SAR TEST REPORT

Project Number: 3543741
Report Number: 3543741EMC07 **Revision Level:** 2
Client: Radio Systems

Equipment Under Test: GPS Handheld Unit
Product Name: Sport DogTek 2.0 Handheld Unit

Applicable Standards: IEEE STD 1528: 2013
EN 62209-2:2010

Report issued on: 18 May 2015
Test Result: Compliant

Equipment Class	Mode	Band	Frequency (MHz)	Measured Conducted Power (dBm)	SAR		
					1g Head W/kg	1g Body W/kg	10g Limb W/kg
DSS/DTS	Bluetooth	US	2402 - 2480	10.1	NA	0.306	0.291
ISM	FHSS	US	916.2-917.4	10 eirp calc	NA	0.1 est	0.07 est
Simultaneous					NA	0.406	0.298

Tested by: Fabian Nica, Senior Engineering Technician

Reviewed by: David Schramm, EMC/RF/SAR/HAC Manager

Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 General Information

1.1 *Client Information*

Name:	Radio Systems
Address:	10427 Petsafe Way
City, State, Zip, Country:	Knoxville TN, 37932, USA

1.2 *Test Laboratory*

Name:	SGS North America, Inc.
Address:	620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country:	Suwanee, GA 30024, USA

1.3 *General Information of EUT*

Product Name:	Sport Dog Tek 2.0
Serial Number:	HEUR 200D6
Hardware Version:	NA
Firmware Version:	NA
Bluetooth:	
Frequency Range:	2402 to 2480 MHz
Modulation type:	GFSK DH1
Antenna:	Internal, integral
916 MHz radio:	
Frequency Range:	916.2625 to 917.4875 MHz
Modulation type:	GFSK
Antenna:	Detachable customer supplied
Rated Voltage:	3.7Vdc rechargeable
Sample Received Date:	25 November 2014
Date of testing:	12 February to 13 February 2015
Normal operation:	Hand held or worn on body
Body Worn Accessory	None supplied
Antenna-to-antenna separation distances:	Not applicable as there is only one antenna in the EUT
Simultaneous transmission:	Applicable - EUT is co-located with FC ID: T7V1315. See Section 1.3.1 Simultaneous Transmission
Device category:	Portable
Exposure category:	General Population/Uncontrolled Exposure
Air Interfaces:	Proprietary
Positions Tested:	Position 1(P1) EUT screen towards phantom Position 2(P2) EUT screen away from phantom Position 3(P3) Left side towards phantom Position 4(P4) Right side towards phantom Position 5(P5) Bottom side towards phantom

1.3.1 Simultaneous Operations

Bluetooth and 916 ISM band radios can operate simultaneously.

1.3.2 Standalone SAR test exclusion considerations for 916 MHz radio

Stand Along SAR Test Exclusion
According to KDB447498D01 General RF Exposure Guidance v05r02

Frequency, GHz	Min Separation distance to Body mm	Min Separation distance to Extremity mm	Max Power + Tolerance dBm	Antenna gain, dBi	Calculated Max Power, mW EIPR	1g head / body	10g Extremity
0.916	12.0	6.5	7.68	1.00	10	0.80	1.37

SAR DOES NOT apply for head / body worn operating conditions
SAR DOES NOT apply for extremety operating conditions

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[25] where
- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[26]
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

1.3.3 Estimated SAR for 916 MHz radio

Estimated SAR
According to KDB447498D01 General RF Exposure Guidance v05r02

Max. power of channel, including tune-up tolerance, mW:	10
Min. test separation distance, mm:	12
Square Root of F(GHz):	0.9571
Estmated SAR for Body 1-g (W/kg):	**0.10**

Max. power of channel, including tune-up tolerance, mW:	10
Min. test separation distance, mm:	7
Square Root of F(GHz):	0.9571
Estmated SAR for Extremity 10g (W/kg):	**0.07**

2) When the standalone SAR test exclusion of section 4.3.1 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to determine simultaneous transmission SAR test exclusion:[30]

- (*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)]·[$\sqrt{f_{(GHz)}}/x$] W/kg for *test separation distances* ≤ 50 mm;
  where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.
- 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is > 50 mm.[31]

This SAR estimation formula has been considered, in conjunction with the *SAR Test Exclusion Thresholds*, to result in substantially conservative SAR values of ≤ 0.4 W/kg. When SAR is estimated, the peak SAR location is assumed to be at the feed-point or geometric center of the antenna, whichever provides a smaller antenna separation distance, and must be clearly identified in test reports. The estimated SAR is only used to determine simultaneous transmission SAR test exclusion; it should not be reported as the standalone SAR. When SAR is estimated, it must be applied to determine the sum of 1-g SAR test exclusion. When SAR to peak location separation ratio test exclusion is applied, the highest reported SAR for simultaneous transmission can be an estimated standalone SAR if the estimated SAR is the highest among the simultaneously transmitting antennas (see KDB 690783). For conditions where the estimated SAR is overly conservative for certain conditions, the test lab may choose to perform standalone SAR measurements and use the measured SAR to determine simultaneous transmission SAR test exclusion. The estimated SAR values at selected frequencies, distances and power levels are illustrated in Appendix D.

2 Nominal and Maximum Power Specifications

Mode / Band	Type		RMS Burst Power dBm
GFSK	2402-2480 MHz	Nominal	10.5
		Maximum	12.0

3 Test Methodology

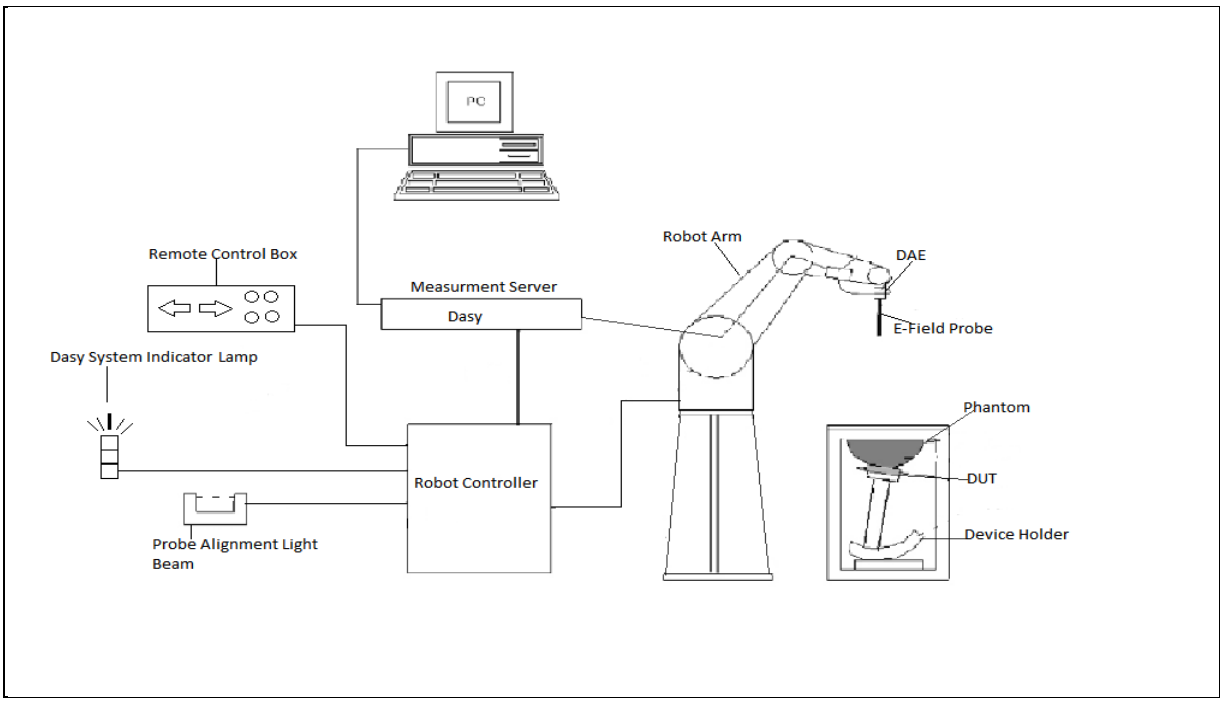
Testing was performed in accordance with IEEE STD 1528: 2003, RSS 102 Issue 4, and the following:

