Date: 20.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1126

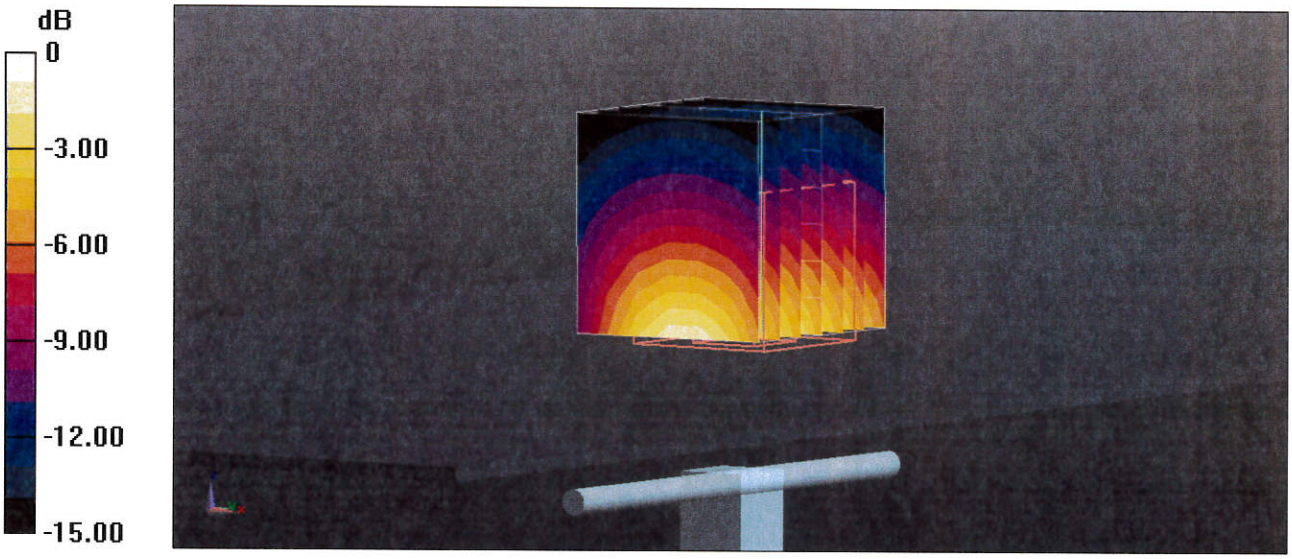
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; σ = 1.46 S/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.46, 8.46, 8.46); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

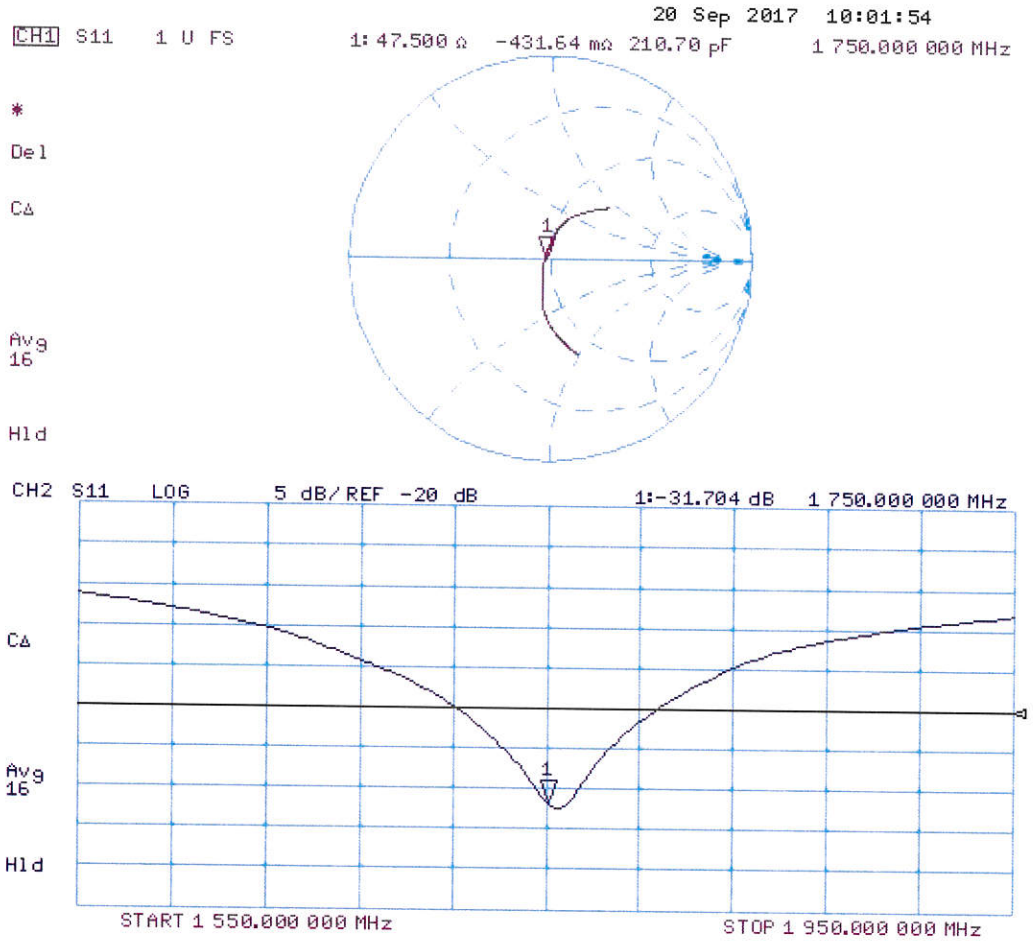
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.75 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 15.8 W/kg
SAR(1 g) = 9.02 W/kg; SAR(10 g) = 4.81 W/kg
Maximum value of SAR (measured) = 12.9 W/kg



