

 Celltech Testing and Engineering Services Lab	Date(s) of Evaluation 10/17-21, 12/07, 2011	Test Report Serial No. 092811OWD-T1126-S90V	Test Report Revision No. Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED Test Lab Certificate No. 2470.01
	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

DECLARATION OF COMPLIANCE		SAR RF EXPOSURE EVALUATION			FCC & IC	
Test Lab Information		Name	CELLTECH LABS INC.			
		Address	21-364 Lougheed Road, Kelowna, B.C. V1X 7R8 Canada			
Test Lab Accreditation(s)		A2LA	ISO/IEC 17025:2005 (A2LA Test Lab Certificate No. 2470.01)			
Applicant Information		Name	HARRIS CORPORATION			
		Address	221 Jefferson Ridge Parkway, Lynchburg, VA 24501 U.S.A.			
Standard(s) Applied		FCC	47 CFR §2.1093		IC	Health Canada Safety Code 6
		FCC	OET Bulletin 65, Supplement C		FCC	KDB 447498 D01v04
Procedure(s) Applied		FCC	KDB 643646 D01v01r01 (SAR Test Reduction Considerations for Occ. PTT Radios)			
		IC	RSS-102 Issue 4	IEEE	1528-2003	IEC
Device Classification(s)		FCC	Licensed Non-Broadcast Transmitter Held to Face (TNF) - FCC Part 90			
		IC	Land Mobile Radio Transmitter/Receiver (27.41-960 MHz) - RSS-119			
Device Identifier(s)		FCC ID:	OWDTR-0072-E		Application Type	FCC TCB Certification
		IC:	3636B-0072		Application Type	IC CB Certification
Date of Sample Receipt		Sep. 28, 2011		Dates of Evaluation	Oct. 17-21, Dec. 07, 2011	
Device Description		Portable VHF Digital Push-To-Talk (PTT) Radio Transceiver (with 1 mW Bluetooth)				
Device Model(s)		XG-25P	P/N: 14011-0010-01	Model No. DPXG-PFV1B	SYSTEM	With DTMF
		VHF	P/N: 14011-0010-02	Model No. DPXG-PBV1B	SCAN	Without DTMF
Device Model(s) Tested		XG-25P VHF (SYSTEM)		S/N: TMS2 No.19 (Identical Prototype)		P/N: 14011-0010-01
		XG-25P VHF (SCAN)		S/N: TMS2 No.26 (Identical Prototype)		P/N: 14011-0010-02
Test Sample Revision No.s		Hardware	Revision -		Firmware	P12DJM
Transmit Frequency Range(s)		FCC	150.8 - 173.4 MHz		IC	138.0-144.0, 150.8-173.4 MHz
Manufacturer's Rated Output Power		5 Watts Nominal Rated (Conducted)		Upper Tolerance Spec.		+ 0.35 Watts
Antenna Type(s) Tested		(1) Helical Coil		P/N: KRE 101 1219/1	Gain Spec.: 0 dBi	136-151 MHz
		(2) Helical Coil		P/N: KRE 101 1219/2	Gain Spec.: 0 dBi	150-162 MHz
		(3) Helical Coil		P/N: KRE 101 1219/3	Gain Spec.: 0 dBi	162-174 MHz
		(4) Helical Coil		P/N: KRE 101 1219/21	Gain Spec.: 0 dBi	150-174 MHz
Battery Type(s) Tested		Ni-MH		Immersible, non-IS	7.5V, 2400 mAh	BT-023406-003
		Ni-MH		Immersible, <IS>	7.5V, 2400 mAh	BT-023406-004
		Li-Ion		Immersible, non-IS	7.4V, 2000 mAh	BT-023406-005
		Lithium-Polymer		Immersible, non-IS	7.4V, 3600 mAh	BT-023436-001
Body-worn Accessories Tested		See manufacturer's accessory listing (Section 7.0)				
Audio Accessories Tested		See manufacturer's accessory listing (Section 7.0)				
Max. SAR Level(s) Evaluated		Face-held	0.715 W/kg	1g	50% PTT duty factor	Occupational / Controlled Exp.
		Body-worn	5.40 W/kg	1g	50% PTT duty factor	Occupational / Controlled Exp.
FCC/IC Spatial Peak SAR Limit		Head/Body	8.0 W/kg	1g	50% PTT duty factor	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 requirements specified in FCC 47 CFR §2.1093 and Health Canada Safety Code 6 for the Occupational / Controlled Exposure environment. The device was tested in accordance with the measurement procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01), Industry Canada RSS-102 Issue 4, IEEE Standard 1528-2003 and IEC International Standard 62209-2:2010. 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.						
This test report shall not be reproduced partially, or in full, without the prior written approval of Celltech Labs Inc.						
The results and statements contained in this report pertain only to the device(s) evaluated.						
Test Report Approved By				Sean Johnston	Lab Manager	Celltech Labs Inc.

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

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<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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REVISION HISTORY			
REVISION NO.	DESCRIPTION	IMPLEMENTED BY	RELEASE DATE
1.0	1st Release	Jon Hughes	November 10, 2011
1.1	<b>2nd Release</b>	Jon Hughes	December 14, 2011
	<b>Added SAR data for Leather Belt-Loop &amp; Swivel Mount accessory (Section 11.0 &amp; Appendix A)</b>		
	<b>Added Leather Belt-Loop &amp; Swivel Mount accessory to Body-worn accessory listing (Section 7.0)</b>		

TEST REPORT SIGN-OFF			
DEVICE TESTED BY	REPORT PREPARED BY	QA REVIEW BY	REPORT APPROVED BY
Mike Meaker	Mike Meaker	Jon Hughes	Sean Johnston

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			
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## 1.0 INTRODUCTION

This measurement report demonstrates that the HARRIS Corporation Model: XG-25P VHF Portable VHF PTT Radio Transceiver 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 4 (see reference [4]), IEEE Standard 1528-2003 (see reference [5]), IEC 62209-1:2005 (see reference [6]) and IEC 62209-2:2010 (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.

## 2.0 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.

## 3.0 RF CONDUCTED OUTPUT POWER MEASUREMENTS

### MEASURED RF CONDUCTED OUTPUT POWER LEVELS

Band	Radio	Test Freq.	Mode	dBm	Watts	Method
IC	System	138.0 MHz	CW	37.1	5.08	Average Conducted
IC	System	144.0 MHz	CW	37.2	5.20	Average Conducted
FCC/IC	System	150.8 MHz	CW	37.1	5.17	Average Conducted
FCC/IC	System	156.4 MHz	CW	37.1	5.08	Average Conducted
FCC/IC	System	158.3 MHz	CW	37.1	5.13	Average Conducted
FCC/IC	System	162.0 MHz	CW	37.1	5.13	Average Conducted
FCC/IC	System	165.9 MHz	CW	37.1	5.09	Average Conducted
FCC/IC	System	167.7 MHz	CW	37.1	5.08	Average Conducted
FCC/IC	System	173.4 MHz	CW	37.1	5.17	Average Conducted

#### Notes

1. The test channels were selected in accordance with the procedures specified in FCC KDB 447498 Section 6) c) (see reference [8]).
2. 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 of the radio in accordance with FCC 47 CFR §2.1046 (see reference [14]) and IC RSS-Gen (see reference [15]).

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver		<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz	
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## 4.0 FCC POWER THRESHOLDS FOR PTT DEVICES ( $f \leq 0.5 \text{ GHz}$ )

FCC SAR Evaluation Power Thresholds for PTT Devices, $f \leq 0.5 \text{ GHz}$ <sup>*</sup>		
Exposure Conditions	P mW (General Population)	P mW (Occupational)
Held to face, $d \geq 2.5 \text{ cm}$	250	1250
Body-worn, $d \geq 1.5 \text{ cm}$	200	1000
Body-worn, $d \geq 1.0 \text{ cm}$	150	750

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]).

## 5.0 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  $\pm 50 \text{ MHz}$  of the probe calibration frequency. At 300 MHz to 3 GHz, measurements should be within  $\pm 100 \text{ MHz}$  of the probe calibration frequency. Measurements exceeding 50% of these intervals,  $\pm 25 \text{ MHz} < 300 \text{ MHz}$  and  $\pm 50 \text{ MHz} \geq 300 \text{ MHz}$ , 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 [10]).

Probe Calibration Freq.	Device Measurement Freq.	Frequency Interval	$\pm 25 \text{ MHz} \leq 300 \text{ MHz}$
150 MHz	138.0 MHz	12 MHz	< 25 MHz
	144.0 MHz	6 MHz	< 25 MHz
	150.8 MHz	0.8 MHz	< 25 MHz
	156.4 MHz	6.4 MHz	< 25 MHz
	158.3 MHz	8.3 MHz	< 25 MHz
	162.0 MHz	12 MHz	< 25 MHz
	165.9 MHz	15.9 MHz	< 25 MHz
	167.7 MHz	17.7 MHz	< 25 MHz
	173.4 MHz	23.4 MHz	< 25 MHz

Note: The probe calibration and measurement frequency interval is < 25 MHz; therefore additional steps were not required.

## 6.0 NO. OF TEST CHANNELS ( $N_c$ )

Antenna Part No.	Antenna Type	Antenna Freq. Range	Band	$N_c$	Test Frequencies (MHz)
(1) KRE 101 1219/1	Helical Coil	136 - 151 MHz	IC	2	138.0, 144.0
(2) KRE 101 1219/2	Helical Coil	150 - 162 MHz	FCC/IC	3	150.8, 156.4, 162.0
(3) KRE 101 1219/3	Helical Coil	162 - 174 MHz	FCC/IC	3	162.0, 167.7, 173.4
(4) KRE 101 1219/21	Helical Coil	150 - 174 MHz	FCC/IC	4	150.8, 158.3, 165.9, 173.4

Note: The number of test channels ( $N_c$ ) were calculated in accordance with the procedures specified in FCC KDB 447498 Section 6) c) (see reference [8]).

Applicant:	HARRIS Corporation	FCC ID:	0WDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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## 7.0 MANUFACTURER'S DISCLOSED ACCESSORY LISTING

Accessory ID # for Test Report	ACCESSORY CATEGORY: ANTENNA		
	Part Number	Description	SAR Evaluation
1	KRE 101 1219/1	Helical Coil (136-151 MHz)	Yes
2	KRE 101 1219/2	Helical Coil (150-162 MHz)	Yes
3	KRE 101 1219/3	Helical Coil (162-174 MHz)	Yes
4	KRE 101 1219/21	Helical Coil (150-174 MHz)	Yes
Accessory ID # for Test Report	ACCESSORY CATEGORY: BATTERY		
	Part Number	Description	SAR Evaluation
a	BT-023406-003	Ni-MH, immersible, non-IS (7.5V, 2400mAh)	Yes
b	BT-023406-004	Ni-MH, immersible, <IS> (7.5V, 2400mAh)	Yes
c	BT-023406-005	Li-Ion, immersible, non-IS (7.4V, 2000mAh)	Yes
d	BT-023436-001	Lithium-Polymer, non-IS (7.4V, 3600mAh)	Yes
e	BT-023406-103	Ni-MH, immersible, Goldpeak cells, non-IS (7.5V, 2400mAh)	No <sup>1</sup>
Accessory ID # for Test Report	ACCESSORY CATEGORY: BODY-WORN		
	Part Number	Description	SAR Evaluation
1	14011-0012-01	Kit containing: 14011-0011-01 P7300/XG-75/XG-25 BEE Nylon case (Black) (with radio retaining strap) & CC-014527 BEE Leather Belt Loop	Yes
2	14011-0012-02	Kit containing: 14011-0011-02 P7300/XG-75/XG-25 BEE Nylon case (Orange) (with radio retaining strap) & CC-014527 BEE Leather Belt Loop	No <sup>2</sup>
3	14011-0012-03	Kit contains: 14011-0011-03 P7300/XG-75/XG-25 BEE Leather Case (with radio retaining strap) w/o Shoulder Strap D-rings,, KRY1011608/2 Swivel Mount & CC-014527 BEE Leather Belt Loop	Yes
4	14011-0012-04	Kit contains: 14011-0011-04 P7300/XG-75/XG-25 BEE Leather Case with Shoulder Strap D-rings (with radio retaining strap), KRY1011608/2 Swivel Mount & CC-014524-001 BEE Shoulder Strap	Yes
5	CC23894	Metal Belt Clip	Yes
6	FM-017262-001 CC-014527	Swivel Mount Belt Loop, Leather (BEE)	Yes

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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Accessory ID # for Test Report	ACCESSORY CATEGORY: AUDIO			
	Part Number	Description	Audio Accessory Grouping	SAR Evaluation
G7a	MC-023933-001	Speaker-Mic, No Ant. (cc), <IS>	Group 7	Yes
G7b	MC-009104-002	Speaker-Mic, GPS, non-IS	Group 7	No <sup>4</sup>
n/a	LS103239V1	Earphone for speaker-mic <IS>	n/a (acc. to Group 7)	Yes
G7c	MC-011617-601	Ruggedized Speaker Mic-Coil Cord	Group 7	No <sup>4</sup>
G7d	MC-011617-701	Standard Speaker Mic - Non Ant	Group 7	No <sup>4</sup>
G12a	EA-009580-001	Earphone Kit, Black	Group 12	Yes
G12b	EA-009580-002	Earphone Kit, Beige	Group 12	No <sup>3</sup>
G8a	EA-009580-003	2-Wire Kit, Palm mic, Black	Group 8	Yes
G8b	EA-009580-004	2-Wire Kit, Palm mic, Beige	Group 8	No <sup>3</sup>
G9a	EA-009580-005	3-Wire Kit, Mini-Lapel Mic, Black	Group 9	Yes
G9b	EA-009580-006	3-Wire Kit, Mini-Lapel Mic, Beige	Group 9	No <sup>3</sup>
G4	EA-009580-007	Explorer Headset w/ PTT	Group 4	Yes
G2	EA-009580-008	Lightweight headset single spkr w/ PTT	Group 2	Yes
G3a	EA-009580-009	Breeze Headset w/ PTT	Group 3	No <sup>4</sup>
G1a	EA-009580-010	Headset, heavy duty, N/C behind the head, w/ PTT	Group 1	Yes
G5	EA-009580-011	Ranger Headset w/ PTT	Group 5	Yes
G10	EA-009580-012	Skull mic w/body PTT & earcup	Group 10	Yes
G1b	EA-009580-013	Headset, heavy duty, N/C over the head, w/ PTT	Group 1	No <sup>4</sup>
G11a	EA-009580-014	Throat mic w/acoustic tube & body PTT	Group 11	No <sup>4</sup>
G11b	EA-009580-015	Throat mic w/acoustic tube, body PTT, & ring PTT	Group 11	Yes
G3b	EA-009580-016	Breeze headset w/ PTT & pigtail jack	Group 3	Yes
G6a	EA-009580-017	Hurricane headset w/ PTT	Group 6	No <sup>4</sup>
G6b	EA-009580-018	Hurricane headset w/ PTT & pigtail jack	Group 6	Yes

**Manufacturer's disclosed accessory listing information provided by HARRIS Corporation**

Footnotes
1. Goldpeak cells are the same physical form factor as the Sanyo cells used in battery "a".
2. The orange nylon case is identical to body-worn accessory #1 except for color difference only.
3. Audio accessories #G8b, #G9b and #G12b are identical to audio accessories #G8a, #G9a and #G12a respectively except for color difference only.
4. Audio accessories not evaluated for SAR in accordance with the procedures and provisions of FCC KDB 643646 D01v01r01 Page 10 Section 1).

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 8.0 FLUID DIELECTRIC PARAMETERS

FLUID DIELECTRIC PARAMETERS						
Date: 10/17/2011		Frequency: 300 MHz			Tissue: Head	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.200	51.25	0.75	45.3	0.87	13.13%	-13.79%
0.210	50.19	0.75	45.3	0.87	10.79%	-13.79%
0.220	49.44	0.76	45.3	0.87	9.14%	-12.64%
0.230	48.49	0.77	45.3	0.87	7.04%	-11.49%
0.240	48.47	0.78	45.3	0.87	7.00%	-10.34%
0.250	47.97	0.79	45.3	0.87	5.89%	-9.20%
0.260	47.42	0.8	45.3	0.87	4.68%	-8.05%
0.270	47.72	0.8	45.3	0.87	5.34%	-8.05%
0.280	47.15	0.81	45.3	0.87	4.08%	-6.90%
0.290	46.47	0.82	45.3	0.87	2.58%	-5.75%
0.300	45.94	0.84	45.3	0.87	1.41%	-3.45%
0.310	45.27	0.83	45.3	0.87	-0.07%	-4.60%
0.320	45.04	0.86	45.3	0.87	-0.57%	-1.15%
0.330	45.11	0.86	45.3	0.87	-0.42%	-1.15%
0.340	44.41	0.87	45.3	0.87	-1.96%	0.00%
0.350	42.9	0.87	45.3	0.87	-5.30%	0.00%
0.360	43.5	0.89	45.3	0.87	-3.97%	2.30%
0.370	43.19	0.88	45.3	0.87	-4.66%	1.15%
0.380	43.18	0.9	45.3	0.87	-4.68%	3.45%
0.390	42.56	0.91	45.3	0.87	-6.05%	4.60%
0.400	42.82	0.9	45.3	0.87	-5.47%	3.45%

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Oct 17	300 Head	22.0°C	21.5°C	≥ 15 cm	101.1 kPa	32%	1000

<b>Applicant:</b>	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072		
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			
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 Celltech Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

FLUID DIELECTRIC PARAMETERS						
Date: 10/18/2011		Frequency: 150 MHz			Tissue: Head	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.050	91.06	0.63	52.3	0.76	74.11%	-17.11%
0.060	69.65	0.66	52.3	0.76	33.17%	-13.16%
0.070	74.44	0.7	52.3	0.76	42.33%	-7.89%
0.080	74.58	0.67	52.3	0.76	42.60%	-11.84%
0.090	57.88	0.68	52.3	0.76	10.67%	-10.53%
0.100	62.96	0.69	52.3	0.76	20.38%	-9.21%
0.110	57.37	0.71	52.3	0.76	9.69%	-6.58%
0.120	58.79	0.71	52.3	0.76	12.41%	-6.58%
0.130	56.24	0.73	52.3	0.76	7.53%	-3.95%
0.140	53.55	0.73	52.3	0.76	2.39%	-3.95%
0.144*	53	0.742	52.3	0.76	1.34%	-2.37%
0.150	52.14	0.76	52.3	0.76	-0.31%	0.00%
0.1508*	52.3	0.761	52.3	0.76	0.00%	0.13%
0.160	54.36	0.77	52.3	0.76	3.94%	1.32%
0.170	51.78	0.77	52.3	0.76	-0.99%	1.32%
0.1734*	52.3	0.773	52.3	0.76	0.00%	1.71%
0.180	53.27	0.78	52.3	0.76	1.85%	2.63%
0.190	52.63	0.78	52.3	0.76	0.63%	2.63%
0.200	51.47	0.79	52.3	0.76	-1.59%	3.95%
0.210	50.97	0.79	52.3	0.76	-2.54%	3.95%
0.220	49.56	0.8	52.3	0.76	-5.24%	5.26%
0.230	49	0.81	52.3	0.76	-6.31%	6.58%
0.240	50.31	0.81	52.3	0.76	-3.80%	6.58%
0.250	49.31	0.83	52.3	0.76	-5.72%	9.21%

