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Global Product Certification
EMC-EMF-Safety Approvals

SAR Test Report

Report Number: M110328

Test Sample: Iridium Satellite Phone

Model Number: 9575

Tested For: TRaC

Date of Issue: 1st April 2011

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SAR EVALUATION

Iridium Satellite Phone, **Model:** 9575 **Report Number:** M110328

1.0 GENERAL INFORMATION

Test Sample:	Iridium Satellite Phone
Model Number:	9575
Serial Number:	309215010007080
Manufacturer:	Portable Transmitter
Device Category:	Portable Transmitter
Test Device:	Production Unit / Prototype Sample
RF exposure Category:	General Public/Unaware user
Tested for:	TRaC
Address:	Unit E South Orbital Trading Park, Hedon Road, Hull HU9 1NJ, UK
Contact:	John Charters
Phone:	+44(0)1695 556666
Fax:	+44(0)7801185874
Email:	john.charters@tracglobal.com
Test Standard/s:	Evaluating Compliance with FCC Guidelines For Human Exposure to Radiofrequency Electromagnetic Fields Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01) Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) RSS-102
Statement Of Compliance:	The Iridium Satellite Phone, model 9575. Complied with the FCC General public/uncontrolled RF exposure limits of 1.6mW/g per requirements of 47CFR2.1093(d) and RSS-102.
Test Dates:	24th March 2011
Test Officer:	**Peter Jakubiec**
Authorised Signature:	**Chris Zombolas** **Technical Director**

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2.0 DESCRIPTION OF DEVICE

2.1 Description of Test Sample

The device tested was an Iridium Satellite Phone, Model: 9575 operating in 1616 MHz to 1626 MHz frequency band. It will be referred to as the device under test (DUT) throughout this report. It was tested in the Touch and Tilted Positions with the antenna retracted and extended.

Table: DUT Parameters

Operating Mode during Testing	: See Clause 2.3
Operating Mode production sample	: Globalstar Satellite
Modulation:	: Qualcomm Digital CDMA
Device Dimensions (LxWxH)	: 140mm x 58mm x 30mm : 195mm x 58mm x 30 mm (antenna retracted) : 280 mm x 58mm x 30mm (antenna extracted)
Antenna type	: Extendable
Applicable Head Configurations	: Touch and Tilted
Applicable Body Worn-Configurations	: None
Battery Options	: One Battery Type

2.2 Test sample Accessories

2.2.1 Battery Types

A 3.7V 2.2 Ah Li-ino Battery Pack is used to power the DUT. The maximum rated power is 8.14 Wh. SAR measurements were performed with a standard 3.7 V battery.

2.3 Test Signal, Frequency and Output Power

The test sample operates in the 1616 MHz to 1626 MHz frequency band. The test sample was configured into a test mode and was put into maximum continuous transmit mode for the duration of each SAR scan. The channels utilised in the measurements were the traffic channels shown in the table below.

Table: Test Frequencies

Frequency Range	Traffic Channels	Band Power Class	Nominal Power (dBm)
1616 – 1626 MHz	000, 120, and 240	N/A	36.5

2.4 Conducted Power Measurements

The conducted power of the DUT was not measured because there was no RF test ports setup available during the testing.

2.5 Battery Status

The device battery was fully charged prior to commencement of each measurement. Each SAR test was completed within 30 minutes. The battery condition was monitored by measuring the RF power at a defined position inside the phantom before the commencement of each test and again after the completion of the test.

Table: Battery Details

Battery #1:	Rechargeable Li-ion 3.7V	**Battery #2:**	Rechargeable Li-ion 3.7V
Model No.:	9555G	**Model No.:**	9555G
Serial No.:	10480060	**Serial No.:**	10480051

2.5 Details of Test Laboratory

2.5.1 Location

EMC Technologies Pty Ltd
176 Harrick Road
Keilor Park, (Melbourne) Victoria
Australia 3042

Telephone: +61 3 9365 1000
Facsimile: +61 3 9331 7455
email: melb@emctech.com.au
website: www.emctech.com.au

2.5.2 Accreditations

EMC Technologies Pty. Ltd. is accredited by the National Association of Testing Authorities, Australia (NATA). **NATA Accredited Laboratory Number: 5292**

EMC Technologies Pty Ltd is NATA accredited for the following standards:

ARPANSA Standard AS/NZS 2772.2:	RF and microwave radiation hazard measurement
ACA:	Radio communications (Electromagnetic Radiation - Human Exposure) Standard 2003
FCC:	Guidelines for Human Exposure to RF Electromagnetic Field OET65C 01/01
EN 50360: 2001	Product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz)
EN 62209-1:2006	Human exposure to radio frequency fields from hand-held and body-mounted devices-Human models, instrumentation and procedures. **Part 1:** Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range 300 MHz to 3 GHz)
IEEE 1528: 2003	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head Due to Wireless Communications Devices: Measurement Techniques.

