

# SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	21.1
Liquid TEMPERATURE (°C)	20.2
Relative HUMIDITY (%)	49.2
Atmospheric PRESSURE (kPa)	101.0

**Measured Values:**

**Mixture Type:** Brain

**Dielectric Constant:** 40.4

**Conductivity:** 1.62

**Liquid Depth:** 15.0 cm


Closest Distance (between E-Probe & Phone): 1.2 cm

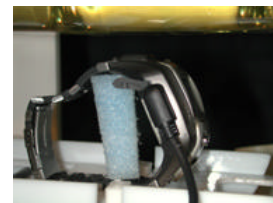
## Measurement Results (Face SAR)

FREQUENCY		Modulation	POWER (dBm)		Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.		Start	End			
1851.25	25	CDMA	25.0	25.0	Face	Fixed	1.3241
1880.00	600	CDMA	25.0	25.0	Face	Fixed	1.2318
1908.75	1175	CDMA	25.0	25.0	Face	Fixed	1.2345
<b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population</b>					<b>Brain 1.6 W/kg (mW/g) averaged over 1 gram</b>		

**NOTES:**

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand

  
Randy Ortanez  
President



**Fig. A**  
Face SAR Test Setup

**SAMSUNG FCC ID: A3LSPHS100 (Model: SPH-S100)**  
**Single-Mode PCS Watch Phone (CDMA)**

File : c:/idx3/SYSTEM/SARMEAS3/data/Normal/01121029\_ZOOM.VLT  
Start : 10-Dec-101 02:53:47 pm End : 10-Dec-101 03:03:27 pm

Radio Type : SAMSUNG  
Model Number : SPH-S100  
Serial Number : C  
Frequency : 1851.25 MHz  
Peak Trans. Pwr : 0.320 W  
Start Trans. Pwr : 0.320 W  
Antenna Type : Helical  
Antenna Posn. : Internal  
Phantom Type : Flat  
Phantom Posn. : E Field  
Scan Type : ZOOM/SAR  
Probe Name : PCTEST  
Field Type : E Field  
Orientation : 0 Degrees

Mixture Type = Brain  
Mixture Dielectric Constant = 40.400  
Mixture Conductivity = 1.620

Comment :  
SAMSUNG WATCH PHONE - PCS MODE  
CH 0025 Conducted 25.0 dBm  
SAMSUNG WATCH PHONE - FACE SAR

Robot : PCTEST

Probe Offset = 0.20 cm  
Sensor Factor = 0.0108  
Conversion Factor = 0.550

PCTEST Amplifier Channel Settings : 0.309 0.361 0.421

Max Location : X = 1.500, Y = -0.500, Z = 0.000 (cm) Value = 32.563

Measured Values (volts) =  
3.075E-002 1.904E-002 1.359E-002 9.914E-003 6.766E-003 5.105E-003  
4.340E-003 3.416E-003 3.312E-003 2.064E-003 2.117E-003 2.835E-003  
2.142E-003 2.056E-003 2.074E-003 2.463E-003 1.694E-003 1.858E-003  
1.838E-003 2.708E-003 2.605E-003

