SAR Compliance Test Report

Date of Report	6/04/2021	**Client's Contact person:**	Przemysław Kitowski
Number of pages:	143	**Responsible Test engineer:**	Ilari Kinnunen
Testing laboratory:	**Verkotan Oy** Elektroniikkatie 17 90590 Oulu Finland	**Client:**	**Mudita Sp. z o.o** Jana Czeczota 9 02-607 Warsaw Poland
Tested device	Mudita Pure		
Related reports:	-		

Testing has been carried out in accordance with:

ICNIRP (1998)
Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and electromagnetic Fields (up to 300 GHz)
EN 50360 (2017)
Product standard to demonstrate the compliance of wireless communication devices, with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 300 MHz to 6 GHz: devices used next to the ear
EN 50566 (2017)
Product standard to demonstrate the compliance of wireless communication devices with the basic restrictions and exposure limit values related to human exposure to electromagnetic fields in the frequency range from 30 MHz to 6 GHz: hand-held and body mounted devices in close proximity to the human body
EN 62209-1 (2016)
Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz)
EN 62209-2 (2010)
Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 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)

Documentation: The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory

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:

06.04.2021

Miia Nurkkala

Digitaalinen allekirjoittaja: Miia Nurkkala
Päiväys: 2021.04.06 09:48:00 +03'00'

Laboratory Manager

TABLE OF CONTENTS

1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Equipment under Test (DUT):

Product:	Pure
Manufacturer:	Mudita sp. z o.o.
Model:	PU01
IMEI Number:	867698042420230 (#202), 867698041104180 (#201), 867698042410720 (#208)
Hardware Version:	T5
DUT Number:	22162, 22161, 22164
Battery Type used in testing:	Secondary li-ion battery, 3.8V, 16000mAh
State of the Sample	Production sample

Testing information:

Testing performed:	24.08.2020 – 28.09.2020, 12.10.2020
Notes:	-
Document ID:	CE SAR report_Mudita Pure_ID4331b_01042021
Document history and changes:	This report replaces CE SAR report_Mudita Pure_ID4331b_16102020 Internal losses were added to conducted power results, thus scaling factor and SAR results were decreased.
Temperature °C	22±2 / Controlled
Humidity RH%	30±20 / Controlled
Measurement performed by:	Ilari Kinnunen, Kirsi Kyllönen

1.2 Maximum Results

The maximum reported* SAR values for head, body-worn and limb exposure condition. The device conforms to the requirements of the standards when the maximum reported SAR value is less than or equal to the limit. The SAR_{10g} limit for general population/uncontrolled exposure is 2.0 W/Kg for head and body, and 4.0 W/kg for limb specified by council recommendation 1999/519/EC Annex II.

1.2.1 Standalone SAR

System	Highest Reported* SAR_{10g}(W/kg) in Head Exposure Condition	Highest Reported* SAR_{10g}(W/kg) in Body-Worn Condition, 5mm separation distance	Highest Reported* SAR_{10g}(W/kg) in Limb Condition, 0mm separation distance	Result
GSM 900	0.06	N/A	N/A	PASS
GSM 1800	0.0005	N/A	N/A	PASS
GPRS 900	N/A	0.61	2.89	PASS
GPRS 1800	N/A	0.23	0.67	PASS
WCDMA 1	0**	0.04	0.26	PASS
WCDMA 8	0.04	0.48	1.19	PASS
LTE 1	0**	0.06	0.27	PASS
LTE 3	0.00001	0.30	0.99	PASS
LTE 7	0**	0.01	0.20	PASS
LTE 8	0.03	0.40	0.91	PASS
LTE 20	0.05	0.62	1.20	PASS
LTE 28	0.02	0.60	1.18	PASS
LTE 38	0**	0.003	0.06	PASS
LTE 40	0**	0.03	0.07	PASS
Bluetooth	0.03	0.03	0.12	PASS

* Reported SAR Values are scaled to upper limit of power tuning tolerance
**SAR below the detection limit of the test system

1.2.2 Simultaneous Transmission SAR

Highest Simultaneous Transmission SAR	Highest Reported* SAR_{10g} (W/kg) in Head Condition	Highest Reported* SAR_{10g} (W/kg) in Body-Worn Condition	Highest Reported* SAR_{10g} (W/kg) in Limb Condition	Result
Cellular + Bluetooth	0.09	0.63	2.93	PASS

1.2.3 Maximum Drift

Maximum Drift During Measurements	0.97 dB*

*Larger than 5% drifts included to scaling factors

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95 %	±24.9 %

2. DESCRIPTION OF THE DEVICE UNDER TEST (DUT)

The product is a mobile phone.

The DUT has two transmit antennas for cellular bands which are not used simultaneously. Antenna A is used for frequency bands under 1GHz and Antenna B for frequency bands above 1GHz.

Device Category	Portable
Exposure Environment	General population, uncontrolled

2.1 Tested Frequency Bands and Operational Modes

	Modes of Operation	Modulation	Transmitter Frequency Range [MHz]
TX Frequency bands	GSM/GPRS/EDGE 900	GMSK/8PSK	880-915
	GSM/GPRS/EDGE 1800	GMSK/8PSK	1710-1785
	WCDMA 1	QPSK	1920-1980
	WCDMA 8	QPSK	880-915
	LTE 1	QPSK/16QAM	1920-1980
	LTE 3	QPSK/16QAM	1710-1785
	LTE 7	QPSK/16QAM	2500-2570
	LTE 8	QPSK/16QAM	880-915
	LTE 20	QPSK/16QAM	832-862
	LTE 28	QPSK/16QAM	703-748
	LTE 38	QPSK/16QAM	2570-2620
	LTE 40	QPSK/16QAM	2300-2400
	Bluetooth	GFSK	2402-2480

2.2 Simultaneous Transmission

Bluetooth and the cellular mode can be operated simultaneously.

3. OUTPUT POWER

3.1 Maximum specified conducted output power

From the customer, including tune-up tolerance.

GSM 900	Maximum Conducted Power [dBm]
GSM (GMSK, 1Tx-slot)	35
GPRS (GMSK, 1Tx-slot)	35
GPRS (GMSK, 3Tx-slot)	33.2
EDGE (8PSK, 1Tx-slot)	30

GSM 1800	Maximum Conducted Power [dBm]
GSM (GMSK, 1Tx-slot)	32
GPRS (GMSK, 1Tx-slot)	32
GPRS (GMSK, 3Tx-slot)	30.2
EDGE (8PSK, 1Tx-slot)	29

WCDMA	Maximum Conducted Power [dBm]
WCDMA 1	25
WCDMA 8	25

LTE	Maximum Conducted Power [dBm]
LTE 1	25
LTE 3	25
LTE 7	25
LTE 8	25
LTE 20	25
LTE 28	25
LTE 38	25
LTE 40	25

Bluetooth	Maximum Conducted Power [dBm]
Bluetooth	8

3.2 Tested conducted power

GPRS:

Slot Configuration	GSM 900 CH 975 880.2 MHz	GSM 900 CH 38 897.6 MHz	GSM 900 CH 124 914.8 MHz	GSM 1800 CH 512 1710.2 MHz	GSM 1800 CH 699 1747.6 MHz	GSM 1800 CH 885 1784.8 MHz
GSM (GMSK, 1Tx-slot)	32.11	32.24	32.23	28.94	28.83	28.66
GPRS (GMSK, 1Tx-slot)	32.14	32.27	32.22	28.96	28.83	28.64
GPRS (GMSK, 2Tx-slot)	30.41	30.63	30.72	28.53	27.99	27.76
GPRS (GMSK, 3Tx-slot)	**28.72**	**28.87**	**29.05**	**26.78**	**26.55**	**26.27**
GPRS (GMSK, 4Tx-slot)	27.32	27.42	27.65	25.5	25.32	25.01
EDGE (8PSK, 1Tx-slot)	26.06	26.11	26.33	25.81	25.45	25.09
EDGE (8PSK, 2Tx-slot)	24.86	24.95	25.18	25.2	24.79	24.47
EDGE (8PSK, 3Tx-slot)	23.25	23.28	23.53	24.12	23.68	23.31
EDGE (8PSK, 4Tx-slot)	22.13	22.12	22.33	22.92	22.49	22.18

Time averaged power:

Slot Configuration	GSM 900 CH 975 880.2 MHz	GSM 900 CH 38 897.6 MHz	GSM 900 CH 124 914.8 MHz	GSM 1800 CH 512 1710.2 MHz	GSM 1800 CH 699 1747.6 MHz	GSM 1800 CH 885 1784.8 MHz
GSM	23.11	23.24	23.23	19.94	19.83	19.66
GPRS 1-slot	23.14	23.27	23.22	19.96	19.83	19.64
GPRS 2-slot	24.41	24.63	24.72	22.53	21.99	21.76
GPRS 3-slot	**24.46**	**24.61**	**24.79**	**22.52**	**22.29**	**22.01**
GPRS 4-slot	24.32	24.42	24.65	22.5	22.32	22.01
EDGE 1-slot	17.06	17.11	17.33	16.81	16.45	16.09
EDGE 2-slot	18.86	18.95	19.18	19.2	18.79	18.47
EDGE 3-slot	18.99	19.02	19.27	19.86	19.42	19.05
EDGE 4-slot	19.13	19.12	19.33	19.92	19.49	19.18

For GSM bands, slot configuration with the bolded time averaged power (GPRS 900, 3 TX slot and GPRS 1800, 3 TX slot) was selected for Body SAR testing. GSM was selected for Head SAR testing instead of GPRS because GPRS cannot be used while having a voice call.

WCDMA:

ModeReference Channel	WCDMA 1			WCDMA 8		
	CH 9612 1922.4 MHz	CH 9750 1950 MHz	CH 9888 1977.6 MHz	CH 2712 882.4 MHz	CH 2788 897.6 MHz	CH 2863 912.6 MHz
RMC 12.2K	23.0	22.9	22.97	23.02	22.98	22.89
HSDPA Subtest-1	21.81	21.95	22.1	21.96	21.98	21.96
HSDPA Subtest-2	21.92	22.03	22.1	21.95	22.01	21.95
HSDPA Subtest-3	21.35	21.47	21.63	21.39	21.44	21.32
HSDPA Subtest-4	21.34	21.47	21.62	21.45	21.44	21.37
HSUPA Subtest-1	21.83	21.96	22.0	22.0	22.04	21.9
HSUPA Subtest-2	21.52	21.5	21.67	21.54	21.55	21.41
HSUPA Subtest-3	21.84	21.94	22.18	21.95	21.92	21.91
HSUPA Subtest-4	22.11	22.14	22.23	21.92	21.97	21.99
HSUPA Subtest-5	21.95	22.1	22.08	22.0	22.14	21.97

LTE:

LTE modes are selected for conducted testing based on IEC PAS 63083, Specific absorption rate (SAR) measurement procedure for long term evolution (LTE) devices.

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 18025 1922.5 MHz	CH 18300 1950 MHz	CH 18575 1977.5 MHz	3GPP MPR [dB]	CH 18025 1922.5 MHz	CH 18300 1950 MHz	CH 18575 1977.5 MHz	3GPP MPR [dB]
1 / 5M	8	0	22.55	22.54	N/A*	0	N/A*	21.46	21.41	1
	25	0	21.75	21.61	21.45	1	20.79	20.81	20.54	2
	8	17	N/A*	N/A*	22.52	0	21.84	21.83	N/A*	1
	1	0	N/A*	22.28	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 18050 1925 MHz	CH 18300 1950 MHz	CH 18550 1975 MHz	3GPP MPR [dB]	CH 18050 1925 MHz	CH 18300 1950 MHz	CH 18550 1975 MHz	3GPP MPR [dB]
1 / 10M	12	0	22.55	22.51	N/A*	0	N/A*	21.46	21.07	1
	50	0	21.69	21.61	21.62	1	20.88	20.67	20.74	2
	12	38	N/A*	N/A*	22.54	0	21.45	21.62	N/A*	1
	1	0	N/A*	22.46	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 18075 1927.5 MHz	CH 18300 1950 MHz	CH 18525 1972.5 MHz	3GPP MPR [dB]	CH 18075 1927.5 MHz	CH 18300 1950 MHz	CH 18525 1972.5 MHz	3GPP MPR [dB]
1 / 15M	16	0	22.54	22.55	N/A*	0	N/A*	21.45	21.59	1
	75	0	21.66	21.62	21.52	1	20.66	20.61	20.61	2
	16	59	N/A*	N/A*	22.52	0	21.61	21.83	N/A*	1
	1	0	N/A*	22.39	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 18100 1930 MHz	CH 18300 1950 MHz	CH 18500 1970 MHz	3GPP MPR [dB]	CH 18100 1930 MHz	CH 18300 1950 MHz	CH 18500 1970 MHz	3GPP MPR [dB]
1 / 20M	1	0	22.34	22.15	22.45	0	N/A*	N/A*	N/A*	N/A*
	1	49	22.51	22.46	22.37	0	N/A*	N/A*	N/A*	N/A*
	1	99	22.38	22.54	22.27	0	N/A*	N/A*	N/A*	N/A*
	18	0	22.6	22.38	N/A*	0	N/A*	21.4	21.79	1
	100	0	21.69	21.52	21.54	1	20.66	20.49	20.56	2
	18	82	N/A*	N/A*	22.42	0	21.52	21.73	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 19207 1710.7 MHz	CH 19575 1747.5 MHz	CH 19943 1784.3 MHz	3GPP MPR [dB]	CH 19207 1710.7 MHz	CH 19575 1747.5 MHz	CH 19943 1784.3 MHz	3GPP MPR [dB]
3 / 1.4M	5	0	23.39	23.27	N/A*	0	N/A*	22.2	22.47	1
	6	0	22.43	22.3	22.43	1	21.67	21.5	21.63	2
	5	1	N/A*	N/A*	23.57	0	22.45	22.16	N/A*	1
	1	0	N/A*	22.98	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 19215 1711.5 MHz	CH 19575 1747.5 MHz	CH 19935 1783.5 MHz	3GPP MPR [dB]	CH 19215 1711.5 MHz	CH 19575 1747.5 MHz	CH 19935 1783.5 MHz	3GPP MPR [dB]
3 / 3M	4	0	22.6	22.73	N/A*	0	N/A*	21.82	22.23	1
	15	0	22.3	22.11	22.3	1	21.37	21.2	21.25	2
	4	11	N/A*	N/A*	21.57	0	21.3	21.7	N/A*	1
	1	0	N/A*	22.25	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 19225 1712.5 MHz	CH 19575 1747.5 MHz	CH 19925 1782.5 MHz	3GPP MPR [dB]	CH 19225 1712.5 MHz	CH 19575 1747.5 MHz	CH 19925 1782.5 MHz	3GPP MPR [dB]
3 / 5M	8	0	21.22	22.61	N/A*	0	N/A*	21.68	22.26	1
	25	0	21.43	21.93	22.29	1	20.99	20.88	21.17	2
	8	17	N/A*	N/A*	22.47	0	20.31	21.57	N/A*	1
	1	0	N/A*	22.61	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 19250 1715 MHz	CH 19575 1747.5 MHz	CH 19900 1780 MHz	3GPP MPR [dB]	CH 19250 1715 MHz	CH 19575 1747.5 MHz	CH 19900 1780 MHz	3GPP MPR [dB]
3 / 10M	12	0	21.24	21.98	N/A*	0	N/A*	21.5	21.58	1
	50	0	20.97	22.07	22.29	1	20.57	21.18	21.21	2
	12	38	N/A*	N/A*	21.81	0	18.59	20.73	N/A*	1
	1	0	N/A*	21.79	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 19275 1717.5 MHz	CH 19575 1747.5 MHz	CH 19875 1777.5 MHz	3GPP MPR [dB]	CH 19275 1717.5 MHz	CH 19575 1747.5 MHz	CH 19875 1777.5 MHz	3GPP MPR [dB]
3 / 15M	16	0	20.55	22.68	N/A*	0	N/A*	21.75	21.45	1
	75	0	21.07	22.0	22.28	1	20.63	21.11	21.09	2
	16	59	N/A*	N/A*	21.32	0	20.23	21.3	N/A*	1
	1	0	N/A*	22.61	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 19300 1720 MHz	CH 19575 1747.5 MHz	CH 19850 1775 MHz	3GPP MPR [dB]	CH 19300 1720 MHz	CH 19575 1747.5 MHz	CH 19850 1775 MHz	3GPP MPR [dB]
3 / 20M	1	0	19.18	22.93	23.05	0	N/A*	N/A*	N/A*	N/A*
	1	49	20.79	22.66	22.38	0	N/A*	N/A*	N/A*	N/A*
	1	99	22.68	22.34	20.58	0	N/A*	N/A*	N/A*	N/A*
	18	0	21.33	22.96	N/A*	0	N/A*	22.02	22.11	1
	100	0	21.89	21.98	22.32	1	21.0	21.0	21.17	2
	18	82	N/A*	N/A*	21.3	0	21.23	21.52	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 20775 2502.5 MHz	CH 21100 2535.0 MHz	CH 21425 2567.5 MHz	3GPP MPR [dB]	CH 20775 2502.5 MHz	CH 21100 2535.0 MHz	CH 21425 2567.5 MHz	3GPP MPR [dB]
7 / 5M	8	0	23.23	23.92	N/A*	0	N/A*	23.03	23.63	1
	25	0	22.21	23.0	23.61	1	21.26	21.9	22.65	2
	8	17	N/A*	N/A*	24.54	0	22.44	22.83	N/A*	1
	1	0	N/A*	23.7	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 20800 2505.0 MHz	CH 21100 2535.0 MHz	CH 21400 2565.0 MHz	3GPP MPR [dB]	CH 20800 2505.0 MHz	CH 21100 2535.0 MHz	CH 21400 2565.0 MHz	3GPP MPR [dB]
7 / 10M	12	0	23.22	23.79	N/A*	0	N/A*	22.67	23.4	1
	50	0	22.36	22.94	23.47	1	21.5	22.07	22.52	2
	12	38	N/A*	N/A*	24.56	0	22.28	22.9	N/A*	1
	1	0	N/A*	23.96	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 20825 2507.5 MHz	CH 21100 2535.0 MHz	CH 21375 2562.5 MHz	3GPP MPR [dB]	CH 20825 2507.5 MHz	CH 21100 2535.0 MHz	CH 21375 2562.5 MHz	3GPP MPR [dB]
7 / 15M	16	0	23.21	23.89	N/A*	0	N/A*	22.83	23.23	1
	75	0	22.38	23.01	23.41	1	21.52	21.94	22.46	2
	16	59	N/A*	N/A*	24.51	0	22.21	22.76	N/A*	1
	1	0	N/A*	23.81	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	3GPP MPR [dB]	CH 20850 2510.0 MHz	CH 21100 2535.0 MHz	CH 21350 2560.0 MHz	3GPP MPR [dB]
7 / 20M	1	0	22.69	23.42	24.19	0	N/A*	N/A*	N/A*	N/A*
	1	49	23.2	23.71	24.22	0	N/A*	N/A*	N/A*	N/A*
	1	99	22.9	24.04	24.4	0	N/A*	N/A*	N/A*	N/A*
	18	0	22.91	23.66	N/A*	0	N/A*	22.67	23.35	1
	100	0	22.08	22.83	23.33	1	21.15	21.78	22.3	2
	18	82	N/A*	N/A*	24.56	0	22.1	23.22	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 21457 880.7 MHz	CH 21625 897.5 MHz	CH 21793 914.3 MHz	3GPP MPR [dB]	CH 21457 880.7 MHz	CH 21625 897.5 MHz	CH 21793 914.3 MHz	3GPP MPR [dB]
8 / 1.4M	5	0	22.94	23.24	N/A*	0	N/A*	22.27	22.18	1
	6	0	22.06	22.23	22.16	1	21.37	21.47	21.44	2
	5	1	N/A*	N/A*	23.21	0	22.21	22.4	N/A*	1
	1	0	N/A*	23.27	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 21465 881.5 MHz	CH 21625 897.5 MHz	CH 21785 913.5 MHz	3GPP MPR [dB]	CH 21465 881.5 MHz	CH 21625 897.5 MHz	CH 21785 913.5 MHz	3GPP MPR [dB]
8 / 3M	4	0	23.21	23.35	N/A*	0	N/A*	22.19	22.25	1
	15	0	22.21	22.31	22.14	1	21.26	21.07	21.15	2
	4	11	N/A*	N/A*	23.02	0	22.12	22.21	N/A*	1
	1	0	N/A*	23.04	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 21475 882.5 MHz	CH 21625 897.5 MHz	CH 21775 912.5 MHz	3GPP MPR [dB]	CH 21475 882.5 MHz	CH 21625 897.5 MHz	CH 21775 912.5 MHz	3GPP MPR [dB]
8 / 5M	8	0	23.16	23.28	N/A*	0	N/A*	22.29	22.21	1
	25	0	22.23	22.36	22.24	1	21.17	21.3	21.11	2
	8	17	N/A*	N/A*	23.05	0	22.23	22.63	N/A*	1
	1	0	N/A*	23.16	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 21500 885 MHz	CH 21625 897.5 MHz	CH 21750 910 MHz	3GPP MPR [dB]	CH 21500 885 MHz	CH 21625 897.5 MHz	CH 21750 910 MHz	3GPP MPR [dB]
8 / 10M	1	0	23.28	22.93	22.49	0	N/A*	N/A*	N/A*	N/A*
	1	24	23.34	23.45	23.42	0	N/A*	N/A*	N/A*	N/A*
	1	49	23.3	23.09	22.09	0	N/A*	N/A*	N/A*	N/A*
	12	0	23.21	23.18	N/A*	0	N/A*	22.05	21.3	1
	50	0	22.3	22.35	22.26	1	21.35	21.38	21.44	2
	12	38	N/A*	N/A*	22.54	0	22.11	22.42	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 24175 834.5 MHz	CH 24300 847 MHz	CH 24425 859.5 MHz	3GPP MPR [dB]	CH 24175 834.5 MHz	CH 24300 847 MHz	CH 24425 859.5 MHz	3GPP MPR [dB]
20 / 5M	8	0	22.9	23.13	N/A*	0	N/A*	22.13	22.2	1
	25	0	21.9	22.12	22.16	1	20.96	21.17	21.09	2
	8	17	N/A*	N/A*	23.02	0	21.98	22.11	N/A*	1
	1	0	N/A*	23.07	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 24200 837 MHz	CH 24300 847 MHz	CH 24400 857 MHz	3GPP MPR [dB]	CH 24200 837 MHz	CH 24300 847 MHz	CH 24400 857 MHz	3GPP MPR [dB]
20 / 10M	12	0	22.95	23.27	N/A*	0	N/A*	22.16	22.05	1
	50	0	22.1	22.17	22.18	1	21.16	21.21	21.22	2
	12	38	N/A*	N/A*	23.07	0	22.14	22.15	N/A*	1
	1	0	N/A*	23.21	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 24225 839.5 MHz	CH 24300 847 MHz	CH 24375 854.5 MHz	3GPP MPR [dB]	CH 24225 839.5 MHz	CH 24300 847 MHz	CH 24375 854.5 MHz	3GPP MPR [dB]
20 / 15M	16	0	22.94	23.28	N/A*	0	N/A*	22.15	22.28	1
	75	0	22.2	22.22	22.18	1	21.32	21.13	21.09	2
	16	59	N/A*	N/A*	23.08	0	22.41	22.07	N/A*	1
	1	0	N/A*	23.06	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 24250 842 MHz	CH 24300 847 MHz	CH 24350 852 MHz	3GPP MPR [dB]	CH 24250 842 MHz	CH 24300 847 MHz	CH 24350 852 MHz	3GPP MPR [dB]
20 / 20M	1	0	22.79	23.0	22.82	0	N/A*	N/A*	N/A*	N/A*
	1	49	23.15	23.33	23.16	0	N/A*	N/A*	N/A*	N/A*
	1	99	22.9	23.01	22.74	0	N/A*	N/A*	N/A*	N/A*
	18	0	22.86	22.98	N/A*	0	N/A*	22.08	22.14	1
	100	0	22.22	22.16	22.22	1	21.15	21.1	21.05	2
	18	82	N/A*	N/A*	23.0	0	22.05	22.14	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 27225 704.5 MHz	CH 27435 725.5 MHz	CH 27645 746.5 MHz	3GPP MPR [dB]	CH 27225 704.5 MHz	CH 27435 725.5 MHz	CH 27645 746.5 MHz	3GPP MPR [dB]
28 / 3M	4	0	23.25	23.01	N/A*	0	N/A*	21.98	22.14	1
	15	0	22.13	22.06	22.2	1	21.04	21.07	21.16	2
	4	11	N/A*	N/A*	23.05	0	22.25	21.99	N/A*	1
	1	0	N/A*	22.88	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 27235 705.5 MHz	CH 27435 725.5 MHz	CH 27635 745.5 MHz	3GPP MPR [dB]	CH 27235 705.5 MHz	CH 27435 725.5 MHz	CH 27635 745.5 MHz	3GPP MPR [dB]
28 / 5M	8	0	23.31	22.95	N/A*	0	N/A*	22.04	22.02	1
	25	0	22.53	22.01	22.08	1	21.45	20.99	21.07	2
	8	17	N/A*	N/A*	23.16	0	22.26	22.07	N/A*	1
	1	0	N/A*	22.92	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 27260 708 MHz	CH 27435 725.5 MHz	CH 27610 743 MHz	3GPP MPR [dB]	CH 27260 708 MHz	CH 27435 725.5 MHz	CH 27610 743 MHz	3GPP MPR [dB]
28 / 10M	12	0	23.24	22.94	N/A*	0	N/A*	21.88	21.92	1
	50	0	22.36	22.1	22.07	1	21.41	21.07	21.25	2
	12	38	N/A*	N/A*	23.21	0	22.06	21.92	N/A*	1
	1	0	N/A*	23.0	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 27285 710.5 MHz	CH 27435 725.5 MHz	CH 27585 740.5 MHz	3GPP MPR [dB]	CH 27285 710.5 MHz	CH 27435 725.5 MHz	CH 27585 740.5 MHz	3GPP MPR [dB]
28 / 15M	16	0	23.0	22.84	N/A*	0	N/A*	22.05	22.02	1
	75	0	22.26	22.03	22.1	1	21.24	20.98	21.01	2
	16	59	N/A*	N/A*	23.23	0	22.25	22.14	N/A*	1
	1	0	N/A*	23.0	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 27310 713 MHz	CH 27435 725.5 MHz	CH 27560 738 MHz	3GPP MPR [dB]	CH 27310 713 MHz	CH 27435 725.5 MHz	CH 27560 738 MHz	3GPP MPR [dB]
28 / 20M	1	0	22.96	23.16	22.48	0	N/A*	N/A*	N/A*	N/A*
	1	49	23.36	23.04	23.05	0	N/A*	N/A*	N/A*	N/A*
	1	99	23.04	22.3	22.86	0	N/A*	N/A*	N/A*	N/A*
	18	0	23.15	22.96	N/A*	0	N/A*	22.07	22.14	1
	100	0	22.18	22.11	22.15	1	21.14	20.94	21.12	2
	18	82	N/A*	N/A*	23.27	0	22.29	22.14	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 37775 2572.5 MHz	CH 38000 2595.0 MHz	CH 38225 2617.5 MHz	3GPP MPR [dB]	CH 37775 2572.5 MHz	CH 38000 2595.0 MHz	CH 38225 2617.5 MHz	3GPP MPR [dB]
38 / 5M	8	0	24.89	25.18	N/A*	0	N/A*	24.36	23.87	1
	25	0	23.69	24.19	24.24	1	22.81	23.2	23.27	2
	8	17	N/A*	N/A*	25.15	0	23.3	24.28	N/A*	1
	1	0	N/A*	24.88	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 37800 2575 MHz	CH 38000 2595.0 MHz	CH 38200 2615 MHz	3GPP MPR [dB]	CH 37800 2575 MHz	CH 38000 2595.0 MHz	CH 38200 2615 MHz	3GPP MPR [dB]
38 / 10M	12	0	24.73	25.17	N/A*	0	N/A*	24.03	24.33	1
	50	0	23.64	24.22	24.32	1	22.84	23.23	23.26	2
	12	38	N/A*	N/A*	25.27	0	23.74	24.05	N/A*	1
	1	0	N/A*	24.94	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 37825 2577.5 MHz	CH 38000 2595.0 MHz	CH 38175 2612.5 MHz	3GPP MPR [dB]	CH 37825 2577.5 MHz	CH 38000 2595.0 MHz	CH 38175 2612.5 MHz	3GPP MPR [dB]
38 / 15M	16	0	24.72	25.1	N/A*	0	N/A*	24.03	24.1	1
	75	0	23.79	24.16	24.28	1	22.85	23.12	23.16	2
	16	59	N/A*	N/A*	25.07	0	23.69	24.05	N/A*	1
	1	0	N/A*	24.84	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 37850 2580.0 MHz	CH 38000 2595.0 MHz	CH 38150 2610.0 MHz	3GPP MPR [dB]	CH 37850 2580.0 MHz	CH 38000 2595.0 MHz	CH 38150 2610.0 MHz	3GPP MPR [dB]
38 / 20M	1	0	24.77	24.82	25.24	0	N/A*	N/A*	N/A*	N/A*
	1	49	24.73	25.17	25.49	0	N/A*	N/A*	N/A*	N/A*
	1	99	24.59	25.0	25.01	0	N/A*	N/A*	N/A*	N/A*
	18	0	24.68	25.09	N/A*	0	N/A*	23.91	24.13	1
	100	0	23.88	24.11	24.26	1	22.91	23.0	23.36	2
	18	82	N/A*	N/A*	25.12	0	23.83	24.05	N/A*	1

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 38675 2302.5 MHz	CH 39150 2350.0 MHz	CH 39625 2397.5 MHz	3GPP MPR [dB]	CH 38675 2302.5 MHz	CH 39150 2350.0 MHz	CH 39625 2397.5 MHz	3GPP MPR [dB]
40 / 5M	8	0	23.33	22.95	N/A*	0	N/A*	22.03	21.74	1
	25	0	22.39	22.15	21.73	1	21.77	21.24	20.92	2
	8	17	N/A*	N/A*	22.69	0	22.41	22.09	N/A*	1
	1	0	N/A*	22.87	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 38700 2305.0 MHz	CH 39150 2350.0 MHz	CH 39600 2395.0 MHz	3GPP MPR [dB]	CH 38700 2305.0 MHz	CH 39150 2350.0 MHz	CH 39600 2395.0 MHz	3GPP MPR [dB]
40 / 10M	12	0	23.45	22.98	N/A*	0	N/A*	21.93	21.71	1
	50	0	22.48	22.08	21.63	1	21.49	21.08	20.8	2
	12	38	N/A*	N/A*	22.6	0	22.23	21.97	N/A*	1
	1	0	N/A*	22.93	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 38725 2307.5 MHz	CH 39150 2350.0 MHz	CH 39575 2392.5 MHz	3GPP MPR [dB]	CH 38725 2307.5 MHz	CH 39150 2350.0 MHz	CH 39575 2392.5 MHz	3GPP MPR [dB]
40 / 15M	16	0	23.46	23.2	N/A*	0	N/A*	22.01	21.68	1
	75	0	22.39	22.02	21.68	1	21.66	21.08	20.75	2
	16	59	N/A*	N/A*	22.61	0	22.36	21.94	N/A*	1
	1	0	N/A*	22.91	N/A*	0	N/A*	N/A*	N/A*	N/A*

LTE Band / BW	RB Size RBs	RB Offset RB Start	QPSK				16QAM			
			CH 38750 2310.0 MHz	CH 39150 2350.0 MHz	CH 39550 2390.0 MHz	3GPP MPR [dB]	CH 38750 2310.0 MHz	CH 39150 2350.0 MHz	CH 39550 2390.0 MHz	3GPP MPR [dB]
40 / 20M	1	0	23.33	22.97	22.8	0	N/A*	N/A*	N/A*	N/A*
	1	49	23.65	23.15	22.89	0	N/A*	N/A*	N/A*	N/A*
	1	99	22.91	22.75	22.5	0	N/A*	N/A*	N/A*	N/A*
	18	0	23.49	23.11	N/A*	0	N/A*	22.13	21.77	1
	100	0	22.45	22.04	21.81	1	21.44	21.13	20.81	2
	18	82	N/A*	N/A*	22.75	0	22.07	22.18	N/A*	1

Mode	Modulation	Output power [dBm]		
		CH 1 2402 MHz	CH 40 2442 MHz	CH 78 2480 MHz
Bluetooth	GFSK	4.34	4.17	4.27

4. TEST EQUIPMENT

Dasy52 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 tissue equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location of maximum electromagnetic field.

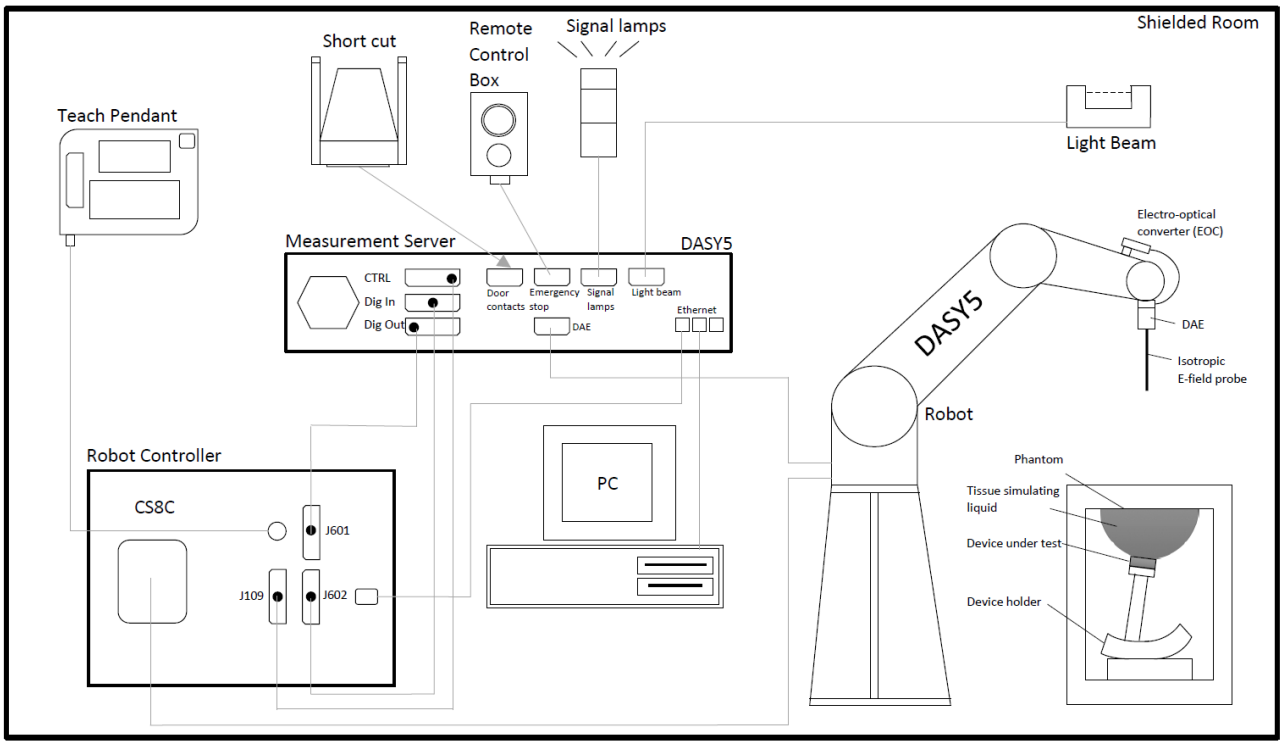


Figure 1 Schematic Laboratory Picture

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
DAE	DAE4	1332	10.2019
DAE	DAE4	756	03.2020
Probe	EX3DV4	3892	04.2020
Probe	EX3DV4	7447	03.2020
Dipole	42/17 DIP 0G750	454	12.2018
Dipole	D835V2	448	03.2020
Dipole	D1800V2	249	03.2020
Dipole	D1900V2	511	03.2020
Dipole	14/15 DIP 2G300	366	02.2020
Dipole	D2450V2	758	03.2020
Dipole	51/18 DIP 2G600	474	12.2018
DASY5 Software	52.8.8.1258	-	NA
Radio Communication Analyzer	MT8820C	6200951734	11.2019
Radio Communication Analyzer	MT8820C	6200930942	10.2019
Radio Communication Analyzer	MT8820C	6200883099	09.2020
Signal Generator	R&S SMIQ06B	8349681023	NA
Amplifier	AR 10S1G4A	320421	NA
Power Sensor	R&S NRP-Z11	100265	12.2019
Power Reflection Meter	NRT	835065/049	02.2020
Directional Power Sensor	NRT-Z44	102766	02.2020

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
Application	General dosimetry up to 6 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.2 Phantoms

4.2.1 SAM phantom

The phantom used in SAR tests was the left and right head section and the flat phantom section of the twin-headed "SAM Phantom" manufactured by SPEAG. The phantom conforms to the requirements of IEC 62209-1 standard and all known tissue simulating liquids.