- IEC 62209-2
- FCC KDB 865664 D02 RF Exposure Reporting v01r01
- FCC KDB 450824 D02 Dipole SAR Validation Verification v01r01
- FCC KDB 447498 D01 General RF Exposure Guidance v05r01

4 Test Equipment

Equipment	Model	Manufacturer	Serial Number	Cal Date	Cal Int
Dasy5 Controller	SP1D	Stäubli	S-1188	NA	
PC	Compaq 8000 Elite	HP	CZC1231RWS	NA	
Probe Alignment Beam	LB5/80	Speag	SEUKS030AA	NA	
Data Acquisition Electronics	DAE4	Speag	1287	1/20/2015	
Oval Phantom	ELI5	Speag	1146	NA	
Device Holder	SD 00 HO1 HA	Speag	NA	NA	
System Validation Dipole	D2450V2	Speag	890	1/19/2015	3yr
E-Field Probe	EX3DV4	Speag	3812	1/26/2015	1yr
RF Cable	SF106	Huber & Suhner	247436 004	8/4/14	1yr
RF Cable	SF106	Huber & Suhner	247439001	8/4/14	1yr
Network Analyzer	E5062A	Agilent	MY44102097	9/26/2014	1yr
Power Meter	E4419B	Agilent	G839511059	8/8/14	1yr
Power Sensor	E9300B	Agilent	2702A61269	8/8/14	1yr
Power Sensor	E9300B	Agilent	MY41094585	8/8/14	1yr
Dual Directional Coupler	11692D	Hewlett Packard	1212A02572	8/6/14	3yr
Signal Generator	SMB100A	Rohde & Schwarz	104999	6/18/13	3yr
Thermometer	DTM3000	LKM Electronic	2952	6/16/14	1yr
Dielectric Probe Kit	Dak-3.5	Speag	1109	1/21/15	1yr
Wideband Communication Tester	CMW 500	Rohde & Schwarz	127722	10/17/2013	2yr

4.1 *Test System Block Diagram*



The Dasy5 SAR test system consists of:

- 1 Stäubli Robot and system controller cabinet
- 1 Electro Optical Converter mounted on robots arm
- Robot stand
- Robot remote controller
- Light beam for E-field probe alignment
- DASY5 measurement server
- SAM Twin Phantom
- Hand-Held/ Laptop device holder
- HP PC with DASY5 software
- Data Acquisition Electronics(DAE)
- System validation dipole kit
- Head/Body simulating liquid
- E-field probe
- Warning lamps

Specifications listed bellow correspond with defined parameters in IEEE 1528 and IEC 62209-1	
Twin SAM Phantom:	Specific Anthropomorphic Mannequin
Material:	Vinylester, fiber glass reinforced
Shell Thickness:	2 ± 0.2mm (6 ± 0.2mm at ear point)
Dimensions (wooden support incl):	1000mm length, 500mm width, adjustable feet for height
Filling Volume:	approx. 25L
ELI Phantom	
Material:	Vinylester, fiber glass reinforced
Shell Thickness:	2.0 ± 0.2mm (bottom plate)
Dimensions:	Major axis: 600, Minor axis: 400
Filling Volume:	approx. 30L
EX3DV4 Probe:	Isotropic E-Field Probe
Directivity:	±0.3dB in TSL(rotation around probe axis), ±0.5 dB in TSL (roation normal to probe axis)
Dimensions:	Overall length: 337mm (tip 20mm), Tip diameter: 2.5mm (Body: 12mm), Typical distance from probe tip to dipole centers: 1mm
Mounting Device for Hand-Held Transmitters:	Enables mounting and enables rotation of the mounted transmitter to specified spherical coordinates
	Transmitter devices can be accurately positioned according to IEC 62209-1, IEEE 1528, FCC or other specifications
Material:	Polyoxymethylene

5 Liquid parameters Check

The tissue dielectric parameters shall be measured at the beginning of the test or within 24 hours of the first SAR test. All dielectric parameters should be within the tolerance values shown in Table 1. For frequencies in 300 MHz to just under 3 GHz, the measured conductivity and relative permittivity should be within ±5% of the target values in table 1. The measured permittivity tolerances can be relaxed to no more than the ±10%. All efforts should be made to obtain the target values as closely as possible.

The head tissue dielectric parameters recommended by the IEEE1528-2003 Standard have been incorporated in Table 1.

Table 1

Target dielectric properties of tissue equivalent material in the 300-3000 MHz frequency range

Frequency (MHz)	Head		Body	
	Relative permittivity (ε_r)	Conductivity(σ) (S/m)	Relative permittivity (ε_r)	Conductivity(σ) (S/m)
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55	1.05
1450	40.5	1.20	54	1.3
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52	2.73

Tissue Simulating Liquid Formulations

	835 MHz		1900 MHz		2450 MHz		5200-5800 MHz	
	Head	Body	Head	Body	Head	Body	Head	Body
Bactericide	0.10	0.10					See Note 1	See Note 2
DGBE								
HEC	1.00	1.00						
NaCL	1.45	0.94	1.03	0.70	0.00	0.30		
Sucrose	57.00	44.90						
Polysorbate (Tween) 20			46.10	28.00	45.25	28.00		
Water	40.45	53.06	52.87	71.30	55.75	71.70		

Note 1: Speag proprietary - Water 50-65%; Mineral Oil 10-30%; Emulsifiers 8-25%; NaCL 0-1.5%; Hexylene Glycol 1.0-2.8%
Note 2: Speag proprietary - Water 60-80%; Esters, Emulsifiers, Inhibitors 20-40%; NaCL 0-1.5%; Oleic acid 10-28%

5.1 *Tissue Verification*

Note: Per KDB 865564 Section 2.4, SAR error compensation algorithms have been implemented.

Tissue Verification									
Liquid Temp °C	Date	Tissue Type	Measured Frequency (MHz)	Measured Dielectric Constant, ε	Measured Condcutivity, σ S/m	Target Dielectric Constant, ε	Target Condcutivity, σ S/m	% deviation, ε	% deviation, σ
21.45	2/12/2015	2450B	2402	51.520	1.99	52.7	1.95	-2.2%	2.0%
			2441	51.390	2.03	52.7	1.95	-2.5%	4.3%
			2480	51.260	2.08	52.7	1.95	-2.7%	6.9%

6 SAR measurement system verification

The system performance verification verifies the system operates within the ±10% limit. Each performance check is performed prior to any SAR testing to measure accuracy.

