



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


## FCC/IC SAR TEST REPORT - UHF BAND


RF EXPOSURE EVALUATION	SPECIFIC ABSORPTION RATE				
APPLICANT / MANUFACTURER	HARRIS CORPORATION - RF COMMUNICATIONS DIVISION				
DEVICE UNDER TEST (DUT)	PORTABLE PTT MULTI-BAND RADIO TRANSCEIVER				
DEVICE MODEL(S)	UNITY XG-100P				
TRANSMIT FREQUENCY BAND(S)	UHF	FREQUENCY RANGE(S)	FCC	406.1 - 512.0 MHz	
			IC	406.1 - 430.0 MHz	
				450.0 - 470.0 MHz	
MANUF. RATED OUTPUT POWER	37.2 dBm	5.25 Watts	+0.5/-0.2 dB	Conducted	UHF Band
DEVICE MODES OF OPERATION	ANALOG - FM			P25 Phase 1 - FDMA	
DEVICE IDENTIFIER(S)	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
APPLICATION TYPE	FCC/IC Certification				
APPLICABLE RULE PART(S)	FCC Parts 22, 90			IC RSS-119 Issue 9	
STANDARD(S) APPLIED	FCC 47 CFR §2.1093				
	Health Canada Safety Code 6				
PROCEDURE(S) APPLIED	FCC OET Bulletin 65, Supplement C (01-01)				
	FCC KDB 447498 D01v04		FCC KDB Inquiry No. 794297		
	Industry Canada RSS-102 Issue 3				
	IEEE 1528-2003	IEC 62209-1:2005	IEC 62209-2 (Draft)		
FCC DEVICE CLASSIFICATION	Licensed Non-Broadcast Transmitter Held to Face (TNF)				
IC DEVICE CLASSIFICATION	Land Mobile Radio Transmitter/Receiver (27.41-960 MHz)				
RF EXPOSURE CATEGORY	Occupational / Controlled				
RF EXPOSURE EVALUATION(S)	Face-held & Body-worn				
DATE(S) OF EVALUATION	November 05, 10, 16-17, 2009				
TEST REPORT SERIAL NO.	102809AQZ-T991-S90U				
TEST REPORT REVISION NO.	Revision 1.2	See Revision List (Pg. 4)		December 23, 2009	
	Revision 1.1	See Revision List (Pg. 4)		December 22, 2009	
	Revision 1.0	Initial Release		December 03, 2009	
TEST REPORT SIGNATORIES	Testing Performed By			Test Report Prepared By	
	Sean Johnston Celltech Labs Inc.			Jonathan Hughes Celltech Labs Inc.	
TEST LAB AND LOCATION	Celltech Compliance Testing and Engineering Lab				
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TEST LAB CONTACT INFO.	Tel.: 250-765-7650			Fax: 250-765-7645	
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TEST LAB ACCREDITATION(S)	ISO/IEC 17025:2005 (A2LA Test Lab Certificate No. 2470.01)				

Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## DECLARATION OF COMPLIANCE SAR RF EXPOSURE EVALUATION


<b>Test Lab Information</b>		<b>Name</b>	CELLTECH LABS INC.				
		<b>Address</b>	21-364 Lougheed Road, Kelowna, B.C. V1X 7R8 Canada				
<b>Applicant Information</b>		<b>Name</b>	HARRIS CORPORATION - RF COMMUNICATIONS DIVISION				
		<b>Address</b>	1680 University Avenue, Rochester, NY 14610 United States				
<b>Standard(s) Applied</b>		<b>FCC</b>	47 CFR §2.1093	<b>IC</b>	Health Canada Safety Code 6		
		<b>FCC</b>	OET Bulletin 65, Supplement C	<b>IC</b>	RSS-102 Issue 3		
<b>Procedure(s) Applied</b>		<b>FCC</b>	KDB 447498 D01v04	KDB Inquiry Tracking No. 794297			
		<b>IEEE</b>	1528-2003	<b>IEC</b>	62209-1:2005	<b>IEC</b> 62209-2 (Draft)	
<b>Device Identifier(s)</b>		<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00		
<b>Device Model(s)</b>		UNITY XG-100P	<b>Test Sample Serial No.</b>	EM067 (Identical Prototype)			
<b>Device Description</b>	<b>UHF PTT</b>	Portable Push-To-Talk (PTT) Multi-Band Radio Transceiver (Analog FM / Digital P25 FDMA)					
	<b>Bluetooth</b>	Class 1 Bluetooth - Pwr = > 60/f <sub>(GHz)</sub> mW - Manuf. max. cond. pwr spec. = 20 dBm (Average) Supports simultaneous transmission - PTT antenna to Bluetooth antenna distance = ~ 130 mm					
<b>DUT Hardware / Software Revisions</b>		Version SW Platform 12082-8900_0.1.8		Version SW Build Nov 9 2009 - 11:58:03			
		Version HW FPGA LMR_091509_1358		Version HW FPGA_PN 12082-4030-01			
<b>Frequency Range(s) Applied (UHF)</b>		406.1 - 512.0 MHz (FCC)		406.1 - 430.0 MHz (IC)		450.0 - 470.0 MHz (IC)	
<b>Manufacturer's Rated Output Power</b>		37.2 dBm	5.25 Watts	+0.5 / -0.2 dB	Conducted	UHF Band	
<b>Test Channels &amp; RF Output Power</b>		N <sub>c</sub> = 7	1	406.1 MHz	37.4 dBm	5.50 Watts	Conducted
			2	423.5 MHz	37.3 dBm	5.37 Watts	Conducted
			3	441.0 MHz	37.2 dBm	5.25 Watts	Conducted
			4	458.5 MHz	37.2 dBm	5.25 Watts	Conducted
			5	476.0 MHz	37.3 dBm	5.37 Watts	Conducted
			6	493.5 MHz	37.3 dBm	5.37 Watts	Conducted
			7	512.0 MHz	37.2 dBm	5.25 Watts	Conducted
<b>Antenna Type(s) Tested</b>		Ext. Detachable - Full-Spectrum Multi-Band		P/N: 12082-0250-01	Length: 240 mm		
<b>Battery Type(s) Tested</b>		Lithium-ion	7.4 V	3650 mAh	P/N: 12082-0308-01		
		Alkaline Case	1.5 V (x6 AA)	Energizer Industrial	P/N: 12082-0309-01		
<b>Body-worn Accessories Tested</b>		Metal Belt-Clip	1.2 cm Spacing	Contains Metal	P/N: 12082-1291-01		
		Nylon Case (Window)	1.5 cm Spacing	Contains Metal	P/N: 12082-0512-01		
		Nylon Shoulder Strap		Contains Metal	P/N: 12082-0504-01		
		Leather Case (D-Rings)	1.5 cm Spacing	Contains Metal	P/N: 12082-0500-01		
		Full with Shoulder Strap		Contains Metal	P/N: 12082-0505-01		
Leather Case (D-Clip) Full with Swivel Belt-Loop (3")	4.5 cm Spacing	Contains Metal	P/N: 12082-0502-02				
<b>Audio Accessories Tested</b>		Speaker-Microphone			P/N: 12082-0600-01		
<b>Max. SAR Level(s) Evaluated</b>		Face-held	1.20 W/kg	1g	50% PTT duty cycle	Occupational / Controlled Exp.	
		Body-worn	4.31 W/kg	1g	50% PTT duty cycle	Occupational / Controlled Exp.	
<b>FCC/IC Spatial Peak SAR Limit</b>		Head/Body	8.0 W/kg	1g	50% PTT duty cycle	Occupational / Controlled Exp.	
Celltech Labs Inc. declares under its sole responsibility that this wireless portable device has demonstrated compliance with the Specific Absorption Rate (SAR) RF exposure measurement standards and procedures as listed above. All measurements were performed in accordance with the SAR system manufacturer recommendations.							
I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.							
The results and statements contained in this report pertain only to the device(s) evaluated.							
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<b>Test Report Approved By</b>				<b>Sean Johnston</b>	<b>Celltech Labs Inc.</b>		



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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<b>TABLE OF CONTENTS</b>	
1.0 DUT ACCESSORY LISTING _____	5
2.0 INTRODUCTION _____	6
3.0 SAR MEASUREMENT SYSTEM _____	6
4.0 RF CONDUCTED OUTPUT POWER MEASUREMENTS _____	6
5.0 FCC POWER THRESHOLDS FOR PTT DEVICES ( $f < 0.5$ GHz) _____	7
6.0 SAR PROBE CALIBRATION & MEASUREMENT FREQUENCIES _____	7
7.0 FCC SAR TEST REDUCTION PROCEDURES (KDB 794297) _____	8
FCC SAR TEST REDUCTION PROCEDURES (CONT.) _____	9
8.0 SAR MEASUREMENT SUMMARY _____	10
9.0 MEASURED FLUID DIELECTRIC PARAMETERS _____	11
10.0 DETAILS OF SAR EVALUATION _____	12
11.0 SAR EVALUATION PROCEDURES _____	13
12.0 SYSTEM PERFORMANCE CHECK _____	13
13.0 SIMULATED EQUIVALENT TISSUES _____	14
14.0 SAR LIMITS _____	14
15.0 ROBOT SYSTEM SPECIFICATIONS _____	15
16.0 PROBE SPECIFICATION (ET3DV6) _____	16
17.0 SIDE PLANAR PHANTOM _____	16
18.0 VALIDATION PLANAR PHANTOM _____	16
19.0 DEVICE HOLDER _____	16
20.0 TEST EQUIPMENT LIST _____	17
21.0 MEASUREMENT UNCERTAINTIES _____	18
22.0 REFERENCES _____	19
APPENDIX A - SAR MEASUREMENT DATA _____	20
APPENDIX B - SYSTEM PERFORMANCE CHECK _____	67
APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS _____	77
APPENDIX D - SAR TEST SETUP & DUT PHOTOGRAPHS _____	85
APPENDIX E - DIPOLE CALIBRATION (FCC KDB 250418) _____	110
APPENDIX F - PROBE CALIBRATION _____	111

	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


<b>REVISION HISTORY</b>		
<b>REVISION NO.</b>	<b>DESCRIPTION</b>	<b>RELEASE DATE</b>
1.0	Initial Release	December 03, 2009
1.1	1. Added Revision History (page 4) 2. Changed FCC ID and IC ID (per Harris Corporation) all pages 3. Changed nominal rated power specification (per Harris Corporation) pgs 1-2 4. Revised conducted output power measurement table (Section 4, page 6) 5. Corrected Bluetooth maximum average conducted output power (page 2) 6. Reduced items 10-11 to item 10 only - simultaneous transmission (page 12) 7. Changed Belt-Clip part no. to 12082-1291-01 (per Harris Corporation) 8. Corrected part no. of Leather Case (Full) and Swivel Belt-Loop accessory evaluated for SAR to part no. 12082-0502-02 (3" loop) and corrected item 3e to 3" loop (Section 10, page 12) 9. Revised description of difference between 2.5" and 3" Swivel Belt-Loop (pages 5 and 9) and corresponding accessory listing note no. reference (pg 5) 10. Corrected separation distance provided by the Leather Case (Full) and 3" Swivel Belt-Loop accessory (back of radio to phantom & antenna to phantom) 11. Added photos of Leather Case (D-Rings) Half - p/n 12082-0501-01 (pg 104) 12. Added photos of 2.5" Belt-Loop (page 109) 13. Revised PTT antenna to Bluetooth antenna distance (page 2) 14. Corrected test sample serial number on SAR test plots (Appendix A)	December 22, 2009
1.2	Corrected typographical error on page 1 (manuf. output power tolerance spec.)	December 23, 2009



<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
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## 1.0 DUT ACCESSORY LISTING

Part Number	Accessory Type	Inc. in SAR Eval.
12082-0250-01	ANTENNA, UNITY, 136-870 MHz, HELICAL	Yes
12082-0308-01	BATTERY, LITHIUM-ION	Yes
12082-0600-01	STANDARD SPEAKER MICROPHONE	Yes
12082-0310-01	CHARGER, 1-BAY, TRI-CHEMISTRY	n/a
12082-0314-01	CHARGER, 6-BAY, TRI-CHEMISTRY	n/a
12082-0309-01	BATTERY, AA CLAMSHELL	Yes
12082-1291-01	BELT CLIP, METAL	Yes
12082-0504-01	STRAP, NYLON	Yes
12082-0505-01	STRAP, LEATHER	Yes
12082-0512-01	CASE, NYLON, WINDOW, T-STRAP	Yes
12082-0510-01	CASE, NYLON, FULL, T-STRAP	No <sup>1</sup>
12082-0507-02	CASE, LEATHER, HALF, 3" LOOP	No <sup>3</sup>
12082-0507-01	CASE, LEATHER, HALF, 2.5" LOOP	No <sup>2</sup>
12082-0502-02	CASE, LEATHER, FULL, 3" LOOP	Yes
12082-0502-01	CASE, LEATHER, FULL, 2.5" LOOP	No <sup>2</sup>
12082-0501-01	CASE, LEATHER, HALF, T-STRAP	No <sup>4</sup>
12082-0500-01	CASE, LEATHER, FULL, T-STRAP	Yes
12082-0410-A1	CABLE, USB Programming	n/a
12082-0400-A1	CABLE, KVL Key Loading	n/a
<b>Notes</b>		
<p>1. Accessory not evaluated due to identical SAR characteristics as the Nylon Case (Window) accessory evaluated for SAR - the only difference is the Nylon Case (Full) accessory has full nylon material on the front side (radio keypad side) of the accessory whereas the Nylon Case (Window) accessory has clear plastic material on the front side (radio keypad side) of the accessory.</p>		
<p>2. Accessories not evaluated due to identical SAR characteristics as the Leather Case with 3" Swivel Belt-Loop evaluated for SAR. The only difference is the increased length (0.5") of the inside gap on the 3" Belt-Loop to accommodate a wider belt and the 2.5" Belt-Loop is otherwise identical to the 3" Belt-Loop evaluated for SAR. Both the 2.5" and 3" belt-loops provide the same separation distance from the back of the radio to planar phantom.</p>		
<p>3. Accessory not evaluated due to identical SAR characteristics as the Leather Case (Full) with Swivel Belt-Loop accessory evaluated for SAR - the only difference is the amount of leather material (Half versus Full) on the front side (radio keypad side) of the accessory.</p>		
<p>4. Accessory not evaluated due to identical SAR characteristics as the Leather Case (Full) with Shoulder Strap accessory evaluated for SAR - the only difference is the amount of leather material (Half versus Full) on the front side (radio keypad side) of the accessory.</p>		

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
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## 2.0 INTRODUCTION

This measurement report demonstrates that the Harris Corporation Model: XG-100P Portable Analog/Digital PTT Multi-Band Radio Transceiver (UHF Band) complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 (see reference [1]) and Health Canada's Safety Code 6 (see reference [2]) for the Occupational / Controlled Exposure environment. The measurement procedures described in FCC OET Bulletin 65, Supplement C 01-01 (see reference [3]), IC RSS-102 Issue 3 (see reference [4]), IEEE Standard 1528-2003 (see reference [5]), IEC Standard 62209-1:2005 (see reference [6]) and Draft Standard IEC 62209-2 (see reference [7]) were employed. A description of the device, operating configuration, detailed summary of the test results, methodology and procedures used in the evaluation, equipment used and the various provisions of the rules are included within this test report.

## 3.0 SAR MEASUREMENT SYSTEM

Celltech Labs Inc. SAR measurement facility utilizes the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 measurement system is comprised of the measurement server, robot controller, computer, near-field probe, probe alignment sensor, specific anthropomorphic mannequin (SAM) phantom, and various planar phantoms for head and/or body SAR evaluations. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the DASY4 measurement server. The DAE4 utilizes a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16-bit AD-converter and a command decoder and control logic unit. Transmission to the DASY4 measurement server is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. The sensor systems are also used for mechanical surface detection and probe collision detection. The robot uses a controller with a built in VME-bus computer.


## 4.0 RF CONDUCTED OUTPUT POWER MEASUREMENTS



### MEASURED RF CONDUCTED OUTPUT POWER LEVELS

$N_c = 7^1$	Freq. (MHz)	Mode	Watts	dBm	Manuf. Nominal Rated Output Power	
					dBm	Tolerance Spec.
1	406.1	CW	5.50	37.4	37.2	+0.5 / -0.2 dB
2	423.5	CW	5.37	37.3		
3	441.0	CW	5.25	37.2		
4	458.5	CW	5.25	37.2		
5	476.0	CW	5.37	37.3		
6	493.5	CW	5.37	37.3		
7	512.0	CW	5.25	37.2		

#### Notes

- The test channels were selected in accordance with the procedural guidelines of FCC KDB Inquiry No. 794297.
- The RF conducted output power levels of the DUT were measured by Celltech prior to the SAR evaluations using a Gigatronics 8652A Universal Power Meter at the external antenna connector.
- The DUT was preset by the manufacturer to the nominal rated conducted output power level. The SAR levels measured and reported are well below the SAR limit with sufficient margin for compliance at the upper tolerance spec.

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	Date(s) of Evaluation Nov. 5, 10, 16-17, 2009	Test Report Serial No. 102809AQZ-T991-S90U	Test Report Revision No. Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
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## 5.0 FCC POWER THRESHOLDS FOR PTT DEVICES ( $f \leq 0.5$ GHz)



FCC SAR Evaluation Power Thresholds for PTT Devices, $f \leq 0.5$ GHz*			Manufacturer's Rated RF Output Power	
Exposure Conditions	P mW (General Population)	P mW (Occupational)	100% PTT Duty Cycle	50% PTT Duty Cycle
Held to face, $d \geq 2.5$ cm	250	<b>1250</b>	5.5 Watts	<b>2.75 Watts</b>
Body-worn, $d \geq 1.5$ cm	200	1000		
<b>Body-worn, <math>d \geq 1.0</math> cm</b>	150	<b>750</b>	5.5 Watts	<b>2.75 Watts</b>
1. The time-averaged output power, corresponding to the required PTT duty factor, is compared with these thresholds. 2. The closest distance between the user and the device or its antenna is used to determine the power thresholds. * Per FCC KDB 447498 D01v04 Section 5)b)i) (see reference [8]).			1. The conducted output power level of the DUT exceeds the FCC threshold for SAR evaluation requirement.	

## 6.0 SAR PROBE CALIBRATION & MEASUREMENT FREQUENCIES

The following procedures are recommended for measurements at 150 MHz - 3 GHz to minimize probe calibration and tissue dielectric parameter discrepancies. In general, SAR measurements below 300 MHz should be within  $\pm 50$  MHz of the probe calibration frequency. At 300 MHz to 3 GHz, measurements should be within  $\pm 100$  MHz of the probe calibration frequency. Measurements exceeding 50% of these intervals,  $\pm 25$  MHz < 300 MHz and  $\pm 50$  MHz  $\geq 300$  MHz, require additional steps (per FCC KDB 450824 D01 v01r01, SAR Probe Calibration and System Verification Considerations for Measurements at 150 MHz - 3 GHz - see reference [9]).

Probe Calibration Freq.	Device Measurement Freq.	Frequency Interval	$\pm 50$ MHz $\geq 300$ MHz																										
<b>450 MHz</b>	406.1 MHz	43.9 MHz	< 50 MHz <sup>1</sup>																										
	423.5 MHz	26.5 MHz	< 50 MHz <sup>1</sup>																										
	441.0 MHz	9 MHz	< 50 MHz <sup>1</sup>																										
	458.5 MHz	8.5 MHz	< 50 MHz <sup>1</sup>																										
	476.0 MHz	26 MHz	< 50 MHz <sup>1</sup>																										
	493.5 MHz	43.5 MHz	< 50 MHz <sup>1</sup>																										
	<b>512.0 MHz</b>	<b>62 MHz</b>	<b>&gt; 50 MHz<sup>2</sup></b>																										
1. The probe calibration and measurement frequency interval is < 50 MHz; therefore the additional steps were not required.																													
2. The probe calibration and measurement frequency interval is > 50 MHz; therefore the following additional steps were implemented (per FCC KDB 450824 D01 v01r01): <i>The measured 1-g SAR may be compensated with respect to +5% tolerances in <math>\epsilon_r</math> and -5% tolerances in <math>\sigma</math>, computed according to valid SAR sensitivity data, to reduce SAR underestimation and maintain conservativeness.</i> SAR sensitivity data is per SPEAG DASY4 Manual (see reference [10]).																													
<b>Probe Calibration Frequency = 450 MHz</b>		<b>Target Parameters:</b>	<b>Head 43.5 <math>\epsilon_r</math> / 0.87 <math>\sigma</math></b> <b>Body = 56.7 <math>\epsilon_r</math> / 0.94 <math>\sigma</math></b>																										
Test Freq.	Tissue	$\sigma$	Sensitivity	$\epsilon_r$	Sensitivity	% Change	Compensated SAR at 512 MHz																						
<b>512 MHz</b>	Head	+4.6%	n/a	-2.1%	n/a	n/a	<b>n/a</b>	-	-																				
	Body	+4.2%	n/a	+2.1%	0..966%	0.966%	<b>3.37 W/kg</b>	1g	50% ptt d/c																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Parameter</th> <th style="text-align: center;"><math>\epsilon</math></th> <th style="text-align: center;"><math>\sigma</math></th> <th style="text-align: center;"><math>\rho</math></th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;"> <math>f=450</math> MHz, <math>d=15</math> mm  <math>(\epsilon_r=43.5, \sigma=0.87</math> S/m)               </td> </tr> <tr> <td style="text-align: center;">SAR Peak</td> <td style="text-align: center;">- 0.56</td> <td style="text-align: center;">+ 0.67</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">SAR 1 g</td> <td style="text-align: center;">- 0.46</td> <td style="text-align: center;">+ 0.43</td> <td style="text-align: center;">0.09</td> </tr> <tr> <td style="text-align: center;">SAR 10 g</td> <td style="text-align: center;">- 0.37</td> <td style="text-align: center;">+ 0.22</td> <td style="text-align: center;">0.17</td> </tr> </tbody> </table>										Parameter	$\epsilon$	$\sigma$	$\rho$	$f=450$ MHz, $d=15$ mm $(\epsilon_r=43.5, \sigma=0.87$ S/m)				SAR Peak	- 0.56	+ 0.67	-	SAR 1 g	- 0.46	+ 0.43	0.09	SAR 10 g	- 0.37	+ 0.22	0.17
Parameter	$\epsilon$	$\sigma$	$\rho$																										
$f=450$ MHz, $d=15$ mm $(\epsilon_r=43.5, \sigma=0.87$ S/m)																													
SAR Peak	- 0.56	+ 0.67	-																										
SAR 1 g	- 0.46	+ 0.43	0.09																										
SAR 10 g	- 0.37	+ 0.22	0.17																										
Note: Per the SAR system manufacturer SPEAG, the above sensitivity data (Head) from the DASY4 manual (see reference [10]) can be applied to Body tissue parameters provided the approximation is for <5% deviation of liquid parameters.																													

Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 7.0 FCC SAR TEST REDUCTION PROCEDURES (KDB 794297)

The following procedures were applied to determine the number of test frequencies and channels to be evaluated for SAR based on the number-of-test-frequencies formula for test frequency reduction provision prescribed by the FCC in KDB Inquiry Tracking No. 794297 (interim ptt device test redux adjusted2).

### FCC KDB Inquiry Tracking No. 794297 (interim ptt device test redux adjusted2)

1) Antennas are the primary radiating structures for wireless transmitters, and therefore are generally not considered for test reductions in similar manners as other accessories. When multiple antennas are available, each antenna should be tested at the required frequency channels according to the transmission band covered by the specific antenna used for the device (e.g. some antennas may not cover all transmission bands), and according to the required accessory combinations determined under an acceptable test reduction plan, as described in the following items. For antennas that are substantially equivalent as confirmed by SAR data, e.g. at the highest SAR channel with equivalent (practically identical) SAR distributions, testing at other channels for other similar antennas may be optional, provided that the SAR results do not show unexpected or significant changes among the other channels tested.

There is only one antenna option for the Unity XG-100P.

2) Each antenna (among the one or more available antennas) should be tested at its mid-band channel, for all accessories in each accessory category, to determine the highest SAR configuration for each accessory category (i.e. battery, body-worn and audio accessories etc.). Because a battery is the minimum accessory necessary for the device to function, the testing procedures for each antenna [at the mid-band channel, or for the two or three channels specified per item 7)] should start by determining the highest SAR for each battery category (e.g. long and short physical dimensions, etc.), and without any body-worn and audio accessories, for body and head configurations. The highest SAR configuration in each battery category should be tested with each applicable body-worn accessory combination for each antenna at the mid-band channel to determine the body-worn accessory with highest SAR. It is assumed that the audio accessories are only used in conjunction with specific body-worn accessories; therefore, the process may continue by testing each antenna at the mid-band channel using the highest SAR battery in each battery category and the highest SAR body-worn accessory to determine the highest SAR audio accessory. The combination of highest SAR battery per category, and body-worn and audio accessories, should be used to perform testing for the other channels per item 1).

For body-worn configuration, "baseline" highest SAR search procedure evaluations were performed in order to determine the highest SAR for each battery category (Lithium-ion and Alkaline) without any body-worn or audio accessories connected. The highest SAR configuration in each battery category was tested with each applicable body-worn accessory combination at the 2<sup>nd</sup>, 4<sup>th</sup> (Mid) and 6<sup>th</sup> channels (see item 7) in order to determine the body-worn accessory with the highest SAR. The specified speaker-microphone is the only audio accessory option for the Unity XG-100P (excluding the wireless Speaker-Microphone with Bluetooth audio accessory). The remaining 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> channels (see item 7) were subsequently evaluated with the highest SAR battery and body-worn accessory configuration. For face-held configuration, the "baseline" highest SAR search procedure evaluations were addressed by the required face-held SAR measurements evaluated at 2.5 cm spacing from the planar phantom.


3) It is anticipated that the different batteries, and body-worn and audio accessories, may not operate together in all combinations. It may be necessary to sub-categorize the body-worn and audio accessories, similar to the long and short battery categories, to facilitate searching for the highest SAR configuration for the other channel testing of item 1).

Both the Lithium-ion and Alkaline battery types can be utilized with all specified body-worn accessories and the specified speaker-microphone audio accessory.



4) In each step of the highest SAR configuration search for each accessory category [i.e. item 2)], besides determining the highest SAR configurations, all configurations in each accessory category with SAR larger than 70% of the limit should also be included in the highest SAR search using subsequent accessories (body-worn, audio etc.) and in the other channel testing of item 1).

All measured SAR levels were less than 70% of the limit (50% PTT duty factor).

5) Accessories that can be demonstrated to have identical SAR characteristics and/or noticeably lower SAR may be excluded in the search procedure of item 2) with acceptable justification clearly documented.

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## FCC SAR TEST REDUCTION PROCEDURES (CONT.)

Test exclusion from the SAR search procedures was applied to the Nylon Case (Full) accessory. The Nylon Case (Full) accessory was determined to have identical SAR characteristics as the Nylon Case (Window) accessory evaluated for SAR, based on the only difference is the Nylon Case (Full) accessory has full nylon material on the front side (radio keypad side) of the accessory whereas the Nylon Case (Window) accessory has clear plastic material on the front side (radio keypad side) of the accessory.

Test exclusion from the SAR search procedures was applied to the Leather Case (Half) with Shoulder Strap accessory. The Leather Case (Half) accessory was determined to have identical SAR characteristics as the Leather Case (Full) accessory evaluated for SAR, based on the only difference is the Leather Case (Half) accessory only has leather material on half of the front side (radio keypad side) of the accessory (the remainder is open-faced) whereas the Leather Case (Full) accessory contains leather material on all of the front side (radio keypad side) of the accessory.

Test reduction was applied to the Leather Case (Full) accessory with Swivel Belt-Loop (3") attachment. The Swivel Belt-Loop attachment contains a metal plate which hooks on to the metal swivel on the Leather Case accessory. The Leather Case with Swivel Belt-Loop accessory provides a 4.5 cm spacing from the back side of the DUT to the planar phantom versus the 1.5 cm spacing the Leather Case with Metal D-Rings and Shoulder Strap accessory provides. The Leather Case (Full) with Swivel Belt-Loop (3") accessory was included in the highest SAR search procedures based on the significant amount of metal contained in the accessory components; however based on the increased spacing from the back of the DUT to the planar phantom the Leather Case (Full) with Swivel Belt-Loop (3") was only evaluated with the Lithium-ion battery.

Test exclusion from the SAR search procedures was applied to the Leather Case (Half) with Swivel Belt-Loop accessory. The Leather Case (Half) with Swivel Belt-Loop accessory was determined to have identical SAR characteristics as the Leather Case (Full) with Swivel Belt-Loop accessory evaluated for SAR; based on the only difference is the amount of leather material (Half versus Full) on the front side (radio keypad side) of the accessory.

Test exclusion from the SAR search procedures was applied to the Leather Case with Swivel Belt-Loop (2.5") accessory. The Leather Case with Swivel Belt-Loop (2.5") accessory was determined to have identical SAR characteristics as the Leather Case with Swivel Belt-Loop (3") evaluated for SAR. The only difference is the increased length (0.5") of the inside gap on the 3" Belt-Loop to accommodate a wider belt and the 2.5" Belt-Loop is otherwise identical to the 3" Belt-Loop evaluated for SAR. Both the 2.5" and 3" belt-loops provide the same separation distance from the back of the radio to the planar phantom.

6) The highest SAR search procedures of item 2) should be applied separately to each exposure condition; for example, held-to-face and body etc. configurations, and must be tested with the required separation distance from the relevant surface of the device (e.g. back or front). Transmitters designed to operate in push-to-talk configurations in front of a person's face should be tested with the device positioned at 2.5 cm from a flat phantom. Initial testing for body configurations under item 2) should position the device at the smallest distance that would be provided by any intended accessories used in the subsequent highest SAR search procedures.

For the body-worn "baseline" highest SAR search procedure evaluations an air-gap spacing of 1.2 cm was utilized between the back of the DUT and the planar phantom based on the smallest distance provided by the belt-clip accessory. For the face-held configuration the "baseline" highest SAR search procedure evaluations were addressed by the required face-held SAR measurements evaluated at 2.5 cm spacing from the planar phantom.