Refer to NATA website www.nata.asn.au for the full scope of accreditation.

2.5.3 Environmental Factors

The measurements were performed in a shielded room with no background network signals. The temperature in the laboratory was controlled to within 20 ± 1 °C, the humidity was 61 %. The liquid parameters were measured prior to the commencement of the tests. Tests were performed to check that reflections within the environment did not influence the SAR measurements. The noise floor of the DASY5 SAR measurement system using the SN1380 probe is less than 5μV in both air and liquid mediums.

3.0 DESCRIPTION OF SAR MEASUREMENT SYSTEM

3.1 Probe Positioning System

The measurements were performed with an automated near-field scanning system **DASY5 Version 52** from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision 6-axis robot (working range greater that 1.1m), which positions the SAR measurement probes with a positional repeatability of better than ±0.02 mm. The DASY5 fully complies with the OET65 C (01-01), IEEE 1528 and EN 62209-1 SAR measurement requirements.

3.2 E-Field Probe Type and Performance

The SAR measurements were conducted with the dosimetric probe ET3DV6 Serial: 1380 (manufactured by SPEAG) designed in the classical triangular configuration and optimised for dosimetric evaluation. The probe has been calibrated and found to be accurate to better than ±0.25 dB. The probe is suitable for measurements close to material discontinuity at the surface of the phantom. The sensors of the probe are directly loaded with Schottky diodes and connected via highly resistive lines (length = 300 mm) to the data acquisition unit.

3.3 Data Acquisition Electronics

The data acquisition electronics (DAE3) consists of 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. The input impedance of the DAE3 box is 200 MΩ; the inputs are symmetrical and floating. Common mode rejection is above 80dB.Transmission to the PC-card is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The mechanical probe-mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

3.4 Calibration and Validation Procedures and Data

Prior to the SAR assessment, the system validation kit was used to verify that the DASY5 was operating within its specifications. The system verification was performed at 1640 MHz with the SPEAG D1640V2 calibrated validation dipole.

The validation dipoles are highly symmetric and matched at the centre frequency for the specified liquid and distance to the phantom. The accurate distance between the liquid surface and the dipole centre is achieved with a distance holder that snaps onto the dipole.

System validation is performed by feeding a known power level into a reference dipole, set at a know distance from the phantom. The measured SAR is compared to the theoretically derived level.

3.4.1 System verification Results (1640 MHz)

The following table lists the dielectric properties of the tissue simulating liquid measured prior to each SAR system verification. The results of the system verification are listed in columns 5 and 6. The forward power into the reference dipole for each SAR system verification was adjusted to 250 mW.

Table: System verification Results (SPEAG calibrated dipoles)

1 System verification Date	2 Frequency (MHz)	3 ϵ_r (measured)	4 σ (mho/m) (measured)	5 Measured SAR 1g	6 Measured SAR 10g
24th March 2011	1640	40.6	1.25	8.02	4.46

3.4.2 Deviation from reference system verification values

The SPEAG calibration reference SAR value is the SAR system verification result obtained in a specific dielectric liquid using the validation dipole (DV1640V2) during calibration. The measured one-gram SAR should be within 10% of the expected target reference values shown in table below.