0 dB = 12.9 W/kg = 11.11 dBW/kg

Impedance Measurement Plot for Body TSL



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 **Eurofins**

Certificate No: D1900V2-5d025_Sep18

CALIBRATION CERTIFICATE

Object D1900V2 - SN:5d025

Calibration procedure(s) QA CAL-05.v10
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: September 14, 2018

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 NRP	SN: 104778	04-Apr-18 (No. 217-02672/02673)	Apr-19
Power sensor NRP-Z91	SN: 103244	04-Apr-18 (No. 217-02672)	Apr-19
Power sensor NRP-Z91	SN: 103245	04-Apr-18 (No. 217-02673)	Apr-19
Reference 20 dB Attenuator	SN: 5058 (20k)	04-Apr-18 (No. 217-02682)	Apr-19
Type-N mismatch combination	SN: 5047.2 / 06327	04-Apr-18 (No. 217-02683)	Apr-19
Reference Probe EX3DV4	SN: 7349	30-Dec-17 (No. EX3-7349_Dec17)	Dec-18
DAE4	SN: 601	26-Oct-17 (No. DAE4-601_Oct17)	Oct-18

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter EPM-442A	SN: GB37480704	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-16)	In house check: Oct-18
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-16)	In house check: Oct-18
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-17)	In house check: Oct-18

	Name	Function	Signature
Calibrated by:	Manu Seitz	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 14, 2018

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

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

DASY Version	DASY5	V52.10.1
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	40.2 ± 6 %	1.40 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	9.98 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**40.0 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.23 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**20.9 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	53.3 ± 6 %	1.47 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	9.81 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**40.0 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.18 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**21.0 W/kg ± 16.5 % (k=2)**

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.4 Ω + 5.9 jΩ
Return Loss	- 24.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω + 7.4 jΩ
Return Loss	- 21.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.198 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	July 29, 2002

Date: 14.09.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d025

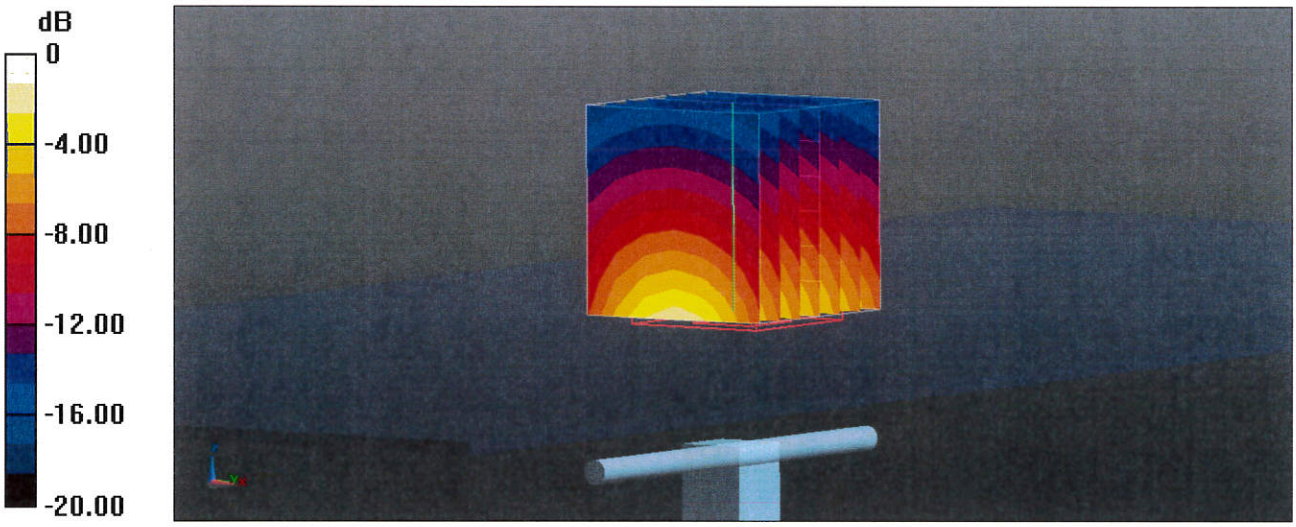
Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.4 S/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

