SAR Compliance Test Report

Date of Report	17/05/2016	**Client's Contact person:**	Jyrki Okkonen
Number of pages:	42	**Responsible Test engineer:**	Ilpo Joensuu
Testing laboratory:	Verkotan Oy Elektroniikkatie 17 90590 Oulu Finland	**Client:**	Haltian Products Oy Yrttipellontie 1 D 90230, Oulu Finland

Tested device **SNOWFOX 3G US (S13U), FCC ID XPYSARAU260, IC ID 8595A-SARAU260**

Related reports: -

Testing has been carried out in accordance with:

47CFR §2.1093
Radiofrequency Radiation Exposure Evaluation: Portable Devices
FCC published RF exposure KDB procedures
RSS-102, Issue 5
Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields
IEEE 1528 - 2013
IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique

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Test Results: **The EUT complies with the requirements in respect of all parameters subject to the test.**
The test results relate only to devices specified in this document

Date and signatures: 17.05.2016

For the contents:

Miia Nurkkala
Digitally signed by Miia Nurkkala
Date: 2016.05.17 13:12:07 +03'00'

Laboratory Manager

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Equipment under Test (EUT):

Product:	SNOWFOX 3G US
Manufacturer:	Haltian Products
Type:	S13U
Serial Number:	353162073126386, 353162073129315
FCC ID Number:	XPYSARAU260
IC ID Number:	8595A-SARAU260
Hardware Version:	0402
DUT Number:	23146, 23147
Battery Type used in testing:	Internal
Portable/ Mobile device	Portable
State of the Sample	Prototype

Testing information:

Testing performed:	7-12.4.2016
Notes:	Sample 353162073129315 was used for WCDMA testing. Sample 353162073126386 was used for GSM testing.
Document name:	SAR_Report_Snowfox_S13U_17052016.Docx
Temperature ºC	22±2 / Controlled
Humidity RH%	20% / Controlled
Measurement performed by:	Ilpo Joensuu/ Kirsi Kyllönen

1.2 Maximum Results

The maximum reported* SAR values for In Front of Face and Body-worn configurations are reported in sections 1.2.1 and 1.2.2. The device conforms to the requirements of the standards when the maximum reported SAR value is less than or equal to the limit.

1.2.1 In Front of Face Configuration, 10 mm separation distance

Mode	Reported* SAR (1g average)	SAR limit (1g average)	Result
GSM 850	**0.60**	1.6 W/kg	PASS
GSM 1900	**0.75**	1.6 W/kg	PASS
WCDMA V	**0.76**	1.6 W/kg	PASS
WCDMA II	**1.24**	1.6 W/kg	PASS

* Reported SAR values are scaled to upper limit of module output power.

1.2.2 Body-Worn Configuration, 5mm separation distance

Call Mode

Mode	Reported* SAR Value (1g average)	SAR limit (1g average)	Result
GSM 850	**1.55**	1.6 W/kg	PASS
GSM 1900	**0.85**	1.6 W/kg	PASS
WCDMA V	**1.59**	1.6 W/kg	PASS
WCDMA II	**1.42**	1.6 W/kg	PASS

* Reported SAR Values are scaled to upper limit of module output power.

Tracking Mode

Mode	Reported* SAR Value (1g average)	SAR limit (1g average)	Result
GSM 850	**1.24**	1.6 W/kg	PASS
GSM 1900	**0.69**	1.6 W/kg	PASS
WCDMA V	**0.53**	1.6 W/kg	PASS
WCDMA II	**0.47**	1.6 W/kg	PASS

* Reported SAR Values are scaled to upper limit of module output power.

1.2.3 Maximum Drift

Maximum Drift During Measurements	≤ 0.21 dB

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95 %	± 21.9 %

1.2.5 Summary SAR data

Description	FCC-defined SAR Values for Equipment Authorization
	PCE
Maximum In Front of Face Configuration, 10mm separation, SAR Value	1.24
Maximum Body-worn Configuration, 5 mm separation SAR Value	1.59

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device Category	Portable
Exposure Environment	Uncontrolled

Tested device is a GPS tracking device supporting also voice call in front of face position (device has IHF speaker only). The speaker and microphone are located in front face of the device. The used test positions were agreed with FCC beforehand via FCC KDB inquiry and are explaned further in section 5.2.

In Tracking Mode device's cellular module is only powered up for 1/3 of time.

2.1 Supported Frequency Bands and Operational Modes

Bands	Modes of Operation	Modulation Mode	Duty Cycle	Channel Bandwidth	Transmitter Frequency Range (MHz)
850	GSM/GPRS	GMSK	1/8 to 4/8	200 kHz	824.2- 848.8
1900	GSM/GPRS	GMSK	1/8 to 4/8	200 kHz	1850.2 – 1909.8
V	WCDMA/ HSUPA	QPSK	1	5 MHz	826.4 -846.6
II	WCDMA/ HSUPA	QPSK	1	5 MHz	1852.4 – 1907.6

Common features	
Number of SIM Cards:	1
Output Power and Batteries	The device output power was set to maximum power level for all tests. A fully charged battery was used for every test sequence.

GSM/GPRS/EGPRS	**KDB 941225 D03 SAR Test Reduction Procedures for GSM/GPRS/EDGE**
Device Class	B
DTM class	DTM Not supported.
GSM Multi Slot Class	12
EGPRS	Not supported in uplink
Number of Slots Used in Testing	The number of Tx slots in GPRS tests was 3 at 850 MHz band and 4 at 1900 MHz band. Selection was based on SAR test result comparison with all available uplink slot configurations. Test results are presented in section 7.3.

WCDMA	**KDB 941225 D01 SAR Measurement Procedures for 3G Devices**
WCDMA	Rel 6
HSUPA	SAR tests for HSUPA mode have not been performed as no HSUPA Sub-test mode has an average power > 0.25 dB above the basic WCDMA 12.2 kbps RMC mode.
HSDPA	SAR tests for HSDPA mode have not been performed as no HSDPA Sub-test mode has an average power > 0.25 dB above the basic WCDMA 12.2 kbps RMC mode.

3. CONDUCTED POWERS

3.1 GSM/GPRS/EGPRS

Measured conducted power:

Slot Configuration	GSM850 CH 128 824.2 MHz	GSM 850 CH 190 836.6 MHz	GSM 850 CH 251 848.8MHz	GSM 1900 CH 512 1850.2 MHz	GSM 1900 CH 661 1880.0 MHz	GSM 1900 CH 810 1909.8 MHz
GSM/GPRS 1-slot	32.50	32.26	32.21	28.79	28.52	28.51
GPRS 2-slot	32.50	32.20	32.15	28.76	28.49	28.49
GPRS 3-slot	31.60	31.34	31.26	27.87	27.60	27.61
GPRS 4-slot	30.37	30.11	30.05	26.69	26.44	26.44

Time averaged power:

Slot Configuration	GSM850 CH 128 824.2 MHz	GSM 850 CH 190 836.6 MHz	GSM 850 CH 251 848.8MHz	GSM 1900 CH 512 1850.2 MHz	GSM 1900 CH 661 1880.0 MHz	GSM 1900 CH 810 1909.8 MHz
GSM/GPRS 1-slot	23.50	23.26	23.21	19.79	19.52	19.51
GPRS 2-slot	26.50	26.20	26.15	22.76	22.49	22.49
GPRS 3-slot	27.34	27.08	27.00	23.61	23.34	23.35
GPRS 4-slot	27.37	27.11	27.05	23.69	23.44	23.44

Upper limit of the module output power reported by the manufacturer:

Slot Configuration	GSM850 CH 128 824.2 MHz	GSM 850 CH 190 836.6 MHz	GSM 850 CH 251 848.8MHz	GSM 1900 CH 512 1850.2 MHz	GSM 1900 CH 661 1880.0 MHz	GSM 1900 CH 810 1909.8 MHz	MSPR
GSM/GPRS 1-slot	32.5	32.5	32.5	29.5	29.5	29.5	0
GPRS 2-slot	32.5	32.5	32.5	29.5	29.5	29.5	0
GPRS 3-slot	31.7	31.7	31.7	28.7	28.7	28.7	0.8
GPRS 4-slot	30.5	30.5	30.5	27.5	27.5	27.5	2

3.2 WCDMA

Conducted power measurements for WCDMA modes have been carried out in accordance with 3GPP TS34.1083 and GPP TS 34.121-1.

Mode	WCDMA 850 Band 5			WCDMA 1900 Band 2		
	CH 4132 826.4 MHz	CH 4175 835.0 MHz	CH 4233 846.6 MHz	CH 9260 1852.4 MHz	CH 9400 1880.0 MHz	CH 9538 1907.6 MHz
Maximum Power*	23	23	23	22	22	22
RMC 12.2 kbps	22.71	22.56	22.70	21.20	21.74	22.00
HSDPA Subset-1	22.42	22.24	22.39	20.96	21.48	21.76
HSDPA Subset-2	22.19	22.04	22.22	20.75	21.32	21.62
HSDPA Subset-3	21.93	21.81	21.92	20.52	21.05	21.47
HSDPA Subset-4	21.92	21.82	21.94	20.57	21.10	21.51
HSUPA Subset-1	22.20	22.06	22.18	20.77	21.36	21.68
HSUPA Subset-2	22.45	22.28	22.40	21.00	21.55	21.84
HSUPA Subset-3	21.91	21.79	21.89	20.51	21.05	21.41
HSUPA Subset-4	22.73	22.54	22.68	21.23	21.81	22.13
HSUPA Subset-5	21.89	21.79	21.88	20.49	21.04	21.33

* Upper limit of the module output power reported by the manufacturer.

