

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G1a - EA-009580-001

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS	
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
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Test Lab Certificate No. 2470.01



Audio Accessory #G2a - EA-009580-003

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131		
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	  Test Lab Certificate No. 2470.01
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	



Audio Accessory #G3a - EA-009580-005

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131		
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G4 - EA-009580-007

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS	
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G4b - EA-009580-008

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 ILAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G4c - EA-009580-009

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G6a - EA-009580-010

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131		
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
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Test Lab Certificate No. 2470.01



Audio Accessory #G4d - EA-009580-011

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G5 - EA-009580-012

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G6b - EA-009580-013

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131		
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G7a - EA-009580-014

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G7b - EA-009580-015

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G4e - EA-009580-016

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS	
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01

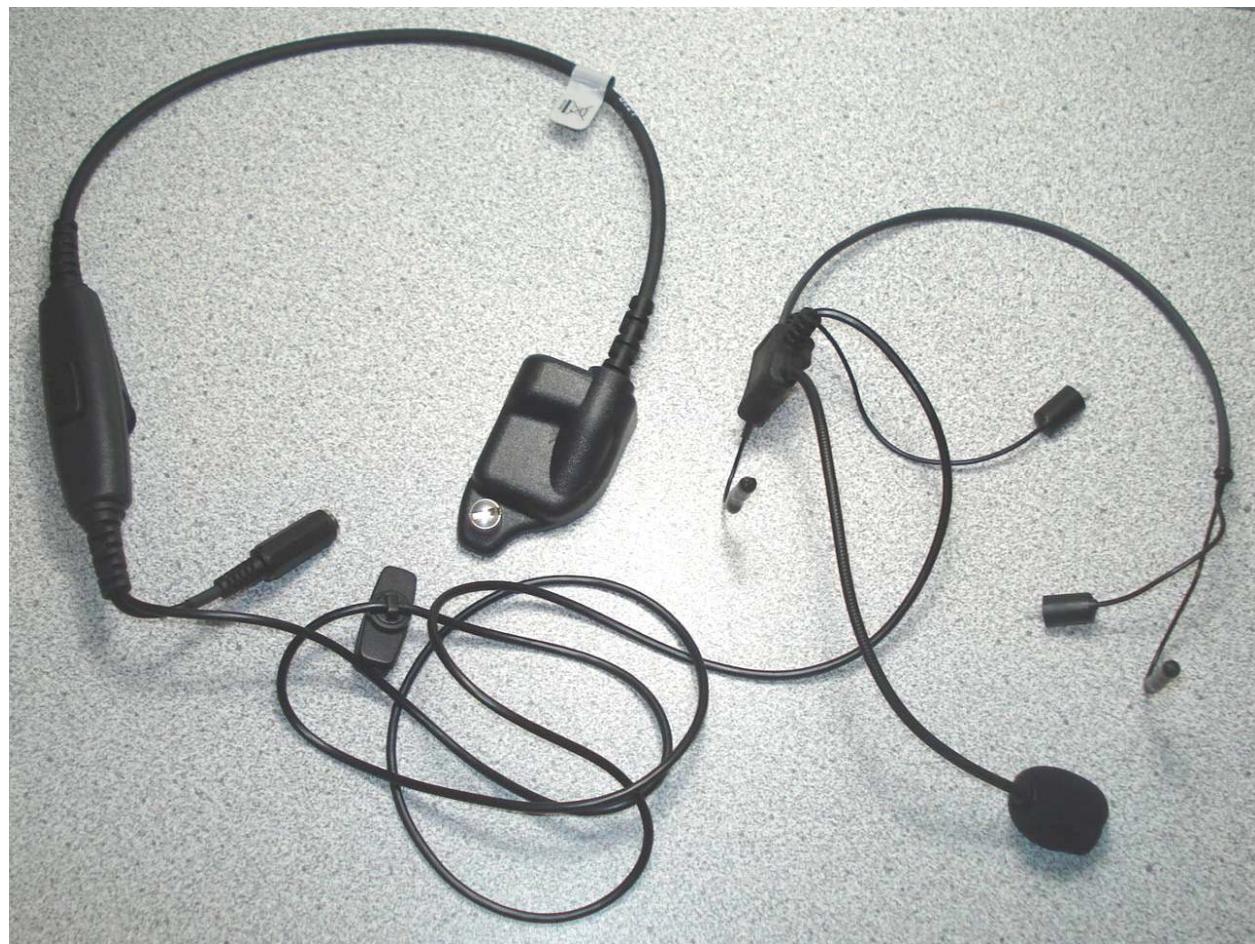


Audio Accessory #G4f - EA-009580-017

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	 HARRIS
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		

