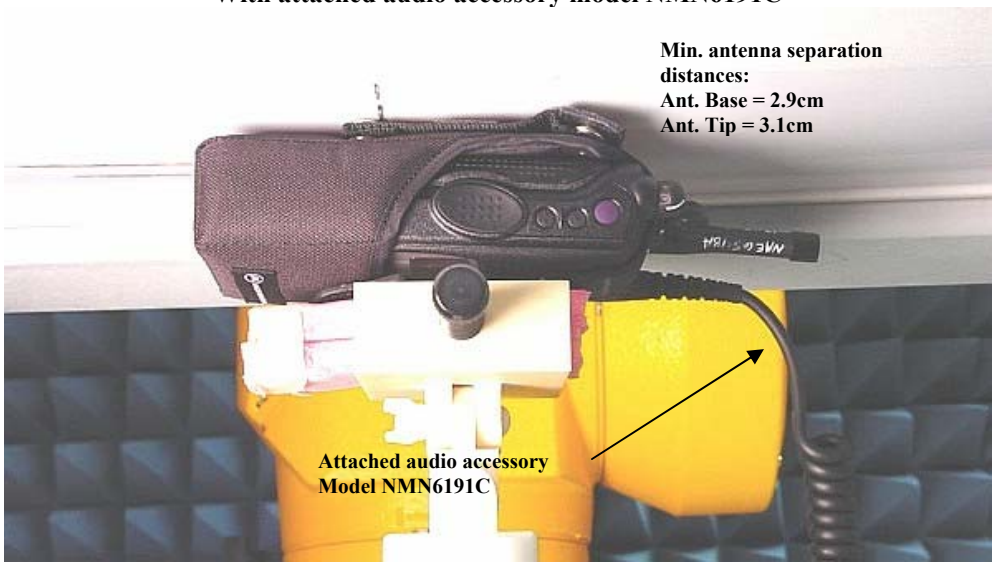
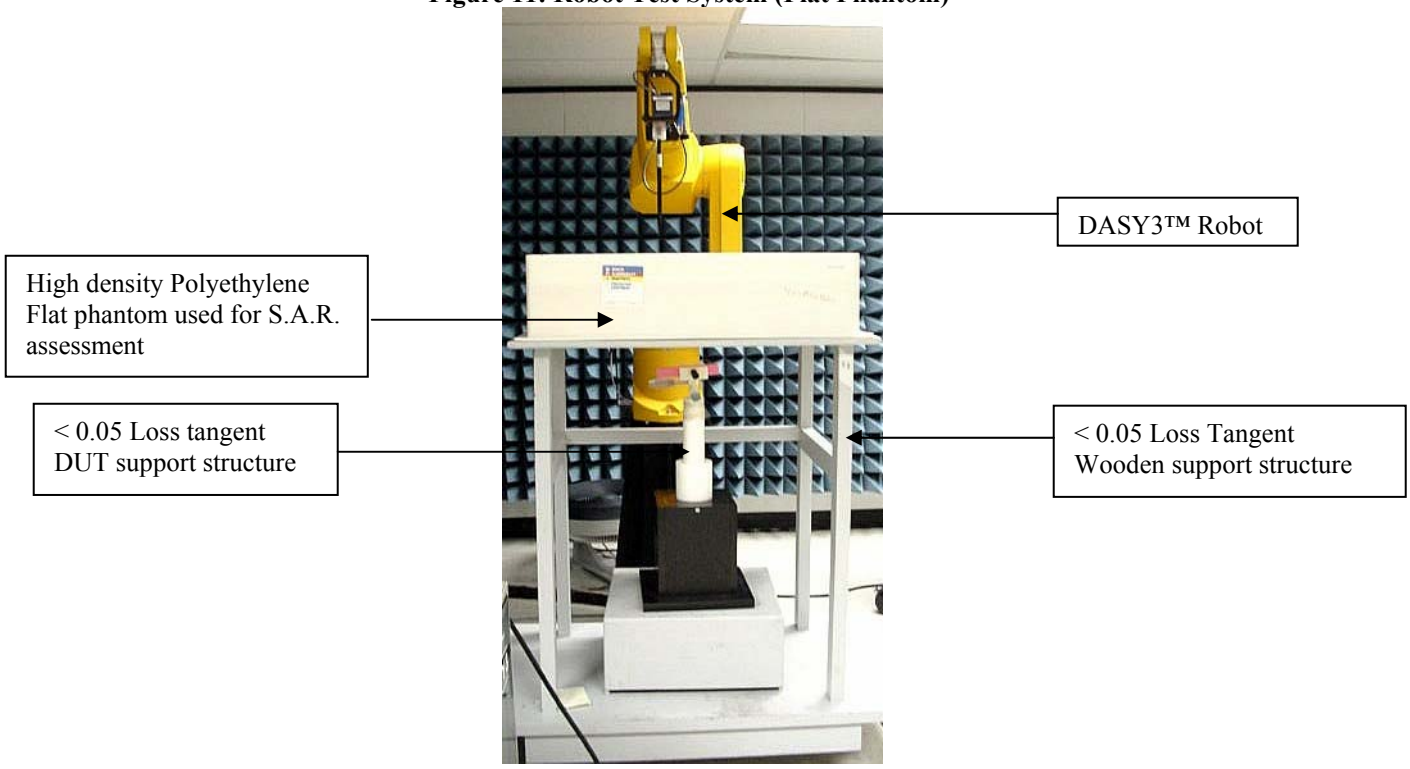