4. TEST EQUIPMENT

Dasy4 near field scanning system, manufactured by SPEAG was used for SAR testing. The test system consists of high precision robotics system (Staubli), robot controller, computer, near-field probe, probe alignment sensor, and a phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location of maximum electromagnetic field.

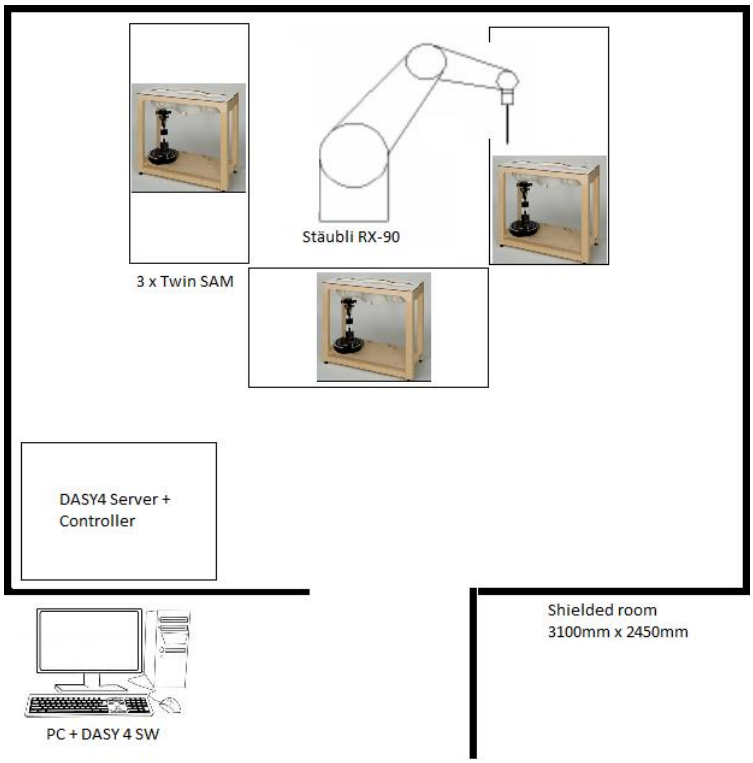


Figure 1 Schematic Laboratory Picture

4.1 Test Equipment List

Main used test system components are listed below. For full equipment list and calibration intervals, please contact the testing laboratory.

Test Equipment	Model	Serial Number	Calibration Date	Calibration Expiry
DAE	DAE3	371	01/2016	01/2017
DAE	DAE3	582	7/2015	07/2016
Probe	EX3DV4	3570	01/2016	01/2017
Dipole	D835V2	448	01/2016	01/2019
Dipole	D1900V2	511	01/2016	01/2019
DASY Software	v4.7	na	na	na
Signal Generator	SMIQ06B	834968/023	na	na
Amplifier	Broadband	27573	na	na
Power Reflection Meter	R&S NRT	835065/049	12/2015	12/2016
Power Sensor	NRT Z-44	835374/021	01/2016	01/2017
Radio Communication	Anritsu MT8820C	6200883099	11/2015	11/2016
Radio Communication	CMU200	112977	11/2015	11/2016

4.1.1 Isotropic E-field Probe Type EX3DV4

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix D
Frequency	10 MHz to >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g, Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 10 mm Body diameter: 12 mm Tip diameter: 2.5 mm Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 6 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.2 Phantoms

The phantom used in SAR tests was the flat phantom section of the twin-headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 and FCC published RF Exposure KDB Procedures.

4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 and FCC published RF Exposure KDB Procedures. The dielectric parameters of the used tissue simulants were within ±5% of the recommended values. SAR testing was carried out within 24 hours of measuring the dielectric parameters. Depth of the tissue simulant was at least 15.0 cm from the inner surface of the flat phantom.

4.3.1 Recipes

Ingredient	Head (% by weight)		Body (% by weight)	
	900 MHz	1900 MHz	900 MHz	1900 MHz
Deionised Water	51.5	54.5	69.25	70.25
Tween 20	47.35	45.25	30.0	29.41
Salt	1.15	0.25	0.75	0.34

4.4 System Validation Status

Frequency [MHz]	Dipole Type / SN	Probe Type / SN	Calibrated Signal Type	DAE Unit / SN	Validation Done	
					Head tissue simulant	Body tissue simulant
835	D835V2 / 448	EX3DV4 / 3570	CW	DAE3 / 371	02/2016	02/2016
1900	D1900V2 / 511	EX3DV4 / 3570	CW	DAE3 / 371	02/2016	02/2016
835	D835V2 / 448	EX3DV4 / 3570	CW	DAE3 / 582	na	04/2016

1900	D1900V2 / 511	EX3DV4 / 3570	CW	DAE3 / 582	04/2016	04/2016

4.5 System Check

Date	Tissue Type	Tissue Temp. [°C]	Frequency [MHz]	Input Power	Measured SAR_{1g} [W/kg]	1 W Target SAR_{1g} [W/kg]	1 W Normalized SAR_{1g} [W/kg]	$Deviation_{1g}$ (%)	Plot #
07.04.2016	**H900**	21.6	835	250mW	2.47	9.27	9.88	6.58	1
07.04.2016	**B900**	22.0	835	250mW	2.47	9.55	9.88	3.46	2
12.04.2016	**B900**	21.9	835	250mW	2.50	9.55	10.0	4.71	3
07.04.2016	**H1900**	22.2	1900	250mW	9.85	38.9	39.4	1.29	4
11.04.2016	**H1900**	22.3	1900	250mW	9.87	38.9	39.48	1.49	5
11.04.2016	**B1900**	22.4	1900	250mW	9.54	40.3	38.16	-5.31	6
12.04.2016	**B1900**	21.6	1900	250mW	10.2	40.3	40.8	1.24	7

4.5.1 Tissue Simulant Verification

				Target		Measured			
Date	**Tissue Type**	**Tissue Temp. [°C]**	**Frequency [MHz]**	**Conductivity,σ [S/m]**	**Dielectric Constant [ε]**	**Conductivity,σ [S/m]**	**Dielectric Constant [ε]**	**Deviation σ (%)**	**Deviation ε (%)**
07.04.2016	**H900**	**22**	824.2	0.90	41.55	0.92	40.72	1.92	-2.00
		22	826.4	0.90	41.54	0.92	40.70	2.06	-2.02
		22	835.0	0.90	41.50	0.92	40.63	2.55	-2.10
		22	836.6	0.90	41.50	0.92	40.61	2.48	-2.14
		22	846.6	0.91	41.50	0.93	40.52	2.00	-2.36
		22	848.8	0.91	41.50	0.93	40.50	1.93	-2.40
07.04.2016	**B900**	**22**	824.2	0.97	55.24	0.99	54.32	1.79	-1.66
		22	826.4	0.97	55.23	0.99	54.30	1.95	-1.68
		22	835.0	0.97	55.20	0.99	54.25	2.38	-1.71
		22	836.6	0.97	55.20	0.99	54.25	2.29	-1.73
		22	846.6	0.98	55.16	1.00	54.20	1.54	-1.80
		22	848.8	0.99	55.16	1.00	54.20	1.43	-1.82
12.04.2016	**B900**	**22**	824.2	0.97	55.24	1.01	54.42	4.3	-1.5
		22	826.4	0.97	55.23	1.01	54.40	4.3	-1.5
		22	835.0	0.97	55.20	1.02	54.37	4.9	-1.5
		22	836.6	0.97	55.20	1.02	54.37	4.8	-1.5
		22	846.6	0.98	55.16	1.02	54.32	4.1	-1.6
		22	848.8	0.99	55.16	1.03	54.31	3.9	-1.6
07.04.2016	**H1900**	**22**	1850.2	1.40	40.00	1.35	38.51	-3.7	-3.7
		22	1852.4	1.40	40.00	1.35	38.50	-3.6	-3.7
		22	1880.0	1.40	40.00	1.38	38.38	-1.6	-4.1
		22	1900	1.40	40.00	1.4	38.29	-0.2	-4.3
		22	1907.6	1.40	40.00	1.41	38.25	0.4	-4.4
		22	1909.8	1.40	40.00	1.41	38.25	0.5	-4.4
11.04.2016	**H1900**	**22**	1850.2	1.40	40.00	1.35	39.6	-3.9	-1.0
		22	1852.4	1.40	40.00	1.35	39.6	-3.8	-1.0
		22	1880.0	1.40	40.00	1.38	39.3	-1.8	-1.8
		22	1900	1.40	40.00	1.40	39.15	0.3	-2.1

		22	1907.6	1.40	40.00	1.41	39.1	1.0	-2.1
		22	1909.8	1.40	40.00	1.42	39.1	1.2	-2.1
11.04.2016	**B1900**	**22**	1850.2	1.52	53.3	1.51	51.74	-0.7	-2.9
		22	1852.4	1.52	53.3	1.51	51.73	-0.5	-2.9
		22	1880.0	1.52	53.3	1.54	51.61	1.0	-3.2
		22	1900	1.52	53.3	1.55	51.51	2.1	-3.4
		22	1907.6	1.52	53.3	1.56	51.48	2.6	-3.4
		22	1909.8	1.52	53.3	1.56	51.48	2.7	-3.4
12.04.2016	**B1900**	**22**	1850.2	1.52	53.3	1.52	51.63	-0.1	-3.1
		22	1852.4	1.52	53.3	1.52	51.63	-0.1	-3.1
		22	1880.0	1.52	53.3	1.54	51.53	1.6	-3.3
		22	1900	1.52	53.3	1.56	51.46	2.7	-3.5
		22	1907.6	1.52	53.3	1.56	51.50	3.1	-3.5
		22	1909.8	1.52	53.3	1.57	51.41	3.3	-3.5

5. TEST PROCEDURE

In all operating bands the measurements were performed on lowest, middle and highest channels. The device output power was set to maximum power level for all tests; For WCDMA UE uplink signal was configured to 12.2kbps RMC with all TPC bit set to 1. Pmax 5 was used for GSM850 and 0 for GSM1900. A fully charged battery was used for every test sequence.