6.1 *Performance check measurement conditions*

- Measurements are performed in the flat section of the SAM phantom
- Phantom is filled with Head or Body simulating liquids
- DASY5 system parameters are tested using a Isotropic E-field probe ES3DV3
- The dipole is mounted on an extendable tripod that is positioned below the flat phantom center. The dipole is oriented parallel with the body's axis. The standard measuring distance is 10 mm above 1 GHz or 15 mm below 1 GHz from the dipole to the simulating liquids surface.
- A grid spacing of 15 mm is aligned with the dipole
- 7x7x7 cube is selected for a zoom scan
- A 4 mm distance is set between the probe and phantom surface
- Dipole input power(forward power) is set to 100 mW
- Results are normalized to 1 W input power

6.2 *System Verification*

System Verification														
Scan #	Date	Ambient Temp (°C)	Liquid Temp (°C)	Input Power (W)	Tissue Frequency (MHz)	Dipole SN	Tissue Type	Measured SAR1g (W/kg)	1W Target SAR1g (W/kg)	1W Normalized SAR10 (W/kg)	Deviation (%)	Area Measured SAR1g (W/kg)	Zoom vs Area %err	Validation Time
C1	2/12/2015	22.94	21.55	0.100	2450	D2450V2	Body	5.24	51.90	52.40	1.0%	5.32	1.5%	10:14am

7 Measurement Procedure

- Area Scan is used for a fast scan in two dimension to find the area of high field values before any finer measurement around the hotspot. The routines implemented in the DASY5 software can find the maximum locations.
- Zoom Scan is used to assess the peak spatial values within a cubic averaging volume containing 1g and 10g of simulated tissue. The scan measures a 7x7x7 area within the cube. Once measurement is done the values are displayed within the job's label.
- Power Drift will measure the field at the same location as the most recent power reference measurement within the same procedure and settings. The Power Drift Measurement gives the field difference in dB.
- Z- Scan measure points along a straight vertical line. The lines run along the z-axis of a one dimensial grid. To get a reasonable extrapolation the extrapolated distance should not be larger than the step size in z direction.

7.1 *Head SAR Configuration*

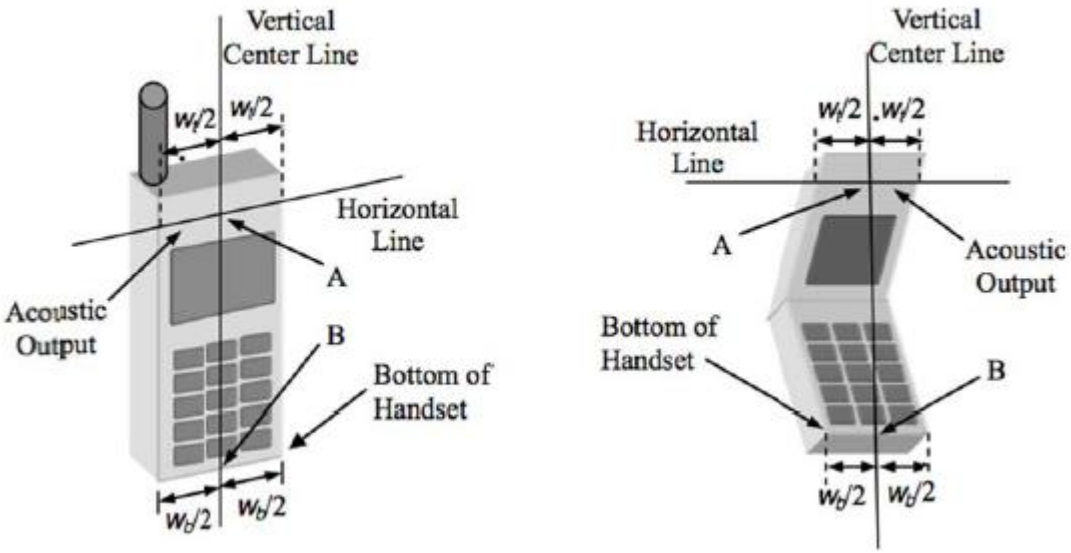
7.1.1 SAM Specifications

The Specific Anthropomorphic Mannequin (SAM) phantom corresponds to specifications defined in IEEE 1528 and IEC 62209-1. It allows dosimetric evaluation of the left, right, hand phone usage as well as body mounted usage at the flat region of the phantom

7.1.2 Handset Reference Points

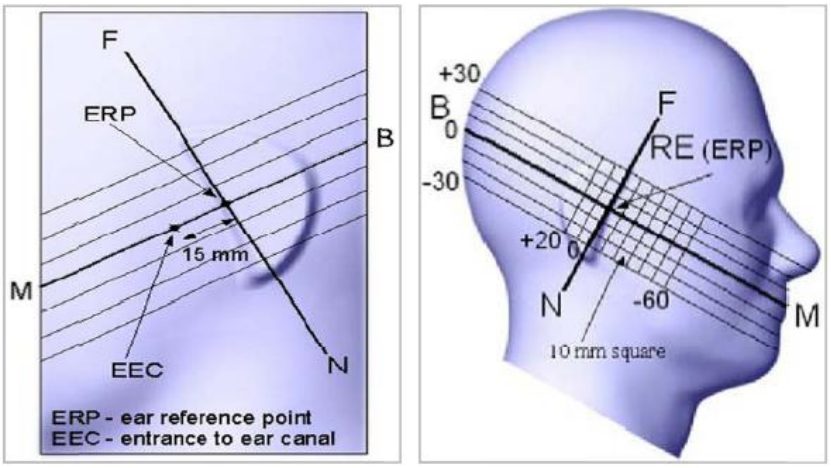
In order to identify reference points on the handset, define two imaginary lines on the handset

- The vertical centreline passes through two points on the front side of the handset. The midpoint of the width at the acoustic output and the midpoint of the width of the bottom of handset.
- The horizontal line is perpendicular to the vertical centreline and passes through the center of the acoustic output.
- The two lines intersect at point A.



7.1.3 Ear reference

This category includes most wireless handsets. The handset should have its earpieces located within the upper part of the device or along the centerline. The handset should be positioned with the earpiece region pressed against the ear spacer of the phantom.