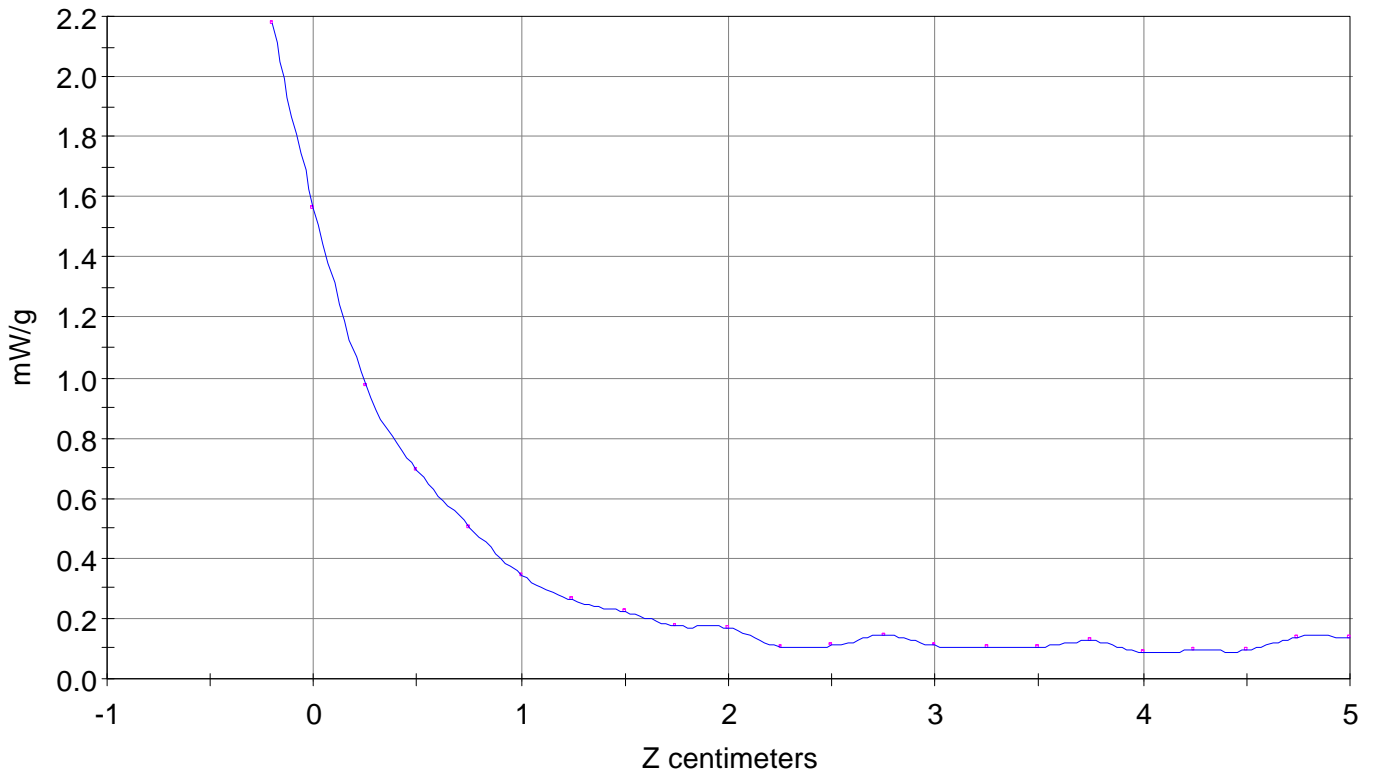
Calc. Voltage @ Surface (Vs) = 0.0427

Voltage @ 1.00 cm (Vt) = 0.0093

Ave. Voltage (Vs+Vt)/2 = 0.0260

Ave. SAR over 1 g (mW/g) = 1.3241

SAR Scan  
File : 01121029\_ZOOM  
Start : 10-Dec-101 02:53:47 pm End : 10-Dec-101 03:03:27 pm  
SAMSUNG/SPH-S100/C;1851.25MHz;W;Helical/Internal;  
Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

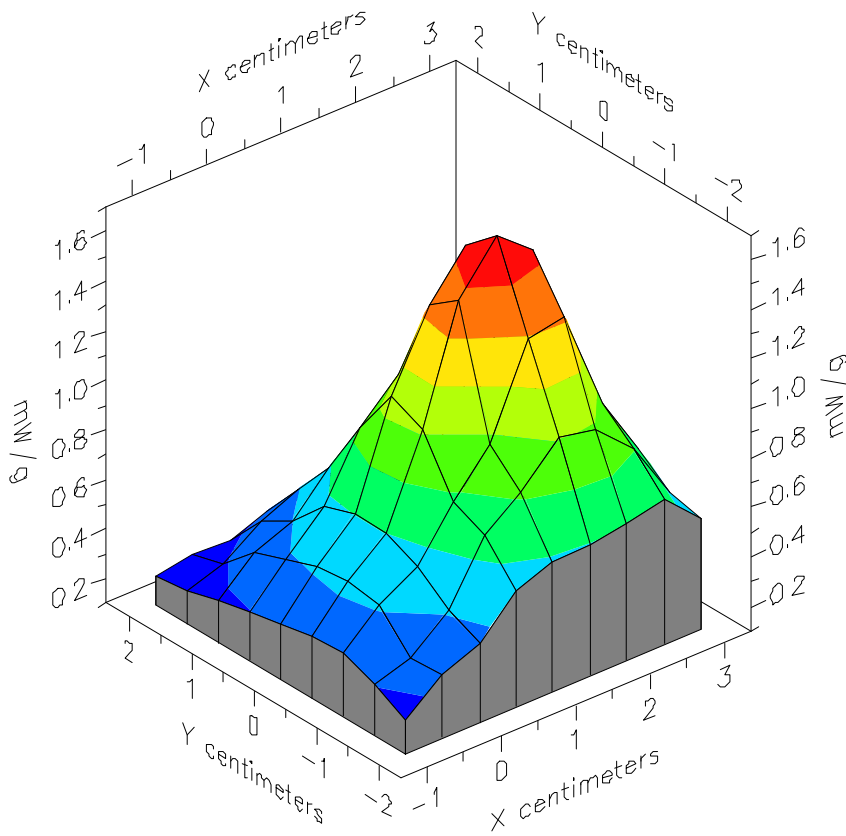


File : 01121029\_ZOOM

Start : 10-Dec-101 02:53:47 pm End : 10-Dec-101 03:03:27 pm

SAMSUNG/SPH-S100/C;1851.25MHz;W;Helical/Internal;

Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

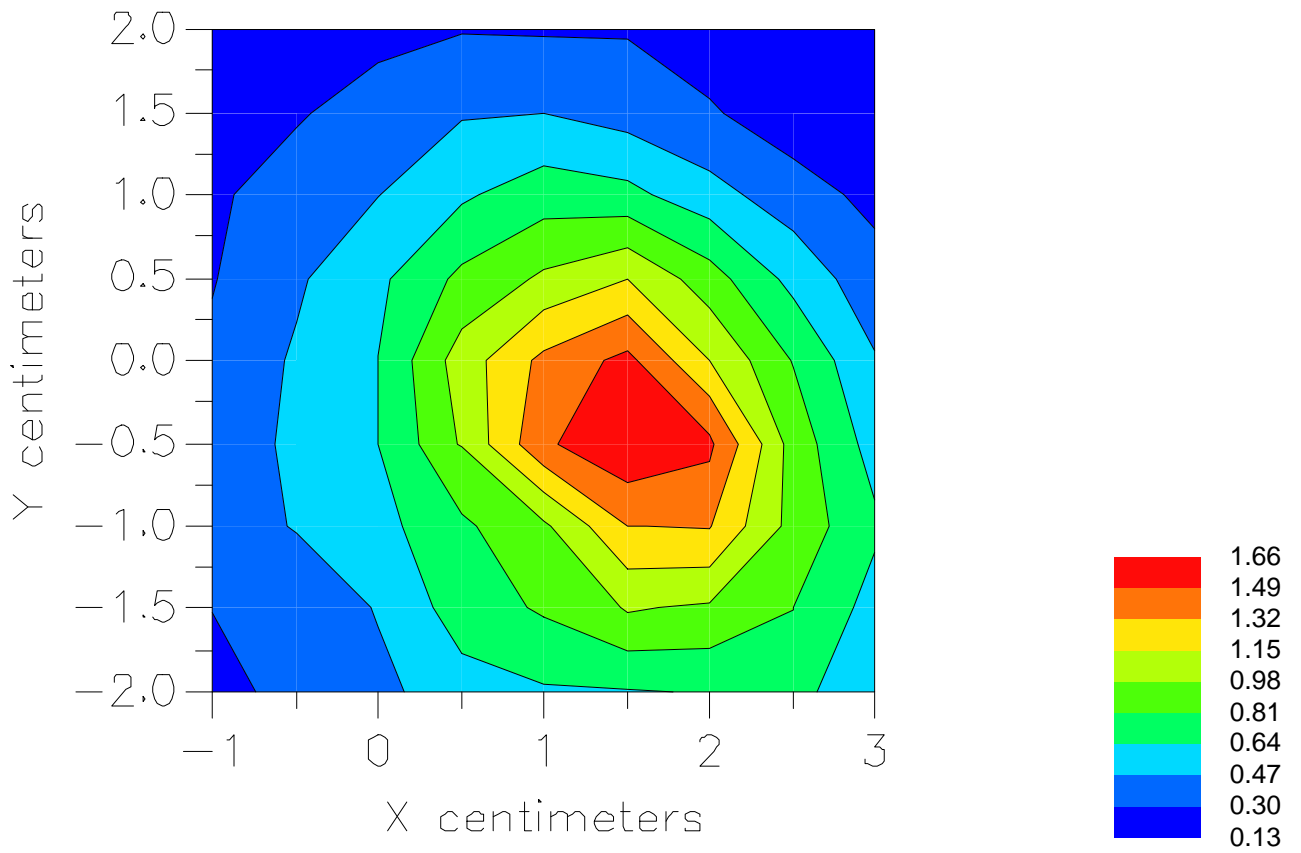


File : 01121029\_ZOOM

Start : 10-Dec-101 02:53:47 pm End : 10-Dec-101 03:03:27 pm

SAMSUNG/SPH-S100/C;1851.25MHz;W;Helical/Internal;

Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620



File : c:/idx3/SYSTEM/SARMEAS3/data/Normal/01121021\_ZOOM.VLT  
Start : 10-Dec-101 01:13:19 pm End : 10-Dec-101 01:29:07 pm

Radio Type : SAMSUNG  
Model Number : SPH-S100  
Serial Number : C  
Frequency : 1880.00 MHz  
Peak Trans. Pwr : 0.320 W  
Start Trans. Pwr : 0.320 W  
Antenna Type : Helical  
Antenna Posn. : Internal  
Phantom Type : Flat  
Phantom Posn. : E Field  
Scan Type : ZOOM/SAR  
Probe Name : PCTEST  
Field Type : E Field  
Orientation : 0 Degrees

Mixture Type = Brain  
Mixture Dielectric Constant = 40.400  
Mixture Conductivity = 1.620

Comment :  
SAMSUNG WATCH PHONE - PCS MODE  
CH 0600 Conducted 25.0 dBm  
SAMSUNG WATCH PHONE - FACE SAR

Robot : PCTEST

Probe Offset = 0.20 cm  
Sensor Factor = 0.0108  
Conversion Factor = 0.550

PCTEST Amplifier Channel Settings : 0.309 0.361 0.421

Max Location : X = 1.000, Y = -0.500, Z = 0.000 (cm) Value = 31.825

Measured Values (volts) =  
2.892E-002 1.973E-002 1.385E-002 1.020E-002 6.914E-003 5.568E-003  
4.251E-003 3.472E-003 3.470E-003 2.719E-003 2.956E-003 2.646E-003  
2.168E-003 2.337E-003 2.197E-003 1.899E-003 1.880E-003 2.788E-003  
2.568E-003 2.160E-003 2.039E-003