5.1 Device Holder

The device was placed in the device holder that is supplied by SPEAG as an integral part of the DASY system.

A custom made spacer on the right, was used to position the device within the SPEAG holder. The spacer positions the device so that the holder has minimal effect on the test results but still holds the device securely. The spacer was removed before the tests.

5.2 Test Positions

The below described test positions were agreed with FCC beforehand via FCC KDB inquiry.

See Appendix A for photos of the test positions.

5.2.1 In Front of Face 10 mm Configuration / Call Mode

The device was placed in the SPEAG holder using the spacer and placed below the flat phantom. The distance between the device and the phantom was 10 mm. The device was oriented so that the front side of it, containing a speaker and microphone, is facing the flat phantom.

5.2.2 Body-Worn 5 mm Configuration / Call Mode

The device was placed in the SPEAG holder using the spacer and placed below the flat phantom. The distance between the device and the phantom was 5 mm. The device was oriented so that the back side of it is facing the flat phantom.

5.2.3 Body-Worn 5 mm Configuration / Tracking Mode

The device was placed in the SPEAG holder using the spacer and placed below the flat phantom. The distance between the device and the phantom was 5 mm. The device was measured both back and front side of it facing the flat phantom.

5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Power drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

5.4 SAR Averaging Methods

The maximum SAR value is averaged over a cube of tissue using interpolation and extrapolation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor o_set. Several measurements at dierent distances are necessary for the extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy47 are all based on the modified Quadratic Shepard's method (Robert J. Renka,"Multivariate Interpolation of Large Sets of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

6. MEASUREMENT UNCERTAINTY

Uncertainty Budget
According to IEEE 1528

Error Description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±5.9 %	N	1	1	1	±5.9 %	±5.9 %	∞
Axial Isotropy	±4.7 %	R	$\sqrt{3}$	0.7	0.7	±1.9 %	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	R	$\sqrt{3}$	0.7	0.7	±3.9 %	±3.9 %	∞
Boundary Effects	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Linearity	±4.7 %	R	$\sqrt{3}$	1	1	±2.7 %	±2.7 %	∞
System Detection Limits	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Readout Electronics	±0.3 %	N	1	1	1	±0.3 %	±0.3 %	∞
Response Time	±0.8 %	R	$\sqrt{3}$	1	1	±0.5 %	±0.5 %	∞
Integration Time	±2.6 %	R	$\sqrt{3}$	1	1	±1.5 %	±1.5 %	∞
RF Ambient Noise	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
RF Ambient Reflections	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Probe Positioner	±0.4 %	R	$\sqrt{3}$	1	1	±0.2 %	±0.2 %	∞
Probe Positioning	±2.9 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Max. SAR Eval.	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Phantom and Setup								
Phantom Uncertainty	±4.0 %	R	$\sqrt{3}$	1	1	±2.3 %	±2.3 %	∞
Liquid Conductivity (target)	±5.0 %	R	$\sqrt{3}$	0.64	0.43	±1.8 %	±1.2 %	∞
Liquid Conductivity (meas.)	±2.5 %	N	1	0.64	0.43	±1.6 %	±1.1 %	∞
Liquid Permittivity (target)	±5.0 %	R	$\sqrt{3}$	0.6	0.49	±1.7 %	±1.4 %	∞
Liquid Permittivity (meas.)	±2.5 %	N	1	0.6	0.49	±1.5 %	±1.2 %	∞
Combined Std. Uncertainty						±10.9 %	±10.7 %	387
Expanded STD Uncertainty						**±21.9 %**	**±21.4 %**	

7. TEST RESULTS

7.1 GSM Front of Face 10 mm Configuration / Call Mode

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
GSM 850	128	32.5	32.50	-0.04	front	1:8.3	0.35	1.00	0.35	
	190	32.5	32.26	-0.03	front	1:8.3	0.43	1.06	0.45	
	251	32.5	32.21	-0.01	front	1:8.3	0.56	1.07	**0.60**	8
GSM 1900	512	29.5	28.79	0.02	front	1:8.3	0.63	1.18	0.74	9
	661	29.5	28.52	0.04	front	1:8.3	0.60	1.25	**0.75**	
	810	29.5	28.51	0.02	front	1:8.3	0.60	1.26	0.75	

7.2 GSM Body-Worn 5 mm Configuration / Call Mode

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
GSM 850	128	32.5	32.50	-0.17	back	1:8.3	1.17	1.00	1.17	
	190	32.5	32.26	-0.04	back	1:8.3	1.39	1.06	1.47	
	251	32.5	32.21	0.12	back	1:8.3	1.45	1.07	**1.55**	10
GSM 1900	512	29.5	28.79	-0.17	back	1:8.3	0.70	1.18	0.82	11
	661	29.5	28.52	0.04	back	1:8.3	0.68	1.25	**0.85**	
	810	29.5	28.51	-0.06	back	1:8.3	0.66	1.26	0.83	

Repeated Measurements for the highest measured SAR results

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
GSM 850	251	32.5	32.21	-0.01	back	1:8.3	1.34	1.07	1.43	
				-0.05			1.35	1.07	1.44	

7.3 GSM Body-Worn 5 mm Configuration / Tracking Mode

SAR comparison with all available uplink slot configurations below.The number of slots with highest SAR was fully tested.

Band	Channel	TX Slot configuration	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]
GPRS 850	190	1	-0.03	back	1:8.7	1.28
	190	2	-0.02	back	1:4.2	2.56
	190	3	0.02	back	1:2.9	**3.09**
	190	4	0.00	back	1:2.2	3.02
GPRS 1900	661	1	-0.06	back	1:8.7	0.613
	661	2	0.03	back	1:4.2	1.23
	661	3	-0.07	back	1:2.9	1.51
	661	4	-0.17	back	1:2.2	**1.63**

Band	Channel	TX Slot configuration	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	GPRS Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Scaled SAR 1g [mW/g]	Tracking Mode* Duty Cycle	Reported SAR 1g [mW/g]	Plot #
GPRS 850	128	3	31.7	31.60	0.06	back	1:2.9	2.43	1.02	2.49	1:3	0.83	
	190	3	31.7	31.34	0.02	back	1:2.9	3.09	1.09	3.36	1:3	1.12	
	251	3	31.7	31.26	-0.13	back	1:2.9	3.35	1.11	3.72	1:3	**1.24**	**12**
GPRS 1900	512	4	27.5	26.69	-0.08	back	1:2.2	1.72	1.21	2.08	1:3	0.69	**13**
	661	4	27.5	26.44	-0.17	back	1:2.2	1.63	1.28	2.09	1:3	**0.70**	
	810	4	27.5	26.44	-0.15	back	1:2.2	1.44	1.28	1.84	1:3	0.61	

*In Tracking Mode the DUT is transmitting 1/3 of the time at maximum.

Repeated measurements for the highest measured SAR results.

Band	Channel	TX Slot configuration	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	GPRS Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Scaled SAR 1g [mW/g]	Tracking Mode* Duty Cycle	Repoted SAR 1g [mW/g]	Plot #
GPRS 850	251	3	31.7	31.26	-0.04	back	1:2.9	3.18	1.11	3.57	1:3	1.19	
			31.7	31.26	-0.02		1:2.9	3.22	1.11	3.57	1:3	1.19	
GPRS 1900	512	4	27.5	26.69	-0.05	back	1:2.2	1.73	1.21	2.09	1:3	0.70	
			27.5	26.69	-0.05		1:2.2	1.71	1.21	2.07	1:3	0.69	

*In Tracking Mode the DUT is transmitting 1/3 of the time at maximum.