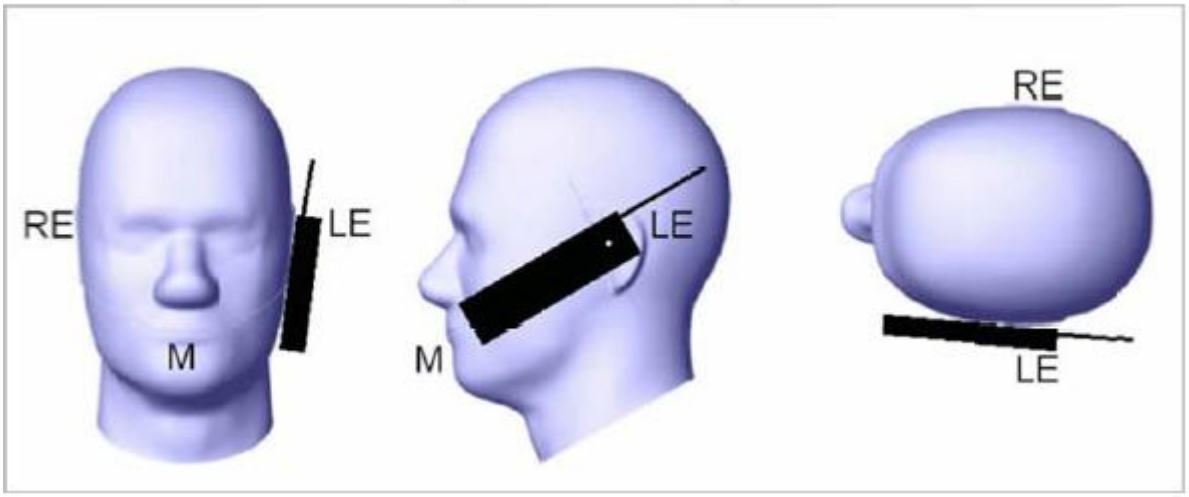
7.1.4 Cheek positions

The device is attached toward the mouth part of the phantom by pivoting against the ear reference point

The test position is established when:

- Any point on the display, keypad or mouthpiece portion of the EUT is in contact with the phantom

Cheek / Touch Position

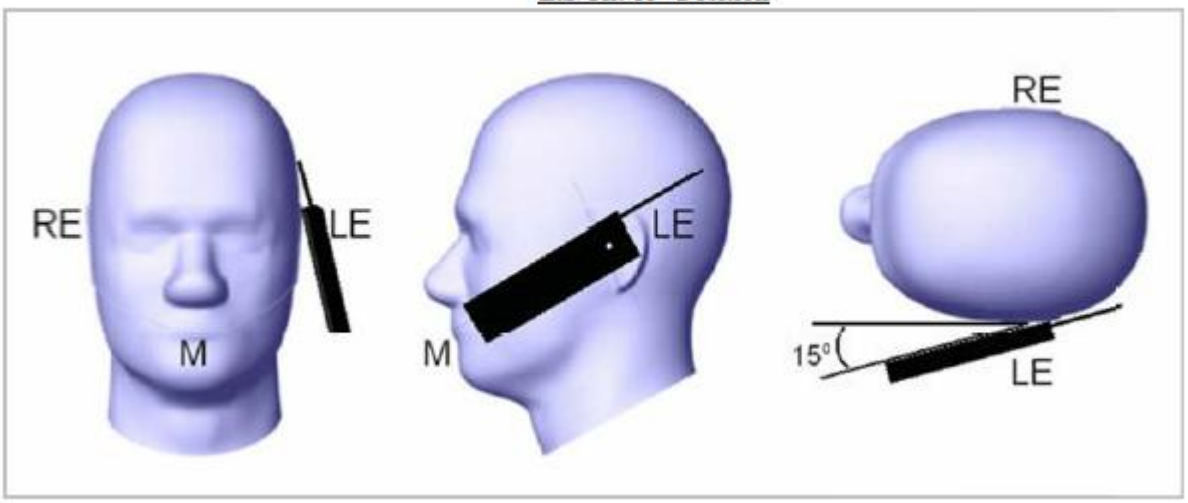


7.1.5 Tilt Position

The test position is established when:

- Repeat the cheek touch position setup
- While maintaining the orientation of the handset move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
- Rotate the handset around the horizontal line by 15°
- While maintain the orientation of the handset move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear.
- The tilt position is obtained when the contact point is on the pinna and the antenna is at the back of the phantoms head.

Ear/Tilt 15° Position



8 Conducted Output power verification

GFSK	DH1	0	10.05
		39	9.87
		78	9.77
	DH3	0	10
		39	9.81
		78	9.7
	DH5	0	9.95
		39	9.75
		78	9.66
EDR-2	DH1	0	7.87
		39	7.65
		78	7.52
	DH3	0	7.76
		39	7.55
		78	7.42
	DH5	0	7.7
		39	7.48
		78	7.34
EDR-3	DH1	0	7.87
		39	7.64
		78	7.5
	DH3	0	7.77
		39	7.55
		78	7.41
	DH5	0	7.69
		39	7.48
		78	7.35

9 Bluetooth BODY SAR Measurement Results

Date	Frequency MHz	CH	Mode	Service	Data Rate Mbps	Max Pwr dBm	Meas Pwr dBm	Power Drift dB	Position	Duty Cycle	1g SAR W/kg	Scaling factor	Scaled SAR 1g W/kg	Plot #
2/12/2015	2441.0	39	GFSK	Bluetooth	DH1	12	9.87	0.11	P1	1:1	0.184	1.633	0.300	
	2441.0	39	GFSK	Bluetooth	DH1	12	9.87	-0.15	P2	1:1	0.078	1.633	0.127	
	2441.0	39	GFSK	Bluetooth	DH1	12	9.87	0.11	P3	1:1	0.065	1.633	0.106	
	2441.0	39	GFSK	Bluetooth	DH1	12	9.87	-0.57	P4	1:1	0.043	1.633	0.070	
	2441.0	39	GFSK	Bluetooth	DH1	12	9.87	0.18	P5	1:1	0.043	1.633	0.070	
	2402.0	0	GFSK	Bluetooth	DH1	12	10.05	-0.15	P1	1:1	0.196	1.567	0.307	
	2480.0	78	GFSK	Bluetooth	DH1	12	9.77	0.07	P1	1:1	0.195	1.671	0.326	
2/13/2015	2402.0	0	GFSK	Bluetooth	DH1	12	10.05	0.19	P1	1:1	0.306	1.567	0.479	1

Note: When the measured SAR value is less than 0.1 W/kg, the power drift may be greater than 0.4 dB.

10 Uncertainty Budget

Test Name:	SAR 62209-2 (0.3 to 6 GHz range)
Instrument(s) Used:	SAR Measurement Sytem
Standard(s) Reference:	IEC 62209-2:2010