4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given IEC62209-1. The dielectric parameters of the used tissue simulants were within ±10% of the recommended values in all frequencies used. A liquid compensation algorithm was used in DASY5 with which measured peak average SAR values were corrected for the deviation of used liquid. Depth of the tissue simulant was at least 15.0 cm from the inner surface of the flat phantom.

4.4 System Validation Status

Frequency [MHz]	Dipole Type / SN	Probe Type / SN	Signal Type	DAE Unit / SN	Dielectric Constant [ε] Head tissue simulant	Conductivity σ [S/m] Head tissue simulant	Validation Done
							Head tissue simulant
750	D750V3 / 1154	EX3DV4 / 3892	CW/FDD	DAE 4 / 705	42.29	0.91	05.2020
835	D835V2 / 448	EX3DV4 / 3892	CW/GMSK	DAE 4 / 705	42.03	0.95	05.2020
1800	D1800V2 / 249	EX3DV4 / 3892	CW/GMSK	DAE 4 / 705	40.14	1.41	05.2020
1900	D1900V2 / 511	EX3DV4 / 3892	CW/FDD	DAE 4 / 705	39.97	1.45	05.2020
2300	14/15 DIP 2G300-366	EX3DV4 - SN: 7447	CW	DAE 4 / 756	39.73	1.74	04.2020
2450	D2450V2 / 729	EX3DV4 / 3892	CW/DSSS	DAE 4 / 705	39.26	1.84	05.2020
2600	51/18 DIP 2G600 / 474	EX3DV4 / 3892	CW	DAE 4 / 705	39.03	1.96	05.2020

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 (%)	Plot #
24.08.2020	WB Head	22	835	250	2.2	9.4	8.8	-6.2	1
25.08.2020	WB Head	22	835	250	2.35	9.4	9.4	0.2	2
26.08.2020	WB Head	22	835	250	2.38	9.4	9.5	1.5	3
27.08.2020	WB Head	22	1900	250	9.32	37.1	37.3	0.5	4
28.08.2020	WB Head	22	1900	250	9.46	37.1	37.8	2.0	5
31.08.2020	WB Head	22	750	250	2.0	8.5	8.0	-6.1	6
01.09.2020	WB Head	22	750	250	2.02	8.5	8.1	-5.2	7
02.09.2020	WB Head	22	750	250	1.99	8.5	8.0	-6.6	8
02.09.2020	WB Head	22	2600	250	13.5	55.1	54.0	-2.0	9
04.09.2020	WB Head	22	2600	250	13.3	55.1	53.2	-3.4	10
07.09.2020	WB Head	22	2600	250	13.3	55.1	53.2	-3.4	11
08.09.2020	WB Head	22	2600	250	13.9	55.1	55.6	0.9	12
09.09.2020	WB Head	22	2600	250	14.3	55.1	57.2	3.9	13
09.09.2020	WB Head	22	1800	250	9.38	39.2	37.5	-4.3	14
10.09.2020	WB Head	22	1800	250	8.89	39.2	35.6	-9.3	15
14.09.2020	WB Head	22	1800	250	9.42	39.21	37.68	-3.9	16
15.09.2020	WB Head	22	1800	250	9.3	39.21	37.2	-5.1	17
16.09.2020	WB Head	22	835	250	2.28	9.38	9.1	-2.8	18
17.09.2020	WB Head	22	835	250	2.3	9.38	9.2	-1.9	19
18.09.2020	WB Head	22	835	250	2.35	9.38	9.4	0.2	20
21.09.2020	WB Head	22	835	250	2.37	9.38	9.48	1.1	21
22.09.2020	WB Head	22	2450	250	13.0	55.34	52.0	-6.0	22
23.09.2020	WB Head	22	2450	250	12.7	55.34	50.8	-8.2	23
24.09.2020	WB Head	22	1900	250	9.71	37.1	38.84	4.7	24
25.09.2020	WB Head	22	2300	250	11.8	48.67	47.2	-3.0	25
28.09.2020	WB Head	22	2300	250	11.8	48.67	47.2	-3.0	26
12.10.2020	WB Head	22	835	250	2.38	9.38	9.52	1.49	27
12.10.2020	WB Head	22	1800	250	9.32	39.21	37.28	-4.92	28

4.6 Tissue Simulant Verification

Date	Tissue Type	Tissue Temp [°C]	Frequency [MHz]	Target		Measured		Deviation	
				Dielectric Constant [ε] Target	Conductivity σ [S/m] Target	Dielectric Constant [ε]	Conductivity σ [S/m]	ε (%)	σ (%)
24.08.2020	WB Head	22	835	41.55	0.91	40.39	0.99	-2.8	8.6
24.08.2020	WB Head	22	882	41.5	0.95	40.12	1.01	-3.3	5.7
24.08.2020	WB Head	22	897.5	41.5	0.97	40.05	1.01	-3.5	4.5
24.08.2020	WB Head	22	898	41.5	0.97	40.05	1.01	-3.5	4.4
24.08.2020	WB Head	22	913	41.48	0.98	39.98	1.02	-3.6	4.0
25.08.2020	WB Head	22	835	41.55	0.91	40.86	0.97	-1.7	6.4
25.08.2020	WB Head	22	842	41.53	0.91	40.83	0.97	-1.7	6.3
25.08.2020	WB Head	22	847	41.51	0.92	40.79	0.97	-1.7	6.3
25.08.2020	WB Head	22	852	41.5	0.92	40.78	0.98	-1.7	6.2
25.08.2020	WB Head	22	885	41.5	0.95	40.6	0.99	-2.2	3.5
25.08.2020	WB Head	22	897.5	41.5	0.97	40.56	0.99	-2.3	2.5
25.08.2020	WB Head	22	910	41.49	0.97	40.51	1.0	-2.4	2.2
26.08.2020	WB Head	22	835	41.55	0.91	40.12	0.93	-3.5	2.5
26.08.2020	WB Head	22	842	41.53	0.91	40.1	0.94	-3.4	2.4
26.08.2020	WB Head	22	847	41.51	0.92	40.07	0.94	-3.5	2.5
26.08.2020	WB Head	22	852	41.5	0.92	40.06	0.94	-3.5	2.4
26.08.2020	WB Head	22	882	41.5	0.95	39.89	0.95	-3.9	-0.1
26.08.2020	WB Head	22	885	41.5	0.95	39.88	0.95	-3.9	-0.3
26.08.2020	WB Head	22	897.5	41.5	0.97	39.83	0.96	-4.0	-1.3
26.08.2020	WB Head	22	898	41.5	0.97	39.82	0.96	-4.0	-1.3
26.08.2020	WB Head	22	910	41.49	0.97	39.77	0.96	-4.1	-1.5
26.08.2020	WB Head	22	913	41.48	0.98	39.73	0.96	-4.2	-1.6
27.08.2020	WB Head	22	1852	40	1.4	37.35	1.35	-6.6	-3.2
27.08.2020	WB Head	22	1860	40	1.4	37.34	1.36	-6.7	-3.0
27.08.2020	WB Head	22	1880	40	1.4	37.3	1.37	-6.7	-2.3
27.08.2020	WB Head	22	1900	40	1.4	37.26	1.38	-6.8	-1.5
27.08.2020	WB Head	22	1908	40	1.4	37.25	1.39	-6.9	-1.0
27.08.2020	WB Head	22	1922	40	1.4	37.23	1.39	-6.9	-0.6
27.08.2020	WB Head	22	1930	40	1.4	37.22	1.39	-7.0	-0.4
27.08.2020	WB Head	22	1950	40	1.4	37.18	1.4	-7.1	0.2
27.08.2020	WB Head	22	1975	40	1.4	37.12	1.42	-7.2	1.3
27.08.2020	WB Head	22	1978	40	1.4	37.12	1.42	-7.2	1.3
28.08.2020	WB Head	22	1852	40	1.4	36.95	1.35	-7.6	-3.6
28.08.2020	WB Head	22	1860	40	1.4	36.94	1.35	-7.7	-3.4
28.08.2020	WB Head	22	1880	40	1.4	36.91	1.36	-7.7	-2.7
28.08.2020	WB Head	22	1900	40	1.4	36.88	1.38	-7.8	-1.8
28.08.2020	WB Head	22	1908	40	1.4	36.87	1.38	-7.8	-1.5
28.08.2020	WB Head	22	1922	40	1.4	36.84	1.39	-7.9	-1.1
28.08.2020	WB Head	22	1930	40	1.4	36.82	1.39	-7.9	-0.8
28.08.2020	WB Head	22	1950	40	1.4	36.78	1.4	-8.0	-0.3
28.08.2020	WB Head	22	1975	40	1.4	36.74	1.41	-8.1	0.8
28.08.2020	WB Head	22	1978	40	1.4	36.74	1.41	-8.1	0.9
31.08.2020	WB Head	22	704	42.18	0.89	41.25	0.89	-2.2	0.4
31.08.2020	WB Head	22	713	42.13	0.89	41.2	0.9	-2.2	0.6
31.08.2020	WB Head	22	725.5	42.07	0.89	41.08	0.9	-2.4	0.9
31.08.2020	WB Head	22	738	42.0	0.89	41.0	0.9	-2.4	1.0
31.08.2020	WB Head	22	750	41.94	0.89	40.88	0.91	-2.5	1.3
31.08.2020	WB Head	22	782	41.78	0.9	40.62	0.92	-2.8	2.7
01.09.2020	WB Head	22	704	42.18	0.89	40.25	0.86	-4.6	-3.7
01.09.2020	WB Head	22	707.5	42.16	0.89	40.2	0.86	-4.6	-3.6
01.09.2020	WB Head	22	711	42.14	0.89	40.19	0.86	-4.6	-3.6
01.09.2020	WB Head	22	713	42.13	0.89	40.17	0.86	-4.7	-3.4
01.09.2020	WB Head	22	738	42.0	0.89	40.01	0.87	-4.8	-2.6
01.09.2020	WB Head	22	750	41.94	0.89	39.93	0.87	-4.8	-2.5
01.09.2020	WB Head	22	779.5	41.79	0.9	39.71	0.88	-5.0	-1.4
01.09.2020	WB Head	22	782	41.78	0.9	39.7	0.88	-5.0	-1.3
01.09.2020	WB Head	22	784.5	41.76	0.9	39.68	0.89	-5.0	-1.2

02.09.2020	WB Head	22	704	42.18	0.89	40.41	0.86	-4.2	-3.7
02.09.2020	WB Head	22	707.5	42.16	0.89	40.41	0.86	-4.2	-3.6
02.09.2020	WB Head	22	713	42.13	0.89	40.37	0.86	-4.2	-3.4
02.09.2020	WB Head	22	725.5	42.07	0.89	40.28	0.86	-4.3	-3.2
02.09.2020	WB Head	22	738	42.0	0.89	40.18	0.87	-4.4	-2.9
02.09.2020	WB Head	22	750	41.94	0.89	40.11	0.87	-4.4	-2.6
02.09.2020	WB Head	22	779.5	41.79	0.9	39.87	0.88	-4.6	-1.4
02.09.2020	WB Head	22	784.5	41.76	0.9	39.84	0.89	-4.6	-1.2
02.09.2020	WB Head	22	2502.5	39.13	1.86	37.29	1.75	-4.7	-6.0
02.09.2020	WB Head	22	2510	39.12	1.87	37.28	1.75	-4.7	-6.1
02.09.2020	WB Head	22	2535	39.09	1.89	37.24	1.77	-4.7	-6.6
02.09.2020	WB Head	22	2560	39.06	1.92	37.2	1.78	-4.8	-7.1
02.09.2020	WB Head	22	2600	39.01	1.96	37.14	1.81	-4.8	-7.9
04.09.2020	WB Head	22	2506	39.13	1.86	37.83	1.76	-3.3	-5.5
04.09.2020	WB Head	22	2572.5	39.04	1.93	37.74	1.8	-3.4	-6.9
04.09.2020	WB Head	22	2593	39.02	1.96	37.7	1.81	-3.4	-7.4
04.09.2020	WB Head	22	2595	39.02	1.96	37.69	1.81	-3.4	-7.4
04.09.2020	WB Head	22	2600	39.01	1.96	37.69	1.82	-3.4	-7.5
04.09.2020	WB Head	22	2610	39.0	1.97	37.67	1.82	-3.4	-7.6
04.09.2020	WB Head	22	2680	38.91	2.05	37.57	1.87	-3.4	-8.9
07.09.2020	WB Head	22	2502.5	39.13	1.86	36.88	1.73	-5.7	-6.6
07.09.2020	WB Head	22	2535	39.09	1.89	36.82	1.75	-5.8	-7.3
07.09.2020	WB Head	22	2560	39.06	1.92	36.76	1.77	-5.9	-7.7
07.09.2020	WB Head	22	2600	39.01	1.96	36.73	1.8	-5.9	-8.4
08.09.2020	WB Head	22	2502.5	39.13	1.86	37.27	1.74	-4.8	-6.3
08.09.2020	WB Head	22	2535	39.09	1.89	37.22	1.76	-4.8	-6.9
08.09.2020	WB Head	22	2560	39.06	1.92	37.19	1.78	-4.8	-7.4
08.09.2020	WB Head	22	2572.5	39.04	1.93	37.18	1.79	-4.8	-7.6
08.09.2020	WB Head	22	2595	39.02	1.96	37.15	1.8	-4.8	-8.2
08.09.2020	WB Head	22	2600	39.01	1.96	37.12	1.8	-4.8	-8.3
08.09.2020	WB Head	22	2610	39.0	1.97	37.12	1.81	-4.8	-8.5
08.09.2020	WB Head	22	2680	38.91	2.05	37.01	1.85	-4.9	-9.7
09.09.2020	WB Head	22	1710	40.14	1.35	37.36	1.35	-6.9	-0.2
09.09.2020	WB Head	22	1713	40.14	1.35	37.35	1.35	-6.9	-0.2
09.09.2020	WB Head	22	1720	40.13	1.35	37.34	1.35	-6.9	-0.3
09.09.2020	WB Head	22	1732.5	40.11	1.36	37.32	1.36	-7.0	-0.3
09.09.2020	WB Head	22	1733	40.11	1.36	37.32	1.36	-7.0	-0.3
09.09.2020	WB Head	22	1745	40.09	1.37	37.29	1.36	-7.0	-0.4
09.09.2020	WB Head	22	1747.5	40.08	1.37	37.29	1.36	-7.0	-0.4
09.09.2020	WB Head	22	1748	40.08	1.37	37.29	1.36	-7.0	-0.4
09.09.2020	WB Head	22	1753	40.07	1.37	37.28	1.37	-7.0	-0.4
09.09.2020	WB Head	22	1775	40.04	1.39	37.22	1.38	-7.0	-0.5
09.09.2020	WB Head	22	1785	40.02	1.39	37.2	1.38	-7.1	-0.6
09.09.2020	WB Head	22	1800	40	1.4	37.17	1.39	-7.1	-0.6
09.09.2020	WB Head	22	2506	39.13	1.86	37.57	1.8	-4.0	-3.4
09.09.2020	WB Head	22	2510	39.12	1.87	37.57	1.8	-4.0	-3.4
09.09.2020	WB Head	22	2535	39.09	1.89	37.53	1.82	-4.0	-4.0
09.09.2020	WB Head	22	2560	39.06	1.92	37.48	1.84	-4.0	-4.4
09.09.2020	WB Head	22	2593	39.02	1.96	37.43	1.86	-4.1	-5.0
09.09.2020	WB Head	22	2600	39.01	1.96	37.43	1.86	-4.0	-5.2
10.09.2020	WB Head	22	1710	40.14	1.35	38.48	1.29	-4.1	-4.1
10.09.2020	WB Head	22	1713	40.14	1.35	38.47	1.29	-4.1	-4.1
10.09.2020	WB Head	22	1720	40.13	1.35	38.47	1.3	-4.1	-4.2
10.09.2020	WB Head	22	1732.5	40.11	1.36	38.44	1.3	-4.1	-4.2
10.09.2020	WB Head	22	1733	40.11	1.36	38.44	1.3	-4.1	-4.2
10.09.2020	WB Head	22	1745	40.09	1.37	38.41	1.31	-4.2	-4.2
10.09.2020	WB Head	22	1747.5	40.08	1.37	38.42	1.31	-4.2	-4.2
10.09.2020	WB Head	22	1748	40.08	1.37	38.42	1.31	-4.2	-4.3
10.09.2020	WB Head	22	1753	40.07	1.37	38.4	1.31	-4.2	-4.3
10.09.2020	WB Head	22	1775	40.04	1.39	38.36	1.33	-4.2	-4.3
10.09.2020	WB Head	22	1785	40.02	1.39	38.34	1.33	-4.2	-4.5
10.09.2020	WB Head	22	1800	40	1.4	38.31	1.34	-4.2	-4.5
14.09.2020	WB Head	22	1710.2	40.14	1.35	39.03	1.31	-2.8	-2.6
14.09.2020	WB Head	22	1720	40.13	1.35	39.02	1.32	-2.8	-2.7

14.09.2020	WB Head	22	1732.5	40.11	1.36	38.99	1.32	-2.8	-2.7
14.09.2020	WB Head	22	1732.6	40.11	1.36	38.99	1.32	-2.8	-2.7
14.09.2020	WB Head	22	1745	40.09	1.37	38.97	1.33	-2.8	-2.8
14.09.2020	WB Head	22	1747.5	40.08	1.37	38.96	1.33	-2.8	-2.8
14.09.2020	WB Head	22	1747.6	40.08	1.37	38.96	1.33	-2.8	-2.8
14.09.2020	WB Head	22	1752.6	40.07	1.37	38.96	1.33	-2.8	-2.9
14.09.2020	WB Head	22	1784.8	40.02	1.39	38.89	1.35	-2.8	-3.0
14.09.2020	WB Head	22	1800	40	1.4	38.87	1.36	-2.8	-3.1
15.09.2020	WB Head	22	1710	40.14	1.35	38.95	1.31	-3.0	-2.9
15.09.2020	WB Head	22	1713	40.14	1.35	38.95	1.31	-3.0	-2.8
15.09.2020	WB Head	22	1720	40.13	1.35	38.93	1.31	-3.0	-2.9
15.09.2020	WB Head	22	1733	40.11	1.36	38.91	1.32	-3.0	-2.9
15.09.2020	WB Head	22	1747.5	40.08	1.37	38.88	1.33	-3.0	-3.1
15.09.2020	WB Head	22	1748	40.08	1.37	38.87	1.33	-3.0	-3.1
15.09.2020	WB Head	22	1753	40.07	1.37	38.88	1.33	-3.0	-3.1
15.09.2020	WB Head	22	1775	40.04	1.39	38.83	1.34	-3.0	-3.2
15.09.2020	WB Head	22	1785	40.02	1.39	38.81	1.35	-3.0	-3.3
15.09.2020	WB Head	22	1800	40	1.4	38.79	1.35	-3.0	-3.4
16.09.2020	WB Head	22	826	41.59	0.91	41.32	0.91	-0.6	0.5
16.09.2020	WB Head	22	829	41.58	0.91	41.3	0.91	-0.7	0.5
16.09.2020	WB Head	22	835	41.55	0.91	41.27	0.91	-0.7	0.5
16.09.2020	WB Head	22	836	41.55	0.91	41.27	0.92	-0.7	0.5
16.09.2020	WB Head	22	836.5	41.55	0.91	41.26	0.92	-0.7	0.5
16.09.2020	WB Head	22	836.6	41.55	0.91	41.26	0.92	-0.7	0.5
16.09.2020	WB Head	22	844	41.52	0.91	41.23	0.92	-0.7	0.3
16.09.2020	WB Head	22	847	41.51	0.92	41.22	0.92	-0.7	0.5
16.09.2020	WB Head	22	897.6	41.5	0.97	40.98	0.94	-1.3	-3.0
17.09.2020	WB Head	22	824	41.59	0.91	40.81	0.92	-1.9	1.8
17.09.2020	WB Head	22	835	41.55	0.91	40.75	0.93	-1.9	1.7
17.09.2020	WB Head	22	837	41.55	0.91	40.75	0.93	-1.9	1.9
17.09.2020	WB Head	22	849	41.5	0.92	40.68	0.93	-2.0	1.8
17.09.2020	WB Head	22	880	41.5	0.95	40.51	0.94	-2.4	-0.6
17.09.2020	WB Head	22	898	41.5	0.97	40.43	0.95	-2.6	-2.0
17.09.2020	WB Head	22	915	41.48	0.98	40.33	0.96	-2.8	-2.1
18.09.2020	WB Head	22	835	41.55	0.91	40.29	0.94	-3.0	3.5
18.09.2020	WB Head	22	836.6	41.55	0.91	40.3	0.94	-3.0	3.4
18.09.2020	WB Head	22	844	41.52	0.91	40.26	0.95	-3.0	3.5
18.09.2020	WB Head	22	880	41.5	0.95	40.09	0.96	-3.4	1.1
18.09.2020	WB Head	22	898	41.5	0.97	39.97	0.97	-3.7	-0.2
18.09.2020	WB Head	22	915	41.48	0.98	39.91	0.97	-3.8	-0.4
21.09.2020	WB Head	22	824	41.59	0.91	41.08	0.95	-1.2	5.0
21.09.2020	WB Head	22	826	41.59	0.91	41.08	0.95	-1.2	5.1
21.09.2020	WB Head	22	829	41.58	0.91	41.05	0.95	-1.3	5.1
21.09.2020	WB Head	22	835	41.55	0.91	41.02	0.96	-1.3	5.0
21.09.2020	WB Head	22	836	41.55	0.91	41.01	0.96	-1.3	5.1
21.09.2020	WB Head	22	836.5	41.55	0.91	41.02	0.96	-1.3	5.1
21.09.2020	WB Head	22	837	41.55	0.91	41.02	0.96	-1.3	5.1
21.09.2020	WB Head	22	844	41.52	0.91	40.98	0.96	-1.3	5.1
21.09.2020	WB Head	22	847	41.51	0.92	40.95	0.96	-1.3	5.1
21.09.2020	WB Head	22	849	41.5	0.92	40.96	0.96	-1.3	5.0
21.09.2020	WB Head	22	880	41.5	0.95	40.78	0.97	-1.7	2.7
21.09.2020	WB Head	22	898	41.5	0.97	40.71	0.98	-1.9	1.1
21.09.2020	WB Head	22	915	41.48	0.98	40.64	0.99	-2.0	1.0
22.09.2020	WB Head	22	2402	39.29	1.76	37.25	1.7	-5.2	-3.1
22.09.2020	WB Head	22	2442	39.21	1.79	37.18	1.73	-5.2	-3.7
22.09.2020	WB Head	22	2450	39.2	1.8	37.17	1.73	-5.2	-3.8
22.09.2020	WB Head	22	2480	39.16	1.83	37.12	1.75	-5.2	-4.6
23.09.2020	WB Head	22	2402	39.29	1.76	37.79	1.72	-3.8	-2.3
23.09.2020	WB Head	22	2442	39.21	1.79	37.73	1.74	-3.8	-2.9
23.09.2020	WB Head	22	2450	39.2	1.8	37.71	1.75	-3.8	-3.0
23.09.2020	WB Head	22	2480	39.16	1.83	37.67	1.77	-3.8	-3.7
24.09.2020	WB Head	22	1850	40	1.4	38.74	1.44	-3.2	2.6
24.09.2020	WB Head	22	1880	40	1.4	38.67	1.45	-3.3	3.8
24.09.2020	WB Head	22	1900	40	1.4	38.65	1.46	-3.4	4.5

24.09.2020	WB Head	22	1910	40	1.4	38.62	1.47	-3.5	5.0
25.09.2020	WB Head	22	2300	39.47	1.67	37.64	1.64	-4.6	-1.6
25.09.2020	WB Head	22	2310	39.45	1.68	37.63	1.65	-4.6	-1.7
25.09.2020	WB Head	22	2350	39.38	1.71	37.57	1.67	-4.6	-2.3
25.09.2020	WB Head	22	2390	39.31	1.75	37.53	1.7	-4.5	-2.9
28.09.2020	WB Head	22	2300	39.47	1.67	38.2	1.65	-3.2	-0.8
28.09.2020	WB Head	22	2310	39.45	1.68	38.19	1.66	-3.2	-0.9
28.09.2020	WB Head	22	2350	39.38	1.71	38.12	1.69	-3.2	-1.5
28.09.2020	WB Head	22	2390	39.31	1.75	38.07	1.71	-3.1	-2.1
12.10.2020	WB Head	22	835	41.55	0.91	40.95	0.94	-1.5	3.7
12.10.2020	WB Head	22	880	41.5	0.95	40.68	0.96	-2.0	1.4
12.10.2020	WB Head	22	898	41.5	0.97	40.61	0.97	-2.1	-0.2
12.10.2020	WB Head	22	915	41.48	0.98	40.52	0.97	-2.3	-0.5
12.10.2020	WB Head	22	1710	40.14	1.35	38.35	1.34	-4.5	-0.8
12.10.2020	WB Head	22	1748	40.08	1.37	38.33	1.36	-4.4	-1.0
12.10.2020	WB Head	22	1785	40.02	1.39	38.24	1.38	-4.5	-1.0
12.10.2020	WB Head	22	1800	40	1.4	38.22	1.39	-4.5	-1.0

5. TEST PROCEDURE

The device has two transmit antennas for cellular bands which are not used simultaneously. Antenna A is used for frequency bands under 1GHz and Antenna B for frequency bands above 1GHz. Antenna selection was done using a test software.

For the cellular technologies, the device was set to transmit using maximum power with a communication tester. Bluetooth was set to transmit on maximum power and duty cycle using a test software.

LTE modes i.e. bandwidth, RB size and allocation used for conducted power measurements were selected based on IEC PAS 63083 "Specific absorption rate (SAR) measurement procedure for long term evolution (LTE) devices".

For each LTE frequency band, channel and LTE mode with the highest conducted power was measured in all test positions. Test position with highest SAR result was measured at other channels with an LTE mode having highest conducted power. In accordance to IEC PAS 63083, if the maximum measured body SAR result/mode multiplied by 1.35 was below the SAR limit, other LTE modes were not tested.

For GSM bands, slot configuration with the highest time averaged power (GPRS 900, 3 TX slot and GPRS 1800, 3 TX slot) was selected for Body SAR testing. GSM was selected for Head SAR testing instead of GPRS because GPRS cannot be used while having a voice call.

5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

5.2 Test Positions

Photos of the test positions are presented in appendix A.

5.2.1 Against Head Configuration

Measurements were made in "cheek" and "tilt" positions on both the left hand and right-hand sides of the phantom. The positions used in the measurements were according to IEC 62209-1.

5.2.2 Body-worn Configuration, 5mm separation distance

The device was placed in the SPEAG holder and placed below the flat phantom. The separation distance between the device and the phantom was kept at 5mm using a separate flat spacer that was removed before the start of the measurements. The device was oriented with its back and front sides facing the phantom and earpiece facing right.

5.2.3 Limb Configuration, 0mm separation distance

The device was placed in the SPEAG holder and placed below the flat phantom. The separation distance between the device and the phantom was kept at 0mm. The device was oriented the way that front, back and all sides (top, bottom, left and right) were facing the phantom. The earpiece was facing right on front and back positions, and screen facing forward on side positions. An area scan was performed on each position and in addition a zoom scan was performed on the highest SAR test position.

5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan was performed around the highest E-field value to determine the averaged SAR value. 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 was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy52 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).
The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighboring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

6. MEASUREMENT UNCERTAINTY

Uncertainty Budget
According to IEC 62209-2/2010
(30 MHz - 6 GHz range)

Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±6.55 %	N	1	1	1	±6.55 %	±6.55 %	∞
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 %	∞
Linearity	±4.7 %	R	$\sqrt{3}$	1	1	±2.7 %	±2.7 %	∞
Modulation Response^{m}	±2.4 %	R	$\sqrt{3}$	1	1	±1.4 %	±1.4 %	∞
System Detection Limits	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Boundary Effects	±2.0 %	R	$\sqrt{3}$	1	1	±1.2 %	±1.2 %	∞
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	±0.8 %	R	$\sqrt{3}$	1	1	±0.5 %	±0.5 %	∞
Probe Positioning	±6.7 %	R	$\sqrt{3}$	1	1	±3.9 %	±3.9 %	∞
Post-processing	±4.0 %	R	$\sqrt{3}$	1	1	±2.3 %	±2.3 %	∞
Test Sample Related								
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Test sample Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Power Scaling^{p}	±0 %	R	$\sqrt{3}$	1	1	±0.0 %	±0.0 %	∞
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Phantom and Setup								
Phantom Uncertainty	±7.6 %	R	$\sqrt{3}$	1	1	±4.4 %	±4.4 %	∞
SAR correction	±1.9 %	R	$\sqrt{3}$	1	0.84	±1.1 %	±0.9 %	∞
Liquid Conductivity (mea.)^{DAK}	±2.5 %	R	$\sqrt{3}$	0.78	0.71	±1.1 %	±1.0 %	∞
Liquid Permittivity (mea.) ^{DAK}	±2.5 %	R	$\sqrt{3}$	0.26	0.26	±0.3 %	±0.4 %	∞
Temp. unc. - Conductivity ^{BB}	±3.4 %	R	$\sqrt{3}$	0.78	0.71	±1.5 %	±1.4 %	∞
Temp. unc. - Permittivity ^{BB}	±0.4 %	R	$\sqrt{3}$	0.23	0.26	±0.1 %	±0.1 %	∞
Combined Std. Uncertainty						±12.5 %	±12.4 %	748
Expanded STD Uncertainty						**±24.9 %**	**±24.9 %**	

7. TEST RESULTS

7.1 Head SAR results

When SAR value of 0 W/kg is reported, SAR in the test case in questions, is below the detection limit of the test system. The dynamic range of the used e-field probe is 10 µW/g – >100 mW/g.