7.4 WCDMA Front of Face 10 mm Configuration / Call Mode

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
WCDMA V	4132	23	22.71	0.00	front	1:1	0.323	1.07	0.35	
	4175	23	22.56	0.11	front	1:1	0.688	1.11	**0.76**	14
	4233	23	22.70	0.19	front	1:1	0.505	1.07	0.54	
WCDMA II	9262	22	21.20	-0.01	front	1:1	1.03	1.20	**1.24**	
	9400	22	21.74	-0.04	front	1:1	1.02	1.06	1.08	
	9538	22	22.00	-0.18	front	1:1	1.07	1.00	1.07	15

Repeated Measurements for the highest measured SAR results

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
WCDMA II	9538	22	22.00	-0.14	front	1:1	1.05	1.00	1.05	

7.5 WCDMA Body-Worn 5 mm Configuration / Call Mode

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
WCDMA V	4132	23	22.71	0.16	back	1:1	0.974	1.07	1.04	
	4175	23	22.56	0.06	back	1:1	1.44	1.107	**1.59**	16
	4233	23	22.70	0.19	back	1:1	1.2	1.07	1.29	
WCDMA II	9262	22	21.20	-0.20	back	1:1	1.18	1.20	**1.42**	
	9400	22	21.74	-0.20	back	1:1	1.13	1.06	1.20	
	9538	22	22.00	-0.20	back	1:1	1.21	1.00	1.21	17

Repeated Measurements for the highest measured SAR results

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Reported SAR 1g [mW/g]	Plot #
WCDMA V	4175	23	22.56	0.07	back	1:1	1.39	1.107	1.54	
WCDMA II	9538	22	22.00	-0.11	back	1:1	1.16	1.00	1.16	

7.6 WCDMA Body-Worn 5 mm Configuration / Tracking Mode

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Scaled SAR 1g [mW/g]	Tracking Mode* Duty Cycle	Reported SAR 1g [mW/g]	Plot #
WCDMA V	4132	23	22.71	0.16	back	1:1	0.974	1.07	1.04	1:3	0.35	
	4175	23	22.56	0.06	back	1:1	1.44	1.107	1.59	1:3	**0.53**	16
	4233	23	22.70	0.19	back	1:1	1.2	1.07	1.29	1:3	0.43	
WCDMA II	9262	22	21.20	-0.20	back	1:1	1.18	1.20	1.42	1:3	**0.47**	
	9400	22	21.74	-0.20	back	1:1	1.13	1.06	1.20	1:3	0.40	
	9538	22	22.00	-0.21	back	1:1	1.21	1.00	1.21	1:3	0.40	17

*In tracking mode the DUT is transmitting 1/3 of the time at maximum.

Repeated Measurements for the highest measured SAR results

Band	Channel	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Test Position	Dudy Cycle	Measured SAR 1g [mW/g]	Scaling Factor	Scaled SAR 1g [mW/g]	Tracking Mode* Duty Cycle	Reported SAR 1g [mW/g]	Plot #
WCDMA V	4175	23	22.56	0.07	back	1:1	1.39	1.107	1.54	1:3	0.51	
WCDMA II	9538	22	22.00	-0.11	back	1:1	1.16	1.00	1.16	1:3	0.39	

*In tracking mode the DUT is transmitting 1/3 of the time at maximum.

APPENDIX A: PHOTOS OF THE DUT

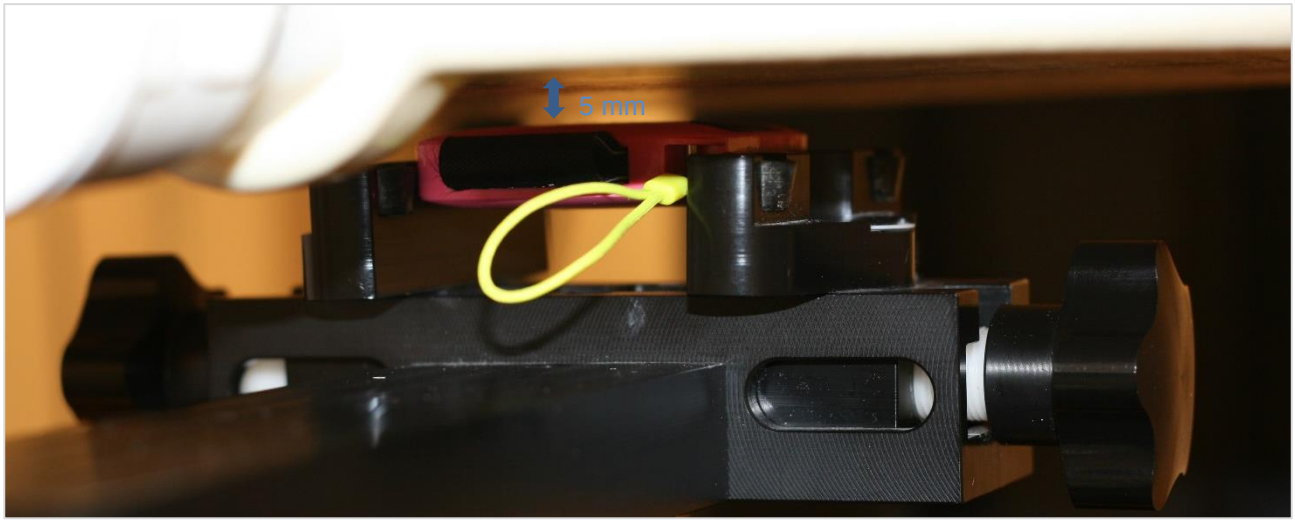
Dimension of the DUT are 50mm*50mm*13mm. Antenna of the DUT is a flex monopole

Front of the DUT:

Back of the DUT:

In Front of Face 10 mm Configuration / Call Mode:

Body-Worn 5 mm Configuration / Tracking Mode, Back:



APPENDIX B: SYSTEM CHECK SCANS

Plot 1 Date/Time: 07.04.2016 10:04:47

Test Laboratory: Verkotan Oy
File Name: 070416_SystemPerformanceCheck-D835.da4

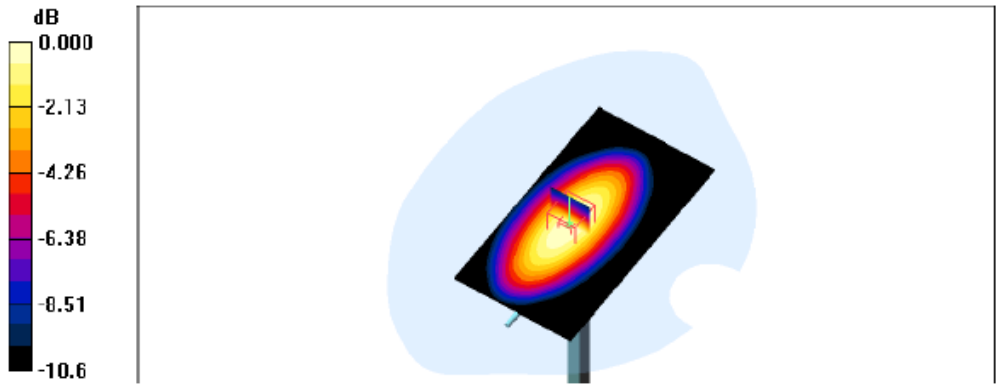
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:448
Program Name: System Performance Check at 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.923 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.08, 8.08, 8.08); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.69 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.9 V/m; Power Drift = -0.068 dB
Peak SAR (extrapolated) = 3.67 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.66 mW/g



0 dB = 2.66mW/g

Plot 2 Date/Time: 07.04.2016 15:32:03

Test Laboratory: Verkotan Oy
File Name: 070416_SystemPerformanceCheck-D835_body.da4

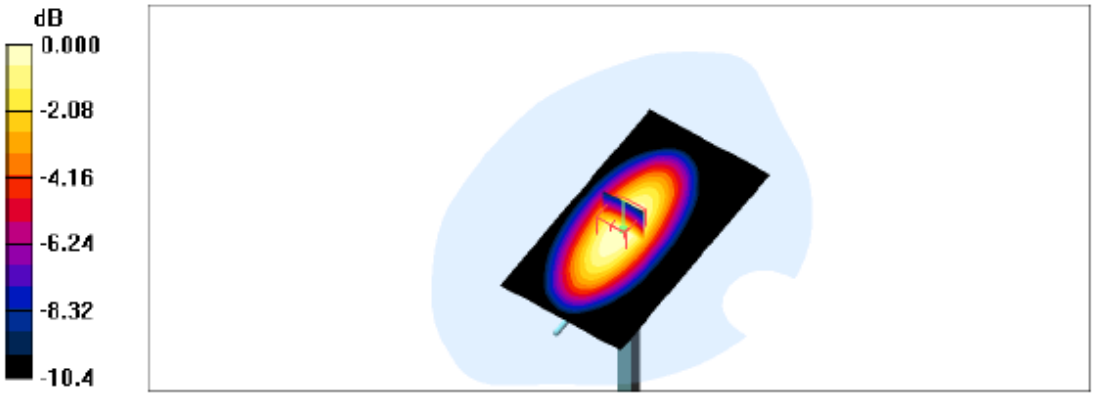
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:448
Program Name: System Performance Check at 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.994 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.17, 8.17, 8.17); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_2; Type: SAM Twin; Serial: TP-1142
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.76 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.9 V/m; Power Drift = -0.190 dB
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 2.67 mW/g



0 dB = 2.67mW/g

Plot 3 Date/Time: 12.04.2016 13:05:17

Test Laboratory: Verkotan Oy
File Name: 120416_SystemPerformanceCheck-D835_body.da4

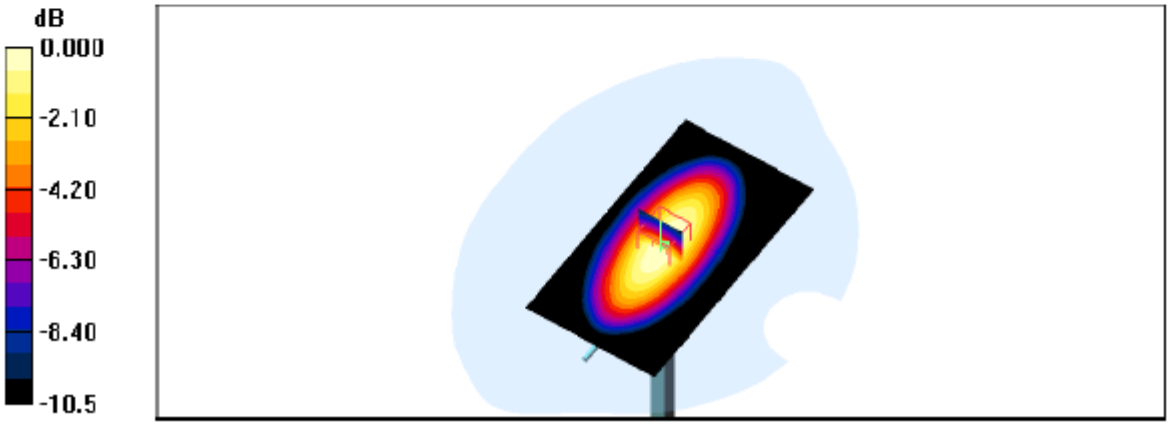
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:448
Program Name: System Performance Check at 835 MHz