Symbol	Source of Uncertainty	Value	Probability Distribution	Divisor	ci (1g)	ci (10g)	Std. Unc. (1g)	Std. Unc. (10g)	vi or veff
	MEASUREMENT DESCRIPTION								
	Probe Calibration	6.6%	N1	1	1	1	6.6%	6.6%	inf
	Axial Isotropy	4.7%	R	1.732	0.7	0.7	1.9%	1.9%	inf
	Hemispherical Isotropy	9.6%	R	1.732	0.7	0.7	3.9%	3.9%	inf
	Linearity	4.7%	R	1.732	1	1	2.7%	2.7%	inf
	System Detection Limits	1.0%	R	1.732	1	1	0.6%	0.6%	inf
	Modulation Response	2.4%	R	1.732	1	1	1.4%	1.4%	inf
	Boundary Effects	2.0%	R	1.732	1	1	1.2%	1.2%	inf
	Readout Electronics	0.3%	N1	1	1	1	0.3%	0.3%	inf
	Response Time	0.8%	R	1.732	1	1	0.5%	0.5%	inf
	Integration Time	2.6%	R	1.732	1	1	1.5%	1.5%	inf
	RF Ambient Noise	3.0%	R	1.732	1	1	1.7%	1.7%	inf
	RF Ambient Reflections	3.0%	R	1.732	1	1	1.7%	1.7%	inf
	Probe Positioner	0.8%	R	1.732	1	1	0.5%	0.5%	inf
	Probe Positioning	6.7%	R	1.732	1	1	3.9%	3.9%	inf
	Post Processing	4.0%	R	1.732	1	1	2.3%	2.3%	inf
	TEST SAMPLE RELATED								
	Device Positioning	2.9%	N1	1	1	1	2.9%	2.9%	inf
	Device Holder	3.6%	N1	1	1	1	3.6%	3.6%	inf
	Power Drift	5.0%	R	1.732	1	1	2.9%	2.9%	inf
	Power Scaling	0.0%	R	1.732	1	1	0.0%	0.0%	inf
	PHANTOM AND SETUP								
	Phantom Uncertainty	7.9%	R	1.732	1	1	4.6%	4.6%	inf
	SAR correction	1.9%	R	1.732	1	0.84	1.1%	0.9%	inf
	Liquid Conductivity(meas.)	2.5%	N1	1	0.78	0.71	2.0%	1.8%	inf
	Liquid Permittivity(meas.)	2.5%	N1	1	0.26	0.26	0.7%	0.7%	inf
	Temp. unc. - Conductivity	1.7%	R	1.732	0.78	0.71	0.8%	0.7%	inf
	Temp. unc. - Permittivity	0.3%	R	1.732	0.23	0.26	0.0%	0.0%	inf
			n1	1	1	1	0.0%	0.0%	inf
uc(Fs)	Combined Standard Uncertainty		N1	1			12.6%	12.5%	
U(Fs)	Expanded Uncertainty		Normal k=	2			**25.1%**	**25.1%**	

The Expanded Uncertainty is 25.1% for a Normal k factor equal to 2

11 SAR plots

Plot 1

DUT: Sport Dog; Type: NA; Serial: NA

Communication System: UID 0, CW (0); Communication System Band: FullSpan (0.0 - 6000.0 MHz); Frequency: 2402 MHz;
Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2402 MHz; σ = 1.989 S/m; ε_r = 51.519; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

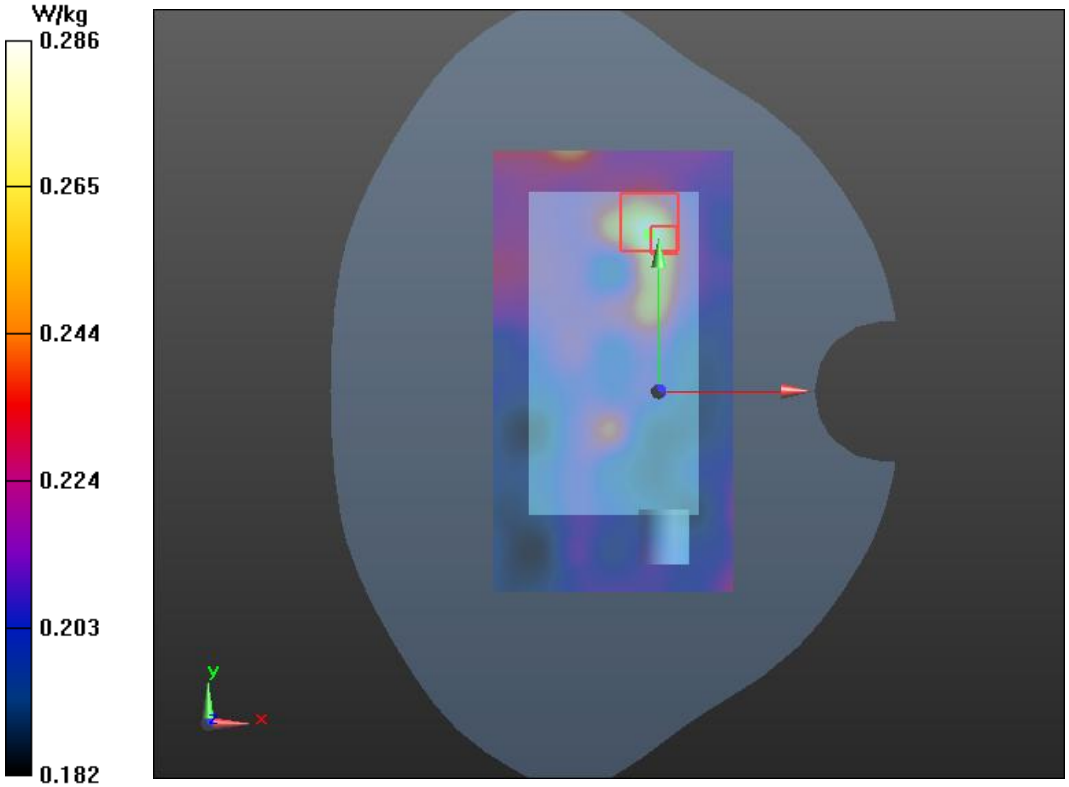
DASY Configuration:

- Probe: EX3DV4 - SN3812; ConvF(7.15, 7.15, 7.15); Calibrated: 1/26/2015;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1287; Calibrated: 1/20/2015
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1665
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/Scan 6 Z/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.286 W/kg

Configuration/Scan 6 Z/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.04 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.419 W/kg
SAR(1 g) = 0.306 W/kg; SAR(10 g) = 0.291 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.419 W/kg



12 System Check plot

C1

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:890

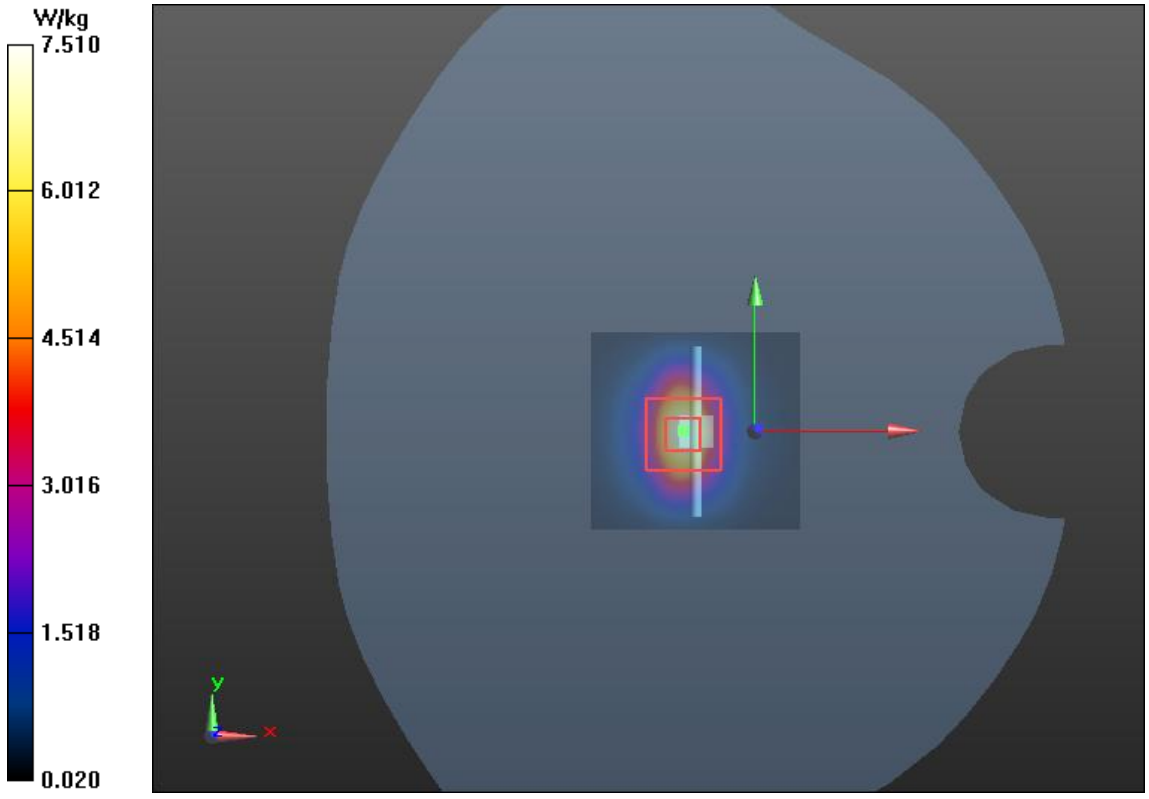
Communication System: UID 0, CW; Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2450 MHz; σ = 2.044 S/m; ε_r = 51.368; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