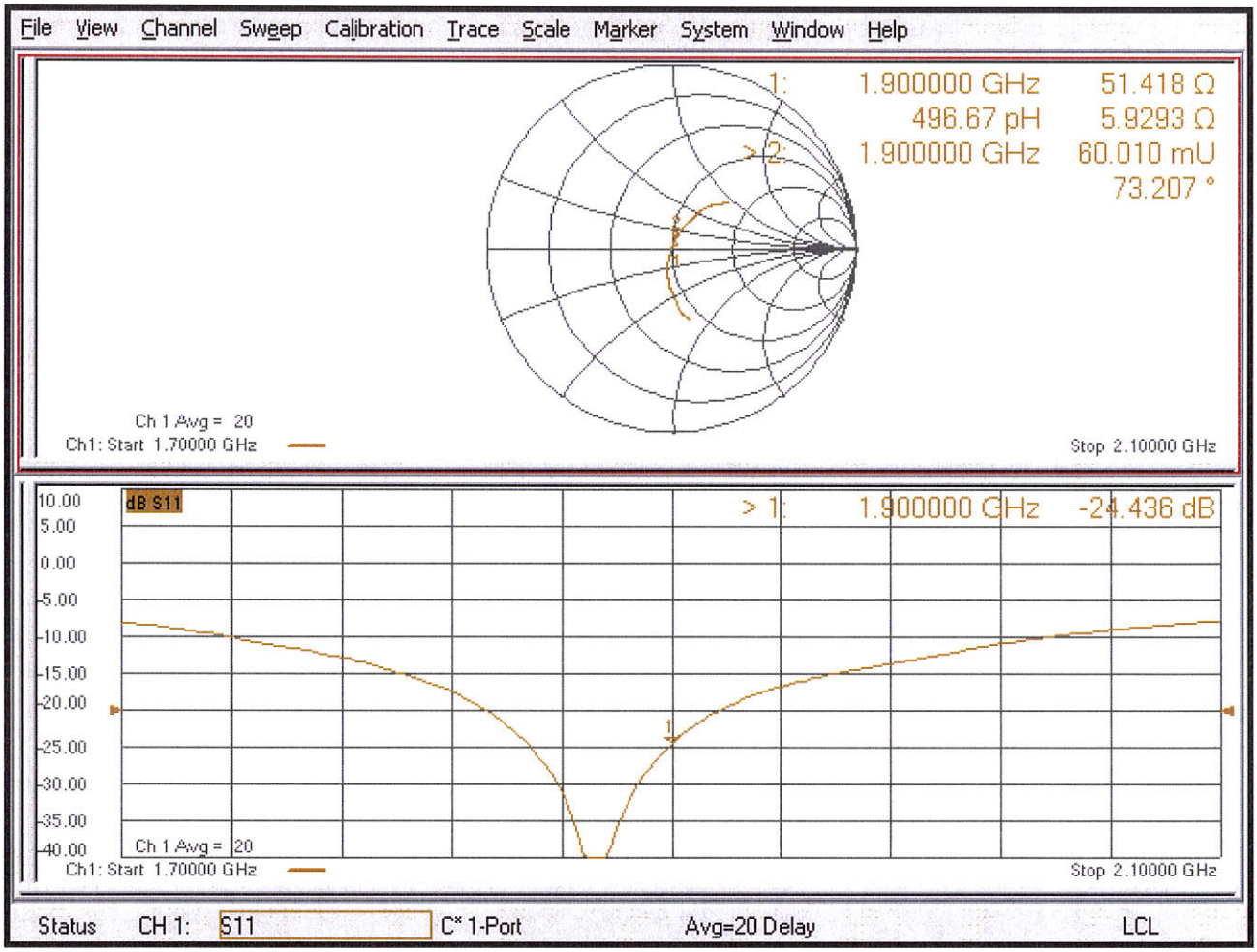
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 110.0 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 18.5 W/kg
SAR(1 g) = 9.98 W/kg; SAR(10 g) = 5.23 W/kg
Maximum value of SAR (measured) = 15.4 W/kg



0 dB = 15.4 W/kg = 11.88 dBW/kg

Impedance Measurement Plot for Head TSL



Date: 14.09.2018

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d025

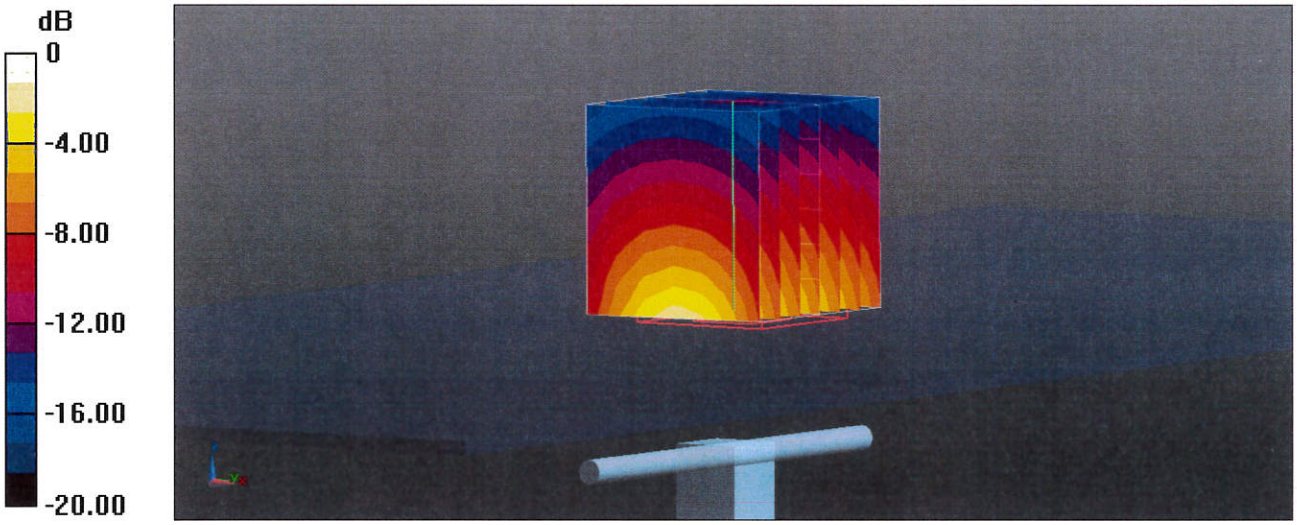
Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.47 S/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.15, 8.15, 8.15) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