Band	Channel	TX slot config	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Side	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
GSM 900	38	1	35	32.24	-0.36	Left	Cheek	3:8	0.0247	2.05	0.05	-
GSM 900	38	1	35	32.24	-0.4	Left	Tilt	3:8	0.0112	2.07	0.02	-
GSM 900	38	1	35	32.24	-0.52	Right	Cheek	3:8	0.029	2.13	0.06	29
GSM 900	38	1	35	32.24	-0.39	Right	Tilt	3:8	0.0108	2.07	0.02	-
GSM 900	975	1	35	32.11	-0.44	Right	Cheek	3:8	0.0235	2.15	0.05	-
GSM 900	124	1	35	32.23	-0.23	Right	Cheek	3:8	0.0259	2.00	0.05	-

*Larger than 5% drifts included to scaling factors

Band	Channel	TX slot config	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Side	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
GSM 1800	699	1	32	28.83	N/A**	Left	Cheek	3:8	0	2.07	0	-
GSM 1800	699	1	32	28.83	N/A**	Left	Tilt	3:8	0	2.07	0	-
GSM 1800	699	1	32	28.83	N/A**	Right	Cheek	3:8	0	2.07	0	-
GSM 1800	699	1	32	28.83	N/A**	Right	Tilt	3:8	0	2.07	0.	-
GSM 1800	512	1	32	28.94	N/A**	Left	Cheek	3:8	0.000241	2.02	0.0005	30
GSM 1800	885	1	32	28.66	N/A**	Left	Cheek	3:8	0	2.16	0	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Mode	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Side	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Left	Cheek	1:1	0	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Left	Tilt	1:1	0	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Right	Cheek	1:1	0	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Right	Tilt	1:1	0	1.62	0	-
WCDMA 1	9612	RMC 12.2K	25	23	N/A**	Right	Cheek	1:1	0	1.58	0	-
WCDMA 1	9888	RMC 12.2K	25	22.97	N/A**	Right	Cheek	1:1	0	1.60	0	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Mode	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Side	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.16	Left	Cheek	1:1	0.0232	1.59	0.04	-
WCDMA 8	2788	RMC 12.2K	25	22.98	0.12	Left	Tilt	1:1	0.00888	1.59	0.01	-
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.72	Right	Cheek	1:1	0.0221	1.88	0.04	31
WCDMA 8	2788	RMC 12.2K	25	22.98	0.25	Right	Tilt	1:1	0.0078	1.69	0.01	-
WCDMA 8	2712	RMC 12.2K	25	23.02	-0.37	Right	Cheek	1:1	0.0165	1.72	0.03	-
WCDMA 8	2863	RMC 12.2K	25	22.89	-0.37	Right	Cheek	1:1	0.0157	1.77	0.03	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Left Cheek	1:1	0	1.74	0	Yes	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Left Tilt	1:1	0	1.74	0	Yes	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Right Cheek	1:1	0	1.74	0	Yes	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Right Tilt	1:1	0	1.74	0	Yes	-
LTE 1	18300	QPSK/15	16	0	25	22.55	N/A**	Right Cheek	1:1	0	1.76	0	Yes	-
LTE 1	18550	QPSK/10	12	38	25	22.54	N/A**	Right Cheek	1:1	0	1.76	0	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Left Cheek	1:1	0	1.57	0	Yes	-
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Left Tilt	1:1	0.0000039***	1.57	0.00001	Yes	32
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Right Cheek	1:1	0	1.57	0	Yes	-
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Right Tilt	1:1	0	1.57	0	Yes	-
LTE 3	19300	QPSK/20	1	99	25	22.68	N/A**	Left Tilt	1:1	0	1.71	0	Yes	-
LTE 3	19575	QPSK/20	18	0	25	22.96	N/A**	Left Tilt	1:1	0	1.60	0	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable
***Area scan result only, zoom scan is not applicable due to low E-field generated by DUT

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Left Cheek	1:1	0	1.11	0	Yes	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Left Tilt	1:1	0	1.11	0	Yes	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Right Cheek	1:1	0	1.11	0	Yes	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Right Tilt	1:1	0	1.11	0	Yes	-
LTE 7	20775	QPSK/5	8	0	25	23.23	N/A**	Right Cheek	1:1	0	1.50	0	Yes	-
LTE 7	21100	QPSK/20	1	99	25	24.04	N/A**	Right Cheek	1:1	0	1.25	0	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 8	21625	QPSK/10	1	24	25	23.45	-0.5	Left Cheek	1:1	0.0169	1.60	0.03	Yes	-
LTE 8	21625	QPSK/10	1	24	25	23.45	0.45	Left Tilt	1:1	0.00591	1.58	0.01	Yes	-
LTE 8	21625	QPSK/10	1	24	25	23.45	-0.69	Right Cheek	1:1	0.017	1.67	0.03	Yes	33
LTE 8	21625	QPSK/10	1	24	25	23.45	0.64	Right Tilt	1:1	0.00344	1.66	0.01	Yes	-
LTE 8	21500	QPSK/10	1	24	25	23.34	-0.09	Right Cheek	1:1	0.0187	1.47	0.03	Yes	-
LTE 8	21750	QPSK/10	1	24	25	23.42	0.92	Right Cheek	1:1	0.00557	1.78	0.01	Yes	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.19	Left Cheek	1:1	0.0332	1.47	0.05	Yes	34
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.08	Left Tilt	1:1	0.0115	1.47	0.02	Yes	-
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.55	Right Cheek	1:1	0.0233	1.67	0.04	Yes	-
LTE 20	24300	QPSK/20	1	49	25	23.33	0.02	Right Tilt	1:1	0.0103	1.47	0.02	Yes	-
LTE 20	24250	QPSK/20	1	49	25	23.15	-0.26	Left Cheek	1:1	0.0281	1.63	0.05	Yes	-
LTE 20	24350	QPSK/20	1	49	25	23.16	-0.33	Left Cheek	1:1	0.021	1.65	0.03	Yes	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 28	27310	QPSK/20	1	49	25	23.36	-0.19	Left Cheek	1:1	0.00831	1.46	0.01	Yes	-
LTE 28	27310	QPSK/20	1	49	25	23.36	0.13	Left Tilt	1:1	0.00388	1.46	0.01	Yes	-
LTE 28	27310	QPSK/20	1	49	25	23.36	-0.65	Right Cheek	1:1	0.00735	1.69	0.01	Yes	-
LTE 28	27310	QPSK/20	1	49	25	23.36	0.01	Right Tilt	1:1	0.0091	1.46	0.01	Yes	-
LTE 28	27435	QPSK/20	1	0	25	23.16	-0.38	Right Cheek	1:1	0.0075	1.67	0.01	Yes	-
LTE 28	27560	QPSK/20	18	82	25	23.27	-0.44	Right Cheek	1:1	0.0134	1.65	0.02	Yes	35

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Left Cheek	1:1	0	1.00	0	Yes	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Left Tilt	1:1	0	1.00	0	Yes	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Right Cheek	1:1	0	1.00	0	Yes	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Right Tilt	1:1	0	1.00	0	Yes	-
LTE 38	37775	QPSK/5	8	0	25	24.89	N/A**	Right Cheek	1:1	0	1.03	0	Yes	-
LTE 38	38000	QPSK/10***	12***	0	25	25.17	N/A**	Right Cheek	1:1	0	1.00	0	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable
***Connection between the DUT and tester was not established on LTE Band 38, CH 38000, BW5, RB 8, Offset 0, the next highest conducted power of that channel was selected for testing

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximun Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Left Cheek	1:1	0	1.36	0	Yes	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Left Tilt	1:1	0	1.36	0	Yes	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Right Cheek	1:1	0	1.36	0	Yes	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Right Tilt	1:1	0	1.36	0	Yes	-
LTE 40	39150	QPSK/15	16	0	25	23.2	N/A**	Right Cheek	1:1	0	1.51	0	Yes	-
LTE 40	39550	QPSK/20	1	49	25	22.89	N/A**	Right Cheek	1:1	0	1.63	0	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Plot #
Bluetooth	40	8	4.17	N/A**	Left Cheek	1:1	0.00759	2.42	0.02	-
Bluetooth	40	8	4.17	N/A**	Left Tilt	1:1	0.003	2.42	0.01	-
Bluetooth	40	8	4.17	N/A**	Right Cheek	1:1	0.00879	2.42	0.02	-
Bluetooth	40	8	4.17	-0.49	Right Tilt	1:1	0.00263	2.70	0.01	-
Bluetooth	1	8	4.34	N/A**	Right Cheek	1:1	0.00326	2.32	0.01	-
Bluetooth	78	8	4.27	0	Right Cheek	1:1	0.0137	2.36	0.03	36

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

7.2 Body SAR results with 5mm separation

Band	Channel	TX slot configuration	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
GPRS 900	38	3	33.2	28.87	0.57	Front	3:8	0.017	3.09	0.05	-
GPRS 900	38	3	33.2	28.87	-0.07	Back	3:8	0.134	2.71	0.36	-
GPRS 900	975	3	33.2	28.72	0.02	Back	3:8	0.216	2.81	0.61	37
GPRS 900	124	3	33.2	29.05	0.08	Back	3:8	0.144	2.60	0.37	-

*Larger than 5% drifts included to scaling factors

Band	Channel	TX slot configuration	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
GPRS 1800	699/1747.6	3	30.2	26.55	0.08	Front	3:8	0.00255	2.32	0.01	-
GPRS 1800	699/1747.6	3	30.2	26.55	-0.11	Back	3:8	0.0936	2.32	0.22	-
GPRS 1800	512/1710.2	3	30.2	26.78	-0.14	Back	3:8	0.105	2.20	0.23	38
GPRS 1800	885/1784.8	3	30.2	26.27	-0.39	Back	3:8	0.039	2.70	0.11	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Mode	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Front	1:1	0	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Back	1:1	0.0227	1.62	0.04	-
WCDMA 1	9612	RMC 12.2K	25	23	-0.3	Back	1:1	0.0207	1.70	0.04	-
WCDMA 1	9888	RMC 12.2K	25	22.97	-0.35	Back	1:1	0.0242	1.73	0.04	39

*Larger than 5% drifts included to scaling factors

Band	Channel	Mode	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
WCDMA 8	2788	RMC 12.2K	25	22.98	0.05	Front	1:1	0.0168	1.59	0.03	-
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.44	Back	1:1	0.234	1.76	0.41	-
WCDMA 8	2712	RMC 12.2K	25	23.02	-0.61	Back	1:1	0.267	1.82	0.48	40
WCDMA 8	2863	RMC 12.2K	25	22.89	-0.04	Back	1:1	0.237	1.63	0.39	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Front	1:1	0	1.74	0	Yes	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Back	1:1	0.0342	1.74	0.06	Yes	-
LTE 1	18300	QPSK/15	16	0	25	22.55	-0.32	Back	1:1	0.0331	1.89	0.06	Yes	41
LTE 1	18550	QPSK/10	12	38	25	22.54	-0.93	Back	1:1	0.0246	2.18	0.05	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 3	19850	QPSK/20	1	0	25	23.05	-0.95	Front	1:1	0.00233	1.95	0	Yes	-
LTE 3	19850	QPSK/20	1	0	25	23.05	-0.76	Back	1:1	0.0938	1.87	0.18	Yes	-
LTE 3	19300	QPSK/20	1	99	25	22.68	0.08	Back	1:1	0.175	1.71	0.30	Yes	42
LTE 3	19575	QPSK/20	18	0	25	22.96	-0.76	Back	1:1	0.107	1.91	0.20	Yes	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Front	1:1	0	1.11	0	Yes	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Back	1:1	0.00226	1.11	0.003	Yes	-
LTE 7	20775	QPSK/5	8	0	25	23.23	N/A**	Back	1:1	0.00918	1.50	0.01	Yes	43
LTE 7	21100	QPSK/20	1	99	25	24.04	N/A**	Back	1:1	0.00284	1.25	0	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 8	21625	QPSK/10	1	24	25	23.45	N/A**	Front	1:1	0.00965	1.43	0.01	Yes	-
LTE 8	21625	QPSK/10	1	24	25	23.45	-0.68	Back	1:1	0.172	1.67	0.29	Yes	-
LTE 8	21500	QPSK/10	1	24	25	23.34	-0.06	Back	1:1	0.272	1.47	0.40	Yes	44
LTE 8	21750	QPSK/10	1	24	25	23.42	-0.26	Back	1:1	0.118	1.53	0.18	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.12	Front	1:1	0.0263	1.47	0.04	Yes	-
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.16	Back	1:1	0.378	1.47	0.56	Yes	-
LTE 20	24250	QPSK/20	1	49	25	23.15	-0.31	Back	1:1	0.377	1.64	0.62	Yes	45
LTE 20	24350	QPSK/20	1	49	25	23.16	-0.36	Back	1:1	0.293	1.66	0.49	Yes	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 28	27310	QPSK/20	1	49	25	23.36	-0.2	Front	1:1	0.0267	1.46	0.04	Yes	-
LTE 28	27310	QPSK/20	1	49	25	23.36	0.19	Back	1:1	0.41	1.46	0.60	Yes	46
LTE 28	27435	QPSK/20	1	0	25	23.16	0	Back	1:1	0.383	1.53	0.59	Yes	-
LTE 28	27560	QPSK/20	18	82	25	23.27	-0.1	Back	1:1	0.379	1.49	0.56	Yes	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Front	1:1	0	1.00	0	Yes	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Back	1:1	0.00231	1.00	0.002	Yes	-
LTE 38	37775	QPSK/5	8	0	25	24.89	N/A**	Back	1:1	0.00295	1.03	0.003	Yes	-
LTE 38	38000	QPSK/10***	12***	0	25	25.17	-0.04	Back	1:1	0.00347	1.00	0.003	Yes	47

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable
***Connection between the DUT and tester was not established on LTE Band 38, CH 38000, BW5, RB 8, Offset 0, the next highest conducted power of that channel was selected for testing

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Result < 1.48 [W/kg] Yes/No	Plot #
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Front	1:1	0	1.36	0	Yes	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Back	1:1	0.00373	1.36	0.01	Yes	-
LTE 40	39150	QPSK/15	16	0	25	23.2	-0.18	Back	1:1	0.0168	1.51	0.03	Yes	48
LTE 40	39550	QPSK/20	1	49	25	22.89	-0.77	Back	1:1	0.00206	1.94	0.004	Yes	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Measured SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Plot #
Bluetooth	40	8	4.17	0.32	Front	1:1	0.00586	2.60	0.02	-
Bluetooth	40	8	4.17	-0.32	Back	1:1	0.00534	2.60	0.01	-
Bluetooth	1	8	4.34	0.16	Front	1:1	0.00281	2.32	0.01	-
Bluetooth	78	8	4.27	0	Front	1:1	0.0141	2.36	0.03	49

*Larger than 5% drifts included to scaling factors

7.3 Limb SAR results with 0mm separation

Band	Channel	TX slot configuration	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
GPRS 900	38	3	33.2	28.87	-0.09	Front	3:8	0.00674	-	2.71	0.02	-
GPRS 900	38	3	33.2	28.87	0.72	Back	3:8	1.17	0.87	3.20	2.78	-
GPRS 900	38	3	33.2	28.87	-0.29	Top	3:8	0.013	-	2.90	0.04	-
GPRS 900	38	3	33.2	28.87	0.83	Bottom	3:8	0.00108	-	3.28	0.004	-
GPRS 900	38	3	33.2	28.87	0.12	Left	3:8	0.0297	-	2.71	0.08	-
GPRS 900	38	3	33.2	28.87	0.08	Right	3:8	0.0503	-	2.71	0.14	-
GPRS 900	975	3	33.2	28.72	-0.1	Back	3:8	1.07	0.759	2.81	2.13	-
GPRS 900	124	3	33.2	29.05	0	Back	3:8	1.49	1.11	2.60	2.89	50

*Larger than 5% drifts included to scaling factors

Band	Channel	TX slot configuration	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
GPRS 1800	699	3	30.2	26.55	0.18	Front	3:8	0.00229	-	2.32	0.01	-
GPRS 1800	699	3	30.2	26.55	-0.15	Back	3:8	0.422	0.276	2.32	0.64	-
GPRS 1800	699	3	30.2	26.55	N/A**	Top	3:8	0	-	2.32	0	-
GPRS 1800	699	3	30.2	26.55	N/A**	Bottom	3:8	0	-	2.32	0	-
GPRS 1800	699	3	30.2	26.55	N/A**	Left	3:8	0.000687	-	2.32	0.002	-
GPRS 1800	699	3	30.2	26.55	0.26	Right	3:8	0.00725	-	2.46	0.02	-
GPRS 1800	512	3	30.2	26.78	-0.2	Back	3:8	0.443	0.305	2.20	0.67	51
GPRS 1800	885	3	30.2	26.27	-0.05	Back	3:8	0.238	0.166	2.47	0.41	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Mode	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Front	1:1	0	-	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	-0.21	Back	1:1	0.342	0.158	1.62	0.26	52
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Top	1:1	0	-	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Bottom	1:1	0.0000121	-	1.62	0.00002	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Left	1:1	0	-	1.62	0	-
WCDMA 1	9750	RMC 12.2K	25	22.9	N/A**	Right	1:1	0.000142	-	1.62	0.0002	-
WCDMA 1	9612	RMC 12.2K	25	23	-0.3	Back	1:1	0.321	0.145	1.70	0.25	-
WCDMA 1	9888	RMC 12.2K	25	22.97	-0.17	Back	1:1	0.308	0.147	1.60	0.23	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Mode	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.05	Front	1:1	0.0136	-	1.59	0.02	-
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.09	Back	1:1	1.28	0.748	1.59	1.19	53
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.18	Top	1:1	0.0356	-	1.59	0.06	-
WCDMA 8	2788	RMC 12.2K	25	22.98	0.97	Bottom	1:1	0.00173	-	1.99	0.003	-
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.44	Left	1:1	0.0377	-	1.76	0.07	-
WCDMA 8	2788	RMC 12.2K	25	22.98	-0.09	Right	1:1	0.0693	-	1.59	0.11	-
WCDMA 8	2712	RMC 12.2K	25	23.02	-0.16	Back	1:1	1.24	0.712	1.58	1.12	-
WCDMA 8	2863	RMC 12.2K	25	22.89	-0.17	Back	1:1	1.17	0.699	1.63	1.14	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Front	1:1	0	-	1.74	0	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Back	1:1	0.248	0.134	1.74	0.23	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Top	1:1	0	-	1.74	0	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Bottom	1:1	0	-	1.74	0	-
LTE 1	18100	QPSK/20	18	0	25	22.6	N/A**	Left	1:1	0	-	1.74	0	-
LTE 1	18100	QPSK/20	18	0	25	22.6	0.46	Right	1:1	0.00127	-	1.93	0.002	-
LTE 1	18300	QPSK/15	16	0	25	22.55	-0.23	Back	1:1	0.258	0.143	1.85	0.27	54
LTE 1	18550	QPSK/10	12	38	25	22.54	-0.71	Back	1:1	0.211	0.125	2.07	0.26	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Front	1:1	0	-	1.57	0	-
LTE 3	19850	QPSK/20	1	0	25	23.05	-0.43	Back	1:1	0.442	0.292	1.73	0.51	-
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Top	1:1	0	-	1.57	0	-
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Bottom	1:1	0.000000678	-	1.57	0.000001	-
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Left	1:1	0.000731	-	1.57	0.001	-
LTE 3	19850	QPSK/20	1	0	25	23.05	N/A**	Right	1:1	0.00748	-	1.57	0.01	-
LTE 3	19300	QPSK/20	1	99	25	22.68	-0.07	Back	1:1	0.890	0.582	1.71	0.99	55
LTE 3	19575	QPSK/20	18	0	25	22.96	-0.42	Back	1:1	0.677	0.368	1.76	0.65	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Front	1:1	0	-	1.11	0	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Back	1:1	0.111	0.072	1.11	0.08	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Top	1:1	0	-	1.11	0	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Bottom	1:1	0	-	1.11	0	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Left	1:1	0	-	1.11	0	-
LTE 7	21350	QPSK/20	18	82	25	24.56	N/A**	Right	1:1	0	-	1.11	0	-
LTE 7	20775	QPSK/5	8	0	25	23.23	N/A**	Back	1:1	0.173	0.131	1.50	0.20	56
LTE 7	21100	QPSK/20	1	99	25	24.04	-0.48	Back	1:1	0.124	0.0873	1.39	0.12	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 8	21625	QPSK/10	1	24	25	23.45	0.18	Front	1:1	0.0108	-	1.43	0.02	-
LTE 8	21625	QPSK/10	1	24	25	23.45	-0.07	Back	1:1	0.918	0.635	1.43	0.91	57
LTE 8	21625	QPSK/10	1	24	25	23.45	-0.24	Top	1:1	0.0253	-	1.51	0.04	-
LTE 8	21625	QPSK/10	1	24	25	23.45	N/A**	Bottom	1:1	0.000711	-	1.43	0.001	-
LTE 8	21625	QPSK/10	1	24	25	23.45	0.12	Left	1:1	0.0275	-	1.43	0.04	-
LTE 8	21625	QPSK/10	1	24	25	23.45	-0.14	Right	1:1	0.0526	-	1.43	0.08	-
LTE 8	21500	QPSK/10	1	24	25	23.34	-0.16	Back	1:1	0.911	0.614	1.47	0.90	-
LTE 8	21750	QPSK/10	1	24	25	23.42	-0.35	Back	1:1	0.826	0.491	1.56	0.77	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.37	Front	1:1	0.0193	-	1.60	0.03	-
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.15	Back	1:1	1.42	0.754	1.47	1.11	-
LTE 20	24300	QPSK/20	1	49	25	23.33	0.08	Top	1:1	0.0457	-	1.47	0.07	-
LTE 20	24300	QPSK/20	1	49	25	23.33	0.09	Bottom	1:1	0.0037	-	1.47	0.01	-
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.1	Left	1:1	0.0755	-	1.47	0.11	-
LTE 20	24300	QPSK/20	1	49	25	23.33	-0.14	Right	1:1	0.139	-	1.47	0.20	-
LTE 20	24250	QPSK/20	1	49	25	23.15	-0.09	Back	1:1	1.66	0.782	1.53	1.20	58
LTE 20	24350	QPSK/20	1	49	25	23.16	-0.38	Back	1:1	1.30	0.69	1.67	1.15	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 28	27310	QPSK/20	1	49	25	23.36	0.7	Front	1:1	0.0158	-	1.71	0.03	-
LTE 28	27310	QPSK/20	1	49	25	23.36	-0.13	Back	1:1	1.33	0.806	1.46	1.18	59
LTE 28	27310	QPSK/20	1	49	25	23.36	0.16	Top	1:1	0.0314	-	1.46	0.05	-
LTE 28	27310	QPSK/20	1	49	25	23.36	0.25	Bottom	1:1	0.00668	-	1.55	0.01	-
LTE 28	27310	QPSK/20	1	49	25	23.36	-0.1	Left	1:1	0.0825	-	1.46	0.12	-
LTE 28	27310	QPSK/20	1	49	25	23.36	-0.04	Right	1:1	0.116	-	1.46	0.17	-
LTE 28	27435	QPSK/20	1	0	25	23.16	0.09	Back	1:1	1.24	0.748	1.53	1.14	-
LTE 28	27560	QPSK/20	18	82	25	23.27	-0.04	Back	1:1	1.05	0.659	1.49	0.98	-

*Larger than 5% drifts included to scaling factors

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Front	1:1	0	-	1.02	0	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Back	1:1	0.123	0.0573	1.02	0.06	60
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Top	1:1	0	-	1.02	0	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Bottom	1:1	0	-	1.02	0	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Left	1:1	0	-	1.02	0	-
LTE 38	38150	QPSK/20	1	49	25	25.49	N/A**	Right	1:1	0	-	1.02	0	-
LTE 38	37775	QPSK/5	8	0	25	24.89	0.11	Back	1:1	0.105	0.0507	1.03	0.05	-
LTE 38	38000	QPSK/10***	12***	0	25	25.17	-0.06	Back	1:1	0.0763	0.0492	1.00	0.05	-

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable
***Connection between the DUT and tester was not established on LTE Band 38, CH 38000, BW5, RB 8, Offset 0, the next highest conducted power of that channel was selected for testing

Band	Channel	Modulation / BW [MHz]	RB Size	RB Offset	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling factor	Reported SAR_{10g} [W/kg]	Plot #
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Front	1:1	0	-	1.36	0	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Back	1:1	0.0872	0.0398	1.36	0.05	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Top	1:1	0	-	1.36	0	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Bottom	1:1	0	-	1.36	0	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Left	1:1	0	-	1.36	0	-
LTE 40	38750	QPSK/20	1	49	25	23.65	N/A**	Right	1:1	0	-	1.36	0	-
LTE 40	39150	QPSK/15	16	0	25	23.2	-0.13	Back	1:1	0.0749	0.0391	1.51	0.06	-
LTE 40	39550	QPSK/20	1	49	25	22.89	0.02	Back	1:1	0.0610	0.0444	1.63	0.07	61

*Larger than 5% drifts included to scaling factors
**Due to low E-field generated by DUT at the location of the drift measurement, the Power Drift is not applicable

Band	Channel	Maximum Power [dBm]	Conducted Power [dBm]	Power Drift* [dB]	Test Position	Duty Cycle	Area scan SAR_{10g} [W/kg]	Zoom scan SAR_{10g} [W/kg]	Scaling Factor	Reported SAR_{10g} [W/kg]	Plot #
Bluetooth	40	8	4.17	0.09	Front	1:1	0.0363	-	2.42	0.09	-
Bluetooth	40	8	4.17	-0.27	Back	1:1	0.0168	-	2.57	0.04	-
Bluetooth	40	8	4.17	-0.19	Top	1:1	0.00363	-	2.42	0.01	-
Bluetooth	40	8	4.17	-0.15	Bottom	1:1	0.00792	-	2.42	0.02	-
Bluetooth	40	8	4.17	-0.08	Left	1:1	0.00121	-	2.42	0.00	-
Bluetooth	40	8	4.17	0.12	Right	1:1	0.0418	0.0333	2.42	0.08	-
Bluetooth	1	8	4.34	-0.1	Right	1:1	0.0261	0.0223	2.32	0.05	-
Bluetooth	78	8	4.27	0.04	Right	1:1	0.0549	0.0505	2.36	0.12	62

*Larger than 5% drifts included to scaling factors

7.4 Simultaneous Transmission Analysis

Head and Body SAR:

	Exposure Condition	Head SAR_{10g} [W/kg]				Body SAR_{10g} [W/kg]	
	Test Position	**Right Cheek**	**Right Tilt**	**Left Cheek**	**Left Tilt**	**Front**	**Back**
Cellular	**GSM 900**	0.06	0.02	0.05	0.02	N/A	N/A
	GSM 1800	0	0	0.0005	0	N/A	N/A
	GPRS 900	N/A	N/A	N/A	N/A	0.05	0.61
	GPRS 1800	N/A	N/A	N/A	N/A	0.01	0.23
	WCDMA 1	0	0	0	0	0	0.04
	WCDMA 8	0.04	0.01	0.04	0.01	0.03	0.48
	LTE 1	0	0	0	0	0	0.06
	LTE 3	0	0	0	0.00001	0.005	0.30
	LTE 7	0	0	0	0	0	0.01
	LTE 8	0.03	0.01	0.03	0.01	0.01	0.40
	LTE 20	0.04	0.02	0.05	0.02	0.04	0.62
	LTE 28	0.02	0.01	0.01	0.01	0.04	0.60
	LTE 38	0	0	0	0	0	0.003
	LTE 40	0	0	0	0	0	0.03
	Bluetooth	0.03	0.01	0.02	0.01	0.03	0.01
Maximum Cellular SAR		0.06	0.02	0.05	0.02	0.05	0.62
Maximum Bluetooth SAR		0.03	0.01	0.02	0.01	0.03	0.01
SAR Summation: EN 62209-1 6.4.3.2.2 Alternative 1		**0.09**	**0.03**	**0.07**	**0.03**	**0.08**	**0.63**

Limb SAR:

	Exposure Condition	Limb SAR_{10g} [W/kg]					
	Test Position	**Front**	**Back**	**Top**	**Bottom**	**Left**	**Right**
Cellular	**GPRS 900**	**0.02**	**2.89**	**0.04**	**0.004**	**0.08**	**0.14**
	GPRS 1800	**0.01**	**0.67**	**0**	**0**	**0.002**	**0.02**
	WCDMA 1	**0**	**0.26**	**0**	**0.00002**	**0**	**0.002**
	WCDMA 8	**0.02**	**1.19**	**0.06**	**0.003**	**0.07**	**0.11**
	LTE 1	0	0.27	0	0	0	0.002
	LTE 3	0	0.99	0	0.000001	0.001	0.01
	LTE 7	0	0.20	0	0	0	0
	LTE 8	0.02	0.91	0.04	0.001	0.04	0.08
	LTE 20	0.03	1.20	0.07	0.01	0.11	0.20
	LTE 28	0.03	1.18	0.05	0.01	0.12	0.17
	LTE 38	0	0.06	0	0	0	0
	LTE 40	0	0.07	0	0	0	0
	Bluetooth	0.09	0.04	0.01	0.02	0.003	0.12
Maximum Cellular SAR		0.03	2.89	0.07	0.01	0.12	0.2
Maximum Bluetooth SAR		0.09	0.04	0.01	0.02	0.003	0.12
SAR Summation: EN 62209-1 6.4.3.2.2 Alternative 1		**0.12**	**2.93**	**0.08**	**0.03**	**0.12**	**0.32**

7.5 IEC 62209-2 AMD1:2019

According to IEC 62209-2 AMD1:2019, the zoom scan complies if the peak spatial-average SAR is below 0.1 W/kg, or if the following criteria is met:

1. The smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak is larger than the horizontal grid step.

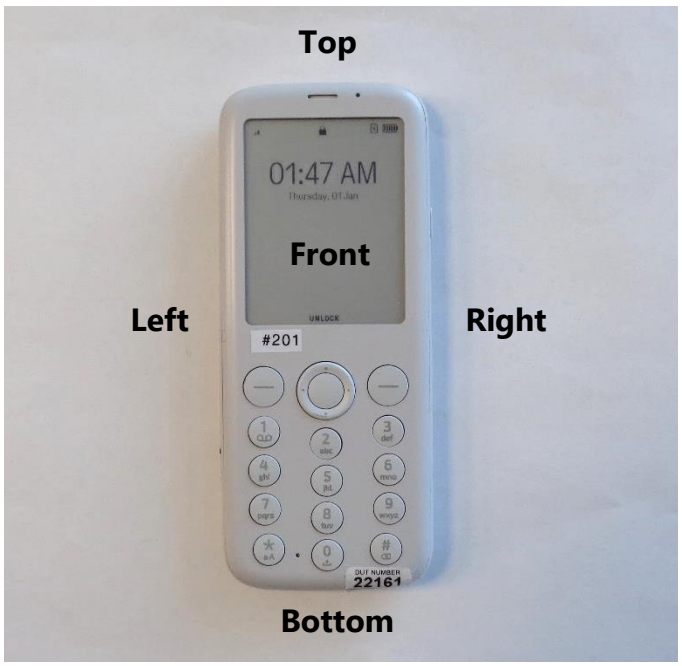
2. Ratio of SAR at the second measured point (M2) to the SAR at the closest measured point (M1) at the x-y location of the measured maximum is at least 30%.

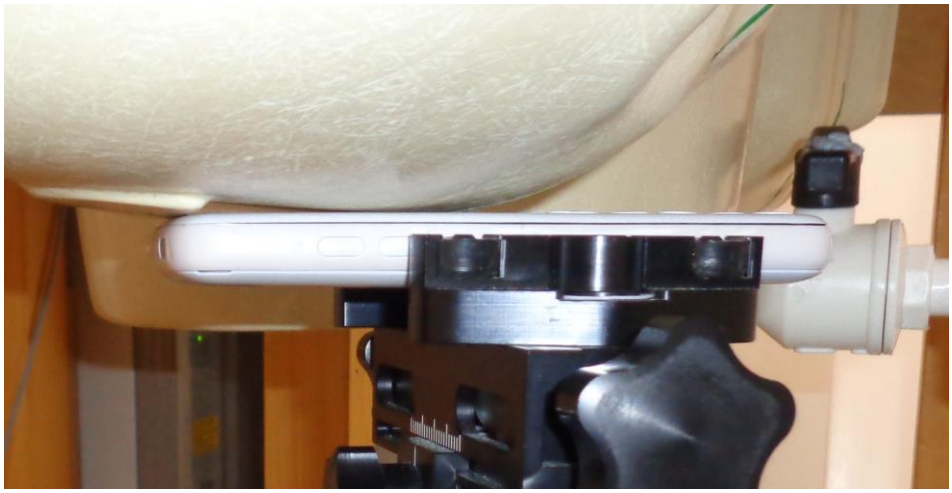
All Zoom scan peak spatial-average SAR results over 0.1 W/kg are in the table below.

Filename	Horizontal Grid Step [mm]	Minimum Distance [mm]	M2/M1 Ratio [%]	Result
Body, Back, WCDMA 8, mid, DUT22161 2	7.5	16.7	55.4	**PASS**
Body, back, WCDMA 8, low, DUT22161 2 2	7.5	16.7	53.7	**PASS**
Body, back, WCDMA 8, high, DUT22161	7.5	15	45.2	**PASS**
Body, Back, LTE 20, high, BW 20, RB 1, offset 49 DUT22161 2	7.5	15	55.7	**PASS**
Body, Back, LTE 20, low, BW 20, RB 1, offset 49 DUT22161	7.5	21.2	57.5	**PASS**
Body, Back, LTE 20, mid, BW 20, RB 1, offset 49 DUT22161 2	7.5	15.1	57.9	**PASS**
Body, Back, LTE 8, high, BW 10, RB 1, offset 24 DUT22161 2 2	7.5	15	44.2	**PASS**
Body, Back, LTE 8, low, BW 10, RB 1, offset 24 DUT22161 2	7.5	22.5	66.8	**PASS**
Body, Back, LTE 8, mid, BW 10, RB 1, offset 24 DUT22161	7.5	16.8	45.5	**PASS**
EU, Body, Back, GPRS 900, low, 3 Slots, DUT22162	7.5	30	47.2	**PASS**
EU, Body, Back, GPRS 900, mid, 3 Slots, DUT22162 2	5.0	10	45.0	**PASS**
EU, Body, Back, GPRS 900, high, 3 Slots, DUT22162 2 2	5.0	10	44.8	**PASS**
EU, Body, Back, LTE 3, low, BW20, RB1, Offset99, DUT22162 2 2	4.0	5.6	41.2	**PASS**
EU, Body, Back, LTE 3, Mid, BW20, RB18, Offset0, DUT22162 2	4.0	5.7	41.2	**PASS**
EU, Body, Back, GPRS, low, DUT22162 2 2 2	4.0	8	42.5	**PASS**
Body, Back, LTE 28, mid, BW20, RB1, Offset0, DUT22162 2	5.0	10	47.2	**PASS**
Body, Back, LTE 28, low, BW20, RB1, Offset49, DUT22162	5.0	10	46.5	**PASS**
Body, Back, LTE 28, high, BW20, RB18, Offset82, DUT22162	7.5	15	61.2	**PASS**

APPENDIX A: PHOTOS OF THE DUT

Size of the DUT is 143.9 × 59.13 × 14.49 mm.





Against head, right cheek configuration.

Against head, right tilt configuration.

Against head, left cheek configuration.

Against head, left tilt configuration.

Body-worn configuration, front side towards the phantom with 5mm separation.

Body-worn configuration, back side towards the phantom with 5mm separation.

Limb configuration, front side towards the phantom with 0mm separation.

Limb configuration, back side towards the phantom with 0mm separation.

Limb configuration, top side towards the phantom with 0mm separation.

Limb configuration, bottom side towards the phantom with 0mm separation.

Limb configuration, left side towards the phantom with 0mm separation.

Limb configuration, right side towards the phantom with 0mm separation.