Figure 11: Robot Test System (Flat Phantom)



5.3 Probe Scan Procedures

The E-field probe scans 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: 75 – 3000 MHz

a	*b*	*c*	*d*	*e = f(d,k)*	*f*	*g*	*h = c x f / e*	*i = c x g / e*	*k*
Uncertainty Component	IEEE 1528 section	**Tol. (± %)**	**Prob Dist**	**Div.**	c_i **(1 g)**	c_i **(10 g)**	**1 g** u_i **(±%)**	**10 g** u_i **(±%)**	v_i
Measurement System									
Probe Calibration	E.2.1	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	∞
Hemispherical Isotropy	E.2.2	9.6	R	1.73	0.707	0.707	3.9	3.9	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	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 - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mech. Tolerance	E.6.2	1.0	R	1.73	1	1	0.6	0.6	∞
Probe Positioning w.r.t Phantom	E.6.3	4.0	R	1.73	1	1	2.3	2.3	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Test sample Related									
Test Sample Positioning	E.4.2	3.4	N	1.00	1	1	3.4	3.4	29
Device Holder Uncertainty	E.4.1	3.8	N	1.00	1	1	3.8	3.8	8
SAR drift	6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	6.5	N	1.00	0.64	0.43	4.2	2.8	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	4.0	N	1.00	0.6	0.49	2.4	2.0	∞
Combined Standard Uncertainty			RSS				12	11	601
Expanded Uncertainty (95% CONFIDENCE LEVEL)			*k*=2				23	22	