Table: Deviation from reference system verification values

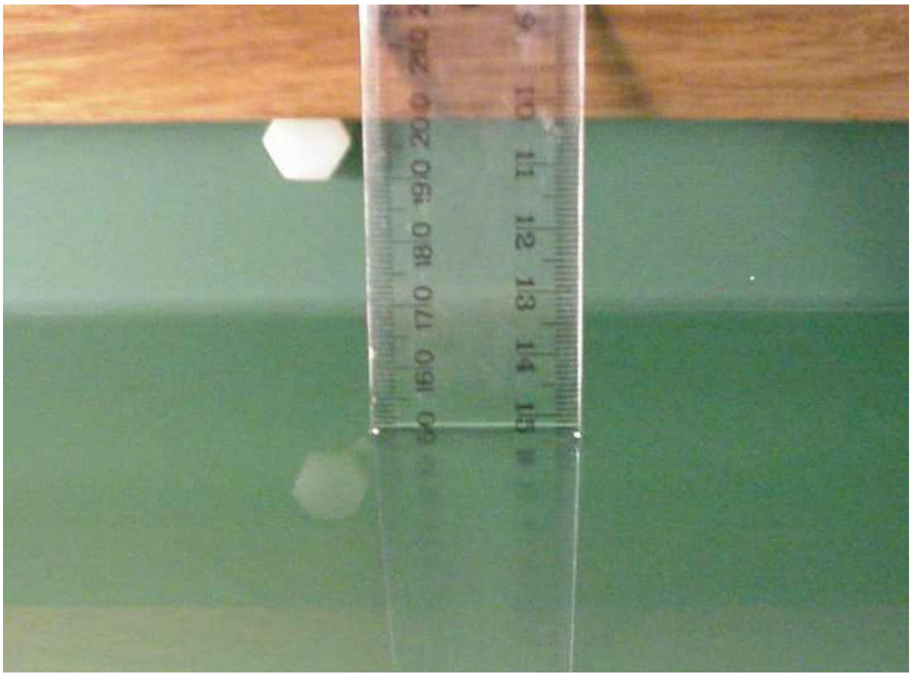
System verification Frequency	Measured SAR 1g (input power = 250mW)	Measured SAR 1g (Normalized to 1W)	SPEAG Calibration Reference SAR Value 1g (mW/g)	Deviation From SPEAG 1g (%)
1640 MHz	8.02	32.08	34	-5.65

Note: All reference system verification values are referenced to 1W input power.

3.4.3 Liquid Depth 15cm

During the SAR measurement process the liquid level was maintained to a level of 15cm with a tolerance of ±0.5cm. The following photo shows the depth of the liquid maintained during the testing.

Photo of liquid Depth in Flat Phantom



3.5 Phantom Properties (Size, Shape, Shell Thickness)

The phantom used during the SAR testing in Touch, Tilted positions and the system verification was the "SAM" phantom from SPEAG. The phantom thickness is 2.0mm+/-0.2 mm and was filled with the required tissue simulating liquid.

3.6 Tissue Material Properties

The dielectric parameters of the tissue simulating liquid were measured prior to SAR assessment using the HP85070A dielectric probe kit and HP8714B Network Analyser. The actual dielectric parameters are shown in the following table.

Table: Measured Brain Simulating Liquid Dielectric Values

Frequency Band	∈r (measured range)	∈r (target)	σ (mho/m) (measured range)	σ (target)	ρ kg/m^3
1616.25MHz Brain	40.7	40.3 ±5% (38.3 to 42.3)	1.23	1.29 ±5% (1.23 to 1.35)	1000
1621.12 MHz Brain	40.7	40.3 ±5% (38.3 to 42.3)	1.24	1.29 ±5% (1.23 to 1.35)	1000
1625.98 MHz Brain	40.6	40.3 ±5% (38.3 to 42.3)	1.24	1.29 ±5% (1.23 to 1.35)	1000

Note: The brain and muscle liquid parameters were within the required tolerances of ±5%.

3.6.1 Liquid Temperature and Humidity

The humidity and dielectric/ambient temperatures are recorded during the assessment of the tissue material dielectric parameters. The difference between the ambient temperature of the liquid during the dielectric measurement and the temperature during tests was less than |2|°C.

Table: Temperature and Humidity recorded for each day

Date	Ambient Temperature (°C)	Liquid Temperature (°C)	Humidity (%)
24th March 2011	20.4	19.9	61

3.7 Simulated Tissue Composition Used for SAR Test

The tissue simulating liquids are created prior to the SAR evaluation and often require slight modification each day to obtain the correct dielectric parameters.