\*interpolated using DASY4 software

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Oct 18	150 Head	22.0°C	21.6°C	≥ 15 cm	101.1 kPa	35%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u>	<u>Test Report Serial No.</u>	<u>Test Report Revision No.</u>	 IAC-MRA
	10/17-21, 12/07, 2011	092811OWD-T1126-S90V	Rev. 1.1 (2nd Release)	
<u>Test Report Issue Date</u>	<u>Description of Test(s)</u>	<u>RF Exposure Category</u>		
December 14, 2011	Specific Absorption Rate	Occupational (Controlled)		Test Lab Certificate No. 2470.01

FLUID DIELECTRIC PARAMETERS						
Date: 10/19/2011		Frequency: 150 MHz			Tissue: Body	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.050	125.42	0.71	61.9	0.8	102.62%	-11.25%
0.060	87.77	0.71	61.9	0.8	41.79%	-11.25%
0.070	76.92	0.7	61.9	0.8	24.26%	-12.50%
0.080	81.16	0.72	61.9	0.8	31.11%	-10.00%
0.090	72.85	0.73	61.9	0.8	17.69%	-8.75%
0.100	70.22	0.75	61.9	0.8	13.44%	-6.25%
0.110	65.44	0.74	61.9	0.8	5.72%	-7.50%
0.120	68.68	0.77	61.9	0.8	10.95%	-3.75%
0.130	63.63	0.76	61.9	0.8	2.79%	-5.00%
0.140	63.6	0.77	61.9	0.8	2.75%	-3.75%
0.144*	63.7	0.77	61.9	0.8	2.91%	-3.75%
0.150	63.77	0.77	61.9	0.8	3.02%	-3.75%
0.1508*	63.6	0.77	61.9	0.8	2.75%	-3.75%
0.1564*	62.7	0.77	61.9	0.8	1.29%	-3.75%
0.160	62.09	0.77	61.9	0.8	0.31%	-3.75%
0.170	61.92	0.78	61.9	0.8	0.03%	-2.50%
0.1734*	62	0.783	61.9	0.8	0.16%	-2.13%
0.180	62.29	0.79	61.9	0.8	0.63%	-1.25%
0.190	63.28	0.79	61.9	0.8	2.23%	-1.25%
0.200	63.82	0.81	61.9	0.8	3.10%	1.25%
0.210	61.18	0.81	61.9	0.8	-1.16%	1.25%
0.220	61.46	0.81	61.9	0.8	-0.71%	1.25%
0.230	60.67	0.82	61.9	0.8	-1.99%	2.50%
0.240	59.76	0.82	61.9	0.8	-3.46%	2.50%
0.250	60.54	0.84	61.9	0.8	-2.20%	5.00%

\*interpolated using DASY4 software

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Oct 19	150 Body	22.0°C	21.0°C	≥ 15 cm	101.1 kPa	32%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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 Celltech Testing and Engineering Services Lab	Date(s) of Evaluation 10/17-21, 12/07, 2011	Test Report Serial No. 092811OWD-T1126-S90V	Test Report Revision No. Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

FLUID DIELECTRIC PARAMETERS						
Date: 10/20/2011		Frequency: 300 MHz			Tissue: Head	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.200	50.79	0.77	45.3	0.87	12.12%	-11.49%
0.210	50.44	0.79	45.3	0.87	11.35%	-9.20%
0.220	49.14	0.81	45.3	0.87	8.48%	-6.90%
0.230	48.62	0.81	45.3	0.87	7.33%	-6.90%
0.240	48.15	0.81	45.3	0.87	6.29%	-6.90%
0.250	46.35	0.82	45.3	0.87	2.32%	-5.75%
0.260	47.3	0.85	45.3	0.87	4.42%	-2.30%
0.270	48.42	0.84	45.3	0.87	6.89%	-3.45%
0.280	46.4	0.85	45.3	0.87	2.43%	-2.30%
0.290	46.79	0.85	45.3	0.87	3.29%	-2.30%
0.300	46.26	0.88	45.3	0.87	2.12%	1.15%
0.310	46.31	0.87	45.3	0.87	2.23%	0.00%
0.320	46.1	0.88	45.3	0.87	1.77%	1.15%
0.330	45.69	0.89	45.3	0.87	0.86%	2.30%
0.340	45.03	0.89	45.3	0.87	-0.60%	2.30%
0.350	43.55	0.9	45.3	0.87	-3.86%	3.45%
0.360	43.92	0.91	45.3	0.87	-3.05%	4.60%
0.370	43.91	0.93	45.3	0.87	-3.07%	6.90%
0.380	42.88	0.92	45.3	0.87	-5.34%	5.75%
0.390	43.3	0.94	45.3	0.87	-4.42%	8.05%
0.400	43.83	0.94	45.3	0.87	-3.25%	8.05%

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Oct 20	300 Head	22.0°C	22.0°C	≥ 15 cm	101.1 kPa	32%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

FLUID DIELECTRIC PARAMETERS						
Date: 10/20/2011		Frequency: 150 MHz			Tissue: Body	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.050	65.29	0.76	61.9	0.8	5.48%	-5.00%
0.060	85.62	0.74	61.9	0.8	38.32%	-7.50%
0.070	77.61	0.74	61.9	0.8	25.38%	-7.50%
0.080	72.04	0.73	61.9	0.8	16.38%	-8.75%
0.090	68.62	0.73	61.9	0.8	10.86%	-8.75%
0.100	67.53	0.76	61.9	0.8	9.10%	-5.00%
0.110	66.53	0.76	61.9	0.8	7.48%	-5.00%
0.120	63.82	0.79	61.9	0.8	3.10%	-1.25%
0.130	62.91	0.79	61.9	0.8	1.63%	-1.25%
0.140	64.78	0.79	61.9	0.8	4.65%	-1.25%
0.144*	64.5	0.79	61.9	0.8	4.20%	-1.25%
0.150	64.02	0.79	61.9	0.8	3.42%	-1.25%
0.1508*	63.9	0.788	61.9	0.8	3.23%	-1.50%
0.160	62.95	0.77	61.9	0.8	1.70%	-3.75%
0.170	62.89	0.79	61.9	0.8	1.60%	-1.25%
0.1734*	63.2	0.793	61.9	0.8	2.10%	-0.88%
0.180	63.66	0.8	61.9	0.8	2.84%	0.00%
0.190	60.76	0.81	61.9	0.8	-1.84%	1.25%
0.200	61.48	0.81	61.9	0.8	-0.68%	1.25%
0.210	61.27	0.82	61.9	0.8	-1.02%	2.50%
0.220	61.58	0.82	61.9	0.8	-0.52%	2.50%
0.230	61.26	0.84	61.9	0.8	-1.03%	5.00%
0.240	60.12	0.84	61.9	0.8	-2.88%	5.00%
0.250	61.53	0.85	61.9	0.8	-0.60%	6.25%

\*interpolated using DASY4 software

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Oct 20	150 Body	22.0°C	21.6°C	≥ 15 cm	101.1 kPa	32%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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<u>Test Report Issue Date</u>	December 14, 2011	<u>Description of Test(s)</u>	RF Exposure Category	Test Lab Certificate No. 2470.01
		Specific Absorption Rate	Occupational (Controlled)	

FLUID DIELECTRIC PARAMETERS						
Date: 10/21/2011		Frequency: 150 MHz			Tissue: Body	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.050	82.48	0.71	61.9	0.8	33.25%	-11.25%
0.060	78.31	0.71	61.9	0.8	26.51%	-11.25%
0.070	87.36	0.72	61.9	0.8	41.13%	-10.00%
0.080	71.84	0.73	61.9	0.8	16.06%	-8.75%
0.090	77.2	0.74	61.9	0.8	24.72%	-7.50%
0.100	69.25	0.75	61.9	0.8	11.87%	-6.25%
0.110	67.22	0.76	61.9	0.8	8.59%	-5.00%
0.120	63.08	0.75	61.9	0.8	1.91%	-6.25%
0.130	64.18	0.76	61.9	0.8	3.68%	-5.00%
0.140	61.66	0.76	61.9	0.8	-0.39%	-5.00%
0.144*	62.6	0.76	61.9	0.8	1.13%	-5.00%
0.150	64.05	0.76	61.9	0.8	3.47%	-5.00%
0.1508*	64	0.762	61.9	0.8	3.39%	-4.75%
0.160	62.86	0.78	61.9	0.8	1.55%	-2.50%
0.170	63.45	0.76	61.9	0.8	2.50%	-5.00%
0.1734*	63	0.767	61.9	0.8	1.78%	-4.13%
0.180	62.22	0.78	61.9	0.8	0.52%	-2.50%
0.190	61.2	0.78	61.9	0.8	-1.13%	-2.50%
0.200	61.35	0.81	61.9	0.8	-0.89%	1.25%
0.210	60.92	0.81	61.9	0.8	-1.58%	1.25%
0.220	62.98	0.8	61.9	0.8	1.74%	0.00%
0.230	61.03	0.82	61.9	0.8	-1.41%	2.50%
0.240	59.8	0.84	61.9	0.8	-3.39%	5.00%
0.250	60.95	0.82	61.9	0.8	-1.53%	2.50%

\*interpolated using DASY4 software

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Oct 21	150 Body	22.0°C	21.4°C	≥ 15 cm	101.1 kPa	32%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver		Model:	XG-25P VHF	Freq.:	138 - 174 MHz	
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u>	Test Report Serial No.	Test Report Revision No.	 IEC-MRA
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<u>Test Report Issue Date</u>	December 14, 2011	<u>Description of Test(s)</u>	RF Exposure Category	Test Lab Certificate No. 2470.01
		Specific Absorption Rate	Occupational (Controlled)	

FLUID DIELECTRIC PARAMETERS						
Date: 12/7/2011		Frequency: 300 MHz			Tissue: Head	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.200	50.59	0.76	45.3	0.87	11.68%	-12.64%
0.210	51.68	0.79	45.3	0.87	14.08%	-9.20%
0.220	49.4	0.79	45.3	0.87	9.05%	-9.20%
0.230	49.61	0.81	45.3	0.87	9.51%	-6.90%
0.240	49.15	0.81	45.3	0.87	8.50%	-6.90%
0.250	48.12	0.83	45.3	0.87	6.23%	-4.60%
0.260	48.02	0.83	45.3	0.87	6.00%	-4.60%
0.270	47.09	0.84	45.3	0.87	3.95%	-3.45%
0.280	47.3	0.87	45.3	0.87	4.42%	0.00%
0.290	46.3	0.87	45.3	0.87	2.21%	0.00%
0.300	45.9	0.86	45.3	0.87	1.32%	-1.15%
0.310	46.51	0.88	45.3	0.87	2.67%	1.15%
0.320	45.77	0.89	45.3	0.87	1.04%	2.30%
0.330	46.16	0.89	45.3	0.87	1.90%	2.30%
0.340	44.97	0.91	45.3	0.87	-0.73%	4.60%
0.350	44.65	0.91	45.3	0.87	-1.43%	4.60%
0.360	44.39	0.92	45.3	0.87	-2.01%	5.75%
0.370	43.64	0.93	45.3	0.87	-3.66%	6.90%
0.380	43.92	0.92	45.3	0.87	-3.05%	5.75%
0.390	44.28	0.94	45.3	0.87	-2.25%	8.05%
0.400	43.44	0.96	45.3	0.87	-4.11%	10.34%

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Dec 7	300 Head	22.0°C	20.2°C	≥ 15 cm	101.1 kPa	30%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

FLUID DIELECTRIC PARAMETERS						
Date: 12/7/2011		Frequency: 150 MHz			Tissue: Body	
Freq	Test_e	Test_s	Target_e	Target_s	Deviation Permittivity	Deviation Conductivity
0.050	115.9	0.71	61.9	0.8	87.24%	-11.25%
0.060	93.63	0.72	61.9	0.8	51.26%	-10.00%
0.070	87.46	0.71	61.9	0.8	41.29%	-11.25%
0.080	75.62	0.76	61.9	0.8	22.16%	-5.00%
0.090	72.31	0.75	61.9	0.8	16.82%	-6.25%
0.100	71.69	0.75	61.9	0.8	15.82%	-6.25%
0.110	65.61	0.76	61.9	0.8	5.99%	-5.00%
0.120	69.25	0.79	61.9	0.8	11.87%	-1.25%
0.130	62.16	0.78	61.9	0.8	0.42%	-2.50%
0.140	64.29	0.8	61.9	0.8	3.86%	0.00%
0.144*	63.8	0.788	61.9	0.8	3.07%	-1.50%
0.150	63.18	0.77	61.9	0.8	2.07%	-3.75%
0.1508*	63.2	0.772	61.9	0.8	2.10%	-3.50%
0.160	63.95	0.8	61.9	0.8	3.31%	0.00%
0.170	62.42	0.81	61.9	0.8	0.84%	1.25%
0.1734*	62.4	0.81	61.9	0.8	0.81%	1.25%
0.180	62.39	0.81	61.9	0.8	0.79%	1.25%
0.190	61.53	0.81	61.9	0.8	-0.60%	1.25%
0.200	62.13	0.82	61.9	0.8	0.37%	2.50%
0.210	60.42	0.81	61.9	0.8	-2.39%	1.25%
0.220	61.98	0.83	61.9	0.8	0.13%	3.75%
0.230	60.31	0.83	61.9	0.8	-2.57%	3.75%
0.240	61.08	0.85	61.9	0.8	-1.32%	6.25%
0.250	59.88	0.84	61.9	0.8	-3.26%	5.00%

\*interpolated using DASY4 software

Test Date	Fluid Type	Ambient Temperature	Fluid Temperature	Fluid Depth	Atmospheric Pressure	Relative Humidity	$\rho$ (Kg/m <sup>3</sup> )
Dec 7	150 Body	22.0°C	22.4°C	≥ 15 cm	101.1 kPa	30%	1000

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 9.0 SAR TEST REDUCTION PROCEDURES - SYSTEM MODEL (FCC KDB 643646)

- a. Face-held Configuration - Default Battery Selection - per FCC KDB 643646, Page 2, Section 1) A): *"When multiple standard batteries are supplied with a radio, the battery with the highest capacity is considered the default battery for making head SAR measurements."*
- b. Body-worn Configuration - Default Battery Selection - per FCC KDB 643646, Page 5, Section 1) A): *"Start by testing a PTT radio with the thinnest battery and a standard (default) Body-worn accessory that are both supplied with the radio and, if applicable, a default audio accessory....."*
- c. Body-worn Configuration - Default Body-worn Accessory Selection - the belt-clip was selected as the default Body-worn accessory based on the smaller separation distance it provides between the radio and the user in comparison to the remaining accessories. Per FCC KDB 643646, Page 5, Section 1) A): *"When multiple default Body-worn accessories are supplied with a radio, the standard Body-worn accessory expected to result in the highest SAR based on its construction and exposure conditions is considered the default Body-worn accessory for making Body-worn measurements."*
- d. Body-worn Configuration - Additional Body-worn Accessories - the remaining Body-worn accessories were evaluated based on the *"additional Body-worn accessory"* guidance provided in FCC KDB 643646, Page 7, Section 4). The remaining Body-worn accessories can be utilized with all the audio accessory options.
- e. Body-worn Configuration - Default Audio Accessory Selection - According to the manufacturer, the radio is not supplied to the end user with a standard default audio accessory (as referenced in FCC KDB 643646, Page 4, Section "Body SAR Test Considerations for Body-worn Accessories"); therefore the procedures described in note (j) below were applied in order to establish the default audio accessory.
- f. Body-worn Configuration - Selection of Remaining Default Audio Accessories by Category - the Remaining Default Audio Accessories by Category were selected based on the guidance provided in FCC KDB 643646, Section "Body SAR Test Considerations for Audio Accessories without Built-in Antenna", Page 10: *"For audio accessories with similar construction and operating requirements, test only the audio accessory within the group that is expected to result in the highest SAR, with respect to changes in RF characteristics and exposure conditions for the combination. If it is unclear which audio accessory within a group of similar accessories is expected to result in the highest SAR, good engineering judgment and preliminary testing should be applied to select the accessory that is expected to result in the highest SAR."* Please refer to note (i) below for the procedure implemented to establish the Default Audio Accessory by Category (Grouping). The Remaining Default Audio Accessories by Category were evaluated on the highest SAR channel and antenna combination from the Default Audio Accessory evaluations (see note e.) based on the guidance provided in FCC KDB 643646, Page 10, Section 1) A) thru D).
- g. Body-worn Configuration - Selection of Additional Audio Accessories by Category - the Additional Audio Accessories by Category were selected based on the guidance provided in FCC KDB 643646, Section "Body SAR Test Considerations for Audio Accessories without Built-in Antenna", Page 10.
- h. According to the manufacturer, all the optional audio accessories can be used with any accessory combination (antenna, battery & Body-worn accessory) - see also Appendix H (Audio Accessory Combinations). Therefore, in order to establish the overall default audio accessory and default accessory by category (grouping), preliminary SAR evaluations (area scans with belt-clip, thinnest battery and worst-case antenna configuration from face-held evaluations) were performed by Celltech with all of the optional audio accessories connected to the radio consecutively.

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 10.0 SAR TEST REDUCTION PROCEDURES - SCAN MODEL (FCC KDB INQ. #235657)

With respect to the SAR results for the *original model*, please test the SAR for *additional models* according to the following where reported and measured should mean the SAR results at 50% duty factor before further scaling or compensation.

1. For face exposure, *additional models* should be measured for each of the antennas using the highest SAR configuration reported among the battery configurations for the *base model*; i.e., one SAR per antenna for each additional model.
2. For body-worn accessories with the default audio accessory, *additional models* should be measured for each of the antennas and body-worn accessories using the highest SAR configuration reported among the battery configurations for the *base model*; i.e., one SAR per antenna and body-worn accessory combination. For each of these configurations, if the measured SAR for the *additional models* is > 7.0 W/kg repeat all SAR measured for the *base model* that are > 6.0 W/kg using the *additional models*. In addition, all SAR measured for the *base model* > 7.0 W/kg must be repeated for the *additional models*.
3. For the remaining default audio accessories, all SAR measured for each combination of antenna, battery, body-worn accessory and audio accessory with the *base model* with SAR >= 7.0 W/kg must be repeated for the *additional models* for such combinations. When the highest SAR measured for a *base model* combination of antenna, battery, body-worn accessory and audio accessory is < 7.0 W/kg, measure SAR for the *additional models* using the highest SAR reported for each *base model* combination; i.e., at least one test per combination. However, if the highest reported SAR for a *base model* combination is < 5.0 W/kg, no test is needed for that combination. For each *additional model* combination, if the measured SAR is > 7.0 W/kg repeat all SAR measured for that combination when the reported *base model* SAR is > 6.0 W/kg.
4. For the rest of the additional (non-default) audio accessories tested for the *base model*, apply the same procedures used for the remaining default audio accessories in #3 above. A combination should be determined according to audio accessory part numbers; not by audio category.