APPENDIX B: SYSTEM CHECK SCAN

Plot 1

Date/Time: 24.8.2020 9:39:03

Test Laboratory: Verkotan Oy

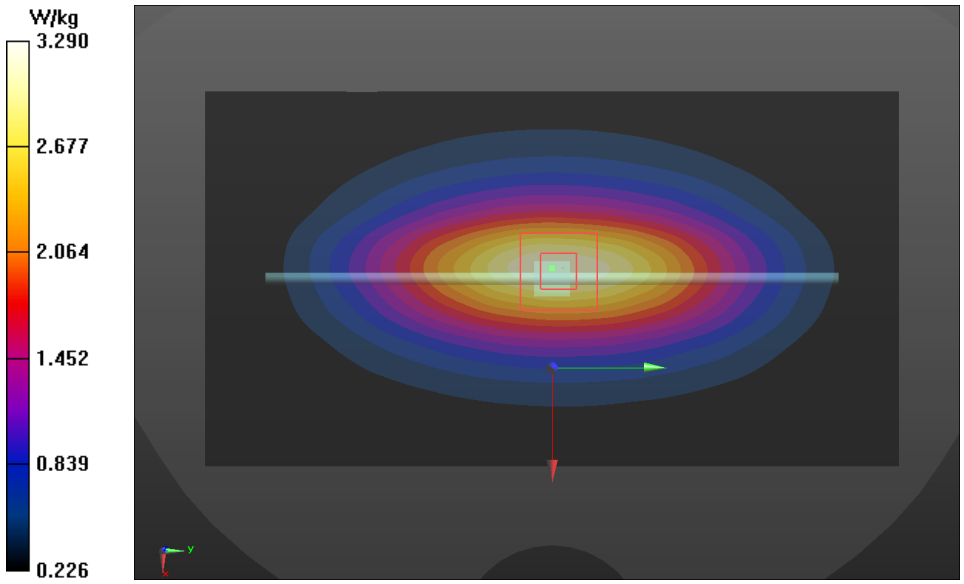
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.989 S/m; ε_r = 40.389; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 60.91 V/m; Power Drift = -0.23 dB
Peak SAR (extrapolated) = 3.73 W/kg
SAR(1 g) = 2.2 W/kg; SAR(10 g) = 1.42 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.29 W/kg
System check /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.17 W/kg



Plot 2

Date/Time: 25.8.2020 8:05:08

Test Laboratory: Verkotan Oy

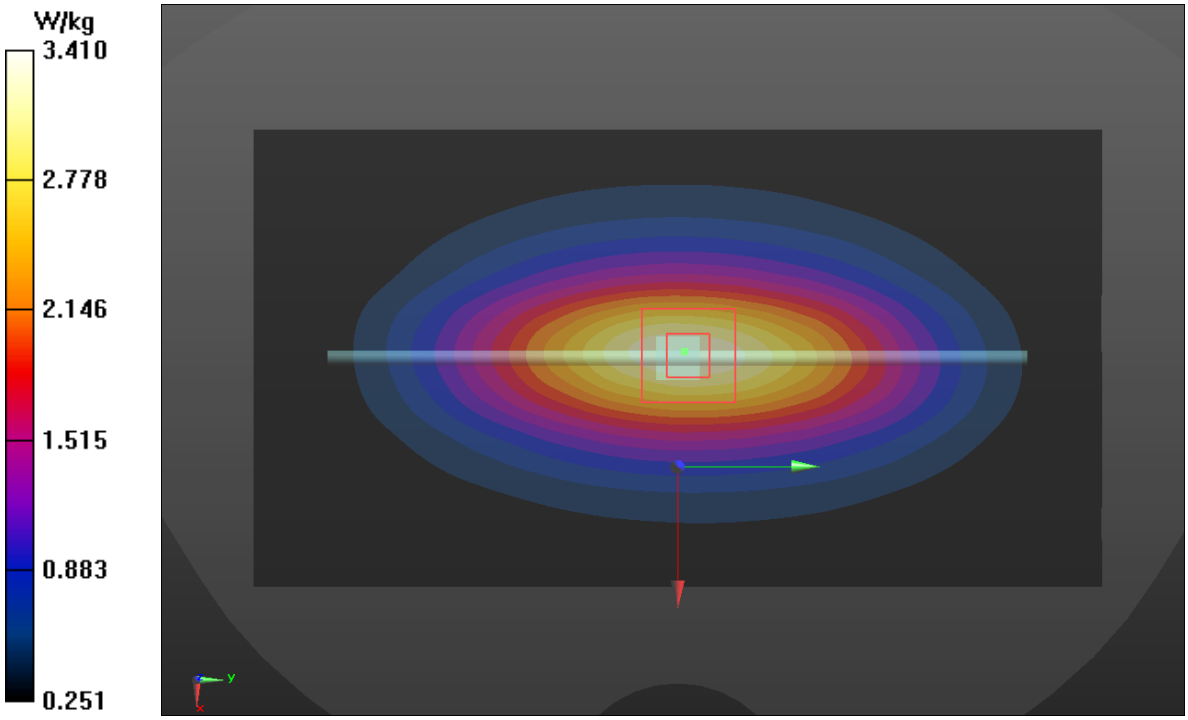
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.969 S/m; ε_r = 40.859; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 62.37 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 3.87 W/kg
SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.52 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.41 W/kg
System check /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.32 W/kg



Plot 3

Date/Time: 26.8.2020 7:57:37

Test Laboratory: Verkotan Oy

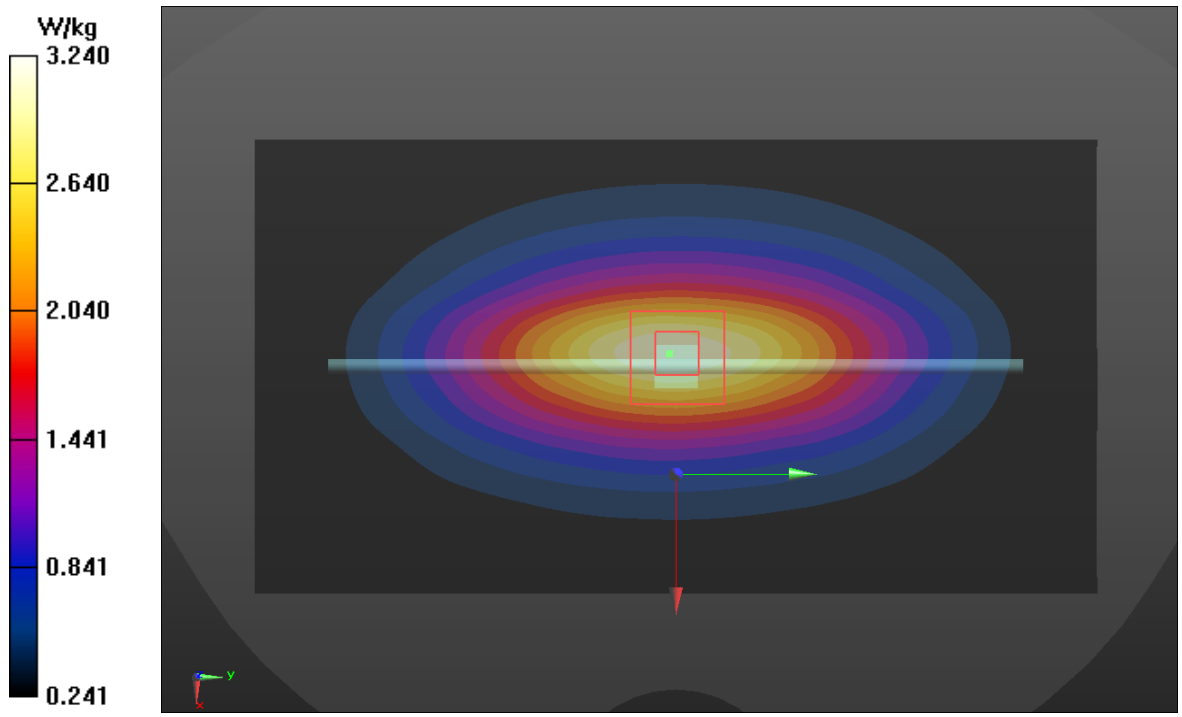
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.933 S/m; ε_r = 40.116; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 61.78 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.53 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.24 W/kg
System check /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.20 W/kg



Plot 4

Date/Time: 27.8.2020 7:47:51

Test Laboratory: Verkotan Oy

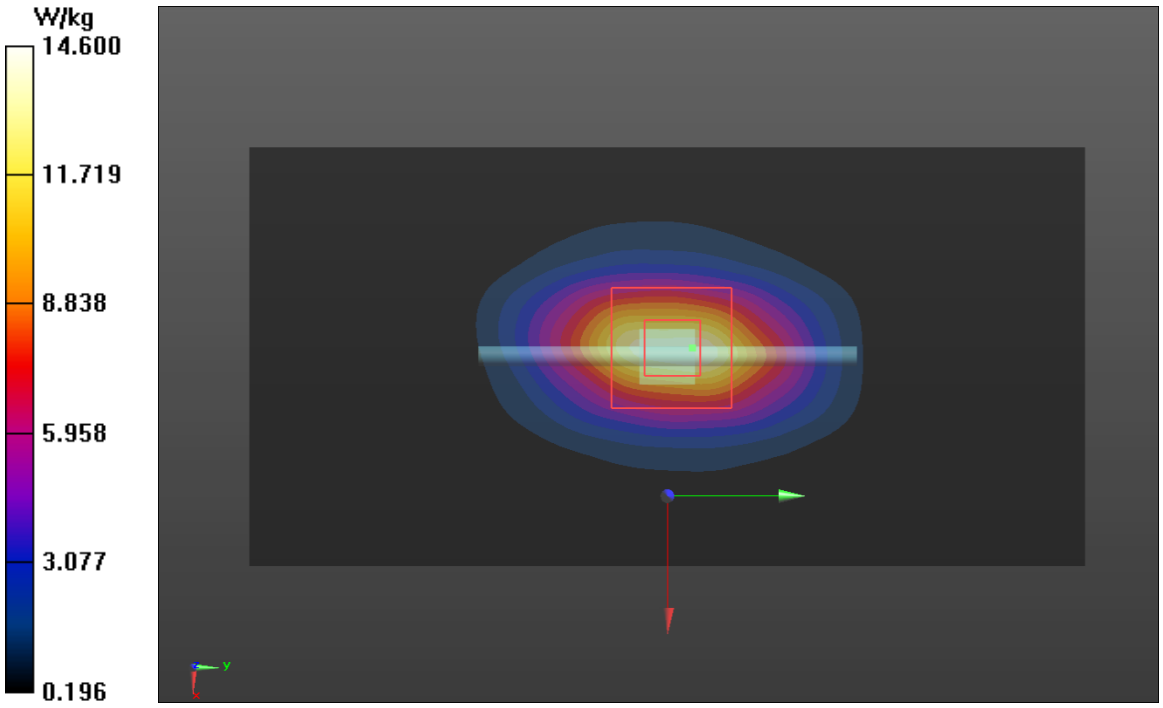
DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1900 MHz; σ = 1.38 S/m; ε_r = 37.261; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 106.2 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.32 W/kg; SAR(10 g) = 4.8 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 14.6 W/kg
System check /Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.2 W/kg



Plot 5

Date/Time: 28.8.2020 7:45:06

Test Laboratory: Verkotan Oy

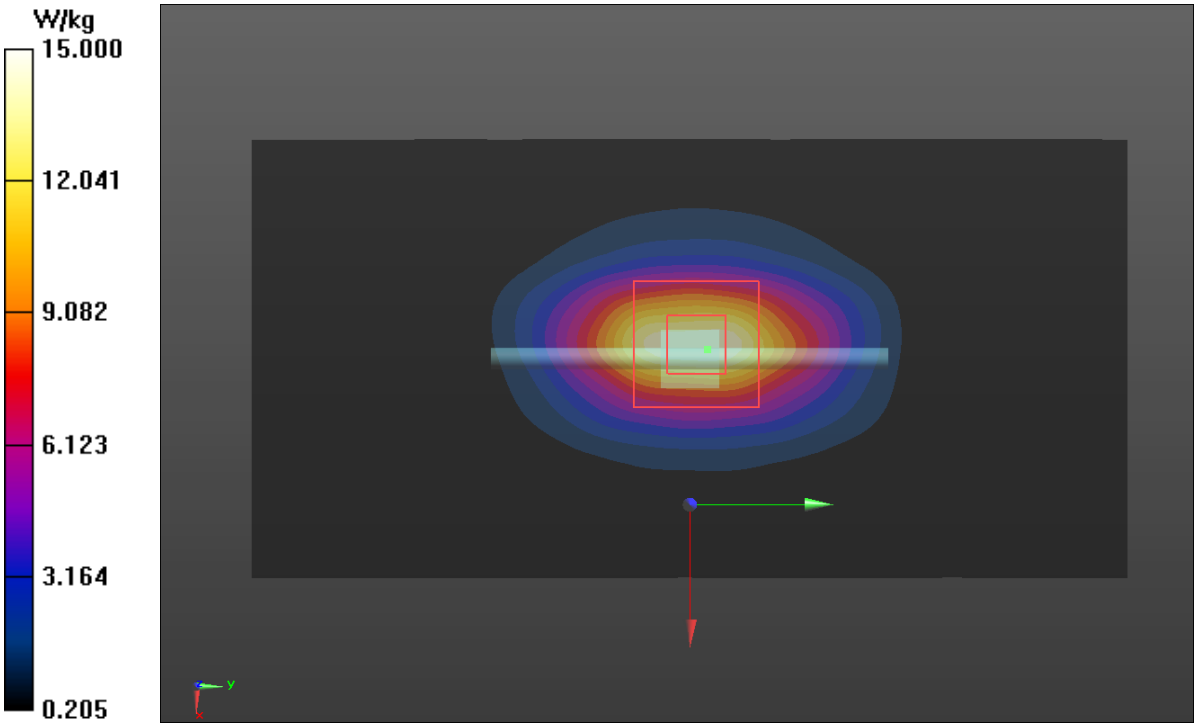
DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1900 MHz; σ = 1.375 S/m; ε_r = 36.881; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 104.2 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 9.46 W/kg; SAR(10 g) = 4.82 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 15.0 W/kg
System check /Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.1 W/kg



Plot 6

Date/Time: 31.8.2020 9:58:32

Test Laboratory: Verkotan Oy

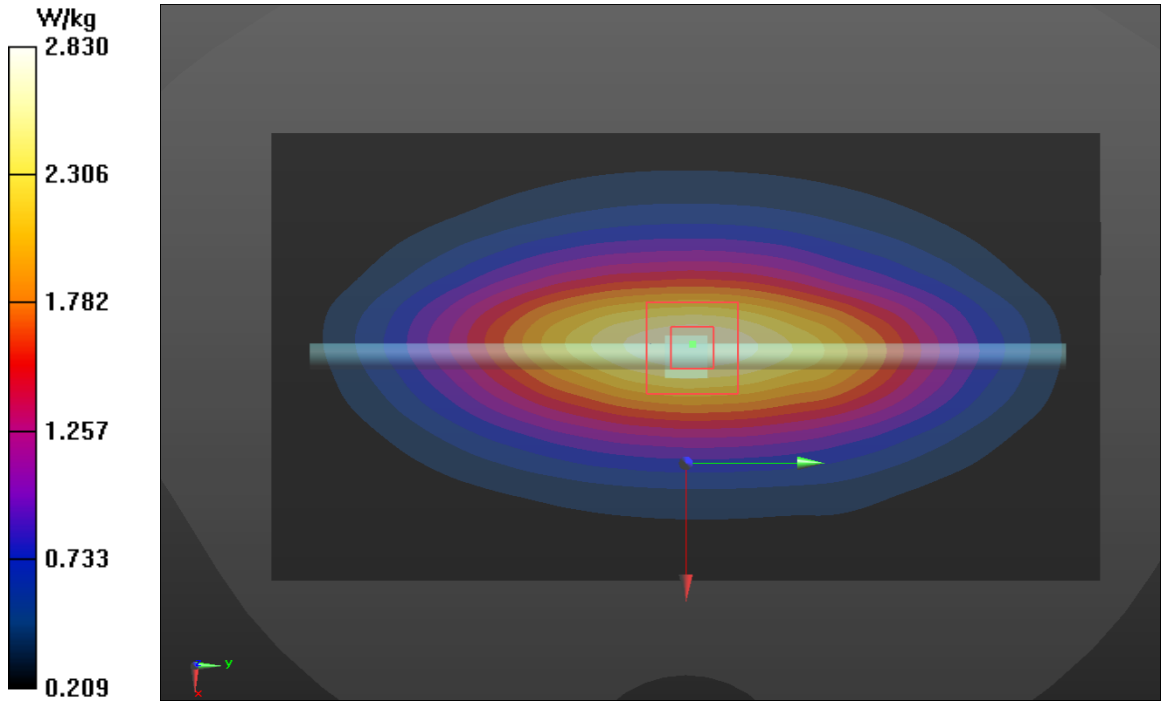
DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:454

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 750 MHz; σ = 0.905 S/m; ε_r = 40.876; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(10.21, 10.21, 10.21); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 57.80 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 3.25 W/kg
SAR(1 g) = 2 W/kg; SAR(10 g) = 1.28 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.83 W/kg
System check /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.23 W/kg



Plot 7

Date/Time: 1.9.2020 8:18:10

Test Laboratory: Verkotan Oy

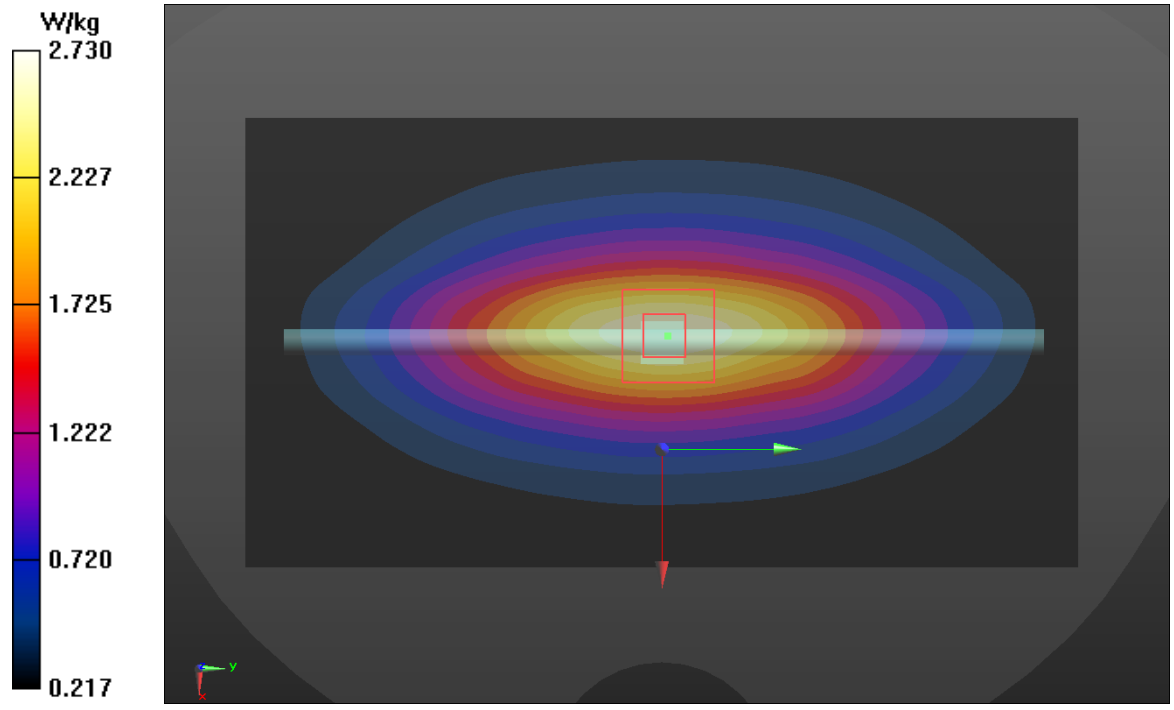
DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:454

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 750 MHz; σ = 0.871 S/m; ε_r = 39.925; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(10.21, 10.21, 10.21); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 58.95 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 3.12 W/kg
SAR(1 g) = 2.02 W/kg; SAR(10 g) = 1.3 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.73 W/kg
System check /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.59 W/kg



Plot 8

Date/Time: 2.9.2020 7:55:15

Test Laboratory: Verkotan Oy

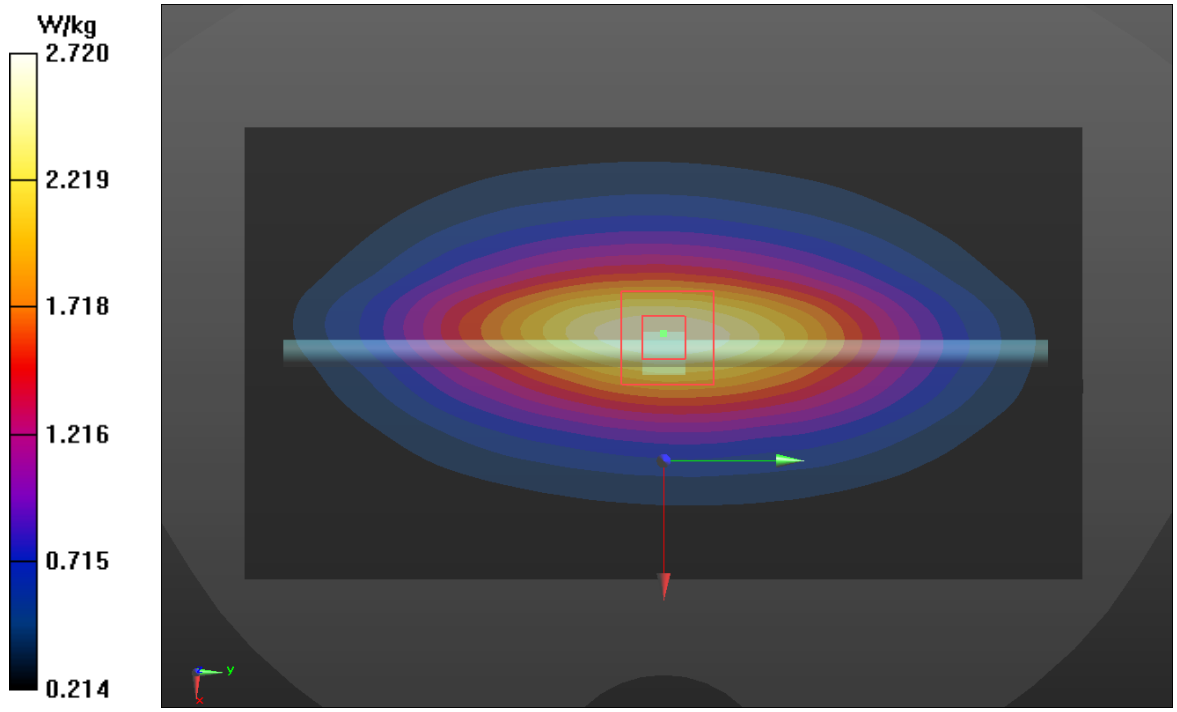
DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:454

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 750 MHz; σ = 0.87 S/m; ε_r = 40.107; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(10.21, 10.21, 10.21); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 58.38 V/m; Power Drift = -0.24 dB
Peak SAR (extrapolated) = 3.11 W/kg
SAR(1 g) = 1.99 W/kg; SAR(10 g) = 1.28 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.72 W/kg
System check /Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.65 W/kg



Plot 9

Date/Time: 2.9.2020 18:39:47

Test Laboratory: Verkotan Oy

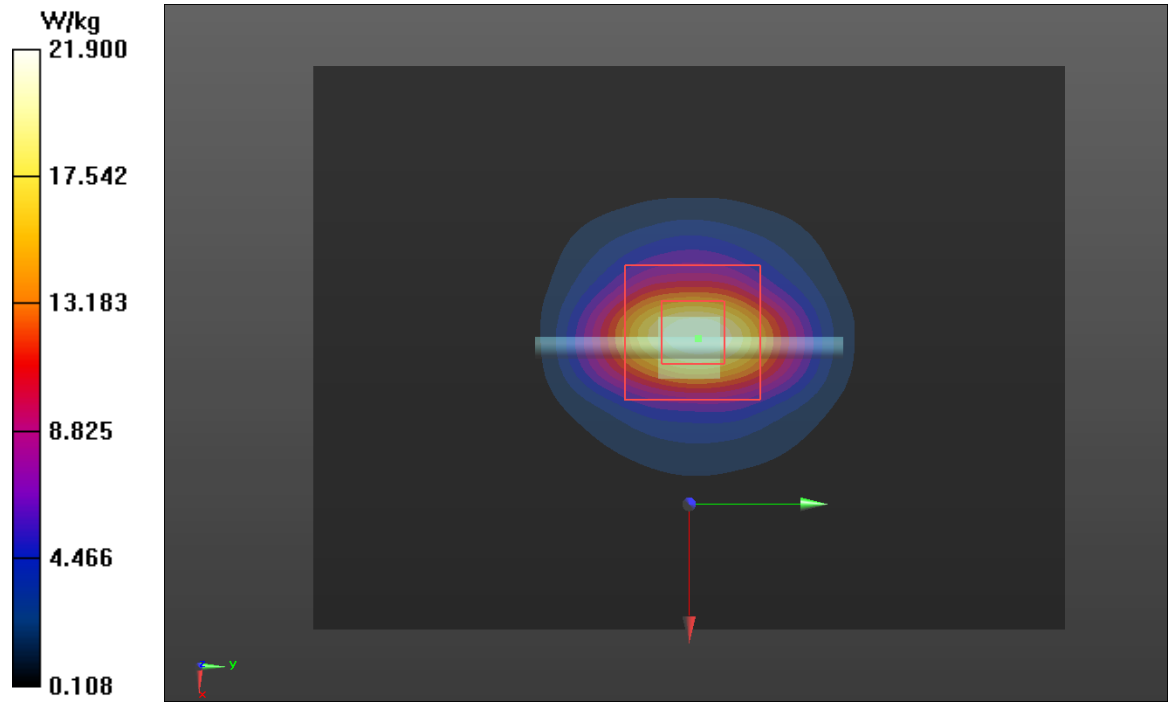
DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:474

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2600 MHz; σ = 1.808 S/m; ε_r = 37.136; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 115.0 V/m; Power Drift = -0.39 dB
Peak SAR (extrapolated) = 26.9 W/kg
SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.07 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 21.9 W/kg
System check /Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 22.0 W/kg



Plot 10

Date/Time: 4.9.2020 7:57:09

Test Laboratory: Verkotan Oy

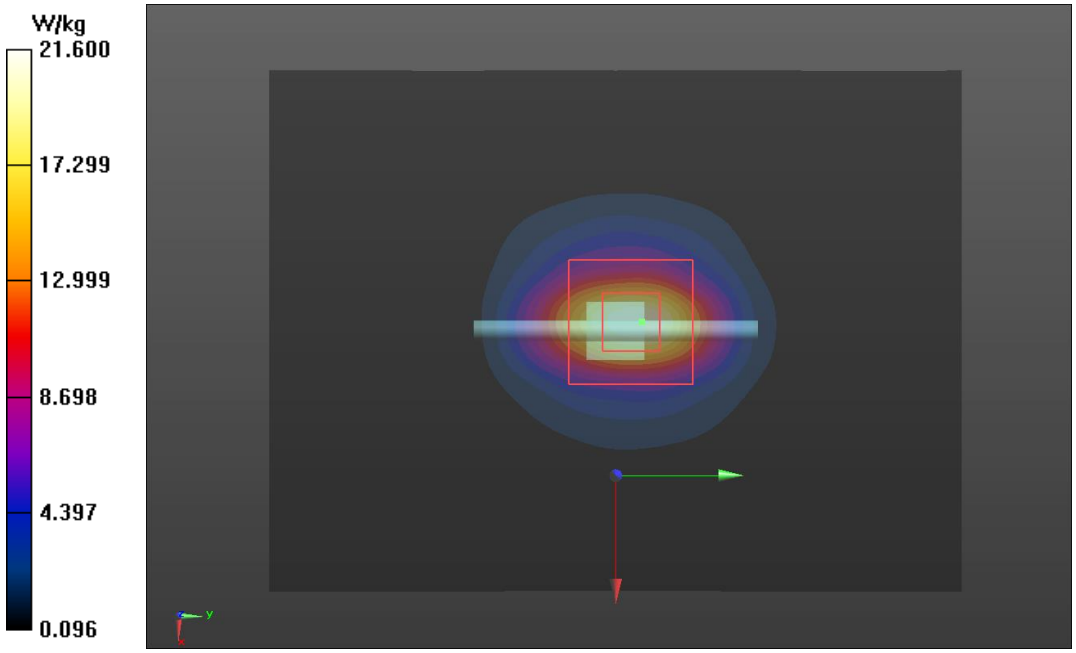
DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:474

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2600 MHz; σ = 1.816 S/m; ε_r = 37.686; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 113.5 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 27.0 W/kg
SAR(1 g) = 13.3 W/kg; SAR(10 g) = 5.97 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 21.6 W/kg
System check /Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 22.4 W/kg



Plot 11

Date/Time: 7.9.2020 9:08:42

Test Laboratory: Verkotan Oy

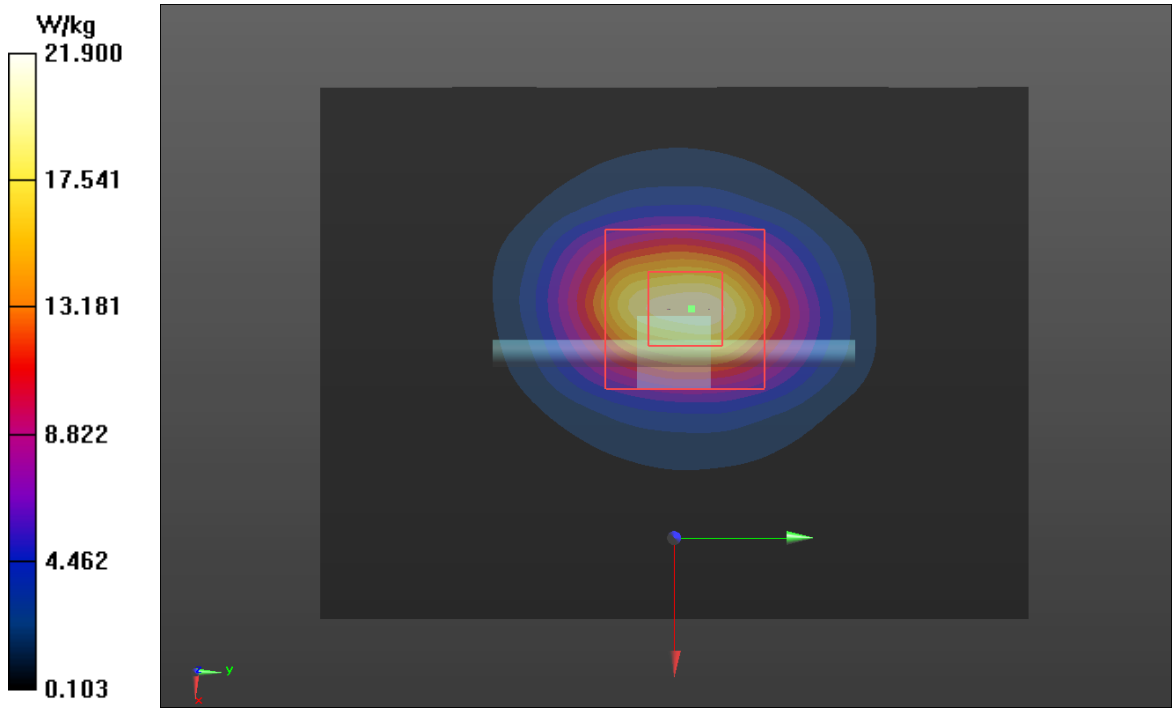
DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:474

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2600 MHz; σ = 1.798 S/m; ε_r = 36.726; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.44 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 27.3 W/kg
SAR(1 g) = 13.3 W/kg; SAR(10 g) = 5.94 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 21.9 W/kg
System check /Area Scan (61x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 22.1 W/kg



Plot 12

Date/Time: 8.9.2020 8:32:42

Test Laboratory: Verkotan Oy

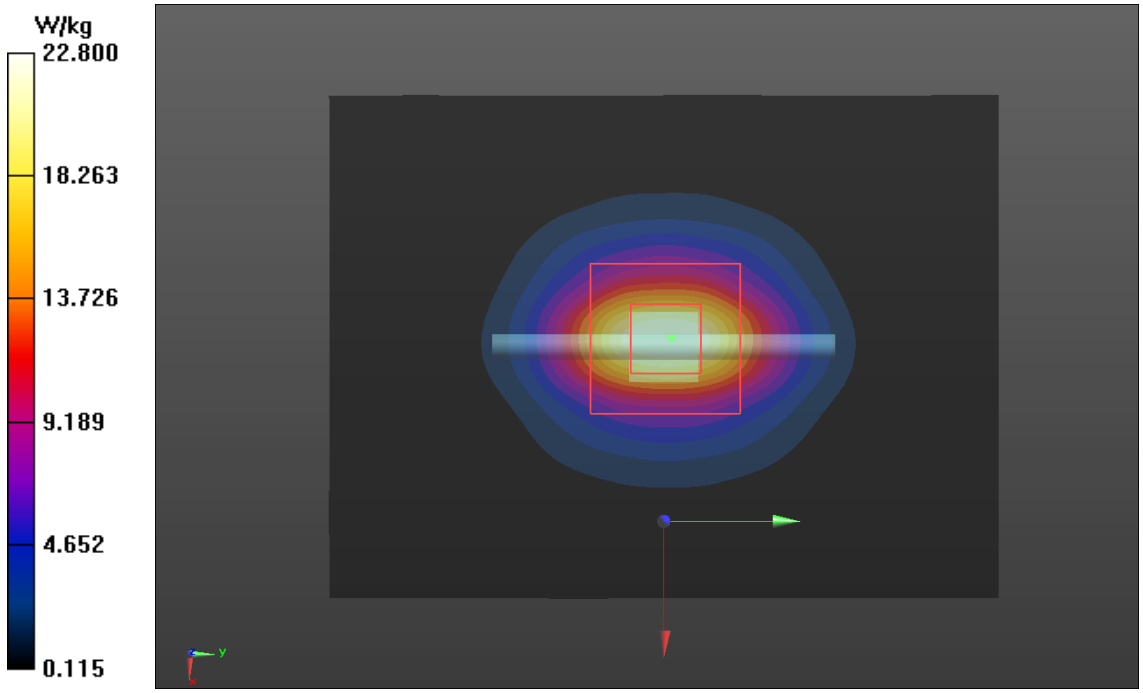
DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:474

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2600 MHz; σ = 1.802 S/m; ε_r = 37.124; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 117.2 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 28.3 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.22 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 22.8 W/kg
System check /Area Scan (61x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 23.0 W/kg



Plot 13

Date/Time: 9.9.2020 7:45:42

Test Laboratory: Verkotan Oy

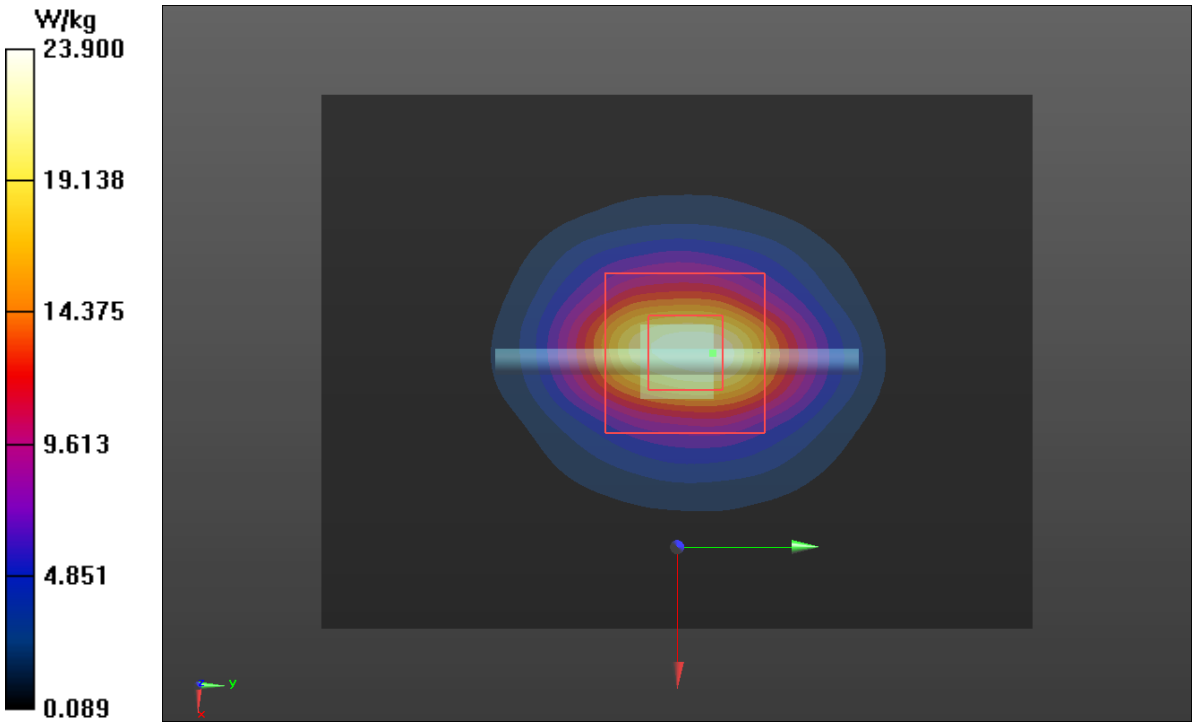
DUT: Dipole 2600 MHz D2600V2; Type: D2600V2; Serial: D2600V2 - SN:474

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2600 MHz; σ = 1.862 S/m; ε_r = 37.432; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 116.8 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 14.3 W/kg; SAR(10 g) = 6.41 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 23.9 W/kg
System check/Area Scan (61x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 23.1 W/kg