Table: Tissue Type: Brain @ 1600MHz
Volume of Liquid: 30 Litres

Approximate Composition	% By Weight
Distilled Water	61.17
Salt	0.31
Bactericide	0.29
Triton X-100	38.23

*Refer "OET Bulletin 65 97/01 P38"

3.8 Device Holder for DASY5

The DASY5 device holder supplied by SPEAG is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The rotation centres for both scales is the ear opening. Thus the device needs no repositioning when changing the angles.

The DASY5 device holder is made of low-loss material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, to reduce the influence on the clamp on the test results.

Refer to Appendix A for photographs of device positioning

4.0 SAR MEASUREMENT PROCEDURE USING DASY5

The SAR evaluation was performed with the SPEAG DASY5 System (**VERSION 52**). A summary of the procedure follows:

a) A measurement of the conducted power value at the antenna port is used as a reference value for assessing the power drop of the DUT. Also a measurement of the SAR value at a fixed location is used. The power is measured at the start of the test and then again at the end of the test.

b) The SAR distribution at the exposed side of the head or the flat section of the flat phantom is measured at a distance of 3.9 mm from the inner surface of the shell. The area covers the entire dimension of the head and the horizontal grid spacing is 15 mm x 15 mm. The actual Area Scan has dimensions of 330 mm x 165 mm surrounding the test device. Based on this data, the area of the maximum absorption is determined by Spline interpolation.

c) Around this point, a volume of 30 mm x 30 mm x 30 mm is assessed by measuring 7 x 7 x 7 points. On the basis of this data set, the spatial peak SAR value is evaluated with the following procedure:

   (i) The data at the surface are extrapolated, since the centre 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 1.3 mm. The extrapolation is based on a least square algorithm. A polynomial of the fourth order is calculated through the points in z-axes. This polynomial is then used to evaluate the points between the surface and the probe tip.

   (ii) The maximum interpolated value is searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g and 10 g) are computed using the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one-dimensional splines with the “Not a knot”- condition (in x, y and z-direction). The volume is integrated with the trapezoidal – algorithm. One thousand points (10 x 10 x 10) are interpolated to calculate the averages.

   (iii) All neighbouring volumes are evaluated until no neighbouring volume with a higher average value is found.

   (iv) The SAR value at the same location as in Step (a) is again measured

5.0 MEASUREMENT UNCERTAINTY

The uncertainty analysis is based on the template listed in the IEEE Std 1528-2003 for both Handset SAR tests and Validation uncertainty. The measurement uncertainty of a specific device is evaluated independently and the total uncertainty for both evaluations (95% confidence level) must be less than 30%.

Table: Uncertainty Budget for DASY5 Version 52 – DUT SAR test

Error Description	Uncert. Value	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i	10g u_i	v_i
Measurement System								
Probe Calibration	5.5	N	1.00	1	1	5.50	5.50	∞
Axial Isotropy	4.7	R	1.73	0.7	0.7	1.90	1.90	∞
Hemispherical Isotropy	9.6	R	1.73	0.7	0.7	3.88	3.88	∞
Boundary Effects	1	R	1.73	1	1	0.58	0.58	∞
Linearity	4.7	R	1.73	1	1	2.71	2.71	∞
System Detection Limits	1	R	1.73	1	1	0.58	0.58	∞
Readout Electronics	0.3	N	1.00	1	1	0.30	0.30	∞
Response Time	0.8	R	1.73	1	1	0.46	0.46	∞
Integration Time	2.6	R	1.73	1	1	1.50	1.50	∞
RF Ambient Noise	3	R	1.73	1	1	1.73	1.73	∞
RF Ambient Reflections	3	R	1.73	1	1	1.73	1.73	∞
Probe Positioner	0.4	R	1.73	1	1	0.23	0.23	∞
Probe Positioning	2.9	R	1.73	1	1	1.67	1.67	∞
Max. SAR Eval.	1	R	1.73	1	1	0.58	0.58	∞
Test Sample Related								
Test Sample Positioning	2.9	N	1.00	1	1	2.90	2.90	145
Device Holder Uncertainty	3.6	N	1.00	1	1	3.60	3.60	5
Output Power Variation – SAR Drift Measurement	9.14	R	1.73	1	1	5.28	5.28	∞
Phantom and Setup								
Phantom Uncertainty	4	R	1.73	1	1	2.31	2.31	∞
Liquid Conductivity – Deviation from target values	5	R	1.73	0.64	0.43	1.85	1.24	∞
Liquid Conductivity – Measurement uncertainty	2.5	N	1.00	0.64	0.43	1.60	1.08	∞
Liquid Permittivity – Deviation from target values	5	R	1.73	0.6	0.49	1.73	1.41	∞
Liquid Permittivity – Measurement uncertainty	2.5	N	1.00	0.6	0.49	1.50	1.23	∞
Combined standard Uncertainty (u_c)						11.6	11.4	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k= 2			23.2	22.8	