7) When the operating bandwidth of an antenna is larger than 10% of the mid-band channel frequency, more than 3 channels (high, middle, and low) will need to be tested under item 1). When 5 channels are required for testing, the 2nd and 4th channel in the sequence should be used in the search procedures in item 2) instead of the mid-band channel. When 7 channels are required, in addition to the mid-band channel the 2nd and the 6th should also be tested in the search procedures of item 2).


The following formula prescribed by the FCC in KDB Inquiry Tracking No. 794297 was applied in order to determine the required number of test frequencies:

$$N_c = \text{Round} \left[ \left\{ 100 \times (f_h - f_l) / f_c \right\}^{0.5} \times (f_c / 100)^{0.2} \right]$$

fh	fl	fh-fl	fc	% BW	Nc
406.1	512	105.9	459.05	23	7

Notes:

- Per FCC KDB 794297: concerning att. herein entitled {interim ptt device test redux adjusted2} - for Nc = 4 and Nc = 2, use fc for the baseline and the other testing under step 2) of that att., then final test configuration will have the fc results plus the Nc = 4 and Nc = 2 equi-spaced channels (final test total 5 ch and 3 ch. resp.)
- 458.5 MHz was evaluated for the mid channel frequency in place of 459.05 MHz.

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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## 8.0 SAR MEASUREMENT SUMMARY

Test Type	Test Date	Freq.	Test Chan.	Battery Type	Accessory Type(s)		Device Distance to Planar Phantom		Cond. Power Before Test	Measured SAR 1g (W/kg)		SAR Drift During Test	SAR with droop 1g (W/kg)					
										PTT Duty Cycle			PTT Duty Cycle					
		MHz	N <sub>c</sub> = 7		Body-worn	Audio	DUT	Antenna	Watts	100%	50%	dB	100%	50%				
Face	Nov 17	423.5	2	Li-ion	n/a	n/a	2.5 cm	5.0 cm	5.37	2.22	1.11	-0.058	2.25	1.13				
Face	Nov 17			Alkaline					5.37	1.95	0.975	-0.899	2.40	1.20				
Face	Nov 17	458.5	4	Li-ion					5.25	1.79	0.895	-0.205	1.88	0.940				
Face	Nov 17			Alkaline					5.25	1.71	0.855	-1.05	2.18	1.09				
Face	Nov 17	493.5	6	Li-ion					5.37	1.92	0.960	-0.188	2.00	1.00				
Face	Nov 17			Alkaline					5.37	1.57	0.785	-1.21	2.07	1.04				
Face	Nov 17	406.1	1	Li-ion					5.50	2.20	1.10	-0.093	2.25	1.13				
Face	Nov 17	441.0	3						5.25	2.03	1.02	-0.308	2.18	1.09				
Face	Nov 17	476.0	5						5.37	1.99	0.995	-0.136	2.05	1.03				
Face	Nov 17	512.0	7						5.25	1.46	0.730	-0.299	1.56	0.780				
Face	Nov 17								5.25	1.46	0.730	-0.299	1.56	0.780				
Body	Nov 5	423.5	2	Li-ion					None (Baseline)	None (Baseline)	1.2 cm	2.0 cm	5.37	4.42	2.21	-0.274	4.71	2.36
Body	Nov 5			Alkaline									5.37	3.62	1.81	-0.857	4.41	2.21
Body	Nov 5	458.5	4	Li-ion									5.25	3.61	1.81	-0.461	4.01	2.01
Body	Nov 5			Alkaline	5.25	2.94	1.47	-0.844					3.57	1.79				
Body	Nov 5	493.5	6	Li-ion	5.37	4.57	2.29	-0.317					4.92	2.46				
Body	Nov 5			Alkaline	5.37	4.00	2.00	-1.52					5.68	2.84				
Body	Nov 5	423.5	2	Li-ion	Metal Belt-Clip	Spkr-Mic	1.2 cm	2.0 cm					5.37	P 8.21	4.11	-0.211	P 8.62	4.31
Body	Nov 5			Alkaline									5.37	S 5.52	2.76	-0.793	S 5.80	2.90
Body	Nov 10	458.5	4	Li-ion									5.25	5.82	2.91	-0.487	6.99	3.50
Body	Nov 10			Alkaline									5.25	5.30	2.65	-1.08	5.93	2.97
Body	Nov 10	493.5	6	Li-ion									5.25	4.07	2.04	-0.257	5.22	2.61
Body	Nov 10			Alkaline									5.37	6.74	3.37	-1.54	7.15	3.58
Body	Nov 16	423.5	2	Li-ion									5.37	4.91	2.46	-1.30	7.00	3.50
Body	Nov 16			Alkaline									5.37	4.59	2.30	-0.492	5.14	2.57
Body	Nov 10	458.5	4	Li-ion					Nylon Case & Shoulder Strap	Spkr-Mic	1.5 cm	2.2 cm	5.25	P 5.12	2.56	-0.569	P 5.84	2.92
Body	Nov 10			Alkaline									5.25	S 4.94	2.47	-1.50	S 5.63	2.82
Body	Nov 10	493.5	6	Li-ion									5.25	P 4.22	2.11	-0.281	P 5.96	2.98
Body	Nov 10			Alkaline									5.37	S 3.23	1.62	-1.49	S 4.56	2.28
Body	Nov 10	423.5	2	Li-ion									5.37	P 6.35	3.18	-1.26	P 6.77	3.39
Body	Nov 10			Alkaline									5.37	S 4.41	2.21	-1.49	S 4.71	2.36
Body	Nov 16	423.5	2	Li-ion	Leather Case & Shoulder Strap	Spkr-Mic	1.5 cm	2.2 cm					5.37	5.30	2.65	-0.345	7.47	3.74
Body	Nov 16			Alkaline									5.37	4.07	2.04	-1.64	4.41	2.21
Body	Nov 10	458.5	4	Li-ion									5.25	P 3.46	1.73	-0.425	P 3.82	1.91
Body	Nov 10			Alkaline									5.25	S 3.60	1.80	-1.26	S 3.97	1.99
Body	Nov 10	493.5	6	Li-ion									5.25	P 3.21	1.61	-0.424	P 4.29	2.15
Body	Nov 10			Alkaline									5.37	S 2.60	1.30	-1.51	S 3.48	1.74
Body	Nov 10	423.5	2	Li-ion									5.37	P 3.96	1.98	-0.195	P 4.37	2.19
Body	Nov 10			Alkaline									5.37	S 3.61	1.81	-0.420	S 3.98	1.99
Body	Nov 16	423.5	2	Li-ion					Leather Case & 3" Belt-Loop	Spkr-Mic	4.5 cm	5.5 cm	5.37	P 4.37	2.19	-0.195	P 6.19	3.10
Body	Nov 16			Alkaline									5.37	S 2.66	1.33	-0.093	S 3.77	1.89
Body	Nov 16	458.5	4	Li-ion									5.37	1.54	0.770	-0.420	1.57	0.787
Body	Nov 16			Alkaline									5.25	P 1.30	0.650	-0.195	P 1.43	0.716
Body	Nov 16	493.5	6	Li-ion									5.25	S 0.841	0.421	-0.195	S 0.926	0.463
Body	Nov 16			Alkaline									5.37	1.48	0.740	-0.093	1.55	0.775
Body	Nov 16	406.1	1	Li-ion	Metal Belt-Clip	Spkr-Mic	1.2 cm	2.0 cm					5.50	2.29	1.15	-0.093	2.34	1.17
Body	Nov 16			Alkaline									5.25	6.42	3.21	-0.359	6.97	3.49
Body	Nov 16	441.0	3	Li-ion									5.37	7.28	3.64	-0.100	7.45	3.73
Body	Nov 16			Alkaline									5.25	P 5.40	2.70	-0.556	P 6.14	3.07
Body	Nov 16	476.0	5	Li-ion									5.37	S 4.39	2.20	-0.556	S 4.99	2.50
Body	Nov 16			Alkaline									5.25	P 5.40	2.70	-0.556	P 6.14	3.07
Body	Nov 16	512.0	7	Li-ion									5.25	S 4.39	2.20	-0.556	S 4.99	2.50
Body	Nov 16			Alkaline									5.25	P 5.40	2.70	-0.556	P 6.14	3.07

## 9.0 MEASURED FLUID DIELECTRIC PARAMETERS

MEASURED FLUID DIELECTRIC PARAMETERS - HEAD & BODY															
410 MHz Head – Nov 17			420 MHz Head – Nov 17			440 MHz Head – Nov 17			460 MHz Head – Nov 17			480 MHz Head – Nov 17			
Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
43.5	$\pm 5\%$	44.9	+3.2%	43.5	$\pm 5\%$	44.6	+2.5%	43.5	$\pm 5\%$	44.2	+1.6%	43.5	$\pm 5\%$	43.6	+0.2%
Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
0.87	$\pm 5\%$	0.86	-1.1%	0.87	$\pm 5\%$	0.85	-2.3%	0.87	$\pm 5\%$	0.88	+1.1%	0.87	$\pm 5\%$	0.88	+1.1%
490 MHz Head – Nov 17			510 MHz Head – Nov 17			420 MHz Body – Nov 5			460 MHz Body – Nov 5			490 MHz Body – Nov 5			
Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
43.5	$\pm 5\%$	43.4	-0.2%	43.5	$\pm 5\%$	42.6	-2.1%	56.7	$\pm 5\%$	58.9	+3.9%	56.7	$\pm 5\%$	57.9	+2.1%
Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
0.87	$\pm 5\%$	0.90	+3.4%	0.87	$\pm 5\%$	0.91	+4.6%	0.94	$\pm 5\%$	0.92	-2.1%	0.94	$\pm 5\%$	0.95	+1.1%
460 MHz Body – Nov 10			490 MHz Body – Nov 10			410 MHz Body – Nov 16			420 MHz Body – Nov 16			440 MHz Body – Nov 16			
Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
56.7	$\pm 5\%$	58.2	+2.7%	56.7	$\pm 5\%$	58.0	+2.3%	56.7	$\pm 5\%$	58.9	+3.9%	56.7	$\pm 5\%$	58.9	+3.9%
Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
0.94	$\pm 5\%$	0.96	+2.1%	0.94	$\pm 5\%$	0.98	+4.2%	0.94	$\pm 5\%$	0.89	-5.0%	0.94	$\pm 5\%$	0.90	-4.4%
460 MHz Body – Nov 16			480 MHz Body – Nov 16			490 MHz Body – Nov 16			510 MHz Body – Nov 16						
Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$			Dielectric Constant $\epsilon_r$						
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
56.7	$\pm 5\%$	57.9	+2.1%	56.7	$\pm 5\%$	57.6	+1.6%	56.7	$\pm 5\%$	57.2	+0.9%	56.7	$\pm 5\%$	57.9	+2.1%
Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)			Conductivity $\sigma$ (mho/m)						
450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	450 Target	Meas.	Dev.	
0.94	$\pm 5\%$	0.92	-2.1%	0.94	$\pm 5\%$	0.95	+1.1%	0.94	$\pm 5\%$	0.97	+3.2%	0.94	$\pm 5\%$	0.98	+4.2%

Test Date	Fluid Type	Ambient Temp.	Fluid Temp.	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Nov. 5	450 Body	24.1 °C	23.1 °C	≥ 15 cm	101.1 kPa	35%	1000
Nov. 10	450 Body	23.7 °C	22.0 °C	≥ 15 cm	101.1 kPa	35%	1000
Nov. 16	450 Body	23.0 °C	21.5 °C	≥ 15 cm	101.1 kPa	35%	1000
Nov. 17	450 Head	23.5 °C	21.8 °C	≥ 15 cm	101.1 kPa	35%	1000


	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	



## 10.0 DETAILS OF SAR EVALUATION

- The number of test frequencies and actual channels evaluated for SAR were selected in accordance with the number-of-test-frequencies formula for test frequency reduction prescribed by the FCC in KDB Inquiry Tracking No. 794297.
- The DUT was evaluated in a face-held configuration with the front of the radio placed parallel to the outer surface of the planar phantom. A 2.5 cm spacing was maintained between the front side of the DUT and the outer surface of the planar phantom.
- The DUT was evaluated in a body-worn configuration with the back of the radio facing the outer surface of the planar phantom as follows:
  - “Baseline” evaluations were firstly evaluated to determine the highest SAR for each battery category without any body-worn or audio accessories connected, with an air-gap spacing of 1.2 cm between the back of the DUT and the planar phantom (smallest distance provided by any intended body-worn accessories used in the subsequent highest SAR search procedures) in accordance with the test reduction procedures prescribed by the FCC in KDB Inquiry Tracking No. 794297.
  - The DUT was evaluated with the Metal Belt-Clip accessory attached the radio and the Metal Belt-Clip touching the planar phantom. The Metal Belt-Clip accessory provided a 1.2 cm spacing from the back of the DUT to the planar phantom. The Speaker-Microphone audio accessory was connected to the radio and keyed continuously for the duration of the SAR evaluations.
  - The DUT was evaluated with the radio placed inside the Nylon Case (Window) accessory with the Nylon Shoulder Strap accessory attached. The DUT with Nylon Case (Window) and Shoulder Strap accessory was positioned with the back side touching the planar phantom. The Nylon Case (Window) accessory provided a 1.5 cm spacing from the back of the DUT to the planar phantom. The speaker-microphone audio accessory was connected to the radio and keyed continuously for the duration of the SAR evaluations.
  - The DUT was evaluated with the radio placed inside the Leather Case (Full with D-Rings) accessory with the Leather Shoulder Strap accessory attached. The DUT with Leather Case (Full with D-Rings) and Shoulder Strap accessory was positioned with the back side touching the planar phantom. The Leather Case (Full with D-Rings) accessory provided a 1.5 cm spacing from the back of the DUT to the planar phantom. The speaker-microphone audio accessory was connected to the radio and keyed continuously for the duration of the SAR evaluations.
  - The DUT was evaluated with the radio placed inside the Leather Case (Full) accessory with the Leather Swivel Belt-Loop accessory (3”) attached. The DUT with Leather Case (Full) and Swivel Belt-Loop (3”) accessory was positioned with the back side touching the planar phantom. The Leather Case (Full) and Swivel Belt-Loop accessory (3”) provided a 4.5 cm spacing from the back of the DUT to the planar phantom. The speaker-microphone audio accessory was connected to the radio and keyed continuously for the duration of the SAR evaluations.
- The conducted output power levels of the DUT referenced in this report were measured by Celltech Labs Inc. prior to the SAR evaluations at the antenna connector of the DUT using a Gigatronics 8652A Universal Power Meter in accordance with FCC 47 CFR §2.1046 and IC RSS-Gen.
- The DUT was tested at the maximum output power level preset by the manufacturer in unmodulated continuous transmit operation (Continuous Wave mode at 100% duty cycle) with the transmit key constantly depressed. For a push-to-talk device the 50% duty cycle compensation reported assumes a transmit/receive cycle of equal time base.
- The area scan evaluation was performed with a fully charged battery pack. After the area scan was completed the radio was cooled down and the battery pack was replaced with a fully charged battery pack prior to the zoom scan evaluation.
- A SAR-versus-Time power droop evaluation was performed for the test configuration with the maximum measured SAR droop. See Appendix A (SAR Test Plots) for SAR-versus-Time power droop evaluation plot.
- The fluid temperature was measured prior to and after the SAR evaluations and the temperature remained within +/- 2°C of the fluid temperature reported during the dielectric parameter measurements.
- The dielectric parameters of the simulated tissue mixtures were measured prior to the SAR evaluations using a Dielectric Probe Kit and a Network Analyzer (see Appendix C).
- SAR evaluation for simultaneous transmission of the UHF PTT and Bluetooth was not required in accordance with the test exclusion provision of FCC KDB 648474 Section 4 - the sum of the 1-g SAR measured for all simultaneous transmitting antennas is less than the SAR limit. The antenna-to-antenna separation distance is ~ 130 mm.

	MAX. SAR - UHF BAND	MAX. SAR - BLUETOOTH	SUM OF 1-g SAR LEVELS	SAR LIMIT (Occupational)
Face	1.20 W/kg (1g)	0.114 W/kg (1g)	1.314 W/kg (1g)	8.0 W/kg (1g)
Body	4.31 W/kg (1g)	0	4.31 W/kg (1g)	8.0 W/kg (1g)

- Secondary peak SAR levels measured within 2 dB of the primary are reported on pg. 10 (P = Primary, S = Secondary).

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 11.0 SAR EVALUATION PROCEDURES


- (i) The evaluation was performed in the applicable area of the phantom depending on the type of device being tested. For devices held to the ear during normal operation, both the left and right ear positions were evaluated using the SAM phantom.  
(ii) For body-worn and face-held devices a planar phantom was used.
- The SAR was determined by a pre-defined procedure within the DASY4 software. Upon completion of a reference and optical surface check, the exposed region of the phantom was scanned near the inner surface with a grid spacing of 15mm x 15mm.  
An area scan was determined as follows:
  - Based on the defined area scan grid, a more detailed grid is created to increase the points by a factor of 10. The interpolation function then evaluates all field values between corresponding measurement points.
  - A linear search is applied to find all the candidate maxima. Subsequently, all maxima are removed that are >2 dB from the global maximum. The remaining maxima are then used to position the cube scans.  
A 1g and 10g spatial peak SAR was determined as follows:
  - Extrapolation is used to find the points between the dipole center of the probe and the surface of the phantom. This data cannot be measured, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.4 mm (see probe calibration document in Appendix F). The extrapolation was based on trivariate quadratics computed from the previously calculated 3D interpolated points nearest the phantom surface.
  - Interpolated data is used to calculate the average SAR over 1g and 10g cubes by spatially discretizing the entire measured cube. The volume used to determine the averaged SAR is a 1mm grid (42875 interpolated points).
  - A zoom scan volume of 32 mm x 32 mm x 30 mm (5 x 5 x 7 points) centered at the peak SAR location determined from the area scan is used for all zoom scans for devices with a transmit frequency < 800 MHz. Zoom scans for frequencies ≥ 800 MHz are determined with a scan volume of 30 mm x 30 mm x 30 mm (7 x 7 x 7) to ensure complete capture of the peak spatial-average SAR.



## 12.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluation a daily system check was performed using a Plexiglas planar phantom and 450 MHz dipole (see Appendix B for system performance check test plots) in accordance with the procedures described in IEEE Standard 1528-2003 (see reference [5]). The dielectric parameters of the simulated tissue mixture were measured prior to the system performance check using a Dielectric Probe Kit and a Network Analyzer (see Appendix C for measured fluid dielectric parameters). A forward power of 250 mW was applied to the dipole and the system was verified to a tolerance of ±10% from the system validation target SAR value (see Appendix E for system validation target SAR value listed on page 10 of the dipole calibration report).

### SYSTEM PERFORMANCE CHECK EVALUATIONS

Test Date	Equiv. Tissue	SAR 1g (W/kg)			Dielectric Constant $\epsilon_r$			Conductivity $\sigma$ (mho/m)			$\rho$ (Kg/m <sup>3</sup> )	Amb. Temp. (°C)	Fluid Temp. (°C)	Fluid Depth (cm)	Humid. (%)	Barom. Press. (kPa)
		450 MHz	Sys. Val. Target	Meas.	Dev.	Sys. Val. Target	Meas.	Dev.	Sys. Val. Target	Meas.						
Nov 05	Head	1.22±10%	1.26	+3.3%	43.8±5%	44.9	+2.5%	0.86±5%	0.88	+2.3%	1000	23.8	22.5	≥ 15	35	101.1
Nov 10			1.28	+4.9%		45.3	+3.5%		0.90	+4.6%	1000	23.3	22.1	≥ 15	35	101.1
Nov 16			1.25	+2.5%		44.8	+2.3%		0.87	+1.2%	1000	22.8	21.6	≥ 15	35	101.1
Nov 17			1.26	+3.3%		44.1	+0.7%		0.89	+3.5%	1000	23.5	21.8	≥ 15	35	101.1
Notes	1.	The target SAR value is referenced from the System Validation performed by Celltech Labs Inc. (see Appendix E).														
	2.	The target dielectric parameters are referenced from the System Validation performed by Celltech Labs Inc. (see Appendix E).														
	3.	The fluid temperature was measured prior to and after the system performance check to ensure the temperature remained within +/-2°C of the fluid temperature reported during the dielectric parameter measurements.														
	4.	The dielectric parameters of the simulated tissue mixture were measured prior to the system performance check using a Dielectric Probe Kit and a Network Analyzer (see Appendix C).														

Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


## 13.0 SIMULATED EQUIVALENT TISSUES



The simulated equivalent tissue recipes in the table below are derived from the SAR system manufacturer's suggested recipes in the DASY4 manual (see references [11] and [12]) in accordance with the procedures and requirements specified in IEEE Standard 1528-2003 (see reference [5]) and IEC Standard 62209-1:2005 (see reference [6]). The ingredient percentage may have been adjusted minimally in order to achieve the appropriate target dielectric parameters within the specified tolerance.

SIMULATED TISSUE MIXTURES		
INGREDIENT	450 MHz Head	450 MHz Body
Water	38.56 %	52.00 %
Sugar	56.32 %	45.65 %
Salt	3.95 %	1.75 %
HEC	0.98 %	0.50 %
Bactericide	0.19 %	0.10 %

## 14.0 SAR LIMITS


SAR RF EXPOSURE LIMITS			
FCC 47 CFR 2.1093	Health Canada Safety Code 6	General Population	Occupational
Spatial Average (averaged over the whole body)		0.08 W/kg	0.4 W/kg
Spatial Peak (averaged over any 1 g of tissue)		<b>1.6 W/kg</b>	8.0 W/kg
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)		4.0 W/kg	20.0 W/kg
The Spatial Average value of the SAR averaged over the whole body.			
The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.			
The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.			
Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.			
Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.			



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


## 15.0 ROBOT SYSTEM SPECIFICATIONS

<u>Specifications</u>	
<b>Positioner</b>	Stäubli Unimation Corp. Robot Model: RX60L
<b>Repeatability</b>	0.02 mm
<b>No. of axis</b>	6
<u>Data Acquisition Electronic (DAE) System</u>	
<u>Cell Controller</u>	
<b>Processor</b>	AMD Athlon XP 2400+
<b>Clock Speed</b>	2.0 GHz
<b>Operating System</b>	Windows XP Professional
<u>Data Converter</u>	
<b>Features</b>	Signal Amplifier, multiplexer, A/D converter, and control logic
<b>Software</b>	Measurement Software: DASY4, V4.7 Build 44
	Postprocessing Software: SEMCAD, V1.8 Build 171
<b>Connecting Lines</b>	Optical downlink for data and status info., Optical uplink for commands and clock
<u>DASY4 Measurement Server</u>	
<b>Function</b>	Real-time data evaluation for field measurements and surface detection
<b>Hardware</b>	PC/104 166MHz Pentium CPU; 32 MB chipdisk; 64 MB RAM
<b>Connections</b>	COM1, COM2, DAE, Robot, Ethernet, Service Interface
<u>E-Field Probe</u>	
<b>Model</b>	ET3DV6
<b>Serial No.</b>	1590
<b>Construction</b>	Triangular core fiber optic detection system
<b>Frequency</b>	10 MHz to 6 GHz
<b>Linearity</b>	±0.2 dB (30 MHz to 3 GHz)
<u>Evaluation Phantom</u>	
<b>Type</b>	Side Planar Phantom
<b>Shell Material</b>	Plexiglas
<b>Bottom Thickness</b>	2.0 mm ± 0.1 mm
<b>Inner Dimensions</b>	72.6 cm (L) x 20.3 cm (W) x 20.3 cm (H)
<u>Validation Phantom (≤ 450MHz)</u>	
<b>Type</b>	Planar Phantom
<b>Shell Material</b>	Plexiglas
<b>Bottom Thickness</b>	6 mm ± 0.1 mm
<b>Inner Dimensions</b>	83.5 cm (L) x 36.9 cm (W) x 21.8 cm (H)

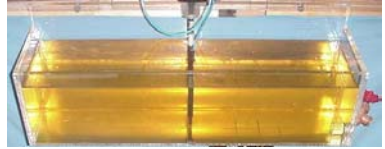
<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


## 16.0 PROBE SPECIFICATION (ET3DV6)

<p><b>Construction:</b> Symmetrical design with triangular core; Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, glycol)</p> <p><b>Calibration:</b> In air from 10 MHz to 2.5 GHz In head simulating tissue at frequencies of 900 MHz and 1.8 GHz (accuracy <math>\pm 8\%</math>)</p> <p><b>Frequency:</b> 10 MHz to &gt; 6 GHz; Linearity: <math>\pm 0.2</math> dB (30 MHz to 3 GHz)</p> <p><b>Directivity:</b> <math>\pm 0.2</math> dB in head tissue (rotation around probe axis) <math>\pm 0.4</math> dB in head tissue (rotation normal to probe axis)</p> <p><b>Dynamic Range:</b> 5 <math>\mu</math>W/g to &gt; 100 mW/g; Linearity: <math>\pm 0.2</math> dB</p> <p><b>Surface Detect:</b> <math>\pm 0.2</math> mm repeatability in air and clear liquids over diffuse reflecting surfaces</p> <p><b>Dimensions:</b> Overall length: 330 mm; Tip length: 16 mm; Body diameter: 12 mm; Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm</p> <p><b>Application:</b> General dosimetry up to 3 GHz; Compliance tests of mobile phone</p>	
<b>ET3DV6 E-Field Probe</b>	


## 17.0 SIDE PLANAR PHANTOM


<p>The side planar phantom is constructed of Plexiglas material with a 2.0 mm shell thickness for face-held and body-worn SAR evaluations of portable radio transceivers. The side planar phantom is mounted on the side of the DASY4 compact system table.</p>	
<b>Plexiglas Side Planar Phantom</b>	

## 18.0 VALIDATION PLANAR PHANTOM



<p>The validation planar phantom is constructed of Plexiglas material with a 6.0 mm shell thickness for system validations at 450MHz and below. The validation planar phantom is mounted to the table of the DASY4 compact system.</p>	
<b>Plexiglas Validation Planar Phantom</b>	

## 19.0 DEVICE HOLDER

<p>The DASY4 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections.</p>	
<b>Device Holder</b>	


<b>Applicant:</b> HARRIS CORPORATION	<b>FCC ID:</b> AQZ-XG-100P00	<b>IC:</b> 122D-XG100P00	
<b>DUT Type:</b> Portable PTT Multi-band Radio Transceiver	<b>Model:</b> Unity XG-100P	<b>UHF:</b> 406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 20.0 TEST EQUIPMENT LIST


TEST EQUIPMENT		ASSET NO.	SERIAL NO.	DATE CALIBRATED	CALIBRATION DUE DATE
USED	DESCRIPTION				
x	Schmid & Partner DASY4 System	-	-	-	-
x	-DASY4 Measurement Server	00158	1078	CNR	CNR
x	-Robot	00046	599396-01	CNR	CNR
x	-DAE4	00019	353	28Apr09	28Apr10
x	-ET3DV6 E-Field Probe	00017	1590	16Jul09	16Jul10
x	-Celltech 450 MHz Validation Dipole	00024	136	19Jan09	19Jan10
x	-Plexiglas Side Planar Phantom	00156	161	CNR	CNR
x	-Plexiglas Validation Planar Phantom	00157	137	CNR	CNR
x	HP 85070C Dielectric Probe Kit	00033	US39240170	CNR	CNR
x	HP E4408B Spectrum Analyzer	00015	US39240170	23Apr08	28Apr10
x	Gigatronics 8652A Power Meter	00007	1835272	23Apr08	28Apr10
x	Gigatronics 80701A Power Sensor	00014	1833699	23Apr08	28Apr10
x	HP 8753ET Network Analyzer	00134	US39170292	28Apr08	28Apr10
x	Rohde & Schwarz SMR20 Signal Generator	00006	100104	CNR	CNR
x	Amplifier Research 5S1G4 Power Amplifier	00106	26235	CNR	CNR
Abbr.	CNR = Calibration Not Required				



<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	Date(s) of Evaluation Nov. 5, 10, 16-17, 2009	Test Report Serial No. 102809AQZ-T991-S90U	Test Report Revision No. Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	Test Report Issue Date December 23, 2009	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

## 21.0 MEASUREMENT UNCERTAINTIES


UNCERTAINTY BUDGET FOR DEVICE EVALUATION									
Uncertainty Component	IEEE 1528 Section	Uncertainty Value ±%	Probability Distribution	Divisor	ci 1g	ci 10g	Uncertainty Value ±% (1g)	Uncertainty Value ±% (10g)	V <sub>i</sub> or V <sub>eff</sub>
<b>Measurement System</b>									
Probe Calibration (450 MHz)	E.2.1	6.65	Normal	1	1	1	6.65	6.65	∞
Axial Isotropy	E.2.2	4.7	Rectangular	1.732050808	0.7	0.7	1.9	1.9	∞
Hemispherical Isotropy	E.2.2	9.6	Rectangular	1.732050808	0.7	0.7	3.9	3.9	∞
Boundary Effect	E.2.3	1	Rectangular	1.732050808	1	1	0.6	0.6	∞
Linearity	E.2.4	4.7	Rectangular	1.732050808	1	1	2.7	2.7	∞
System Detection Limits	E.2.5	1	Rectangular	1.732050808	1	1	0.6	0.6	∞
Readout Electronics	E.2.6	0.3	Normal	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	Rectangular	1.732050808	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	Rectangular	1.732050808	1	1	1.5	1.5	∞
RF Ambient Conditions	E.6.1	3	Rectangular	1.732050808	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.4	Rectangular	1.732050808	1	1	0.2	0.2	∞
Probe Positioning wrt Phantom Shell	E.6.3	2.9	Rectangular	1.732050808	1	1	1.7	1.7	∞
Extrapolation, interpolation & integration algorithms for max. SAR evaluation	E.5	1	Rectangular	1.732050808	1	1	0.6	0.6	∞
<b>Test Sample Related</b>									
Test Sample Positioning	E.4.2	2.9	Normal	1	1	1	2.9	2.9	12
Device Holder Uncertainty	E.4.1	3.6	Normal	1	1	1	3.6	3.6	8
SAR Drift Measurement	6.6.2	5	Rectangular	1.732050808	1	1	2.9	2.9	∞
<b>Phantom and Tissue Parameters</b>									
Phantom Uncertainty	E.3.1	4	Rectangular	1.732050808	1	1	2.3	2.3	∞
Liquid Conductivity (target)	E.3.2	5	Rectangular	1.732050808	0.64	0.43	1.8	1.2	∞
Liquid Conductivity (measured)	E.3.3	5	Normal	1	0.64	0.43	3.2	2.2	∞
Liquid Permittivity (target)	E.3.2	5	Rectangular	1.732050808	0.6	0.49	1.7	1.4	∞
Liquid Permittivity (measured)	E.3.3	3.9	Normal	1	0.6	0.49	2.3	1.9	∞
<b>Combined Standard Uncertainty</b>			<b>RSS</b>				<b>11.70</b>	<b>11.25</b>	
<b>Expanded Uncertainty (95% Confidence Interval)</b>			<b>k=2</b>				<b>23.39</b>	<b>22.50</b>	
<b>Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003</b>									



<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>		
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>		
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


## 22.0 REFERENCES



- [1] Federal Communications Commission - "Radiofrequency radiation exposure evaluation: portable devices", Rule Part 47 CFR §2.1093.
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- [10] Schmid & Partner Engineering AG - DASY4 Manual V4.6, Chapter 21 Application Note, SAR Sensitivities: Sept. 2005.
- [11] Schmid & Partner Engineering AG - DASY4 Manual V4.6, Chapter 16 Application Note, Head Tissue Recipe: Sept. 2005.
- [12] Schmid & Partner Engineering AG - DASY4 Manual V4.6, Chapter 17 Application Note, Body Tissue Recipe: Sept. 2005.