<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>	<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>		
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	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

## 11.0 SAR MEASUREMENT SUMMARY

TABLE 1			FACE-HELD SAR EVALUATION RESULTS											
Device-Under-Test			XG-25P VHF Radio Transceiver (System)											
Test Date(s)			October 18, 2011											
C			1	2	3	4	5	6	7	8				
R	Ant. Acc. ID #	Test Freq. (MHz)	Cond. Power Before Test (W)	SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g				
			Battery (d) - Default		Battery (a) - Additional		Battery (b) - Additional		Battery (c) - Additional					
			100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f				
			Drift (dB)	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop				
1	1 (IC only)	138.0	5.08	N/A		N/A		N/A		N/A				
2		144.0	5.20	F1	1.32	0.660	F5	1.24	0.620	F6	1.15	0.575		
3					0.012	n/a		-0.387	0.678		-0.228	0.606		
4	2	150.8	5.17	F2	0.404	0.202	N/A		N/A		N/A			
5					-0.104	0.207					N/A			
6		156.4	5.08	N/A		N/A		N/A		N/A				
7		162.0	5.13	N/A		N/A		N/A		N/A				
8	3	162.0	5.13	N/A		N/A		N/A		N/A				
9		167.7	5.08	N/A		N/A		N/A		N/A				
10		173.4	5.17	F3	0.206	0.103	N/A		N/A		N/A			
11					-0.384	0.113					N/A			
12		150.8	5.17	N/A		N/A		N/A		N/A				
13	4	158.3	5.13	N/A		N/A		N/A		N/A				
14		165.9	5.09	N/A		N/A		N/A		N/A				
15		173.4	5.17	F4	1.25	0.625	N/A		N/A		N/A			
16					-0.233	0.659					N/A			
SAR LIMITS					HEAD		SPATIAL PEAK		RF EXPOSURE CATEGORY					
FCC 47 CFR 2.1093		Health Canada Safety Code 6			8.0 W/kg		1 gram average		Occupational / Controlled					

### Notes

C = Column; R = Row  
Fx (F = Face) denotes the corresponding Face SAR Plot # as shown in Appendix A

Test Mode = CW (Unmodulated Continuous Wave)  
Phantom = Side Planar Phantom

Front of DUT Distance to Planar Phantom (see Appendix D)  
(Front of DUT Parallel to Planar Phantom)

Shortest Antenna Distance to Planar Phantom (see Appendix D)

Antenna 1	Antenna 2	Antenna 3	Antenna 4
-----------	-----------	-----------	-----------

2.5 cm	5.5 cm	5.5 cm	5.5 cm
--------	--------	--------	--------

### Test Procedures in accordance with FCC KDB 643646 (see reference [9])

1. For face-held configuration, battery "d" was selected as the default battery (highest mAh).
2. When the head SAR of an antenna tested on the highest output power channel with the default battery is  $\leq 3.5$  W/kg, testing of all other required channels is not necessary.
3. When the SAR for all antennas tested using the default battery is  $\leq 4.0$  W/kg, test additional batteries using the antenna and channel configuration that resulted in the highest SAR among all antennas.
4. When test reduction applies, the data table entries for such configurations are denoted with N/A (Not Applicable).

Applicant:	HARRIS Corporation	FCC ID:	0WDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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Subsets of tests were performed for the Scan radio model variant based on re-evaluating the maximum SAR levels per antenna configuration from the System model evaluations.

### FACE-HELD SAR EVALUATION RESULTS (System & Scan Radio Model Variant Comparison)

TABLE 2			XG-25P VHF SCAN Radio Keypad Variant Model				XG-25P VHF SYSTEM Radio Base Model						
C			Cond. Power Before Test (W)	1	2	3	Cond. Power Before Test (W)	4	5	6			
R	Antenna Accessory ID #	Test Freq. (MHz)		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #			
				100% ptt d/f	50% ptt d/f			100% ptt d/f	50% ptt d/f				
				Drift (dB)	50%+droop			Drift dB	50%+droop				
1	1 (IC only)	138.0	5.11	N/A			5.08	N/A					
2		144.0	5.21	F8	1.49 -0.115	0.745 0.765	c	5.20	F7	1.43 -0.113	0.715 0.734		
3	2	150.8	5.17	F9	0.431 -0.181	0.216 0.225		5.17	F2	0.404 -0.104	0.202 0.207		
4		156.4	5.08	N/A			5.08	N/A					
5		162.0	5.15	N/A			5.13	N/A					
6		162.0	5.15	N/A			5.13	N/A					
7	3	167.7	5.11	N/A			5.08	N/A					
8		173.4	5.17	F10	0.202 -0.408	0.101 0.111	d	5.17	F3	0.206 -0.384	0.103 0.113		
9		150.8	5.17	N/A			5.17	N/A					
10		158.3	5.08	N/A			5.13	N/A					
11	4	165.9	5.08	N/A			5.09	N/A					
12		173.4	5.17	F11	1.27 -0.241	0.635 0.671	d	5.17	F4	1.25 -0.233	0.625 0.659		
13		150.8	5.17	N/A			5.17	N/A					
14		165.9	5.08	N/A			5.13	N/A					
15	SAR LIMITS	8.0 W/kg	1 gram average			RF EXPOSURE CATEGORY							
16		8.0 W/kg	1 gram average			Occupational / Controlled							

#### Notes

Test Mode = CW (Unmodulated Continuous Wave)	Phantom = Side Planar Phantom
C = Column; R = Row	Fx (F = Face) denotes the corresponding Face SAR Plot # as shown in Appendix A
N/A = Not Applicable	Test reduction procedures applied for Scan model = FCC KDB Inquiry #235657
Front of DUT Distance to Planar Phantom (see Appendix D) (Front of DUT Parallel to Planar Phantom)	Shortest Antenna Distance to Planar Phantom (see Appendix D)
2.5 cm	Antenna 1      Antenna 2      Antenna 3      Antenna 4

Applicant:	HARRIS Corporation	FCC ID:	0WDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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TABLE 3				BODY-WORN SAR EVALUATION RESULTS										
Device-Under-Test				XG-25P VHF Radio Transceiver (System)										
Body-worn Accessory ID #				5 (Default)										
Audio Accessory ID #				G7a (Default)										
Test Date(s)				October 19, 2011										
C				1	2	3	4	5	6	7	8			
R	Ant. Acc. ID #	Test Freq. (MHz)	Cond. Power Before Test (W)	SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g				
				Battery (d) - Default		Battery (a) - Additional		Battery (b) - Additional		Battery (c) - Additional				
				100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f			
				Drift (dB)	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop			
1	1 (IC only)	138.0	5.08	N/A		N/A		N/A		N/A				
2		144.0	5.20	B1	0.575	0.288	N/A		N/A		N/A			
3				-0.167	0.299									
4	2	150.8	5.17	B2	9.16	4.58	B6	1.47	0.735	B7	9.29	4.65		
5					-0.211	4.81		-0.141	0.759		0.061	n/a		
6		156.4	5.08	B3	6.68	3.34	N/A		N/A		N/A			
7					-0.274	3.56								
8		162.0	5.13	N/A		N/A		N/A		N/A				
9	3	162.0	5.13	N/A		N/A		N/A		N/A				
10		167.7	5.08	N/A		N/A		N/A		N/A				
11		173.4	5.17	B4	0.345	0.173	N/A		N/A		N/A			
12					-0.180	0.183								
13	4	150.8	5.17	N/A		N/A		N/A		N/A				
14		158.3	5.13	N/A		N/A		N/A		N/A				
15		165.9	5.09	N/A		N/A		N/A		N/A				
16		173.4	5.17	B5	1.26	0.630	N/A		N/A		N/A			
17					-0.180	0.657								
SAR LIMITS					BODY		SPATIAL PEAK		RF EXPOSURE CATEGORY					
FCC 47 CFR 2.1093		Health Canada Safety Code 6			8.0 W/kg		1 gram average		Occupational / Controlled					

#### Notes

C = Column; R = Row	Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A
Test Mode = CW (Unmodulated Continuous Wave)	Phantom = Side Planar Phantom
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)	Shortest Antenna Distance to Planar Phantom (see Appendix D)
1.6 cm	1.8 cm

#### Test Procedures applied in accordance with FCC KDB 643646 (see reference [9])

1. For body-worn configuration, battery "d" was selected as the default battery (All batteries are the same thickness and battery "d" has the highest mAh).
2. When the body SAR of an antenna tested on the highest output power channel with the default battery is > 4.0 W/kg and < 6.0 W/kg, test the immediately adjacent channels for that antenna.
3. When the body SAR of an antenna is ≤ 3.5 W/kg, testing of all other required channels is not necessary for that antenna.
4. When the highest SAR of an antenna tested with the default battery using the default body-worn and audio accessory is > 4.0 W/kg, test additional batteries with the default body-worn and audio accessory on the channel that resulted in the highest SAR for that antenna.
5. The audio accessory G7a was selected as the default audio accessory based on preliminary evaluations resulting in the most conservative SAR of all the disclosed audio accessory options.
6. When test reduction applies, the data table entries for such configurations are denoted with N/A (Not Applicable).

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	 HARRIS
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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TABLE 4				BODY-WORN SAR EVALUATION RESULTS																			
Device-Under-Test				XG-25P VHF Radio Transceiver (System)																			
Body-worn Accessory ID #				1 (Additional)																			
Audio Accessory ID #				G7a (Default)																			
Test Date(s)				October 20, 2011																			
C				1	2	3	4	5	6	7	8												
R	Ant. Acc. ID #	Test Freq. (MHz)	Cond. Power Before Test (W)	SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g													
				Battery (d) - Default		Battery (a) - Additional		Battery (b) - Additional		Battery (c) - Additional													
				100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f												
				Drift (dB)	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop												
1	1 (IC only)	138.0	5.08	N/A		N/A		N/A		N/A													
2		144.0	5.20	B9	0.125	0.063	N/A		N/A		N/A												
3					-1.65	0.091																	
4	2	150.8	5.17	B10	0.223	0.112	N/A		N/A		N/A												
5					-0.227	0.117																	
6		156.4	5.08	N/A		N/A		N/A		N/A													
7		162.0	5.13	N/A		N/A		N/A		N/A													
8		162.0	5.13	N/A		N/A		N/A		N/A													
9	3	167.7	5.08	N/A		N/A		N/A		N/A													
10		173.4	5.17	B11	0.190	0.095	N/A		N/A		N/A												
11					-0.253	0.101																	
12		150.8	5.17	N/A		N/A		N/A		N/A													
13	4	158.3	5.13	N/A		N/A		N/A		N/A													
14		165.9	5.09	N/A		N/A		N/A		N/A													
15		173.4	5.17	B12	1.16	0.580	B13	1.02	0.510	B14	1.01	0.505											
16					-0.178	0.604		-1.57	0.732		-0.195	0.528											
SAR LIMITS				BODY		SPATIAL PEAK		RF EXPOSURE CATEGORY															
FCC 47 CFR 2.1093		Health Canada Safety Code 6		8.0 W/kg		1 gram average		Occupational / Controlled															
Notes																							
C = Column; R = Row				Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A																			
Test Mode = CW (Unmodulated Continuous Wave)				Phantom = Side Planar Phantom																			
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)				Shortest Antenna Distance to Planar Phantom (see Appendix D)																			
				Antenna 1		Antenna 2		Antenna 3		Antenna 4													
4.6 cm				4.8 cm		4.8 cm		4.8 cm		4.8 cm													

#### Test Procedures applied in accordance with FCC KDB 643646 (see reference [9])

1. For body-worn configuration, battery "d" was selected as the default battery (All batteries are the same thickness and battery "d" has the highest mAh).
2. When the body SAR of an antenna is  $\leq 3.5$  W/kg, testing of all other required channels is not necessary for that antenna.
3. When the SAR for all antennas tested using the default battery is  $\leq 4.0$  W/kg, test additional batteries using the antenna and channel configuration that resulted in the highest SAR among all antennas. Testing of additional batteries in combination with the default body-worn and audio accessory and remaining antennas is unnecessary.
4. The audio accessory G7a was selected as the default audio accessory based on preliminary evaluations resulting in the most conservative SAR of all the disclosed audio accessory options.
5. When test reduction applies, the data table entries for such configurations are denoted with N/A (Not Applicable).

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			

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	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

TABLE 5				BODY-WORN SAR EVALUATION RESULTS																	
Device-Under-Test				XG-25P VHF Radio Transceiver (System)																	
Body-worn Accessory ID #				3 (Additional)																	
Audio Accessory ID #				G7a (Default)																	
Test Date(s)				October 20 & 21, 2011																	
C				1	2	3	4	5	6	7	8										
R	Ant. Acc. ID #	Test Freq. (MHz)	Cond. Power Before Test (W)	SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g											
				Battery (d) - Default		Battery (a) - Additional		Battery (b) - Additional		Battery (c) - Additional											
				100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f										
				Drift (dB)	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop										
1	1 (IC only)	138.0	5.08	N/A		N/A		N/A		N/A											
2		144.0	5.20	B16	0.104	0.052	N/A		N/A		N/A										
3	2	150.8	5.17	B17	-1.71	0.077	N/A		N/A		N/A										
4					0.244	0.122	N/A		N/A		N/A										
5					-0.306	0.131	N/A		N/A		N/A										
6		156.4	5.08	N/A		N/A		N/A		N/A											
7		162.0	5.13	N/A		N/A		N/A		N/A											
8	3	162.0	5.13	N/A		N/A		N/A		N/A											
9		167.7	5.08	N/A		N/A		N/A		N/A											
10		173.4	5.17	B18	0.175	0.088	N/A		N/A		N/A										
11					-0.299	0.094	N/A		N/A		N/A										
12	4	150.8	5.17	N/A		N/A		N/A		N/A											
13		158.3	5.13	N/A		N/A		N/A		N/A											
14		165.9	5.09	N/A		N/A		N/A		N/A											
15		173.4	5.17	B19	0.987	0.494	B20	0.811	0.406	B21	0.813	0.407									
16					0.279	n/a		-1.62	0.589		-0.180	0.424	B22	0.929	0.465						
SAR LIMITS				BODY		SPATIAL PEAK		RF EXPOSURE CATEGORY													
FCC 47 CFR 2.1093		Health Canada Safety Code 6		8.0 W/kg		1 gram average		Occupational / Controlled													
Notes																					
C = Column; R = Row				Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A																	
Test Mode = CW (Unmodulated Continuous Wave)				Phantom = Side Planar Phantom																	
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)				Shortest Antenna Distance to Planar Phantom (see Appendix D)																	
				Antenna 1		Antenna 2		Antenna 3		Antenna 4											
5.4 cm				5.6 cm		5.6 cm		5.6 cm		5.6 cm											

Test Procedures applied in accordance with FCC KDB 643646 (see reference [9])											
1. For body-worn configuration, battery "d" was selected as the default battery (All batteries are the same thickness and battery "d" has the highest mAh).											
2. When the body SAR of an antenna is $\leq$ 3.5 W/kg, testing of all other required channels is not necessary for that antenna.											
3. When the SAR for all antennas tested using the default battery is $\leq$ 4.0 W/kg, test additional batteries using the antenna and channel configuration that resulted in the highest SAR among all antennas. Testing of additional batteries in combination with the default body-worn and audio accessory and remaining antennas is unnecessary.											
4. The audio accessory G7a was selected as the default audio accessory based on preliminary evaluations resulting in the most conservative SAR of all the disclosed audio accessory options.											
5. When test reduction applies, the data table entries for such configurations are denoted with N/A (Not Applicable).											

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072			
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz				
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 Testing and Engineering Services Lab	Date(s) of Evaluation 10/17/21, 12/07, 2011	Test Report Serial No. 092811OWD-T1126-S90V	Test Report Revision No. Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

TABLE 6				BODY-WORN SAR EVALUATION RESULTS																		
Device-Under-Test				XG-25P VHF Radio Transceiver (System)																		
Body-worn Accessory ID #				4 (Additional)																		
Audio Accessory ID #				G7a (Default)																		
Test Date(s)				October 19 & 20, 2011																		
C				1	2	3	4	5	6	7	8											
R	Ant. Acc. ID #	Test Freq. (MHz)	Cond. Power Before Test (W)	SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g												
				Battery (d) - Default		Battery (a) - Additional		Battery (b) - Additional		Battery (c) - Additional												
				100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f											
				Drift (dB)	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop											
1	1 (IC only)	138.0	5.08	N/A		N/A		N/A		N/A												
2		144.0	5.20	1.56	0.780	N/A		N/A		N/A												
3				0.335	n/a																	
4	2	150.8	5.17	B24	3.21	1.61	B27	1.19	0.595	B28	3.63	1.82										
5					-0.180	1.67		-0.217	0.625		-0.237	1.92										
6		156.4	5.08	N/A		N/A		N/A		N/A												
7		162.0	5.13	N/A		N/A		N/A		N/A												
8		162.0	5.13	N/A		N/A		N/A		N/A												
9	3	167.7	5.08	N/A		N/A		N/A		N/A												
10		173.4	5.17	B25	0.381	0.191	N/A		N/A		N/A											
11					-0.245	0.202																
12		150.8	5.17	N/A		N/A		N/A		N/A												
13	4	158.3	5.13	N/A		N/A		N/A		N/A												
14		165.9	5.09	N/A		N/A		N/A		N/A												
15		173.4	5.17	B26	1.26	0.630	N/A		N/A		N/A											
16					-0.295	0.674																
SAR LIMITS					BODY		SPATIAL PEAK		RF EXPOSURE CATEGORY													
FCC 47 CFR 2.1093		Health Canada Safety Code 6			8.0 W/kg		1 gram average		Occupational / Controlled													
Notes																						
C = Column; R = Row					Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A																	
Test Mode = CW (Unmodulated Continuous Wave)					Phantom = Side Planar Phantom																	
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)					Shortest Antenna Distance to Planar Phantom (see Appendix D)																	
					Antenna 1		Antenna 2		Antenna 3		Antenna 4											
3.0 cm					3.2 cm		3.2 cm		3.2 cm		3.2 cm											

Test Procedures applied in accordance with FCC KDB 643646 (see reference [9])											
1. For body-worn configuration, battery "d" was selected as the default battery (All batteries are the same thickness and battery "d" has the highest mAh).											
2. When the body SAR of an antenna is ≤ 3.5 W/kg, testing of all other required channels is not necessary for that antenna.											
3. When the SAR for all antennas tested using the default battery is ≤ 4.0 W/kg, test additional batteries using the antenna and channel configuration that resulted in the highest SAR among all antennas. Testing of additional batteries in combination with the default body-worn and audio accessory and remaining antennas is unnecessary.											
4. The audio accessory G7a was selected as the default audio accessory based on preliminary evaluations resulting in the most conservative SAR of all the disclosed audio accessory options.											
5. When test reduction applies, the data table entries for such configurations are denoted with N/A (Not Applicable).											