Estimated total measurement uncertainty for the DASY5 measurement system was ±11.6%. The extended uncertainty (K = 2) was assessed to be ±23.2% based on 95% confidence level. The uncertainty is not added to the measurement result.

Table: Uncertainty Budget for DASY5 Version 52 – Validation

Error Description	Uncert. Value	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i	10g u_i	v_i
Measurement System								
Probe Calibration	5.5	N	1.00	1	1	5.50	5.50	∞
Axial Isotropy	4.7	R	1.73	1	1	2.71	2.71	∞
Hemispherical Isotropy	9.6	R	1.73	0	0	0.00	0.00	∞
Boundary Effects	1	R	1.73	1	1	0.58	0.58	∞
Linearity	4.7	R	1.73	1	1	2.71	2.71	∞
System Detection Limits	1	R	1.73	1	1	0.58	0.58	∞
Readout Electronics	0.3	N	1.00	1	1	0.30	0.30	∞
Response Time	0	R	1.73	1	1	0.00	0.00	∞
Integration Time	0	R	1.73	1	1	0.00	0.00	∞
RF Ambient Noise	1	R	1.73	1	1	0.58	0.58	∞
RF Ambient Reflections	1	R	1.73	1	1	0.58	0.58	∞
Probe Positioner	0.8	R	1.73	1	1	0.46	0.46	∞
Probe Positioning	6.7	R	1.73	1	1	3.87	3.87	∞
Max. SAR Eval.	2	R	1.73	1	1	1.15	1.15	∞
Dipole Related								
Deviation of exp. dipole	5.5	R	1.73	1	1	3.18	3.18	∞
Dipole Axis to Liquid Dist.	2	R	1.73	1	1	1.15	1.15	∞
Input power & SAR drift	5.00	R	1.73	1	1	2.89	2.89	∞
Phantom and Setup								
Phantom Uncertainty	4	R	1.73	1	1	2.31	2.31	∞
SAR Correction	1.9	R	1.73	1	0.84	1.10	0.92	∞
Liquid Conductivity (meas.)	2.5	N	1.00	0.78	0.71	1.95	1.78	∞
Liquid Permittivity (meas.)	2.5	N	1.00	0.26	0.26	0.65	0.65	∞
Temp.unc. - Conductivity	1.7	R	1.73	0.78	0.71	0.77	0.70	∞
Temp. unc. - Permittivity	0.3	R	1.73	0.23	0.26	0.04	0.05	∞
Combined standard Uncertainty (u_c)						9.7	9.6	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=	2		19.4	19.3	

Estimated total measurement uncertainty for the DASY5 measurement system was ±9.7%. The extended uncertainty (K = 2) was assessed to be ±19.4% based on 95% confidence level. The uncertainty is not added to the Validation measurement result.