Plot 14

Date/Time: 9.9.2020 17:08:18

Test Laboratory: Verkotan Oy

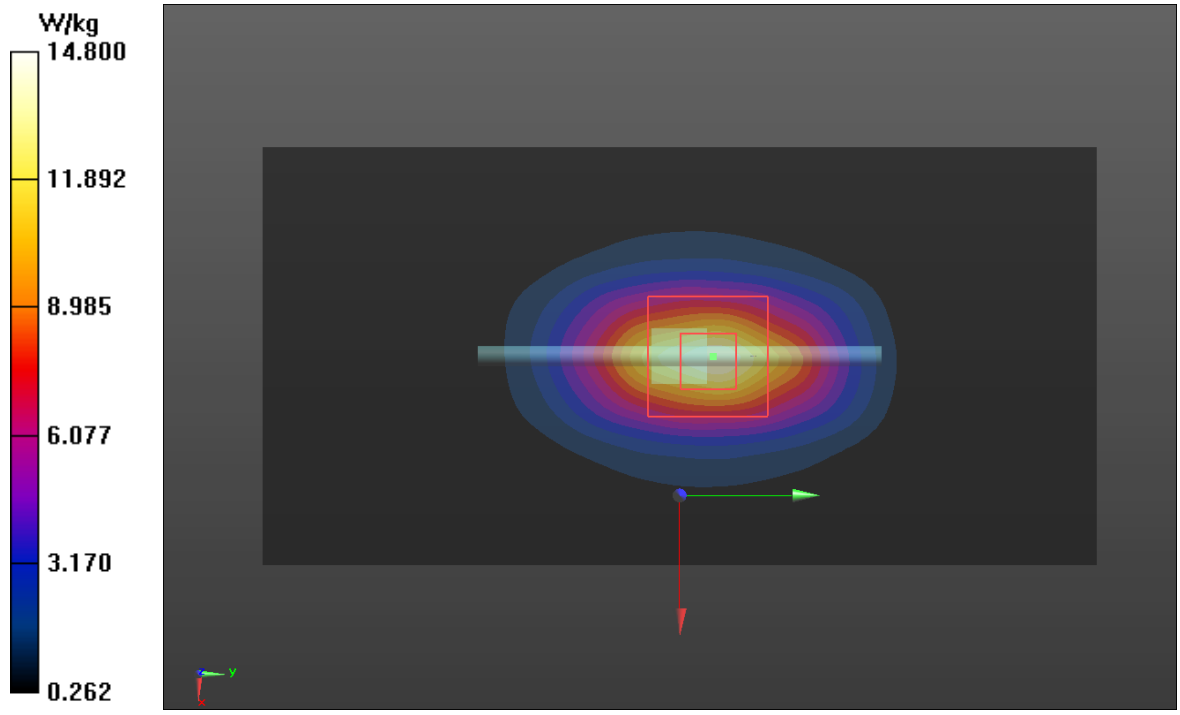
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:249

Communication System: UID 0, CW (0); Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1800 MHz; σ = 1.391 S/m; ε_r = 37.175; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 103.4 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 9.38 W/kg; SAR(10 g) = 4.89 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 14.8 W/kg
System check/Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.2 W/kg



Plot 15

Date/Time: 10.9.2020 17:55:42

Test Laboratory: Verkotan Oy

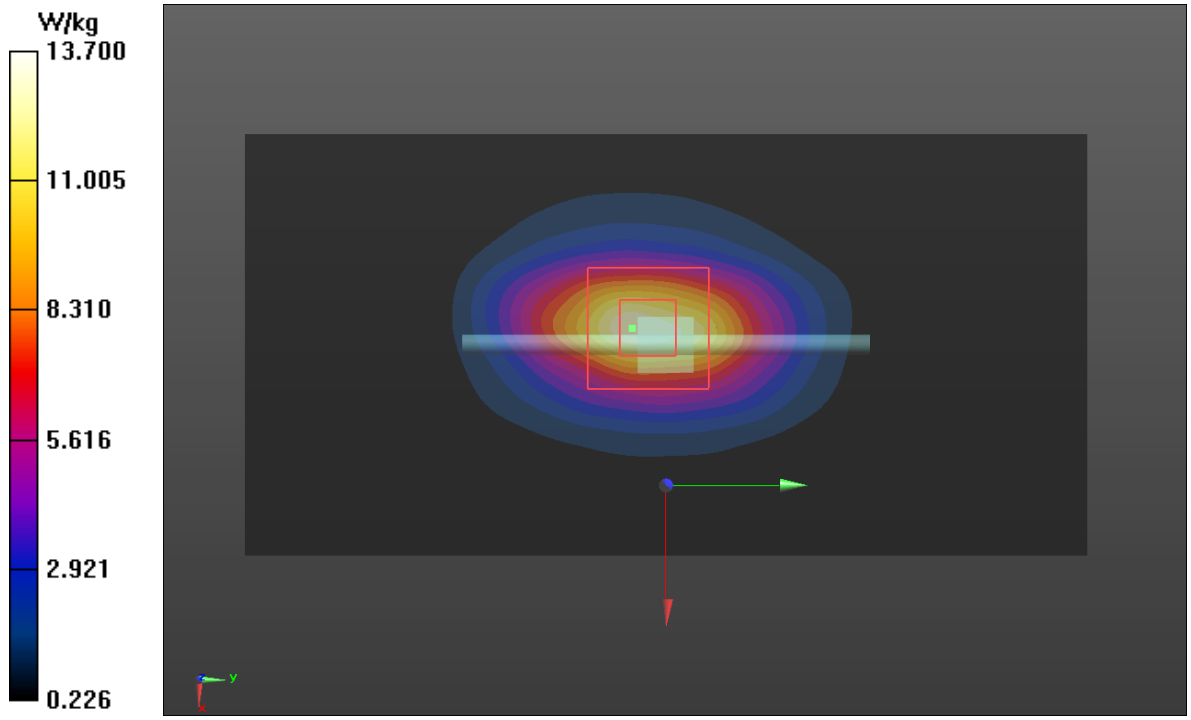
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:249

Communication System: UID 0, CW (0); Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1800 MHz; σ = 1.337 S/m; ε_r = 38.313; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 100.3 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 8.89 W/kg; SAR(10 g) = 4.61 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 13.7 W/kg
System check/Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 13.9 W/kg



Plot 16

Date/Time: 14.9.2020 9:02:59

Test Laboratory: Verkotan Oy

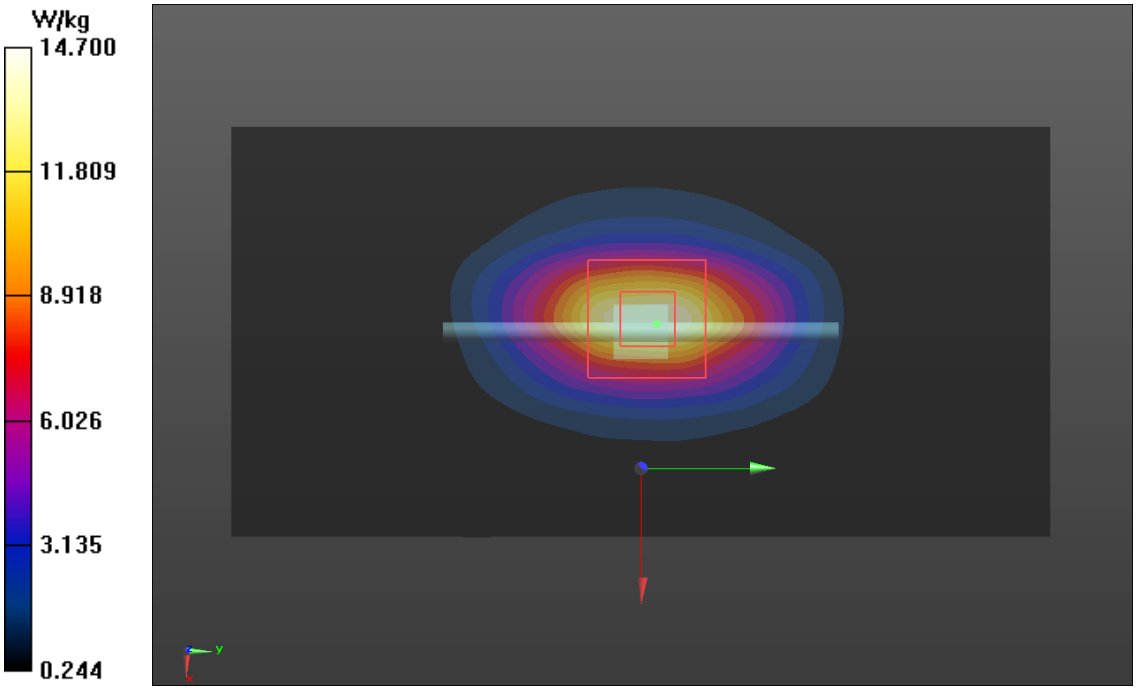
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:249

Communication System: UID 0, CW (0); Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1800 MHz; σ = 1.357 S/m; ε_r = 38.874; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 104.7 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 9.42 W/kg; SAR(10 g) = 4.87 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 14.7 W/kg
System check/Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.5 W/kg



Plot 17

Date/Time: 15.9.2020 8:31:06

Test Laboratory: Verkotan Oy

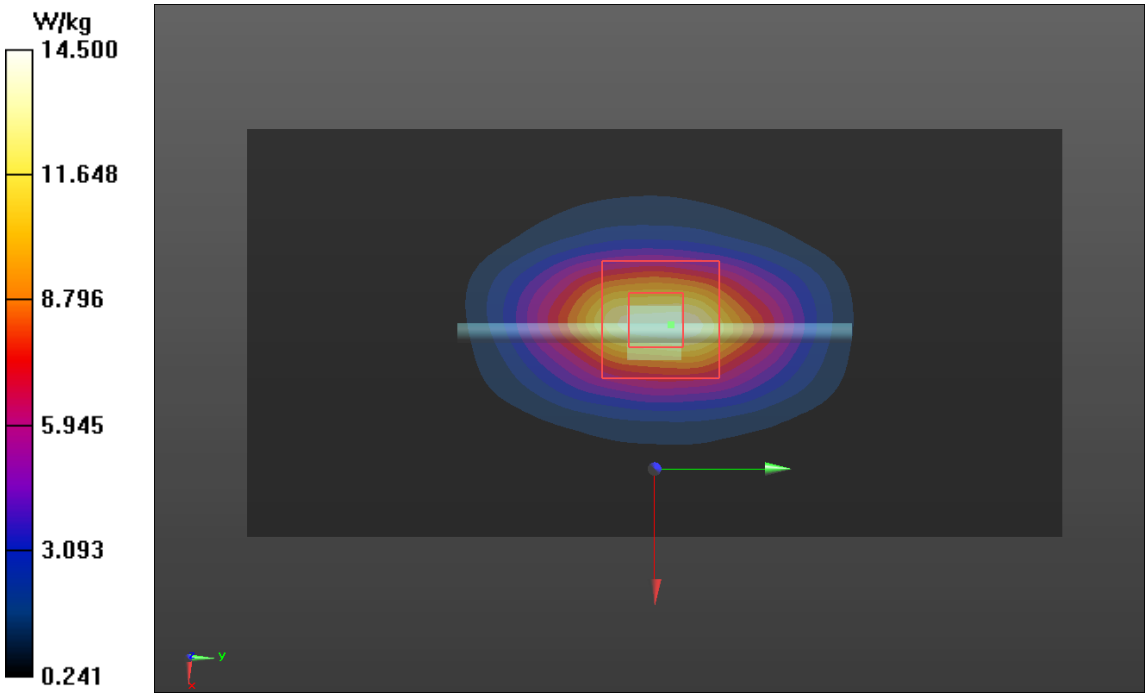
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:249

Communication System: UID 0, CW (0); Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1800 MHz; σ = 1.353 S/m; ε_r = 38.785; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 106.4 V/m; Power Drift = -0.22 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 9.3 W/kg; SAR(10 g) = 4.81 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 14.5 W/kg
System check/Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.8 W/kg



Plot 18

Date/Time: 16.9.2020 8:32:57

Test Laboratory: Verkotan Oy

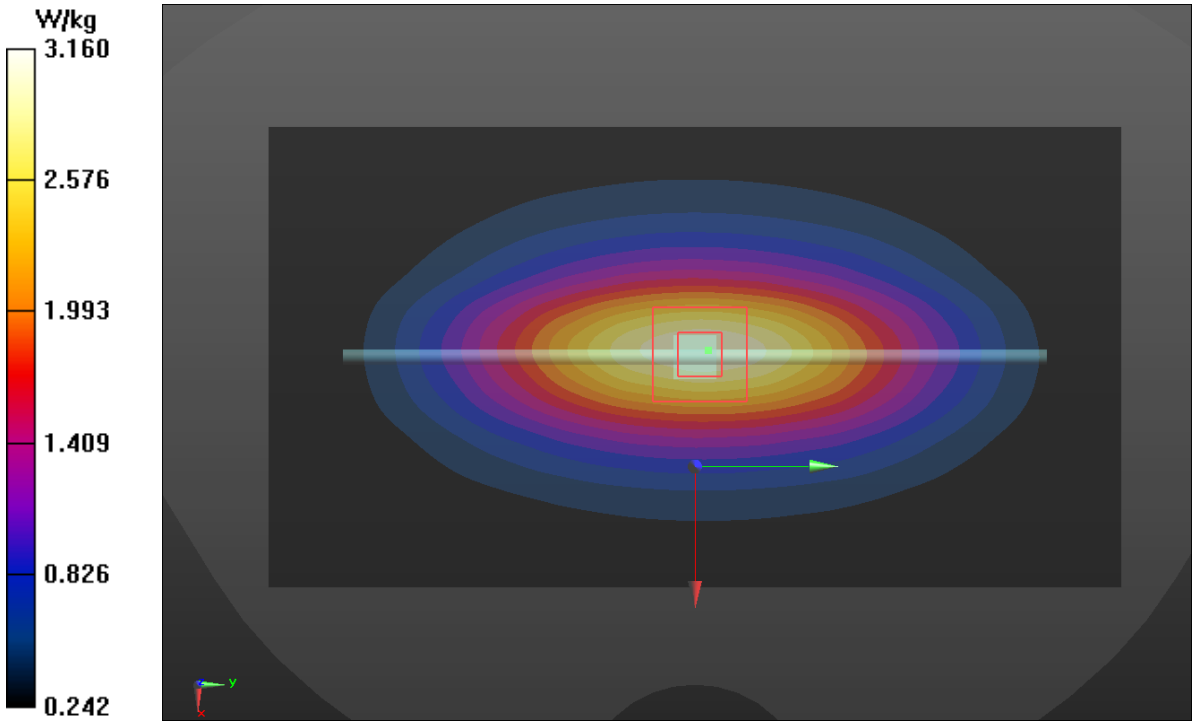
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.915 S/m; ε_r = 41.27; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 61.58 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 3.56 W/kg
SAR(1 g) = 2.28 W/kg; SAR(10 g) = 1.47 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.16 W/kg
System check/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.08 W/kg



Plot 19

Date/Time: 17.9.2020 8:50:01

Test Laboratory: Verkotan Oy

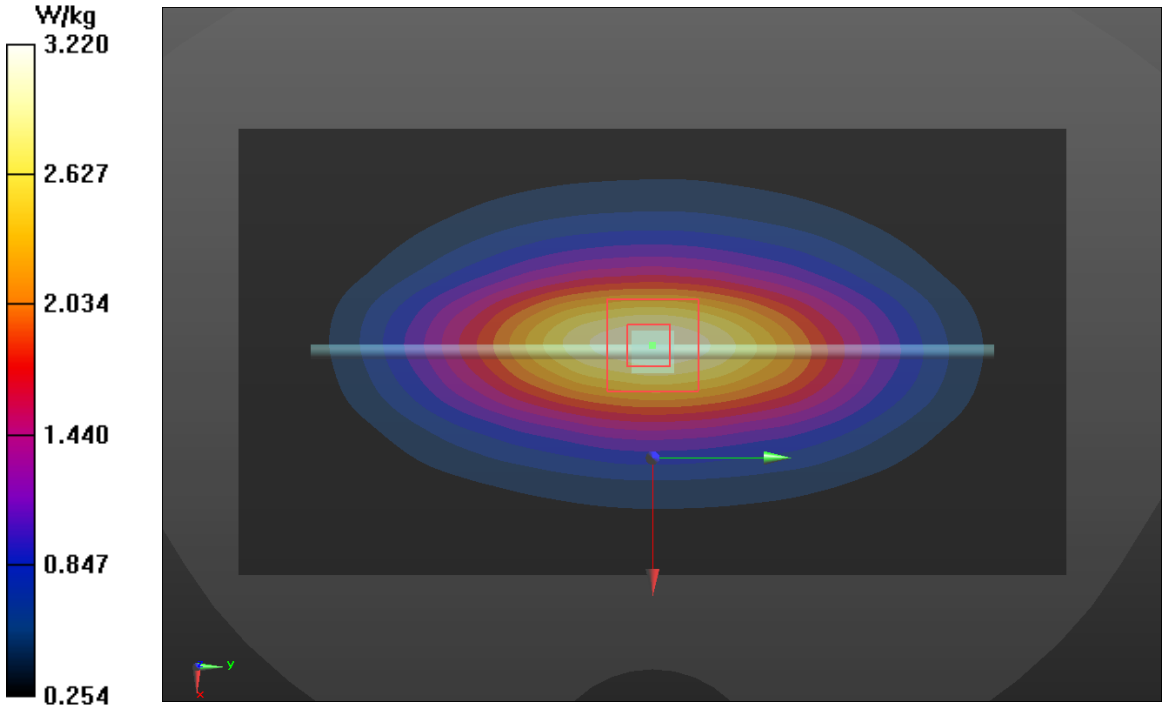
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.926 S/m; ε_r = 40.753; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 62.24 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 3.63 W/kg
SAR(1 g) = 2.3 W/kg; SAR(10 g) = 1.49 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.22 W/kg
System check/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.14 W/kg



Plot 20

Date/Time: 18.9.2020 8:30:41

Test Laboratory: Verkotan Oy

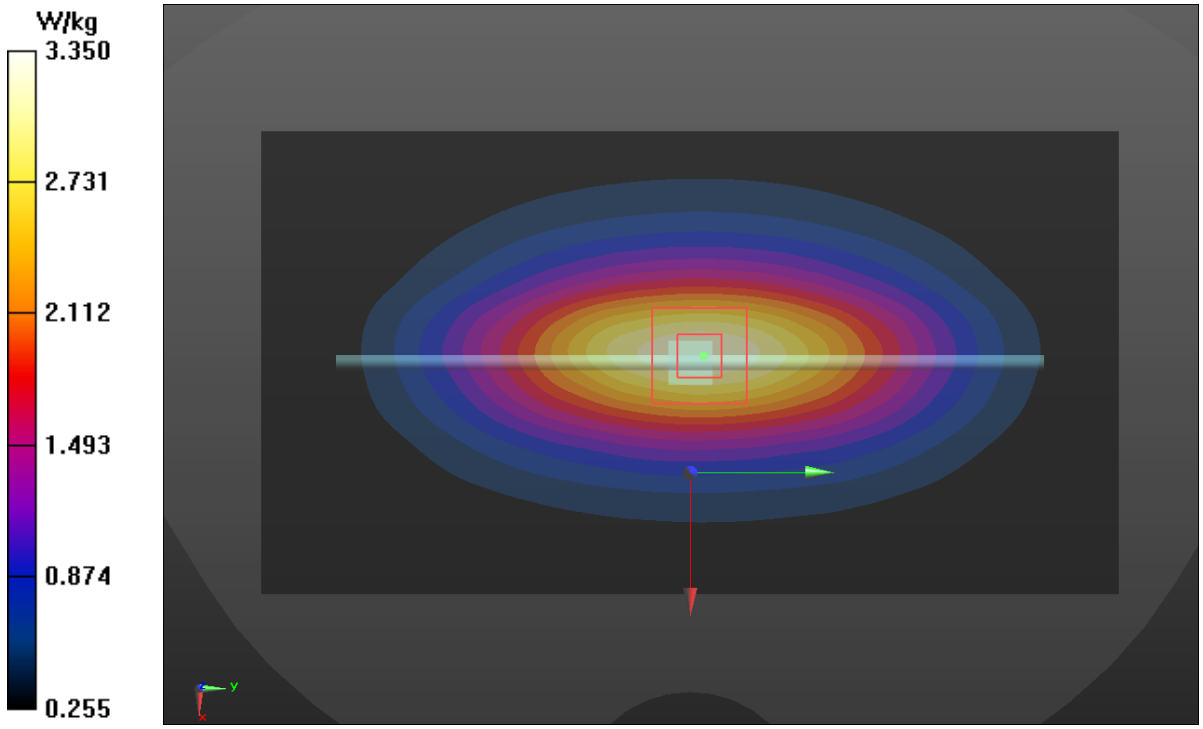
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.943 S/m; ε_r = 40.289; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 62.01 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 3.79 W/kg
SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.53 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.35 W/kg
System check/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.20 W/kg



Plot 21

Date/Time: 21.9.2020 8:38:24

Test Laboratory: Verkotan Oy

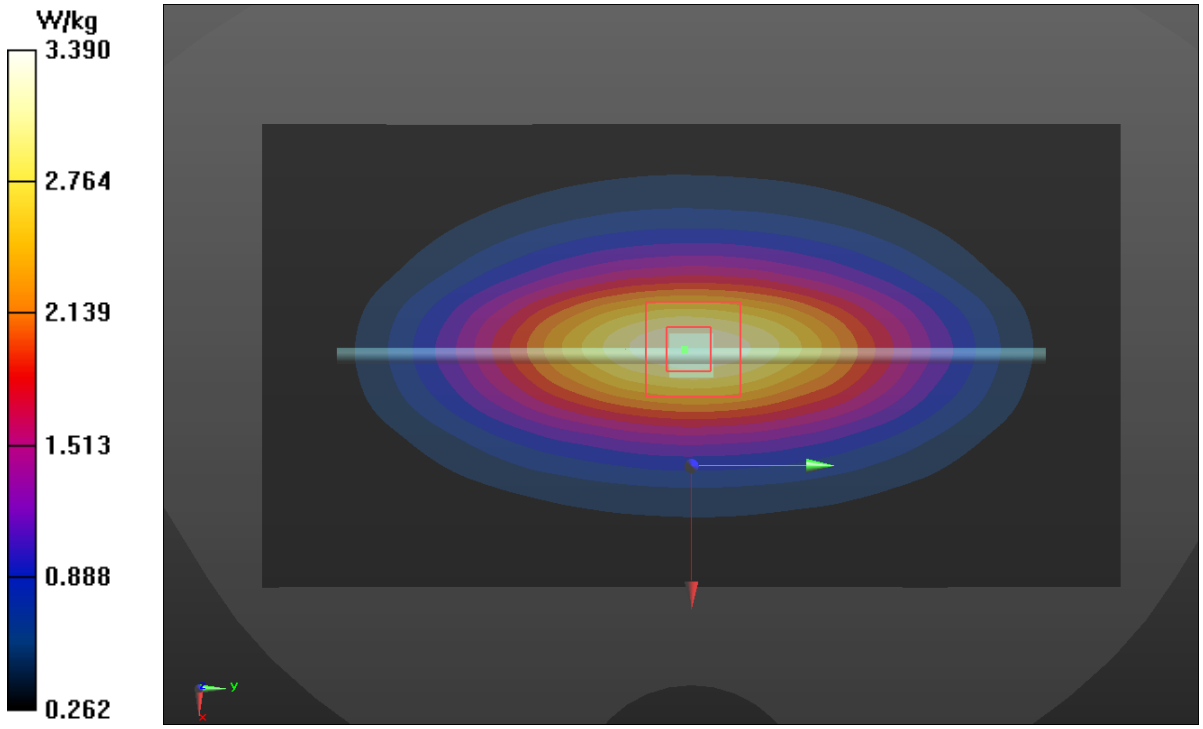
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.956 S/m; ε_r = 41.024; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 61.95 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 3.83 W/kg
SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.55 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.39 W/kg
System check/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.31 W/kg



Plot 22

Date/Time: 22.9.2020 9:09:04

Test Laboratory: Verkotan Oy

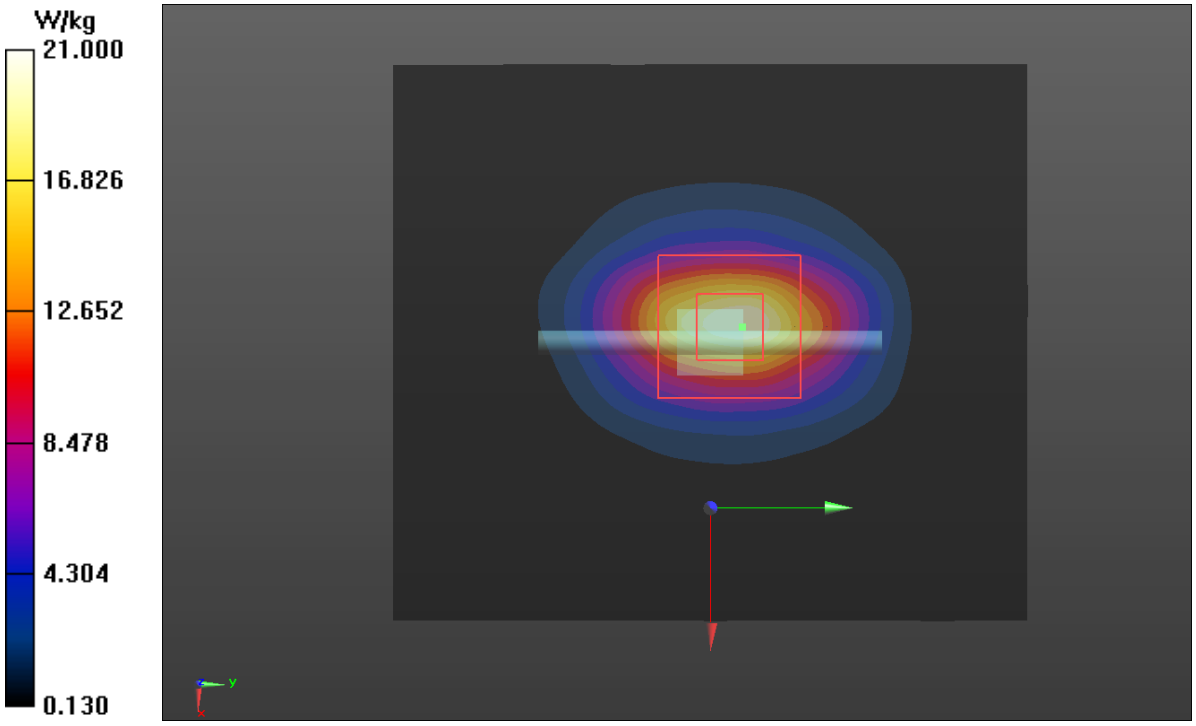
DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:758

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2450 MHz; σ = 1.731 S/m; ε_r = 37.167; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.48, 7.48, 7.48); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 109.0 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 26.1 W/kg
SAR(1 g) = 13 W/kg; SAR(10 g) = 6.06 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 21.0 W/kg
System check/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 21.3 W/kg



Plot 23

Date/Time: 23.9.2020 8:37:34

Test Laboratory: Verkotan Oy

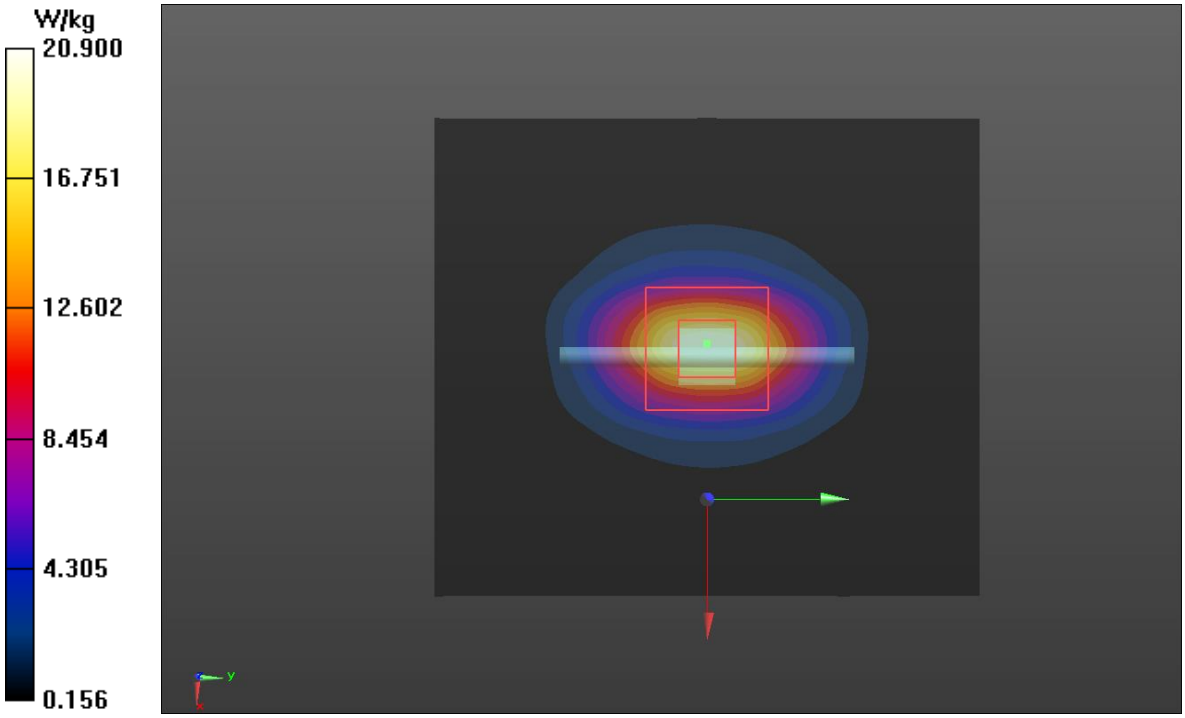
DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:748

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2450 MHz; σ = 1.746 S/m; ε_r = 37.714; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.48, 7.48, 7.48); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 113.1 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 25.9 W/kg
SAR(1 g) = 12.7 W/kg; SAR(10 g) = 5.94 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 20.9 W/kg
System check/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 20.7 W/kg



Plot 24

Date/Time: 24.9.2020 8:40:42

Test Laboratory: Verkotan Oy

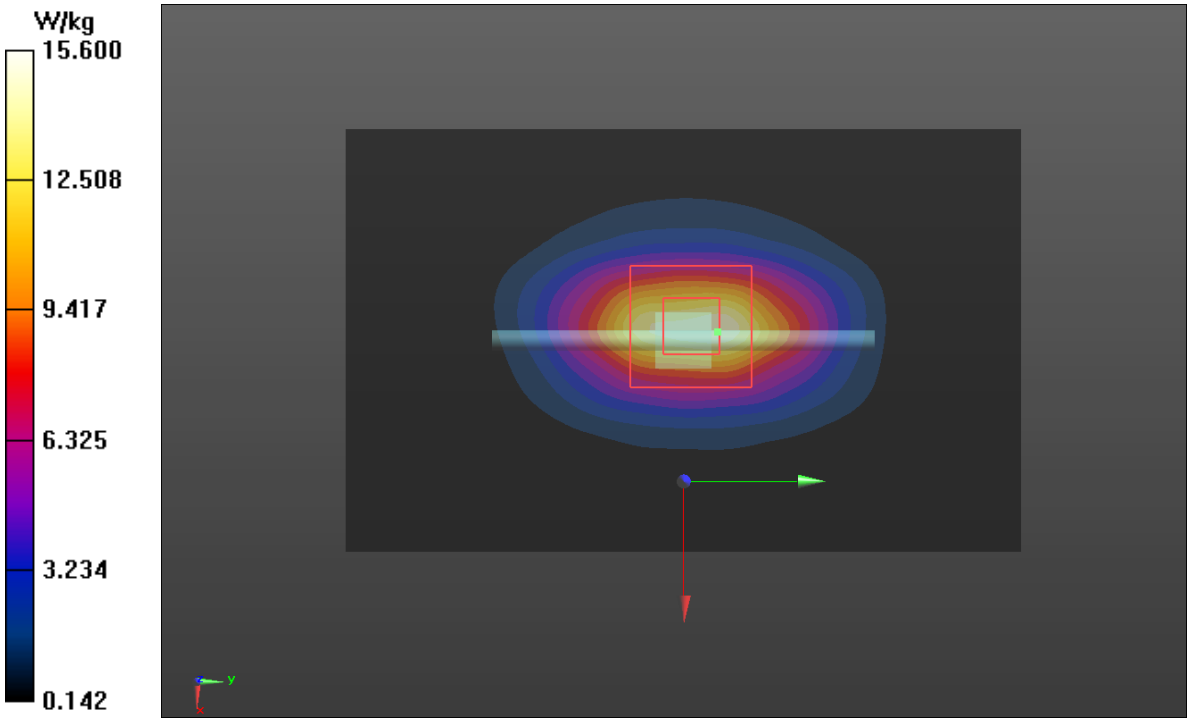
DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1900 MHz; σ = 1.463 S/m; ε_r = 38.651; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 105.8 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 9.71 W/kg; SAR(10 g) = 5.08 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 15.6 W/kg
System check/Area Scan (51x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 16.2 W/kg



Plot 25

Date/Time: 25.9.2020 9:12:22

Test Laboratory: Verkotan Oy

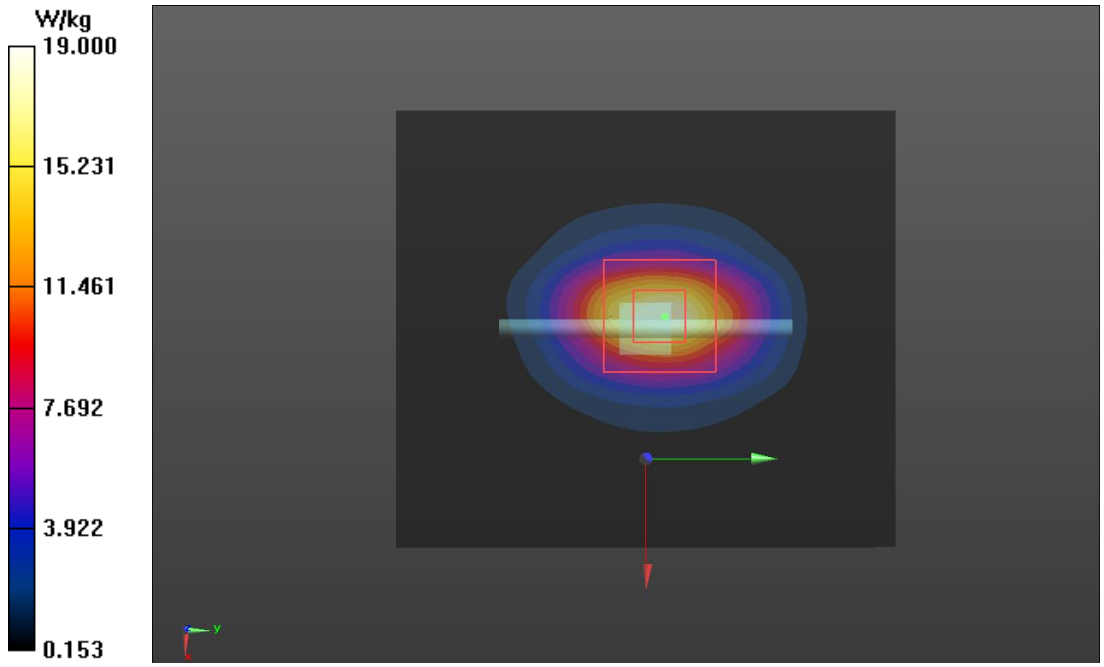
DUT: Dipole 2300 MHz D2300V2; Type: D2300V3; Serial: D2300V3 - SN:366