Table 2: Uncertainty Budget for System Check: 75 – 3000 MHz

a	*b*	*c*	*d*	*e = f(d,k)*	*f*	*g*	*h = c x f / e*	*i = c x g / e*	*k*
		Tol.	Prob.		c_i	c_i	1 g	10 g	
	IEEE 1528	(± %)	Dist.		(1 g)	(10 g)	u_i	u_i	
Uncertainty Component	section			Div.			(±%)	(±%)	v_i
Measurement System									
Probe Calibration	E.2.1	4.8	N	1.00	1	1	4.8	4.8	∞
Axial Isotropy	E.2.2	4.7	R	1.73	1	1	2.7	2.7	∞
Spherical Isotropy	E.2.2	9.6	R	1.73	0	0	0.0	0.0	∞
Boundary Effect	E.2.3	1.0	R	1.73	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	R	1.73	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1.0	R	1.73	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	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 - Noise	E.6.1	3.0	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	0.0	R	1.73	1	1	0.0	0.0	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	R	1.73	1	1	0.2	0.2	∞
Probe Positioning w.r.t. Phantom	E.6.3	1.4	R	1.73	1	1	0.8	0.8	∞
Max. SAR Evaluation (ext., int., avg.)	E.5	3.4	R	1.73	1	1	2.0	2.0	∞
Dipole									
Dipole Axis to Liquid Distance	8, E.4.2	2.0	R	1.73	1	1	1.2	1.2	∞
Input Power and SAR Drift Measurement	8, 6.6.2	5.0	R	1.73	1	1	2.9	2.9	∞
Phantom and Tissue Parameters									
Phantom Uncertainty	E.3.1	4.0	R	1.73	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measurement)	E.3.3	6.0	R	1.73	0.64	0.43	2.2	1.5	∞
Liquid Permittivity (target)	E.3.2	5.0	R	1.73	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measurement)	E.3.3	6.0	R	1.73	0.6	0.49	2.1	1.7	∞
Combined Standard Uncertainty			RSS				9	8	99999
Expanded Uncertainty (95% CONFIDENCE LEVEL)			*k*=2				17	17	

Notes for Tables 1 and 2
a) Column headings *a-k* are given for reference.
b) Tol. - tolerance in influence quantity.
c) Prob. Dist. – Probability distribution
d) N, R - normal, rectangular probability distributions
e) Div. - divisor used to translate tolerance into normally distributed standard uncertainty
f) *ci* - sensitivity coefficient that should be applied to convert the variability of the uncertainty component into a variability of SAR.
g) *ui* – SAR uncertainty
h) *vi* - degrees of freedom for standard uncertainty and effective degrees of freedom for the expanded uncertainty.

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 shortened S.A.R. cube scans 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

DUT assessment at the body; CW mode; 450-520 MHz												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Antenna search assessment along with belt clip and RSM												
JF-0402223-07/441	NAE6549A	485.0250	NTN8295A	Against phantom	NTN8266B	NMN6191C	5.220	-0.460	8.610	6.300	4.86	3.56
JF-040224-02/441	NAE6547A	460.0250	NTN8295A	Against phantom	NTN8266B	NMN6191C	5.140	-0.710	7.380	5.030	4.48	3.05
JF-040224-03/441	NAE6548A	495.0250	NTN8295A	Against phantom	NTN8266B	NMN6191C	5.300	-0.290	10.700	7.270	**5.72**	3.89
Battery assessment with worst case antenna from above along with belt clip and RSM												
JF-040224-09/441	NAE6548A	495.0250	NNTN4435B	Against phantom	NTN8266B	NMN6191C	5.280	-0.260	10.500	7.630	5.60	4.07
JF-040224-11/441	NAE6548A	495.0250	NTN8294B	Against phantom	NTN8266B	NMN6191C	5.280	-0.370	9.930	7.280	5.43	3.98
JF-040226-05/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B	NMN6191C	5.250	-0.330	10.700	7.300	**5.83**	3.98
JF-040224-08/441	NAE6548A	495.0250	NTN8299B	Against phantom	NTN8266B	NMN6191C	5.280	-0.260	10.600	7.180	5.65	3.83
JF-040224-05/441	NAE6548A	495.0250	NTN8923A	Against phantom	NTN8266B	NMN6191C	5.290	-0.360	9.800	7.200	5.33	3.92
JF-040224-04/441	NAE6548A	495.0250	HNN9031A	Against phantom	NTN8266B	NMN6191C	5.270	-0.280	10.200	6.890	5.47	3.70
JF-040226-03/441	NAE6548A	495.0250	HNN9032A	Against phantom	NTN8266B	NMN6191C	5.260	-0.310	9.890	6.790	5.35	3.67
JF-040224-06/441	NAE6548A	495.0250	RNN4006A	Against phantom	NTN8266B	NMN6191C	5.280	-0.320	10.500	7.120	5.67	3.85
JF-040224-10/441	NAE6548A	495.0250	RNN4007A	Against phantom	NTN8266B	NMN6191C	5.280	-0.280	10.400	7.030	5.57	3.76
JF-040226-06/441	NAE6548A	495.0250	NTN8610B	Against phantom	NTN8266B	NMN6191C	5.230	-0.420	9.300	6.460	5.19	3.61
JF-040226-07/441	NAE6548A	495.0250	NTN9183A (AA pack)	Against phantom	NTN8266B	NMN6191C	2.110	-0.060	2.810	2.060	1.62	1.19