 Celltech <small>Testing and Engineering Services Lab</small>	<u>Date(s) of Evaluation</u> May 14-19, 2014	<u>Test Report Serial No.</u> 051014OWDTR-1299S	<u>Test Report Revision No.</u> Rev. 1.0 (1st Release)	 IAC-MRA  ACCREDITED
	<u>Test Report Issue Date</u> May 28, 2014	<u>Description of Test(s)</u> Specific Absorption Rate	<u>RF Exposure Category</u> Occupational (Controlled)	

Test Lab Certificate No. 2470.01



Audio Accessory #G4g - EA-009580-018

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131		
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H			
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 Celltech Testing and Engineering Services Lab	Date(s) of Evaluation May 14-19, 2014	Test Report Serial No. 051014OWDTR-1299S	Test Report Revision No. Rev. 1.0 (1st Release)	 IAC-MRA ACCREDITED
	Test Report Issue Date May 28, 2014	Description of Test(s) Specific Absorption Rate	RF Exposure Category Occupational (Controlled)	

Test Lab Certificate No. 2470.01

APPENDIX E - DIPOLE CALIBRATION

Applicant:	HARRIS Corporation	FCC ID:	OWDTR-0131-E	IC:	3636B-0131	
DUT Type:	Portable UHF Band PTT Radio Transceiver		DUT Name:	XG-75 UHF-H		
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 Testing and Engineering Services Lab	<u>Date:</u> May 29, 2013	<u>Revision No.</u> Rev. 1.1	 ILAC-MRA	 ACCREDITED
	450 MHz Dipole Extended Calibration			

Dipole: D450V3
 Serial Number: 1068
 Last Calibrated: Apr. 27, 2012

Antenna Parameters with Head TSL						
	Impedance Real (ohms)	Deviation from cal	Impedance Imaginary (ohms)	Deviation from cal	Return Loss (dB)	Deviation from Cal
Last Calibration	57.7	-	-4.7	-	-21.6	-
Extended Cal May 29, 2013	55.1	2.6	-7.2	2.5	-21.5	0.4

Antenna Parameters with Body TSL						
	Impedance Real (ohms)	Deviation from cal (ohms)	Impedance Imaginary (ohms)	Deviation from cal (ohms)	Return Loss (dB)	Deviation from Cal (%)
Last Calibration	54.6	-	-8.1	-	-21.0	-
Extended Cal May 8, 2013	51.3	3.3	-11.9	3.8	-20.1	4.3



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 **Celltech**

Certificate No: **D450V3-1068_Apr12**

CALIBRATION CERTIFICATE

Object **D450V3 - SN: 1068**

Calibration procedure(s) **QA CAL-15.v6**
 Calibration procedure for dipole validation kits below 700 MHz

Calibration date: **April 27, 2012**

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 (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ET3DV6	SN: 1507	30-Dec-11 (No. ET3-1507_Dec11)	Dec-12
DAE4	SN: 654	03-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

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

Issued: April 27, 2012

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
ConvF	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) DASY4/5 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.

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%.

Measurement Conditions

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

DASY Version	DASY5	V52.8.1
Extrapolation	Advanced Extrapolation	
Phantom	ELI4 Flat Phantom	Shell thickness: 2 ± 0.2 mm
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	43.5	0.87 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	44.1 ± 6 %	0.87 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	398 mW input power	1.87 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	4.71 mW / g ± 18.1 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	398 mW input power	1.25 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	3.15 mW / g ± 17.6 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	56.7	0.94 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.9 ± 6 %	0.94 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	398 mW input power	1.81 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	4.52 mW / g ± 18.1 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	398 mW input power	1.21 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	3.02 mW / g ± 17.6 % (k=2)