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 1.02 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.17, 8.17, 8.17); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_2; Type: SAM Twin; Serial: TP-1142
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.73 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.5 V/m; Power Drift = -0.144 dB
Peak SAR (extrapolated) = 3.70 W/kg
SAR(1 g) = 2.5 mW/g; SAR(10 g) = 1.63 mW/g
Maximum value of SAR (measured) = 2.69 mW/g



0 dB = 2.69mW/g

Plot 4 Date/Time: 07.04.2016 22:40:44

Test Laboratory: Verkotan Oy
File Name: 070416_SystemPerformanceCheck-D1900.da4

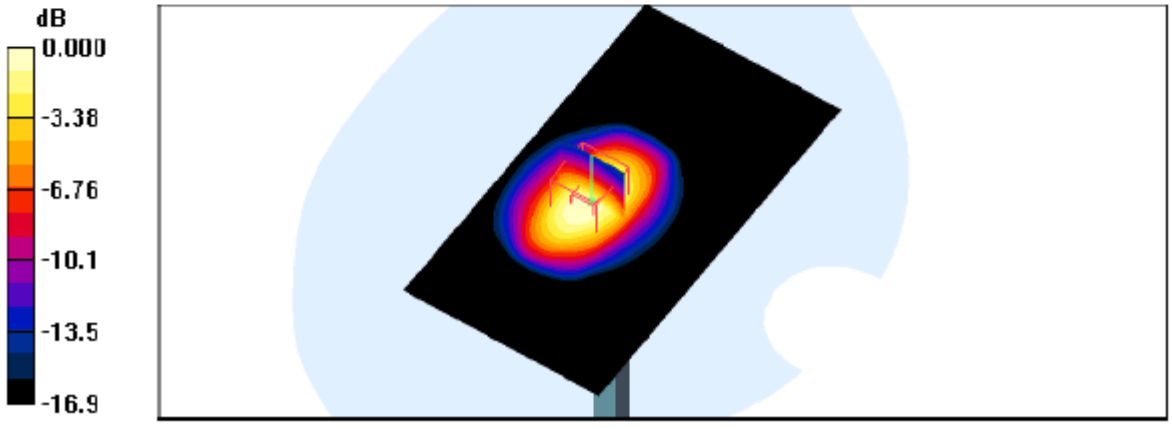
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:511
Program Name: System Performance Check at 1900 MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.99, 6.99, 6.99); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_1; Type: SAM Twin; Serial: TP-1128
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.2 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 81.1 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 9.85 mW/g; SAR(10 g) = 5.14 mW/g
Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0mW/g

Plot 5 Date/Time: 11.04.2016 10:50:07

Test Laboratory: Verkotan Oy
File Name: 110416_SystemPerformanceCheck-D1900.da4

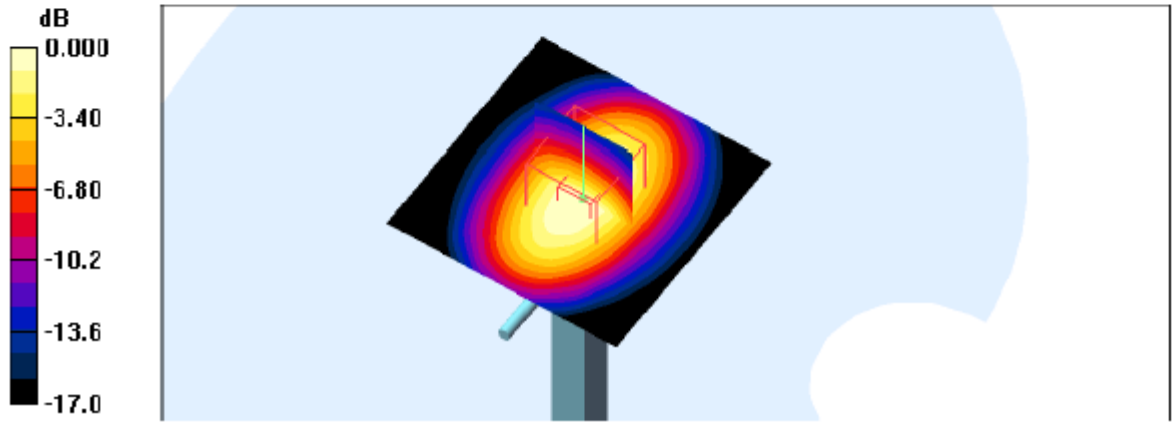
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:511
Program Name: System Performance Check at 1900 MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.99, 6.99, 6.99); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_1; Type: SAM Twin; Serial: TP-1128
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.5 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.8 V/m; Power Drift = -0.120 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 9.87 mW/g; SAR(10 g) = 5.16 mW/g
Maximum value of SAR (measured) = 11.1 mW/g



0 dB = 11.1mW/g

Plot 6 Date/Time: 11.04.2016 14:35:43

Test Laboratory: Verkotan Oy
File Name: 110416_SystemPerformanceCheck-D1900_body.da4

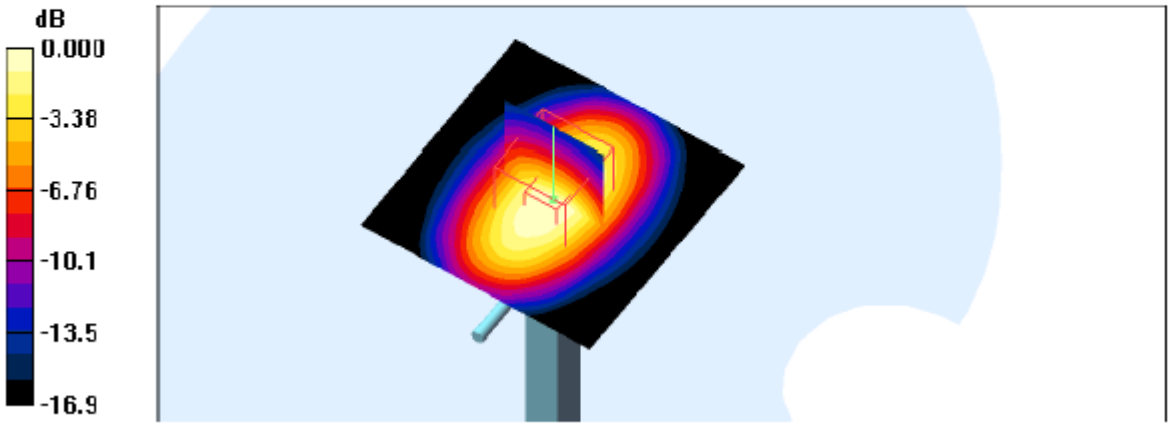
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:511
Program Name: System Performance Check at 1900 MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.77, 6.77, 6.77); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.1 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.5 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.54 mW/g; SAR(10 g) = 4.94 mW/g
Maximum value of SAR (measured) = 10.8 mW/g



0 dB = 10.8mW/g

Plot 7 Date/Time: 12.04.2016 16:42:29

Test Laboratory: Verkotan Oy
File Name: 120416_SystemPerformanceCheck-D1900_body.da4

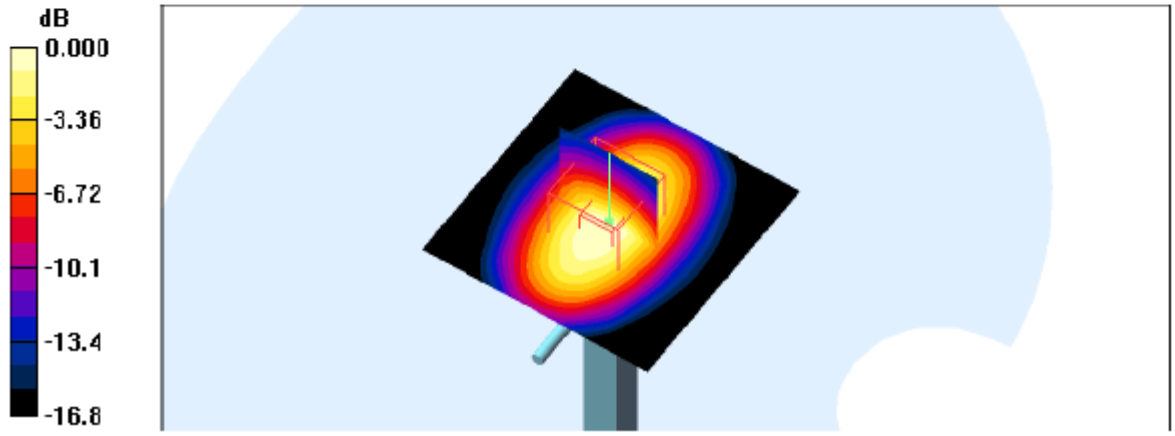
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:511
Program Name: System Performance Check at 1900 MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.77, 6.77, 6.77); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.8 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.9 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 18.8 W/kg
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.3 mW/g
Maximum value of SAR (measured) = 11.6 mW/g