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072			
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz				
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 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>ILAC-MRA</b>  <b>ACCREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

TABLE 7				BODY-WORN SAR EVALUATION RESULTS																						
Device-Under-Test				XG-25P VHF Radio Transceiver (System)																						
Body-worn Accessory ID #				6 (Additional)																						
Audio Accessory ID #				G7a (Default)																						
Test Date(s)				December 7, 2011																						
C				1	2	3	4	5	6	7	8															
R	Ant. Acc. ID #	Test Freq. (MHz)	Cond. Power Before Test (W)	SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g		SAR W/kg 1g																
1	1 (IC only)	138.0	5.08	Battery (d) - Default		Battery (a) - Additional		Battery (b) - Additional		Battery (c) - Additional																
				100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f	100% ptt d/f	50% ptt d/f															
				Drift (dB)	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop	Drift dB	50%+droop															
1	1 (IC only)	138.0	5.08	N/A		N/A		N/A		N/A																
2				144.0	5.20	B30	0.140	0.070	N/A		N/A		N/A													
3							-0.058	0.071																		
4	2	150.8	5.17	B31	0.498	0.249	N/A		N/A		N/A		N/A													
5					-0.085	0.254																				
6				156.4	5.08	N/A		N/A		N/A		N/A		N/A												
7				162.0	5.13	N/A		N/A		N/A		N/A		N/A												
8				162.0	5.13	N/A		N/A		N/A		N/A		N/A												
9	3	167.7	5.08	N/A		N/A		N/A		N/A		N/A		N/A												
10				B32	0.255	0.128	N/A		N/A		N/A		N/A		N/A											
11					-0.227	0.134																				
12	4	150.8	5.17	N/A		N/A		N/A		N/A		N/A		N/A												
13				N/A		N/A		N/A		N/A		N/A		N/A												
14				165.9	5.09	N/A		N/A		N/A		N/A		N/A												
15				B33	1.33	0.665	B34	0.872	0.436	B35	0.851	0.426	B36	0.952	0.476											
16					-0.210	0.698		-1.58	0.627		-1.55	0.608		-1.57	0.683											
SAR LIMITS						BODY		SPATIAL PEAK		RF EXPOSURE CATEGORY																
FCC 47 CFR 2.1093			Health Canada Safety Code 6			8.0 W/kg		1 gram average		Occupational / Controlled																
Notes																										
C = Column; R = Row							Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A																			
Test Mode = CW (Unmodulated Continuous Wave)							Phantom = Side Planar Phantom																			
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)							Shortest Antenna Distance to Planar Phantom (see Appendix D)																			
3.3 cm							Antenna 1		Antenna 2		Antenna 3		Antenna 4													

 Celltech Testing and Engineering Services Lab	Date(s) of Evaluation 10/17/21, 12/07, 2011	Test Report Serial No. 092811OWD-T1126-S90V	Test Report Revision No. Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

Subsets of tests were performed for the Scan radio model variant based on re-evaluating the maximum SAR levels per antenna configuration from the System model evaluations.

### BODY-WORN SAR EVALUATION RESULTS (System & Scan Radio Model Variant Comparisons)

Body-worn Accessory ID #			5 (Default)																
Audio Accessory ID #			G7a (Default)																
Test Date(s)			October 19, 2011																
<b>TABLE 8</b>			<b>XG-25P VHF SCAN Radio Keypad Variant Model</b>																
C			Cond. Power Before Test (W)	1		2		3		Cond. Power Before Test (W)	4		5		6				
R	Antenna Accessory ID #	Test Freq. (MHz)		SAR W/kg (1g)		SAR W/kg (1g)		Battery Accessory ID #	SAR W/kg (1g)		SAR W/kg (1g)		Battery Accessory ID #						
				100% ptt d/f		50% ptt d/f			100% ptt d/f		50% ptt d/f								
1	1 (IC only)	138.0		Drift (dB)		50%+droop			Drift dB		50%+droop								
2	2	144.0	5.21	B37	0.584	0.292	d	5.20	B1	0.575	0.288	d							
3					-0.080	0.297				-0.167	0.299								
4		150.8	5.17	B38	8.56	4.28	c	5.17	B8	10.8	5.40	c							
5					-0.164	4.45				0.243	n/a								
6		156.4	5.08	N/A				5.08	N/A										
7		162.0	5.15	N/A				5.13	N/A										
8	3	162.0	5.15	N/A				5.13	N/A										
9		167.7	5.11	N/A				5.08	N/A										
10		173.4	5.17	B39	0.338	0.169	d	5.17	B4	0.345	0.173	d							
11					-0.313	0.182				-0.180	0.183								
12		150.8	5.17	N/A				5.17	N/A										
13	4	158.3	5.08	N/A				5.13	N/A										
14		165.9	5.08	N/A				5.09	N/A										
15		173.4	5.17	B40	1.23	0.615	d	5.17	B5	1.26	0.630	d							
16					-0.281	0.656				-0.180	0.657								
<b>SAR LIMITS</b>					<b>BODY</b>	<b>SPATIAL PEAK</b>		<b>RF EXPOSURE CATEGORY</b>											
FCC 47 CFR 2.1093			Health Canada Safety Code 6			<b>8.0 W/kg</b>	<b>1 gram average</b>		<b>Occupational / Controlled</b>										
<b>Notes</b>																			
Test Mode = CW (Unmodulated Continuous Wave)					Phantom = Side Planar Phantom														
C = Column; R = Row					Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A														
N/A = Not Applicable					Test reduction procedures applied for Scan model = FCC KDB Inquiry #235657														
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)					<b>Shortest Antenna Distance to Planar Phantom (see Appendix D)</b>														
					<b>Antenna 1</b>	<b>Antenna 2</b>		<b>Antenna 3</b>	<b>Antenna 4</b>										
1.6 cm					1.8 cm	1.8 cm		1.8 cm	1.8 cm										

Applicant:	HARRIS Corporation	FCC ID:	0WDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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10/17/21, 12/07, 2011

Test Report Issue Date  
December 14, 2011

Test Report Serial No.  
092811OWD-T1126-S90V

Test Report Revision No.  
Rev. 1.1 (2nd Release)



## BODY-WORN SAR EVALUATION RESULTS (System & Scan Radio Model Variant Comparisons)

Body-worn Accessory ID # 1 (Additional)

Audio Accessory ID # G7a (Default)

Test Date(s) October 20, 2011

TABLE 9			XG-25P VHF SCAN Radio Keypad Variant Model					XG-25P VHF SYSTEM Radio Base Model				
C			Cond. Power Before Test (W)	1	2	3	Cond. Power Before Test (W)	4	5	6	Battery Accessory ID #	
R	Antenna Accessory ID #	Test Freq. (MHz)		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		
				100% ptt d/f	50% ptt d/f			100% ptt d/f	50% ptt d/f			
				Drift (dB)	50%+droop			Drift dB	50%+droop			
1	1 (IC only)	138.0	5.11	N/A				5.08	N/A			
2		144.0	5.21	B41	0.336 -0.517	0.168 0.189	d	5.20	B9	0.125 -1.65	0.063 0.091	d
3	2	150.8	5.17	B42	0.281 -0.050	0.141 0.142	d	5.17	B10	0.223 -0.227	0.112 0.117	d
4		156.4	5.08	N/A				5.08	N/A			
5		162.0	5.15	N/A				5.13	N/A			
6		162.0	5.15	N/A				5.13	N/A			
7	3	167.7	5.11	N/A				5.08	N/A			
8		173.4	5.17	B43	0.183 -0.352	0.092 0.099	d	5.17	B11	0.190 -0.253	0.095 0.101	d
9		173.4	5.17	B44	1.12 -0.234	0.560 0.591	d	5.17	B12	1.16 -0.178	0.580 0.604	d
10	4	150.8	5.17	N/A				5.17	N/A			
11		158.3	5.08	N/A				5.13	N/A			
12		165.9	5.08	N/A				5.09	N/A			
13		173.4	5.17	B44	1.12 -0.234	0.560 0.591	d	5.17	B12	1.16 -0.178	0.580 0.604	d
14		4.6 cm	4.8 cm		4.8 cm							

### SAR LIMITS

### BODY

### SPATIAL PEAK

### RF EXPOSURE CATEGORY

#### Notes

Test Mode = CW (Unmodulated Continuous Wave)

Phantom = Side Planar Phantom

C = Column; R = Row

Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A

N/A = Not Applicable

Test reduction procedures applied for Scan model = FCC KDB Inquiry #235657

Back of DUT Distance to Planar Phantom (see Appendix D)  
(Back of Radio Parallel to Planar Phantom)

Shortest Antenna Distance to Planar Phantom (see Appendix D)

Antenna 1	Antenna 2	Antenna 3	Antenna 4
-----------	-----------	-----------	-----------

4.6 cm

4.8 cm

4.8 cm

4.8 cm

4.8 cm

Applicant:	HARRIS Corporation	FCC ID:	0WDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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Test Report Issue Date  
December 14, 2011

Test Report Serial No.  
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Test Report Revision No.  
Rev. 1.1 (2nd Release)

Description of Test(s)  
Specific Absorption Rate

RF Exposure Category  
Occupational (Controlled)



## BODY-WORN SAR EVALUATION RESULTS (System & Scan Radio Model Variant Comparisons)

Body-worn Accessory ID # 3 (Additional)

Audio Accessory ID # G7a (Default)

Test Date(s) October 20 & 21, 2011

TABLE 10			XG-25P VHF SCAN Radio Keypad Variant Model					XG-25P VHF SYSTEM Radio Base Model						
C			Cond. Power Before Test (W)	1	2	3	Cond. Power Before Test (W)	4	5	6	Battery Accessory ID #			
R	Antenna Accessory ID #	Test Freq. (MHz)		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #				
				100% ptt d/f	50% ptt d/f			100% ptt d/f	50% ptt d/f					
				Drift (dB)	50%+droop			Drift dB	50%+droop					
1	1 (IC only)	138.0	5.11	N/A				5.08	N/A					
2		144.0	5.21	B45	0.223	0.112	d	5.20	B16	0.104	0.052	d		
3					-0.303	0.120				-1.71	0.077			
4	2	150.8	5.17	B46	0.265	0.133	d	5.17	B17	0.244	0.122	d		
5					-0.051	0.134				-0.306	0.131			
6		156.4	5.08	N/A				5.08	N/A					
7		162.0	5.15	N/A				5.13	N/A					
8		162.0	5.15	N/A				5.13	N/A					
9	3	167.7	5.11	N/A				5.08	N/A					
10		173.4	5.17	B47	0.165	0.083	d	5.17	B18	0.175	0.088	d		
11					-0.300	0.088				-0.299	0.094			
12	4	150.8	5.17	N/A				5.17	N/A					
13		158.3	5.08	N/A				5.13	N/A					
14		165.9	5.08	N/A				5.09	N/A					
15		173.4	5.17	B48	0.624	0.312	d	5.17	B19	0.987	0.494	d		
16					-0.308	0.335				0.279	n/a			

### SAR LIMITS

FCC 47 CFR 2.1093 Health Canada Safety Code 6 8.0 W/kg 1 gram average Occupational / Controlled

#### Notes

Test Mode = CW (Unmodulated Continuous Wave)	Phantom = Side Planar Phantom
C = Column; R = Row	Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A
N/A = Not Applicable	Test reduction procedures applied for Scan model = FCC KDB Inquiry #235657
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)	Shortest Antenna Distance to Planar Phantom (see Appendix D)
	Antenna 1 Antenna 2 Antenna 3 Antenna 4
5.4 cm	5.6 cm 5.6 cm 5.6 cm 5.6 cm

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E	IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz	
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Test Report Revision No.  
Rev. 1.1 (2nd Release)



## BODY-WORN SAR EVALUATION RESULTS (System & Scan Radio Model Variant Comparisons)

Body-worn Accessory ID # 4 (Additional)

Audio Accessory ID # G7a (Default)

Test Date(s) October 19 & 20, 2011

TABLE 11			XG-25P VHF SCAN Radio Keypad Variant Model					XG-25P VHF SYSTEM Radio Base Model					
C			Cond. Power Before Test (W)	1	2	3	Cond. Power Before Test (W)	4	5	6	Battery Accessory ID #		
R	Antenna Accessory ID #	Test Freq. (MHz)		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #			
				100% ptt d/f	50% ptt d/f			100% ptt d/f	50% ptt d/f				
				Drift (dB)	50%+droop			Drift dB	50%+droop				
1	1 (IC only)	138.0	5.11	N/A				5.08	N/A				
2		144.0	5.21	B49	0.397	0.199	d	5.20	B23	1.56	0.780	d	
3					-1.97	0.312				0.335	n/a		
4	2	150.8	5.17	B50	1.35	0.675	b	5.17	B28	3.63	1.82	b	
5					-0.464	0.751				-0.237	1.92		
6					156.4	5.08				5.08	N/A		
7		162.0	5.15		N/A			5.13	N/A				
8		162.0	5.15		N/A			5.13	N/A				
9	3	167.7	5.11		N/A			5.08	N/A				
10		173.4	5.17	B51	0.352	0.176	d	5.17	B25	0.381	0.191	D	
11					-0.372	0.192				-0.245	0.202		
12		150.8	5.17		N/A			5.17	N/A				
13	4	158.3	5.08		N/A			5.13	N/A				
14		165.9	5.08		N/A			5.09	N/A				
15		173.4	5.17	B52	1.18	0.590	d	5.17	B26	1.26	0.630	d	
16					-1.95	0.924				-0.295	0.674		

### SAR LIMITS

FCC 47 CFR 2.1093 Health Canada Safety Code 6 8.0 W/kg 1 gram average Occupational / Controlled

#### Notes

Test Mode = CW (Unmodulated Continuous Wave)	Phantom = Side Planar Phantom
C = Column; R = Row	Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A
N/A = Not Applicable	Test reduction procedures applied for Scan model = FCC KDB Inquiry #235657
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)	Shortest Antenna Distance to Planar Phantom (see Appendix D)
3.0 cm	Antenna 1 Antenna 2 Antenna 3 Antenna 4
	3.2 cm 3.2 cm 3.2 cm 3.2 cm

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E	IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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December 14, 2011

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Test Report Revision No.  
Rev. 1.1 (2nd Release)

Description of Test(s)  
Specific Absorption Rate

RF Exposure Category  
Occupational (Controlled)



## BODY-WORN SAR EVALUATION RESULTS (System & Scan Radio Model Variant Comparisons)

Body-worn Accessory ID # 6 (Additional)

Audio Accessory ID # G7a (Default)

Test Date(s) December 7, 2011

**TABLE 12** XG-25P VHF SCAN Radio Keypad Variant Model XG-25P VHF SYSTEM Radio Base Model

C			Cond. Power Before Test (W)	1	2	3	Cond. Power Before Test (W)	4	5	6		
R	Antenna Accessory ID #	Test Freq. (MHz)		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		SAR W/kg (1g)	SAR W/kg (1g)	Battery Accessory ID #		
				100% ptt d/f	50% ptt d/f			100% ptt d/f	50% ptt d/f			
				Drift (dB)	50%+droop			Drift dB	50%+droop			
1	1 (IC only)	138.0	5.11	N/A				5.08	N/A			
2		144.0	5.21	B53	0.290 -2.05	0.145 0.232	d	5.20	B30	0.140 -0.058	0.070 0.071	
3	2	150.8	5.17	B54	0.641 -0.084	0.321 0.327	d	5.17	B31	0.498 -0.085	0.249 0.254	
4		156.4	5.08	N/A				5.08	N/A			
5		162.0	5.15	N/A				5.13	N/A			
6		162.0	5.15	N/A				5.13	N/A			
7	3	167.7	5.11	N/A				5.08	N/A			
8		173.4	5.17	B55	0.253 -0.340	0.127 0.137	d	5.17	B32	0.255 -0.227	0.128 0.134	
9		173.4	5.17	B56	1.37 -1.82	0.685 1.04	d	5.17	B33	1.33 -0.210	0.665 0.698	
10	4	150.8	5.17	N/A				5.17	N/A			
11		158.3	5.08	N/A				5.13	N/A			
12		165.9	5.08	N/A				5.09	N/A			
13		173.4	5.17	B56	1.37 -1.82	0.685 1.04	d	5.17	B33	1.33 -0.210	0.665 0.698	
14		3.3 cm		3.6 cm				3.6 cm	3.6 cm			

### SAR LIMITS BODY SPATIAL PEAK RF EXPOSURE CATEGORY

FCC 47 CFR 2.1093 Health Canada Safety Code 6 8.0 W/kg 1 gram average Occupational / Controlled

#### Notes

Test Mode = CW (Unmodulated Continuous Wave)	Phantom = Side Planar Phantom
C = Column; R = Row	Bx (B = Body) denotes the corresponding Body SAR Plot # as shown in Appendix A
N/A = Not Applicable	Test reduction procedures applied for Scan model = FCC KDB Inquiry #235657
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)	Shortest Antenna Distance to Planar Phantom (see Appendix D)
	Antenna 1 Antenna 2 Antenna 3 Antenna 4
3.3 cm	3.6 cm 3.6 cm 3.6 cm 3.6 cm

Applicant: HARRIS Corporation	FCC ID: OWDTR-0072-E	IC: 3636B-0072	
DUT Type: Portable VHF PTT Radio Transceiver	Model: XG-25P VHF	Freq.: 138 - 174 MHz	
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	Test Report Issue Date December 14, 2011	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

TABLE 13			BODY-WORN SAR EVALUATION RESULTS																			
			REMAINING DEFAULT AUDIO ACCESSORIES BY GROUPING																			
Device-Under-Test		XG-25P VHF Radio Transceiver (System)																				
Body-worn Accessory ID #		5 (Default)																				
Test Date(s)		October 21, 2011																				
C								1														
R	Antenna Accessory ID #	Battery Accessory ID #	Audio Accessory ID #	Cond. Power Before Test (W)	Test Freq. (MHz)	1g SAR (W/kg)																
						Plot #	100% ptt d/f	50% ptt d/f														
1	2	C	G1a	5.17	150.8	A1	9.01	4.51														
			G2	5.17	150.8	A2	-0.096	4.61														
			G3b	5.17	150.8	A3	8.52	4.26														
			G4	5.17	150.8	A4	-0.084	4.34														
			G5	5.17	150.8	A5	9.44	4.72														
			G6b	5.17	150.8	A6	-0.151	4.89														
			G8a	5.17	150.8	A7	9.30	4.65														
			G9a	5.17	150.8	A8	-0.148	4.81														
			G10	5.17	150.8	A9	8.15	4.08														
			G11b	5.17	150.8	A10	-0.123	4.19														
			G12a	5.17	150.8	A11	7.48	3.74														
							-0.101	3.83														
							8.07	4.04														
							-0.117	4.15														
							7.58	3.79														
							-0.155	3.93														
							8.82	4.41														
							-0.118	4.53														
							8.50	4.25														
							-0.244	4.50														
							9.26	4.63														
							-0.156	4.80														
SAR LIMITS			BODY	SPATIAL PEAK			RF EXPOSURE CATEGORY															
FCC 47 CFR 2.1093	Health Canada Safety Code 6		8.0 W/kg	1 gram average			Occupational / Controlled															
Notes																						
C = Column; R = Row			Ax (A = Accessory) denotes the corresponding Body SAR Plot # as shown in Appendix A																			
Test Mode = CW (Unmodulated Continuous Wave)			Phantom = Side Planar Phantom																			
Back of DUT Distance to Planar Phantom (see Appendix D) (Back of Radio Parallel to Planar Phantom)			Shortest Antenna Distance to Planar Phantom (see Appendix D)																			
			Antenna 2																			
1.6 cm			1.8 cm																			
Test Procedures applied in accordance with FCC KDB 643646 (see reference [9])																						
1. The audio accessories selected are the default accessories per grouping.																						
2. The antenna, battery and body-worn accessory were selected based on the maximum SAR level configuration from the body-worn accessory test sequence in the previous tables.																						
3. SAR evaluations for the remaining audio accessories within each grouping were not required based on the SAR levels from the default audio accessories per grouping were not > 7.0 W/kg.																						