JF-040224-07/441	NAE6548A	495.0250	NNTN4436A	Against phantom	NTN8266B	NMN6191C	5.260	-0.300	10.300	6.850	5.56	3.70

DUT assessment at the body; CW mode; 450-520 MHz (Continued)												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Other body worn accessories assessment with worst case configuration from above												
JF-040227-09/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN9179A (NTN9212A & NTN9213A)	NMN6191C	5.250	-0.340	6.200	4.580	3.38	2.50
JF-040227-04/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8381C	NMN6191C	5.280	-0.350	2.850	2.140	1.55	1.16
JF-040227-02/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN9184A	NMN6191C	5.260	-0.460	3.850	2.880	2.16	1.61
JF-040227-03/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8382B	NMN6191C	5.280	-0.350	4.660	3.470	2.54	1.89
JF-040227-05/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8385B	NMN6191C	5.290	-0.400	2.970	2.230	1.63	1.22
JF-040227-06/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8385B w/NTN8040B	NMN6191C	5.250	-0.410	2.700	2.030	1.50	1.13
JF-040227-08/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8387A/ NTN5243A	NMN6191C	5.270	-0.330	4.040	3.010	2.19	1.63
JF-040227-07/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8380B w/NTN8039B	NMN6191C	5.250	-0.400	2.940	2.220	1.63	1.23
JF-040226-08/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8725A w/NTN8383A	NMN6191C	5.240	-0.440	8.600	6.350	**4.81**	3.55
Other audio accessories assessment with worst case configuration from above.												
JF-040301-02/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6246B w/ BDN6676D adapter	5.250	-0.360	10.200	7.520	5.59	4.12
JF-040301-03/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6671B w/BDN6641A	5.260	-0.350	10.100	7.410	5.52	4.05
JF-040301-04/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6258A	5.290	-0.300	9.860	6.680	5.29	3.59
JF-040301-05/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	RMN5021A	5.260	-0.340	10.100	6.940	5.50	3.78
JF-040301-06/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6668A w/ BDN6676D	5.250	-0.360	10.100	6.910	5.54	3.79
JF-040301-07/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6667A w/ BDN6676D	5.260	-0.120	10.700	7.290	5.54	3.78
JF-040301-08/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6780A w/ BDN6676D	5.260	-0.430	10.100	7.470	5.62	4.16
JF-040301-09/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.260	-0.510	10.800	7.960	**6.12**	4.51
JF-040301-10/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6245A w/ BDN6676D	5.270	-0.400	10.600	7.770	5.84	4.28

JF-040302-02/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6259A	5.250	-0.360	10.600	7.200	5.81	3.95