0 dB = 11.6mW/g

APPENDIX C: MEASUREMENT SCANS

Plot 8 Date/Time: 07.04.2016 11:14:56

Test Laboratory: Verkotan Oy
File Name: 070416_GSM850_Call_Mode.da4

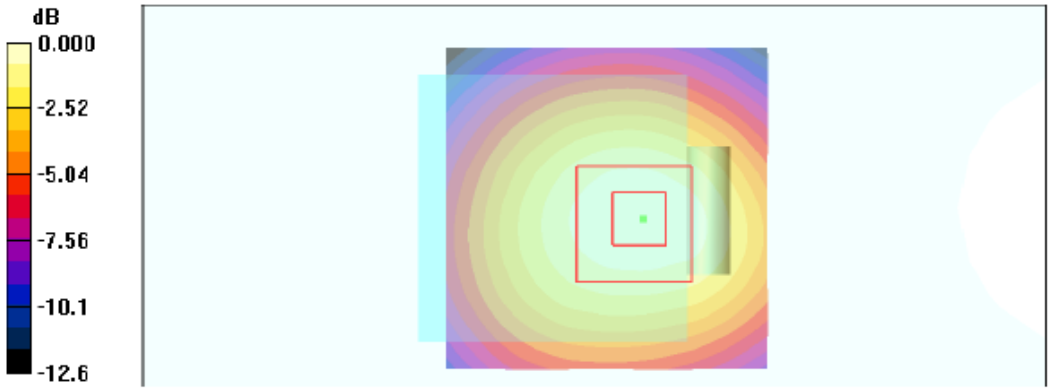
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073126386
Program Name: Head Configuration

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 848.8 MHz; σ = 0.933 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.08, 8.08, 8.08); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Call Mode 10mm High/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.599 mW/g

Call Mode 10mm High/Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 21.8 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.832 W/kg
SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.355 mW/g
Maximum value of SAR (measured) = 0.601 mW/g



0 dB = 0.601mW/g

Plot 9 Date/Time: 08.04.2016 00:42:45

Test Laboratory: Verkotan Oy
File Name: 070416_GSM1900_Call_Mode.da4

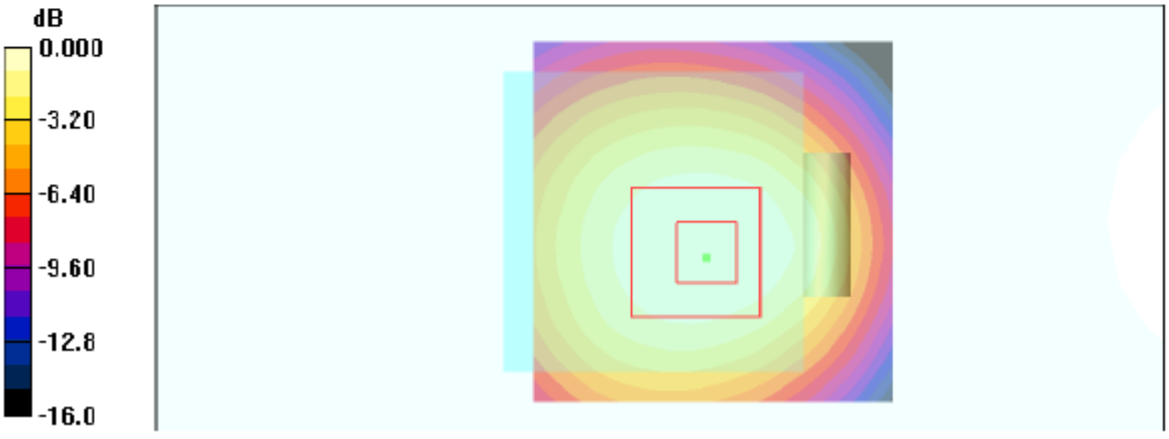
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073126386
Program Name: Head Configuration

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1850.2 MHz; σ = 1.35 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.99, 6.99, 6.99); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_1; Type: SAM Twin; Serial: TP-1128
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Call Mode 10mm Low/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.678 mW/g

Call Mode 10mm Low/Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 21.3 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.996 W/kg
SAR(1 g) = 0.633 mW/g; SAR(10 g) = 0.394 mW/g
Maximum value of SAR (measured) = 0.680 mW/g



0 dB = 0.680mW/g

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Plot 10 Date/Time: 08.04.2016 12:27:33

Test Laboratory: Verkotan Oy
File Name: 080416_GSM850_Tracking_Mode.da4

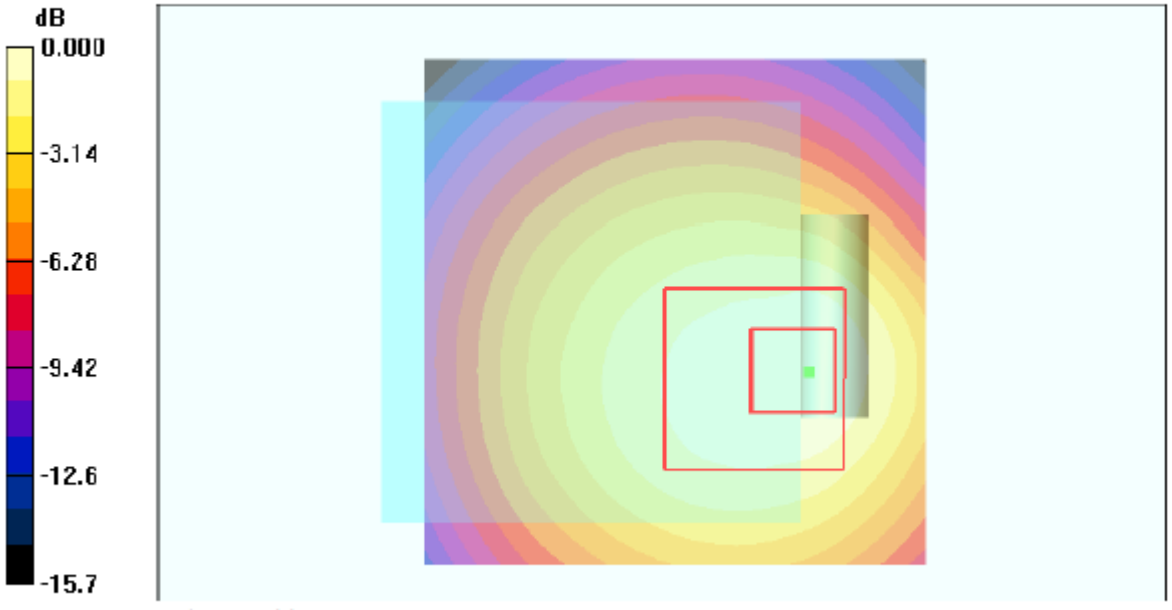
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073126386
Program Name: Body Configuration

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 848.8 MHz; σ = 1 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.17, 8.17, 8.17); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_2; Type: SAM Twin; Serial: TP-1142
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Call Mode 5mm High/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.57 mW/g

Call Mode 5mm High/Zoom Scan (6x6x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 28.8 V/m; Power Drift = 0.121 dB
Peak SAR (extrapolated) = 2.28 W/kg
SAR(1 g) = 1.45 mW/g; SAR(10 g) = 0.932 mW/g
Maximum value of SAR (measured) = 1.55 mW/g



0 dB = 1.55mW/g

Plot 11 Date/Time: 11.04.2016 18:39:24

Test Laboratory: Verkotan Oy
File Name: 110416_GSM1900_Tracking_Mode.da4

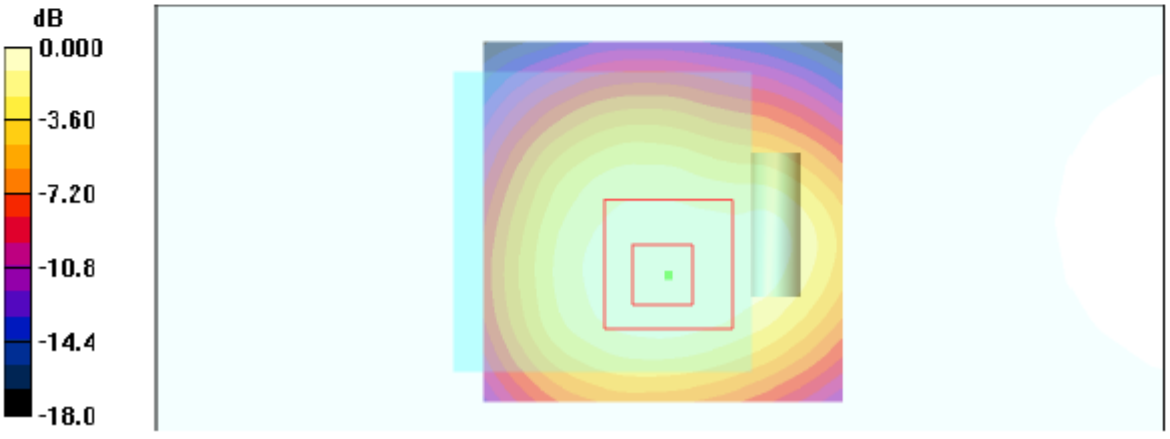
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073126386
Program Name: Unnamed Program

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1850.2 MHz; σ = 1.51 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.77, 6.77, 6.77); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Call Mode 5mm Low/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.763 mW/g

Call Mode 5mm Low/Zoom Scan (6x6x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 20.0 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.704 mW/g; SAR(10 g) = 0.438 mW/g
Maximum value of SAR (measured) = 0.761 mW/g