Communication System: UID 0, CW (0); Communication System Band: D2300 (2300.0 MHz); Frequency: 2300 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2300 MHz; σ = 1.641 S/m; ε_r = 37.643; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN7447; ConvF(8.05, 8.05, 8.05); Calibrated: 25.3.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 107.5 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 23.0 W/kg
SAR(1 g) = 11.8 W/kg; SAR(10 g) = 5.65 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 19.0 W/kg
System check/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 18.9 W/kg



Plot 26

Date/Time: 28.9.2020 8:41:11

Test Laboratory: Verkotan Oy

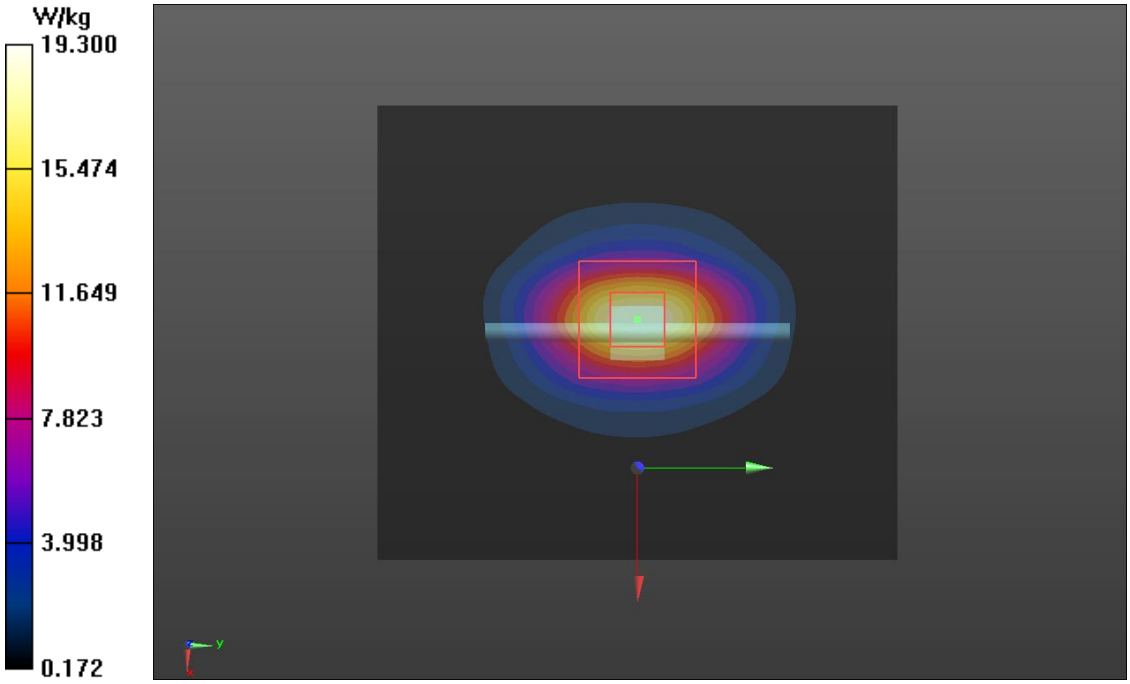
DUT: Dipole 2300 MHz D2300V2; Type: D2300V3; Serial: D2300V3 - SN:366

Communication System: UID 0, CW (0); Communication System Band: D2300 (2300.0 MHz); Frequency: 2300 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 2300 MHz; σ = 1.654 S/m; ε_r = 38.205; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN7447; ConvF(8.05, 8.05, 8.05); Calibrated: 25.3.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

System check/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 109.8 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 23.3 W/kg
SAR(1 g) = 11.8 W/kg; SAR(10 g) = 5.7 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 19.3 W/kg
System check/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 19.2 W/kg



Plot 27

Date/Time: 12.10.2020 8:42:13

Test Laboratory: Verkotan Oy

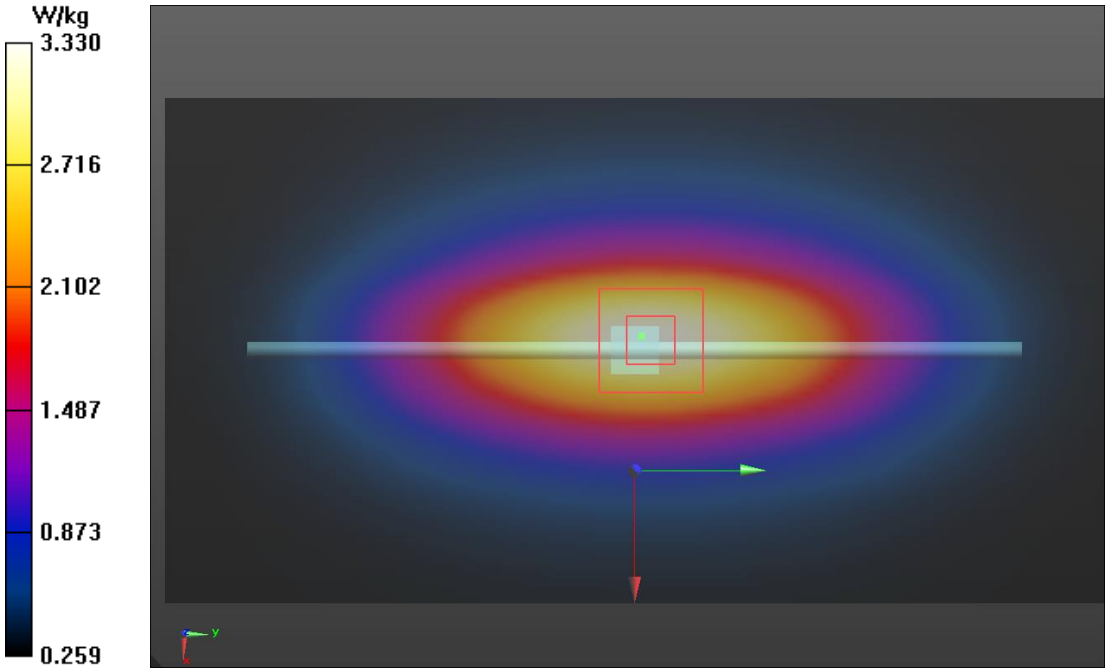
DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:448

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 835 MHz; σ = 0.944 S/m; ε_r = 40.945; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn756; Calibrated: 17.3.2020
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/system check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 62.98 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 3.74 W/kg
SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.55 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.33 W/kg
Configuration/system check/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.31 W/kg



Plot 28

Date/Time: 12.10.2020 9:03:48

Test Laboratory: Verkotan Oy

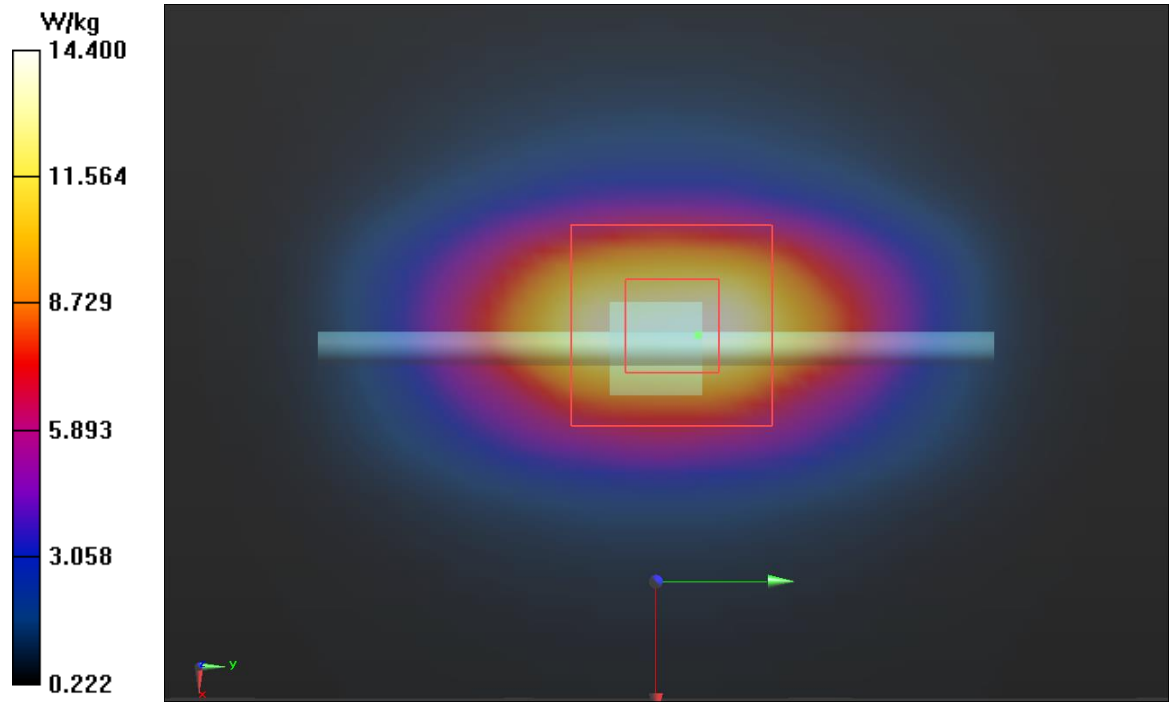
DUT: Dipole 1800 MHz D1800V2; Type: D1800V2; Serial: D1800V2 - SN:249

Communication System: UID 0, CW (0); Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1800 MHz; σ = 1.386 S/m; ε_r = 38.22; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn756; Calibrated: 17.3.2020
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/system check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 103.2 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 9.32 W/kg; SAR(10 g) = 4.88 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 14.4 W/kg
Configuration/system check/Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 14.9 W/kg



APPENDIX C: MEASUREMENT SCANS

Plot 29

Date/Time: 12.10.2020 9:30:09

Test Laboratory: Verkotan Oy

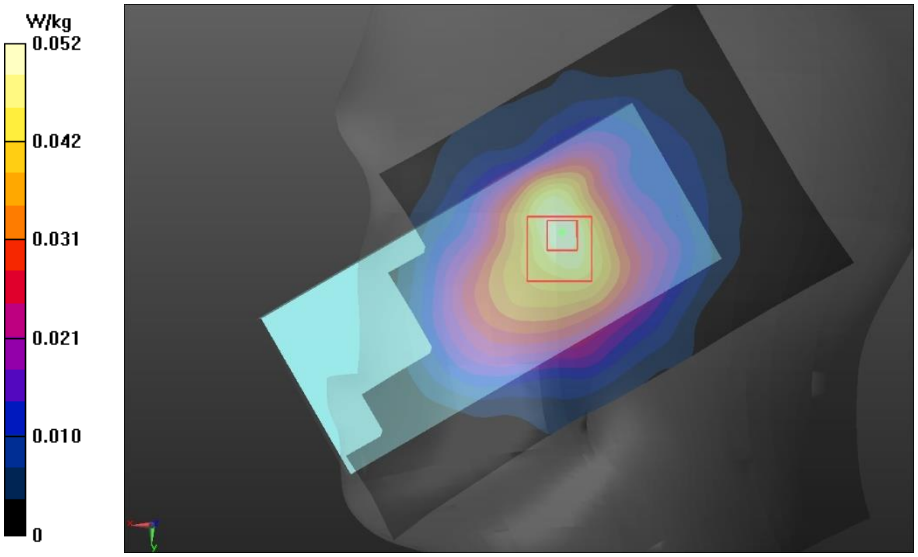
DUT: Mudita Pure

Communication System: UID 0, Generic GSM (0); Communication System Band: E-GSM 900 (880.0 - 915.0 MHz); Frequency: 897.6 MHz;Communication System PAR: 9.191 dB; PMF: 2.88104
Medium parameters used: f = 898 MHz; σ = 0.966 S/m; ε_r = 40.61; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn756; Calibrated: 17.3.2020
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Head_Right_08102020/FCC, Right cheek, GSM 900 mid, DUT22162/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0524 W/kg
Head_Right_08102020/FCC, Right cheek, GSM 900 mid, DUT22162/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.888 V/m; Power Drift = -0.52 dB
Peak SAR (extrapolated) = 0.0550 W/kg
SAR(1 g) = 0.040 W/kg; SAR(10 g) = 0.029 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0494 W/kg



Plot 30

Date/Time: 12.10.2020 13:50:53

Test Laboratory: Verkotan Oy

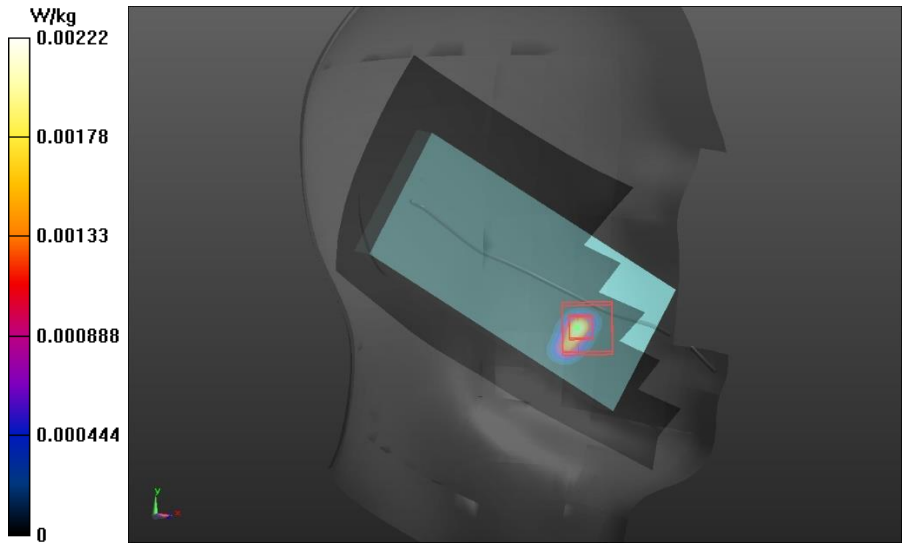
DUT: Mudita Pure

Communication System: UID 0, Generic GSM (0); Communication System Band: DCS 1800 (1710.0 - 1785.0 MHz); Frequency: 1710.2 MHz;Communication System PAR: 9.191 dB; PMF: 2.88104
Medium parameters used (interpolated): f = 1710.2 MHz; σ = 1.337 S/m; ε_r = 38.349; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0
- Electronics: DAE4 Sn756; Calibrated: 17.3.2020
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

EU Left Head 12102020/EU, Left cheek, GSM 1800, low, DUT22162/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.00365 W/kg
SAR(1 g) = 0.000927 W/kg; SAR(10 g) = 0.000241 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.00222 W/kg
EU Left Head 12102020/EU, Left cheek, GSM 1800, low, DUT22162/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.00318 W/kg



Plot 31

Date/Time: 24.8.2020 12:45:37

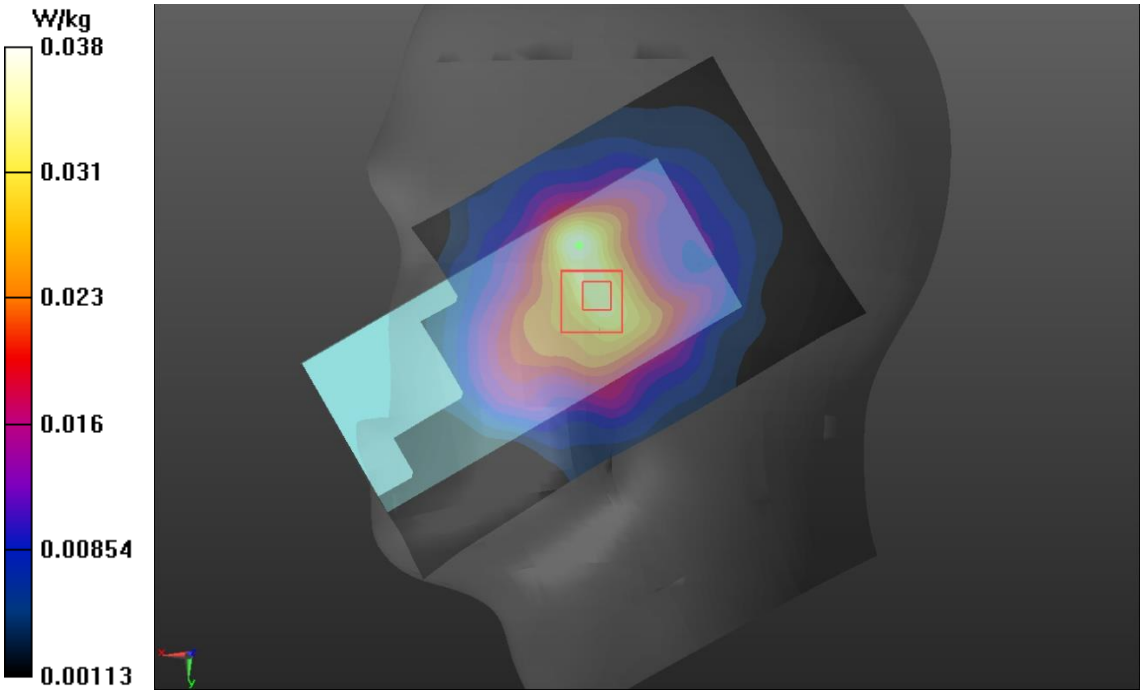
DUT: Mudita Pure

Communication System: UID 0, WCDMA (0); Communication System Band: Band 8; Frequency: 897.6 MHz;Communication System PAR: 0 dB; PMF: 1.12202e-005
Medium parameters used: f = 898 MHz; σ = 1.011 S/m; ε_r = 40.053; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

24082020, right, head/WCDMA 8, mid, Right Cheek, DUT22161 2/Zoom Scan (6x8x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.445 V/m; Power Drift = -0.72 dB
Peak SAR (extrapolated) = 0.0430 W/kg
SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.022 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0382 W/kg
24082020, right, head/WCDMA 8, mid, Right Cheek, DUT22161 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0521 W/kg



Plot 32

Date/Time: 10.9.2020 8:41:27

Test Laboratory: Verkotan Oy

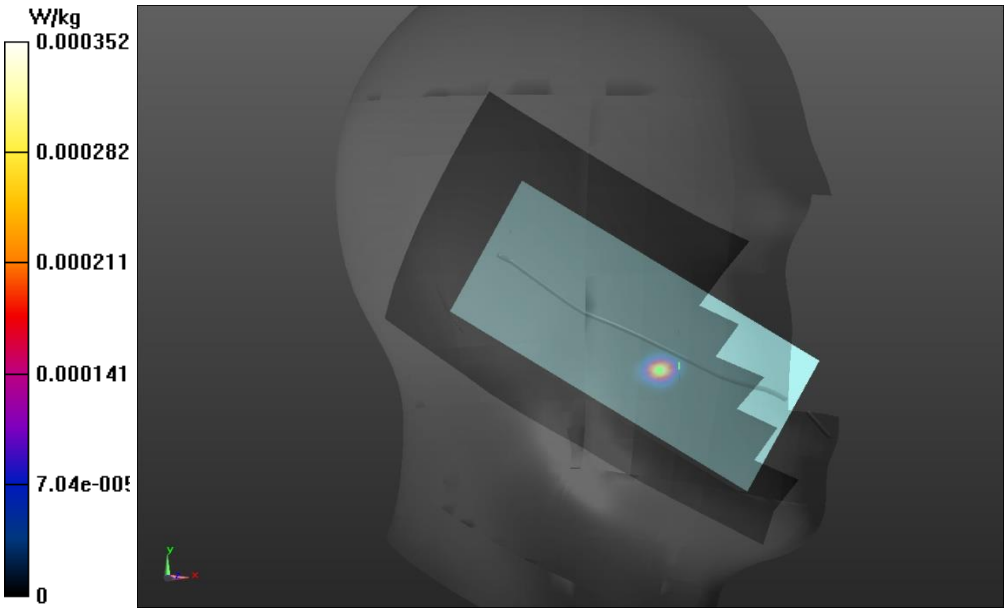
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 3, E-UTRA/FDD (1710.0 - 1785.0 MHz); Frequency: 1775 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1775 MHz; σ = 1.379 S/m; ε_r = 37.224; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Head_left_10092020/EU, Left Tilt, LTE 3, high, BW20, RB1, Offset0, DUT22162 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0 W/kg
SAR(1 g) = n.a. ; SAR(10 g) = n.a. (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.000352 W/kg
Head_left_10092020/EU, Left Tilt, LTE 3, high, BW20, RB1, Offset0, DUT22162 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0000696 W/kg



Plot 33

Date/Time: 24.8.2020 16:45:05

Test Laboratory: Verkotan Oy

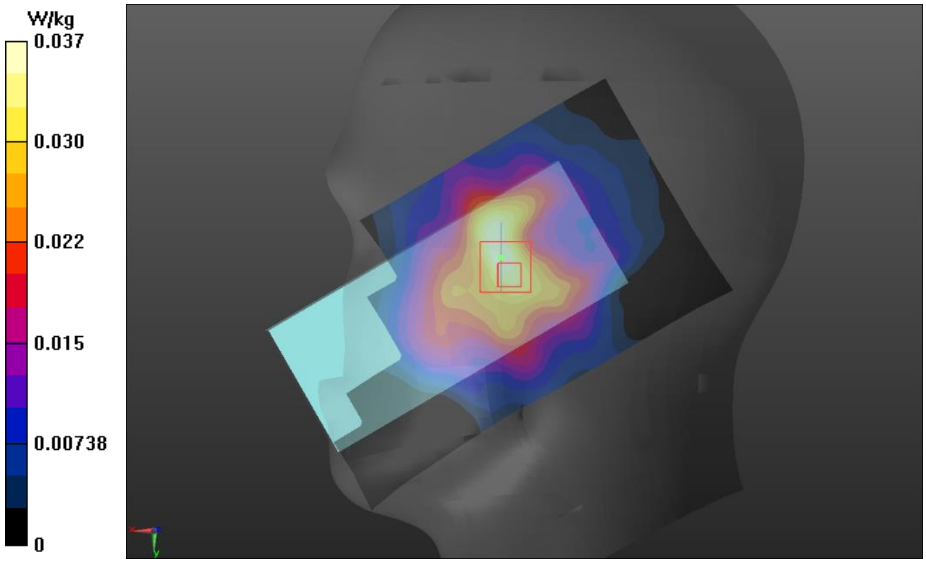
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 8, E-UTRA/FDD (880.0 - 915.0 MHz); Frequency: 897.5 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used (interpolated): f = 897.5 MHz; σ = 1.01 S/m; ε_r = 40.049; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

24082020, right, head/LTE 8, mid, BW10, RB1, offset 24, Right Cheek, DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0369 W/kg
24082020, right, head/LTE 8, mid, BW10, RB1, offset 24, Right Cheek, DUT22161/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.218 V/m; Power Drift = -0.69 dB
Peak SAR (extrapolated) = 0.0340 W/kg
SAR(1 g) = 0.023 W/kg; SAR(10 g) = 0.017 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0285 W/kg



Plot 34

Date/Time: 25.8.2020 12:50:22

Test Laboratory: Verkotan Oy

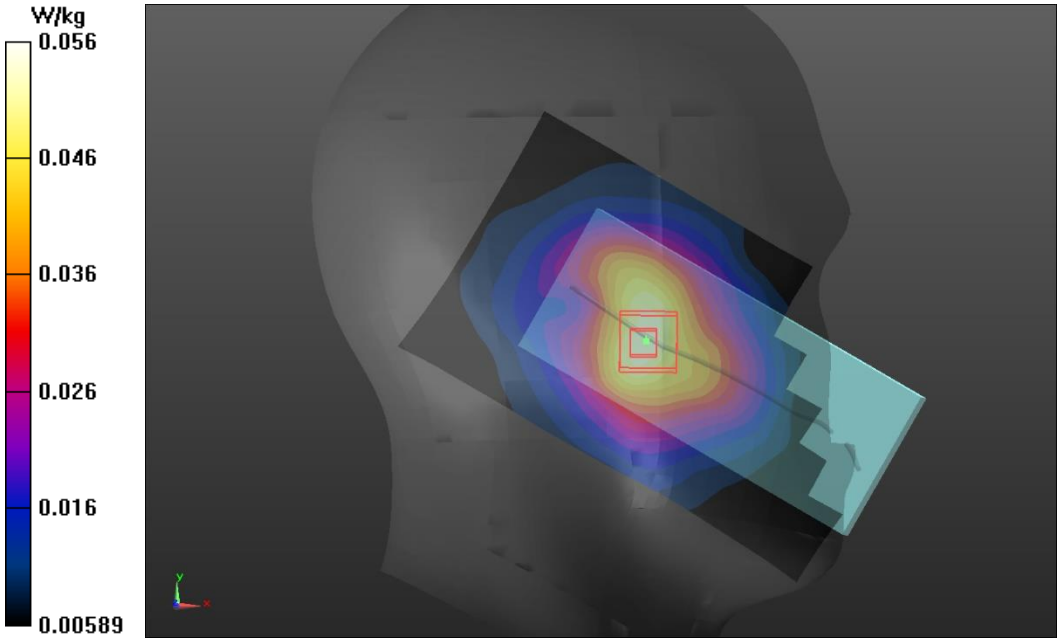
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 20, E-UTRA/FDD (832.0 - 862.0 MHz); Frequency: 847 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 847 MHz; σ = 0.973 S/m; ε_r = 40.792; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

25082020, Left Cheek/LTE 20, mid, BW20, RB1, Offset 49, Left Cheek, DUT22161 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.326 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.0620 W/kg
SAR(1 g) = 0.046 W/kg; SAR(10 g) = 0.033 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0563 W/kg
25082020, Left Cheek/LTE 20, mid, BW20, RB1, Offset 49, Left Cheek, DUT22161 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0619 W/kg



Plot 35

Date/Time: 1.9.2020 9:23:37

Test Laboratory: Verkotan Oy

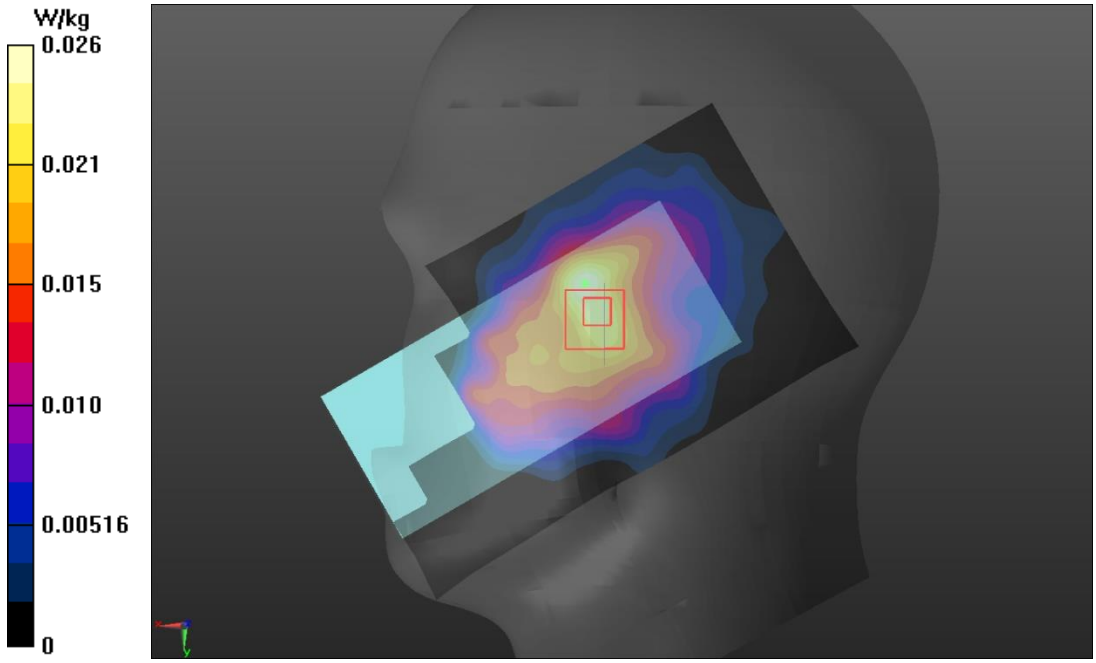
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 28; Frequency: 738 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 738 MHz; σ = 0.869 S/m; ε_r = 40.008; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(10.21, 10.21, 10.21); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Head_Right_01092020/LTE 28, high, Right Cheek, BW20, RB18, Offset82, DUT22162 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.0258 W/kg
Head_Right_01092020/LTE 28, high, Right Cheek, BW20, RB18, Offset82, DUT22162 2/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.066 V/m; Power Drift = -0.44 dB
Peak SAR (extrapolated) = 0.0250 W/kg
SAR(1 g) = 0.018 W/kg; SAR(10 g) = 0.013 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0216 W/kg



Plot 36

Date/Time: 22.9.2020 15:37:05

Test Laboratory: Verkotan Oy

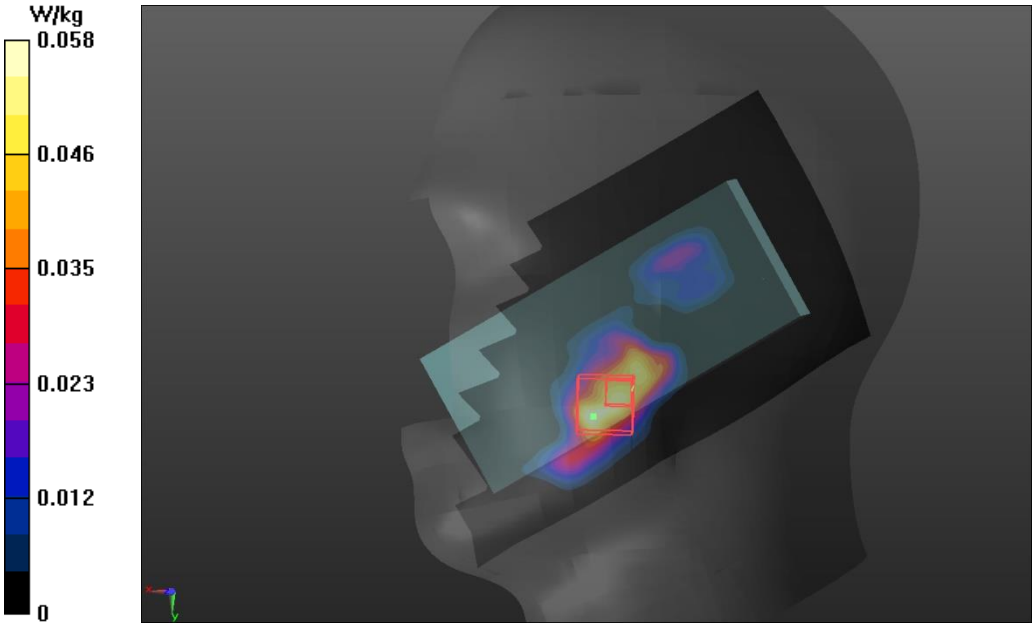
DUT: Mudita Pure

Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth; Frequency: 2480 MHz;Communication System PAR: 4.771 dB; PMF: 1
Medium parameters used: f = 2480 MHz; σ = 1.748 S/m; ε_r = 37.12; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.48, 7.48, 7.48); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Head_Right_22092020_2/Right Cheek, BT, mid, DUT22162 2 2/Area Scan (151x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0578 W/kg
Head_Right_22092020_2/Right Cheek, BT, mid, DUT22162 2 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.163 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.0550 W/kg
SAR(1 g) = 0.030 W/kg; SAR(10 g) = 0.014 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0457 W/kg



Plot 37

Date/Time: 17.9.2020 10:00:14

Test Laboratory: Verkotan Oy

DUT: Mudita Pure

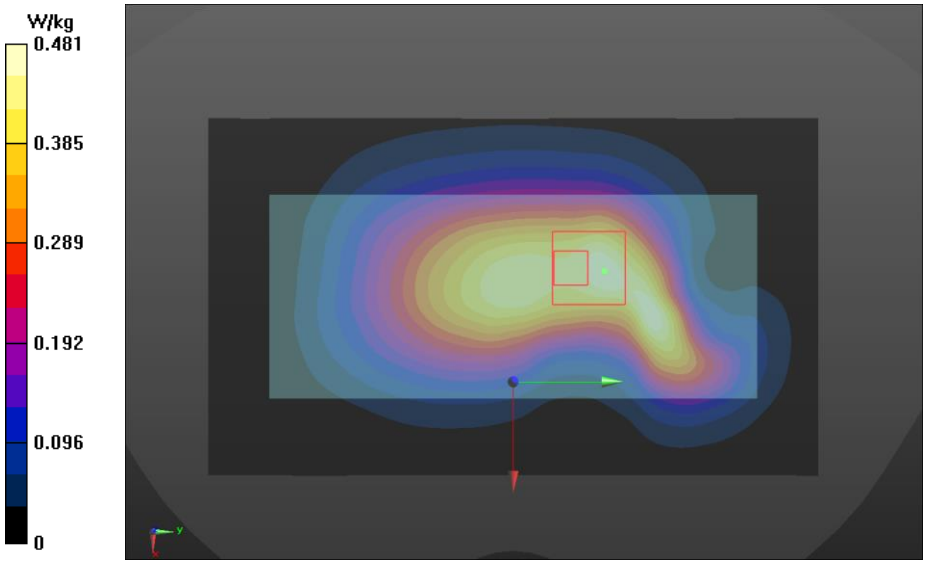
Communication System: UID 0, GPRS 3slots (0); Communication System Band: 900; Frequency: 880.2 MHz;Communication System PAR: 4.265 dB
Medium parameters used (interpolated): f = 880.2 MHz; σ = 0.943 S/m; ε_r = 40.512; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body_17092020/EU, Body, Back, GPRS 900, low, 3 Slots, DUT22162/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.481 W/kg

Body_17092020/EU, Body, Back, GPRS 900, low, 3 Slots, DUT22162/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.03 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.651 W/kg
SAR(1 g) = 0.342 W/kg; SAR(10 g) = 0.216 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.501 W/kg