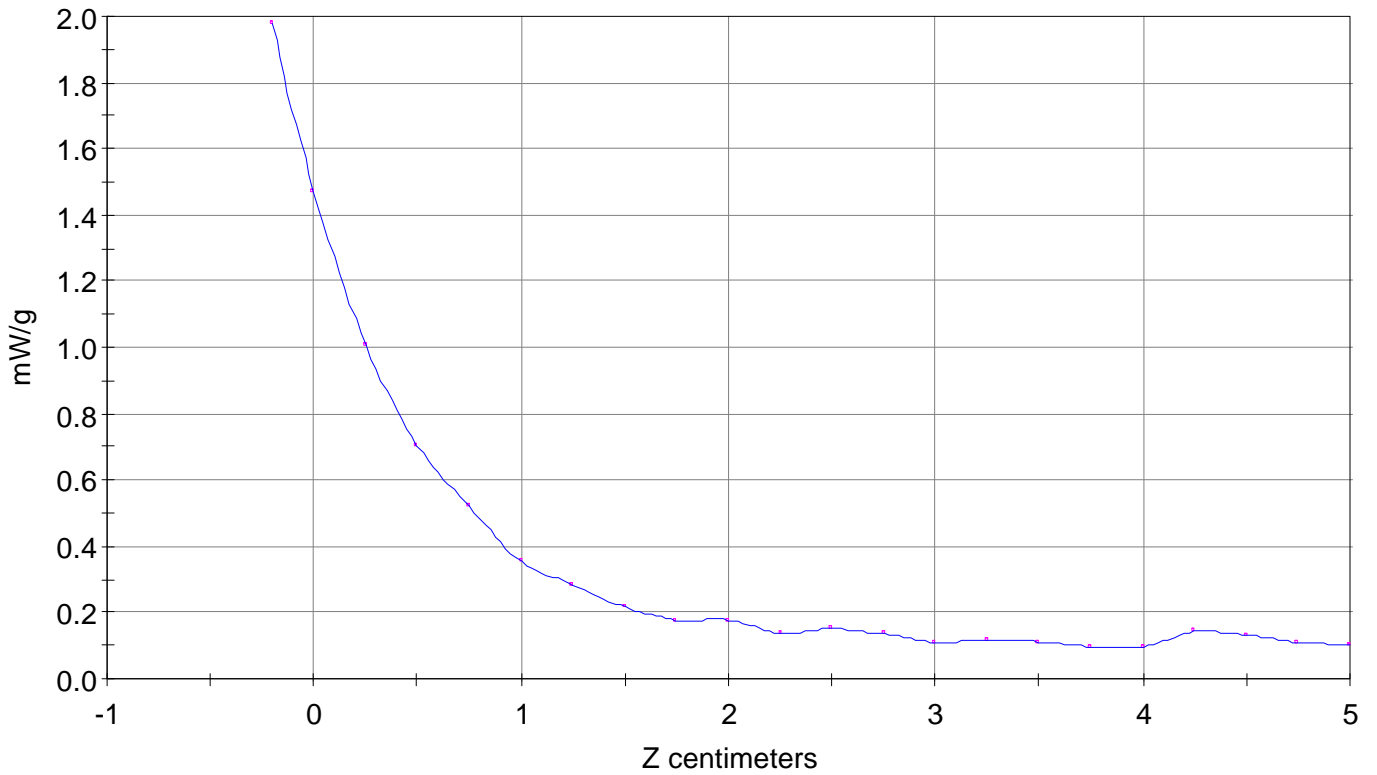
Calc. Voltage @ Surface (Vs) = 0.0388

Voltage @ 1.00 cm (Vt) = 0.0095

Ave. Voltage (Vs+Vt)/2 = 0.0242

Ave. SAR over 1 g (mW/g) = 1.2318

SAR Scan  
File : 01121021\_ZOOM  
Start : 10-Dec-101 01:13:19 pm End : 10-Dec-101 01:29:07 pm  
SAMSUNG/SPH-S100/C;1880.00MHz;W;Helical/Internal;  
Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

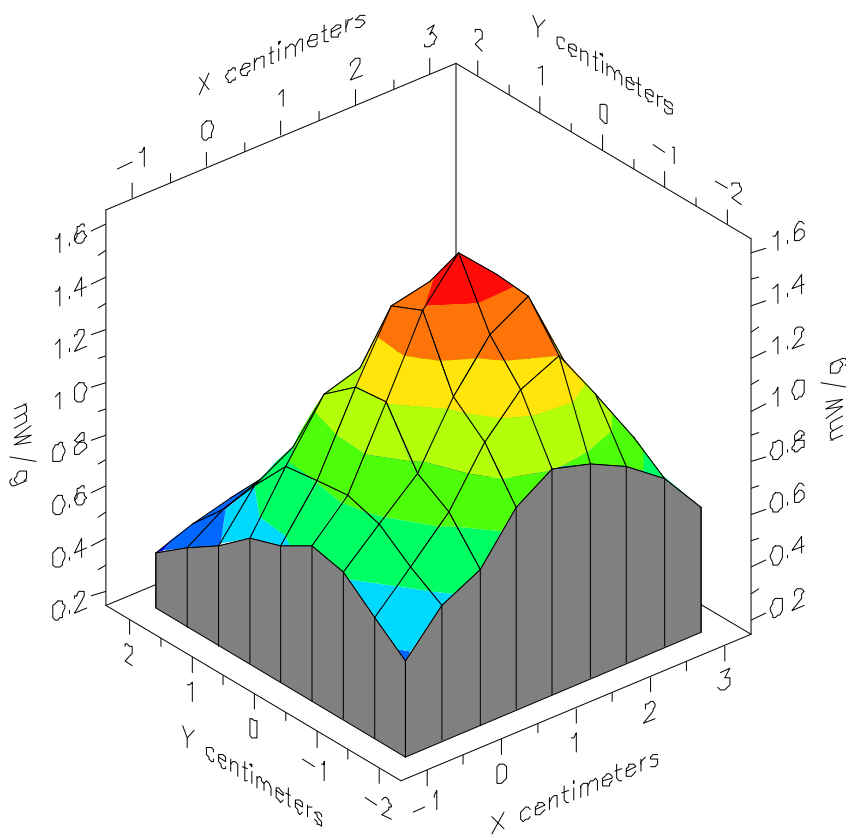


File : 01121021\_ZOOM

Start : 10-Dec-101 01:13:19 pm End : 10-Dec-101 01:29:07 pm

SAMSUNG/SPH-S100/C;1880.00MHz;W;Helical/Internal;

Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

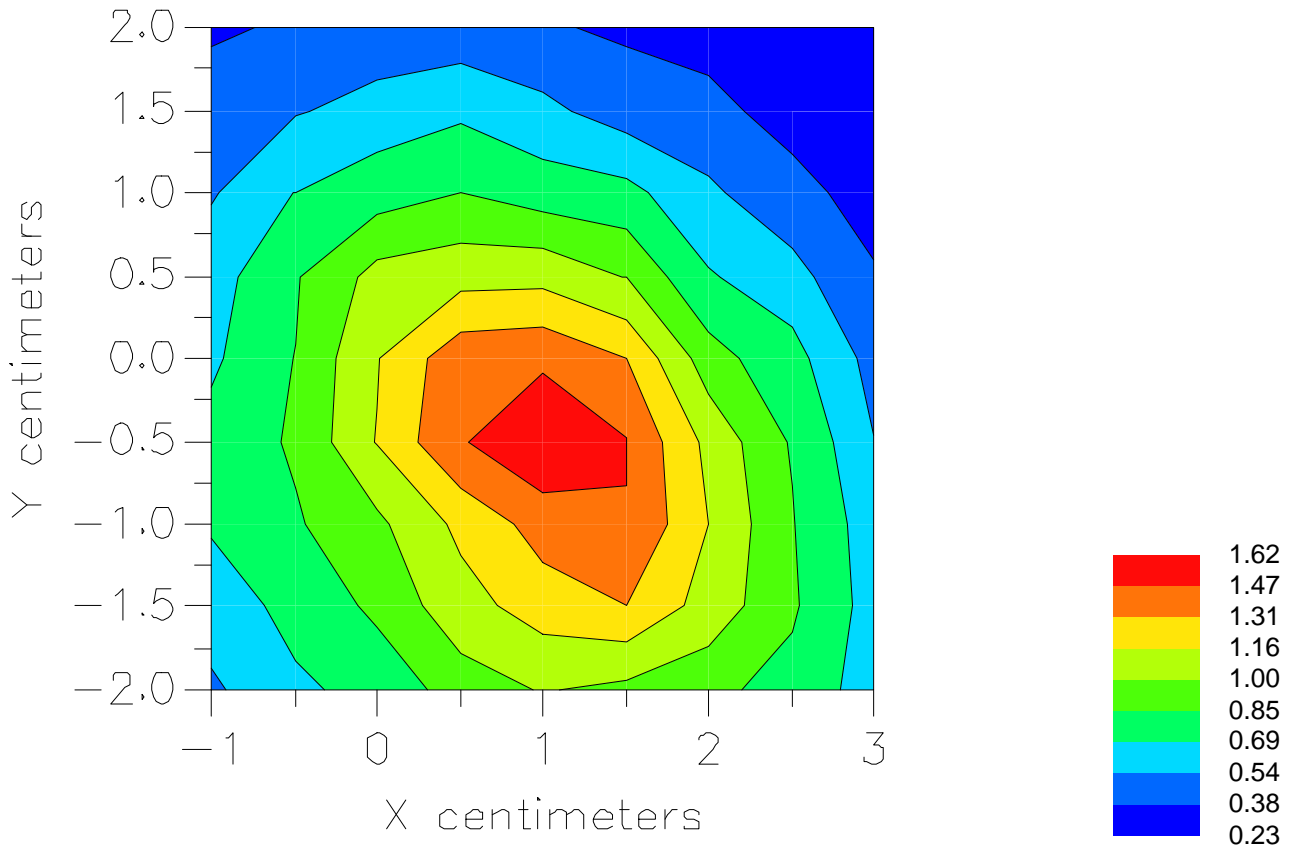


File : 01121021\_ZOOM

Start : 10-Dec-101 01:13:19 pm End : 10-Dec-101 01:29:07 pm

SAMSUNG/SPH-S100/C;1880.00MHz;W;Helical/Internal;

Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620



File : c:/idx3/SYSTEM/SARMEAS3/data/Normal/01121032\_ZOOM.VLT  
Start : 10-Dec-101 03:07:20 pm End : 10-Dec-101 03:16:59 pm

Radio Type : SAMSUNG  
Model Number : SPH-S100  
Serial Number : C  
Frequency : 1908.75 MHz  
Peak Trans. Pwr : 0.320 W  
Start Trans. Pwr : 0.320 W  
Antenna Type : Helical  
Antenna Posn. : Internal  
Phantom Type : Flat  
Phantom Posn. : E Field  
Scan Type : ZOOM/SAR  
Probe Name : PCTEST  
Field Type : E Field  
Orientation : 0 Degrees

Mixture Type = Brain  
Mixture Dielectric Constant = 40.400  
Mixture Conductivity = 1.620

Comment :  
SAMSUNG WATCH PHONE - PCS MODE  
CH 1175 Conducted 25.0 dBm  
SAMSUNG WATCH PHONE - FACE SAR

Robot : PCTEST

Probe Offset = 0.20 cm  
Sensor Factor = 0.0108  
Conversion Factor = 0.550

PCTEST Amplifier Channel Settings : 0.309 0.361 0.421

Max Location : X = 1.500, Y = -0.500, Z = 0.000 (cm) Value = 28.189

Measured Values (volts) =  
2.813E-002 1.837E-002 1.175E-002 9.142E-003 6.462E-003 4.641E-003  
3.573E-003 3.272E-003 3.200E-003 1.734E-003 1.872E-003 2.796E-003  
1.784E-003 1.948E-003 2.150E-003 2.202E-003 1.654E-003 2.043E-003  
1.545E-003 2.343E-003 2.376E-003