6.0 EQUIPMENT LIST AND CALIBRATION DETAILS

Table: SPEAG DASY5 Version 52

Equipment Type	Manufacturer	Model Number	Serial Number	Calibration Due	Used For this Test?
Robot - Six Axes	Staubli	RX90BL	N/A	Not applicable	✓
Robot Remote Control	SPEAG	CS7MB	RX90B	Not applicable	✓
SAM Phantom	SPEAG	N/A	1260	Not applicable	✓
SAM Phantom	SPEAG	N/A	1060	Not applicable	
Flat Phantom	AndreT	10.1	P 10.1	Not Applicable	
Flat Phantom	AndreT	9.1	P 9.1	Not Applicable	
Flat Phantom	SPEAG	PO1A 6mm	1003	Not Applicable	
Data Acquisition Electronics	SPEAG	DAE3 V1	359	07-July-2011	
Data Acquisition Electronics	SPEAG	DAE3 V1	442	09-Dec-2011	✓
Probe E-Field - Dummy	SPEAG	DP1	N/A	Not applicable	
Probe E-Field	SPEAG	ET3DV6	1380	09-Dec-2011	✓
Probe E-Field	SPEAG	ET3DV6	1377	7-July-2011	
Probe E-Field	SPEAG	ES3DV6	3029	Not Used	
Probe E-Field	SPEAG	EX3DV4	3563	16-July-2011	
Probe E-Field	SPEAG	EX3DV4	3657	13-Dec-2011	
Antenna Dipole 300 MHz	SPEAG	D300V2	1005	15-Dec-2011	
Antenna Dipole 450 MHz	SPEAG	D450V2	1009	17-Dec-2010	
Antenna Dipole 900 MHz	SPEAG	D900V2	047	5-July-2012	
Antenna Dipole 1640 MHz	SPEAG	D1640V2	314	9-July-2012	✓
Antenna Dipole 1800 MHz	SPEAG	D1800V2	242	13-July-2012	
Antenna Dipole 1950 MHz	SPEAG	D1950V3	1113	10-Dec -2012	
Antenna Dipole 3500 MHz	SPEAG	D3500V2	1002	17-July-2010	
Antenna Dipole 2450 MHz	SPEAG	D2450V2	724	09-Dec-2012	
Antenna Dipole 5600 MHz	SPEAG	D5GHzV2	1008	16-Dec-2011	
RF Amplifier	EIN	603L	N/A	*In test	
RF Amplifier	Mini-Circuits	ZHL-42	N/A	*In test	✓
RF Amplifier	Mini-Circuits	ZVE-8G	N/A	*In test	
Synthesized signal generator	Hewlett Packard	ESG-D3000A	GB37420238	*In test	✓
RF Power Meter	Hewlett Packard	437B	3125012786	9-Aug-2011	✓
RF Power Sensor 0.01 - 18 GHz	Hewlett Packard	8481H	1545A01634	13-Aug-2011	✓
RF Power Meter	Rohde & Schwarz	NRP	101415	5-May-2011	
RF Power Sensor	Rohde & Schwarz	NRP - Z81	100174	16-July-2011	
RF Power Meter Dual	Hewlett Packard	435A	1733A05847	*In test	✓
RF Power Sensor	Hewlett Packard	8482A	2349A10114	*In test	✓
Network Analyser	Hewlett Packard	8714B	GB3510035	22-Sept-2011	
Network Analyser	Hewlett Packard	8753ES	JP39240130	10-Nov-2011	✓
Dual Directional Coupler	Hewlett Packard	778D	1144 04700	*In test	
Dual Directional Coupler	NARDA	3022	75453	*In test	✓

* Calibrated during the test for the relevant parameters.

7.0 SAR TEST METHOD

7.1 Description of the Test Positions

The SAR measurements are performed on the left and right sides of the head in the Touch/Tilted positions using the centre frequency of each operating band. The configuration giving the maximum mass-averaged SAR is used to test the low-end and high-end frequencies of the transmitting band. All SAR measurements were performed in the SAM phantom.
See Appendix A for photos of test positions.

7.1.1 "Touch Position"

The devices was positioned with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, the vertical centre line was aligned with the reference plane containing the three ear and mouth reference points. (Left Ear, Right Ear and Mouth). The centre of the earpiece was then aligned with the Right Ear and Left Ear.

The phone was then moved towards the phantom with the earpiece aligned with the line between the Left Ear and the Right Ear, until the phone just touched the ear. With the device maintained in the reference plane, and the phone in contact with the ear, the bottom of the phone was moved until the front side of the phone was in contact with the cheek of the phantom, or until contact with the ear was lost.

7.1.2 "Tilted Position"

The device was positioned in the "Touch" position described above. While maintaining the device in the reference plane describe above, and pivoting against the ear, the device was moved away from the mouth by an angle of 15 degrees or until contact with the ear was lost

7.2 List of All Test Cases (Antenna In/Out, Test Frequencies, User Modes)

The SAR was measured at three test channels for the band of operation with the test sample operating as maximum power, as specified in section 2.3. The satellite mode antenna was extended and adjusted as per the user manual.