Plot 38

Date/Time: 14.9.2020 17:19:02

Test Laboratory: Verkotan Oy

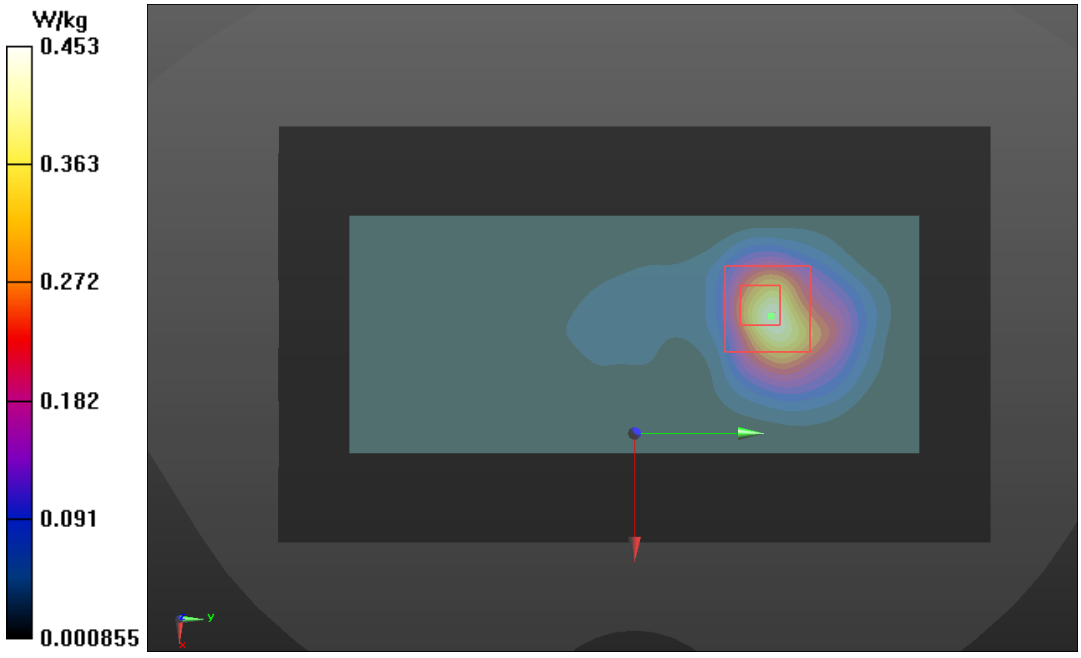
DUT: Mudita Pure

Communication System: UID 0, GPRS 3slots (0); Communication System Band: 1800; Frequency: 1710.2 MHz;Communication System PAR: 4.265 dB
Medium parameters used (interpolated): f = 1710.2 MHz; σ = 1.313 S/m; ε_r = 39.025; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body_14092020/EU, Body, Back, GPRS, low, DUT22162 2 2 2/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=5mm
Reference Value = 18.26 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.606 W/kg
SAR(1 g) = 0.243 W/kg; SAR(10 g) = 0.105 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.453 W/kg
Body_14092020/EU, Body, Back, GPRS, low, DUT22162 2 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.497 W/kg



Plot 39

Date/Time: 27.8.2020 17:39:51

Test Laboratory: Verkotan Oy

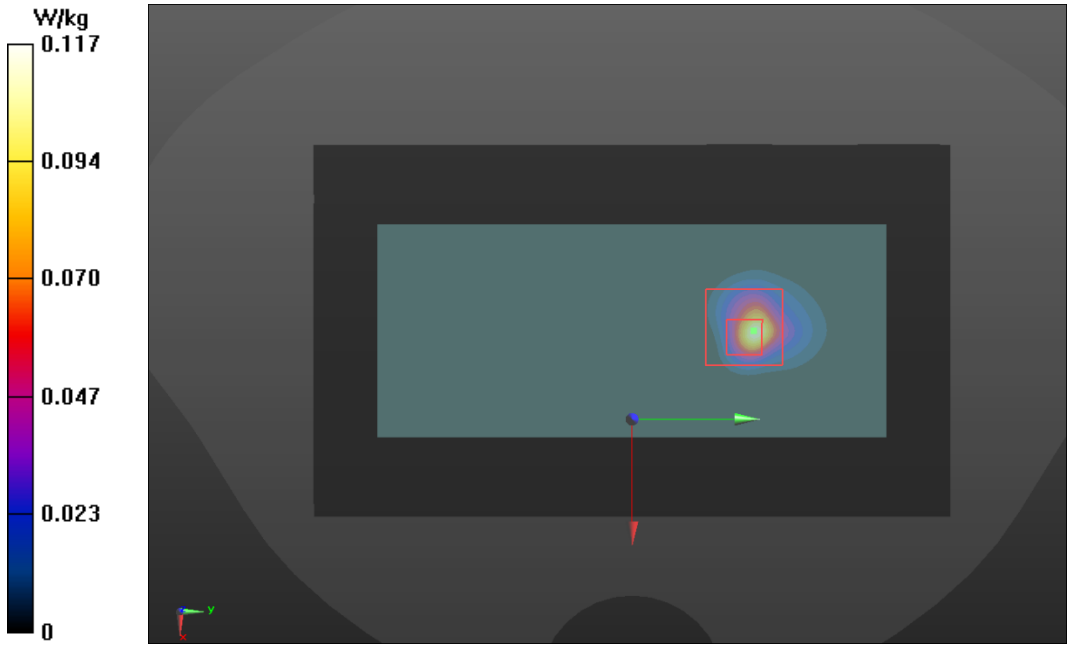
DUT: Mudita Pure

Communication System: UID 0, WCDMA (0); Communication System Band: Band 1; Frequency: 1977.6 MHz;Communication System PAR: 0 dB; PMF: 1.12202e-005
Medium parameters used: f = 1978 MHz; σ = 1.419 S/m; ε_r = 37.125; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Front_Back, 27082020/Body, Back, WCDMA 1, high, DUT22161/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.470 V/m; Power Drift = -0.35 dB
Peak SAR (extrapolated) = 0.223 W/kg
SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.024 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.117 W/kg
Front_Back, 27082020/Body, Back, WCDMA 1, high, DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.335 W/kg



Plot 40

Date/Time: 26.8.2020 20:57:21

Test Laboratory: Verkotan Oy

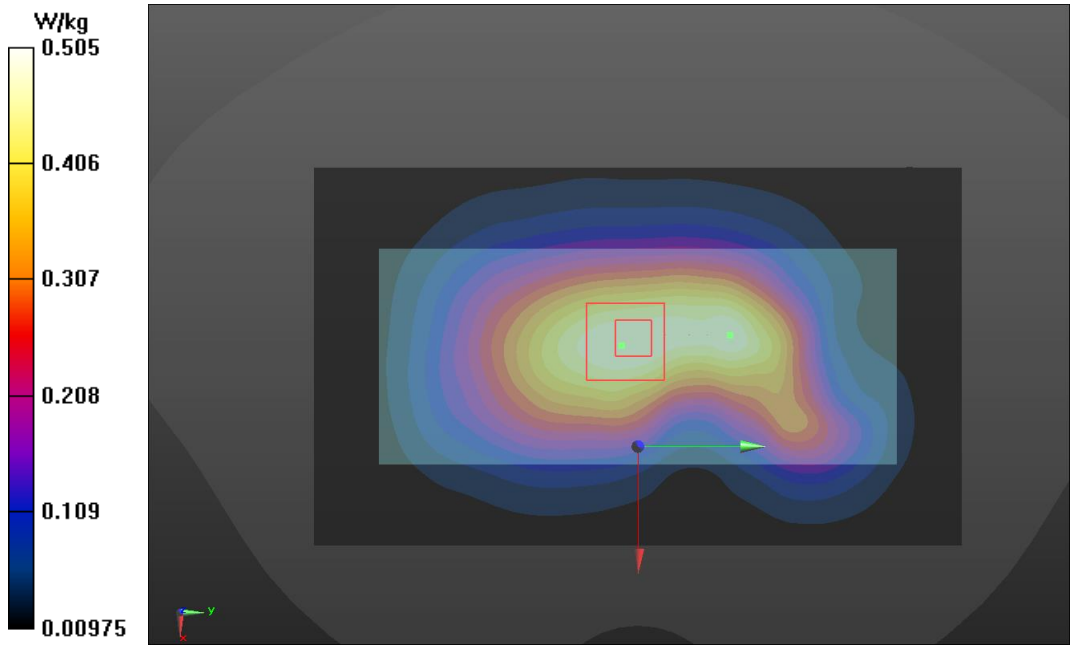
DUT: Mudita Pure

Communication System: UID 0, WCDMA (0); Communication System Band: Band 8; Frequency: 882.4 MHz;Communication System PAR: 0 dB; PMF: 1.12202e-005
Medium parameters used (interpolated): f = 882.4 MHz; σ = 0.95 S/m; ε_r = 39.889; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body, front_back/Body, back, WCDMA 8, low, DUT22161 2 2/Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.63 V/m; Power Drift = -0.61 dB
Peak SAR (extrapolated) = 0.608 W/kg
SAR(1 g) = 0.380 W/kg; SAR(10 g) = 0.267 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.505 W/kg
Body, front_back/Body, back, WCDMA 8, low, DUT22161 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.513 W/kg



Plot 41

Date/Time: 27.8.2020 14:56:11

Test Laboratory: Verkotan Oy

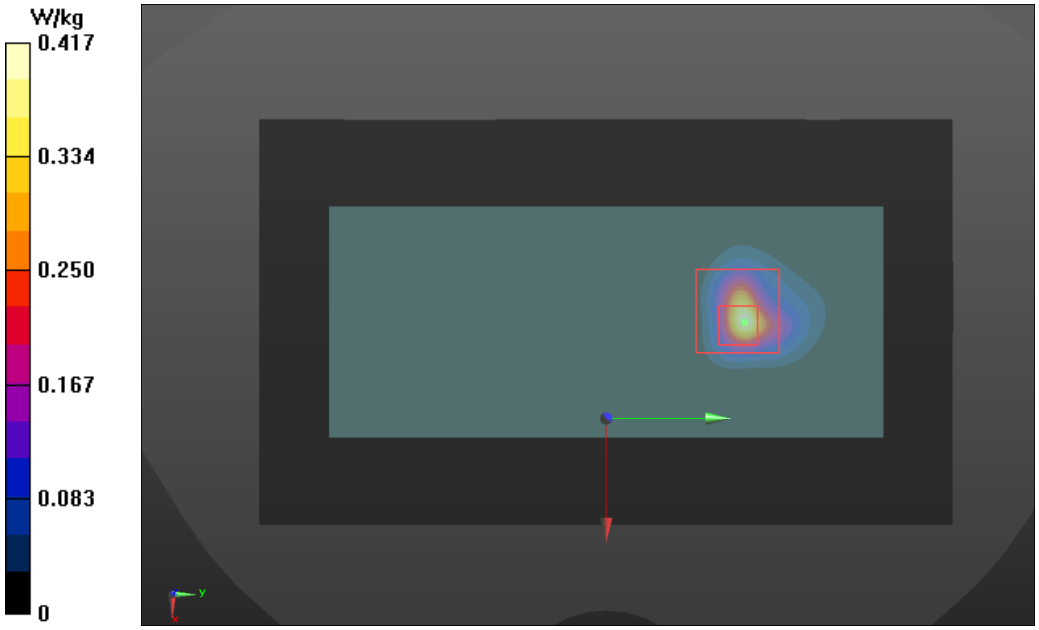
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 1, E-UTRA/FDD (1920.0 - 1980.0 MHz); Frequency: 1950 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1950 MHz; σ = 1.402 S/m; ε_r = 37.176; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Front_Back, 27082020/Body, Back, LTE 1, BW15, mid, RB16, Offset 0, DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.417 W/kg
Front_Back, 27082020/Body, Back, LTE 1, BW15, mid, RB16, Offset 0, DUT22161/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.584 V/m; Power Drift = -0.32 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.089 W/kg; SAR(10 g) = 0.033 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.170 W/kg



Plot 42

Date/Time: 14.9.2020 12:44:53

Test Laboratory: Verkotan Oy

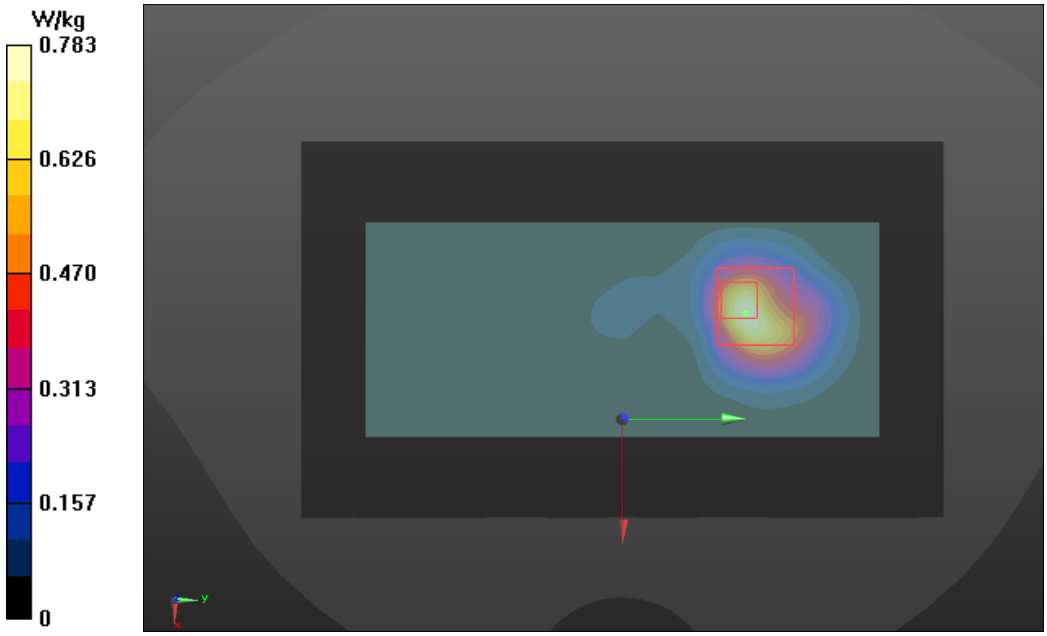
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 3, E-UTRA/FDD (1710.0 - 1785.0 MHz); Frequency: 1720 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1720 MHz; σ = 1.317 S/m; ε_r = 39.017; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body_14092020/EU, Body, Back, LTE 3, low, BW20, RB1, Offset99, DUT22162 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.783 W/kg
Body_14092020/EU, Body, Back, LTE 3, low, BW20, RB1, Offset99, DUT22162 2 2/Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=5mm
Reference Value = 21.85 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.409 W/kg; SAR(10 g) = 0.175 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.733 W/kg



Plot 43

Date/Time: 9/3/2020 6:12:49 PM

Test Laboratory: Verkotan Oy

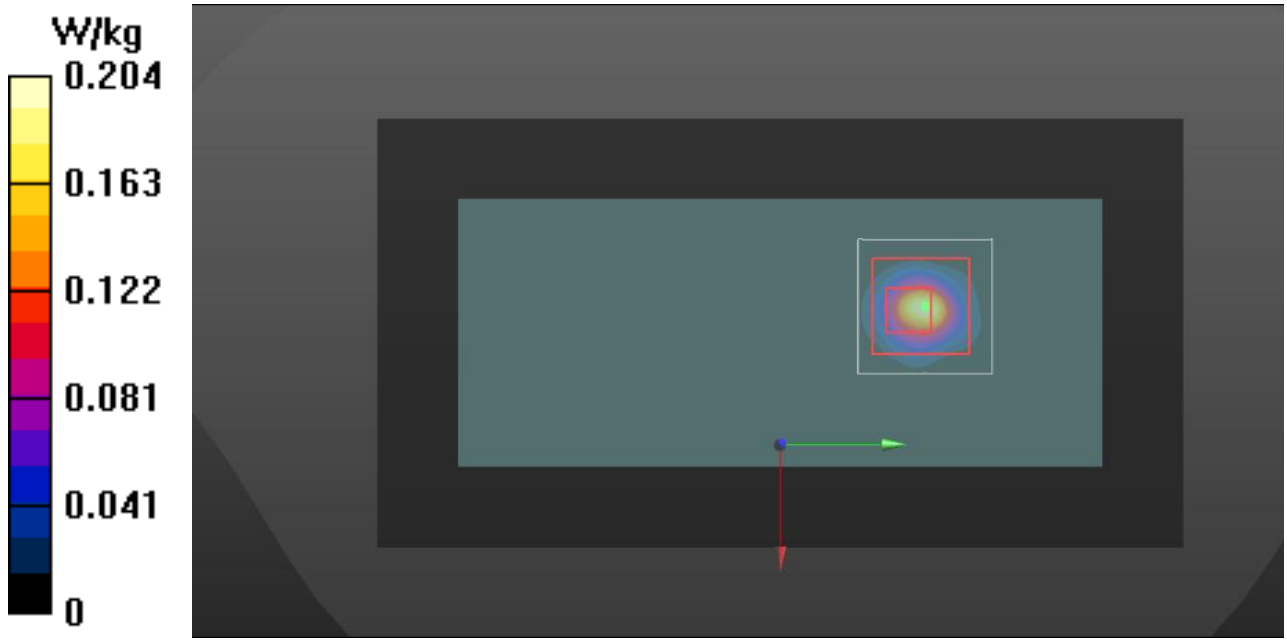
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz); Frequency: 2502.5 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used (interpolated): f = 2502.5 MHz; σ = 1.747 S/m; ε_r = 37.286; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body_03092020/EU, Body, Back, LTE 7, low, BW5, RB8, Offset0, DUT22162/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.265 W/kg
SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.00918 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0947 W/kg
Body_03092020/EU, Body, Back, LTE 7, low, BW5, RB8, Offset0, DUT22162/Area Scan (151x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.204 W/kg



Plot 44

Date/Time: 8/26/2020 5:54:03 PM

Test Laboratory: Verkotan Oy

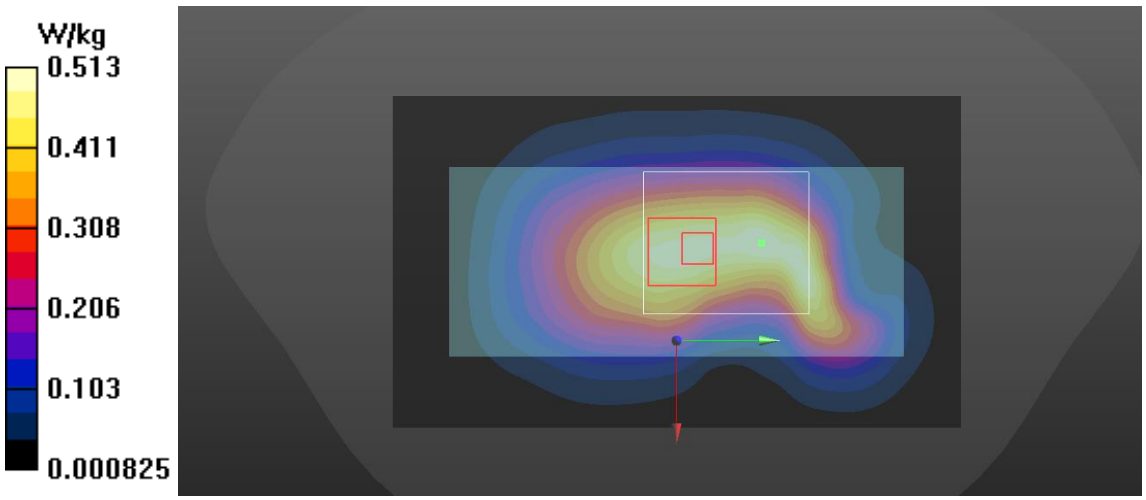
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 8, E-UTRA/FDD (880.0 - 915.0 MHz); Frequency: 885 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 885 MHz; σ = 0.951 S/m; ε_r = 39.881; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body, front_back/Body, Back, LTE 8, low, BW 10, RB 1, offset 24 DUT22161 2/Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.46 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.644 W/kg
SAR(1 g) = 0.391 W/kg; SAR(10 g) = 0.272 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.507 W/kg
Body, front_back/Body, Back, LTE 8, low, BW 10, RB 1, offset 24 DUT22161 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.513 W/kg



Plot 45

Date/Time: 8/26/2020 4:01:34 PM

Test Laboratory: Verkotan Oy

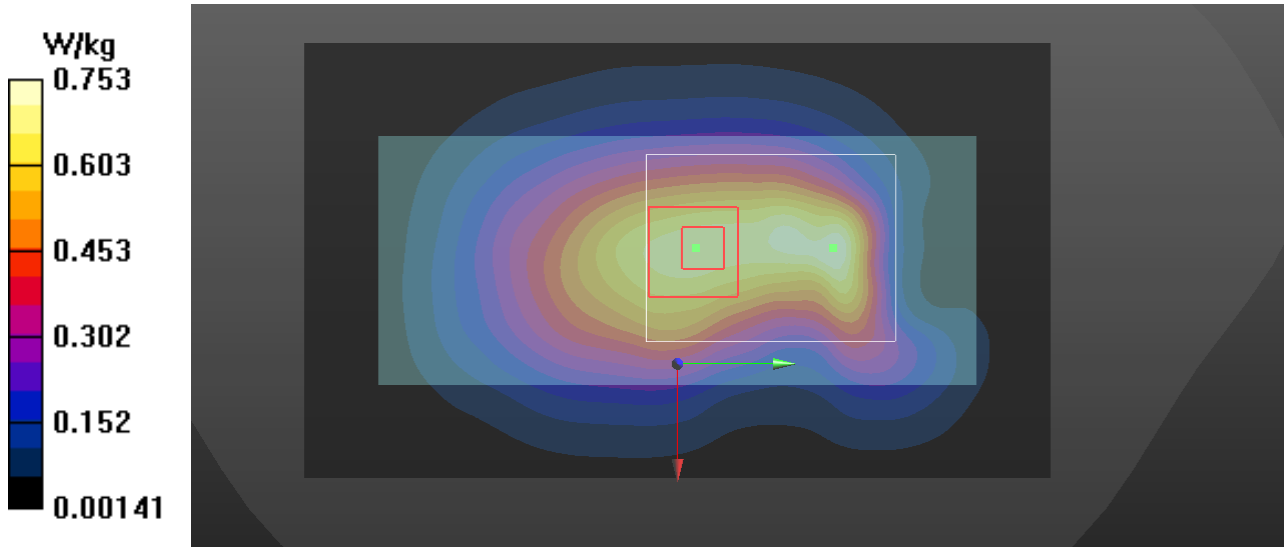
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 20, E-UTRA/FDD (832.0 - 862.0 MHz); Frequency: 842 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 842 MHz; σ = 0.935 S/m; ε_r = 40.099; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body, front_back/Body, Back, LTE 20, low, BW 20, RB 1, offset 49 DUT22161/Zoom Scan (7x9x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.16 V/m; Power Drift = -0.31 dB
Peak SAR (extrapolated) = 0.839 W/kg
SAR(1 g) = 0.537 W/kg; SAR(10 g) = 0.377 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.707 W/kg
Body, front_back/Body, Back, LTE 20, low, BW 20, RB 1, offset 49 DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.753 W/kg



Plot 46

Date/Time: 9/2/2020 1:33:21 PM

Test Laboratory: Verkotan Oy

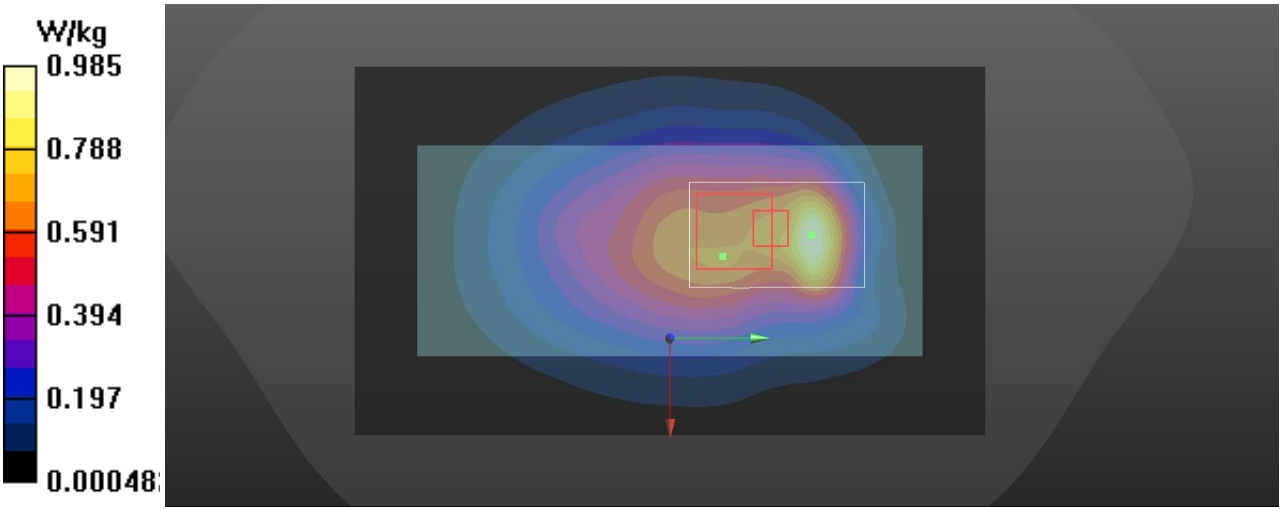
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 28; Frequency: 713 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 713 MHz; σ = 0.86 S/m; ε_r = 40.373; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(10.21, 10.21, 10.21); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body_02092020/Body, Back, LTE 28, low, BW20, RB1, Offset49, DUT22162/Zoom Scan (7x11x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.34 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.600 W/kg; SAR(10 g) = 0.410 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.847 W/kg
Body_02092020/Body, Back, LTE 28, low, BW20, RB1, Offset49, DUT22162/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.985 W/kg



Plot 47

Date/Time: 9/4/2020 3:40:09 PM

Test Laboratory: Verkotan Oy

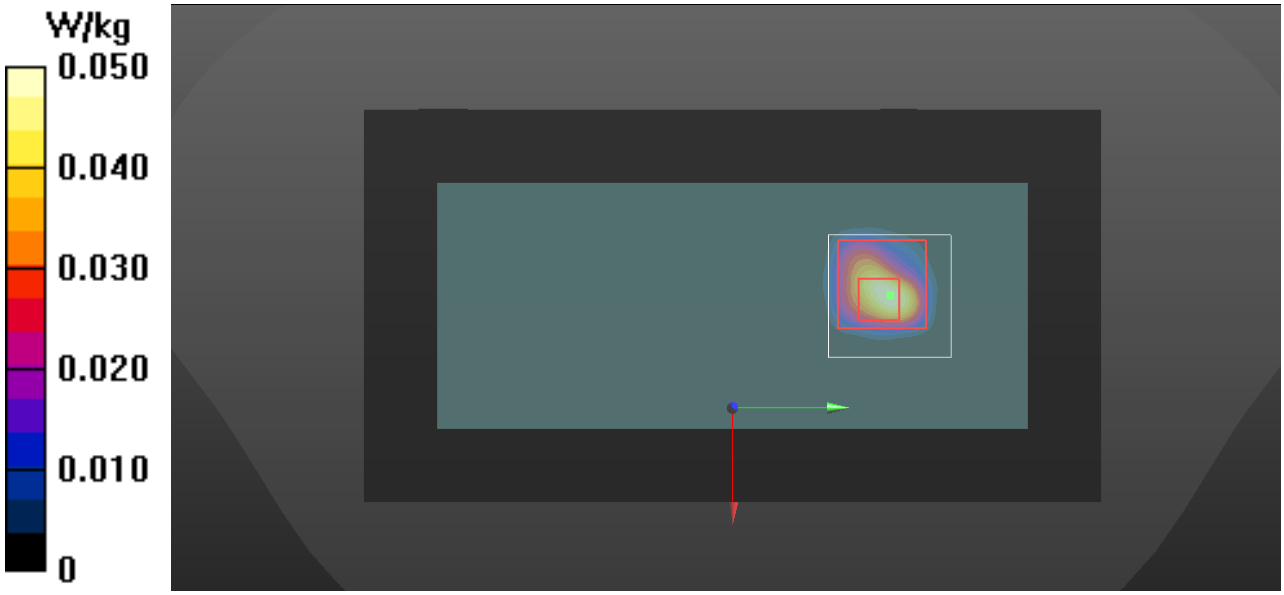
DUT: Mudita Pure

Communication System: UID 0, LTE TDD (0); Communication System Band: LTE 38; Frequency: 2595 MHz;Communication System PAR: 2.017 dB; PMF: 1
Medium parameters used: f = 2595 MHz; σ = 1.813 S/m; ε_r = 37.691; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Body_04092020/EU, Body, Back, LTE 38, mid, BW10, RB12, Offset0, DUT22162/Area Scan (151x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0503 W/kg
Body_04092020/EU, Body, Back, LTE 38, mid, BW10, RB12, Offset0, DUT22162/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.918 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.0690 W/kg
SAR(1 g) = 0.016 W/kg; SAR(10 g) = 0.00347 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0460 W/kg



Plot 48

Date/Time: 25.9.2020 14:44:05

Test Laboratory: Verkotan Oy

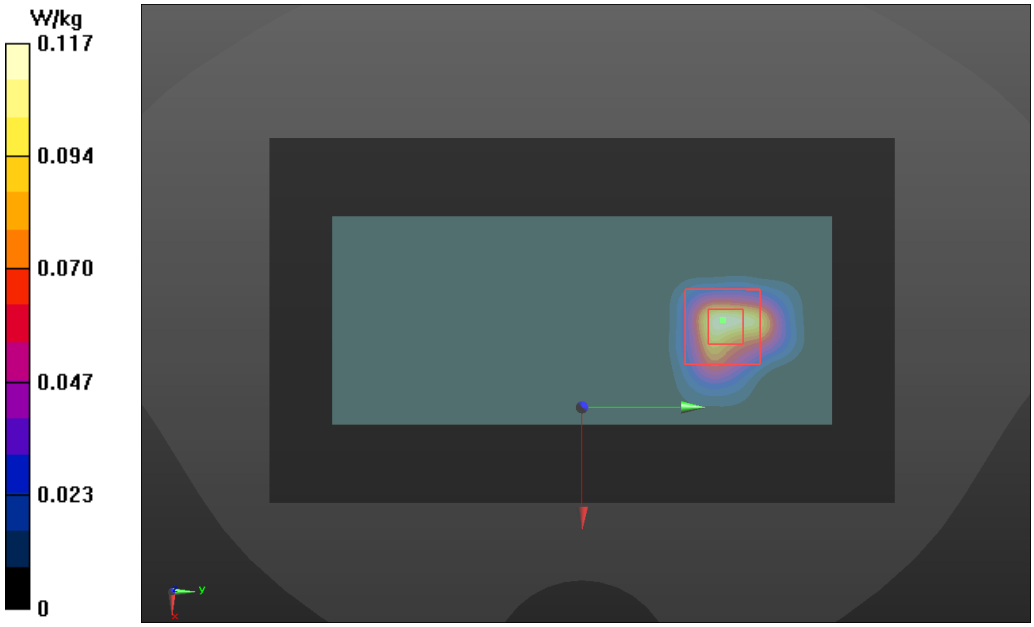
DUT: Mudita Pure

Communication System: UID 0, LTE TDD (0); Communication System Band: LTE 40; Frequency: 2350 MHz;Communication System PAR: 2.017 dB; PMF: 1
Medium parameters used: f = 2350 MHz; σ = 1.672 S/m; ε_r = 37.571; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN7447; ConvF(8.05, 8.05, 8.05); Calibrated: 25.3.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

EU, Body, Back, LTE 40, Mid, BW15, RB16, Offset0, DUT22162 2 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.117 W/kg
EU, Body, Back, LTE 40, Mid, BW15, RB16, Offset0, DUT22162 2 2 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.409 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.0950 W/kg
SAR(1 g) = 0.042 W/kg; SAR(10 g) = 0.017 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0451 W/kg



Plot 49

Date/Time: 23.9.2020 12:35:43

Test Laboratory: Verkotan Oy

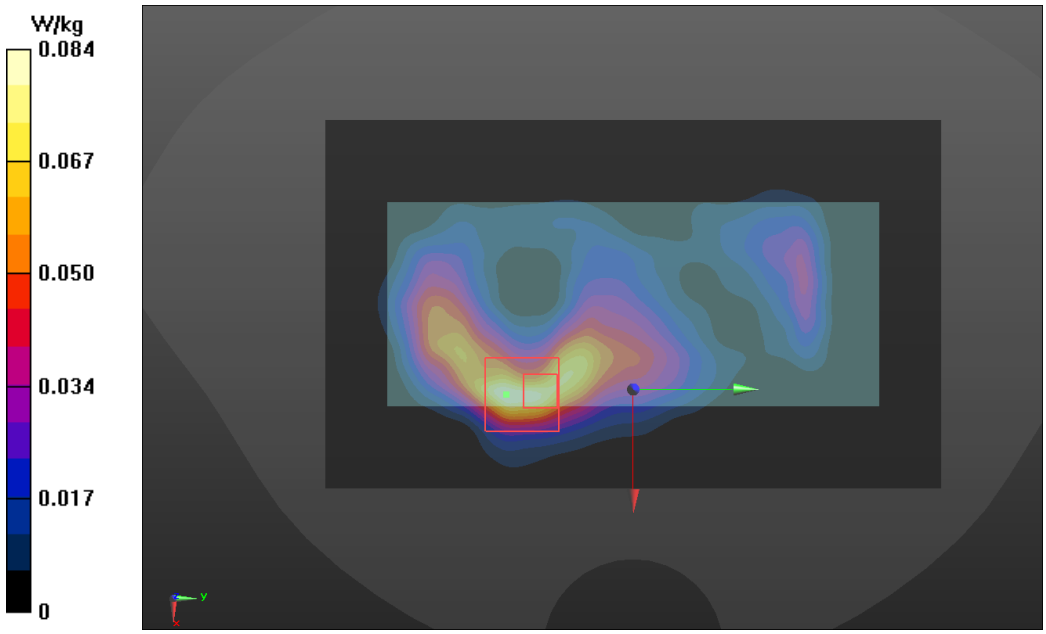
DUT: Mudita Pure

Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth; Frequency: 2480 MHz;Communication System PAR: 4.771 dB; PMF: 1
Medium parameters used: f = 2480 MHz; σ = 1.765 S/m; ε_r = 37.669; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.48, 7.48, 7.48); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Configuration/body 5mm front, BT, high, DUT22162 2/Area Scan (151x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0838 W/kg
Configuration/body 5mm front, BT, high, DUT22162 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.760 V/m; Power Drift = N/A
Peak SAR (extrapolated) = 0.0740 W/kg
SAR(1 g) = 0.035 W/kg; SAR(10 g) = 0.014 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.0597 W/kg



Plot 50

Date/Time: 9/18/2020 9:41:40 AM

Test Laboratory: Verkotan Oy

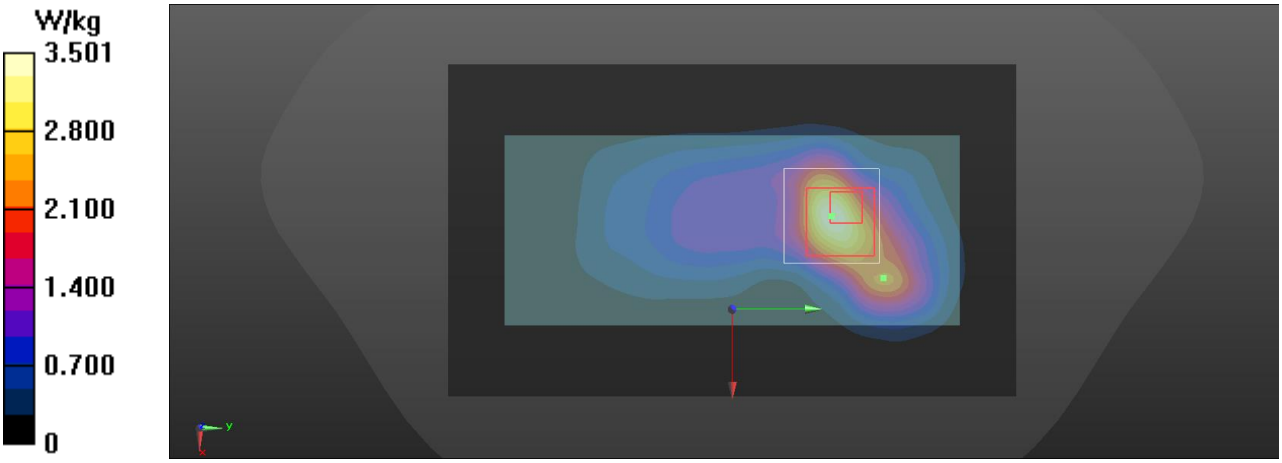
DUT: Mudita Pure

Communication System: UID 0, GPRS 3slots (0); Communication System Band: 900; Frequency: 914.8 MHz;Communication System PAR: 4.265 dB
Medium parameters used: f = 915 MHz; σ = 0.973 S/m; ε_r = 39.912; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb, Back, 18092020/Limb, Back, GPRS 900, high, 3 Slots, DUT22162 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 34.23 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 9.22 W/kg
SAR(1 g) = 2.54 W/kg; SAR(10 g) = 1.11 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 4.89 W/kg
Limb, Back, 18092020/Limb, Back, GPRS 900, high, 3 Slots, DUT22162 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.50 W/kg