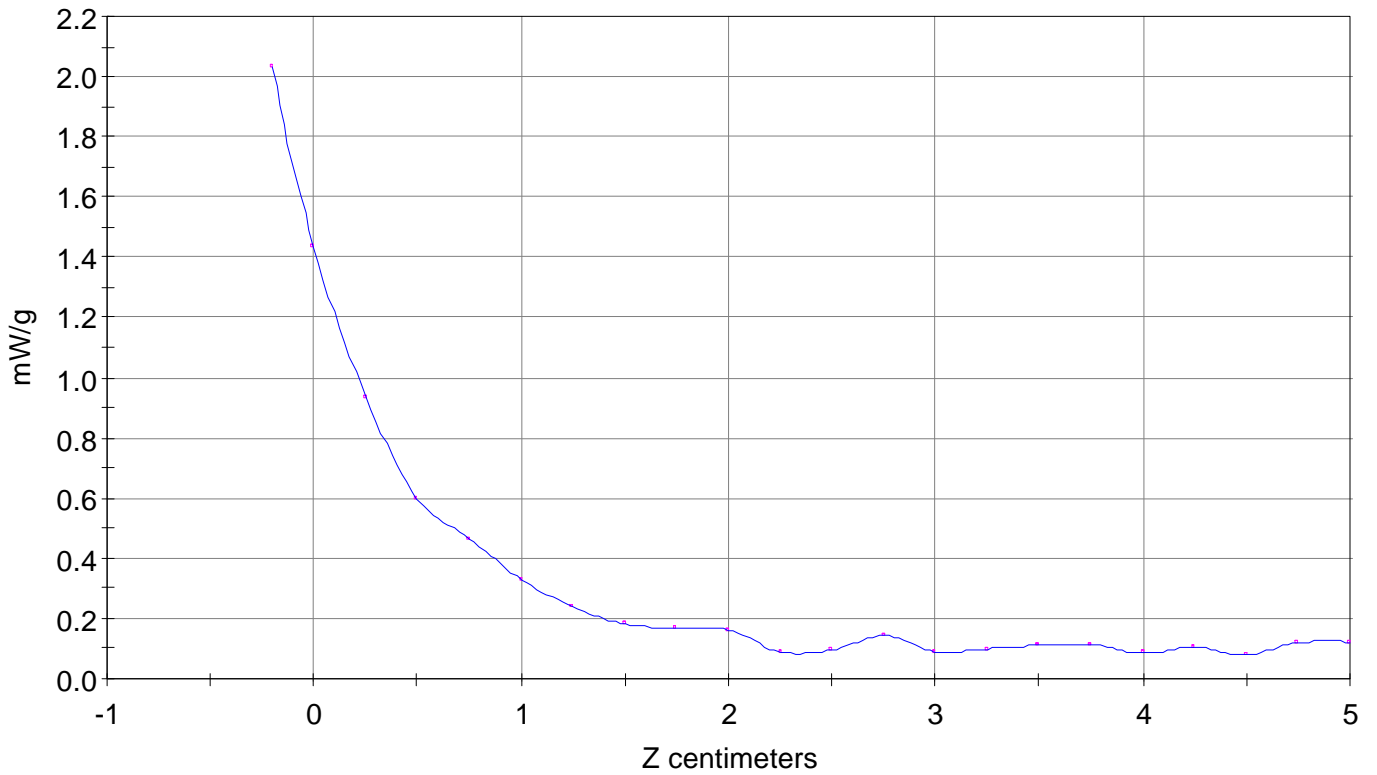
Calc. Voltage @ Surface (Vs) = 0.0399

Voltage @ 1.00 cm (Vt) = 0.0086

Ave. Voltage (Vs+Vt)/2 = 0.0242

Ave. SAR over 1 g (mW/g) = 1.2345

SAR Scan  
File : 01121032\_ZOOM  
Start : 10-Dec-101 03:07:20 pm End : 10-Dec-101 03:16:59 pm  
SAMSUNG/SPH-S100/C;1908.75MHz;W;Helical/Internal;  
Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

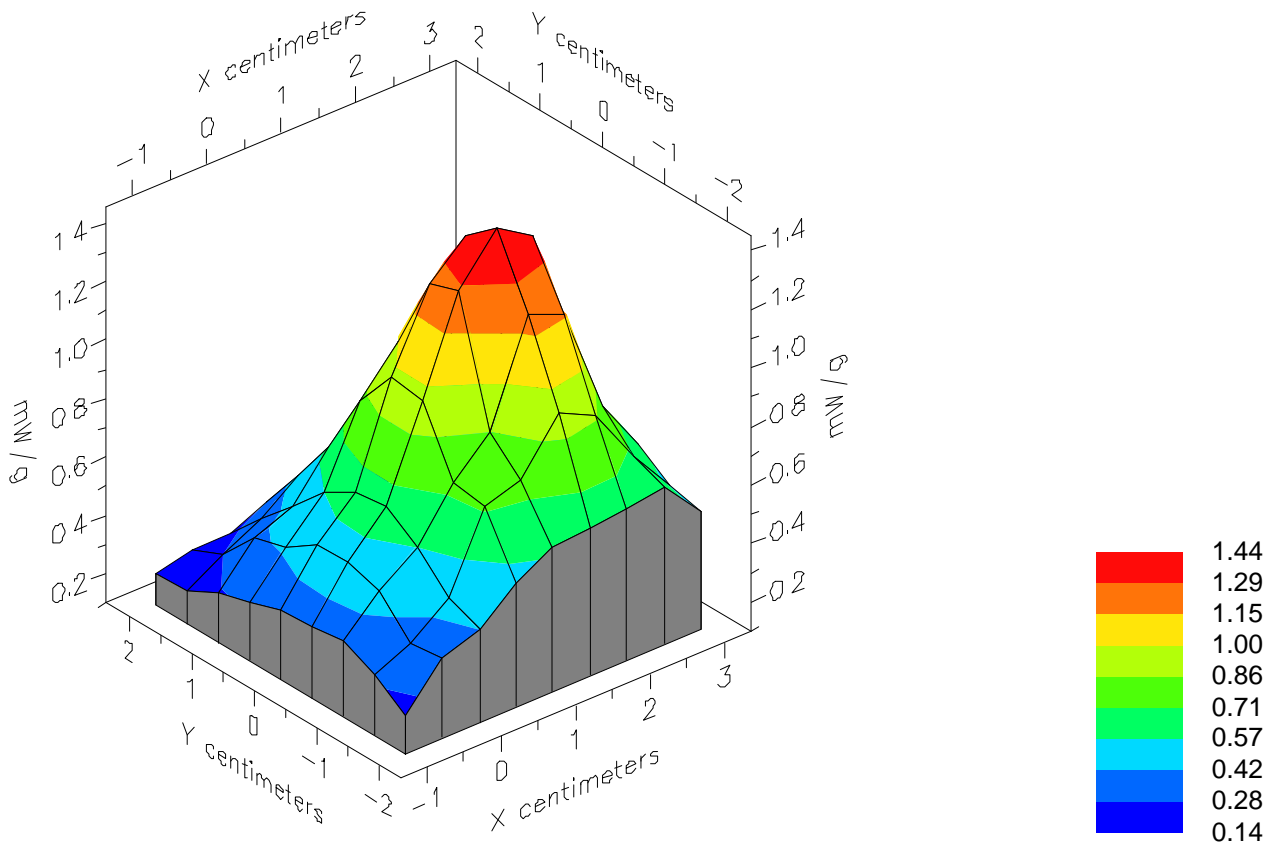


File : 01121032\_ZOOM

Start : 10-Dec-101 03:07:20 pm End : 10-Dec-101 03:16:59 pm

SAMSUNG/SPH-S100/C;1908.75MHz;W;Helical/Internal;

Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

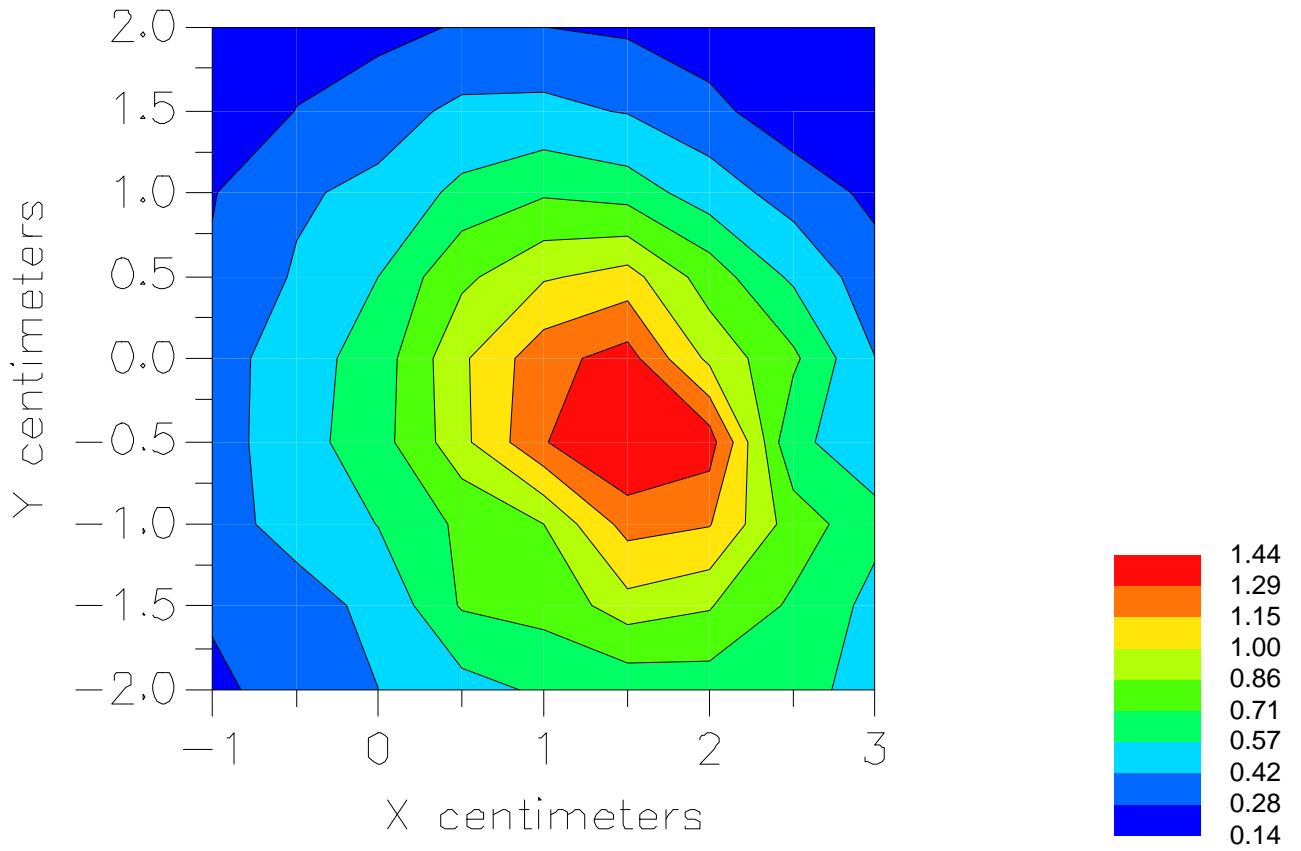


File : 01121032\_ZOOM

Start : 10-Dec-101 03:07:20 pm End : 10-Dec-101 03:16:59 pm

SAMSUNG/SPH-S100/C;1908.75MHz;W;Helical/Internal;