7.3 FCC RF Exposure Limits for Occupational/ Controlled Exposure

SPATIAL PEAK SAR LIMITS FOR:	
Partial-Body:	8.0 mW/g (averaged over any 1g cube of tissue)
Hands, Wrists, Feet and Ankles:	20.0 mW/g (averaged over 10g cube of tissue)

7.4 FCC RF Exposure Limits for Un-controlled/Non–occupational

SPATIAL PEAK SAR LIMITS FOR:	
Partial-Body:	1.6 mW/g (averaged over any 1g cube of tissue)
Hands, Wrists, Feet and Ankles:	4.0 mW/g (averaged over 10g cube of tissue)

8.0 SAR MEASUREMENT RESULTS

The SAR values averaged over 1 g tissue masses were determined for the sample device for the Left and Right ear configurations of the phantom. The results are given in table below.

The plots with the corresponding SAR distributions, which reveal information about the location of the maximum SAR with respect to the device, are contained in Appendix B of this report.

Table: SAR Measurement Results

Test Position	Antenna	Plot Number	Test Channel	Test Freq. (MHz)	SAR Level for (1g) mW/g	DASY5 Measured Drift (dB)
Touch Left	Extended	1	121	1621.12	0.214	-0.35
	Retracted	2	121	1621.12	0.197	-0.29
	Retracted/Angled	3	121	1621.12	0.287	0.27
Tilted Left	Extended	4	001	1616.25	1.230	0.26
	Extended	5	121	1621.12	**1.270**	-0.08
	Retracted	6	121	1621.12	0.544	-0.12
	Retracted/Angled	7	121	1621.12	0.721	-0.07
	Extended	8	240	1625.98	1.220	0.38
Touch Right	Extended	9	121	1621.12	0.177	-0.26
	Retracted	10	121	1621.12	0.319	-0.05
	Retracted/Angled	11	121	1621.12	0.344	-0.32
Tilted Right	Extended	12	121	1621.12	0.692	-0.34
	Retracted	13	121	1621.12	0.951	-0.11
	Retracted/Angled	14	121	1621.12	1.040	-0.11

*Only worst case SAR was done for low and high channels (BW is less than 10 MHz)

Note: The uncertainty of the system (± 23.2 %) has not been added to the results.

The maximum measured SAR level in the 1600 MHz band was **1.270** mW/g for a 1 gram cube this value was measured in the **Tilted Left** position with Antenna **Extended** at a frequency of **1621.12** MHz (Channel **121**).

The FCC SAR limit for Non-occupational exposure is 1.6 m W/g measurement in a 1g cube of tissue.

9.0 COMPLIANCE STATEMENT

The Iridium Satellite Phone, Model 9575 was tested on behalf of TRaC. It complied with the FCC and Industry Canada SAR requirements.

The highest SAR level recorded for the 1600 MHz Satellite band was **1.270** mW/g, which is below the uncontrolled limit of 1.6 mW/g, even taking into account the measurement uncertainty of 23.2 %.