DUT assessment at the body; CW mode; 450-520 MHz												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Other audio accessories assessment with worst case configuration from above (continued)												
JF-040302-03/441	NAE6548A	495.0250	NTN8297A		NTN8266B belt clip	BDN6635B w/ BDN6673B adaptor	5.280	-0.300	9.790	7.210	5.26	3.88
JF-040302-04/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6636B w/ BDN6673B adaptor	5.270	-0.300	10.200	7.530	5.50	4.06
JF-040302-05/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	RMN4049A	5.290	-0.360	10.100	6.790	5.50	3.70
JF-040302-06/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6729A w/ BDN6676D	5.260	-0.370	9.690	6.560	5.32	3.60
JF-040302-07/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6730A w/ BDN6676D	5.270	-0.390	10.800	7.300	5.94	4.02
JF-040302-08/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1625A w/ NKN6508A & BDN6676D	5.260	-0.340	10.400	7.640	5.67	4.16
JF-040303-02/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1663A w/ NKN6512A & BDN6676D	5.250	-0.410	11.000	8.070	6.10	4.48
JF-040303-03/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1736A w/ NKN6525A & BDN6676D	5.280	-0.350	9.720	7.160	5.29	3.90
JF-040303-04/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6645A w/ BDN6673B	5.280	-0.260	10.100	7.080	5.38	3.77
JF-040303-05/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	RMN5023A	5.290	-0.320	10.100	6.930	5.45	3.74
JF-040304-02/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	RMN5025A	5.250	-0.420	10.200	6.930	5.67	3.85
JF-040304-03/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	RMN5026A	5.250	-0.350	10.300	7.000	5.64	3.83
JF-040304-04/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6193BSP 03	5.280	-0.350	10.400	7.040	5.66	3.83
JF-040304-05/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6193BSP 04	5.270	-0.450	10.400	7.020	5.80	3.92
JF-040304-06/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN6193C	5.290	-0.370	10.500	7.130	5.73	3.89
JF-040304-07/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6708B w/ BDN6678A & 0180300E83	5.250	-0.350	10.500	7.210	5.74	3.94
JF-040304-08/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	BDN6671B w/ BDN6641A & 0180300E83	5.260	-0.390	10.200	7.010	5.62	3.86
JF-040304-09/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	ZMN6038A w/ NTN8613A	5.260	-0.390	10.100	7.450	5.57	4.11
JF-040304-10/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	ZMN6039A w/ NTN8613A	5.290	-0.480	9.910	6.810	5.54	3.81
JF-040304-11/441	NAE6548A	495.0250	NTN8297A	Against phantom	NTN8266B belt clip	NMN1020A w/ BDN6676D, NKN6498A & NKN6050A	5.280	-0.670	10.400	6.960	6.09	4.08

DUT assessment at the body; CW mode; 450-520 MHz (continued)												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessment across the band of each offered antenna using the audio accessories, batteries, and body worn accessory that exhibited worst case performance (Center freq of antenna model NAE6548A tested above)												
JF-040305-08/441	NAE6549A	450.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.220	-0.710	10.000	7.010	5.98	4.19
JF-040305-09/441	NAE6549A	485.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.270	-0.420	9.110	6.280	5.05	3.48
JF-040305-10/441	NAE6549A	519.9750	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.170	-0.180	5.890	4.340	3.15	2.32
JF-040305-05/441	NAE6547A	450.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.210	-1.090	9.170	6.310	5.99	4.13
JF-040305-06/441	NAE6547A	460.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.200	-1.350	6.890	4.750	4.79	3.30
JF-040305-07/441	NAE6547A	469.9250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.170	-0.480	5.950	4.130	3.41	2.36
JF-040305-02/441	NAE6548A	471.0250	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.210	-0.100	12.400	8.500	6.45	4.42
JF-040226-02/441	NAE6548A	471.0250	NTN8295A	Against phantom	NTN8266B belt clip	NTN1663A w/ NKN6512A& BDN6676D	5.210	-0.080	13.500	9.200	6.99	4.77
JF-040305-03/441	NAE6548A	511.9750	NTN8297A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.150	-0.360	7.290	5.360	4.08	3.00
JF-040310-06/40	NAE6548A	471.0250	NTN8295A	Against phantom	NTN8266B belt clip	NTN1624A w/ BDN6676D	5.170	-0.260	13.300	8.940	7.24	4.87
JF-040310-05/40	NAE6548A	471.0250	NTN8295A	Against phantom	NTN8266B belt clip	NTN1663A w/ NKN6512A& BDN6676D	5.160	-0.310	13.300	9.030	**7.34**	4.98