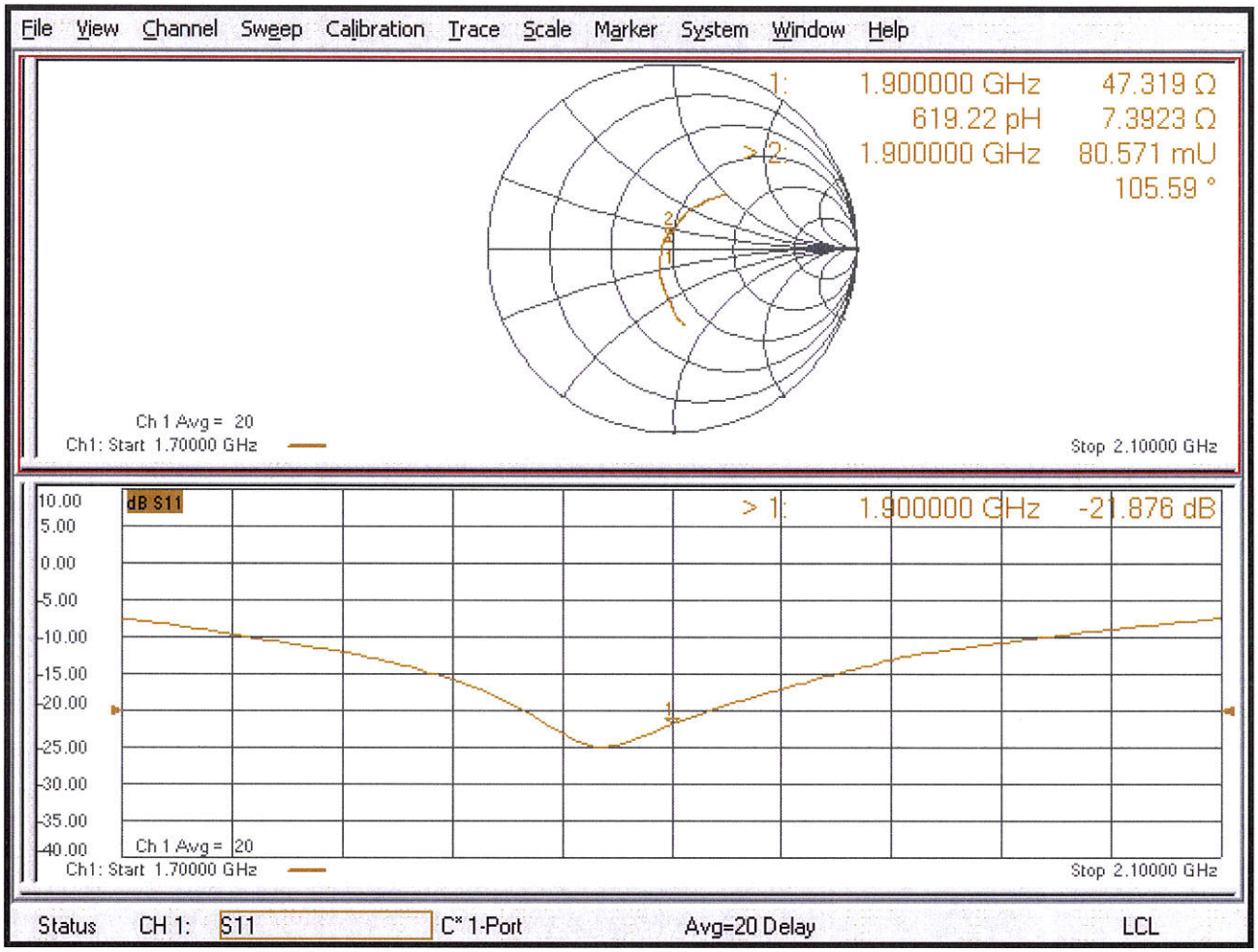
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 105.8 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 9.81 W/kg; SAR(10 g) = 5.18 W/kg
Maximum value of SAR (measured) = 15.0 W/kg



0 dB = 15.0 W/kg = 11.76 dBW/kg

Impedance Measurement Plot for Body TSL



Validation Report
No. VAL_0281_EF 2020-05

Kind of doc.:
QM Template

EUROFINS PRODUCT SERVICE GmbH
Storkower Str. 38c, 15526 Reichenwalde, Germany

1 Customer

Eurofins Product Service GmbH

2 Object

Equipment Number	EF00281
Equipment Name:	System validation dipole
Equipment Type:	D900V2
Serial Number:	164
Manufacturer:	Schmid & Partner Engineering AG

3 State of Measurement

Validation:	☒
Performance Control:	☒
Other:	☐

4 Performance of Measurement

4.1 Generals

(e.g. object of validation such as specific setup, non-standard method or SW, specification of the requirements, test set-up configuration, risk analysis etc.)

Dipol verification

4.2 Validation procedure / measurement

(e.g. comparison of results achieved with other methods, interlaboratory comparison, systematic assessment of factors influencing the result, assessment of the uncertainty of the results based on scientific understanding of the theoretical principles of the method and practical experience; criteria/requirements for approval/rejection etc.)

According KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 3.2.2 Dipole calibration

Limits for the verification: return loss <20% to the original measurement or >20 dB minimum return-loss
Impedance <5 Ω to the original measurement.

4.3 Used reference equipment

Equipment name	Equipment type	Manufacturer	Equipment number	Cal. Date	Cal. Due Date
RF Network analyzer	8752 C	Hewlett-Packard Company Santa Clara	EF00140	2017-07-28	2018-07-28

- new acquired (incl. calibration) ☐
- new calibrated ☐
- check reference standard ☒

4.4 Environmental conditions

Temperature:	_23_ °C ± 2°C
Relative Air Humidity:	_50_ rH ± 5%
Air Pressure:	_1020_ hPa ± 5%

5 Results

5.1 General:

(e.g. measurement results, user instructions such as handling, transport, storage, preparation; checks to be made before the work started; information about how to install (operations)-, to maintain-, to train and to use; safety measures etc.)

	Original measurement	Verification measurement	Margin
Impedance, transformend to feed point	45.6 Ω - 7.6 jΩ	45.94 Ω - 6.43 jΩ	0.34 Ω + 1.17 jΩ
Return Loss	- 20.8 dB	-21.92 dB	-5.4 % / -1.12 dB
Tissue Validation εr	55.0	52.79	-4.02 %
Tissue Validation σ [S/m]	1.05	1.029	-2.00 %
System validation	11.1 W/kg (1g)	10.68 W/kg (1g)	-3.9 %
Date:	03.09.2018	06.05.2020	

5.2 Measurement uncertainty

The reported expanded uncertainty of measurement is stated as the standard uncertainty multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.
+/- 2.5 %