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

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## 12.0 SAR SCALING (MANUFACTURER'S TUNE-UP TOLERANCE)

**TABLE 14 MAX. SAR LEVELS SCALED TO MANUF. MAXIMUM TOLERANCE SPECIFICATION**

Test Config.	Test Freq. (MHz)	Test Plot #	Measured Conducted Power (dBm)	Max. Rated Conducted Power inc. Upper Tol. (dBm)	Measured SAR Level 1g (W/kg) (50% PTT d/f)	Scaling up to Max. Power inc. Tolerance	Scaled SAR 1g (W/kg) (50% PTT d/f)
Face-held	144.0	F7	37.2	37.3	0.715	+ 0.1 dB	0.732
Body-worn	150.8	B8	37.1	37.3	5.40	+ 0.2 dB	5.66

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072		
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz			
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 13.0 DETAILS OF SAR EVALUATION

1. The number of test frequencies and the test channels evaluated for SAR were selected in accordance with the procedures described in FCC KDB 447498 Section 6) c) (see reference [8]).
2. The DUT was evaluated for SAR in accordance with the procedures described in FCC KDB 643646 (see reference [9]).
3. The SAR evaluations were performed with a fully charged battery.
4. The SAR drift of the DUT was measured by the DASY4 system for the duration of the SAR evaluations. The measured SAR droop was added to the measured SAR levels to report scaled SAR levels as shown in the SAR test data tables. A SAR-versus-Time power droop evaluation was performed (see Appendix A).
5. The fluid temperature remained within +/-2°C from the fluid dielectric parameter measurement to the completion of the SAR evaluation.
6. 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).
7. The DUT was tested at the maximum conducted 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.

## 14.0 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.
- b. 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 20mm x 20mm.
- An area scan was determined as follows:
- c. 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.
- d. 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:
- e. 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.
- f. 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).
- g. A zoom scan volume of 30 mm x 30 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.

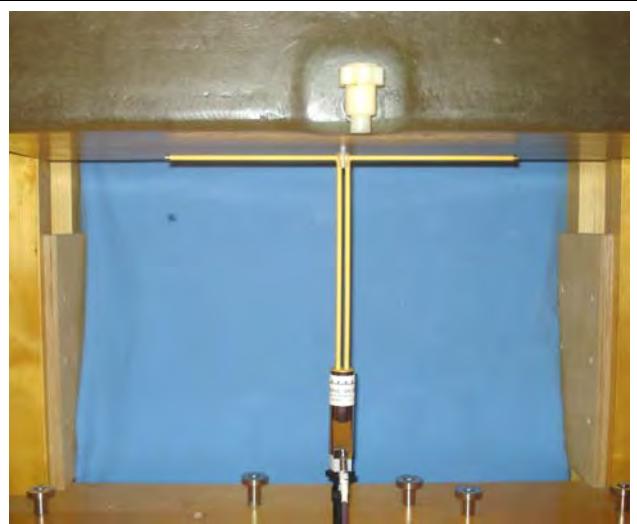
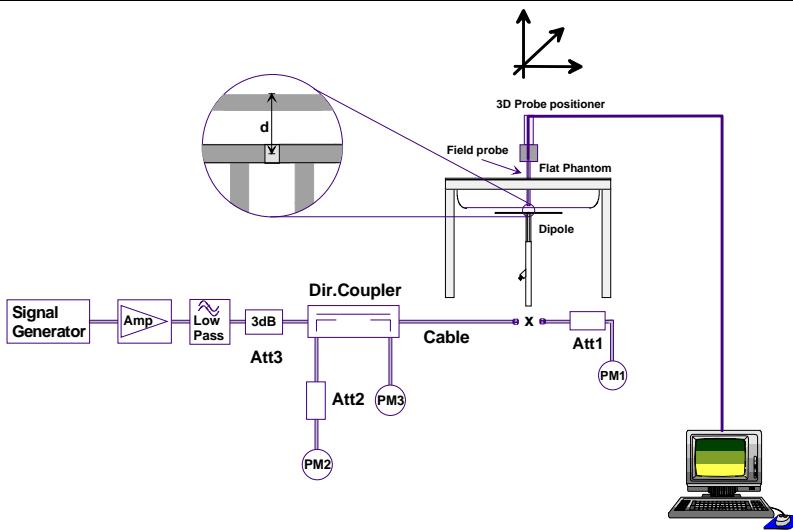
<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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## 15.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations, system checks were performed with a planar phantom and 300 MHz SPEAG 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 398 mW was applied to the dipole and the system was verified to a tolerance of  $\pm 10\%$  from the system manufacturer's dipole calibration target SAR value (see Appendix E for system manufacturer's dipole calibration procedures).

## SYSTEM PERFORMANCE CHECK EVALUATIONS



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

## 300 MHz SPEAG Validation Dipole Setup

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## 16.0 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]). 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	Water	300 MHz HEAD Tissue Mixture	37.56 %	150 MHz HEAD Tissue Mixture	38.35 %	150 MHz BODY Tissue Mixture	46.6 %
	Sugar		55.32 %		55.5%		49.7 %
	Salt		5.95 %		5.15%		2.6 %
	HEC		0.98 %		0.9%		1.0 %
	Bactericide		0.19 %		0.1%		0.1 %

## 17.0 SAR LIMITS

SAR RF EXPOSURE LIMITS			
FCC 47 CFR 2.1093	Health Canada Safety Code 6	(General Population / Uncontrolled Exposure)	(Occupational / Controlled Exposure)
Spatial Average (averaged over the whole body)		0.08 W/kg	0.4 W/kg
Spatial Peak (averaged over any 1 g of tissue)		1.6 W/kg	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:	OWDTR-0072-E		IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			
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Test Lab Certificate No. 2470.01

## 18.0 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>	$\pm 0.2$ dB (30 MHz to 3 GHz)
<u>Phantom 1</u>	
<b>Type</b>	Side Planar Phantom
<b>Shell Material</b>	Plexiglass
<b>Bottom Thickness</b>	2.0 mm $\pm 0.1$ mm
<b>Inner Dimensions</b>	72.6 cm (L) x 20.3 cm (W) x 20.3 cm (H)
<u>Phantom 2</u>	
<b>Type</b>	Barski Planar Phantom
<b>Shell Material</b>	Fiberglass
<b>Thickness</b>	2.0 $\pm 0.1$ mm
<b>Volume</b>	Approx. 70 liters

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 19.0 PROBE SPECIFICATION

Construction:	Symmetrical design with triangular core; Built-in shielding against static charges	
Calibration:	PEEK enclosure material (resistant to organic solvents, glycol) In air from 10 MHz to 2.5 GHz	
	In head simulating tissue at frequencies of 900 MHz and 1.8 GHz (accuracy $\pm$ 8%)	
Frequency:	10 MHz to > 6 GHz; Linearity: $\pm$ 0.2 dB (30 MHz to 3 GHz)	
Directivity:	$\pm$ 0.2 dB in head tissue (rotation around probe axis) $\pm$ 0.4 dB in head tissue (rotation normal to probe axis)	
Dynamic Range:	5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm$ 0.2 dB	
Surface Detect:	$\pm$ 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces	
Dimensions:	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	
Application:	General dosimetry up to 3 GHz; Compliance tests of mobile phone	

ET3DV6 E-Field Probe

## 20.0 PHANTOM(S)

The Barski Planar Phantom is a fiberglass shell phantom with a 2.0 mm (+/-0.2mm) thick device measurement area at the center of the phantom for SAR evaluations of devices with a larger surface area than the planar section of the SAM phantom. The planar phantom is integrated in a wooden table. The planar phantom was used for the DUT SAR evaluations and the system performance check evaluations. See Appendix G for dimensions and specifications of the Barski planar phantom.



Barski Planar Phantom

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.



Plexiglas Side Planar Phantom

## 21.0 DEVICE HOLDER

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.



Device Holder

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	0WDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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## 22.0 TEST EQUIPMENT LIST

TEST EQUIPMENT		ASSET NO.	SERIAL NO.	DATE CALIBRATED	CALIBRATION INTERVAL
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	27Apr10	Biennial
x	-ET3DV6 E-Field Probe	00017	1590	22Jun11	Annual
x	-SPEAG D300V3 Validation Dipole	00216	1009	18Jan10	Triennial
x	Side Planar Phantom	00156	161	CNR	CNR
x	Barski Planar Phantom	00155	03-01	CNR	CNR
x	HP 85070C Dielectric Probe Kit	00033	none	CNR	CNR
x	Gigatronics 8652A Power Meter	00007	1835272	04May10	Biennial
x	Gigatronics 80701A Power Sensor	00014	1833699	04May10	Biennial
x	HP 8753ET Network Analyzer	00134	US39170292	04May10	Biennial
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				

## 23.0 JUSTIFICATION FOR EXTENDED DIPOLE CALIBRATION

SAR dipoles calibrated less than two years ago but more than one year ago were confirmed by maintaining return loss (<-20dB, within 20% of prior calibration) and impedance (within 5Ω from prior calibration) requirements per extended calibrations in FCC KDB 450824 (see reference [10]).

SPEAG D300V3 SN: 1009						
Date of Measurement	Frequency	Fluid Type	Return Loss (dB)	Δ %	Impedance (Ω)	Δ Ω
January 18, 2010	300 MHz	Head	-20.1	-	56.3	-
June 6, 2011			-21.2	-5.5%	50.3	5

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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## 24.0 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 (150 MHz)	E.2.1	10.0	Normal	1	1	1	10.0	10.0	∞
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	2.5	Rectangular	1.732050808	1	1	1.4	1.4	∞
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	4.2	Normal	1	0.6	0.49	2.5	2.1	∞
<b>Combined Standard Uncertainty</b>				RSS			13.97	13.59	
<b>Expanded Uncertainty (95% Confidence Interval)</b>				k=2			27.94	27.18	
<b>Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003</b>									
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2									

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 25.0 REFERENCES

- [1] Federal Communications Commission - "Radiofrequency radiation exposure evaluation: portable devices", Rule Part 47 CFR §2.1093.
- [2] Health Canada - "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz", Safety Code 6: 1999.
- [3] Federal Communications Commission - "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields", OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.
- [4] Industry Canada - "Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)", Radio Standards Specification RSS-102 Issue 4: March 2010.
- [5] IEEE Standard 1528-2003 - "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques": December 2003.
- [6] IEC International Standard 62209-1:2005 - "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures."
- [7] International Standard IEC 62209-2 Edition 1.0 2010-03 - "Human exposure to radio frequency fields from hand-held & body-mounted wireless communication devices - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)".
- [8] Federal Communications Commission, Office of Engineering and Technology - "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", KDB 447498 D01v04: November 2009.
- [9] Federal Communications Commission, Office of Engineering and Technology - "SAR Test Reduction Considerations for Occupational PTT Radios", KDB 643646 D01v01r01: April 2011.
- [10] Federal Communications Commission, Office of Engineering and Technology - "Application Note: SAR Probe Calibration and System Verification Considerations for Measurements at 150 MHz - 3 GHz", KDB 450824 D01 v01r01: January 2007.
- [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.
- [13] ISO/IEC 17025 - "General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005)."
- [14] Federal Communications Commission - "Measurements Required: RF Power Output", Rule Part 47 CFR §2.1046.
- [15] Industry Canada - "General Requirements and Information for the Certification of Radiocommunication Equipment", Radio Standards Specification RSS-Gen Issue 2: June 2007.

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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Test Lab Certificate No. 2470.01

## APPENDIX B - SYSTEM PERFORMANCE CHECK PLOTS

<b>Applicant:</b>	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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Test Lab Certificate No. 2470.01

Date Tested: 10/17/2011

## System Performance Check - 300 MHz Dipole - Head

**DUT: Dipole 300 MHz; Type: D300V3; Serial: 1009; Calibrated: 01/18/2010**

Ambient Temp: 22C; Fluid Temp: 21.5C; Barometric Pressure: 101.1 kPa; Humidity: 32%

Communication System: CW

Frequency: 300 MHz; Duty Cycle: 1:1

Medium: 300 HSL Medium parameters used:  $f = 300$  MHz;  $\sigma = 0.84$  mho/m;  $\epsilon_r = 45.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

- Probe: ET3DV6 - SN1590; ConvF(8, 8, 8); Calibrated: 22/06/2011
- Sensor-Surface: 5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Head d=15mm, Pin = 398mW/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.13 mW/g

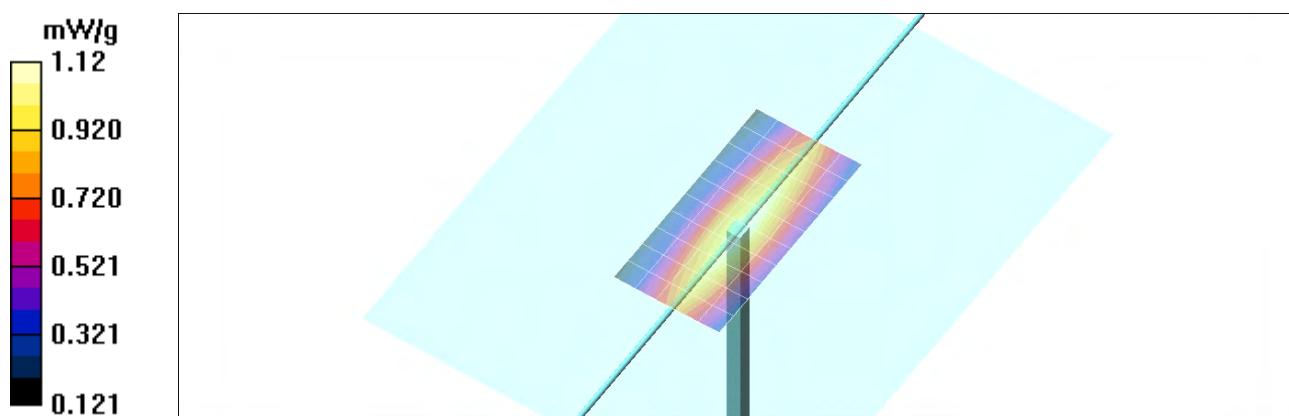
**Head d=15mm, Pin = 398mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.6 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 1.86 W/kg

**SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.772 mW/g**

Maximum value of SAR (measured) = 1.12 mW/g

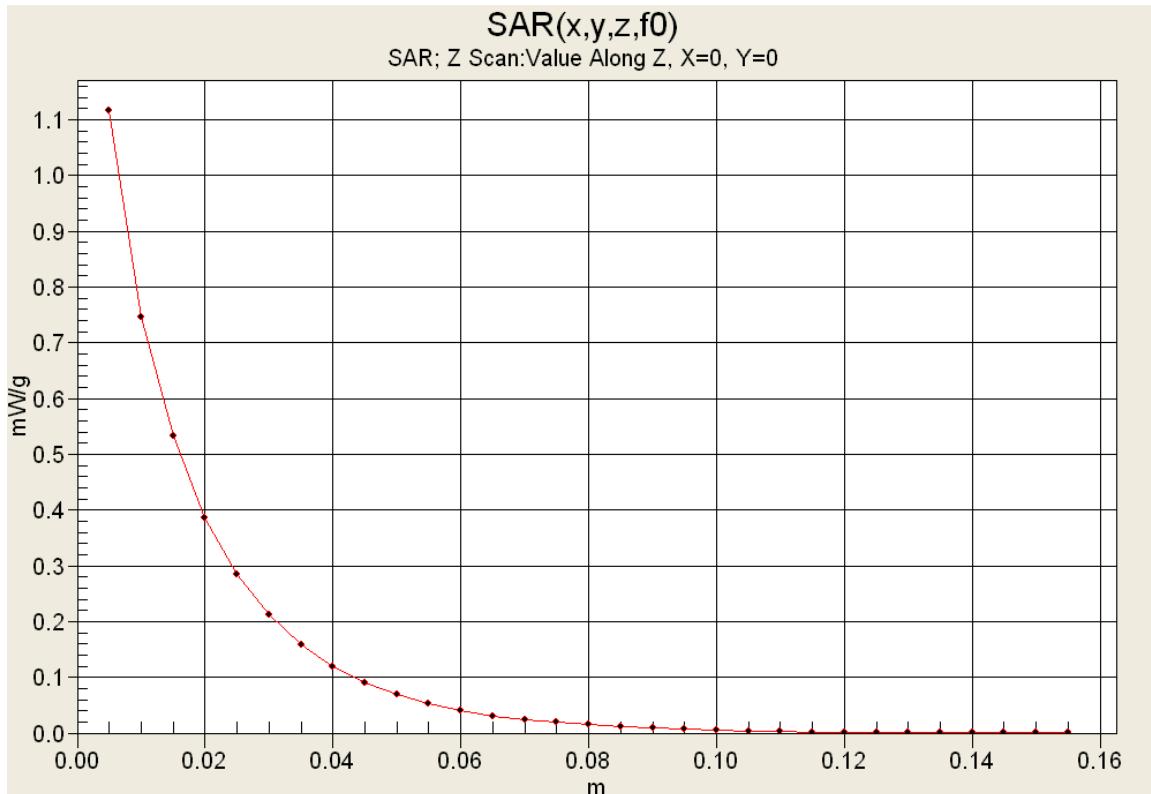


<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		

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Test Lab Certificate No. 2470.01

## Z-Axis Scan



Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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Test Lab Certificate No. 2470.01

Date Tested: 10/20/2011

## System Performance Check - 300 MHz Dipole - Head

**DUT: Dipole 300 MHz; Type: D300V3; Serial: 1009; Calibrated: 01/18/2010**

Ambient Temp: 22C; Fluid Temp: 22.0C; Barometric Pressure: 101.1 kPa; Humidity: 32%

Communication System: CW

Frequency: 300 MHz; Duty Cycle: 1:1

Medium: 300 HSL Medium parameters used:  $f = 300$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 46.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

- Probe: ET3DV6 - SN1590; ConvF(8, 8, 8); Calibrated: 22/06/2011
- Sensor-Surface: 5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Head d=15mm, Pin = 398mW/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.14 mW/g

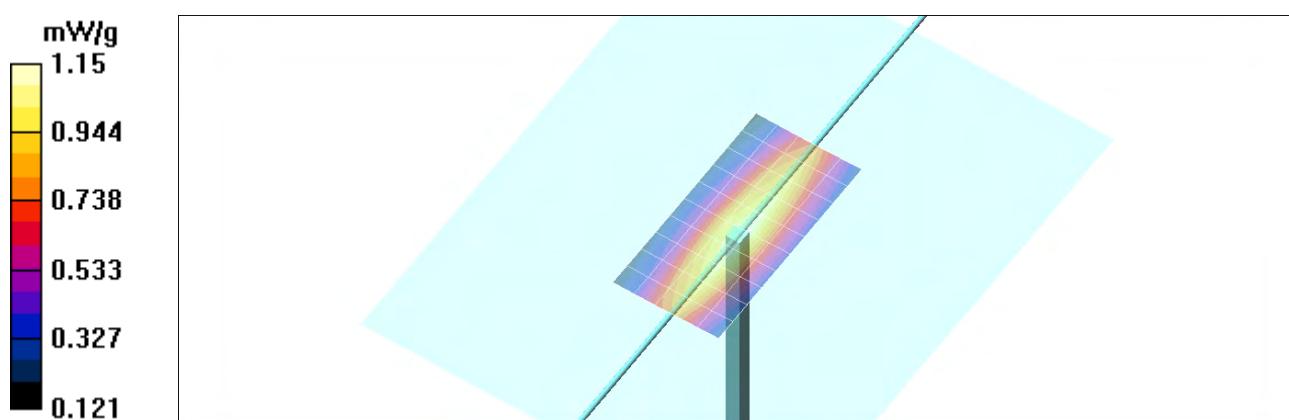
**Head d=15mm, Pin = 398mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.8 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 1.93 W/kg

**SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.788 mW/g**

Maximum value of SAR (measured) = 1.15 mW/g

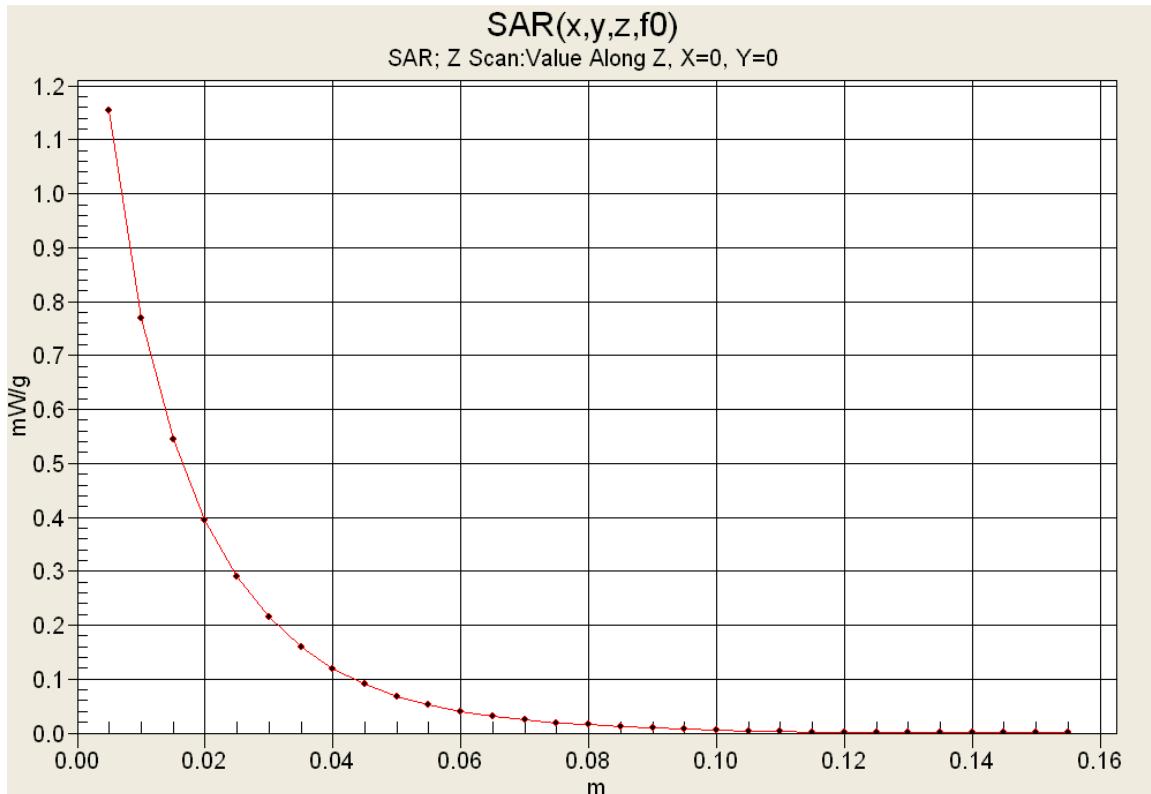


<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		

 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
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Test Lab Certificate No. 2470.01

## Z-axis Scan



<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	3636B-0072	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz		
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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Date Tested: 12/07/2011

## System Performance Check - 300 MHz Dipole - Head

**DUT: Dipole 300 MHz; Type: D300V3; Serial: 1009; Calibrated: 18/01/2010**

Ambient Temp: 22C; Fluid Temp: 20.2C; Barometric Pressure: 101.1 kPa; Humidity: 30%

## Communication System: CW

Frequency: 300 MHz; Duty Cycle: 1:1

Medium: 300 HSL Medium parameters used:  $f = 300$  MHz;  $\sigma = 0.86$  mho/m;  $\epsilon_r = 45.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

- Probe: ET3DV6 - SN1590; ConvF(8, 8, 8); Calibrated: 22/06/2011
- Sensor-Surface: 5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 27/04/2010
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Head d=15mm, Pin = 398mW/Area Scan (6x11x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.14 mW/g

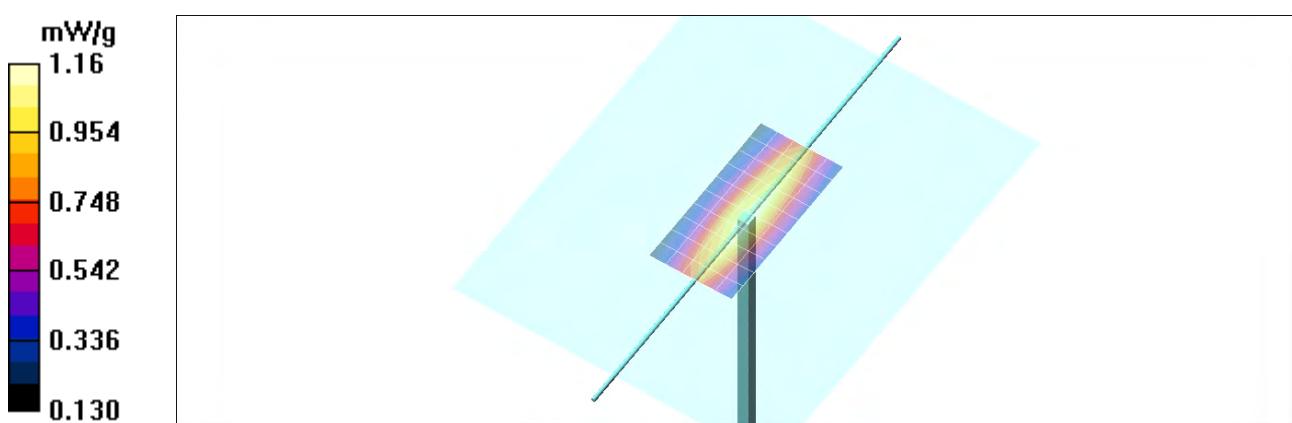
**Head d=15mm, Pin = 398mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 36.5 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 1.90 W/kg

**SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.804 mW/g**

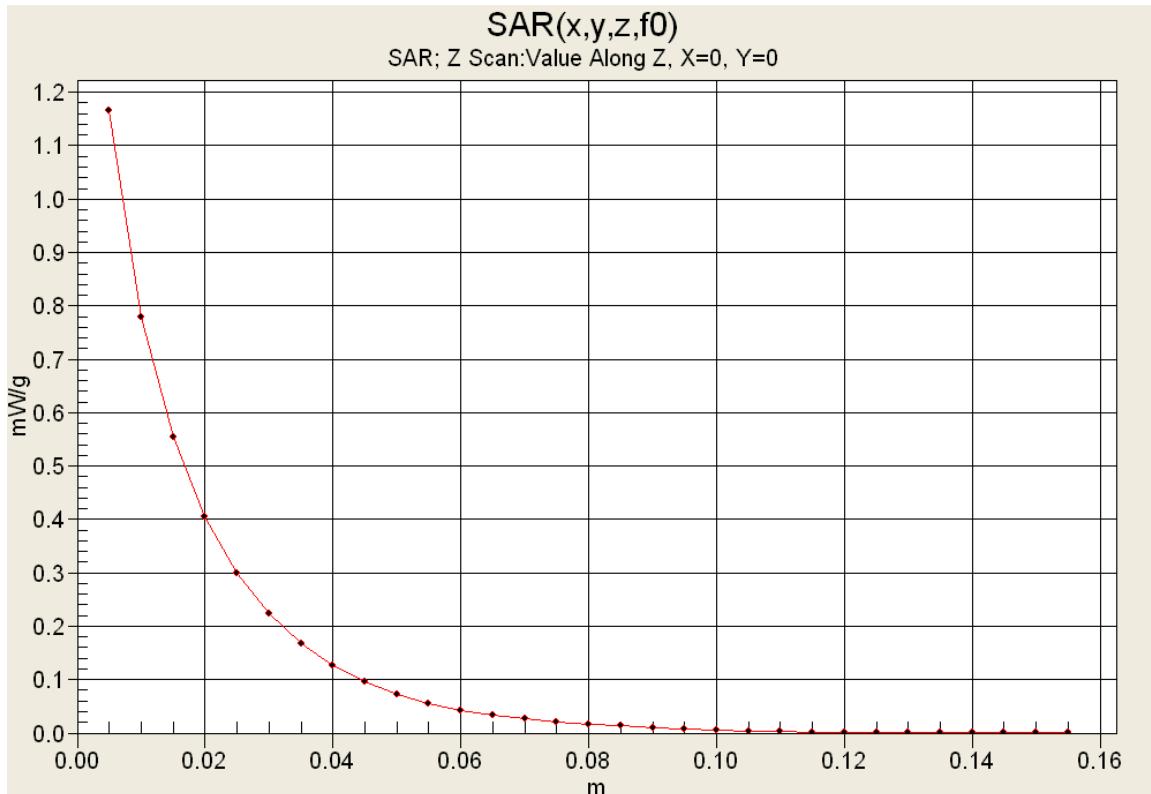
Maximum value of SAR (measured) = 1.16 mW/g



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	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## Z-axis Scan



<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>	<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>		

 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS

<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>	<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>		
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u>	<u>Test Report Serial No.</u>	<u>Test Report Revision No.</u>	 IAC-MRA
	10/17-21, 12/07, 2011	092811OWD-T1126-S90V	Rev. 1.1 (2nd Release)	
<u>Test Report Issue Date</u>	<u>Description of Test(s)</u>	<u>RF Exposure Category</u>		
December 14, 2011	Specific Absorption Rate	Occupational (Controlled)		Test Lab Certificate No. 2470.01

## 300 MHz Head

\*\*\*\*\*
   
Celltech Labs
   
Test Result for UIM Dielectric Parameter
   
17/Oct/2011
   
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_eHFCC_sH	Test_e	Test_s
0.2000	49.97	0.80	51.25
0.2100	49.50	0.80	50.19
0.2200	49.03	0.81	49.44
0.2300	48.57	0.82	48.49
0.2400	48.10	0.83	48.47
0.2500	47.63	0.83	47.97
0.2600	47.17	0.84	47.42
0.2700	46.70	0.85	47.72
0.2800	46.23	0.86	47.15
0.2900	45.77	0.86	46.47
0.3000	45.30	0.87	45.94
0.3100	45.18	0.87	45.27
0.3200	45.06	0.87	45.04
0.3300	44.94	0.87	45.11
0.3400	44.82	0.87	44.41
0.3500	44.70	0.87	42.90
0.3600	44.58	0.87	43.50
0.3700	44.46	0.87	43.19
0.3800	44.34	0.87	43.18
0.3900	44.22	0.87	42.56
0.4000	44.10	0.87	42.82

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	<b>3636B-0072</b>	 HARRIS	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz			
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

## 150 MHz Head

\*\*\*\*\*

Celltech Labs

Test Result for UIM Dielectric Parameter

18/Oct/2011

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_eHFCC_sH	Test_e	Test_s
0.0500	56.97	0.69	91.06
0.0600	56.50	0.69	69.65
0.0700	56.03	0.70	74.44
0.0800	55.57	0.71	74.58
0.0900	55.10	0.72	57.88
0.1000	54.63	0.72	62.96
0.1100	54.17	0.73	57.37
0.1200	53.70	0.74	58.79
0.1300	53.23	0.75	56.24
0.1400	52.77	0.75	53.55
<b>0.1500</b>	<b>52.30</b>	<b>0.76</b>	<b>52.14</b>
0.1500	0.76	52.14	0.76
0.1600	51.83	0.77	54.36
0.1700	51.37	0.77	51.78
0.1800	50.90	0.78	53.27
0.1900	50.43	0.79	52.63
0.2000	49.97	0.80	51.47
0.2100	49.50	0.80	50.97
0.2200	49.03	0.81	49.56
0.2300	48.57	0.82	49.00
0.2400	48.10	0.83	50.31
0.2500	47.63	0.83	49.31
			0.83

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 150 MHz Body

Celltech Labs  
Test Result for UIM Dielectric Parameter

19/Oct/2011

Frequency (GHz)

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
0.0500	64.37	0.72	125.42	0.71
0.0600	64.12	0.73	87.77	0.71
0.0700	63.87	0.74	76.92	0.70
0.0800	63.63	0.74	81.16	0.72
0.0900	63.38	0.75	72.85	0.73
0.1000	63.13	0.76	70.22	0.75
0.1100	62.89	0.77	65.44	0.74
0.1200	62.64	0.78	68.68	0.77
0.1300	62.39	0.78	63.63	0.76
0.1400	62.15	0.79	63.60	0.77
0.1500	61.90	0.80	63.77	0.77
0.1600	61.65	0.81	62.09	0.77
0.1700	61.41	0.82	61.92	0.78
0.1800	61.16	0.82	62.29	0.79
0.1900	60.91	0.83	63.28	0.79
0.2000	60.67	0.84	63.82	0.81
0.2100	60.42	0.85	61.18	0.81
0.2200	60.17	0.86	61.46	0.81
0.2300	59.93	0.86	60.67	0.82
0.2400	59.68	0.87	59.76	0.82
0.2500	59.43	0.88	60.54	0.84

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 300 MHz Head

\*\*\*\*\*  
Celltech Labs

Test Result for UIM Dielectric Parameter

20/Oct/2011

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_eHFCC_sH	Test_e	Test_s
0.2000	49.97	0.80	50.79
0.2100	49.50	0.80	50.44
0.2200	49.03	0.81	49.14
0.2300	48.57	0.82	48.62
0.2400	48.10	0.83	48.15
0.2500	47.63	0.83	46.35
0.2600	47.17	0.84	47.30
0.2700	46.70	0.85	48.42
0.2800	46.23	0.86	46.40
0.2900	45.77	0.86	46.79
0.3000	45.30	0.87	46.26
0.3100	45.18	0.87	46.31
0.3200	45.06	0.87	46.10
0.3300	44.94	0.87	45.69
0.3400	44.82	0.87	45.03
0.3500	44.70	0.87	43.55
0.3600	44.58	0.87	43.92
0.3700	44.46	0.87	43.91
0.3800	44.34	0.87	42.88
0.3900	44.22	0.87	43.30
0.4000	44.10	0.87	43.83

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 150 MHz Body

Celltech Labs  
Test Result for UIM Dielectric Parameter

20/Oct/2011

Frequency (GHz)

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
0.0500	64.37	0.72	65.29	0.76
0.0600	64.12	0.73	85.62	0.74
0.0700	63.87	0.74	77.61	0.74
0.0800	63.63	0.74	72.04	0.73
0.0900	63.38	0.75	68.62	0.73
0.1000	63.13	0.76	67.53	0.76
0.1100	62.89	0.77	66.53	0.76
0.1200	62.64	0.78	63.82	0.79
0.1300	62.39	0.78	62.91	0.79
0.1400	62.15	0.79	64.78	0.79
0.1500	61.90	0.80	64.02	0.79
0.1600	61.65	0.81	62.95	0.77
0.1700	61.41	0.82	62.89	0.79
0.1800	61.16	0.82	63.66	0.80
0.1900	60.91	0.83	60.76	0.81
0.2000	60.67	0.84	61.48	0.81
0.2100	60.42	0.85	61.27	0.82
0.2200	60.17	0.86	61.58	0.82
0.2300	59.93	0.86	61.26	0.84
0.2400	59.68	0.87	60.12	0.84
0.2500	59.43	0.88	61.53	0.85

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072		
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz			
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 IAC-MRA ACCREDITED
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## 150 MHz Body

Celltech Labs  
Test Result for UIM Dielectric Parameter

21/Oct/2011

Frequency (GHz)

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
0.0500	64.37	0.72	82.48	0.71
0.0600	64.12	0.73	78.31	0.71
0.0700	63.87	0.74	87.36	0.72
0.0800	63.63	0.74	71.84	0.73
0.0900	63.38	0.75	77.20	0.74
0.1000	63.13	0.76	69.25	0.75
0.1100	62.89	0.77	67.22	0.76
0.1200	62.64	0.78	63.08	0.75
0.1300	62.39	0.78	64.18	0.76
0.1400	62.15	0.79	61.66	0.76
<b>0.1500</b>	<b>61.90</b>	<b>0.80</b>	<b>64.05</b>	<b>0.76</b>
0.1600	61.65	0.81	62.86	0.78
0.1700	61.41	0.82	63.45	0.76
0.1800	61.16	0.82	62.22	0.78
0.1900	60.91	0.83	61.20	0.78
0.2000	60.67	0.84	61.35	0.81
0.2100	60.42	0.85	60.92	0.81
0.2200	60.17	0.86	62.98	0.80
0.2300	59.93	0.86	61.03	0.82
0.2400	59.68	0.87	59.80	0.84
0.2500	59.43	0.88	60.95	0.82

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0072-E		IC:	3636B-0072	
DUT Type:	Portable VHF PTT Radio Transceiver	Model:	XG-25P VHF	Freq.:	138 - 174 MHz		
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u>	<u>Test Report Serial No.</u>	<u>Test Report Revision No.</u>	 IAC-MRA
	10/17-21, 12/07, 2011	092811OWD-T1126-S90V	Rev. 1.1 (2nd Release)	
<u>Test Report Issue Date</u>	<u>Description of Test(s)</u>	<u>RF Exposure Category</u>		
December 14, 2011	Specific Absorption Rate	Occupational (Controlled)		Test Lab Certificate No. 2470.01

## 300 MHz Head

\*\*\*\*\*
   
Celltech Labs
   
Test Result for UIM Dielectric Parameter
   
07/Dec/2011
   
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_eHFCC_sH	Test_e	Test_s
0.2000	49.97	0.80	50.59
0.2100	49.50	0.80	51.68
0.2200	49.03	0.81	49.40
0.2300	48.57	0.82	49.61
0.2400	48.10	0.83	49.15
0.2500	47.63	0.83	48.12
0.2600	47.17	0.84	48.02
0.2700	46.70	0.85	47.09
0.2800	46.23	0.86	47.30
0.2900	45.77	0.86	46.30
0.3000	45.30	0.87	45.90
0.3100	45.18	0.87	46.51
0.3200	45.06	0.87	45.77
0.3300	44.94	0.87	46.16
0.3400	44.82	0.87	44.97
0.3500	44.70	0.87	44.65
0.3600	44.58	0.87	44.39
0.3700	44.46	0.87	43.64
0.3800	44.34	0.87	43.92
0.3900	44.22	0.87	44.28
0.4000	44.10	0.87	43.44

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	<b>3636B-0072</b>	 HARRIS	
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz			
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 Testing and Engineering Services Lab	<u>Date(s) of Evaluation</u>	<u>Test Report Serial No.</u>	<u>Test Report Revision No.</u>	 IAC-MRA
	10/17-21, 12/07, 2011	092811OWD-T1126-S90V	Rev. 1.1 (2nd Release)	
<u>Test Report Issue Date</u>	<u>Description of Test(s)</u>	<u>RF Exposure Category</u>		
December 14, 2011	Specific Absorption Rate	Occupational (Controlled)		Test Lab Certificate No. 2470.01

## 150 MHz Body

Celltech Labs  
Test Result for UIM Dielectric Parameter

07/Dec/2011

Frequency (GHz)