Assessment at the body; 2.5cm separation; CW mode; 450-520 MHz												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
JF-040308-03/441	NAE6548A	471.0250	NTN8295A	DUT back 2.5cm	None	NTN1663A w/ NKN6512A & BDN6676D	5.220	-0.150	7.080	5.260	**3.72**	2.76
JF-040308-04/441	NAE6548A	471.0250	NTN8295A	DUT front 2.5cm	None	NTN1663A w/ NKN6512A & BDN6676D	5.220	-0.200	5.490	4.120	2.92	2.19

Assessment at the body; PSM accessory; CW mode; 450-520 MHz												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessments of applicable antennas with offered PSM models												
JF-040308-05/441	NAE6549A	485.0250	NTN8295A	Against phantom	PSM belt clip	NMN6250A	5.220	-0.270	9.730	6.940	**5.26**	3.75
JF-040308-06/441	NAE6547A	460.0250	NTN8295A	Against phantom	PSM belt clip	NMN6250A	5.180	-0.520	8.950	6.380	5.16	3.68
JF-040308-07/441	NAE6549A	485.0250	NTN8295A	Against phantom	PSM belt clip	NMN6251A	5.220	-0.110	10.000	7.080	5.21	3.69
JF-040308-08/441	NAE6549A	485.0250	NTN8295A	Against phantom	PSM belt clip	NMN6247A	5.220	-0.260	8.980	6.450	4.84	3.48
Assessment of band edges of applicable PSM antennas												
JF-040310-03/441	NAE6547A	450.0250	NTN8295A	Against phantom	PSM belt clip	NMN6250A	5.230	-0.020	10.200	7.260	**5.19**	3.70
JF-040310-04/441	NAE6547A	469.9250	NTN8295A	Against phantom	PSM belt clip	NMN6250A	5.190	-0.750	7.730	5.470	4.69	3.32
JF-040308-09/441	NAE6549A	450.0250	NTN8295A	Against phantom	PSM belt clip	NMN6250A	5.230	-0.050	9.740	7.020	4.99	3.60
JF-040310-02/441	NAE6549A	519.9750	NTN8295A	Against phantom	PSM belt clip	NMN6250A	5.150	-0.150	6.660	4.710	3.55	2.51

DUT assessment at the Face; 2.5cm separation; 450-520 MHz												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
Assessment of offered batteries and applicable audio accessories with antenna model NAE6549A												
JF-040311-02/441	NAE6549A	485.0250	NTN8295A	DUT front 2.5cm	None	None	5.220	-0.150	3.330	2.470	1.75	1.30
JF-040311-03/441	NAE6549A	485.0250	NNTN4435B	DUT front 2.5cm	None	None	5.220	-0.220	3.340	2.470	1.78	1.32
JF-040311-04/441	NAE6549A	485.0250	NTN8294B	DUT front 2.5cm	None	None	5.280	-0.150	3.320	2.460	1.72	1.28
JF-040311-05/441	NAE6549A	485.0250	NTN8297A	DUT front 2.5cm	None	None	5.250	-0.170	3.380	2.500	1.77	1.31
JF-040311-06/441	NAE6549A	485.0250	NTN8299B	DUT front 2.5cm	None	None	5.220	-0.200	3.310	2.450	1.76	1.30
JF-040311-07/441	NAE6549A	485.0250	NTN8923A	DUT front 2.5cm	None	None	5.230	-0.180	3.360	2.490	1.77	1.32