Flat/E Field;ZOOM/SAR;PCTEST/E Field/0 DegreesBrain/40.400/1.620

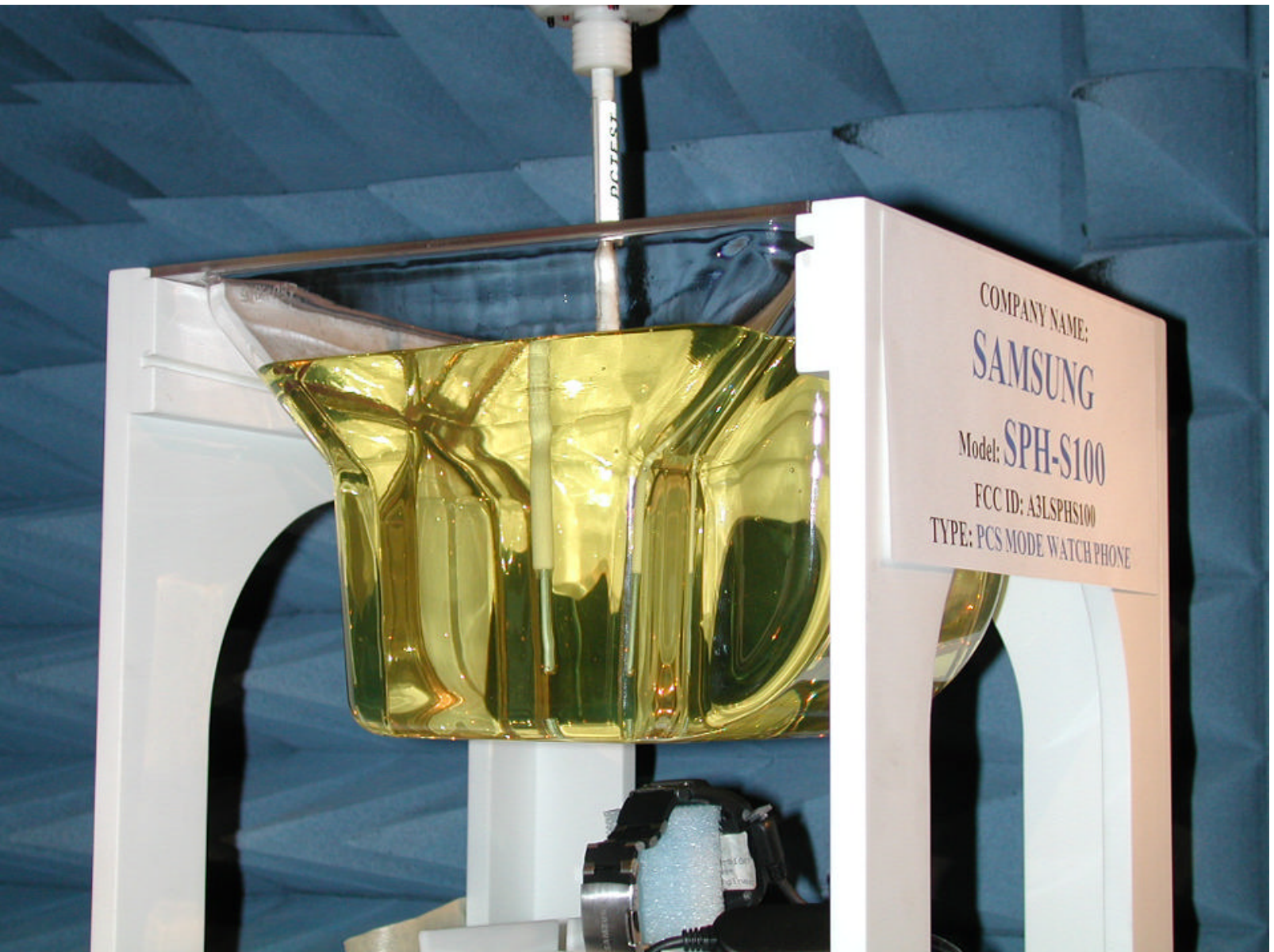




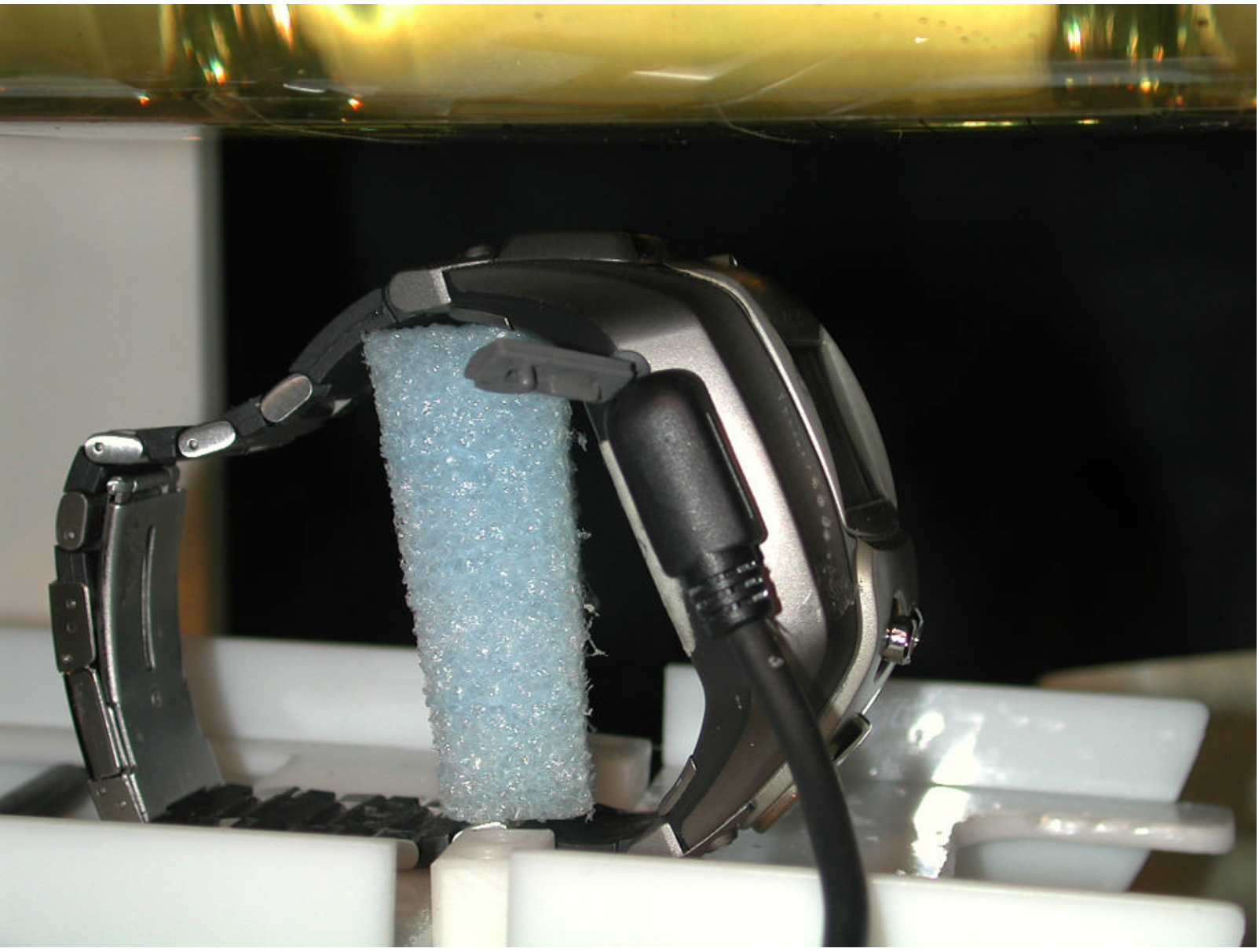
© 2001 PCTEST Lab

FCC ID: A3LSPHS100 (Model: SPH-S100)  
SAMSUNG Single-Mode Watch Phone (PCS CDMA)

NVLAP Lab Code: 100431-0



COMPANY NAME:  
**SAMSUNG**  
Model: **SPH-S100**  
FCC ID: A3LSPHS100  
TYPE: PCS MODE WATCH PHONE



© 2001 PCTEST Lab

FCC ID: A31SPHS100 (Model: SPH-S100)  
SAMSUNG Single-Mode Watch Phone (PCS CDMA)

NVLAP Lab Code: 100431-0