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

**APPENDIX A - SAR MEASUREMENT DATA**

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Lithium-ion Battery Pack - 423.5 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.85 \text{ mho/m}$ ;  $\epsilon_r = 44.6$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 2.30 mW/g

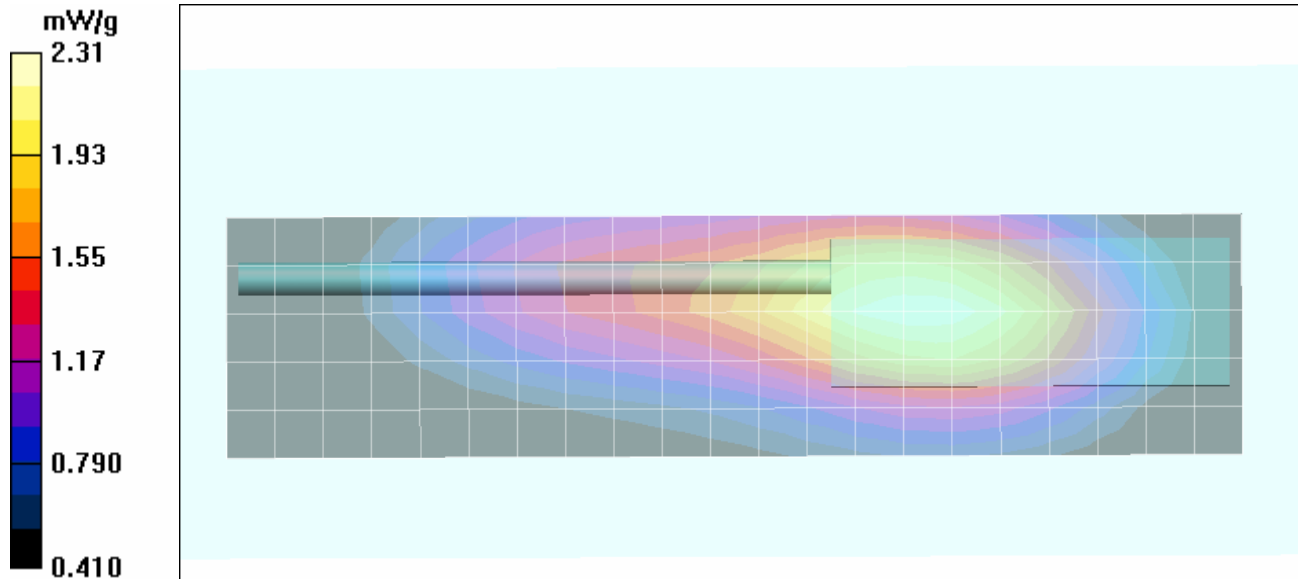
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 51.5 V/m; Power Drift = -0.058 dB

Peak SAR (extrapolated) = 2.93 W/kg

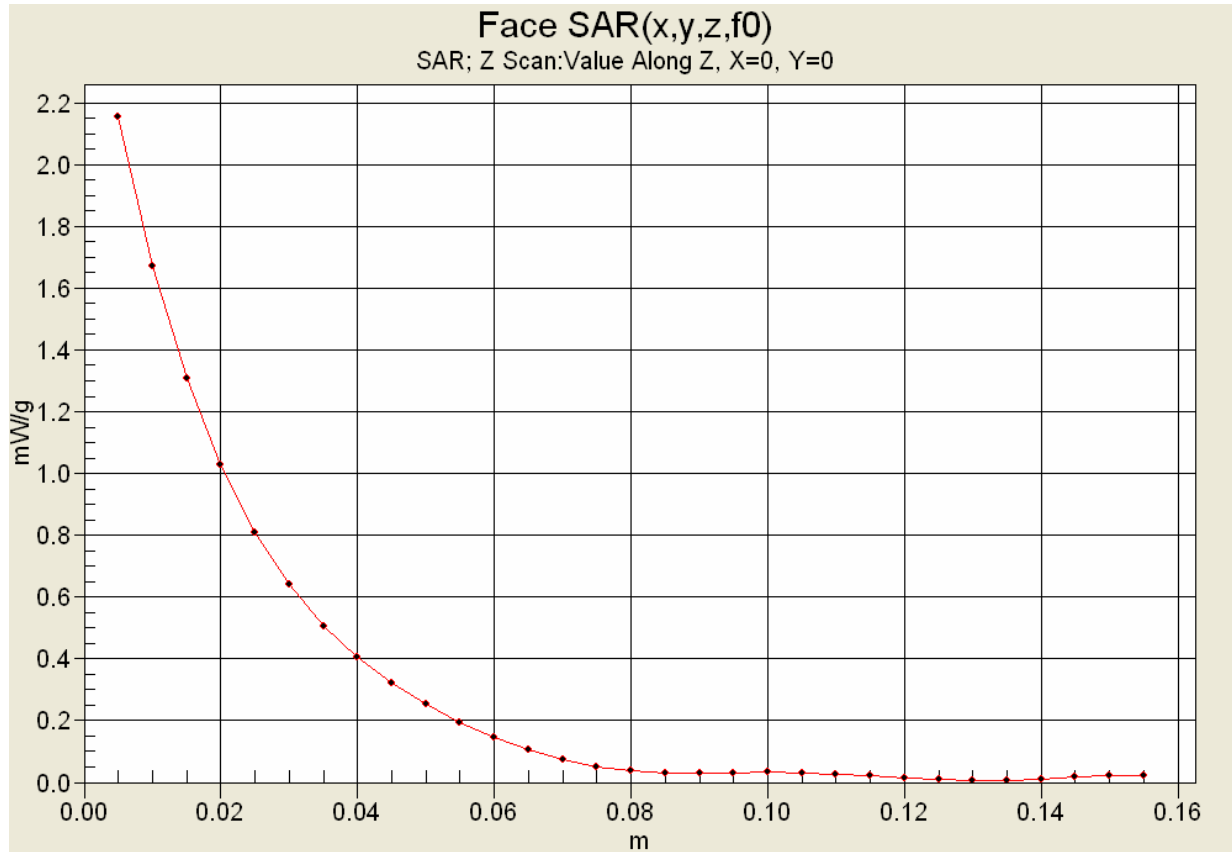
**SAR(1 g) = 2.22 mW/g; SAR(10 g) = 1.69 mW/g**



Maximum value of SAR (measured) = 2.31 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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### Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Alkaline Battery Case - 423.5 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 423.5$  MHz;  $\sigma = 0.85$  mho/m;  $\epsilon_r = 44.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 1.86 mW/g

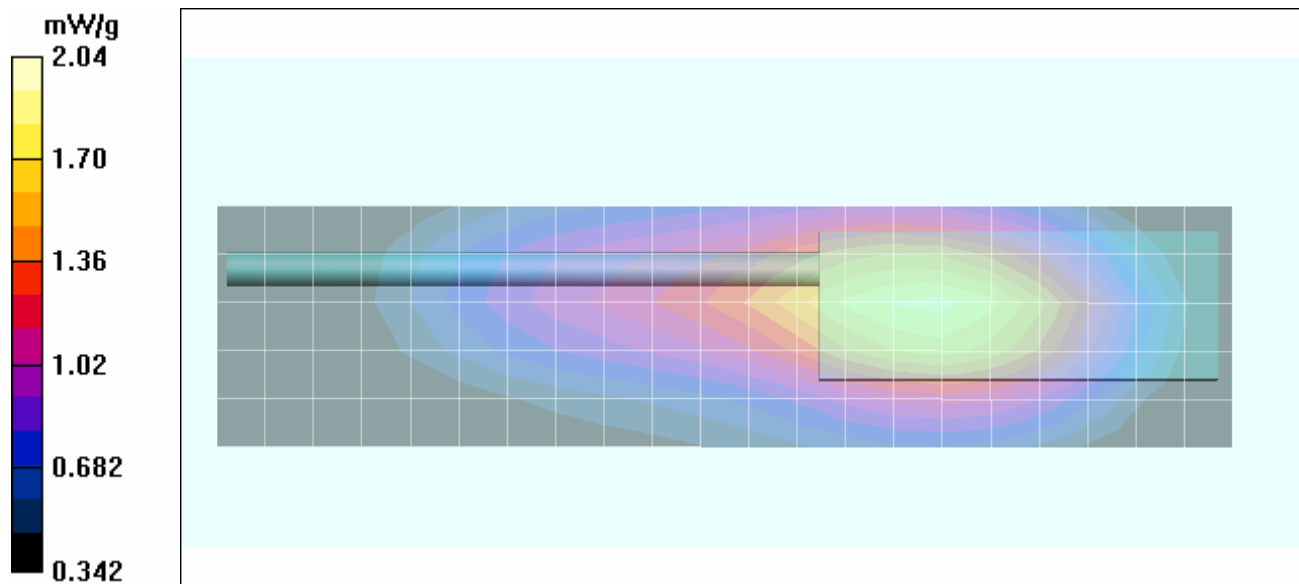
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm


Reference Value = 50.3 V/m; Power Drift = -0.899 dB



Peak SAR (extrapolated) = 2.59 W/kg

**SAR(1 g) = 1.95 mW/g; SAR(10 g) = 1.49 mW/g**

Maximum value of SAR (measured) = 2.04 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Lithium-ion Battery Pack - 458.5 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 458.5$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 43.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DAS4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (measured) = 2.00 mW/g

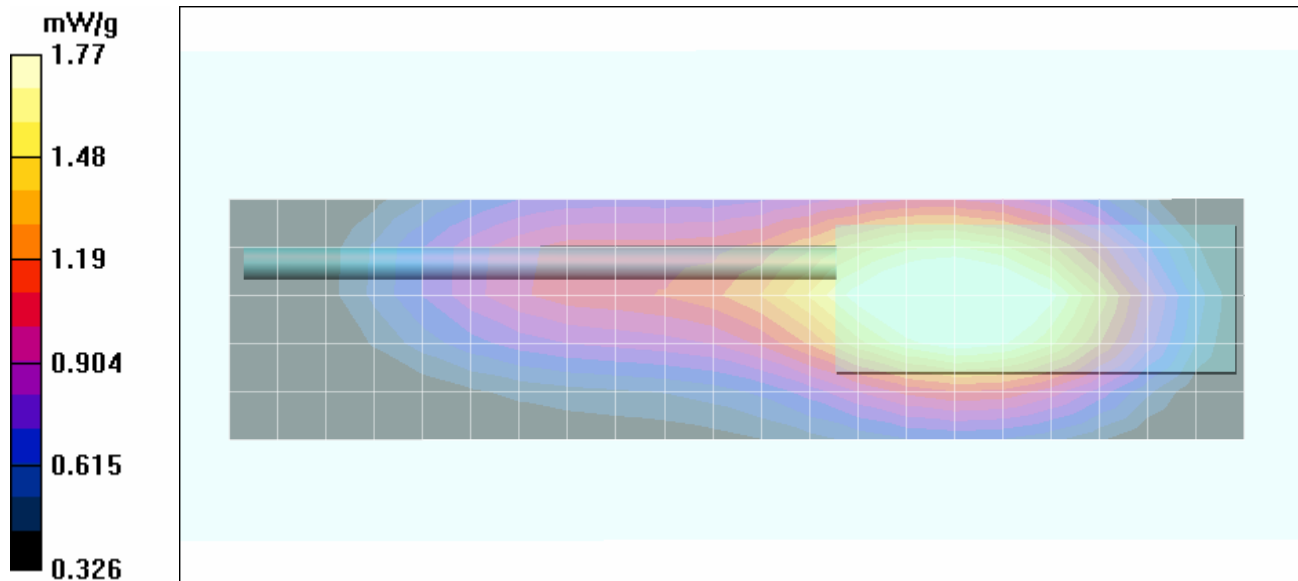
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm


Reference Value = 42.1 V/m; Power Drift = -0.205 dB

Peak SAR (extrapolated) = 2.30 W/kg



**SAR(1 g) = 1.79 mW/g; SAR(10 g) = 1.37 mW/g**

Maximum value of SAR (measured) = 1.77 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

### Face-held SAR - Alkaline Battery Case - 458.5 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.88 \text{ mho/m}$ ;  $\epsilon_r = 43.6$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 1.56 mW/g

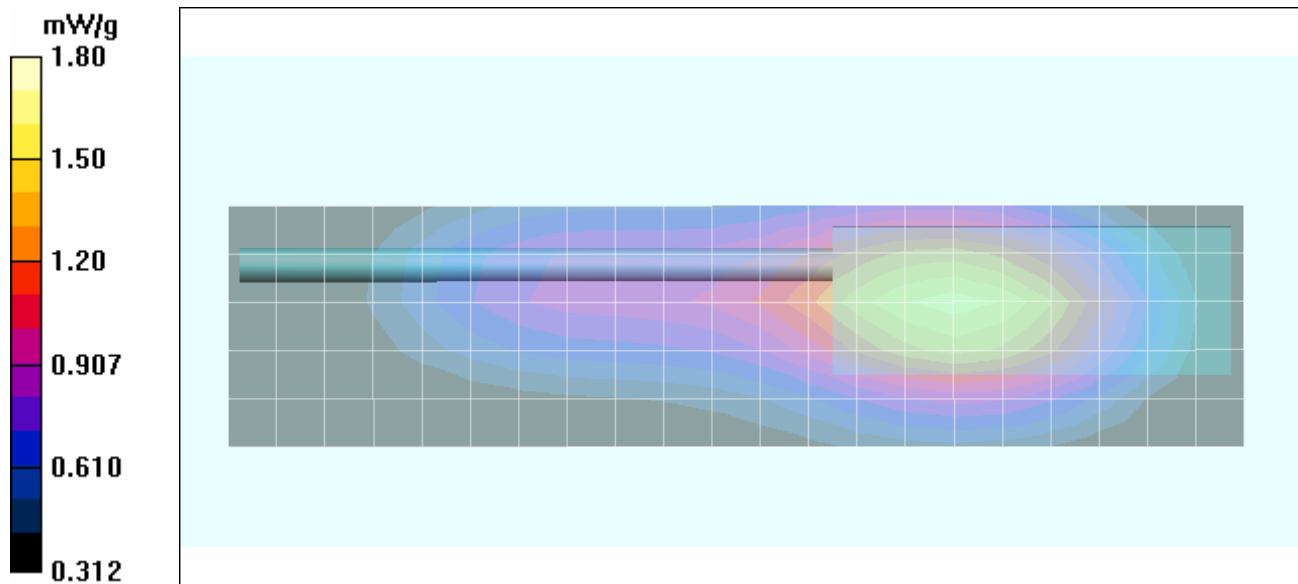
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 44.4 V/m; Power Drift = -1.05 dB



Peak SAR (extrapolated) = 2.28 W/kg

**SAR(1 g) = 1.71 mW/g; SAR(10 g) = 1.31 mW/g**

Maximum value of SAR (measured) = 1.80 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Lithium-ion Battery Pack - 493.5 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 43.4$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

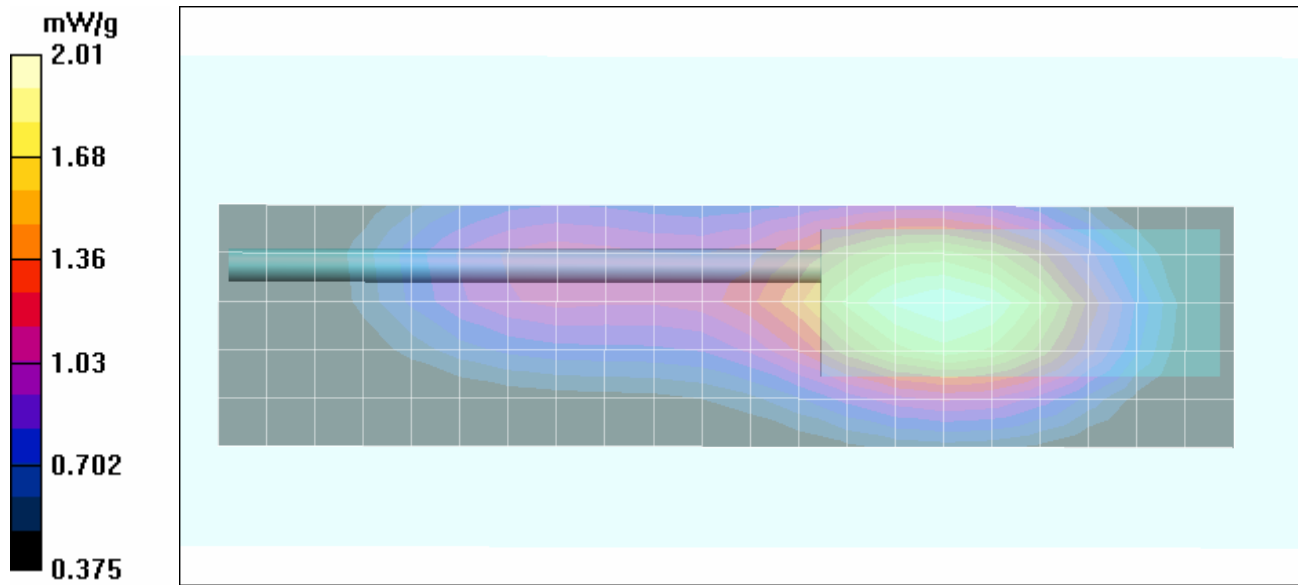
Maximum value of SAR (measured) = 2.01 mW/g


**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$



Reference Value = 44.1 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 2.61 W/kg

**SAR(1 g) = 1.92 mW/g; SAR(10 g) = 1.45 mW/g**



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Alkaline Battery Case - 493.5 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 43.4$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 1.44 mW/g

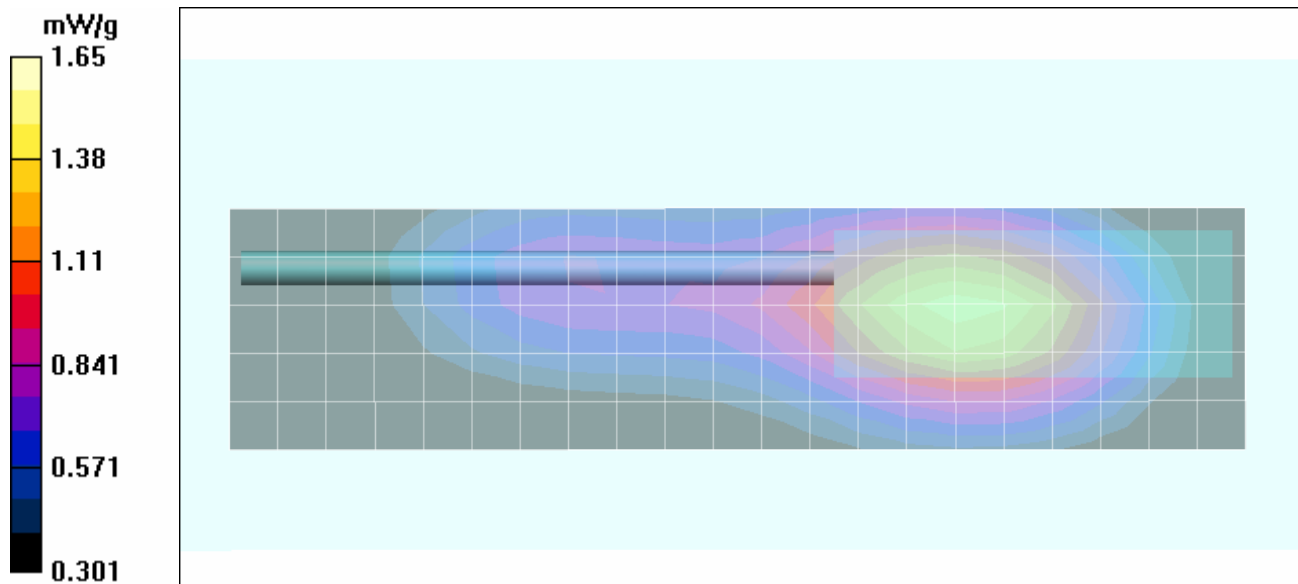
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 41.0 V/m; Power Drift = -1.21 dB



Peak SAR (extrapolated) = 2.14 W/kg

**SAR(1 g) = 1.57 mW/g; SAR(10 g) = 1.18 mW/g**

Maximum value of SAR (measured) = 1.65 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Lithium-ion Battery Pack - 406.1 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 406.1 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 406.1 \text{ MHz}$ ;  $\sigma = 0.86 \text{ mho/m}$ ;  $\epsilon_r = 44.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 2.35 mW/g

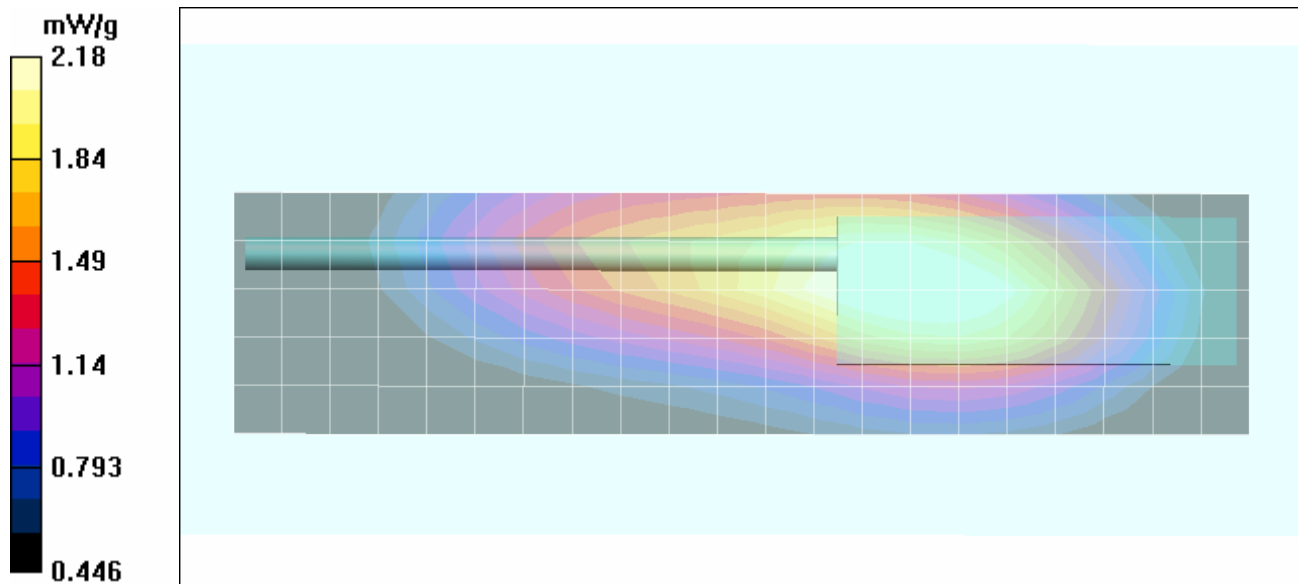
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 50.0 V/m; Power Drift = -0.093 dB



Peak SAR (extrapolated) = 2.80 W/kg

**SAR(1 g) = 2.2 mW/g; SAR(10 g) = 1.68 mW/g**

Maximum value of SAR (measured) = 2.18 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Lithium-ion Battery Pack - 441.0 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 441 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 441 \text{ MHz}$ ;  $\sigma = 0.88 \text{ mho/m}$ ;  $\epsilon_r = 44.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 2.05 mW/g

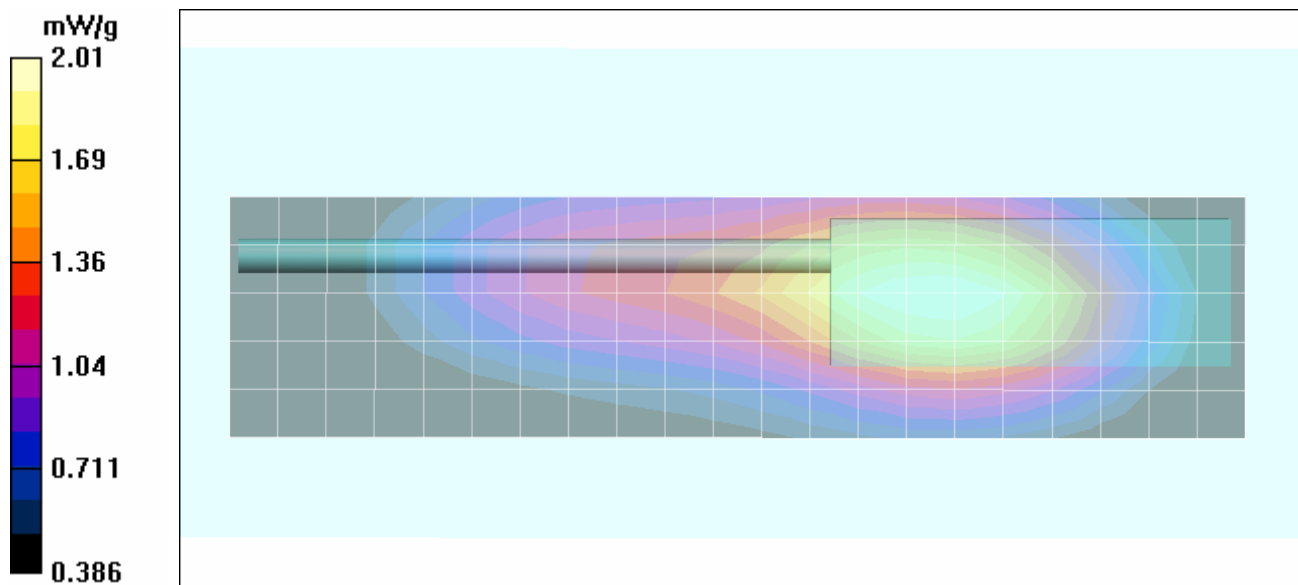
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 46.5 V/m; Power Drift = -0.308 dB



Peak SAR (extrapolated) = 2.60 W/kg

**SAR(1 g) = 2.03 mW/g; SAR(10 g) = 1.55 mW/g**

Maximum value of SAR (measured) = 2.01 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

### Face-held SAR - Lithium-ion Battery Pack - 476.0 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 476 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 476 \text{ MHz}$ ;  $\sigma = 0.89 \text{ mho/m}$ ;  $\epsilon_r = 43.6$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 2.03 mW/g

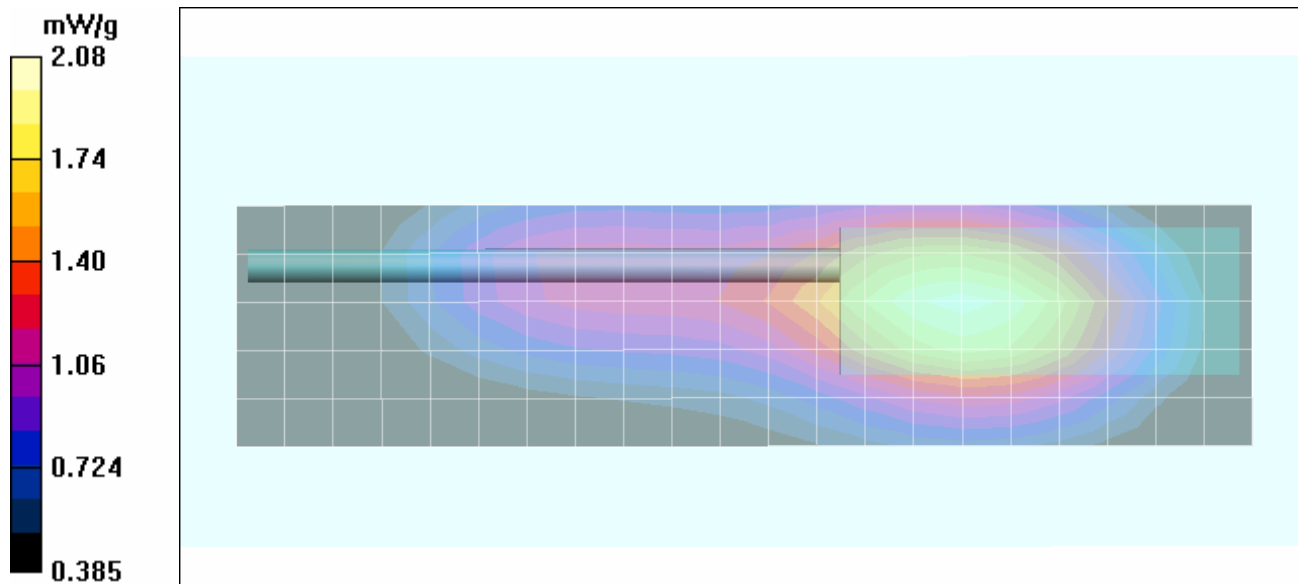
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 45.4 V/m; Power Drift = -0.136 dB