0 dB = 0.761mW/g

Plot 12 Date/Time: 12.04.2016 16:16:07

Test Laboratory: Verkotan Oy
File Name: 120416_GPRS850_3-Slot_Tracking_Mode_REMEAS.da4

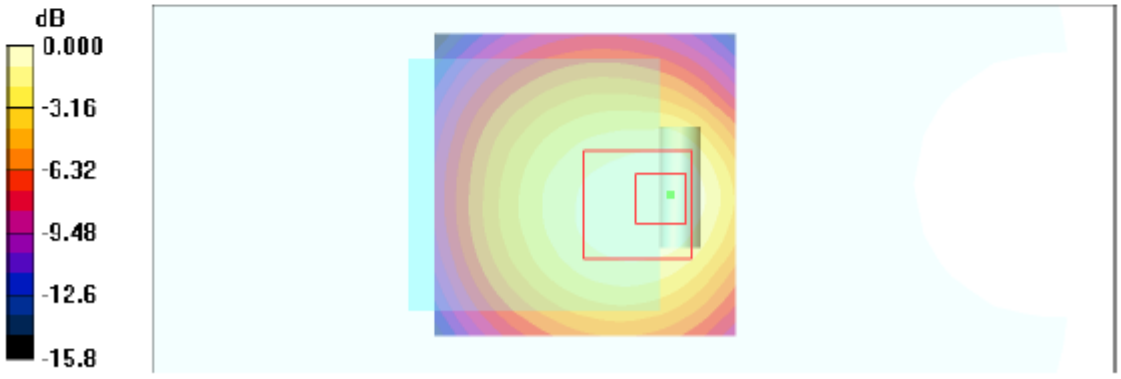
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073126386
Program Name: Body Configuration

Communication System: 3 slots 850; Frequency: 848.8 MHz;Duty Cycle: 1:2.9
Medium parameters used: f = 848.8 MHz; σ = 1.03 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.17, 8.17, 8.17); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_2; Type: SAM Twin; Serial: TP-1142
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tracking Mode 5mm High/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 3.81 mW/g

Tracking Mode 5mm High/Zoom Scan (6x6x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 45.0 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 5.33 W/kg
SAR(1 g) = 3.35 mW/g; SAR(10 g) = 2.15 mW/g
Maximum value of SAR (measured) = 3.61 mW/g



0 dB = 3.61mW/g

Plot 13 Date/Time: 11.04.2016 17:13:41

Test Laboratory: Verkotan Oy
File Name: 110416_GPRS1900_4-Slot_Tracking_Mode.da4

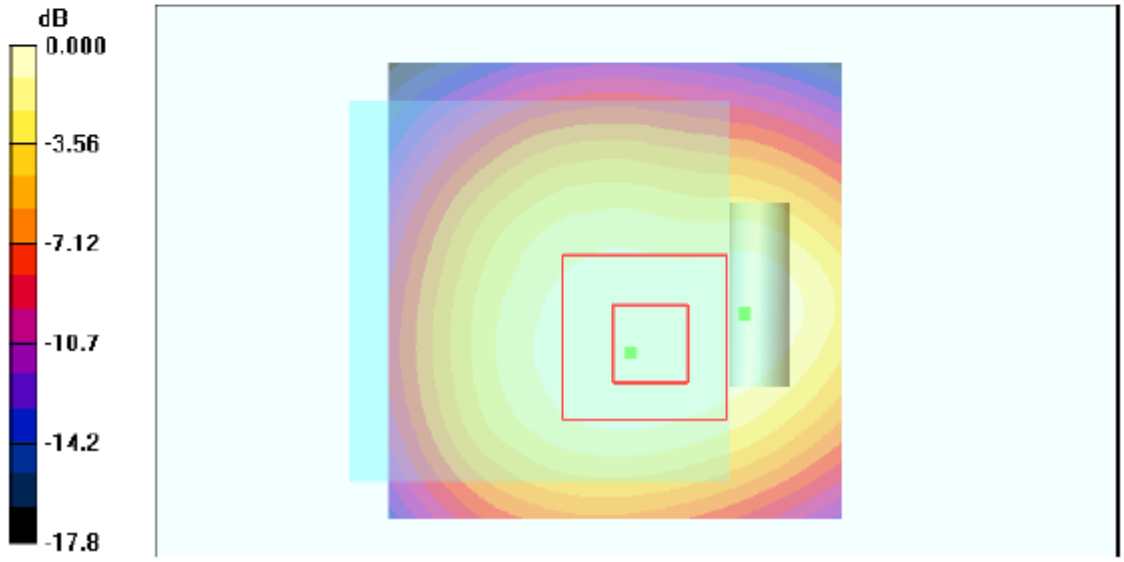
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073126386
Program Name: Body Configuration

Communication System: 4slots 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2.2
Medium parameters used: f = 1850.2 MHz; σ = 1.51 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.77, 6.77, 6.77); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tracking Mode 5mm Low/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.88 mW/g

Tracking Mode 5mm Low/Zoom Scan (6x6x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 29.8 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 2.71 W/kg
SAR(1 g) = 1.72 mW/g; SAR(10 g) = 1.08 mW/g
Maximum value of SAR (measured) = 1.84 mW/g



0 dB = 1.84mW/g

Date/Time: 07.04.2016 14:16:46

Plot 14

Test Laboratory: Verkotan Oy
File Name: 070416_WCDMA850_Call_Mode.da4

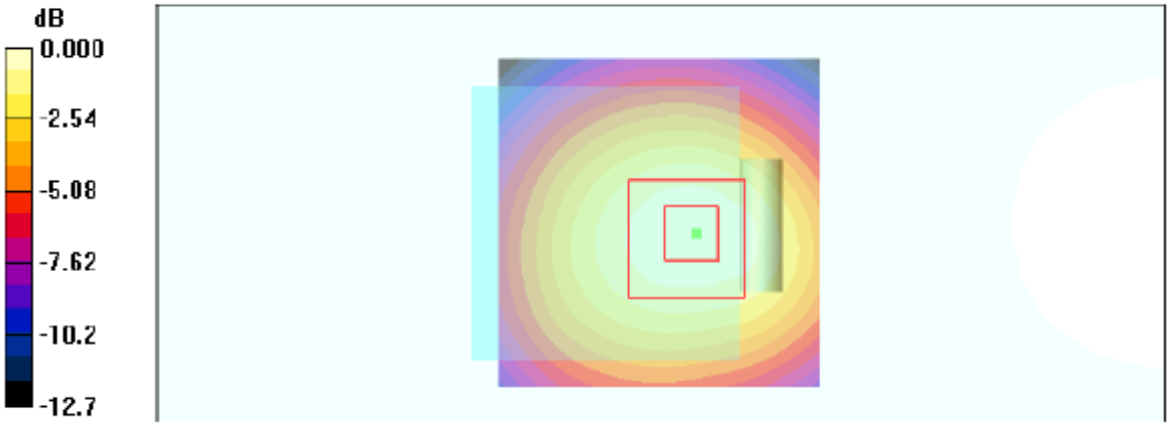
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073129315
Program Name: Head Configuration

Communication System: WCDMA 850; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.923 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.08, 8.08, 8.08); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Call Mode 10mm Mid/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.732 mW/g

Call Mode 10mm Mid/Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 24.1 V/m; Power Drift = 0.114 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.688 mW/g; SAR(10 g) = 0.439 mW/g
Maximum value of SAR (measured) = 0.743 mW/g



0 dB = 0.743mW/g

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Plot 15 Date/Time: 11.04.2016 11:40:47

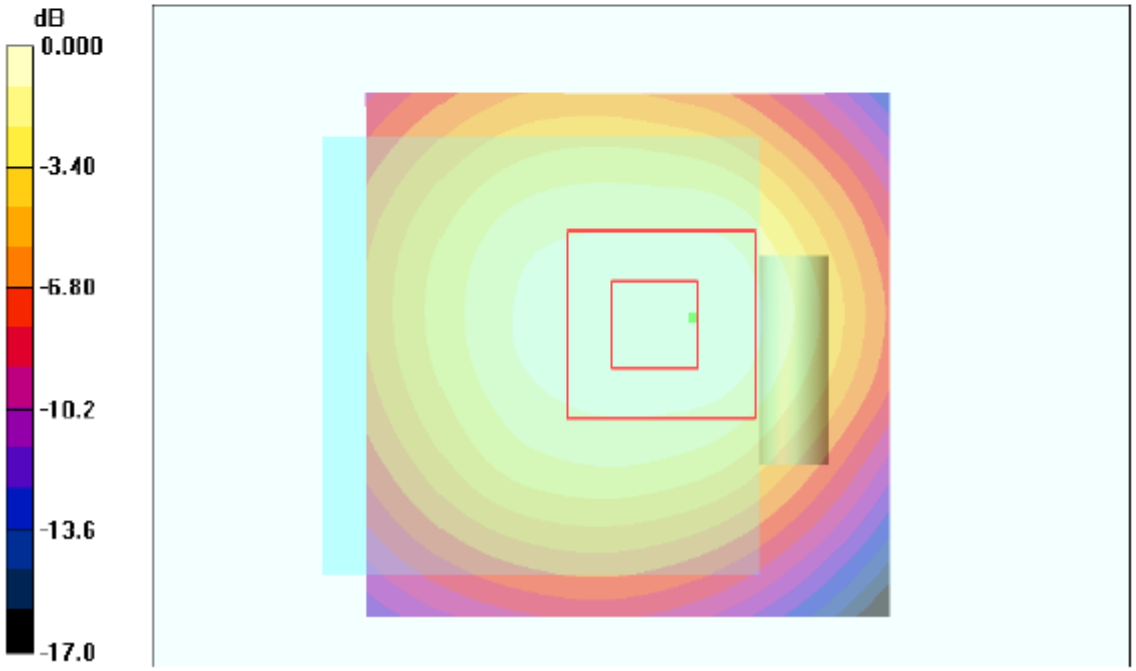
Test Laboratory: Verkotan Oy
File Name: 110416_WCDMA1900_Call_Mode.da4