5.3 Results of Validation

Validated ☒
Not validated ☐

6 Operator

C. Weber
Name

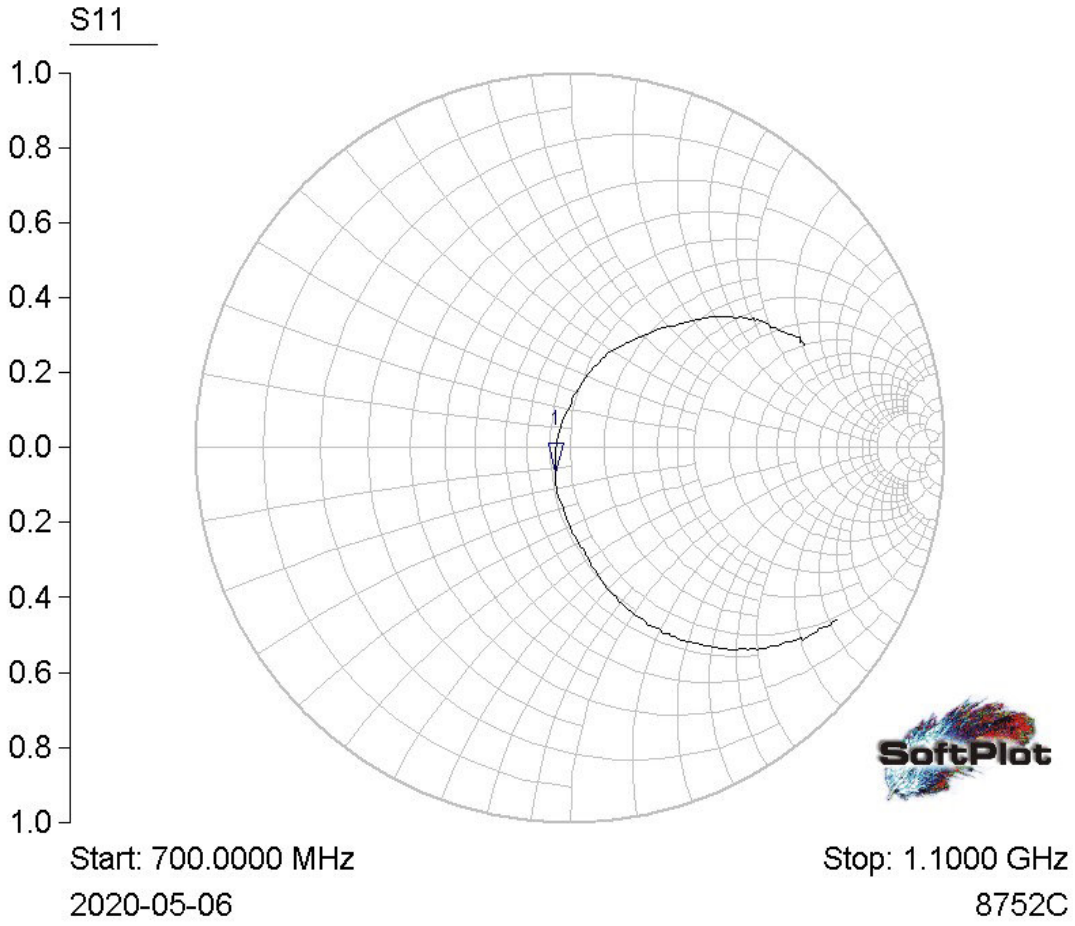
Signature

Place and Date of Verification: Reichenwalde, 06.05.2020

Attachment:

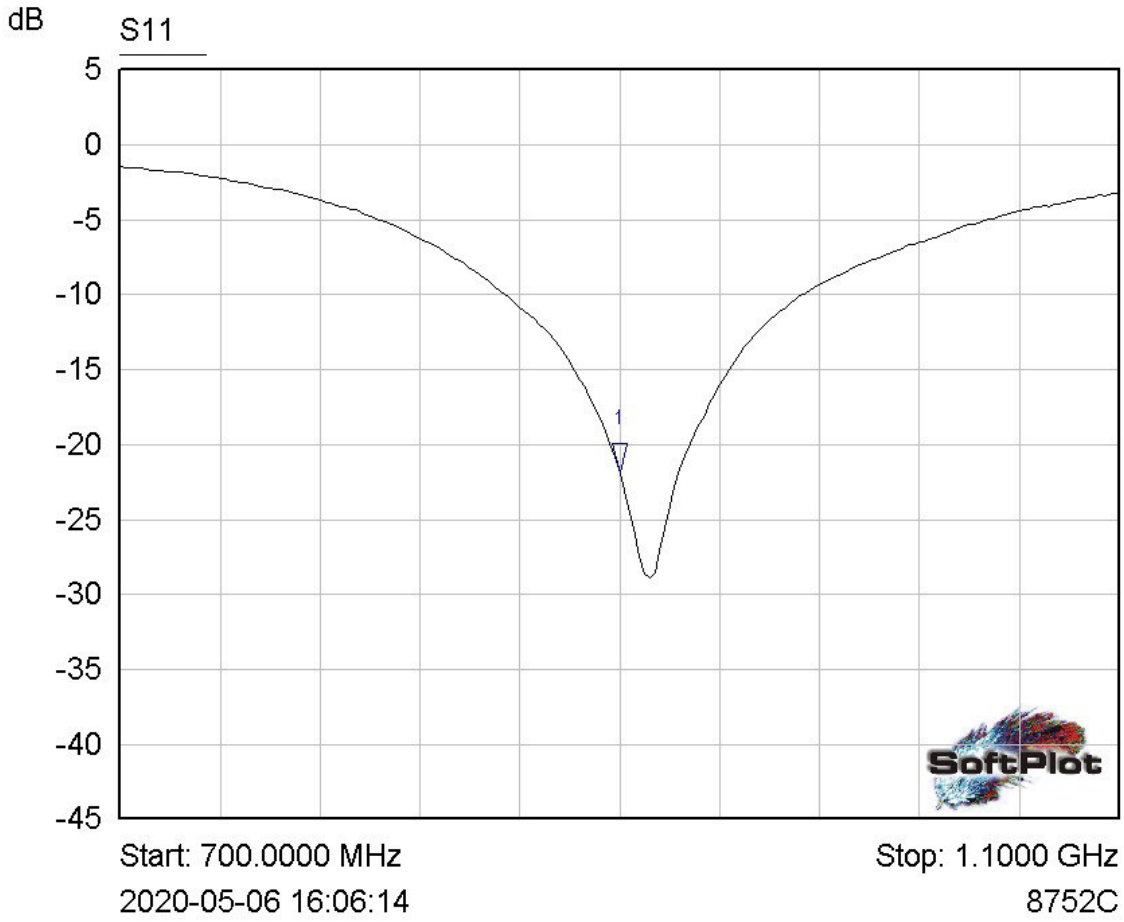
Impedance, Return Loss, System validierung