Peak SAR (extrapolated) = 2.68 W/kg

**SAR(1 g) = 1.99 mW/g; SAR(10 g) = 1.51 mW/g**

Maximum value of SAR (measured) = 2.08 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## Face-held SAR - Lithium-ion Battery Pack - 512.0 MHz

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 512 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 512 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42.6$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Face-held SAR - 2.5 cm Spacing from Front of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 1.49 mW/g

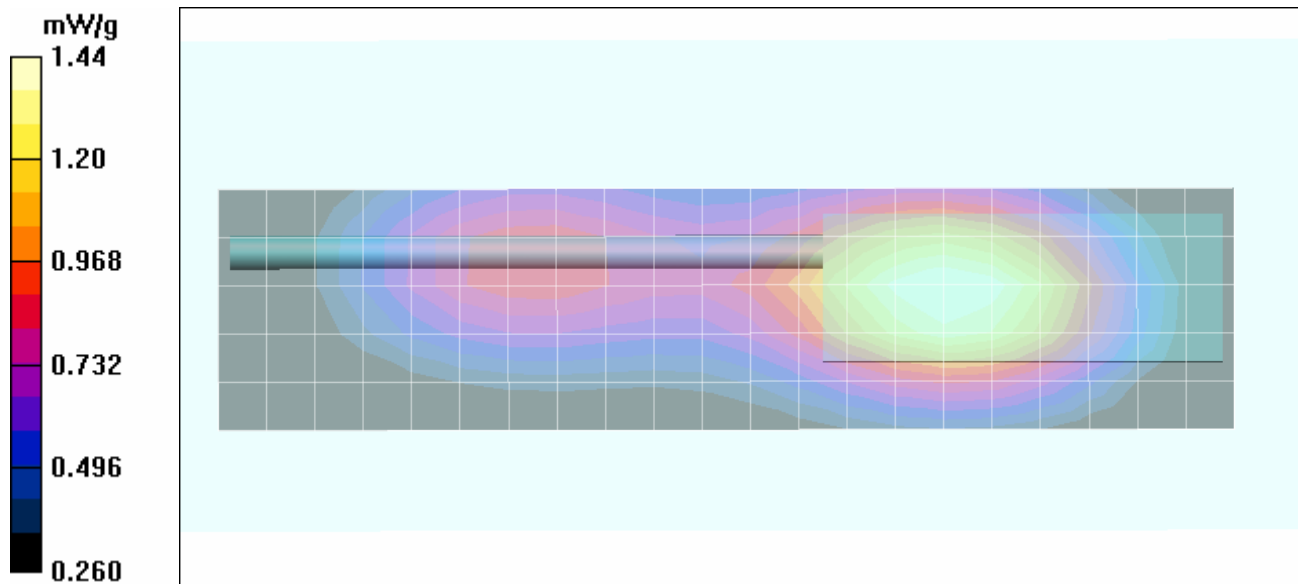
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 36.7 V/m; Power Drift = -0.299 dB



Peak SAR (extrapolated) = 1.91 W/kg

**SAR(1 g) = 1.46 mW/g; SAR(10 g) = 1.1 mW/g**

Maximum value of SAR (measured) = 1.44 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

**Body-worn SAR - Lithium-ion Battery Pack - 423.5 MHz - Battery "Baseline" Highest SAR Search**

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.92 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Body-worn SAR - 1.2 cm Air-Gap Spacing from Back of DUT to Planar Phantom**

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.26 mW/g

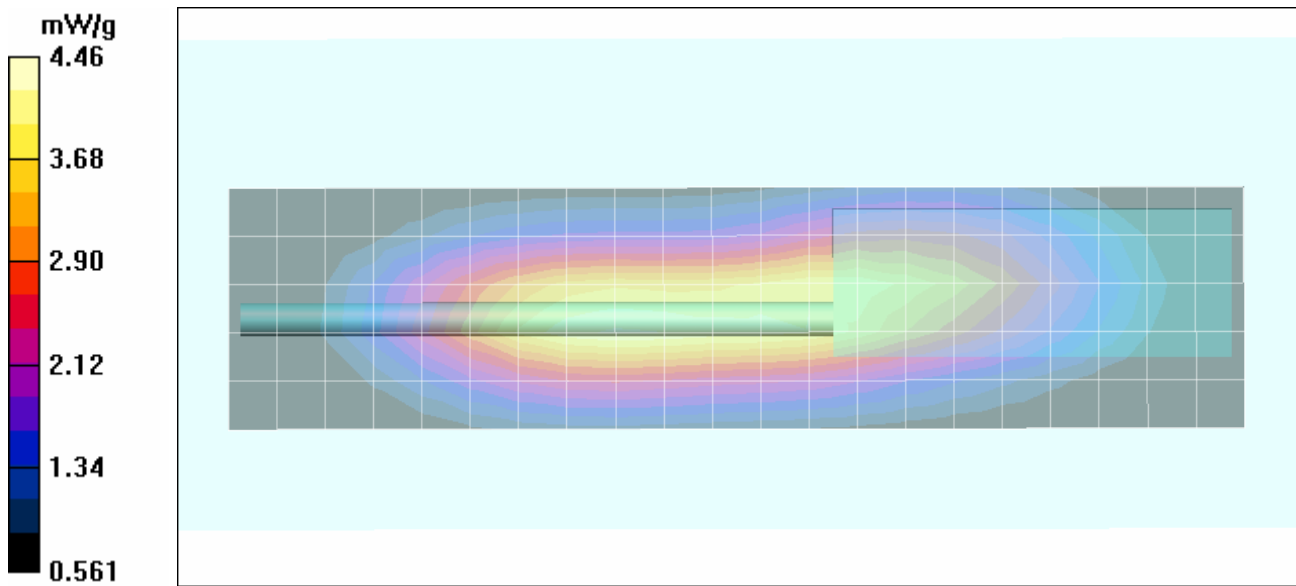
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 55.3 V/m; Power Drift = -0.274 dB

Peak SAR (extrapolated) = 6.20 W/kg



**SAR(1 g) = 4.42 mW/g; SAR(10 g) = 3.11 mW/g**

Maximum value of SAR (measured) = 4.46 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Alkaline Battery Case - 423.5 MHz - Battery “Baseline” Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.92 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Air-Gap Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.07 mW/g

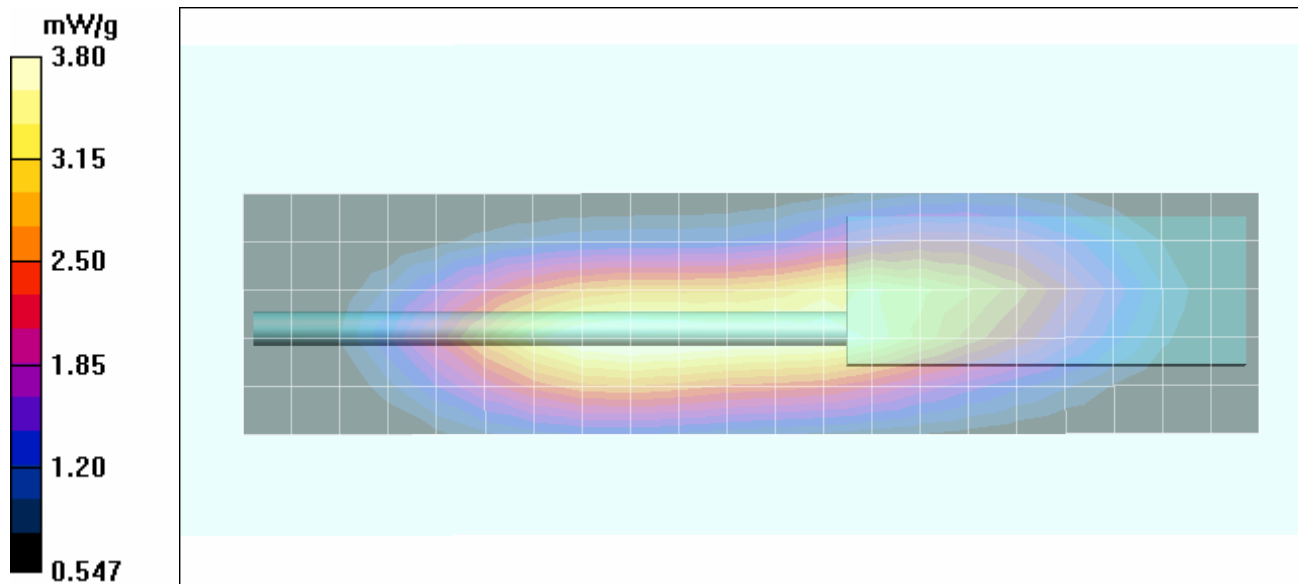
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 66.8 V/m; Power Drift = -0.857 dB



Peak SAR (extrapolated) = 5.18 W/kg

**SAR(1 g) = 3.62 mW/g; SAR(10 g) = 2.64 mW/g**

Maximum value of SAR (measured) = 3.80 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Lithium-ion Battery Pack - 458.5 MHz - Battery "Baseline" Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 57.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Air-Gap Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 3.60 mW/g

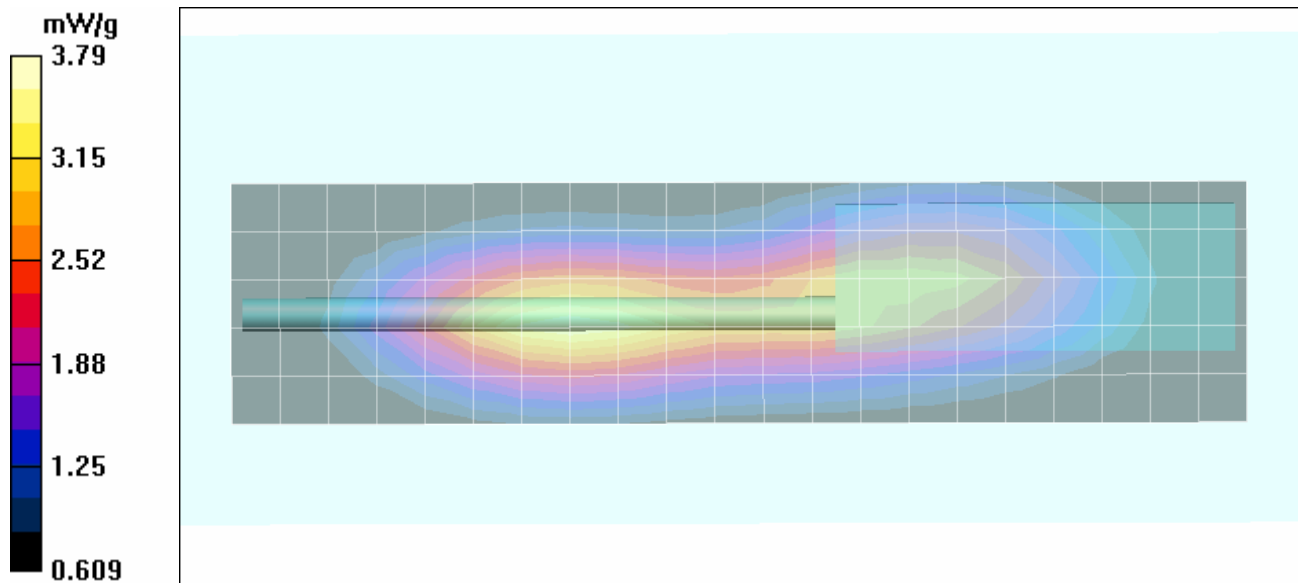
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 57.3 V/m; Power Drift = -0.461 dB



Peak SAR (extrapolated) = 5.20 W/kg

**SAR(1 g) = 3.61 mW/g; SAR(10 g) = 2.62 mW/g**

Maximum value of SAR (measured) = 3.79 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Alkaline Battery Case - 458.5 MHz - Battery “Baseline” Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 57.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Air-Gap Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 3.01 mW/g

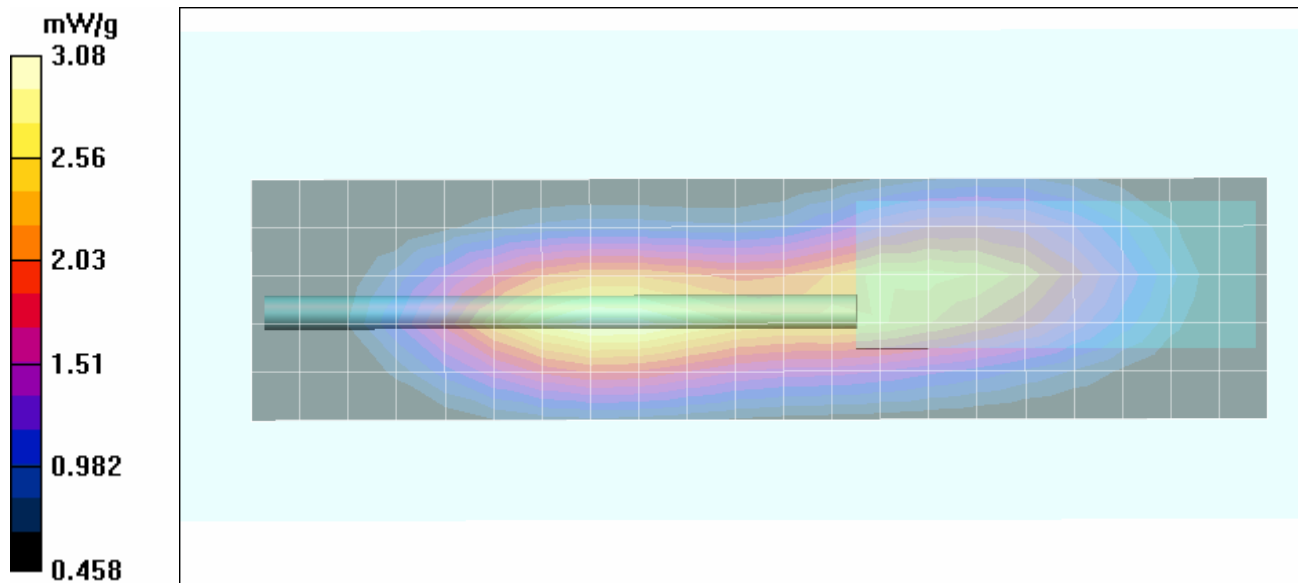
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 50.9 V/m; Power Drift = -0.844 dB



Peak SAR (extrapolated) = 4.25 W/kg

**SAR(1 g) = 2.94 mW/g; SAR(10 g) = 2.08 mW/g**

Maximum value of SAR (measured) = 3.08 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Lithium-ion Battery Pack - 493.5 MHz - Battery "Baseline" Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.97 \text{ mho/m}$ ;  $\epsilon_r = 57.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Air-Gap Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 5.27 mW/g

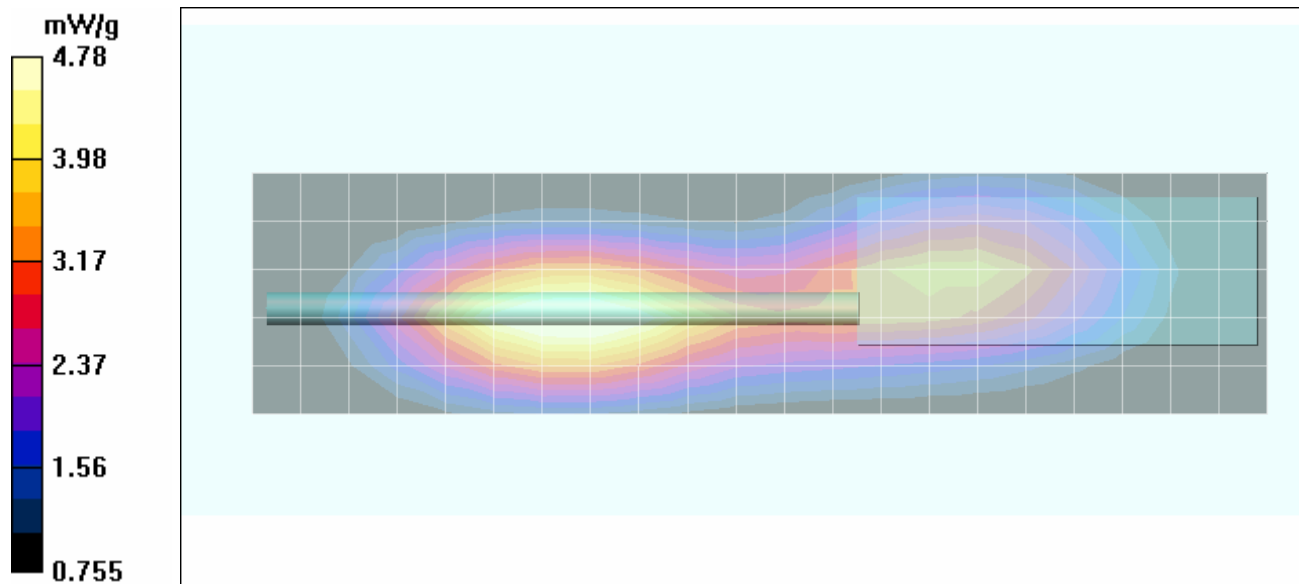
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 53.9 V/m; Power Drift = -0.317 dB



Peak SAR (extrapolated) = 6.48 W/kg

**SAR(1 g) = 4.57 mW/g; SAR(10 g) = 3.3 mW/g**

Maximum value of SAR (measured) = 4.78 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Alkaline Battery Case - 493.5 MHz - Battery “Baseline” Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.97 \text{ mho/m}$ ;  $\epsilon_r = 57.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Air-Gap Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.26 mW/g

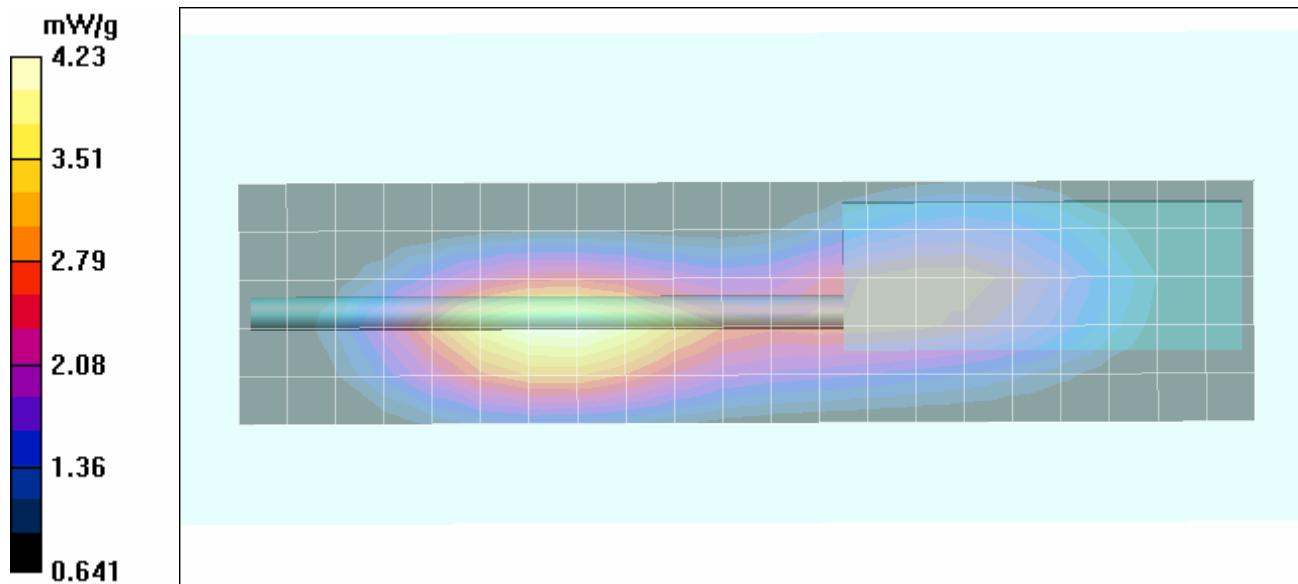
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 54.2 V/m; Power Drift = -1.52 dB



Peak SAR (extrapolated) = 5.75 W/kg

**SAR(1 g) = 4 mW/g; SAR(10 g) = 2.88 mW/g**

Maximum value of SAR (measured) = 4.23 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Lithium-ion Battery Pack - 423.5 MHz - B-w Accessory Highest SAR Search

DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067

Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.92 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 11.4 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 77.8 V/m; Power Drift = -0.261 dB

Peak SAR (extrapolated) = 13.5 W/kg

**SAR(1 g) = 8.21 mW/g; SAR(10 g) = 5.29 mW/g**

Maximum value of SAR (measured) = 8.58 mW/g

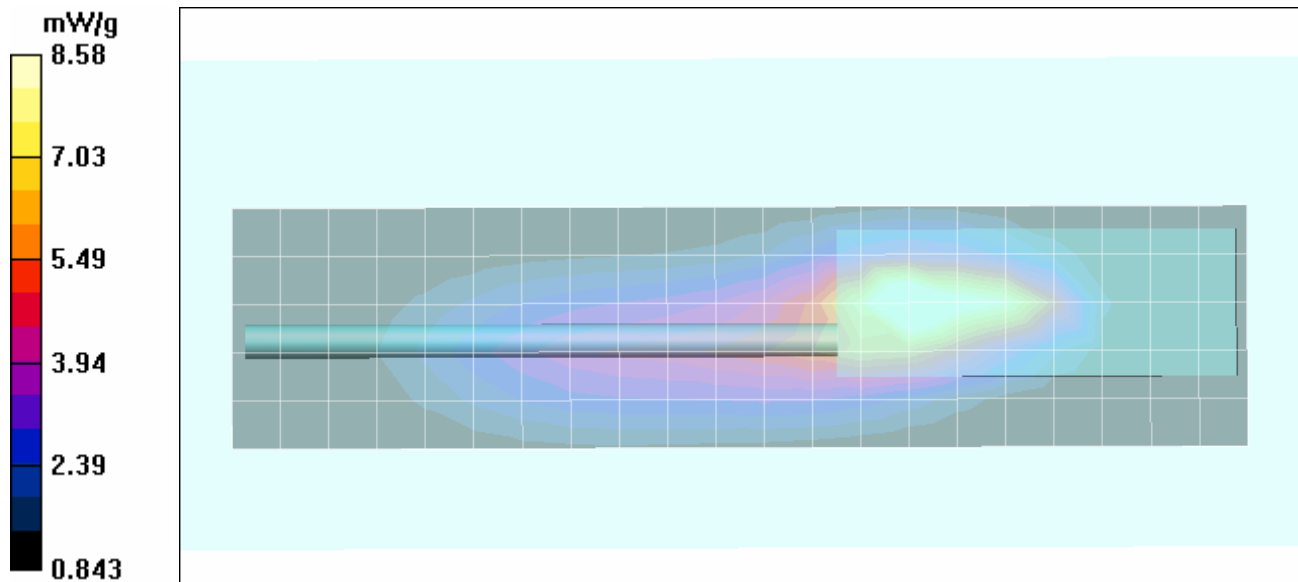
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 77.8 V/m; Power Drift = -0.211 dB

Peak SAR (extrapolated) = 9.62 W/kg

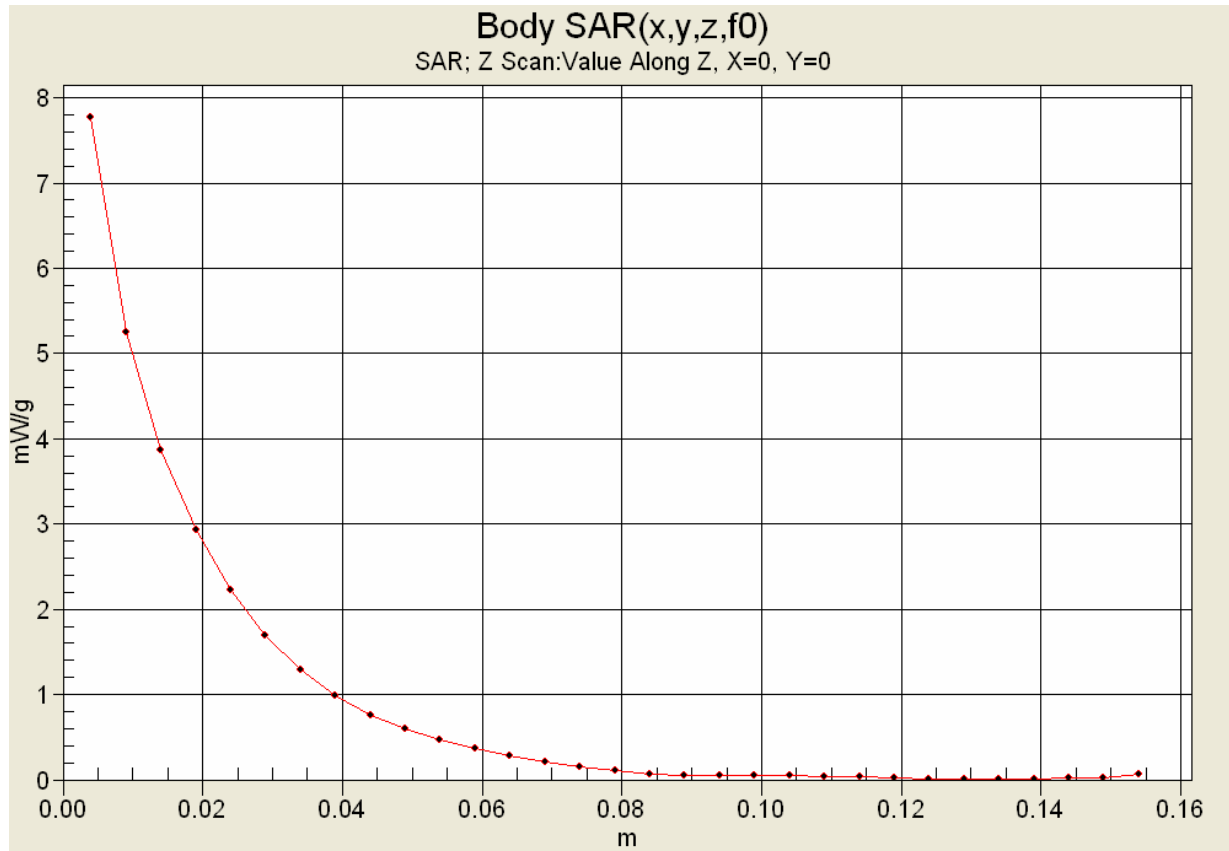
**SAR(1 g) = 5.52 mW/g; SAR(10 g) = 3.47 mW/g**



Maximum value of SAR (measured) = 6.12 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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## Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## Body-worn SAR - Alkaline Battery Case - 423.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone**

Ambient Temp: 24.1°C; Fluid Temp: 23.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.92 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.88 mW/g

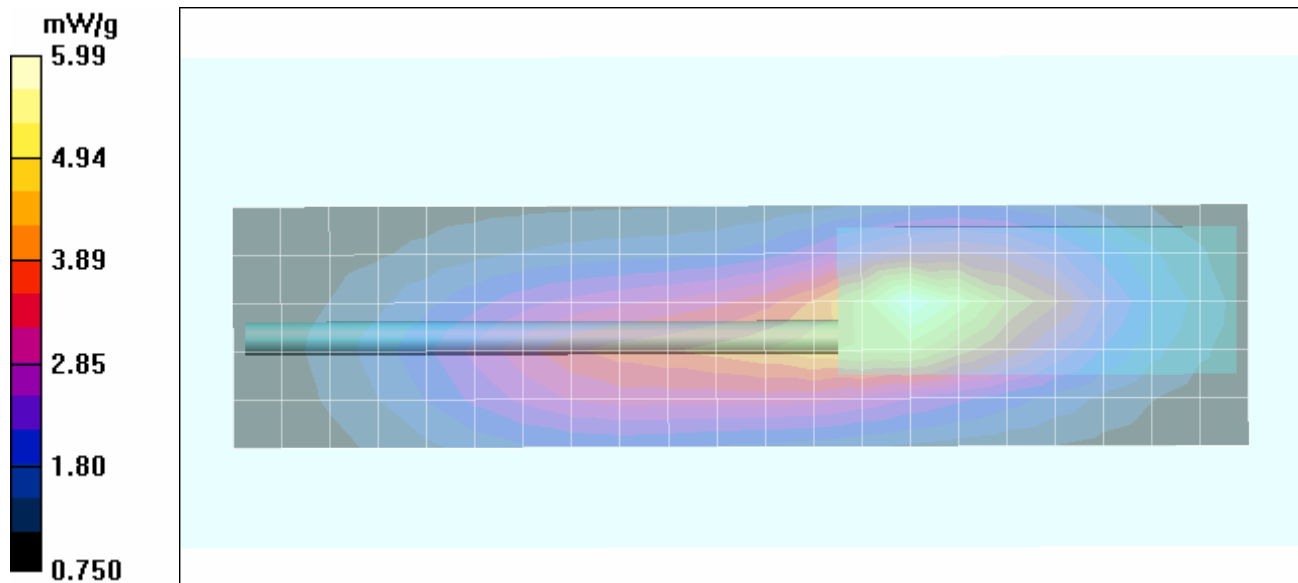
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 66.2 V/m; Power Drift = -0.793 dB

Peak SAR (extrapolated) = 9.76 W/kg



**SAR(1 g) = 5.82 mW/g; SAR(10 g) = 3.89 mW/g**

Maximum value of SAR (measured) = 5.99 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Lithium-ion Battery Pack - 458.5 MHz - B-w Accessory Highest SAR Search

DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067

Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 58.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 5.89 mW/g