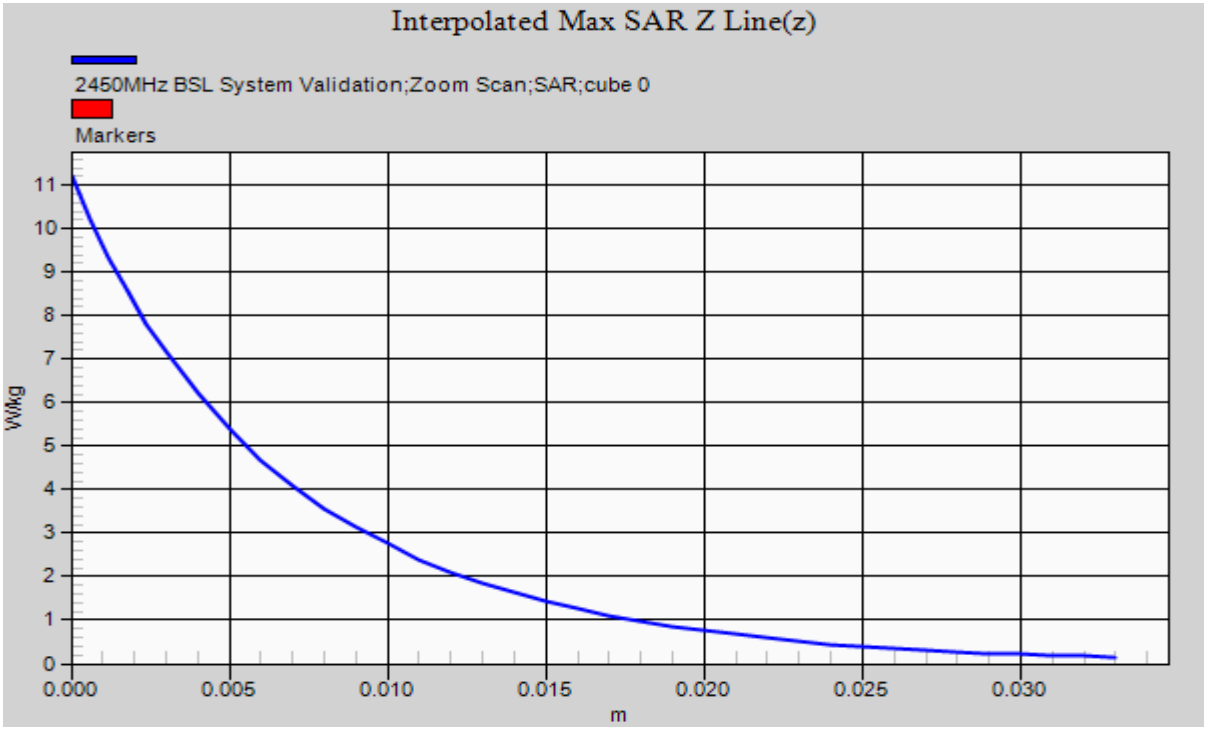
DASY Configuration:

- Probe: EX3DV4 - SN3812; ConvF(7.15, 7.15, 7.15); Calibrated: 1/26/2015;
- Sensor-Surface: 3mm (Mechanical Surface Detection), z = 1.0, 16.0
- Electronics: DAE4 Sn1287; Calibrated: 1/20/2015
- Phantom: SAM with CRP v5.0; Type: QD000P40CD; Serial: TP:1665
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Configuration/2450MHz BSL System Validation/Area Scan (51x51x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 7.51 W/kg

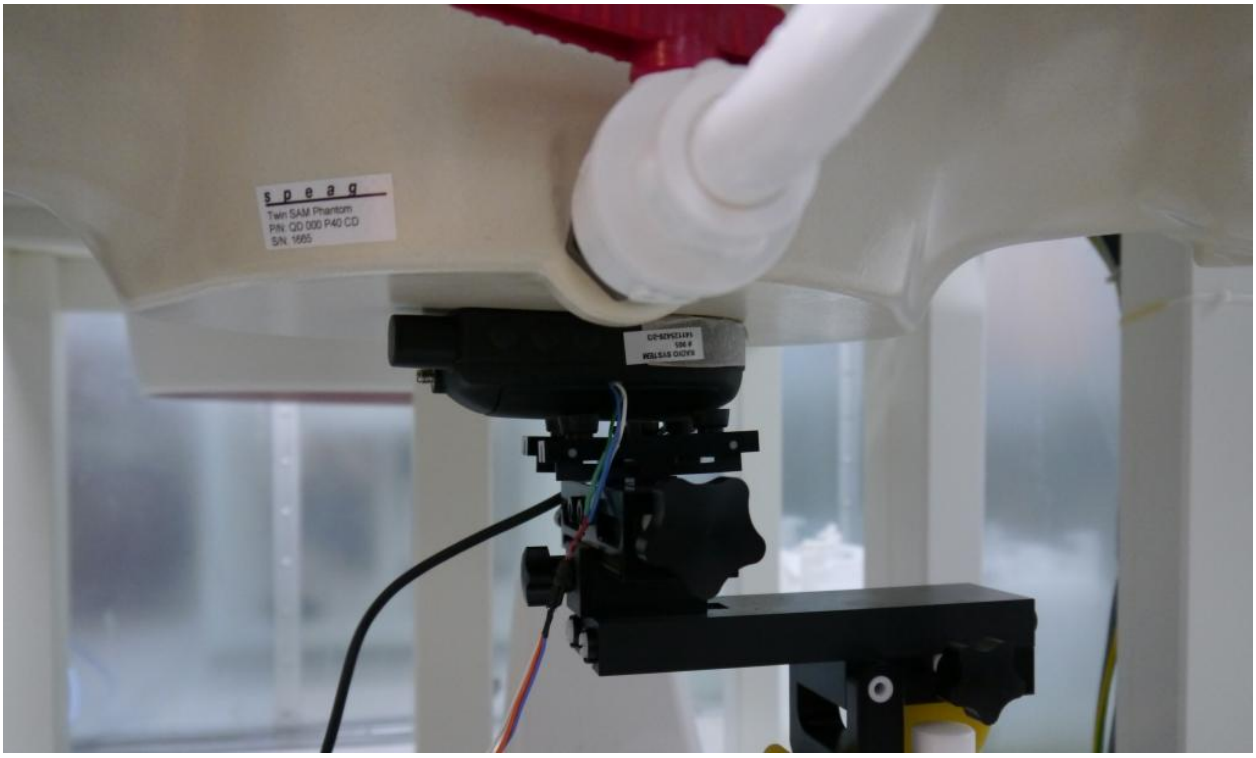
Configuration/2450MHz BSL System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.52 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 11.2 W/kg
SAR(1 g) = 5.24 W/kg; SAR(10 g) = 2.44 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 7.15 W/kg