EUROFINS PRODUCT SERVICE GmbH
Storkower Str. 38c, 15526 Reichenwalde, Germany



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	900.0000 MHz	45.94 - j6.43 ohms	

EUROFINS PRODUCT SERVICE GmbH
Storkower Str. 38c, 15526 Reichenwalde, Germany



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	900.0000 MHz	-21.92 dB	

Date/Time: 06.05.2020 14:01:54

Test Laboratory: Eurofins Product Service GmbH

Dipol Valid.900 (h)_250mW ELI4_2020-05-06

DUT: Dipole 900 MHz D900V2; Type: D900V2; Serial: D900V2 - SN:164

Communication System: UID 0, CW (0); Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 1.029 S/m; ε_r = 52.79; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

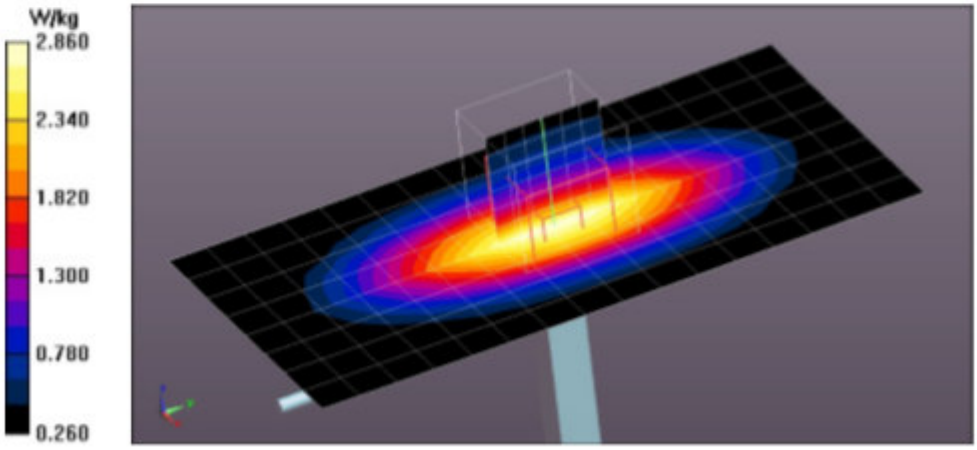
- Probe: EX3DV4 - SN3893; ConvF(9.92, 9.92, 9.92) @ 900 MHz; Calibrated: 20.09.2019
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 11.09.2019
- Phantom: ELI v4.0; Type: QDOVA001BB;
- Measurement SW: DASY52, Version 52.10 (2);

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Area Scan (9x17x1):

Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.88 W/kg

System Performance Check at Frequencies below 1 GHz/d=15mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.84 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 3.99 W/kg
SAR(1 g) = 2.67 W/kg; SAR(10 g) = 1.74 W/kg
Maximum value of SAR (measured) = 2.86 W/kg



Validation Report
No. VAL_0946_EF 2020-05

Kind of doc.:
QM Template

EUROFINS PRODUCT SERVICE GmbH
Storkower Str. 38c, 15526 Reichenwalde, Germany

1 Customer

Eurofins Product Service GmbH

2 Object

Equipment Number	EF00946
Equipment Name:	System validation dipole
Equipment Type:	D750V3
Serial Number:	1125
Manufacturer:	Schmid & Partner Engineering AG

3 State of Measurement

Validation:	☒
Performance Control:	☒
Other:	☐

4 Performance of Measurement

4.1 Generals

(e.g. object of validation such as specific setup, non-standard method or SW, specification of the requirements, test set-up configuration, risk analysis etc.)

Dipol verification

4.2 Validation procedure / measurement

(e.g. comparison of results achieved with other methods, interlaboratory comparison, systematic assessment of factors influencing the result, assessment of the uncertainty of the results based on scientific understanding of the theoretical principles of the method and practical experience; criteria/requirements for approval/rejection etc.)

According KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 3.2.2 Dipole calibration

Limits for the verification: return loss <20% to the original measurement or >20 dB minimum return-loss
Impedance <5 Ω to the original measurement.

4.3 Used reference equipment

Equipment name	Equipment type	Manufacturer	Equipment number	Cal. Date	Cal. Due Date
RF Network analyzer	8752 C	Hewlett-Packard Company Santa Clara	EF00140	2019-07-26	2020-07-26

- new acquired (incl. calibration) ☐
- new calibrated ☐
- check reference standard ☒

4.4 Environmental conditions

Temperature:	_23_ °C ± 2°C
Relative Air Humidity:	_50_ rH ± 5%
Air Pressure:	_1020_ hPa ± 5%

5 Results

5.1 General:

(e.g. measurement results, user instructions such as handling, transport, storage, preparation; checks to be made before the work started; information about how to install (operations)-, to maintain-, to train and to use; safety measures etc.)