APPENDIX A1 Test Sample Photographs

Battery 1

Battery 2

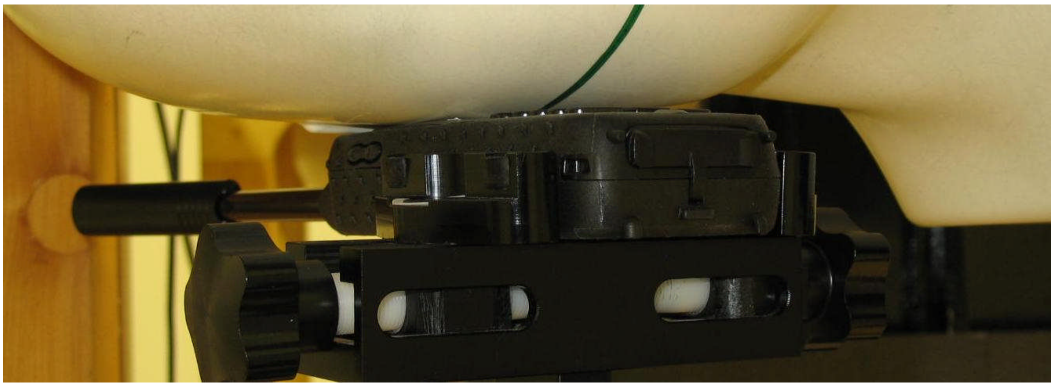
DUT

DUT

Appendix A2 Test Setup Photographs

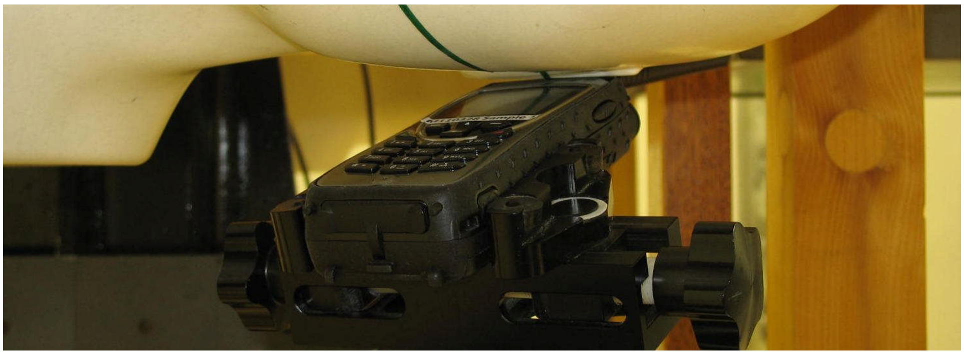
Touch Left Position - Antenna Extended

Touch Right Position - Antenna Extended



Appendix A3 Test Setup Photographs

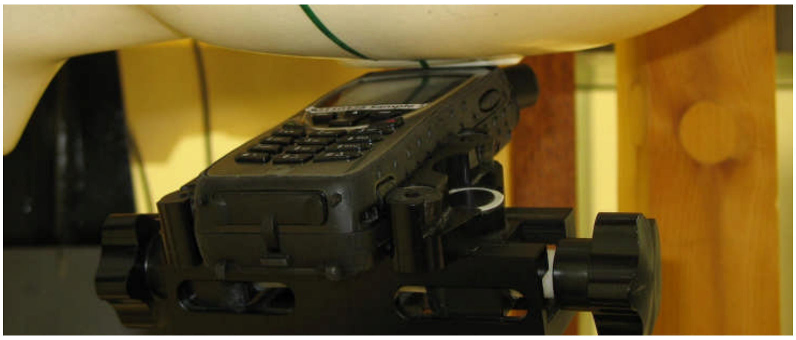
Tilted Left Position - Antenna Extended



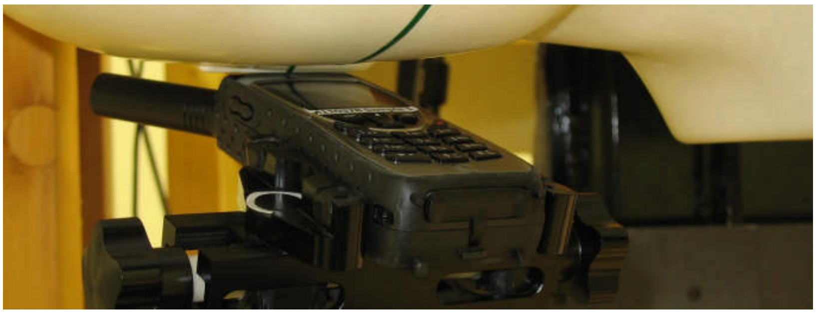
Tilted Right Position - Antenna Extended

Appendix A4 Test Setup Photographs

Tilted Left Position - Antenna Retracted

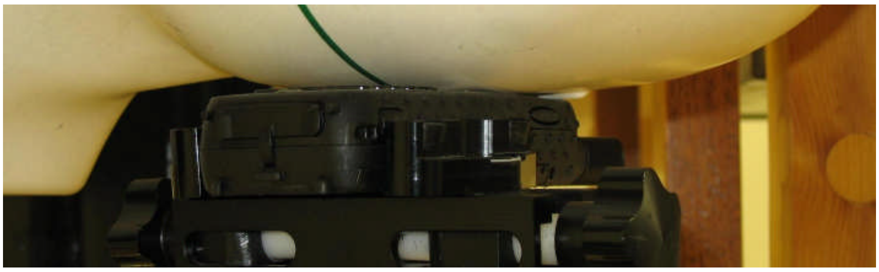


Tilted Right Position - Antenna Retracted



Appendix A5 Test Setup Photographs

Touch Left Position - Antenna Retracted



Touch Right Position - Antenna Retracted