DUT: Snowfox; Type: Portable Tracker; Serial: 353162073129315
Program Name: Head Configuration

Communication System: WCDMA 1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1907.6 MHz; σ = 1.41 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.99, 6.99, 6.99); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_1; Type: SAM Twin; Serial: TP-1128
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Call Mode 10mm High/Area Scan (41x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.13 mW/g
Call Mode 10mm High/Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 29.5 V/m; Power Drift = -0.184 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.662 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

Plot 16 Date/Time: 07.04.2016 16:05:23

Test Laboratory: Verkotan Oy
File Name: 070416_WCDMA850_Tracking_Mode.da4

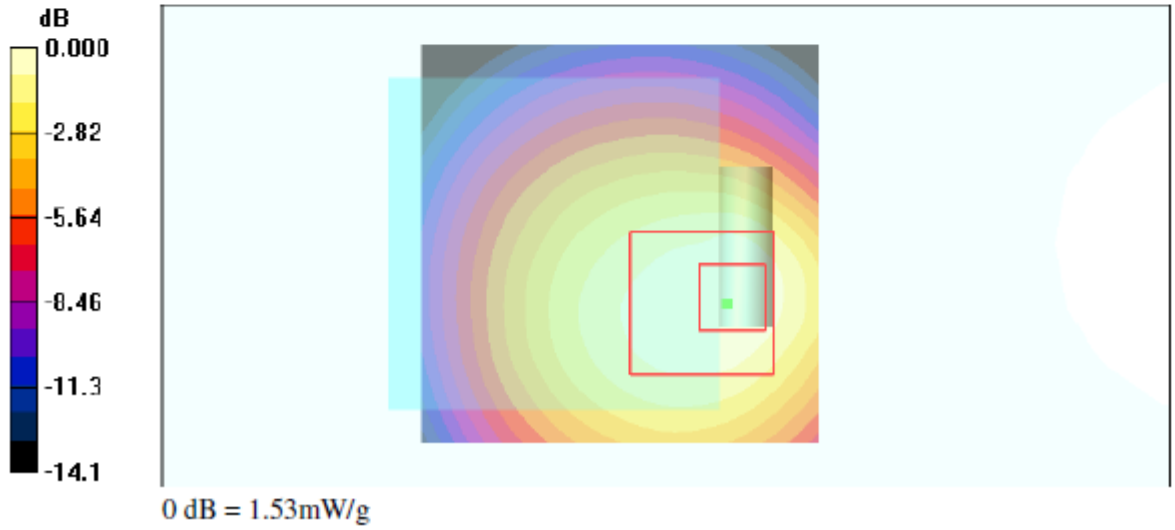
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073129315
Program Name: Body Configuration

Communication System: WCDMA 850; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.994 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(8.17, 8.17, 8.17); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn371; Calibrated: 21.01.2016
- Phantom: SAM_2; Type: SAM Twin; Serial: TP-1142
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tracking Mode 5mm Mid/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.58 mW/g

Tracking Mode 5mm Mid/Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 26.9 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 2.37 W/kg
SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.926 mW/g
Maximum value of SAR (measured) = 1.53 mW/g



0 dB = 1.53mW/g

Plot 17 Date/Time: 12.04.2016 10:12:43

Test Laboratory: Verkotan Oy
File Name: 110416_WCDMA1900_Tracking_Mode.da4

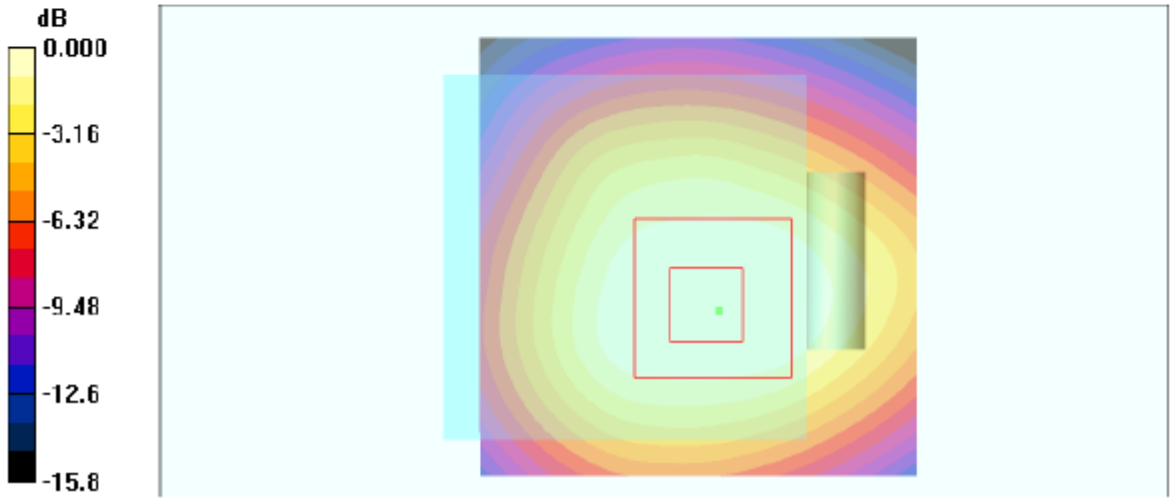
DUT: Snowfox; Type: Portable Tracker; Serial: 353162073129315
Program Name: Body Configuration

Communication System: WCDMA 1900; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1907.6 MHz; σ = 1.56 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3570; ConvF(6.77, 6.77, 6.77); Calibrated: 15.01.2016
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn582; Calibrated: 07.07.2015
- Phantom: SAM_3; Type: SAM Twin; Serial: TP-1289
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tracking Mode 5mm High/Area Scan (41x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.41 mW/g

Tracking Mode 5mm High/Zoom Scan (5x5x5)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=7.5mm
Reference Value = 26.5 V/m; Power Drift = -0.201 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.754 mW/g
Maximum value of SAR (measured) = 1.30 mW/g



0 dB = 1.30mW/g

APPENDIX D: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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 0108

Client Verkotan

Certificate No: EX3-3570_Jan16

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3570

Calibration procedure(s) QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6
Calibration procedure for dosimetric E-field probes

Calibration date: January 15, 2016

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	01-Apr-15 (No. 217-02128)	Mar-16
Power sensor E4412A	MY41498087	01-Apr-15 (No. 217-02128)	Mar-16
Reference 3 dB Attenuator	SN: S5054 (3c)	01-Apr-15 (No. 217-02129)	Mar-16
Reference 20 dB Attenuator	SN: S5277 (20x)	01-Apr-15 (No. 217-02132)	Mar-16
Reference 30 dB Attenuator	SN: S5129 (30b)	01-Apr-15 (No. 217-02133)	Mar-16
Reference Probe ES3DV2	SN: 3013	31-Dec-15 (No. ES3-3013_Dec15)	Dec-16
DAE4	SN: 660	23-Dec-15 (No. DAE4-660_Dec15)	Dec-16
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-16
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: January 19, 2016

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3570

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	8.68	8.68	8.68	0.48	0.80	± 12.0 %
835	41.5	0.90	8.08	8.08	8.08	0.21	1.45	± 12.0 %
1750	40.1	1.37	7.19	7.19	7.19	0.31	0.85	± 12.0 %
1900	40.0	1.40	6.99	6.99	6.99	0.30	0.87	± 12.0 %
2450	39.2	1.80	6.38	6.38	6.38	0.35	0.87	± 12.0 %
2600	39.0	1.96	6.19	6.19	6.19	0.39	0.85	± 12.0 %
5250	35.9	4.71	4.30	4.30	4.30	0.40	1.80	± 13.1 %
5600	35.5	5.07	3.70	3.70	3.70	0.50	1.80	± 13.1 %
5750	35.4	5.22	4.00	4.00	4.00	0.50	1.80	± 13.1 %

[C] Frequency validity above 300 MHz 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. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) 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 (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

APPENDIX E: RELEVANT PAGES FROM DIPOLE CALIBRATION REPORTS

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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 0108

Client Verkotan **Certificate No: D835V2-448_Jan16**

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 448
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 15, 2016

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 EPM-442A	GB37480704	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

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

Issued: January 15, 2016

Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.0 ± 6 %	0.93 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**9.27 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.53 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**6.01 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.2 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**9.55 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.61 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**6.29 W/kg ± 16.5 % (k=2)**

Verkotan

FINAS
Finnish Accreditation Service
T287 (EN ISO/IEC 17025)

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

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 0108

Client Verkotan

Certificate No: D1900V2-511_Jan16

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 511
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	January 14, 2016

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 EPM-442A	GB37480704	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Michael Weber	Laboratory Technician	M.Weber
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 15, 2016

Measurement Conditions

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

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.3 ± 6 %	1.39 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	250 mW input power	9.73 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**38.9 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.12 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**20.5 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.7 ± 6 %	1.52 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	250 mW input power	10.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**40.3 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.34 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.3 W/kg ± 16.5 % (k=2)**