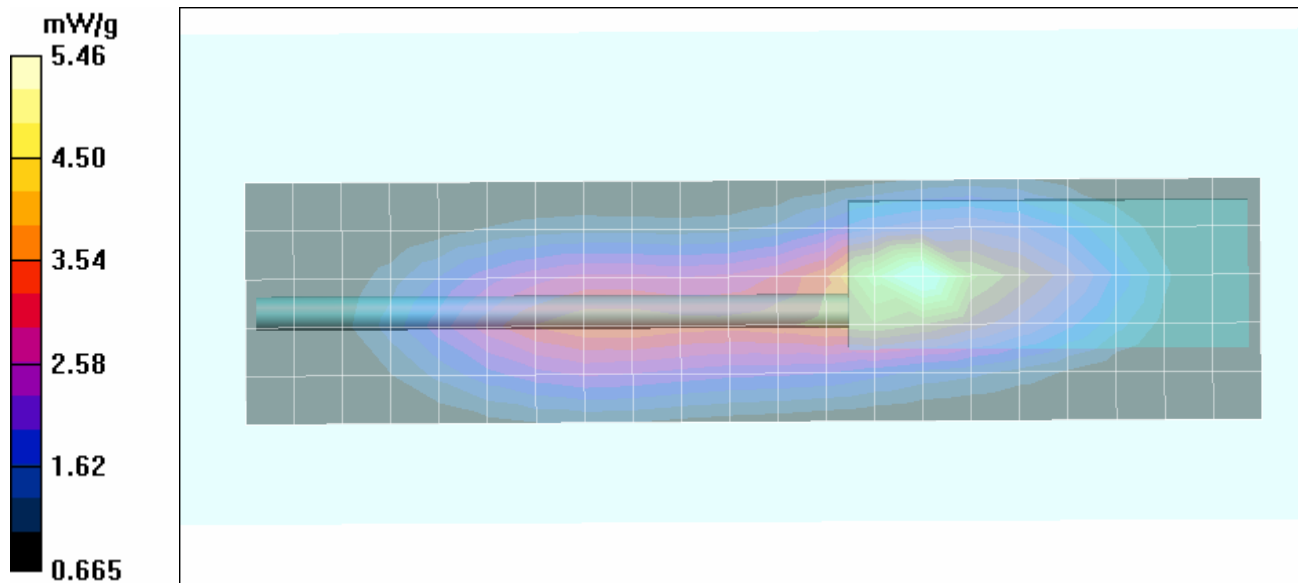
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 61.9 V/m; Power Drift = -0.487 dB



Peak SAR (extrapolated) = 9.45 W/kg

**SAR(1 g) = 5.3 mW/g; SAR(10 g) = 3.43 mW/g**

Maximum value of SAR (measured) = 5.46 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Alkaline Battery Case - 458.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 58.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.04 mW/g

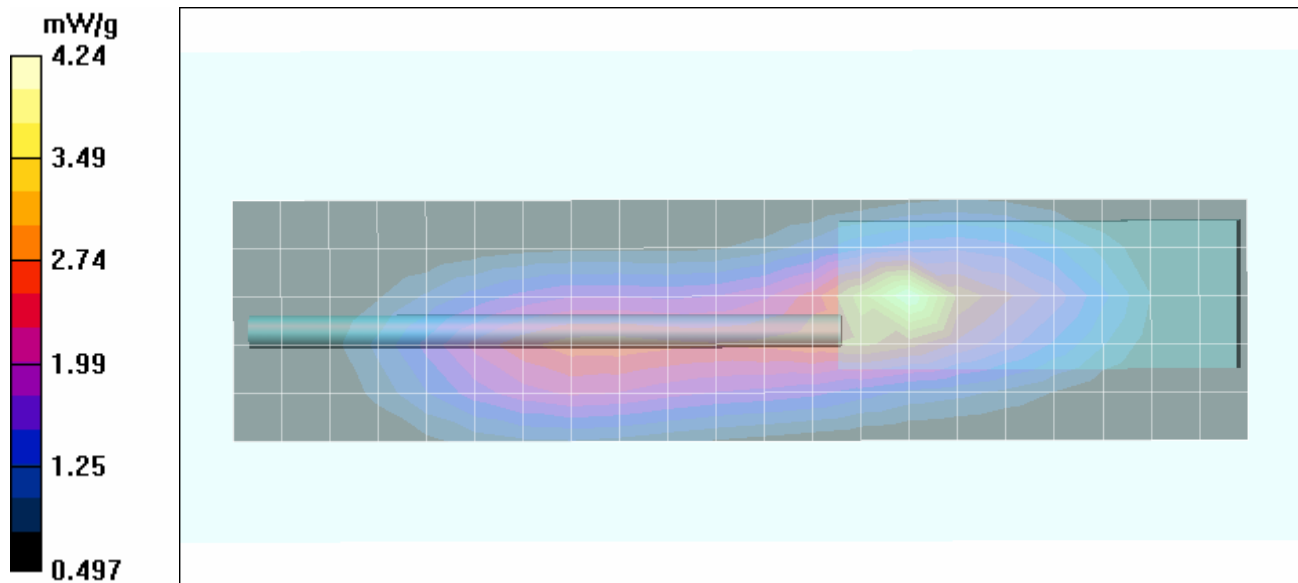
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 55.8 V/m; Power Drift = -1.08 dB



Peak SAR (extrapolated) = 7.18 W/kg

**SAR(1 g) = 4.07 mW/g; SAR(10 g) = 2.67 mW/g**

Maximum value of SAR (measured) = 4.24 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Lithium-ion Battery Pack - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 58$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 13.2 mW/g

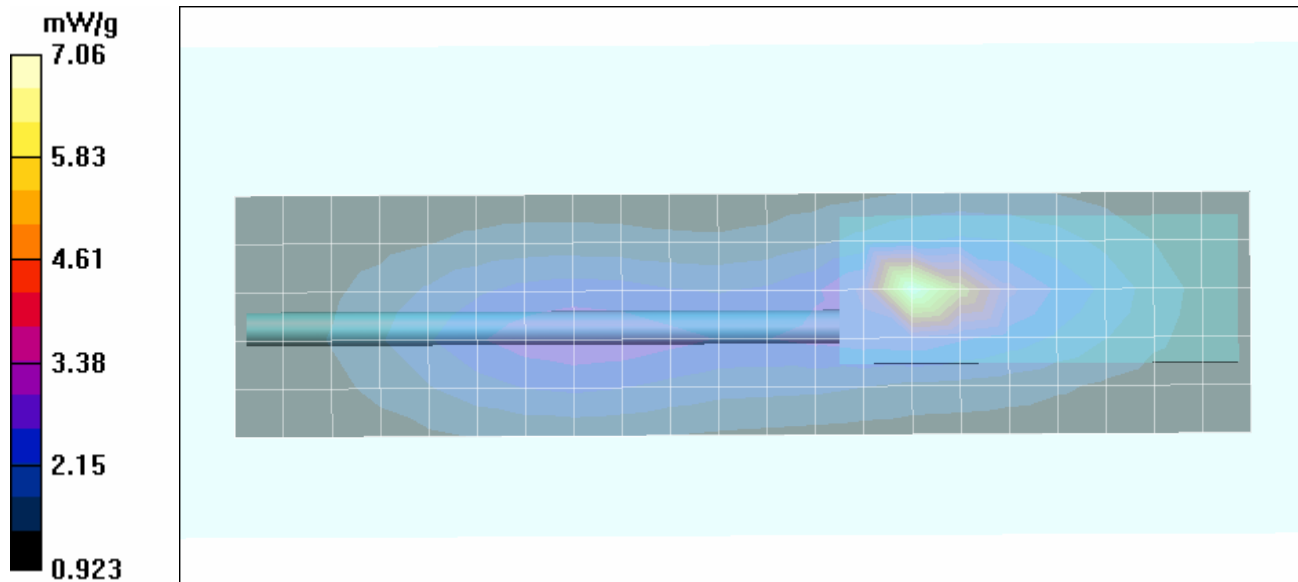
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 64.2 V/m; Power Drift = -0.257 dB

Peak SAR (extrapolated) = 10.4 W/kg

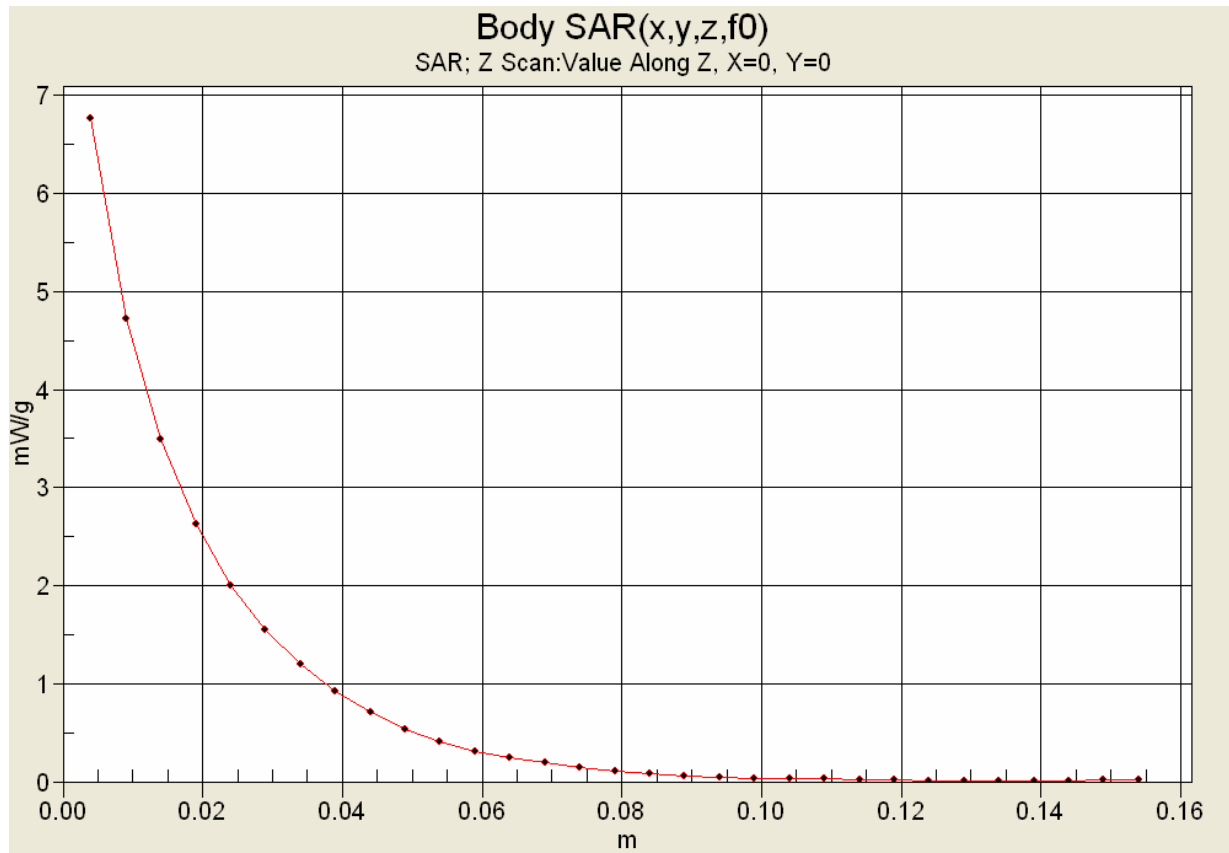
**SAR(1 g) = 6.74 mW/g; SAR(10 g) = 4.67 mW/g**



Maximum value of SAR (measured) = 7.06 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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## Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Alkaline Battery Case - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 58$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 6.40 mW/g

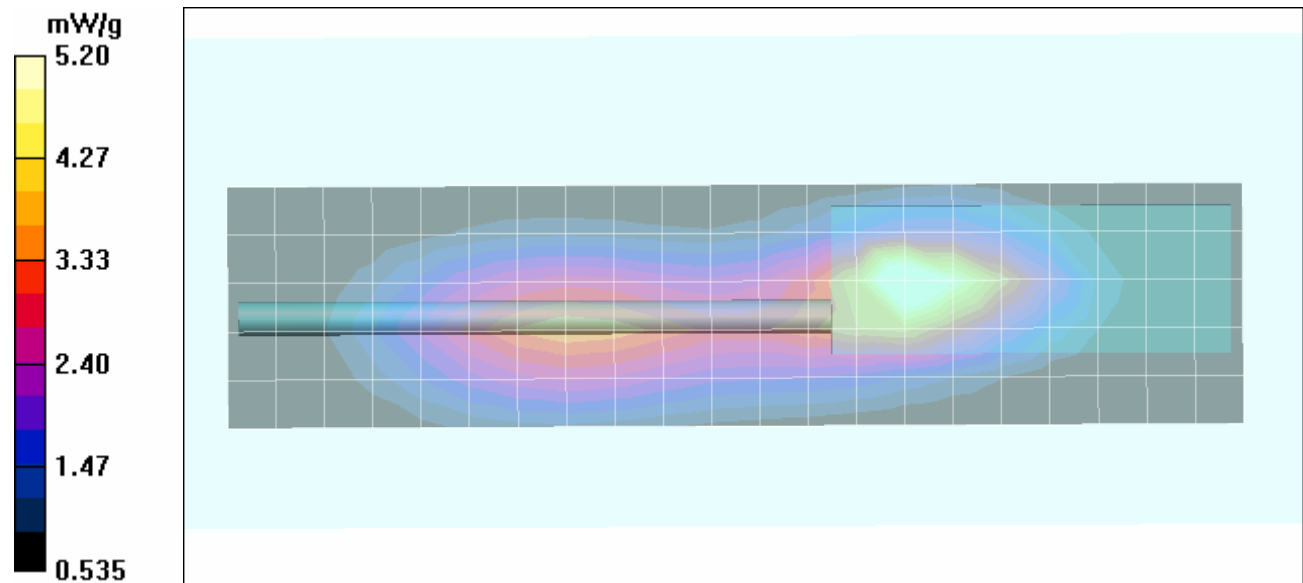
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 62.5 V/m; Power Drift = -1.54 dB



Peak SAR (extrapolated) = 8.83 W/kg

**SAR(1 g) = 4.91 mW/g; SAR(10 g) = 3.18 mW/g**

Maximum value of SAR (measured) = 5.20 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 423.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Nylon Case (Window) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.90 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Nylon Case Spacing from Back of DUT to Planar Phantom

**Area Scan (8x29x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 5.03 mW/g

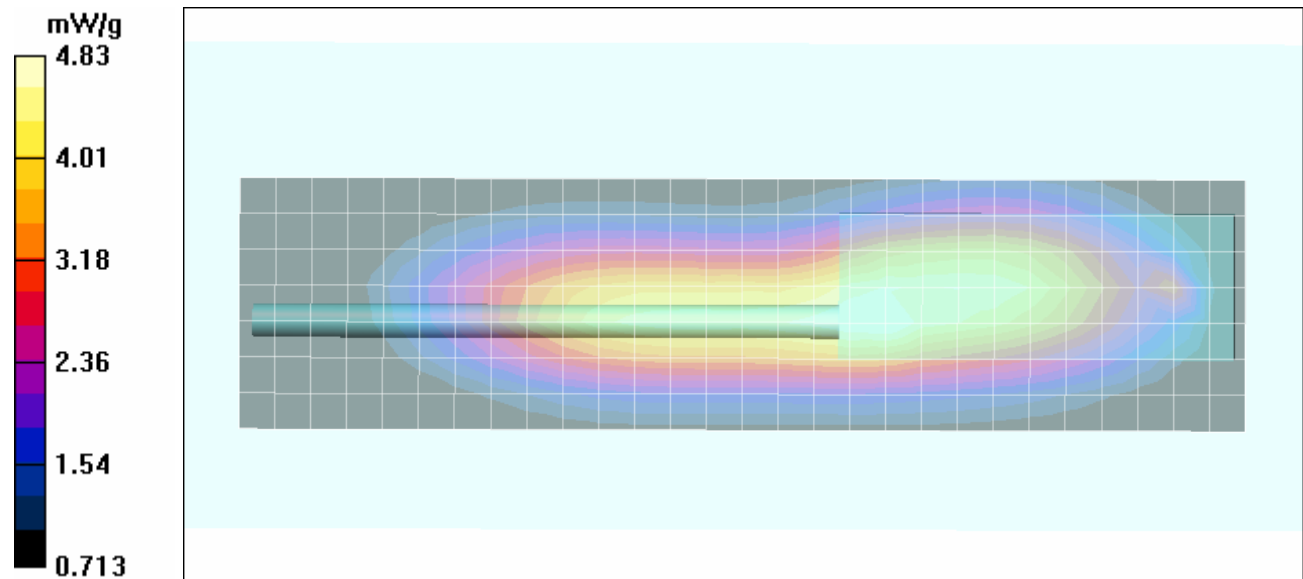
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 68.0 V/m; Power Drift = -0.492 dB



Peak SAR (extrapolated) = 7.09 W/kg

**SAR(1 g) = 4.59 mW/g; SAR(10 g) = 3.37 mW/g**

Maximum value of SAR (measured) = 4.83 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Alkaline Battery Case - 423.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Nylon Case (Window) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.90 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Nylon Case Spacing from Back of DUT to Planar Phantom

**Area Scan (8x29x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 4.03 mW/g

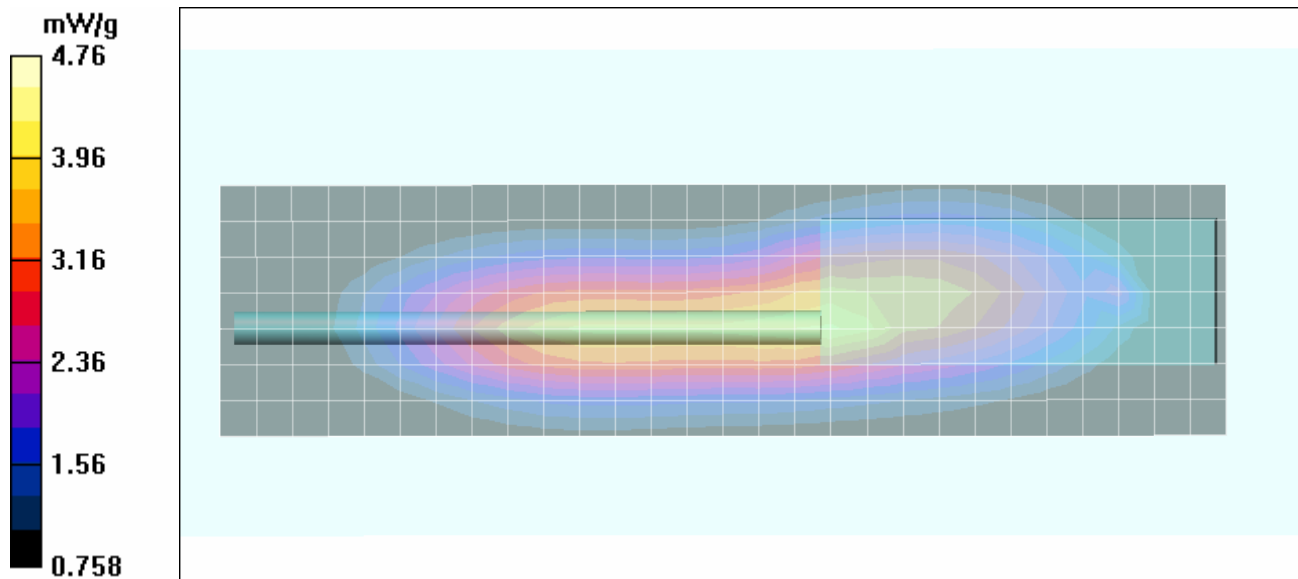
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 72.0 V/m; Power Drift = -1.30 dB



Peak SAR (extrapolated) = 7.73 W/kg

**SAR(1 g) = 4.47 mW/g; SAR(10 g) = 3.1 mW/g**

Maximum value of SAR (measured) = 4.76 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Lithium-ion Battery Pack - 458.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Nylon Case (Window) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 58.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Nylon Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 6.05 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 60.4 V/m; Power Drift = -0.569 dB

Peak SAR (extrapolated) = 9.56 W/kg

**SAR(1 g) = 5.12 mW/g; SAR(10 g) = 3.31 mW/g**

Maximum value of SAR (measured) = 6.04 mW/g

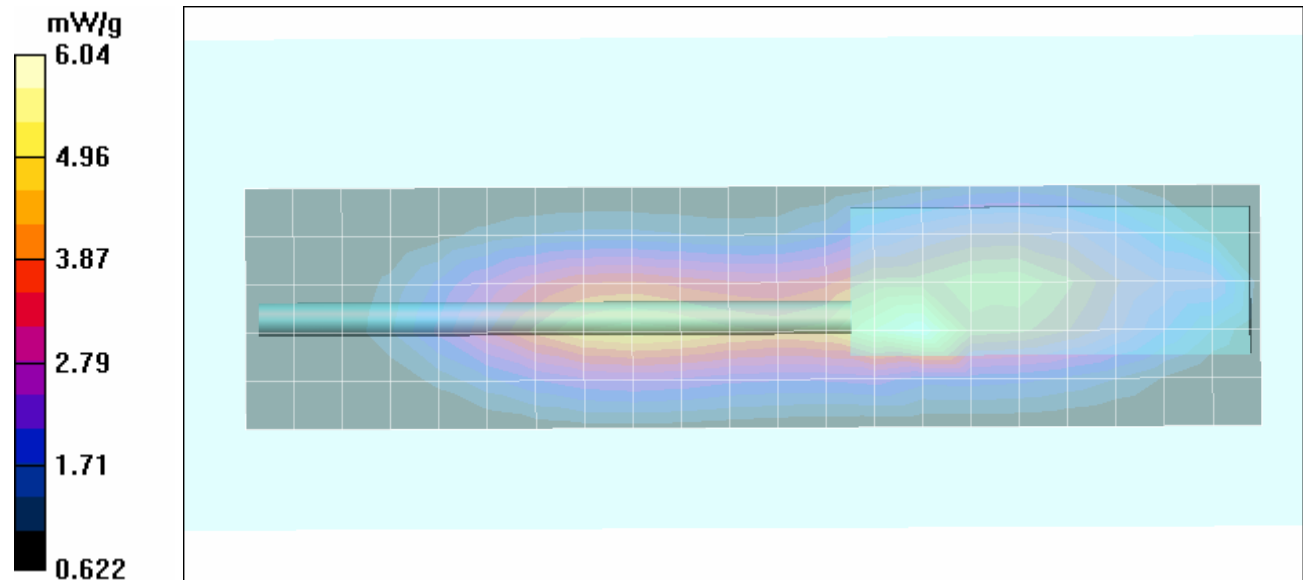
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 60.4 V/m; Power Drift = -0.569 dB

Peak SAR (extrapolated) = 7.21 W/kg



**SAR(1 g) = 4.94 mW/g; SAR(10 g) = 3.52 mW/g**

Maximum value of SAR (measured) = 5.15 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Alkaline Battery Case - 458.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Nylon Case (Window) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 58.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Nylon Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.32 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 59.7 V/m; Power Drift = -1.50 dB

Peak SAR (extrapolated) = 6.07 W/kg

**SAR(1 g) = 4.22 mW/g; SAR(10 g) = 3.05 mW/g**

Maximum value of SAR (measured) = 4.42 mW/g

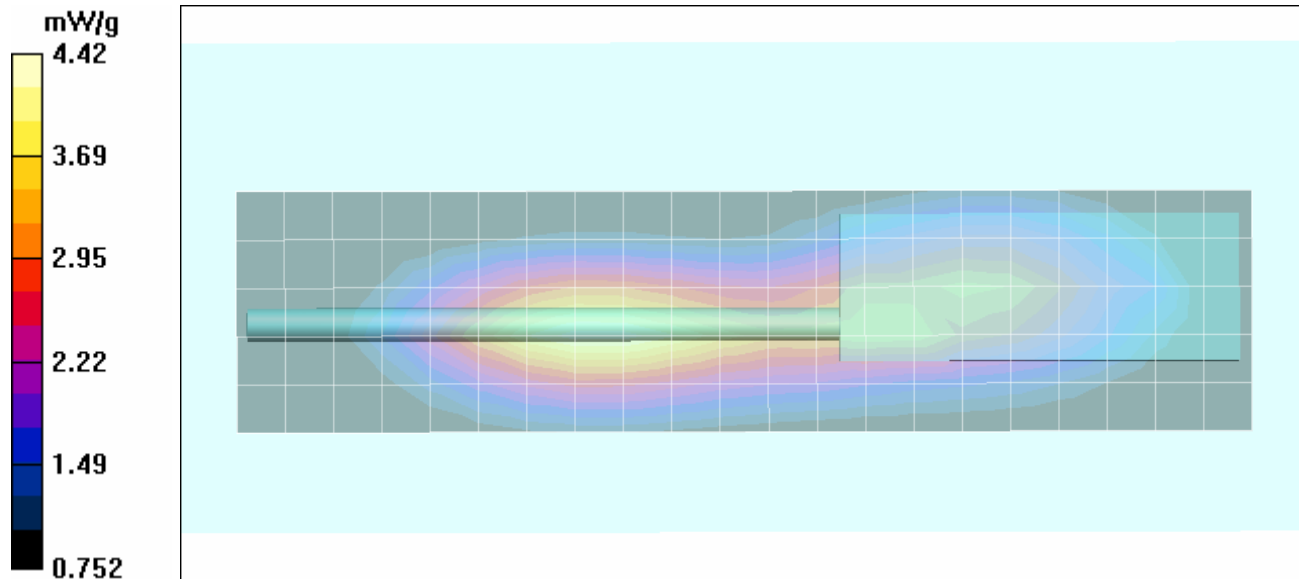
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 59.7 V/m; Power Drift = -1.50 dB



Peak SAR (extrapolated) = 5.22 W/kg

**SAR(1 g) = 3.23 mW/g; SAR(10 g) = 2.28 mW/g**

Maximum value of SAR (measured) = 3.43 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Lithium-ion Battery Pack - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Nylon Case (Window) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 58$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Nylon Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 6.89 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 54.5 V/m; Power Drift = -0.281 dB

Peak SAR (extrapolated) = 9.26 W/kg

**SAR(1 g) = 6.35 mW/g; SAR(10 g) = 4.49 mW/g**

Maximum value of SAR (measured) = 6.65 mW/g

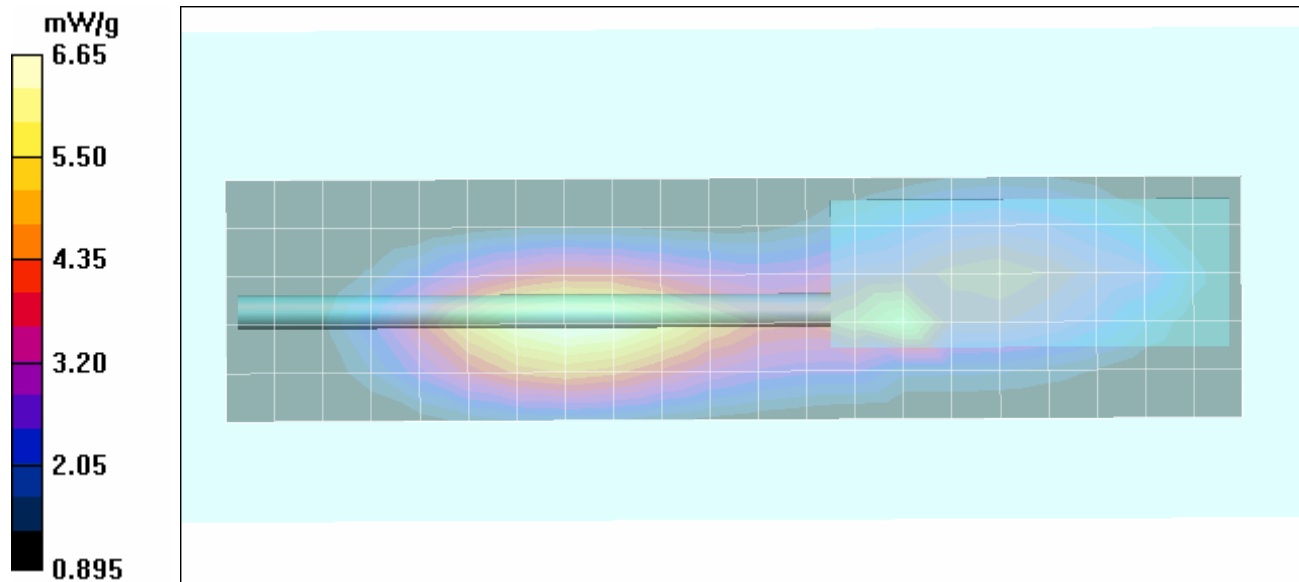
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 54.5 V/m; Power Drift = -0.281 dB



Peak SAR (extrapolated) = 8.35 W/kg

**SAR(1 g) = 4.41 mW/g; SAR(10 g) = 2.81 mW/g**

Maximum value of SAR (measured) = 4.87 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Alkaline Battery Case - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Nylon Case (Window) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 58$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Nylon Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 5.79 mW/g

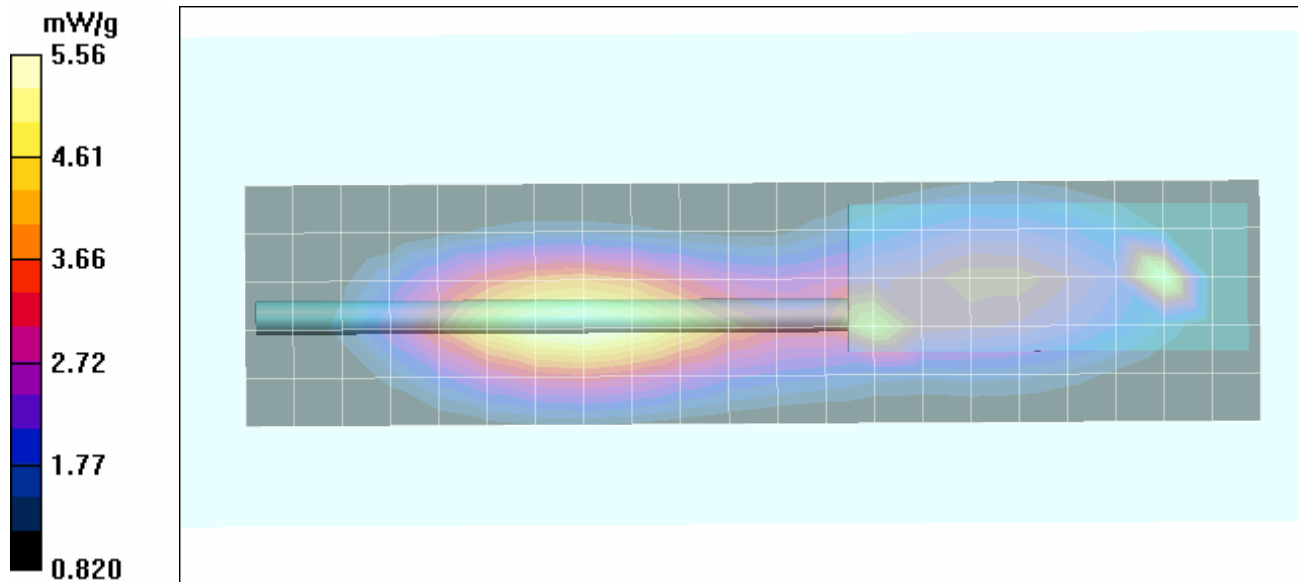
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 56.9 V/m; Power Drift = -1.49 dB