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
0.0500	64.37	0.72	115.90	0.71
0.0600	64.12	0.73	93.63	0.72
0.0700	63.87	0.74	87.46	0.71
0.0800	63.63	0.74	75.62	0.76
0.0900	63.38	0.75	72.31	0.75
0.1000	63.13	0.76	71.69	0.75
0.1100	62.89	0.77	65.61	0.76
0.1200	62.64	0.78	69.25	0.79
0.1300	62.39	0.78	62.16	0.78
0.1400	62.15	0.79	64.29	0.80
0.1500	61.90	0.80	63.18	0.77
0.1600	61.65	0.81	63.95	0.80
0.1700	61.41	0.82	62.42	0.81
0.1800	61.16	0.82	62.39	0.81
0.1900	60.91	0.83	61.53	0.81
0.2000	60.67	0.84	62.13	0.82
0.2100	60.42	0.85	60.42	0.81
0.2200	60.17	0.86	61.98	0.83
0.2300	59.93	0.86	60.31	0.83
0.2400	59.68	0.87	61.08	0.85
0.2500	59.43	0.88	59.88	0.84

<b>Applicant:</b>	HARRIS Corporation	<b>FCC ID:</b>	OWDTR-0072-E		<b>IC:</b>	<b>3636B-0072</b>		
<b>DUT Type:</b>	Portable VHF PTT Radio Transceiver	<b>Model:</b>	XG-25P VHF	<b>Freq.:</b>	138 - 174 MHz			
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 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## APPENDIX E - DIPOLE CALIBRATION

<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>	<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>		
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Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Celitech**

Certificate No: **D300V3-1009\_Jan10**

## **CALIBRATION CERTIFICATE**

Object **D300V3 - SN: 1009**

Calibration procedure(s) **QA CAL-15.v5**  
**Calibration Procedure for dipole validation kits below 800 MHz**

Calibration date: **January 18, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ET3DV6 (LF)	SN: 1507	03-Jul-09 (No. ET3-1507_Jul09)	Jul-10
DAE4	SN: 654	04-May-09 (No. DAE4-654_May09)	May-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzor HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by: **Jeton Kastrati** Function: **Laboratory Technician**

Signature:

Approved by: **Katja Pokovic** Function: **Technical Manager**

Issued: January 20, 2010

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

### **Glossary:**

TS	tissue simulating liquid
ConF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

### **Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

### **Additional Documentation:**

- d) DASY4 System Handbook

### **Methods Applied and Interpretation of Parameters:**

- **Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- **Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- **Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- **Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- **SAR measured:** SAR measured at the stated antenna input power.
- **SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- **SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

<b>DASY Version</b>	DASY5	V5.2
<b>Extrapolation</b>	Advanced Extrapolation	
<b>Phantom</b>	ELI4 Flat Phantom	Shell thickness: $2 \pm 0.2$ mm
<b>Distance Dipole Center - TSL</b>	15 mm	with Spacer
<b>Area Scan Resolution</b>	$dx, dy = 15$ mm	
<b>Zoom Scan Resolution</b>	$dx, dy, dz = 5$ mm	
<b>Frequency</b>	$300$ MHz $\pm 1$ MHz	

## Head TSL parameters

The following parameters and calculations were applied.

	<b>Temperature</b>	<b>Permittivity</b>	<b>Conductivity</b>
<b>Nominal Head TSL parameters</b>	22.0 °C	45.3	0.87 mho/m
<b>Measured Head TSL parameters</b>	$(22.0 \pm 0.2)$ °C	$45.8 \pm 6$ %	0.84 mho/m $\pm 6$ %
<b>Head TSL temperature during test</b>	$(22.0 \pm 0.2)$ °C	----	----

## SAR result with Head TSL

<b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b>	condition	
SAR measured	398 mW input power	1.14 mW / g
SAR normalized	normalized to 1W	2.86 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	2.95 mW / g $\pm 18.1$ % (k=2)

<b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b>	condition	
SAR measured	398 mW input power	0.76 mW / g
SAR normalized	normalized to 1W	1.92 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	1.97 mW / g $\pm 17.6$ % (k=2)

## Appendix

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	56.3 $\Omega$ - 8.5 $j\Omega$
Return Loss	- 20.1 dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	1.747 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 26, 2009

# DASY5 Validation Report for Head TSL

Date/Time: 1/18/2010 2:57:54 PM

## DUT: Dipole 300 MHz; Type: D300V3; Serial: D300V3 - SN:1009

Communication System: CW; Frequency: 300 MHz; Duty Cycle: 1:1

Medium: HSL300

Medium parameters used:  $f = 300$  MHz;  $\sigma = 0.84$  mho/m;  $\epsilon_r = 45.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

### DASY5 Configuration:

- Probe: ET3DV6 - SN1507 (LF); ConvF(7.5, 7.5, 7.5); Calibrated: 7/3/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn654; Calibrated: 5/4/2009
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1003
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

**Head/d=15mm, Pin=398mW/Area Scan (41x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 1.2 mW/g

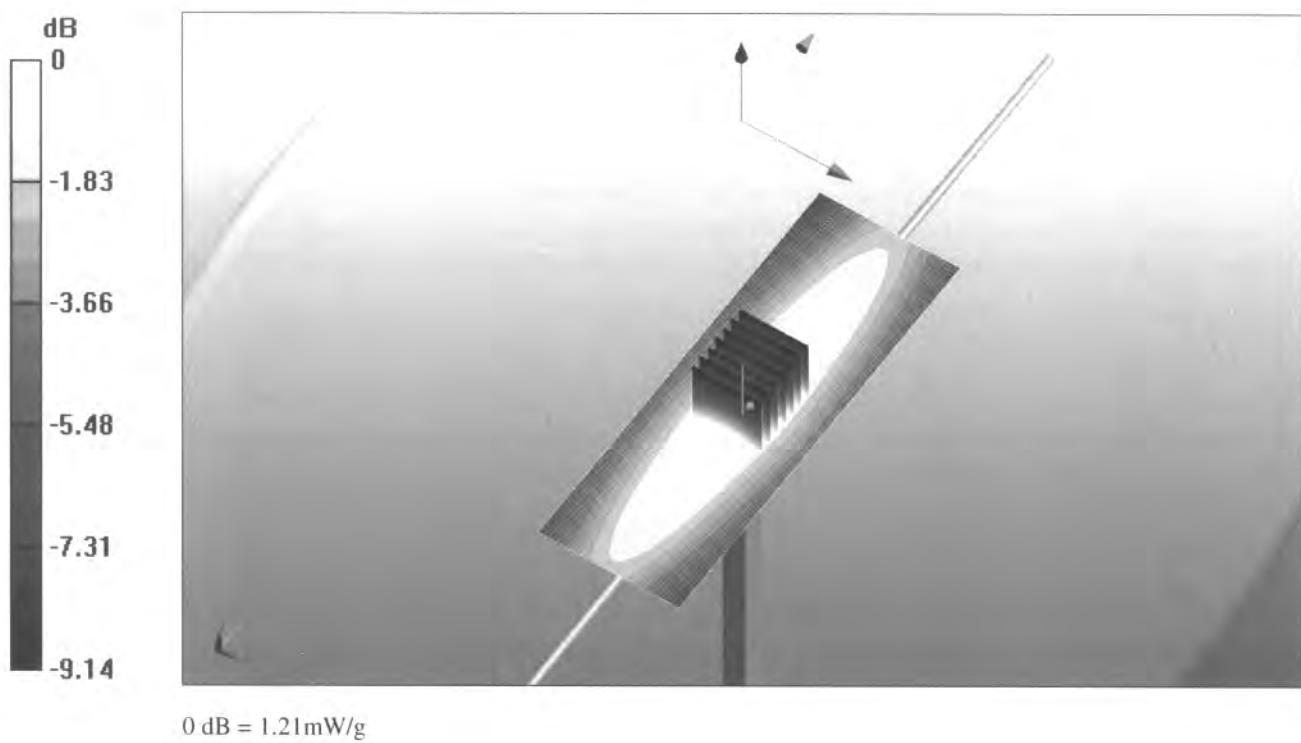
**Head/d=15mm, Pin=398mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 38.7 V/m; Power Drift = 0.00736 dB

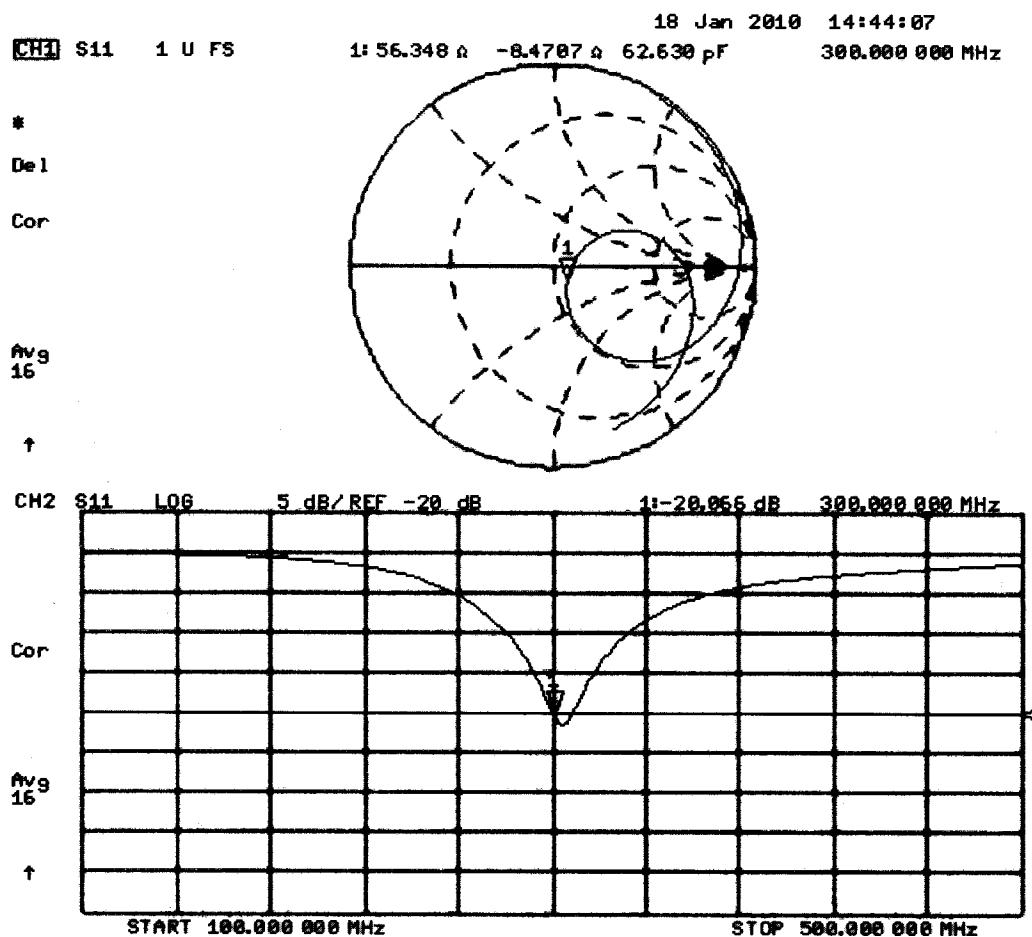
Peak SAR (extrapolated) = 1.85 W/kg

**SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.763 mW/g**

Maximum value of SAR (measured) = 1.21 mW/g



## Impedance Measurement Plot for Head TSL



 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## APPENDIX F - PROBE CALIBRATION

<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>		<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>	
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Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Client **Celltech**

Certificate No: **ET3-1590\_Jun11**

## CALIBRATION CERTIFICATE

Object **ET3DV6 - SN:1590**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-12.v7, QA CAL-23.v4, QA CAL-25.v4**  
 Calibration procedure for dosimetric E-field probes

Calibration date: **June 22, 2011**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^\circ\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by:	Name	Function	Signature
	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 23, 2011

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

### Glossary:

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\theta$	$\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\theta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub>** = **NORM<sub>x,y,z</sub>** \* *frequency\_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to **NORM<sub>x,y,z</sub>** \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

# Probe ET3DV6

**SN:1590**

Manufactured: March 19, 2001  
Calibrated: June 22, 2011

**Calibrated for DASY/EASY Systems**  
(Note: non-compatible with DASY2 system!)

## DASY/EASY - Parameters of Probe: ET3DV6 - SN:1590

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	1.93	2.00	1.66	$\pm 10.1\%$
DCP (mV) <sup>B</sup>	96.0	98.7	88.6	

### Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc <sup>E</sup> (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	104.2	$\pm 2.7\%$
			Y	0.00	0.00	1.00	117.7	
			Z	0.00	0.00	1.00	129.9	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## DASY/EASY - Parameters of Probe: ET3DV6 - SN:1590

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>c</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
450	43.5	0.87	7.30	7.30	7.30	0.18	2.10	± 13.4 %
835	41.5	0.90	6.50	6.50	6.50	0.38	2.55	± 12.0 %
900	41.5	0.97	6.39	6.39	6.39	0.39	2.47	± 12.0 %

<sup>c</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

## DASY/EASY - Parameters of Probe: ET3DV6- SN:1590

### Calibration Parameter Determined in Body Tissue Simulating Media

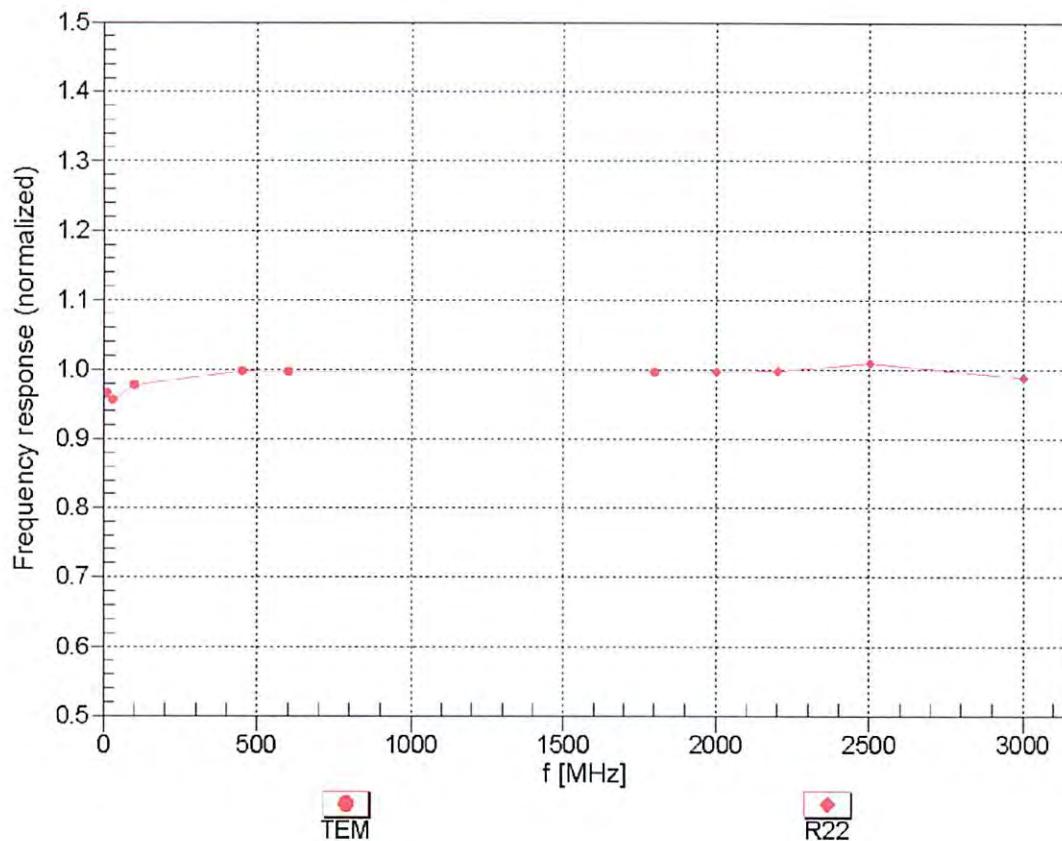
f (MHz) <sup>c</sup>	Relative Permittivity <sup>f</sup>	Conductivity (S/m) <sup>f</sup>	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
450	56.7	0.94	7.82	7.82	7.82	0.12	2.04	± 13.4 %
835	55.2	0.97	6.37	6.37	6.37	0.42	2.33	± 12.0 %
900	55.0	1.05	6.27	6.27	6.27	0.40	2.45	± 12.0 %

<sup>c</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>f</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

## Frequency Response of E-Field

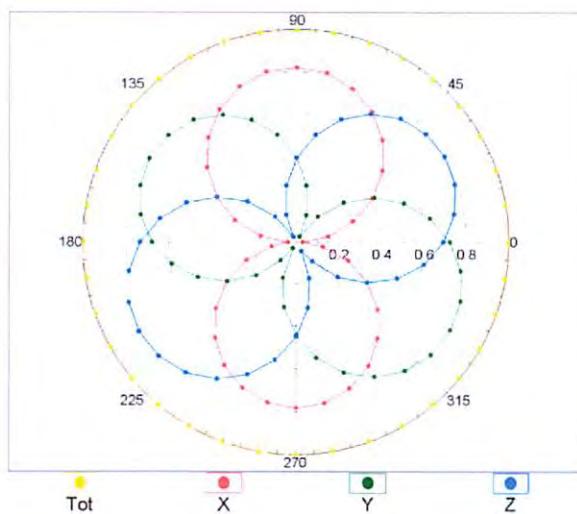
(TEM-Cell:ifi110 EXX, Waveguide: R22)



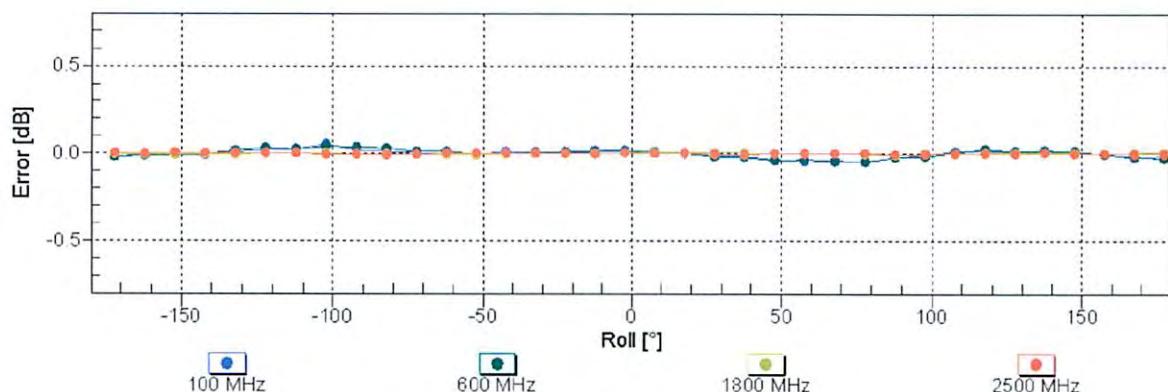
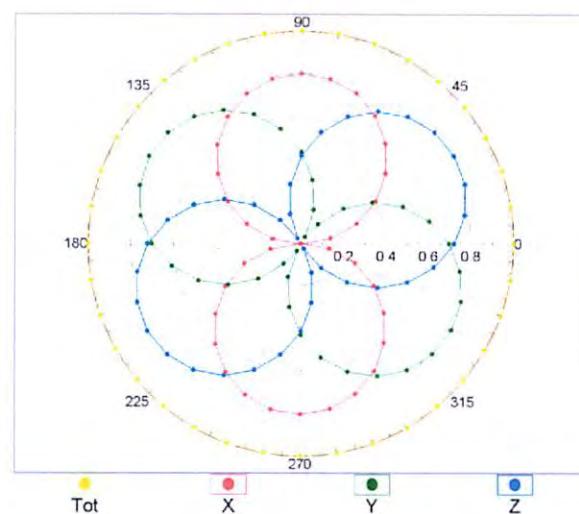
Uncertainty of Frequency Response of E-field:  $\pm 6.3\% (k=2)$

## Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM



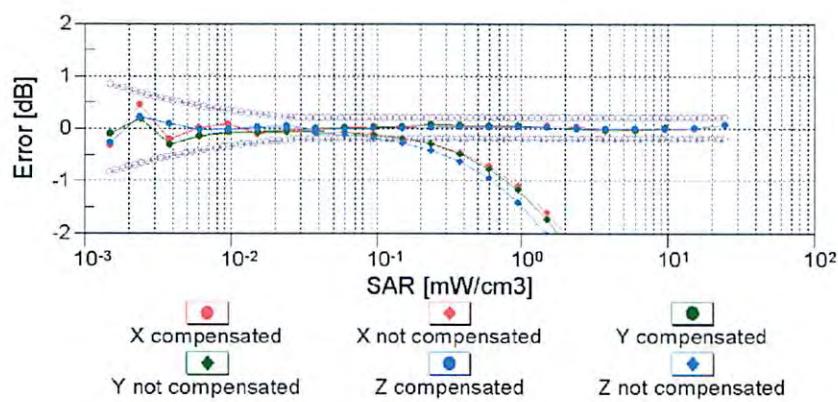
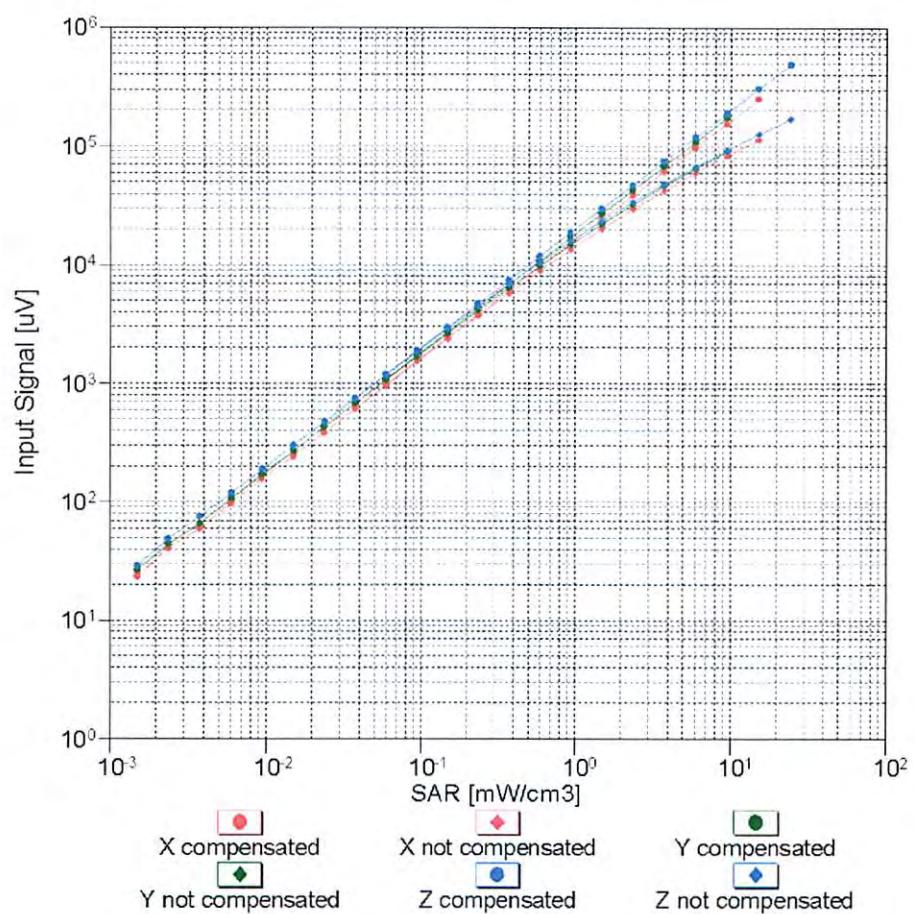
f=1800 MHz,R22



Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

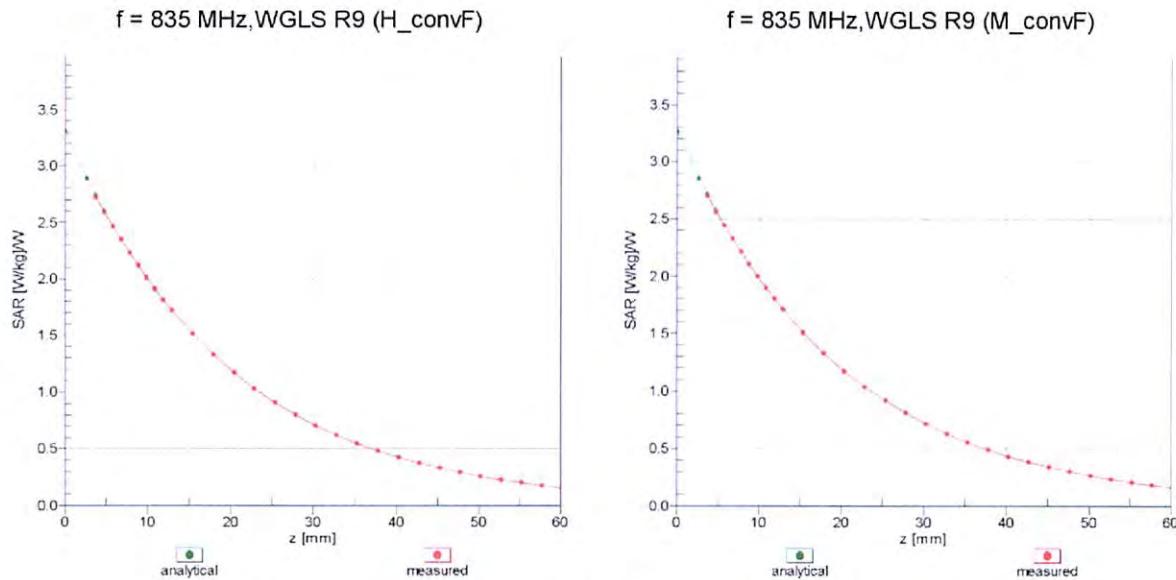
## Dynamic Range $f(\text{SAR}_{\text{head}})$

(TEM cell ,  $f = 900$  MHz)



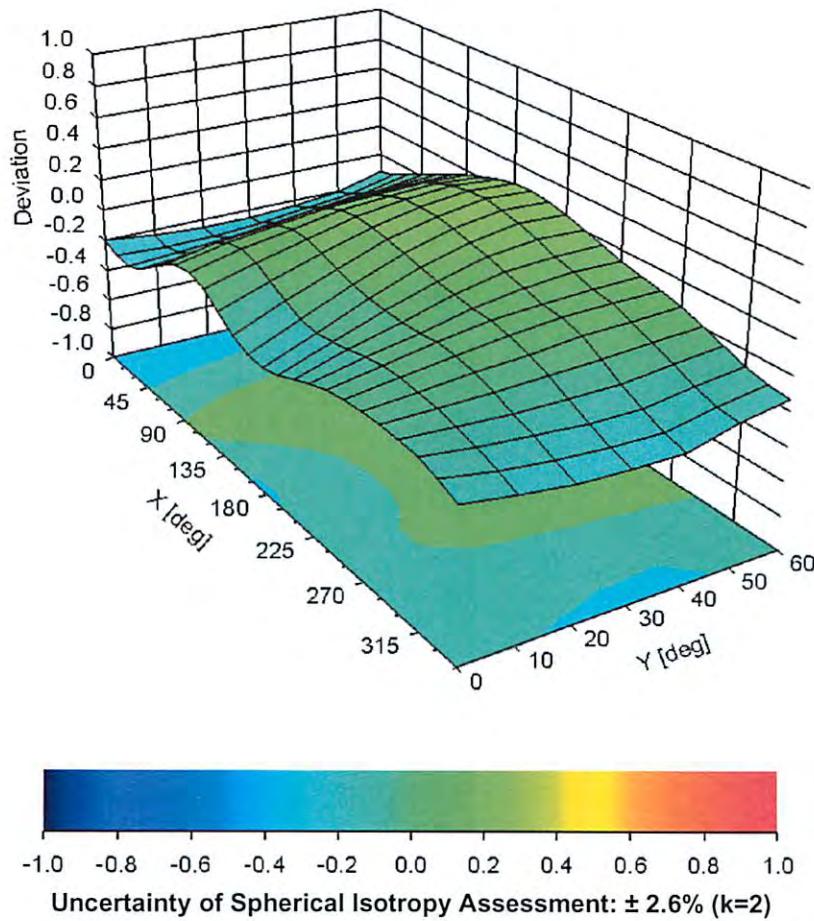
Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

## Conversion Factor Assessment



## Deviation from Isotropy in Liquid

Error ( $\phi, \theta$ ),  $f = 900 \text{ MHz}$



## DASY/EASY - Parameters of Probe: ET3DV6 - SN:1590

### Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	enabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	6.8 mm
Probe Tip to Sensor X Calibration Point	2.7 mm
Probe Tip to Sensor Y Calibration Point	2.7 mm
Probe Tip to Sensor Z Calibration Point	2.7 mm
Recommended Measurement Distance from Surface	4 mm

## **Additional Conversion Factors for Dosimetric E-Field Probe**

Type:

**ET3DV6**

Serial Number:

**1590**

Place of Assessment:

**Zurich**

Date of Assessment:

**June 24, 2011**

Probe Calibration Date:

**June 22, 2011**

Schmid & Partner Engineering AG hereby certifies that conversion factor(s) of this probe have been evaluated on the date indicated above. The assessment was performed using the FDTD numerical code SEMCAD of Schmid & Partner Engineering AG. Since the evaluation is coupled with measured conversion factors, it has to be recalculated yearly, i.e., following the re-calibration schedule of the probe. The uncertainty of the numerical assessment is based on the extrapolation from measured value at 450, 835 and 900 MHz.

Assessed by:



## Dosimetric E-Field Probe ET3DV6 SN:1590

Conversion factor ( $\pm$  standard deviation)

**150  $\pm$  50 MHz**

*ConvF*

**8.9  $\pm$  10%**

$\epsilon_r = 52.3$

$\sigma = 0.76 \text{ mho/m}$

(head tissue)

**300  $\pm$  50 MHz**

*ConvF*

**8.0  $\pm$  9%**

$\epsilon_r = 45.3$

$\sigma = 0.87 \text{ mho/m}$

(head tissue)

**150  $\pm$  50 MHz**

*ConvF*

**8.3  $\pm$  10%**

$\epsilon_r = 61.9$

$\sigma = 0.80 \text{ mho/m}$

(body tissue)

### Important Note:

For numerically assessed probe conversion factors, parameters Alpha and Delta in the DASY software must have the following entries: Alpha = 0 and Delta = 1.

Please see also DASY Manual.

 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## APPENDIX G - BARSKI PLANAR PHANTOM CERTIFICATE OF CONFORMITY

<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>		<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>	
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2378 Westlake Road  
Kelowna, B.C. Canada  
V1Z-2V2



Ph. # 250-769-6848  
Fax # 250-769-6334  
E-mail: [barskiind@shaw.ca](mailto:barskiind@shaw.ca)  
Web: [www.bcfiberglass.com](http://www.bcfiberglass.com)

## FIBERGLASS FABRICATORS

### Certificate of Conformity

Item : Flat Planar Phantom Unit # 03-01

Date: June 16, 2003

Manufacturer: Barski Industries (1985 Ltd)

Test	Requirement	Details
Shape	Compliance to geometry according to drawing	Supplied CAD drawing
Material Thickness	Compliant with the requirements	2mm +/- 0.2mm in measurement area
Material Parameters	Dielectric parameters for required frequencies Based on Dow Chemical technical data	100 MHz-5 GHz Relative permittivity < 5 Loss Tangent < 0.05

### Conformity

Based on the above information, we certify this product to be compliant to the requirements specified.

Signature: A handwritten signature in black ink, appearing to read 'Daniel Chailler'.

Daniel Chailler



**Fiberglass Planar Phantom - Top View**



**Fiberglass Planar Phantom - Front View**



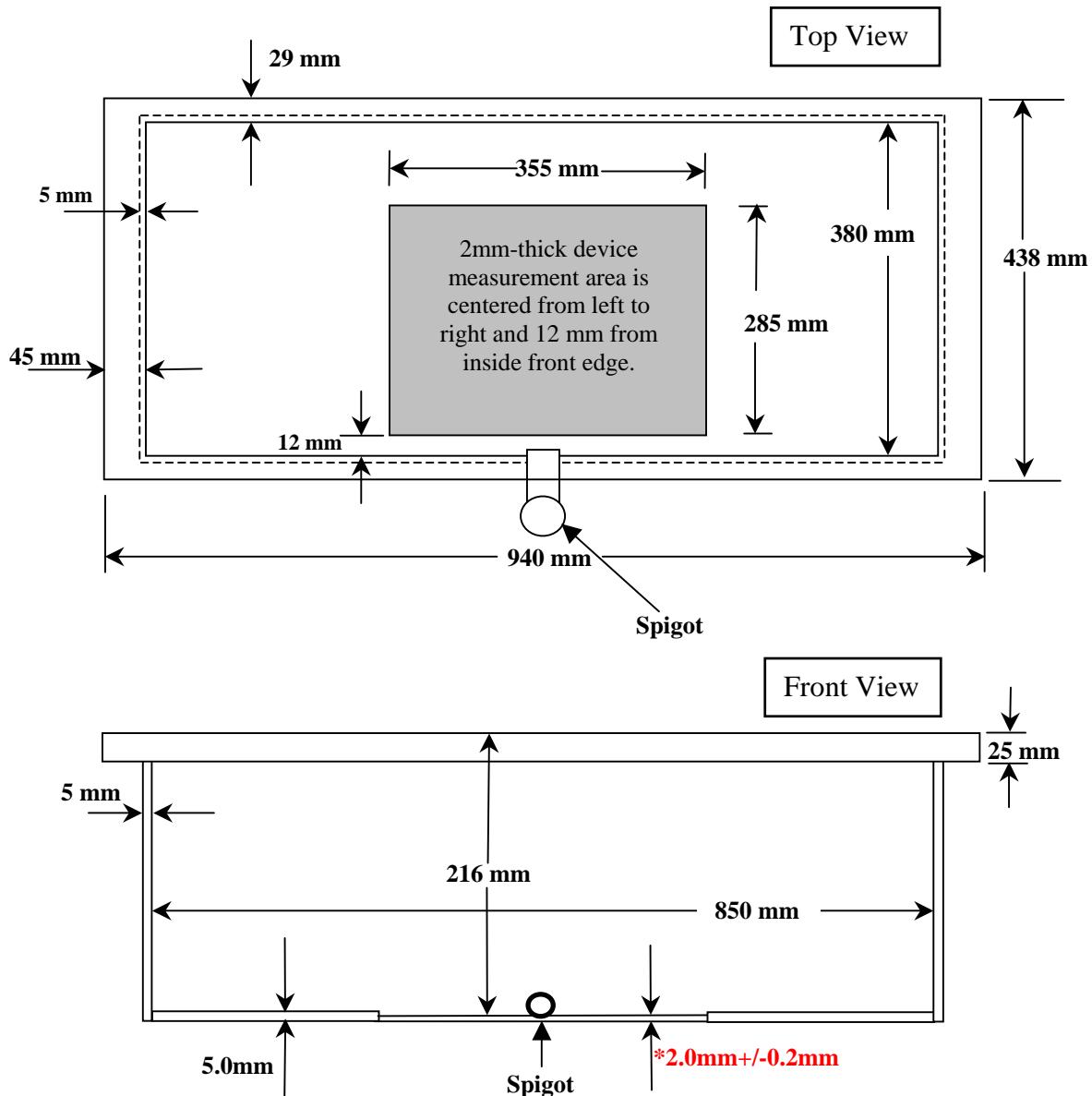
**Fiberglass Planar Phantom - Back View**



**Fiberglass Planar Phantom - Bottom View**

## Dimensions of Fiberglass Planar Phantom

(Manufactured by Barski Industries Ltd. - Unit# 03-01)



**Note:** Measurements that aren't repeated for the opposite sides are the same as the side measured.  
This drawing is not to scale.

 <b>Celltech</b> <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> 10/17-21, 12/07, 2011	<u>Test Report Serial No.</u> 092811OWD-T1126-S90V	<u>Test Report Revision No.</u> Rev. 1.1 (2nd Release)	 <b>IAC-MRA</b>  <b>ACREDITED</b>
	<u>Test Report Issue Date</u> December 14, 2011	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

## APPENDIX H - AUDIO ACCESSORY COMBINATIONS (FCC KDB 643646 D01v01r01)

<b>Applicant:</b>	<b>HARRIS Corporation</b>	<b>FCC ID:</b>	<b>OWDTR-0072-E</b>		<b>IC:</b>	<b>3636B-0072</b>	
<b>DUT Type:</b>	<b>Portable VHF PTT Radio Transceiver</b>	<b>Model:</b>	<b>XG-25P VHF</b>	<b>Freq.:</b>	<b>138 - 174 MHz</b>		
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**HARRIS CORPORATION FCC ID: OWDTR-0072-E**  
**XG-25P VHF-Band PTT Radio Transceiver (System)**

Audio Accessory ID #		Body SAR Test Considerations for Audio Accessories without Built-in Antenna (FCC KDB 643646 D01v01r01 Page 9) - Audio Accessory Combinations																										
		Battery a (Additional)						Battery b (Additional)						Battery c (Default)						Battery d (Additional)								
		Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4					
Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6				
G1a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G1b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G2	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G3a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G3b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G5	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G6a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G6b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G7a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G7b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G7c	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G7d	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G8a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G8b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G9a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G9b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G10	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G11a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G11b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G12a	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
G12b	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Notes:

1. All audio accessory options can be utilized with any antenna, battery and body-worn combination.
2. The accessory combinations evaluated for SAR are highlighted in yellow.
3. Please refer to Section 7.0 of the SAR report for description of accessory ID #.
4. Bw = Body-worn

**HARRIS CORPORATION FCC ID: OWDTR-0072-E**  
**XG-25P VHF-Band PTT Radio Transceiver (Scan)**

Audio Accessory ID #		Body SAR Test Considerations for Audio Accessories without Built-in Antenna (FCC KDB 643646 D01v01r01 Page 9) - Audio Accessory Combinations																							
		Battery a (Additional)						Battery b (Additional)						Battery c (Default)						Battery d (Additional)					
		Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4			Antenna 1-4								
Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6	Bw#1	Bw#3	Bw#4	Bw#5	Bw#6						
G1a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G1b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G2	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G3a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G3b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G5	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G6a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G6b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G7a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G7b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G7c	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G7d	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G8a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G8b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G9a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G9b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G10	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G11a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G11b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G12a	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						
G12b	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4						

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