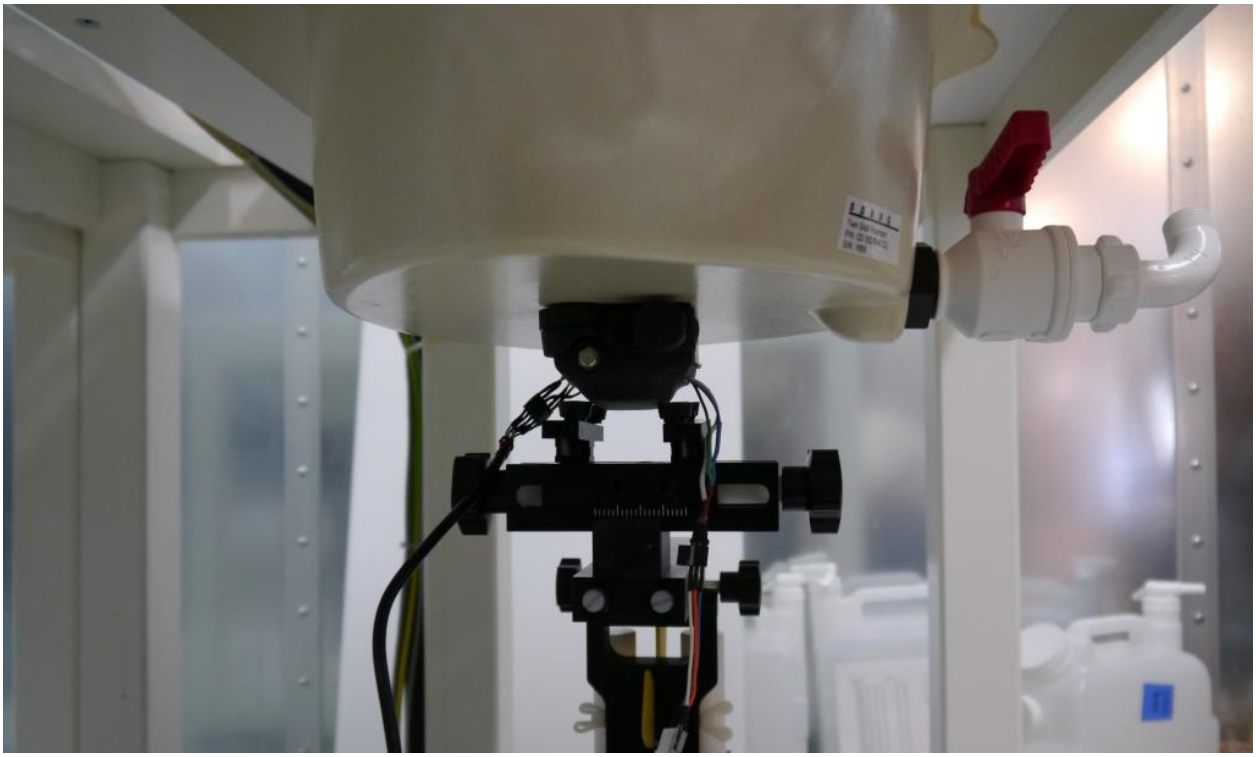



Interpolated Max SAR Z Line(z)
2450MHz BSL System Validation;Zoom Scan;SAR;cube 0
Markers
W/kg
11
10
9
8
7
6
5
4
3
2
1
0
0.000
0.005
0.010
0.015
0.020
0.025
0.030
m

13 Setup Photographs

Position 1

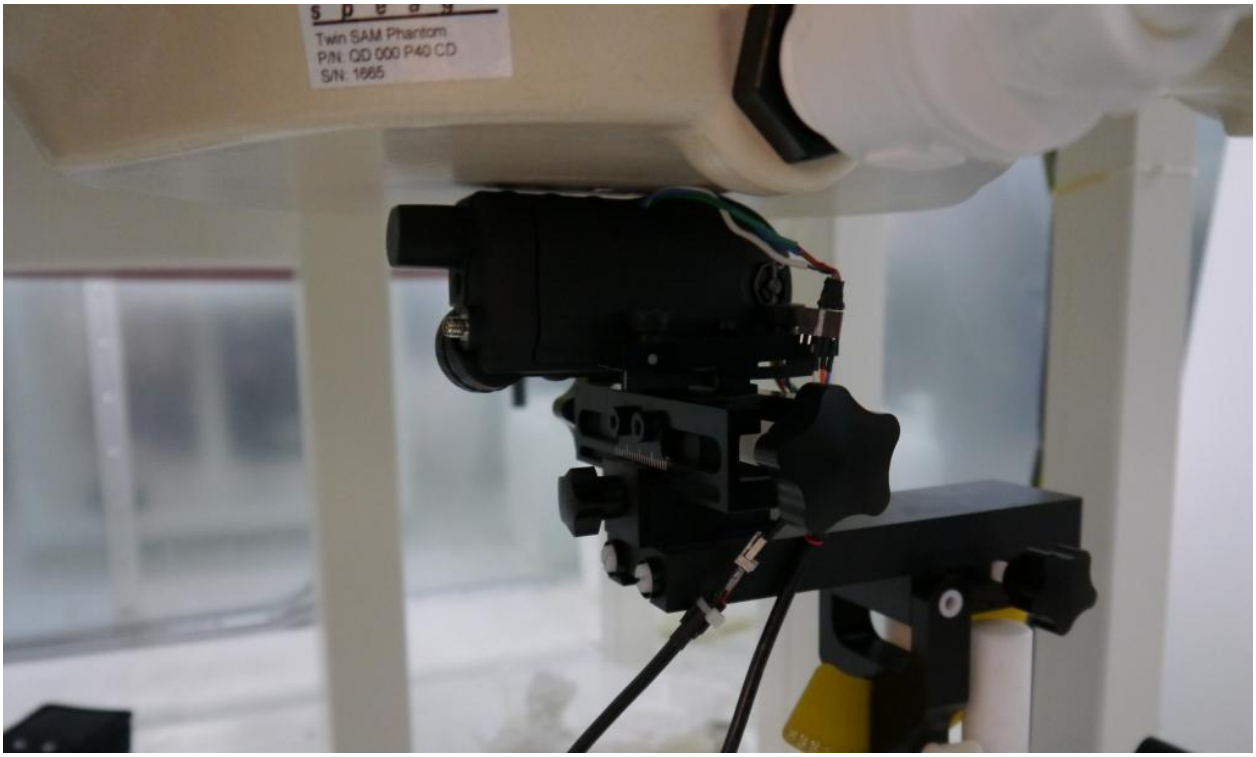




Note: The cables shown are required to place the device in test mode. If removed, the transmission will stop.