Peak SAR (extrapolated) = 7.63 W/kg

**SAR(1 g) = 5.3 mW/g; SAR(10 g) = 3.8 mW/g**

Maximum value of SAR (measured) = 5.56 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 423.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.90 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Leather Case Spacing from Back of DUT to Planar Phantom

**Area Scan (8x29x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 3.84 mW/g

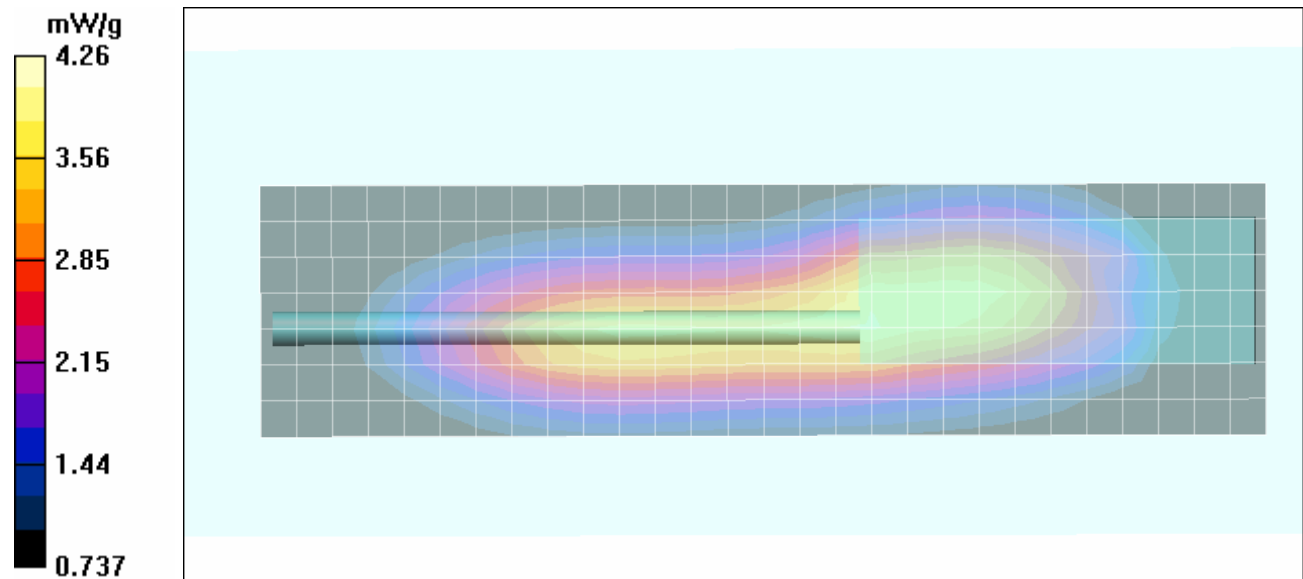
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 65.9 V/m; Power Drift = -0.345 dB



Peak SAR (extrapolated) = 5.70 W/kg

**SAR(1 g) = 4.07 mW/g; SAR(10 g) = 3.06 mW/g**

Maximum value of SAR (measured) = 4.26 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Alkaline Battery Case - 423.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.90 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Leather Case Spacing from Back of DUT to Planar Phantom

**Area Scan (8x29x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 3.87 mW/g

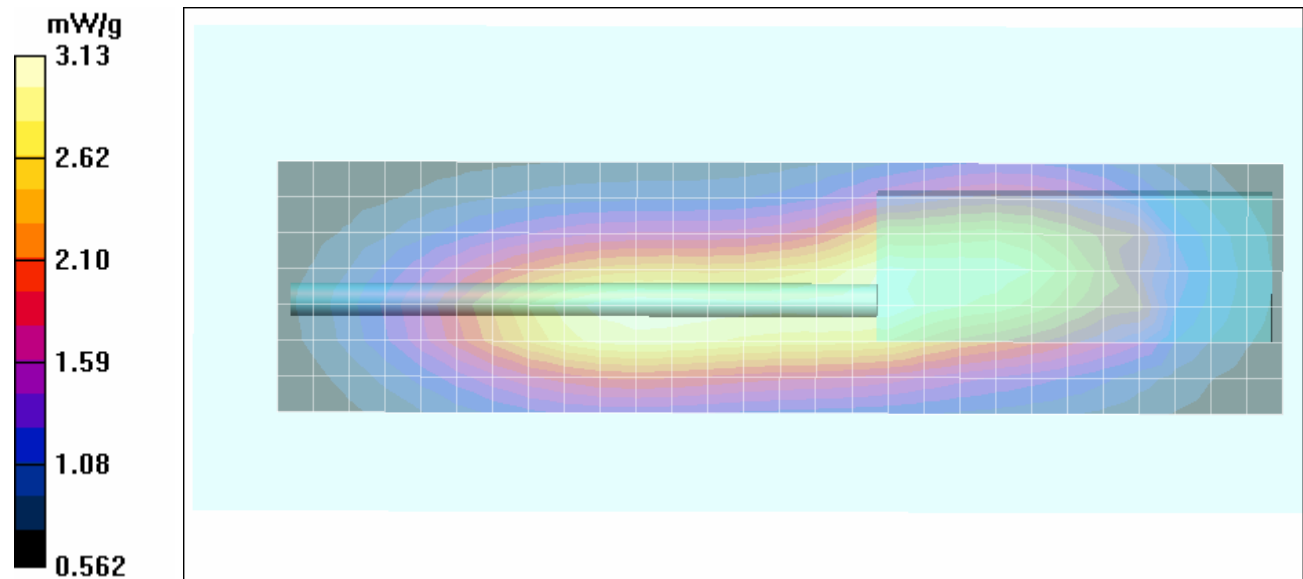
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 63.7 V/m; Power Drift = -1.64 dB

Peak SAR (extrapolated) = 4.16 W/kg

**SAR(1 g) = 2.97 mW/g; SAR(10 g) = 2.22 mW/g**

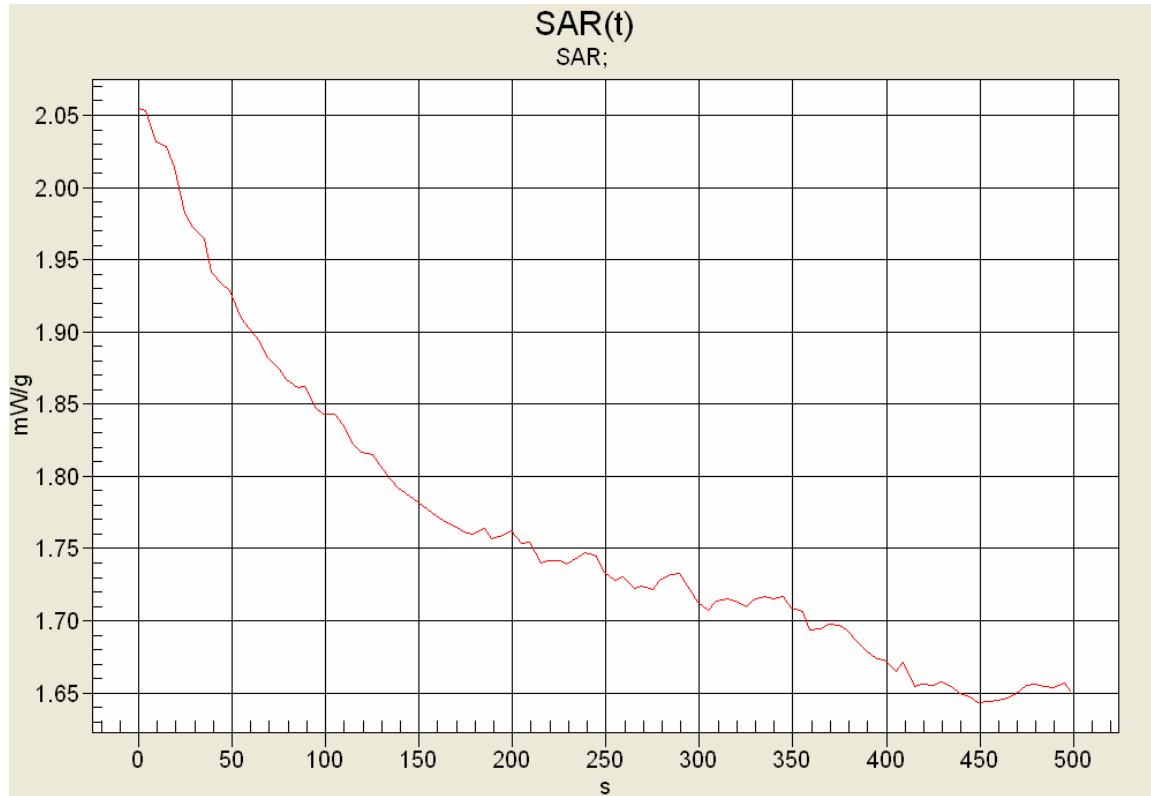
Maximum value of SAR (measured) = 3.13 mW/g





<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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### SAR-versus-Time Droop Evaluation

**Body-worn Configuration**  
**423.5 MHz; Alkaline Batteries**  
**Leather Case & Shoulder Strap**



0s	2.06		start
340s	1.72	-0.783 dB	zoom scan
500s	1.65	-0.964 dB	area scan

	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Lithium-ion Battery Pack - 458.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.8 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 58.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Leather Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.57 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 58.2 V/m; Power Drift = -0.425 dB

Peak SAR (extrapolated) = 4.91 W/kg

**SAR(1 g) = 3.46 mW/g; SAR(10 g) = 2.53 mW/g**

Maximum value of SAR (measured) = 3.62 mW/g

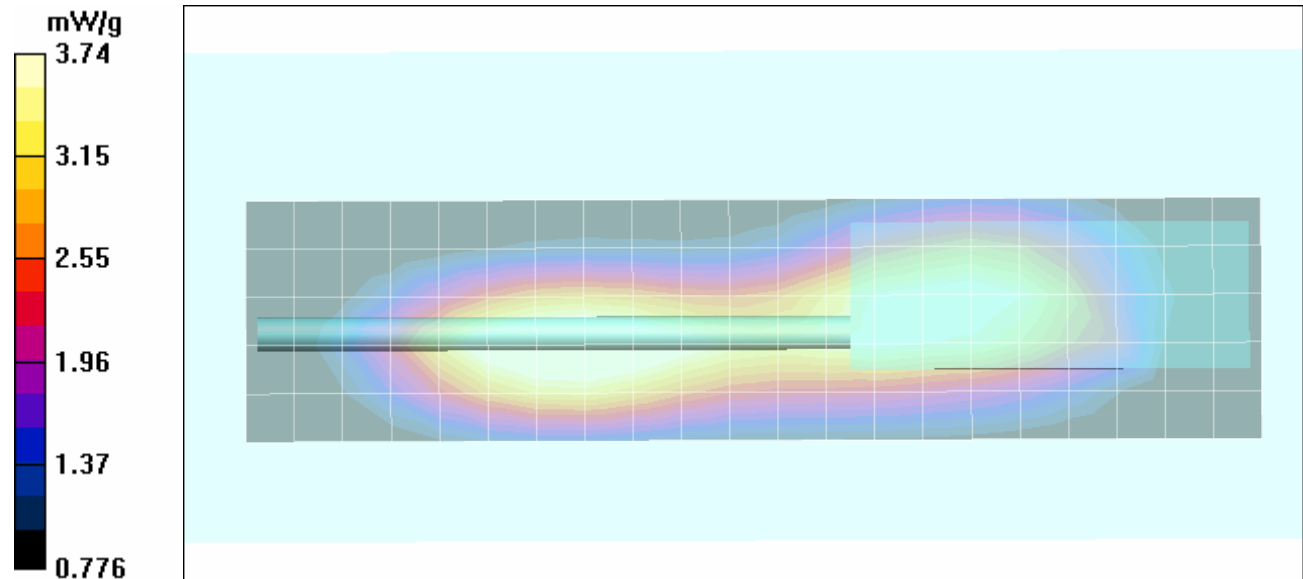
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 58.2 V/m; Power Drift = -0.425 dB



Peak SAR (extrapolated) = 4.84 W/kg

**SAR(1 g) = 3.6 mW/g; SAR(10 g) = 2.78 mW/g**

Maximum value of SAR (measured) = 3.74 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

**Body-worn SAR - Alkaline Battery Case - 458.5 MHz - B-w Accessory Highest SAR Search**

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.8 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 58.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Body-worn SAR - 1.5 cm Leather Case Spacing from Back of DUT to Planar Phantom**

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 3.25 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 55.1 V/m; Power Drift = -1.26 dB

Peak SAR (extrapolated) = 4.56 W/kg

**SAR(1 g) = 3.21 mW/g; SAR(10 g) = 2.34 mW/g**

Maximum value of SAR (measured) = 3.36 mW/g

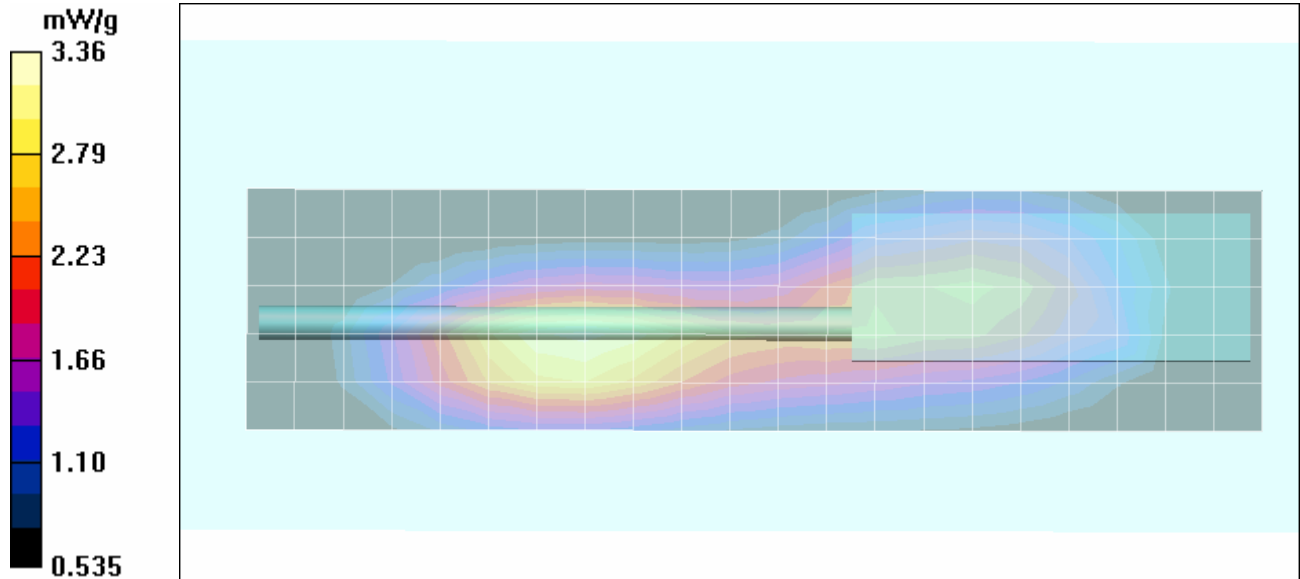
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 55.1 V/m; Power Drift = -1.26 dB

Peak SAR (extrapolated) = 3.65 W/kg



**SAR(1 g) = 2.6 mW/g; SAR(10 g) = 1.99 mW/g**

Maximum value of SAR (measured) = 2.71 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Lithium-ion Battery Pack - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 58$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Leather Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 4.04 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 51.2 V/m; Power Drift = -0.424 dB

Peak SAR (extrapolated) = 5.39 W/kg

**SAR(1 g) = 3.96 mW/g; SAR(10 g) = 3 mW/g**

Maximum value of SAR (measured) = 4.13 mW/g

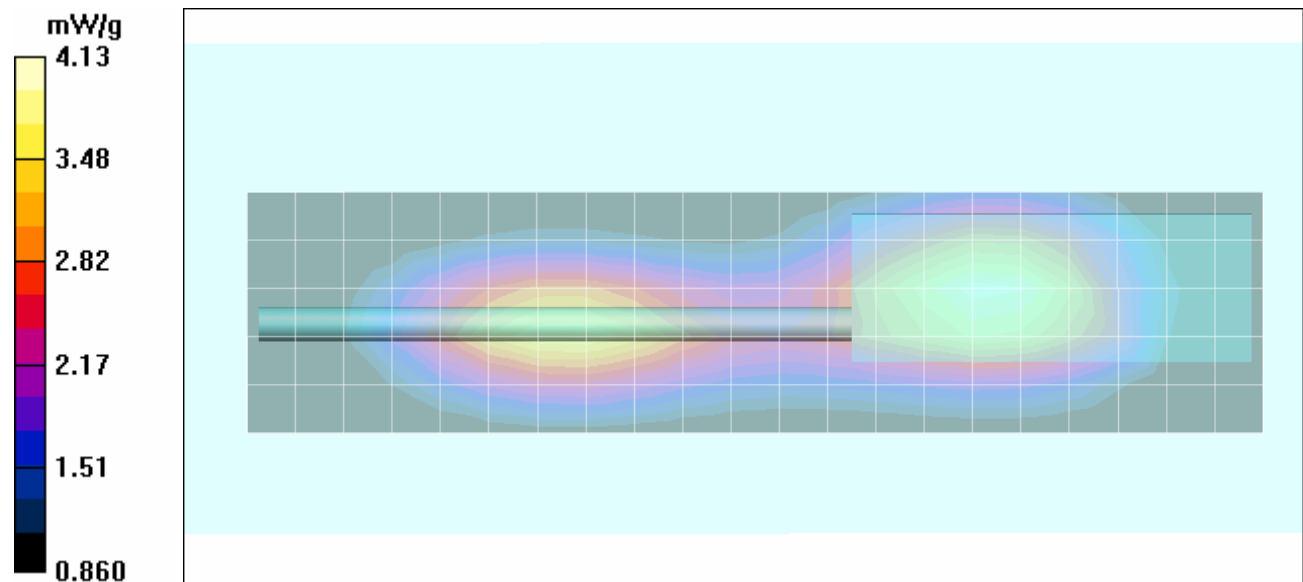
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 51.2 V/m; Power Drift = -0.424 dB



Peak SAR (extrapolated) = 5.10 W/kg

**SAR(1 g) = 3.61 mW/g; SAR(10 g) = 2.61 mW/g**

Maximum value of SAR (measured) = 3.80 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## Body-worn SAR - Alkaline Battery Case - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Shoulder Strap; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.7°C; Fluid Temp: 22.0°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 58$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.5 cm Leather Case Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 2.28 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 54.6 V/m; Power Drift = -1.51 dB

Peak SAR (extrapolated) = 6.27 W/kg

**SAR(1 g) = 4.37 mW/g; SAR(10 g) = 3.12 mW/g**

Maximum value of SAR (measured) = 4.55 mW/g

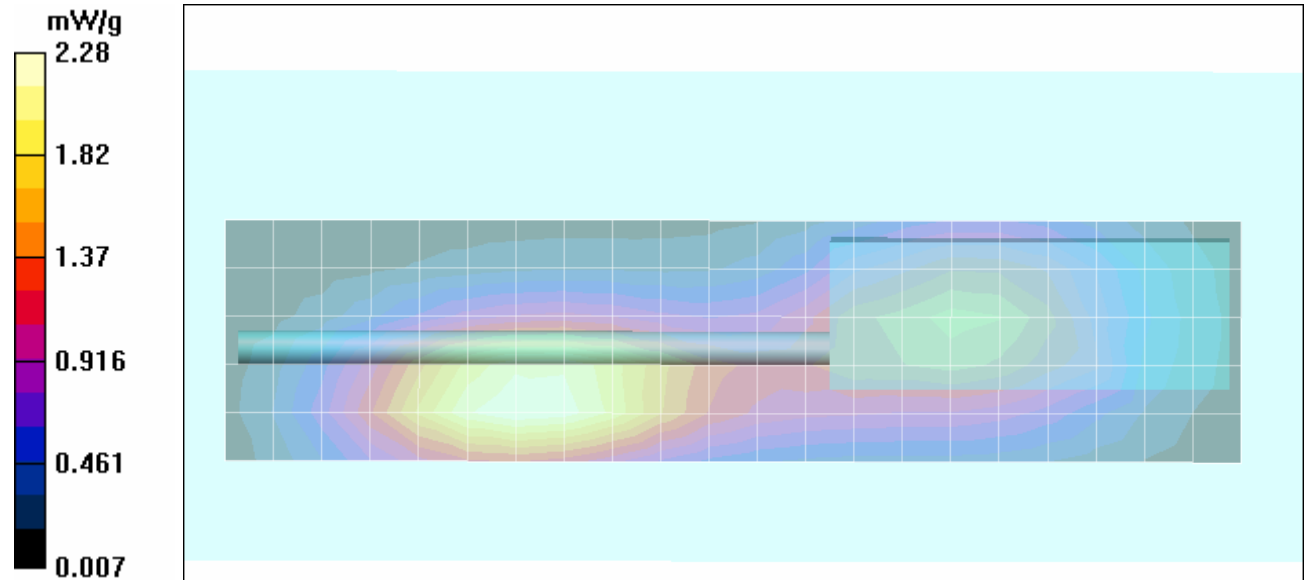
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 54.6 V/m; Power Drift = -1.51 dB



Peak SAR (extrapolated) = 3.63 W/kg

**SAR(1 g) = 2.66 mW/g; SAR(10 g) = 2.03 mW/g**

Maximum value of SAR (measured) = 2.77 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 423.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Swivel Belt-Loop (3"); Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 423.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 423.5 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 4.5 cm Leather Case & Swivel Belt-Loop Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 1.81 mW/g

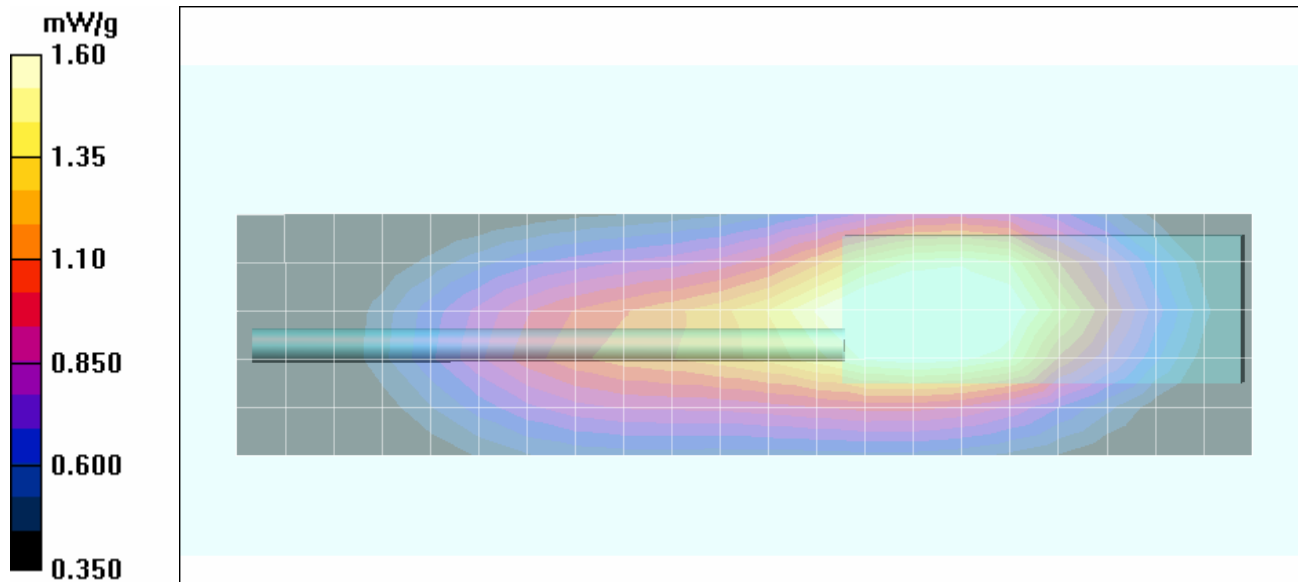
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 39.6 V/m; Power Drift = -0.093 dB



Peak SAR (extrapolated) = 2.02 W/kg

**SAR(1 g) = 1.54 mW/g; SAR(10 g) = 1.2 mW/g**

Maximum value of SAR (measured) = 1.60 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 458.5 MHz - B-w Accessory Highest SAR Search

DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067

Body-worn Accessory: Leather Case (Full) & Swivel Belt-Loop (3"); Audio Accessory: Speaker-Microphone

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 458.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 458.5 \text{ MHz}$ ;  $\sigma = 0.92 \text{ mho/m}$ ;  $\epsilon_r = 57.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 4.5 cm Leather Case & Swivel Belt-Loop Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 1.23 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 34.1 V/m; Power Drift = -0.420 dB

Peak SAR (extrapolated) = 1.73 W/kg

**SAR(1 g) = 1.3 mW/g; SAR(10 g) = 1.02 mW/g**

Maximum value of SAR (measured) = 1.35 mW/g

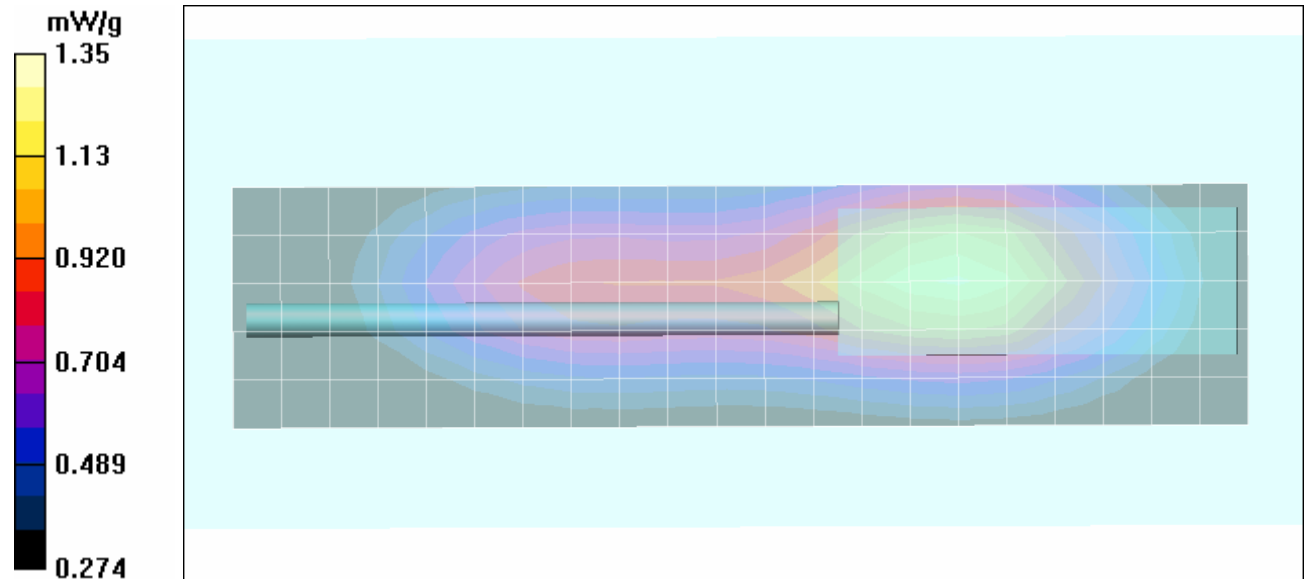
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 34.1 V/m; Power Drift = -0.420 dB



Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.841 mW/g; SAR(10 g) = 0.649 mW/g**

Maximum value of SAR (measured) = 0.875 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 493.5 MHz - B-w Accessory Highest SAR Search

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Leather Case (Full) & Swivel Belt-Loop (3"); Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 493.5 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 493.5 \text{ MHz}$ ;  $\sigma = 0.97 \text{ mho/m}$ ;  $\epsilon_r = 57.2$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 4.5 cm Leather Case & Swivel Belt-Loop Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 1.53 mW/g

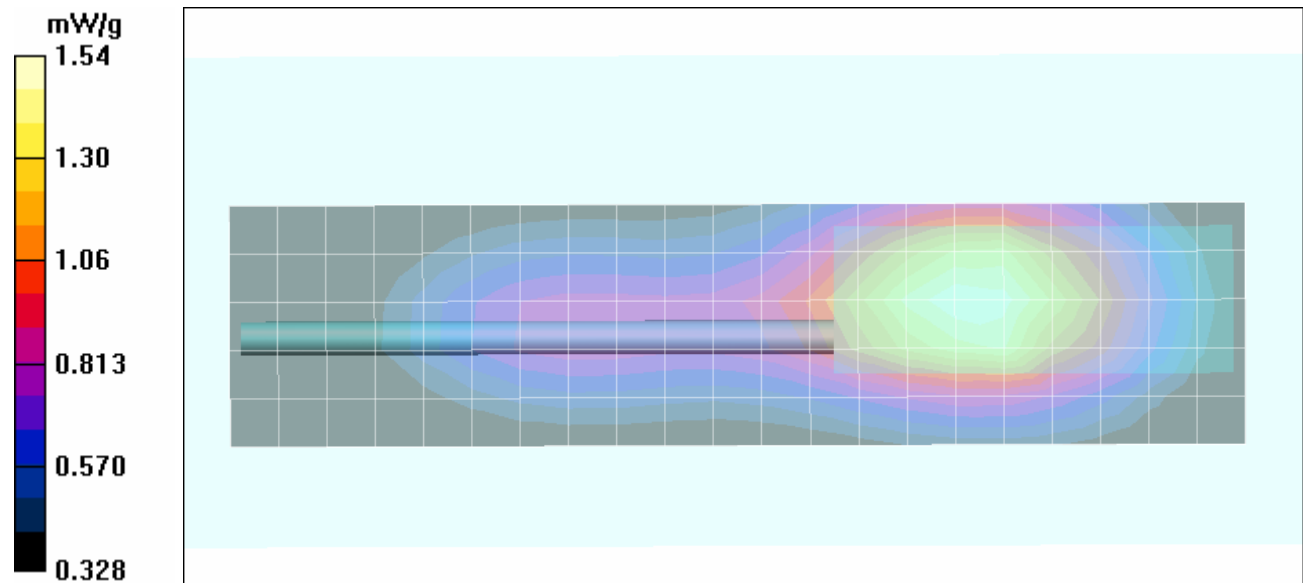
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 33.1 V/m; Power Drift = -0.195 dB