	Original measurement	Verification measurement	Margin
Impedance, transformend to feed point	50.0 Ω - 5.0 jΩ	48.51 Ω – 3.07 jΩ	1.49 Ω + 1.93 jΩ
Return Loss	-26.1 dB	-29.27 dB	3.62 dB
Tissue Validation εr	55.5	54.546	-1.72 %
Tissue Validation σ [S/m]	0.96	0.961	0.10 %
System validation	8.52 W/kg (1g)	8.76W/kg (1g)	2.82 %
Date:	21.09.2017	04.05.2020	

5.2 Measurement uncertainty

The reported expanded uncertainty of measurement is stated as the standard uncertainty multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.
+/- 2.5 %

5.3 Results of Validation

Validated ☒
Not validated ☐

6 Operator

C. Weber
Name

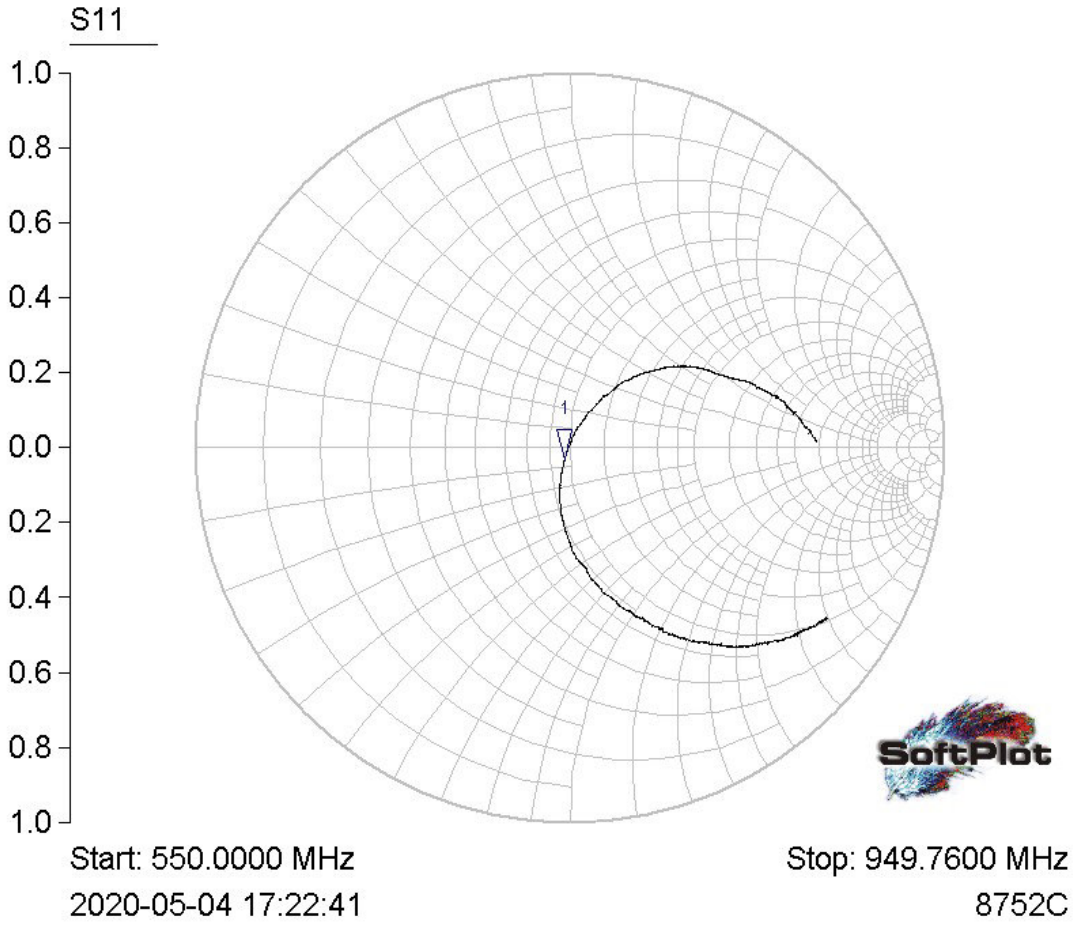
C. Weber
Signature

Place and Date of Verification: Reichenwalde, 04.05.2020

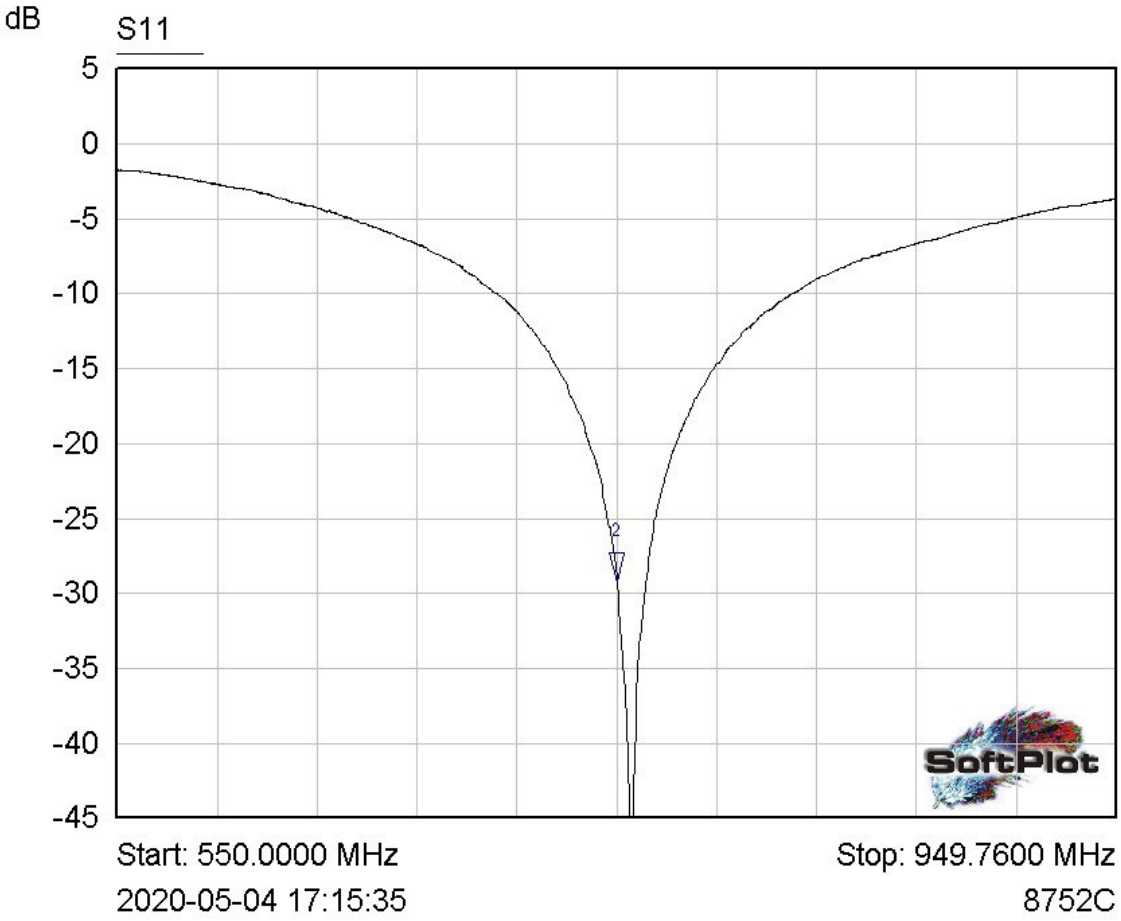
Attachment:

Impedance, Return Loss, System validierung

EUROFINS PRODUCT SERVICE GmbH
Storkower Str. 38c, 15526 Reichenwalde, Germany



Mkr	Trace	X-Axis	Value	Notes
1 ▽	S11	750.0000 MHz	48.51 - j3.07 ohms	



Mkr	Trace	X-Axis	Value	Notes
2 ▽	S11	750.0000 MHz	-29.27 dB	

Test Laboratory: Eurofins Product Service GmbH

Dipol Valid.750 (m)_250mW ELI4 - 2020-05-04

DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:1125

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.961 S/m; ε_r = 54.546; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

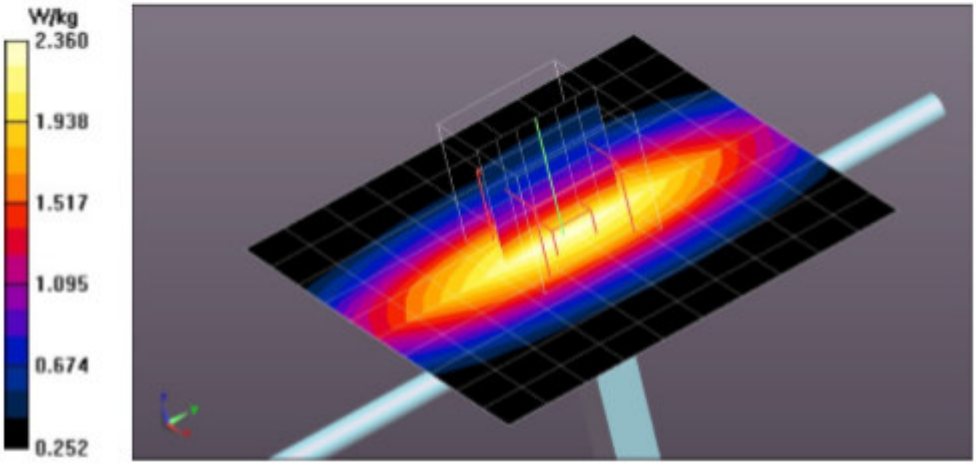
- Probe: EX3DV4 - SN3893; ConvF(10.28, 10.28, 10.28) @ 750 MHz; Calibrated: 20.09.2019
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 11.09.2019
- Phantom: ELI v4.0; Type: QDOVA001BB;
- Measurement SW: DASY52, Version 52.10 (2);

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Area Scan (11x11x1):

Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.35 W/kg

System Performance Check at Frequencies above 1 GHz/d=10mm, Pin=250 mW, dist=4.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.50 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.21 W/kg
SAR(1 g) = 2.19 W/kg; SAR(10 g) = 1.47 W/kg
Maximum value of SAR (measured) = 2.36 W/kg



Validation Report
No. VAL_0947_EF 2019-03

Kind of doc.:
QM Template

EUROFINS PRODUCT SERVICE GmbH
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1 Customer

Eurofins Product Service GmbH

2 Object

Equipment Number	EF00947
Equipment Name:	System validation dipole
Equipment Type:	D1750V2
Serial Number:	1126
Manufacturer:	Schmid & Partner Engineering AG

3 State of Measurement

Validation:	☒
Performance Control:	☒
Other:	☐

4 Performance of Measurement

4.1 Generals

(e.g. object of validation such as specific setup, non-standard method or SW, specification of the requirements, test set-up configuration, risk analysis etc.)

Dipol verification

4.2 Validation procedure / measurement

(e.g. comparison of results achieved with other methods, interlaboratory comparison, systematic assessment of factors influencing the result, assessment of the uncertainty of the results based on scientific understanding of the theoretical principles of the method and practical experience; criteria/requirements for approval/rejection etc.)

According KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 3.2.2 Dipole calibration

Limits for the verification: return loss <20% to the original measurement or >20 dB minimum return-loss
Impedance <5 Ω to the original measurement.

4.3 Used reference equipment

Equipment name	Equipment type	Manufacturer	Equipment number	Cal. Date	Cal. Due Date
RF Network analyzer	8752 C	Hewlett-Packard Company Santa Clara	EF00140	2018-07-25	2019-07-25

- new acquired (incl. calibration) ☐
- new calibrated ☐
- check reference standard ☒

4.4 Environmental conditions

Temperature:	_23_ °C ± 2°C
Relative Air Humidity:	_50_ rH ± 5%
Air Pressure:	_1020_ hPa ± 5%