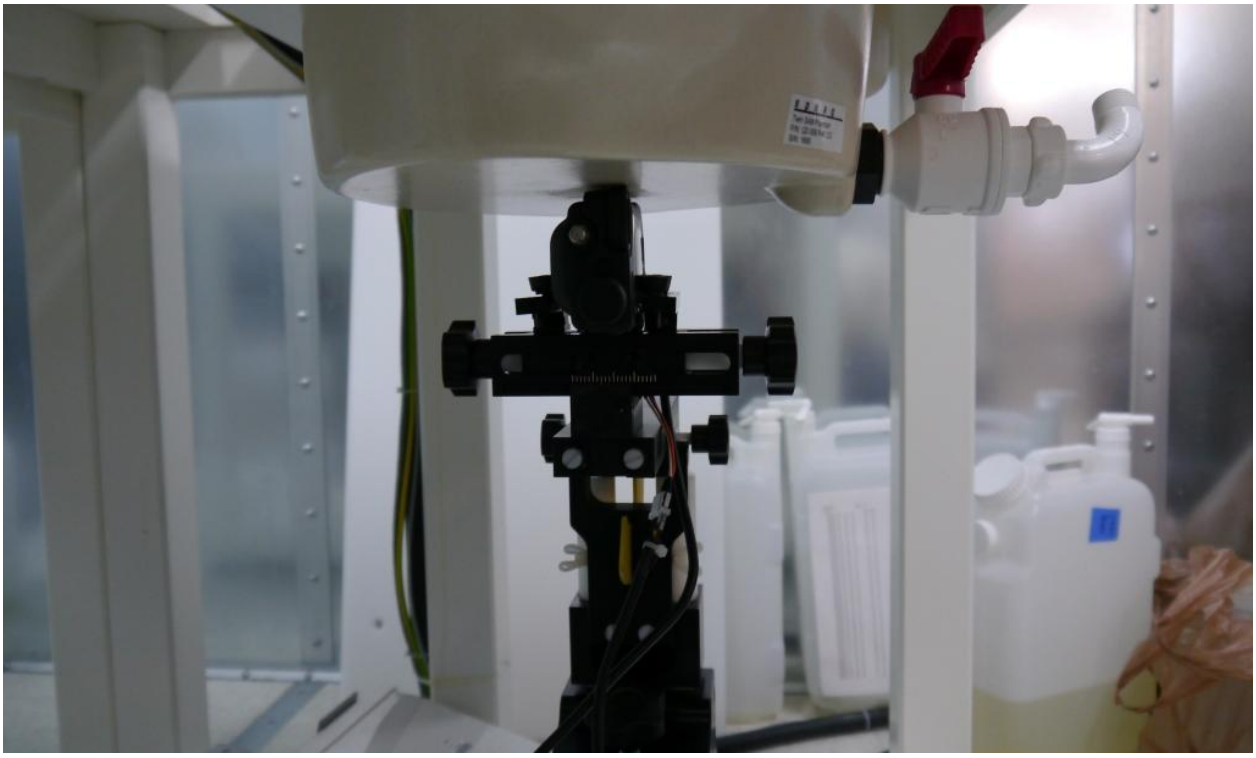
Position 2

Position 3

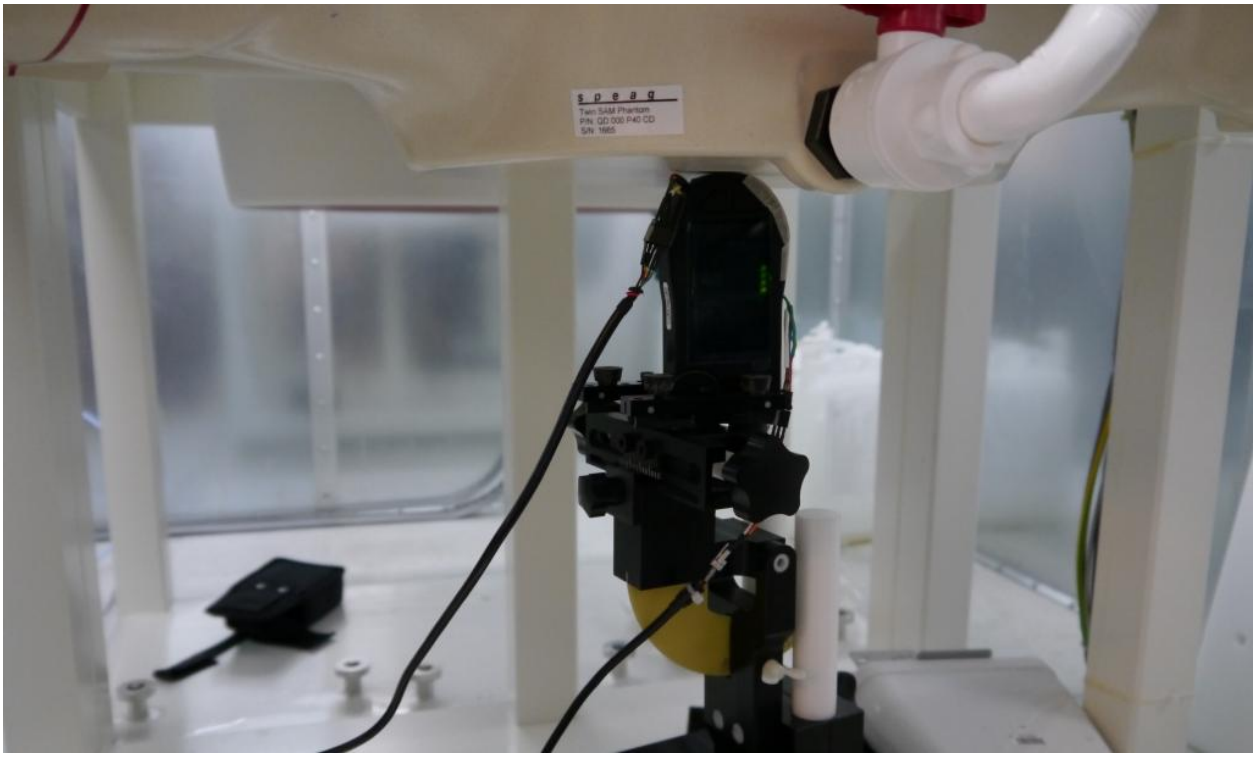


Note: The cables shown are required to place the device in test mode. If removed, the transmission will stop.

Position 4



Position 5



Note: The cables shown are required to place the device in test mode. If removed, the transmission will stop.

14 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	25 Feb 2015
1	Added estimated SAR for ISM radio	4 May 2015
2	Clarified simultaneous operation statement in Section 1.3	18 May 2015