Peak SAR (extrapolated) = 2.06 W/kg

**SAR(1 g) = 1.48 mW/g; SAR(10 g) = 1.14 mW/g**

Maximum value of SAR (measured) = 1.54 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 406.1 MHz - Highest SAR Battery & B-w Accessory

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 406.1 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 406.1 \text{ MHz}$ ;  $\sigma = 0.89 \text{ mho/m}$ ;  $\epsilon_r = 58.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 3.32 mW/g

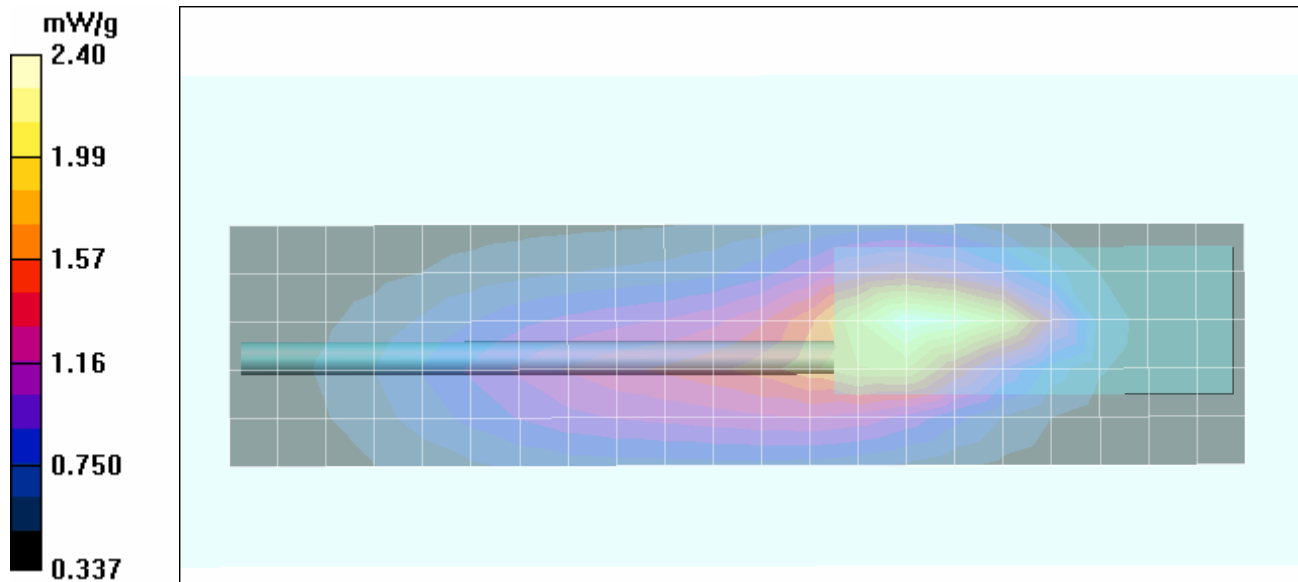
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 44.5 V/m; Power Drift = -0.093 dB



Peak SAR (extrapolated) = 3.49 W/kg

**SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.59 mW/g**

Maximum value of SAR (measured) = 2.40 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 441.0 MHz - Highest SAR Battery & B-w Accessory

DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067

Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 441 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 441 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 58.1$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 6.70 mW/g

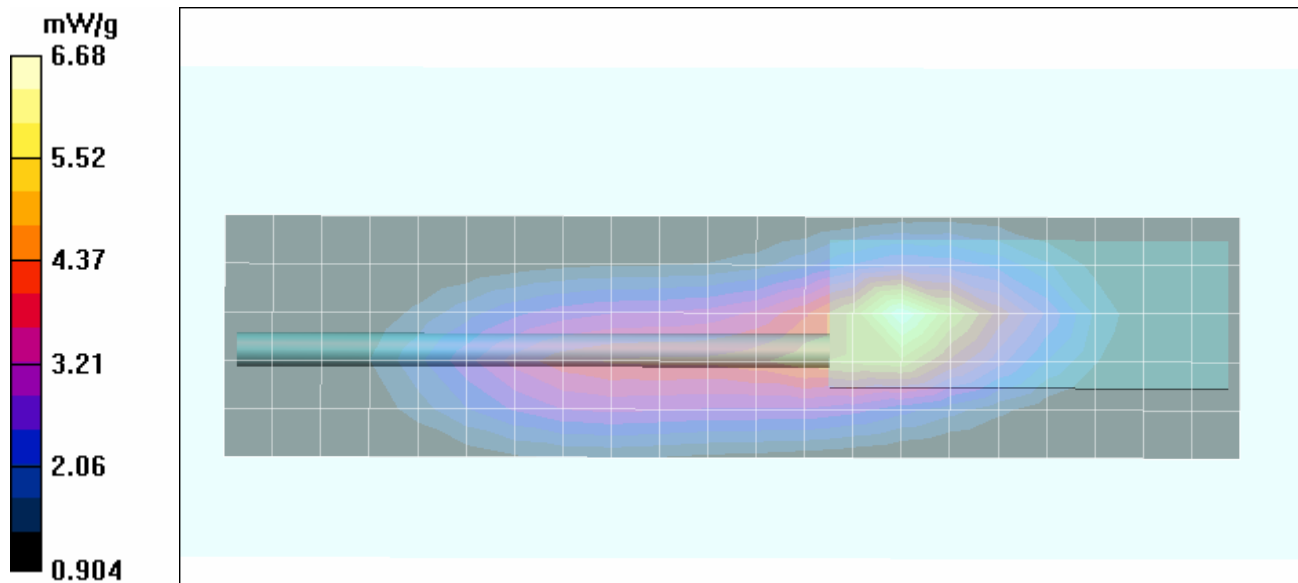
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 67.7 V/m; Power Drift = -0.359 dB



Peak SAR (extrapolated) = 10.4 W/kg

**SAR(1 g) = 6.42 mW/g; SAR(10 g) = 4.36 mW/g**

Maximum value of SAR (measured) = 6.68 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

**Body-worn SAR - Lithium-ion Battery Pack - 476.0 MHz - Highest SAR Battery & B-w Accessory**

**DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067**

**Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone**

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 476 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 476 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 57.6$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASy4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom**

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 10.2 mW/g

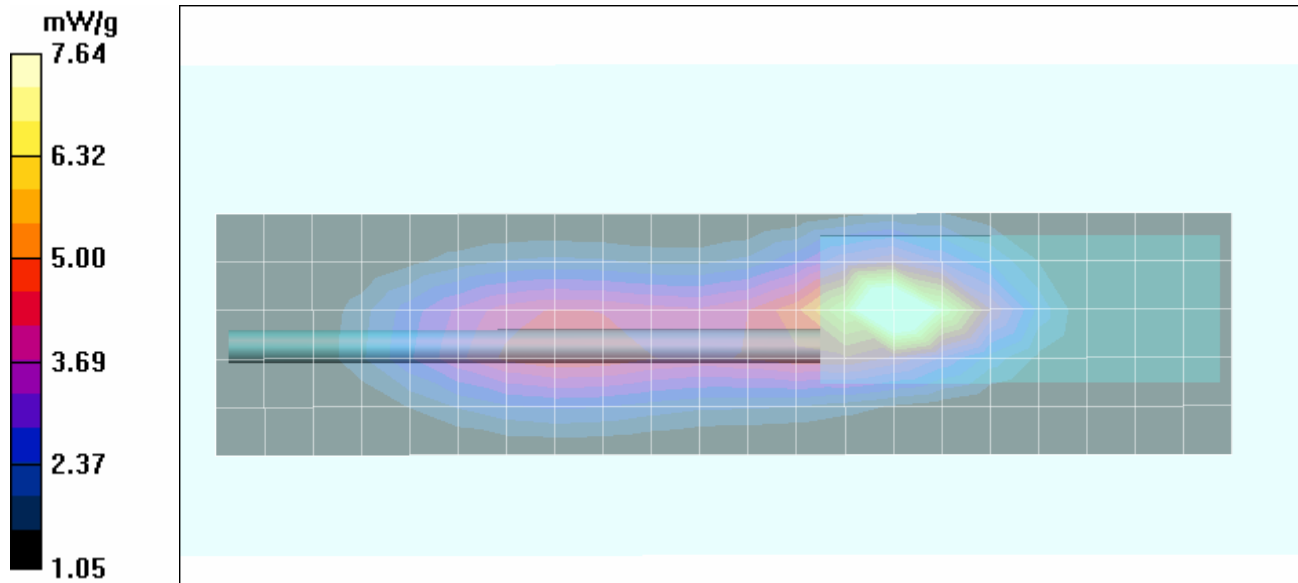
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 72.3 V/m; Power Drift = -0.100 dB

Peak SAR (extrapolated) = 11.3 W/kg

**SAR(1 g) = 7.28 mW/g; SAR(10 g) = 4.94 mW/g**

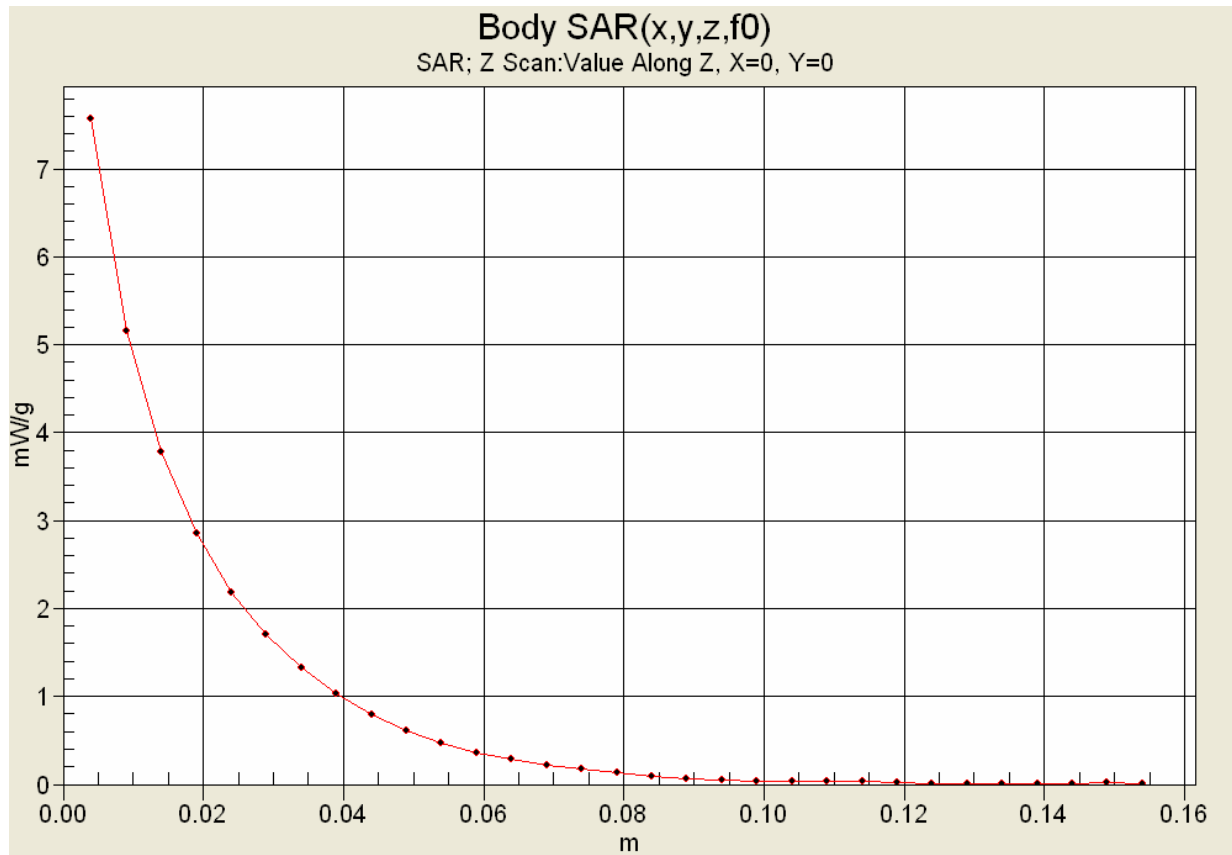
Maximum value of SAR (measured) = 7.64 mW/g





Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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## Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## Body-worn SAR - Lithium-ion Battery Pack - 512.0 MHz - Highest SAR Battery & B-w Accessory

DUT: HARRIS Unity XG-100P; Type: Multi-band PTT Radio Transceiver (UHF Band); Serial: EM067

Body-worn Accessory: Metal Belt-Clip; Audio Accessory: Speaker-Microphone

Ambient Temp: 23.0°C; Fluid Temp: 21.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Frequency: 512 MHz; Duty Cycle: 1:1

Medium: M450 Medium parameters used:  $f = 512 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 57.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Side Planar; Type: Plexiglas; Serial: 161
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### Body-worn SAR - 1.2 cm Belt-Clip Spacing from Back of DUT to Planar Phantom

**Area Scan (6x22x1):** Measurement grid:  $dx=20\text{mm}$ ,  $dy=20\text{mm}$

Maximum value of SAR (measured) = 6.31 mW/g

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 59.5 V/m; Power Drift = -0.556 dB

Peak SAR (extrapolated) = 9.94 W/kg

**SAR(1 g) = 5.4 mW/g; SAR(10 g) = 3.4 mW/g**

Maximum value of SAR (measured) = 5.71 mW/g

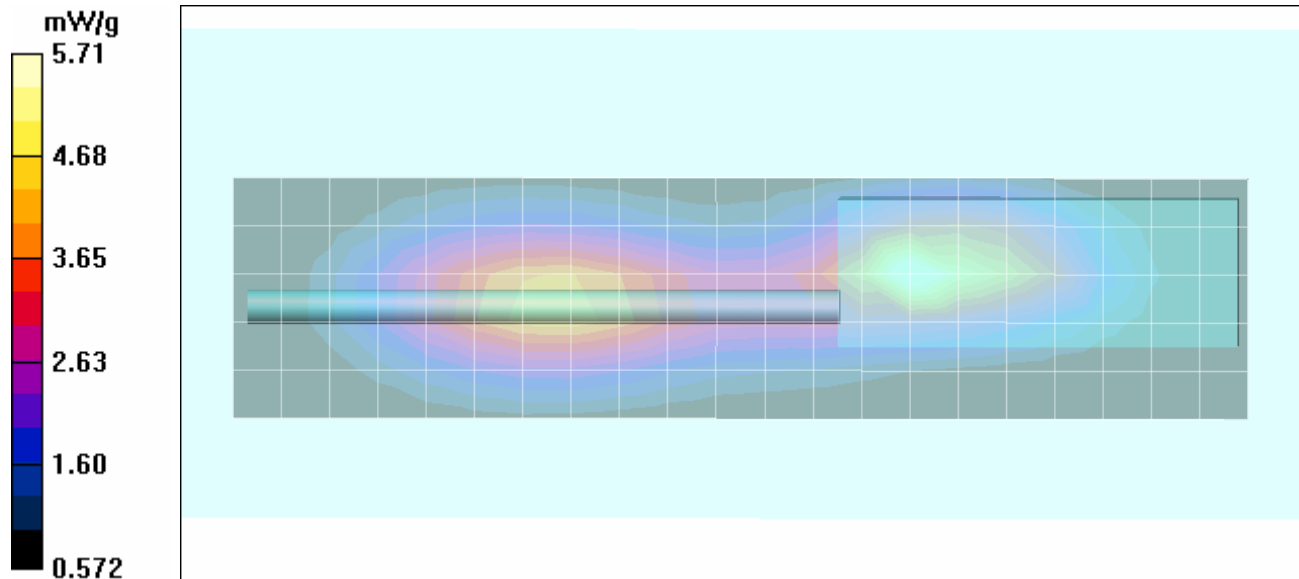
**Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 59.5 V/m; Power Drift = -0.556 dB



Peak SAR (extrapolated) = 6.12 W/kg

**SAR(1 g) = 4.39 mW/g; SAR(10 g) = 3.22 mW/g**


Maximum value of SAR (measured) = 4.56 mW/g



Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

**APPENDIX B - SYSTEM PERFORMANCE CHECK**

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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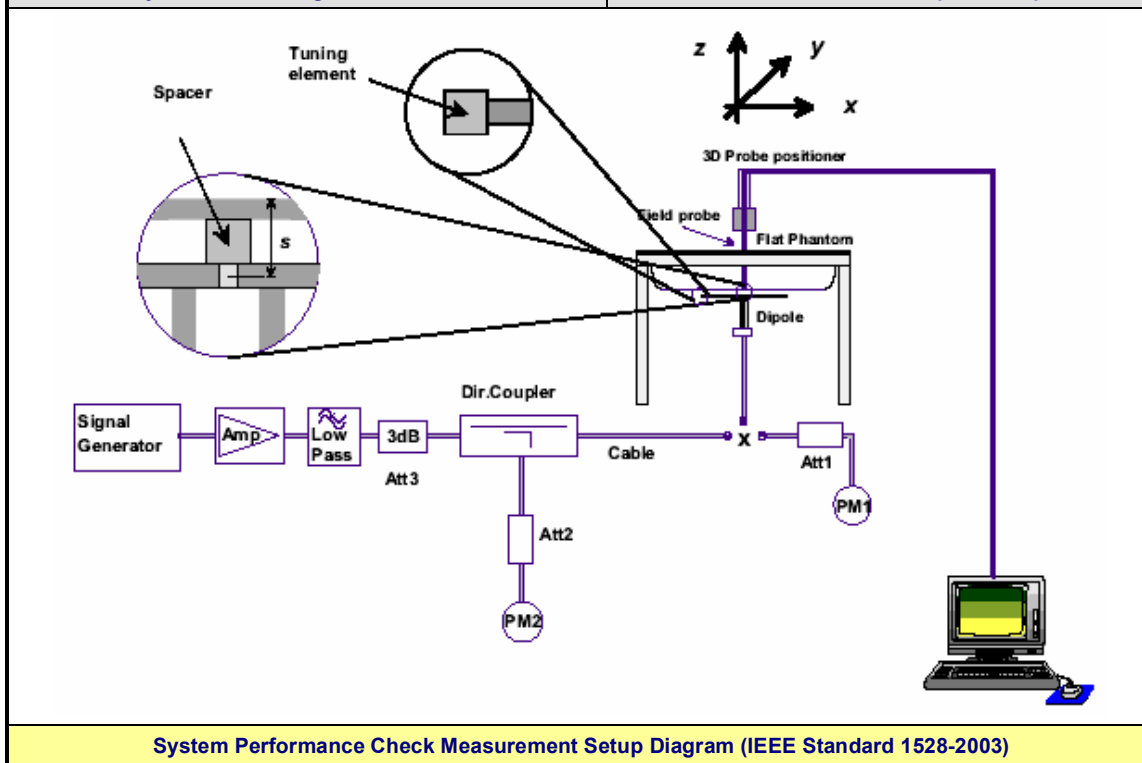
## SYSTEM PERFORMANCE CHECK MEASUREMENT SETUP



DASY4 System with Plexiglas Validation Phantom





450 MHz Validation Dipole Setup



System Performance Check Measurement Setup Diagram (IEEE Standard 1528-2003)

Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/05/2009

## System Performance Check - 450 MHz Dipole - HSL

**DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Calibration: 01/19/2009**

Ambient Temp: 23.8°C; Fluid Temp: 22.5°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 450 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 450 \text{ MHz}$ ;  $\sigma = 0.88 \text{ mho/m}$ ;  $\epsilon_r = 44.9$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Validation Planar; Type: Plexiglas; Serial: TE#137
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### System Performance Check - 450 MHz Dipole

**Area Scan (6x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.31 mW/g

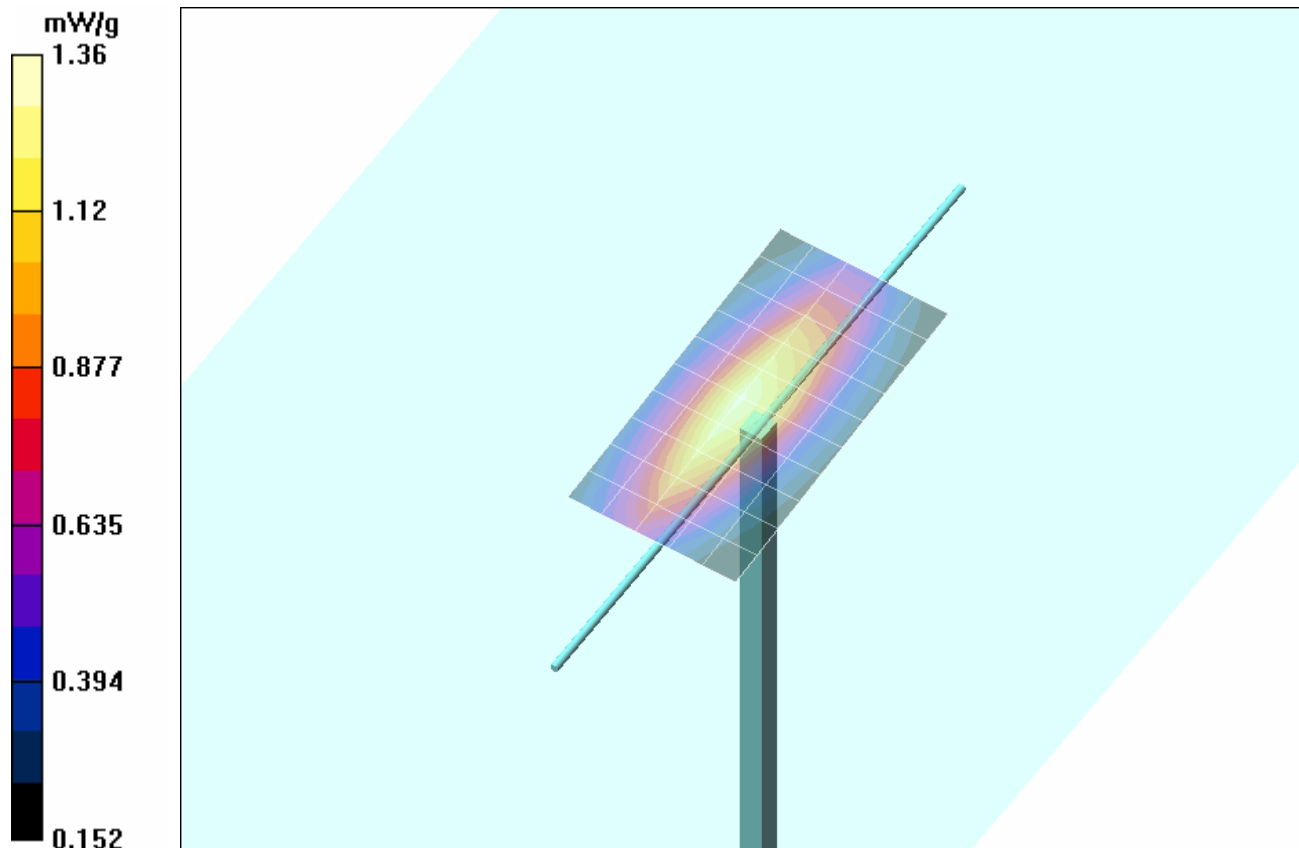
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 39.2 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 1.97 W/kg

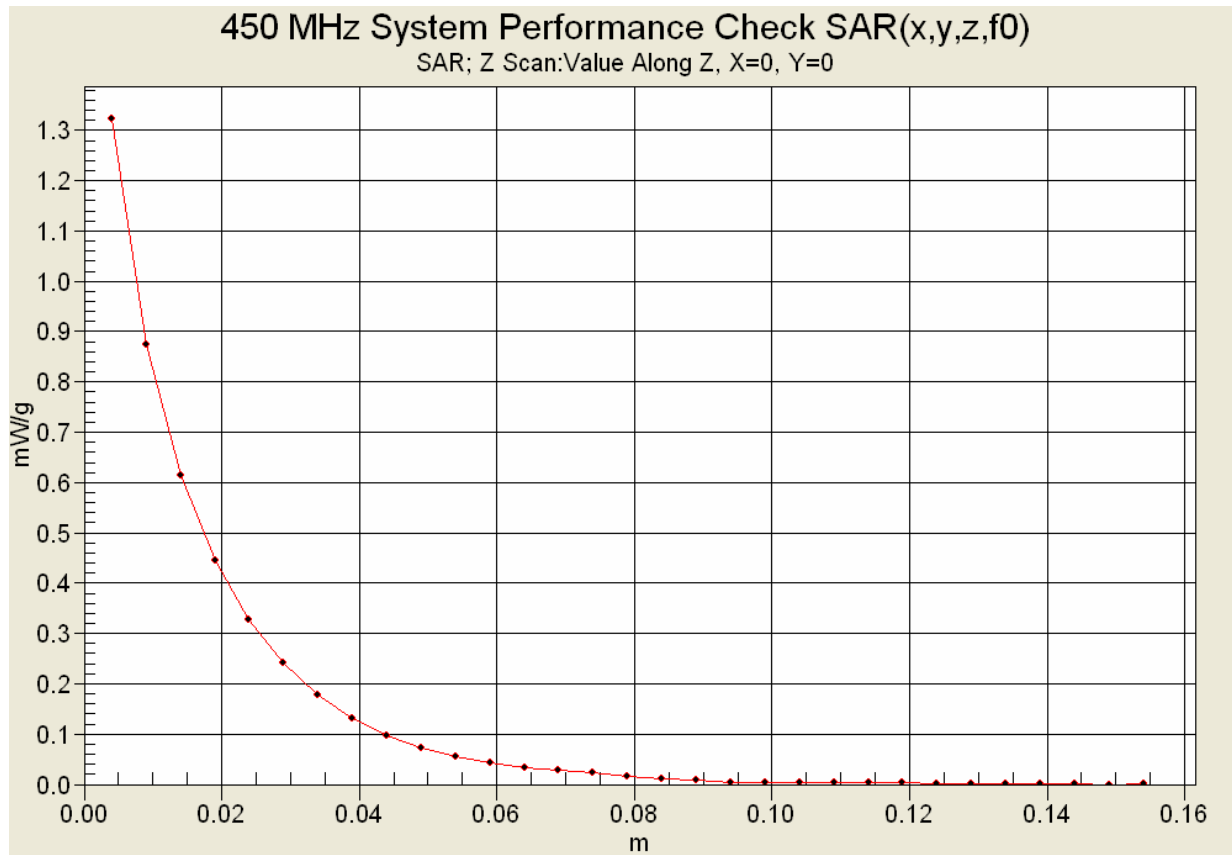
**SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.840 mW/g**



Maximum value of SAR (measured) = 1.36 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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## Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/10/2009

## System Performance Check - 450 MHz Dipole - HSL

**DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Calibration: 01/19/2009**

Ambient Temp: 23.3°C; Fluid Temp: 22.1°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 450 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 450 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 45.3$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Validation Planar; Type: Plexiglas; Serial: TE#137
- Measurement SW: DASy4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### System Performance Check - 450 MHz Dipole

**Area Scan (6x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.32 mW/g

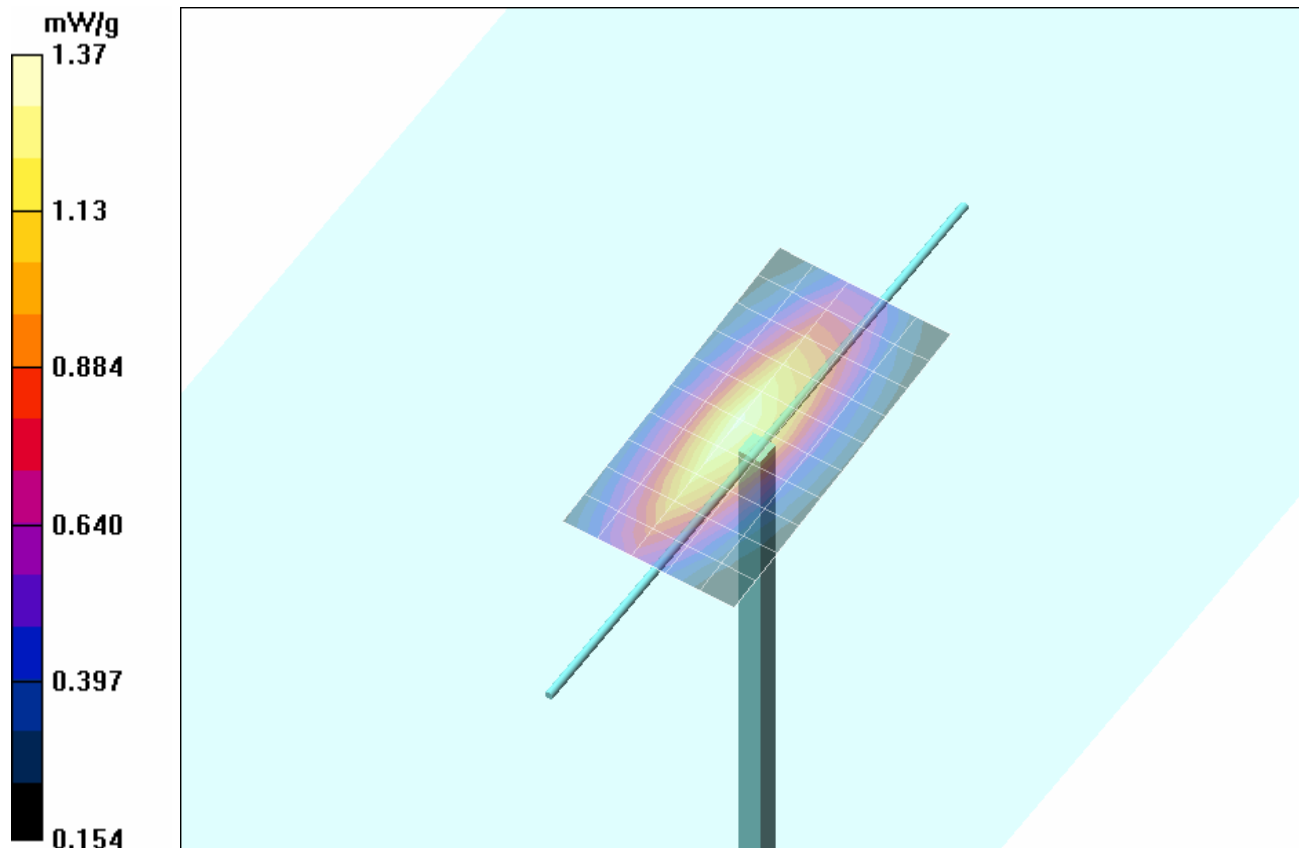
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 39.2 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 2.00 W/kg