DUT assessment at the Face; 2.5cm separation; 450-520 MHz (continued)												
Run Number/ SN	**Antenna model**	**Freq. (MHz)**	**Battery**	**Test position**	**Carry Case**	**Additional attachments**	**Initial Power (W)**	**S.A.R. Drift (dB)**	**Meas. 1g-S.A.R. (mW/g)**	**Meas. 10g-S.A.R. (mW/g)**	**Max Calc. 1g-S.A.R. (mW/g)**	**Max Calc. 10g-S.A.R. (mW/g)**
JF-040311-08/441	NAE6549A	485.0250	HNN9031A	DUT front 2.5cm	None	None	5.270	-0.170	3.390	2.510	1.77	1.31
JF-040311-09/441	NAE6549A	485.0250	HNN9032A	DUT front 2.5cm	None	None	5.230	-0.200	3.390	2.520	**1.80**	1.34
JF-040311-10/441	NAE6549A	485.0250	RNN4006A	DUT front 2.5cm	None	None	5.250	-0.180	3.370	2.500	1.77	1.32
JF-040312-02/441	NAE6549A	485.0250	RNN4007A	DUT front 2.5cm	None	None	5.240	-0.260	3.300	2.440	1.77	1.31
JF-040312-03/441	NAE6549A	485.0250	NNTN4436A	DUT front 2.5cm	None	None	5.230	-0.230	3.320	2.460	1.77	1.31
JF-040312-04/441	NAE6549A	485.0250	NTN8610B	DUT front 2.5cm	None	None	5.240	-0.260	3.360	2.490	1.80	1.34
JF-040312-05/441	NAE6549A	485.0250	NTN9183A (AA pack)	DUT front 2.5cm	None	None	2.390	-0.360	2.540	1.880	1.39	1.03
JF-040312-06/441	NAE6549A	485.0250	HNN9032A	DUT front 2.5cm	None	BDN6728A w/ BDN6676D	5.230	-0.240	2.810	2.070	1.50	1.11
JF-040312-07/441	NAE6549A	485.0250	HNN9032A	DUT front 2.5cm	None	BDN6666A w/ BDN6676D	5.250	-0.280	2.790	2.070	1.50	1.11
JF-040312-08/441	NAE6549A	485.0250	HNN9032A	DUT front 2.5cm	None	BDN6665A w/ BDN6676D	5.250	-0.190	2.580	1.900	1.36	1.00
JF-040312-09/441	NAE6549A	485.0250	HNN9032A	DUT front 2.5cm	None	BDN6781A w/ BDN6676D	5.240	-0.260	3.230	2.390	1.73	1.28
JF-040312-10/441	NAE6549A	485.0250	HNN9032A	DUT front 2.5cm	None	NTN7660B	5.240	-0.170	3.360	2.490	1.77	1.31
Assessment across the band of the other offered antennas with worst case battery from above												
JF-040315-03/441	NAE6549A	450.0250	HNN9032A	DUT front 2.5cm	None	None	5.240	-0.200	4.740	3.550	2.51	1.88
JF-040315-04/441	NAE6549A	519.9750	HNN9032A	DUT front 2.5cm	None	None	5.120	-0.170	1.920	1.420	1.03	0.76
JF-040315-05/441	NAE6547A	450.0250	HNN9032A	DUT front 2.5cm	None	None	5.240	0.040	4.890	3.650	2.47	1.85
JF-040315-06/441	NAE6547A	460.0250	HNN9032A	DUT front 2.5cm	None	None	5.190	-0.250	3.810	2.850	2.04	1.53
JF-040315-07/441	NAE6547A	469.9250	HNN9032A	DUT front 2.5cm	None	None	5.230	-0.310	2.760	2.060	1.50	1.12
CM-040315-08/441	NAE6548A	471.0250	HNN9032A	DUT front 2.5cm	None	None	5.200	0.080	6.710	5.000	**3.42**	2.55
CM-040315-09/441	NAE6548A	495.0250	HNN9032A	DUT front 2.5cm	None	None	5.240	-0.270	4.640	3.440	2.50	1.85
CM-040315-10/441	NAE6548A	511.9750	HNN9032A	DUT front 2.5cm	None	None	5.150	-0.300	2.700	1.990	1.49	1.10

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:

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 that the use of the above formula should consider the relationship between the initial power, max power, and drift.

8.0 Conclusion

The highest Operational Maximum Calculated 1-gram and 10-gram average S.A.R. values found for FCC ID: AZ489FT4864 model H18SDH9PW7AN.

At the Body: **1-g Avg. = 7.34 mW/g; 10-g Avg. = 4.98 mW/g**
At the Face: **1-g Avg. = 3.42 mW/g; 10-g Avg. = 2.55 mW/g**

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