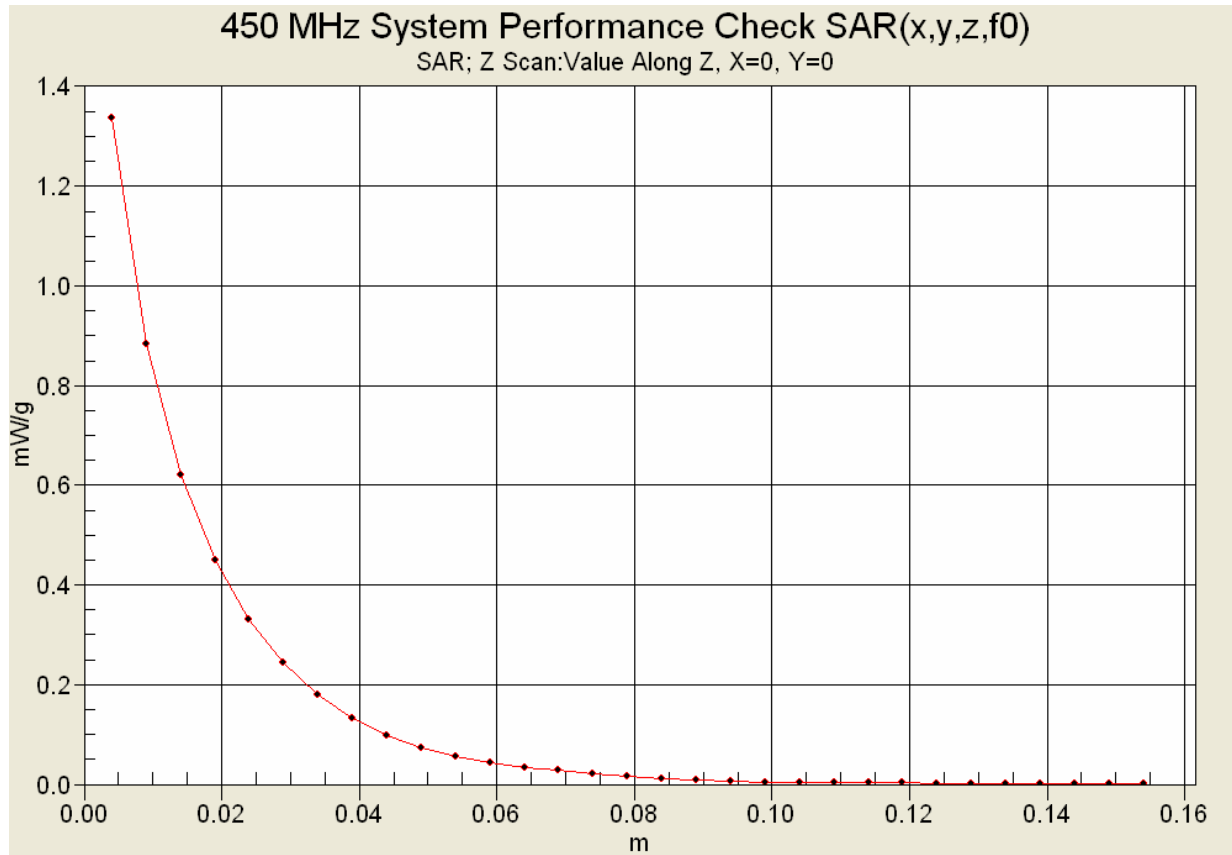
**SAR(1 g) = 1.28 mW/g; SAR(10 g) = 0.851 mW/g**

Maximum value of SAR (measured) = 1.37 mW/g





Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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## Z-Axis Scan





	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/16/2009

## System Performance Check - 450 MHz Dipole - HSL

**DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Calibration: 01/19/2009**

Ambient Temp: 22.8°C; Fluid Temp: 21.6°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 450 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 450 \text{ MHz}$ ;  $\sigma = 0.87 \text{ mho/m}$ ;  $\epsilon_r = 44.8$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Validation Planar; Type: Plexiglas; Serial: TE#137
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### System Performance Check - 450 MHz Dipole

**Area Scan (6x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.29 mW/g

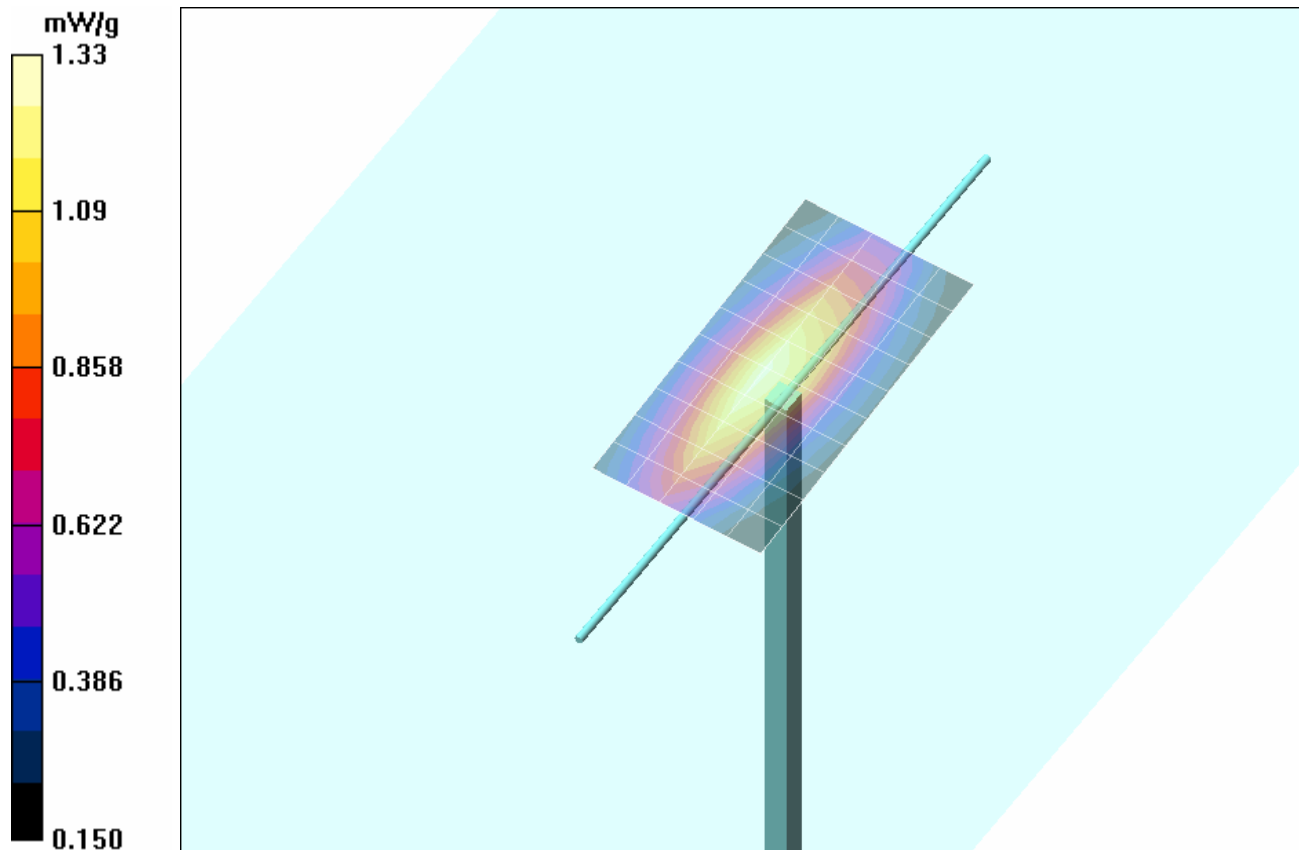
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 39.3 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 1.94 W/kg

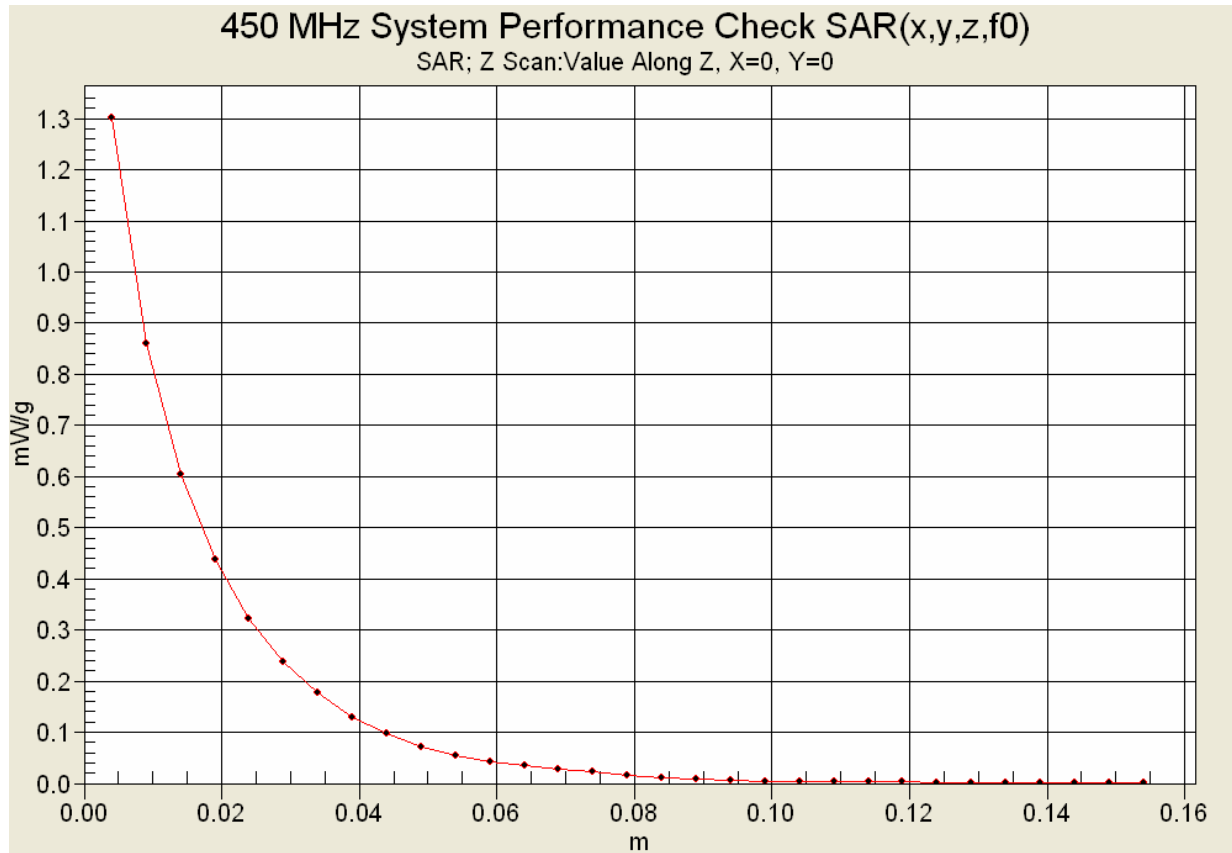
**SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.829 mW/g**



Maximum value of SAR (measured) = 1.33 mW/g



<b>Applicant:</b>	HARRIS CORPORATION	<b>FCC ID:</b>	AQZ-XG-100P00	<b>IC:</b>	122D-XG100P00	
<b>DUT Type:</b>	Portable PTT Multi-band Radio Transceiver	<b>Model:</b>	Unity XG-100P	<b>UHF:</b>	406.1-512 MHz	
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## Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 11/17/2009

## System Performance Check - 450 MHz Dipole - HSL

**DUT: Dipole 450 MHz; Asset: 00024; Serial: 136; Calibration: 01/19/2009**

Ambient Temp: 23.5°C; Fluid Temp: 21.8°C; Barometric Pressure: 101.1 kPa; Humidity: 35%

Communication System: CW

Forward Conducted Power: 250 mW

Frequency: 450 MHz; Duty Cycle: 1:1

Medium: HSL450 Medium parameters used:  $f = 450 \text{ MHz}$ ;  $\sigma = 0.89 \text{ mho/m}$ ;  $\epsilon_r = 44.1$ ;  $\rho = 1000 \text{ kg/m}^3$

- Probe: ET3DV6 - SN1590; ConvF(7.34, 7.34, 7.34); Calibrated: 16/07/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 28/04/2009
- Phantom: Validation Planar; Type: Plexiglas; Serial: TE#137
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

### System Performance Check - 450 MHz Dipole

**Area Scan (6x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.30 mW/g

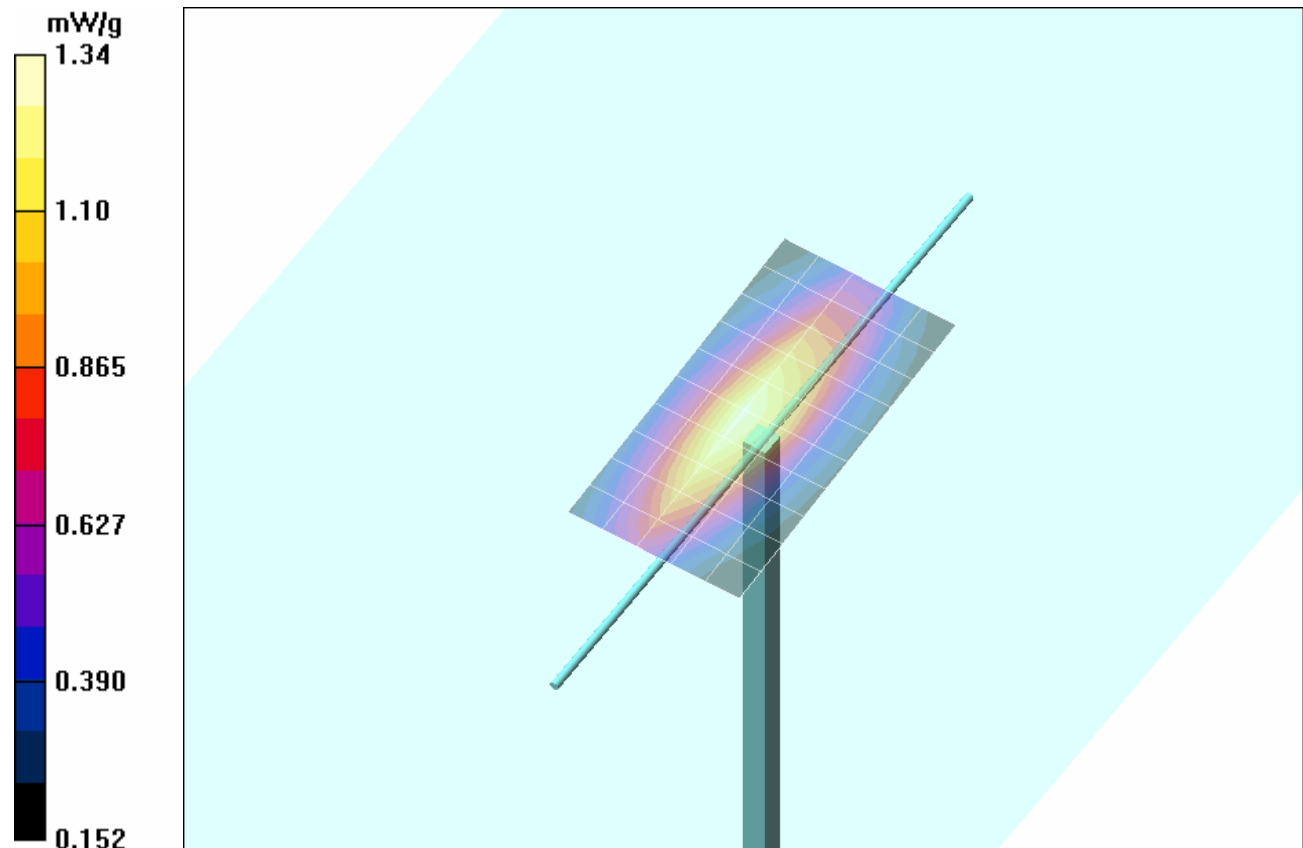
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$


Reference Value = 39.0 V/m; Power Drift = 0.000 dB

Peak SAR (extrapolated) = 1.96 W/kg

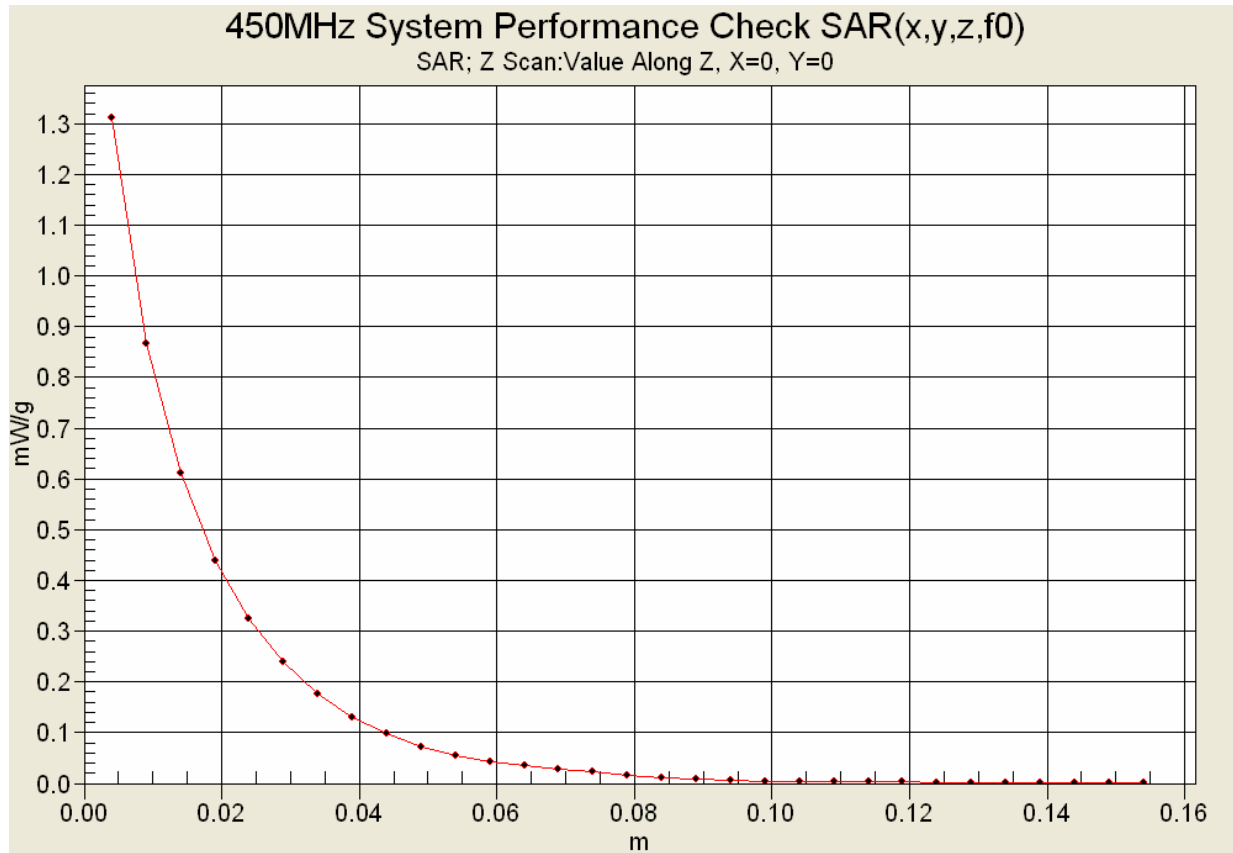
**SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.837 mW/g**



Maximum value of SAR (measured) = 1.34 mW/g




Applicant:	HARRIS CORPORATION	FCC ID:	AQZ-XG-100P00	IC:	122D-XG100P00	
DUT Type:	Portable PTT Multi-band Radio Transceiver	Model:	Unity XG-100P	UHF:	406.1-512 MHz	
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### Z-Axis Scan



	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

**APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS**

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5,10,16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


### 450 MHz System Performance Check (Head)



\*\*\*\*\*

Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
05/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC OET 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC OET 65 Supplement C (June 2001) Limits for Head Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM

\*\*\*\*\*

Freq	FCC_eHF	FCC_sH	Test_e	Test_s
0.3500	44.70	0.87	47.44	0.76
0.3600	44.58	0.87	47.20	0.78
0.3700	44.46	0.87	46.72	0.80
0.3800	44.34	0.87	46.75	0.80
0.3900	44.22	0.87	46.27	0.80
0.4000	44.10	0.87	46.15	0.82
0.4100	43.98	0.87	46.29	0.83
0.4200	43.86	0.87	45.56	0.83
0.4300	43.74	0.87	45.18	0.85
0.4400	43.62	0.87	44.68	0.86
0.4500	43.50	0.87	44.89	0.88
0.4600	43.45	0.87	44.74	0.88
0.4700	43.40	0.87	44.63	0.89
0.4800	43.34	0.87	45.21	0.91
0.4900	43.29	0.87	44.48	0.90
0.5000	43.24	0.87	43.78	0.90
0.5100	43.19	0.87	44.05	0.92
0.5200	43.14	0.88	43.54	0.92
0.5300	43.08	0.88	43.29	0.94
0.5400	43.03	0.88	43.35	0.96
0.5500	42.98	0.88	43.70	0.97

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5,10,16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


**420/460/490 MHz DUT Evaluation (Body)**



\*\*\*\*\*

Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
05/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma  
FCC\_eB FCC Limits for Body Epsilon  
FCC\_sB FCC Limits for Body Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM

\*\*\*\*\*

Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.4000	57.20	0.93	59.59	0.91
0.4100	57.10	0.93	58.55	0.91
0.4200	57.00	0.94	58.90	0.92
0.4300	56.90	0.94	58.50	0.93
0.4400	56.80	0.94	58.84	0.93
0.4500	56.70	0.94	58.85	0.94
0.4600	56.66	0.94	57.86	0.95
0.4700	56.62	0.94	58.31	0.95
0.4800	56.58	0.94	57.99	0.98
0.4900	56.54	0.94	57.91	0.97
0.5000	56.51	0.94	58.46	0.99
0.5100	56.47	0.94	58.07	0.99
0.5200	56.43	0.95	58.32	1.01

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5,10,16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

### 450 MHz System Performance Check (Head)



\*\*\*\*\*

Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
10/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC OET 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC OET 65 Supplement C (June 2001) Limits for Head Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM  
\*\*\*\*\*

Freq	FCC_eHF	FCC_sHF	Test_e	Test_s
0.3500	44.70	0.87	47.63	0.80
0.3600	44.58	0.87	48.20	0.82
0.3700	44.46	0.87	47.93	0.82
0.3800	44.34	0.87	47.72	0.83
0.3900	44.22	0.87	47.36	0.84
0.4000	44.10	0.87	47.06	0.85
0.4100	43.98	0.87	47.35	0.85
0.4200	43.86	0.87	46.04	0.85
0.4300	43.74	0.87	46.25	0.89
0.4400	43.62	0.87	45.25	0.88
0.4500	43.50	0.87	45.30	0.90
0.4600	43.45	0.87	45.42	0.91
0.4700	43.40	0.87	45.76	0.91
0.4800	43.34	0.87	45.72	0.92
0.4900	43.29	0.87	45.34	0.93
0.5000	43.24	0.87	44.96	0.94
0.5100	43.19	0.87	45.10	0.95
0.5200	43.14	0.88	44.55	0.94
0.5300	43.08	0.88	44.10	0.97
0.5400	43.03	0.88	44.42	0.97
0.5500	42.98	0.88	44.25	0.98

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5,10,16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


### 460/490 MHz DUT Evaluation (Body)



\*\*\*\*\*

Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
10/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma  
FCC\_eB FCC Limits for Body Epsilon  
FCC\_sB FCC Limits for Body Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM

\*\*\*\*\*

Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.4000	57.20	0.93	59.64	0.91
0.4100	57.10	0.93	58.79	0.91
0.4200	57.00	0.94	59.28	0.92
0.4300	56.90	0.94	58.49	0.94
0.4400	56.80	0.94	58.63	0.94
0.4500	56.70	0.94	59.26	0.95
0.4600	56.66	0.94	58.17	0.96
0.4700	56.62	0.94	58.52	0.96
0.4800	56.58	0.94	58.17	0.98
0.4900	56.54	0.94	58.04	0.98
0.5000	56.51	0.94	58.39	0.98
0.5100	56.47	0.94	58.25	1.00
0.5200	56.43	0.95	58.19	1.00

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5, 10, 16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	



### 450 MHz System Performance Check (Head)

\*\*\*\*\*

Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
16/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC OET 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC OET 65 Supplement C (June 2001) Limits for Head Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM  
\*\*\*\*\*

Freq	FCC_eHF	FCC_sHF	Test_e	Test_s
0.3500	44.70	0.87	46.99	0.77
0.3600	44.58	0.87	47.57	0.78
0.3700	44.46	0.87	46.46	0.79
0.3800	44.34	0.87	45.96	0.80
0.3900	44.22	0.87	46.45	0.80
0.4000	44.10	0.87	46.20	0.82
0.4100	43.98	0.87	46.05	0.83
0.4200	43.86	0.87	45.51	0.84
0.4300	43.74	0.87	44.85	0.86
0.4400	43.62	0.87	44.91	0.85
0.4500	43.50	0.87	44.78	0.87
0.4600	43.45	0.87	44.36	0.87
0.4700	43.40	0.87	44.53	0.89
0.4800	43.34	0.87	44.78	0.91
0.4900	43.29	0.87	44.61	0.90
0.5000	43.24	0.87	44.24	0.91
0.5100	43.19	0.87	43.99	0.91
0.5200	43.14	0.88	43.43	0.93
0.5300	43.08	0.88	43.12	0.94
0.5400	43.03	0.88	42.94	0.94
0.5500	42.98	0.88	43.64	0.96

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5,10,16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


### 410/420/440/460/480/490/510 MHz DUT Evaluation (Body)



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Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
16/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma  
FCC\_eB FCC Limits for Body Epsilon  
FCC\_sB FCC Limits for Body Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM

\*\*\*\*\*

Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.4000	57.20	0.93	59.25	0.88
0.4100	57.10	0.93	58.86	0.89
0.4200	57.00	0.94	58.94	0.90
0.4300	56.90	0.94	58.47	0.91
0.4400	56.80	0.94	58.11	0.91
0.4500	56.70	0.94	58.49	0.92
0.4600	56.66	0.94	57.93	0.92
0.4700	56.62	0.94	58.44	0.93
0.4800	56.58	0.94	57.60	0.95
0.4900	56.54	0.94	57.16	0.97
0.5000	56.51	0.94	58.01	0.96
0.5100	56.47	0.94	57.86	0.98
0.5200	56.43	0.95	58.08	0.99

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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	<u>Date(s) of Evaluation</u> Nov. 5,10,16-17, 2009	<u>Test Report Serial No.</u> 102809AQZ-T991-S90U	<u>Test Report Revision No.</u> Rev. 1.2 (3rd Release)	 Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 23, 2009	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	


**450 MHz System Performance Check & 410/420/440/460/480/490/510 DUT Evaluation (Head)**

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Celltech Labs Inc.  
Test Result for UIM Dielectric Parameter  
17/Nov/2009  
Frequency (GHz)  
FCC\_eHFCC OET 65 Supplement C (June 2001) Limits for Head Epsilon  
FCC\_sHFCC OET 65 Supplement C (June 2001) Limits for Head Sigma  
Test\_e Epsilon of UIM  
Test\_s Sigma of UIM

\*\*\*\*\*

Freq	FCC_eHF	FCC_sHF	Test_e	Test_s
0.3500	44.70	0.87	42.90	0.80
0.3600	44.58	0.87	44.73	0.81
0.3700	44.46	0.87	45.91	0.82
0.3800	44.34	0.87	45.51	0.83
0.3900	44.22	0.87	44.95	0.84
0.4000	44.10	0.87	44.85	0.84
0.4100	43.98	0.87	44.90	0.86
0.4200	43.86	0.87	44.58	0.85
0.4300	43.74	0.87	44.65	0.87
0.4400	43.62	0.87	44.18	0.88
0.4500	43.50	0.87	44.07	0.89
0.4600	43.45	0.87	43.61	0.88
0.4700	43.40	0.87	43.39	0.89
0.4800	43.34	0.87	43.58	0.89
0.4900	43.29	0.87	43.40	0.90
0.5000	43.24	0.87	42.89	0.91
0.5100	43.19	0.87	42.64	0.91
0.5200	43.14	0.88	42.73	0.94
0.5300	43.08	0.88	42.27	0.95
0.5400	43.03	0.88	42.74	0.96
0.5500	42.98	0.88	41.97	0.95

<b>Applicant:</b>	<b>HARRIS CORPORATION</b>	<b>FCC ID:</b>	<b>AQZ-XG-100P00</b>	<b>IC:</b>	<b>122D-XG100P00</b>	
<b>DUT Type:</b>	<b>Portable PTT Multi-band Radio Transceiver</b>	<b>Model:</b>	<b>Unity XG-100P</b>	<b>UHF:</b>	<b>406.1-512 MHz</b>	
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