Plot 51

Date/Time: 9/15/2020 3:15:05 PM

Test Laboratory: Verkotan Oy

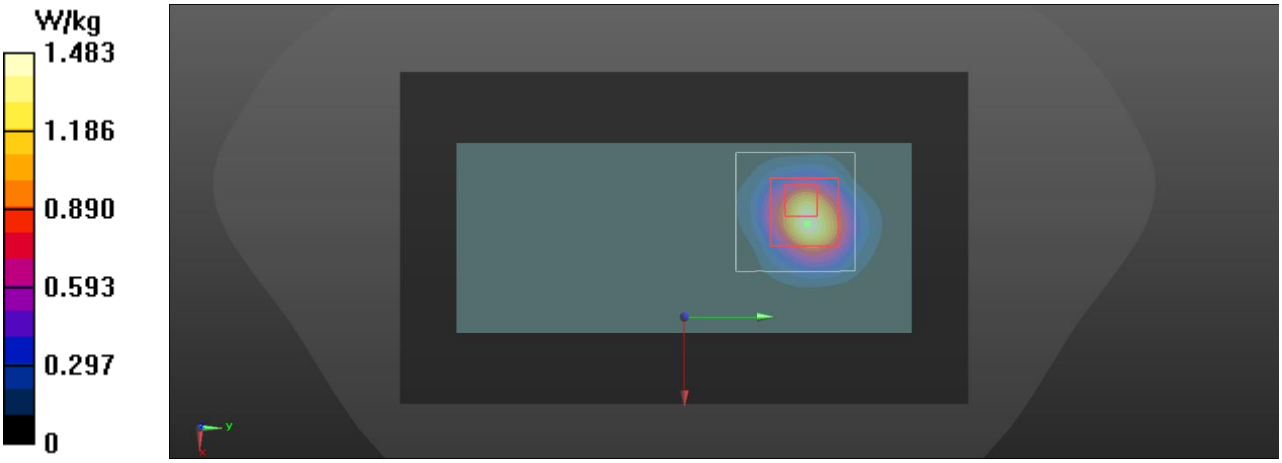
DUT: Mudita Pure

Communication System: UID 0, GPRS 3slots (0); Communication System Band: 1800; Frequency: 1710.2 MHz;Communication System PAR: 4.265 dB
Medium parameters used (interpolated): f = 1710.2 MHz; σ = 1.309 S/m; ε_r = 38.948; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb_Front_Back_15092020/Limb, Back, GPRS 1800, low, 3 slot, DUT22162/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.48 W/kg
Limb_Front_Back_15092020/Limb, Back, GPRS 1800, low, 3 slot, DUT22162/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 31.17 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 2.19 W/kg
SAR(1 g) = 0.731 W/kg; SAR(10 g) = 0.305 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 1.51 W/kg



Plot 52

Date/Time: 27.8.2020 18:18:42

Test Laboratory: Verkotan Oy

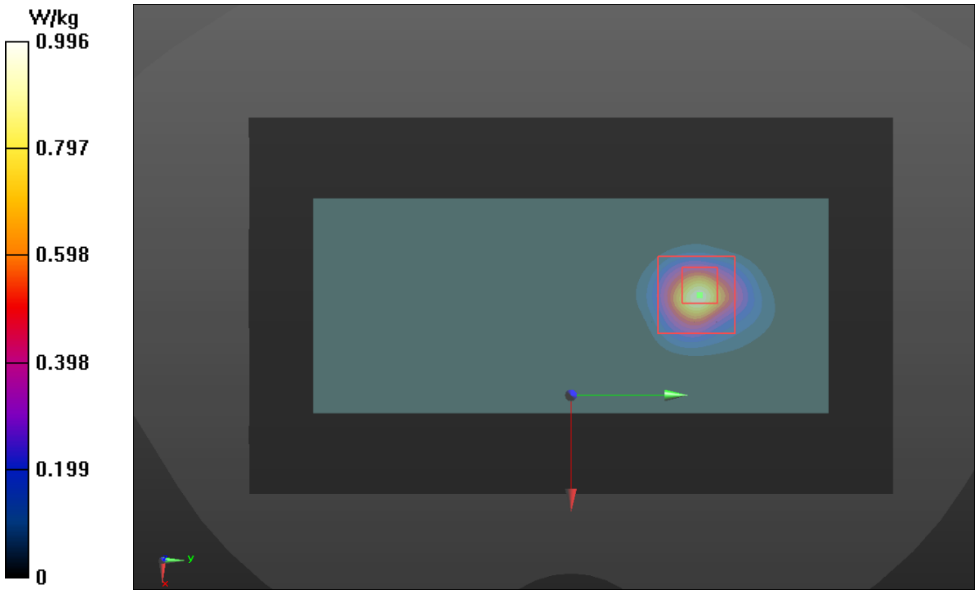
DUT: Mudita Pure

Communication System: UID 0, WCDMA (0); Communication System Band: Band 1; Frequency: 1950 MHz;Communication System PAR: 0 dB; PMF: 1.12202e-005
Medium parameters used: f = 1950 MHz; σ = 1.402 S/m; ε_r = 37.176; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Front_Back, 27082020/limb , Back, WCDMA 1, mid, DUT22161 2 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.69 V/m; Power Drift = -0.21 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 0.390 W/kg; SAR(10 g) = 0.158 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.996 W/kg
Front_Back, 27082020/limb , Back, WCDMA 1, mid, DUT22161 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.58 W/kg



Plot 53

Date/Time: 8/26/2020 12:28:56 PM

Test Laboratory: Verkotan Oy

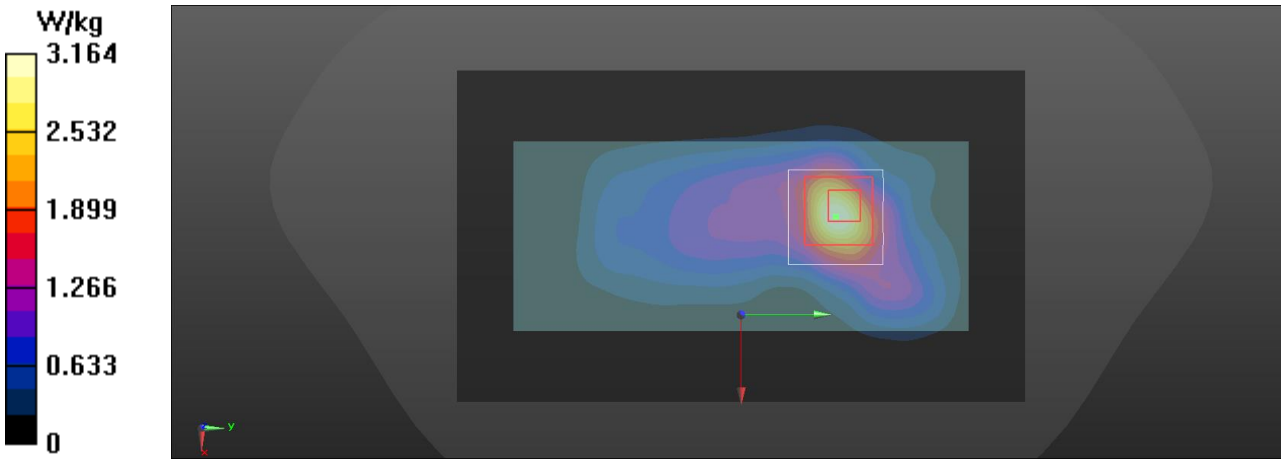
DUT: Mudita Pure

Communication System: UID 0, WCDMA (0); Communication System Band: Band 8; Frequency: 897.6 MHz;Communication System PAR: 0 dB; PMF: 1.12202e-005
Medium parameters used: f = 898 MHz; σ = 0.956 S/m; ε_r = 39.822; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Back, Limb/Limb Back, WCDMA 8, mid, DUT22161/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 27.72 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 4.63 W/kg
SAR(1 g) = 1.64 W/kg; SAR(10 g) = 0.748 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.77 W/kg
Back, Limb/Limb Back, WCDMA 8, mid, DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.16 W/kg



Plot 54

Date/Time: 28.8.2020 9:32:33

Test Laboratory: Verkotan Oy

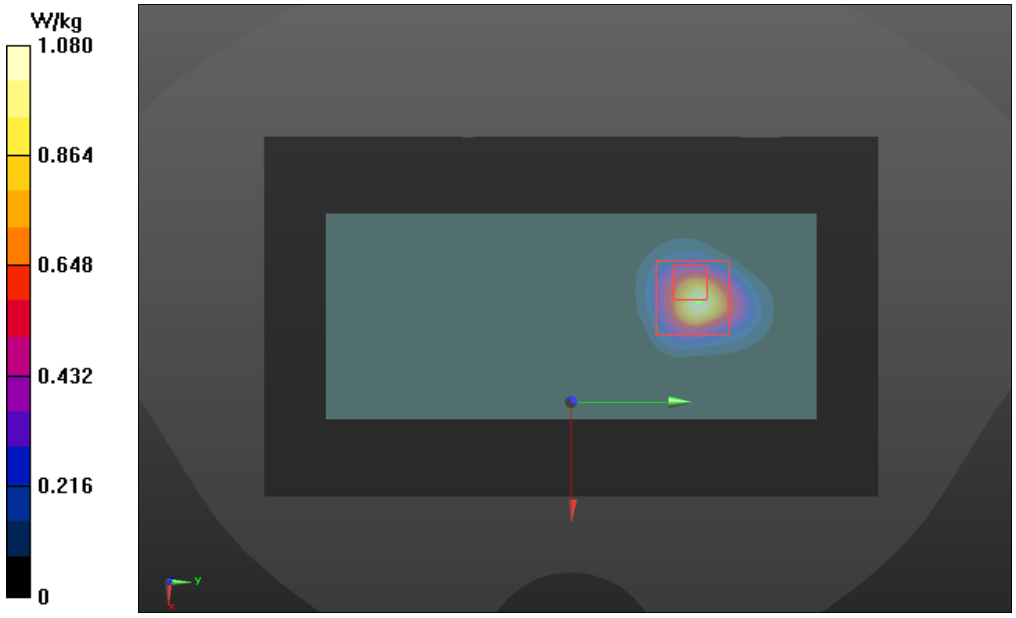
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 1, E-UTRA/FDD (1920.0 - 1980.0 MHz); Frequency: 1950 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1950 MHz; σ = 1.396 S/m; ε_r = 36.782; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.26, 8.26, 8.26); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb_LTE1_28082020/Limb, back, LTE 1, mid, BW15, RB16, Offset 0, DUT22161 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.08 W/kg
Limb_LTE1_28082020/Limb, back, LTE 1, mid, BW15, RB16, Offset 0, DUT22161 2 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.62 V/m; Power Drift = -0.23 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 0.335 W/kg; SAR(10 g) = 0.143 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.956 W/kg



Plot 55

Date/Time: 9/15/2020 5:18:24 PM

Test Laboratory: Verkotan Oy

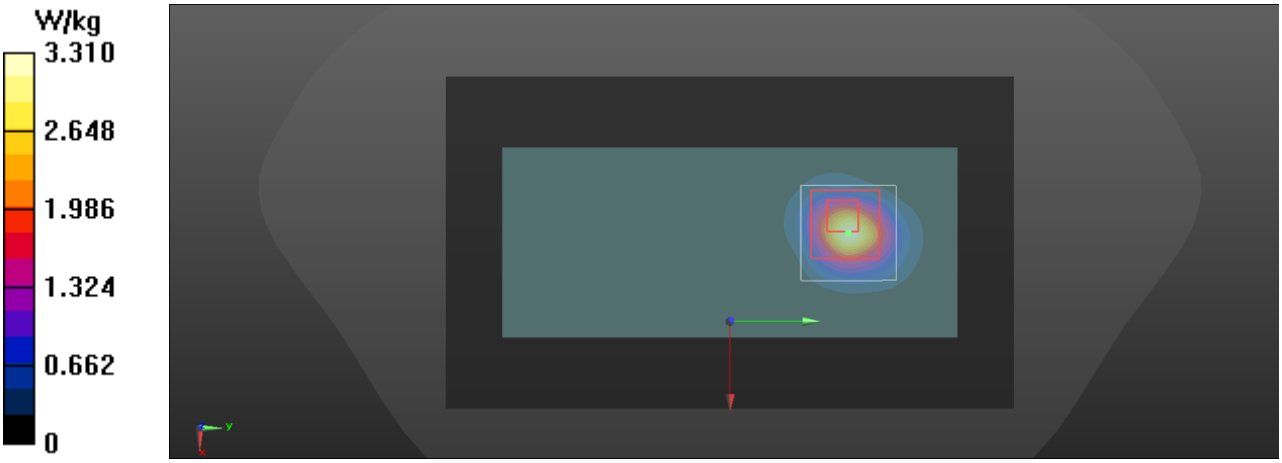
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 3, E-UTRA/FDD (1710.0 - 1785.0 MHz); Frequency: 1720 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 1720 MHz; σ = 1.314 S/m; ε_r = 38.932; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(8.52, 8.52, 8.52); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb_Front_Back_15092020/Limb, Back, LTE 3, low, bw 20, RB 1, offset 99 DUT22162 2 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 39.44 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 4.57 W/kg
SAR(1 g) = 1.4 W/kg; SAR(10 g) = 0.582 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.99 W/kg
Limb_Front_Back_15092020/Limb, Back, LTE 3, low, bw 20, RB 1, offset 99 DUT22162 2 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.31 W/kg



Plot 56

Date/Time: 9/7/2020 3:06:20 PM

Test Laboratory: Verkotan Oy

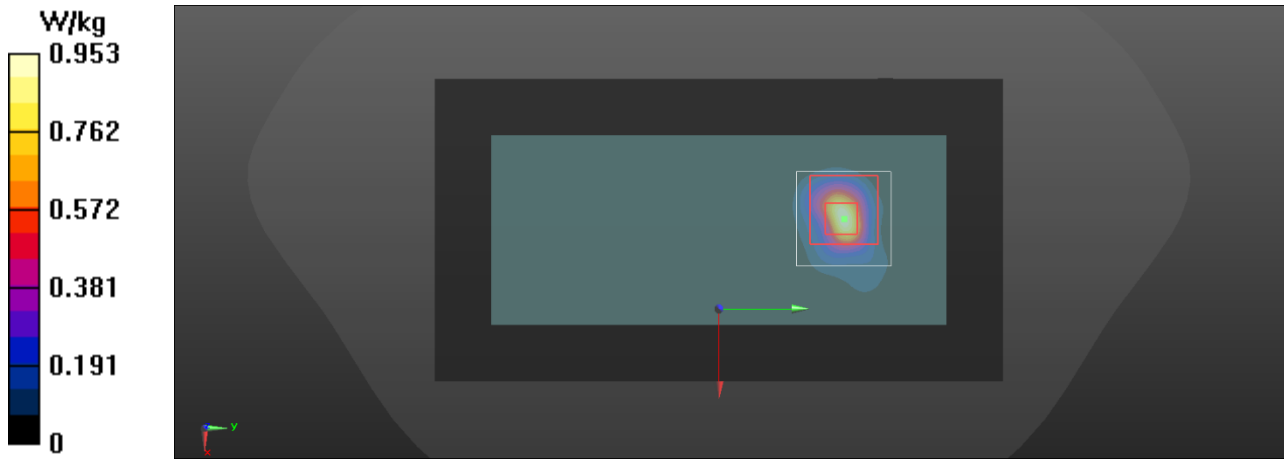
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz); Frequency: 2502.5 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used (interpolated): f = 2502.5 MHz; σ = 1.735 S/m; ε_r = 36.885; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = 31.0, -4.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb_Back_07092020/EU, limb back, LTE 7, low, BW5, RB8, Offset0, DUT22162 2 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.425 W/kg; SAR(10 g) = 0.131 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.961 W/kg
Limb_Back_07092020/EU, limb back, LTE 7, low, BW5, RB8, Offset0, DUT22162 2 2/Area Scan (151x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.953 W/kg



Plot 57

Date/Time: 8/26/2020 8:50:59 AM

Test Laboratory: Verkotan Oy

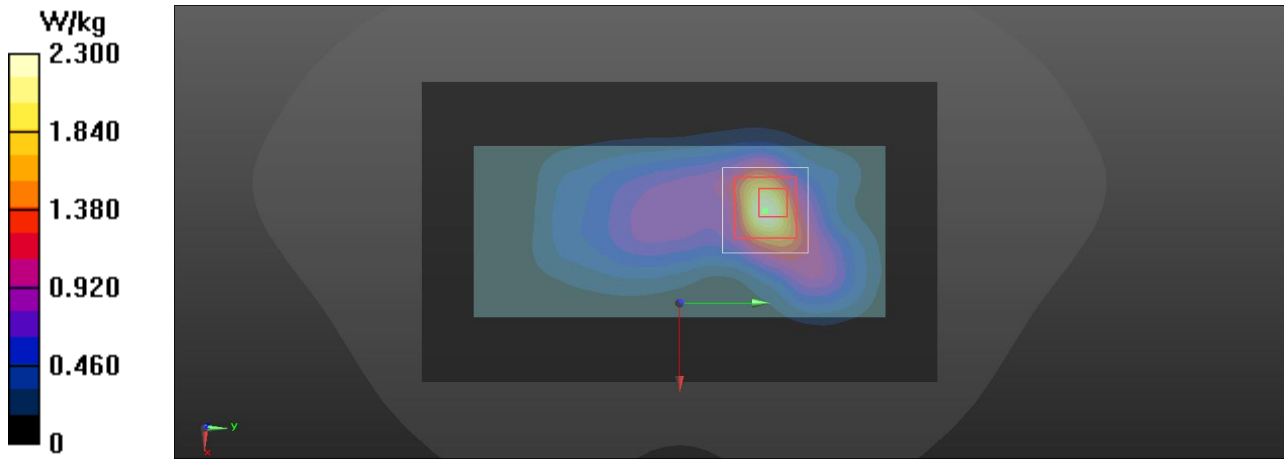
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 8, E-UTRA/FDD (880.0 - 915.0 MHz); Frequency: 897.5 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used (interpolated): f = 897.5 MHz; σ = 0.955 S/m; ε_r = 39.833; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Back, Limb/Limb Back, LTE 8, mid, BW10, RB1, Offset 24, DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.30 W/kg
Back, Limb/Limb Back, LTE 8, mid, BW10, RB1, Offset 24, DUT22161/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.88 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 3.87 W/kg
SAR(1 g) = 1.37 W/kg; SAR(10 g) = 0.635 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.30 W/kg



Plot 58

Date/Time: 8/26/2020 10:49:31 AM

Test Laboratory: Verkotan Oy

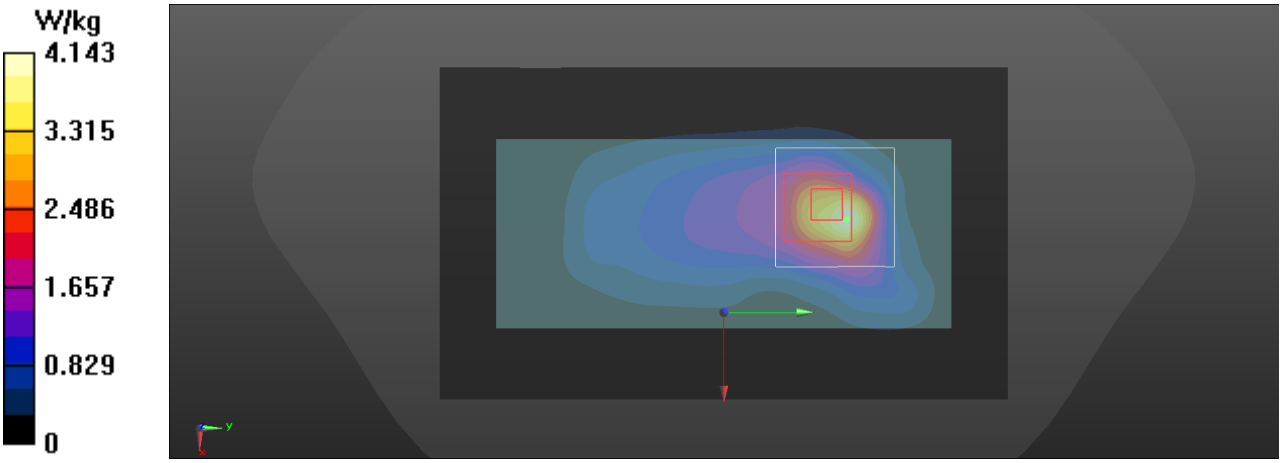
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 20, E-UTRA/FDD (832.0 - 862.0 MHz); Frequency: 842 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 842 MHz; σ = 0.935 S/m; ε_r = 40.099; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(9.95, 9.95, 9.95); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Back, Limb/Limb Back, LTE 20, low, BW20, RB1, Offset 49, DUT22161/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 4.14 W/kg
Back, Limb/Limb Back, LTE 20, low, BW20, RB1, Offset 49, DUT22161/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 30.16 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 3.49 W/kg
SAR(1 g) = 1.53 W/kg; SAR(10 g) = 0.782 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 2.64 W/kg



Plot 59

Date/Time: 9/2/2020 10:14:45 AM

Test Laboratory: Verkotan Oy

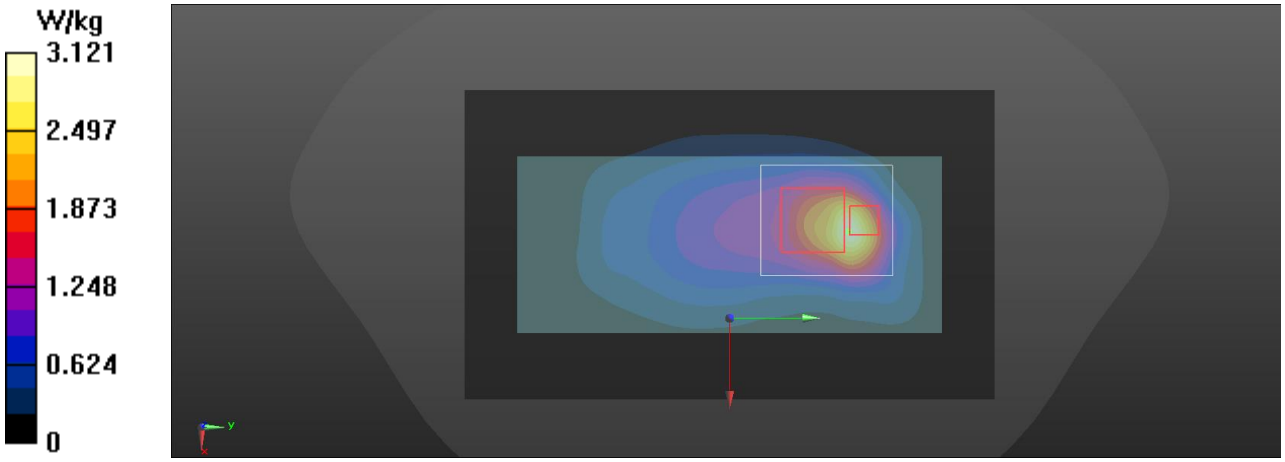
DUT: Mudita Pure

Communication System: UID 0, Generic LTE (0); Communication System Band: Band 28; Frequency: 713 MHz;Communication System PAR: 0 dB; PMF: 1
Medium parameters used: f = 713 MHz; σ = 0.86 S/m; ε_r = 40.373; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(10.21, 10.21, 10.21); Calibrated: 4/28/2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 10/15/2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb_Front_Back_02092020/Limb, Back, LTE 28, low, BW20, RB1, Offset49, DUT22162/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 3.12 W/kg
Limb_Front_Back_02092020/Limb, Back, LTE 28, low, BW20, RB1, Offset49, DUT22162/Zoom Scan (6x7x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 32.35 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 5.19 W/kg
SAR(1 g) = 1.51 W/kg; SAR(10 g) = 0.806 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 3.10 W/kg



Plot 60

Date/Time: 8.9.2020 9:06:55

Test Laboratory: Verkotan Oy

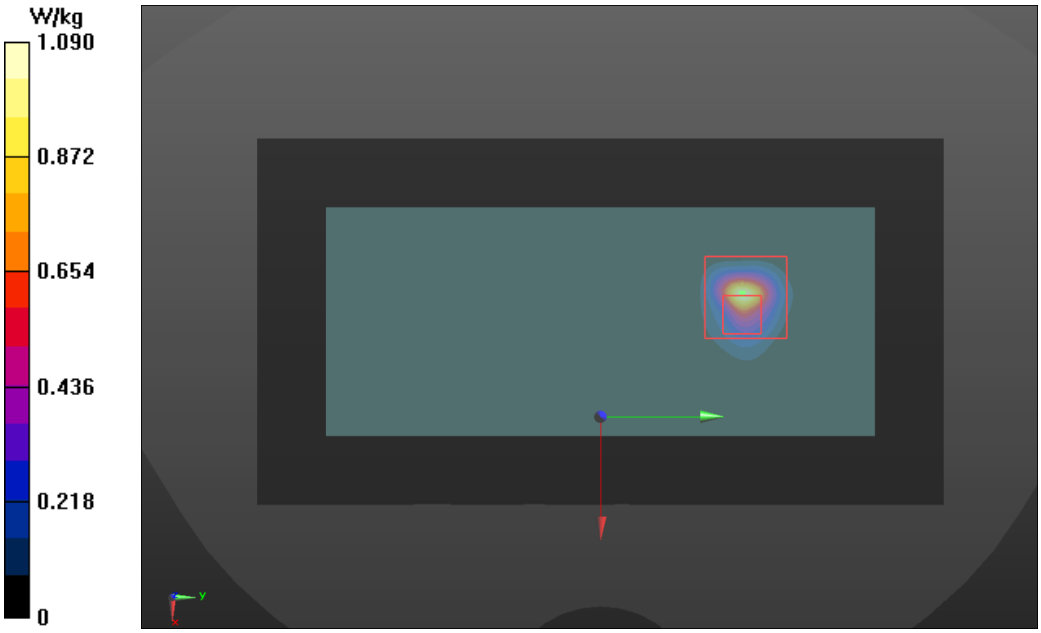
DUT: Mudita Pure

Communication System: UID 0, LTE TDD (0); Communication System Band: LTE 38; Frequency: 2610 MHz;Communication System PAR: 2.017 dB; PMF: 1
Medium parameters used: f = 2610 MHz; σ = 1.808 S/m; ε_r = 37.116; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.33, 7.33, 7.33); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb_08092020/EU, limb back, LTE 38, high, BW20, RB1, Offset49, DUT22162/Area Scan (151x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.09 W/kg
Limb_08092020/EU, limb back, LTE 38, high, BW20, RB1, Offset49, DUT22162/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.186 W/kg; SAR(10 g) = 0.057 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.480 W/kg



Plot 61

Date/Time: 25.9.2020 15:39:58

Test Laboratory: Verkotan Oy

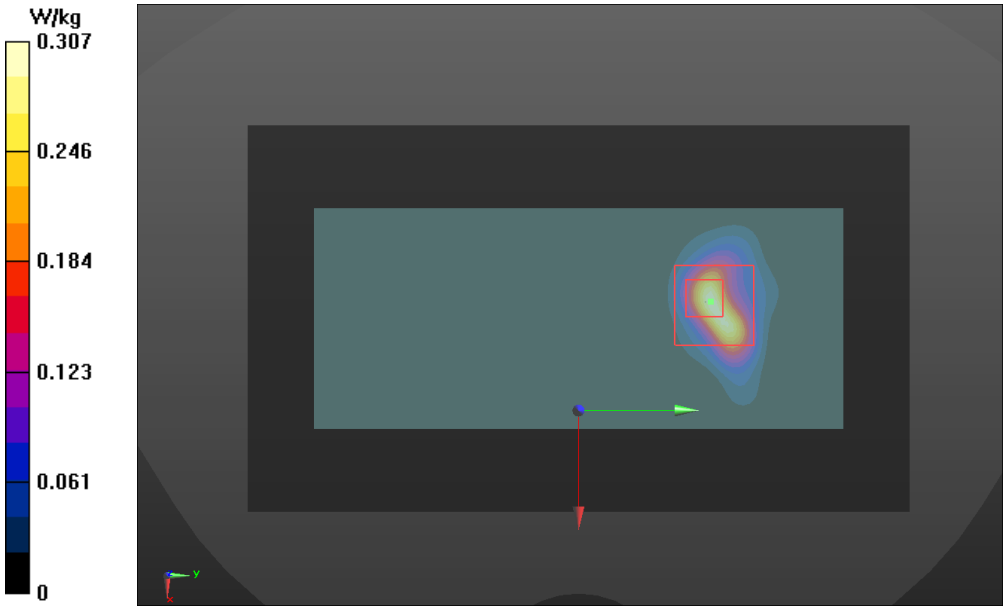
DUT: Mudita Pure

Communication System: UID 0, LTE TDD (0); Communication System Band: LTE 40; Frequency: 2390 MHz;Communication System PAR: 2.017 dB; PMF: 1
Medium parameters used: f = 2390 MHz; σ = 1.696 S/m; ε_r = 37.529; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN7447; ConvF(8.05, 8.05, 8.05); Calibrated: 25.3.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

EU, Limb, Back, LTE 40, High, BW20, RB1, Offset49, DUT22162 2/Area Scan (121x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.307 W/kg
EU, Limb, Back, LTE 40, High, BW20, RB1, Offset49, DUT22162 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.295 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.695 W/kg
SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.044 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.285 W/kg



Plot 62

Date/Time: 23.9.2020 19:06:35

Test Laboratory: Verkotan Oy

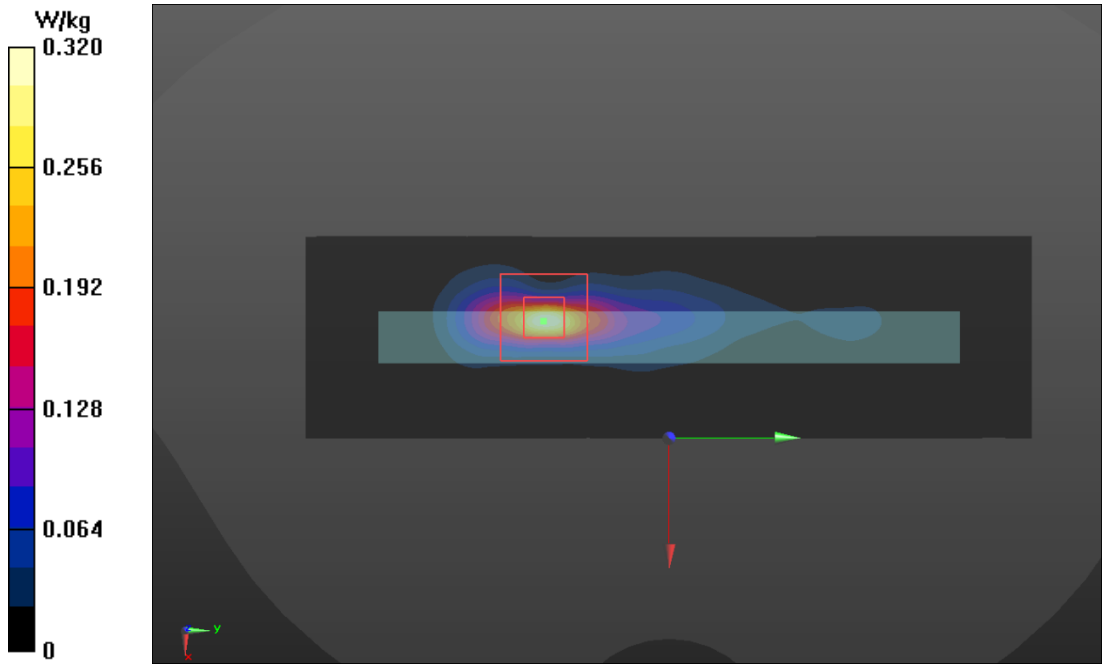
DUT: Mudita Pure

Communication System: UID 0, Bluetooth (0); Communication System Band: Bluetooth; Frequency: 2480 MHz;Communication System PAR: 4.771 dB; PMF: 1
Medium parameters used: f = 2480 MHz; σ = 1.765 S/m; ε_r = 37.669; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY Configuration:

- Probe: EX3DV4 - SN3892; ConvF(7.48, 7.48, 7.48); Calibrated: 28.4.2020;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection), z = -4.0, 31.0
- Electronics: DAE4 Sn1332; Calibrated: 15.10.2019
- Phantom: SAR2 frontTwin-SAM V4.0 (30deg probe tilt); Type: QD 000 P40 CC;
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7373)

Limb/limb 0mm right, BT, high, DUT22162 2 2/Area Scan (181x51x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.320 W/kg
Limb/limb 0mm right, BT, high, DUT22162 2 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.989 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.408 W/kg
SAR(1 g) = 0.147 W/kg; SAR(10 g) = 0.051 W/kg (SAR corrected for target medium)
Maximum value of SAR (measured) = 0.181 W/kg



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: EX3-3892_Apr20**

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:3892
Calibration procedure(s)	QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7 Calibration procedure for dosimetric E-field probes
Calibration date:	April 28, 2020

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	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 28, 2020

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

Certificate No: EX3-3892_Apr20 Page 1 of 9

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3892

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)
600	42.7	0.88	10.46	10.46	10.46	0.10	1.20	± 13.3 %
750	41.9	0.89	10.21	10.21	10.21	0.39	0.96	± 12.0 %
900	41.5	0.97	9.95	9.95	9.95	0.38	0.92	± 12.0 %
1750	40.1	1.37	8.52	8.52	8.52	0.28	0.80	± 12.0 %
1900	40.0	1.40	8.26	8.26	8.26	0.36	0.80	± 12.0 %
2450	39.2	1.80	7.48	7.48	7.48	0.33	0.90	± 12.0 %
2600	39.0	1.96	7.33	7.33	7.33	0.34	0.90	± 12.0 %
4400	36.9	3.84	5.98	5.98	5.98	0.40	1.60	± 13.1 %
4600	36.7	4.04	5.77	5.77	5.77	0.35	1.80	± 13.1 %
4800	36.4	4.25	5.51	5.51	5.51	0.40	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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. 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.

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
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: EX3-7447_Mar20

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:7447

Calibration procedure(s): QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7
Calibration procedure for dosimetric E-field probes

Calibration date: March 25, 2020

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	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

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

Issued: March 27, 2020

EX3DV4 – SN:7447 March 25, 2020

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7447

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.41	0.42	0.42	± 10.1 %
DCP (mV)[B]	98.5	91.0	100.2	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Max dev.	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	197.2	± 2.7 %	± 4.7 %
		Y	0.0	0.0	1.0		185.8		
		Z	0.0	0.0	1.0		172.3		

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%.

[A] The uncertainties of Norm X,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 5).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

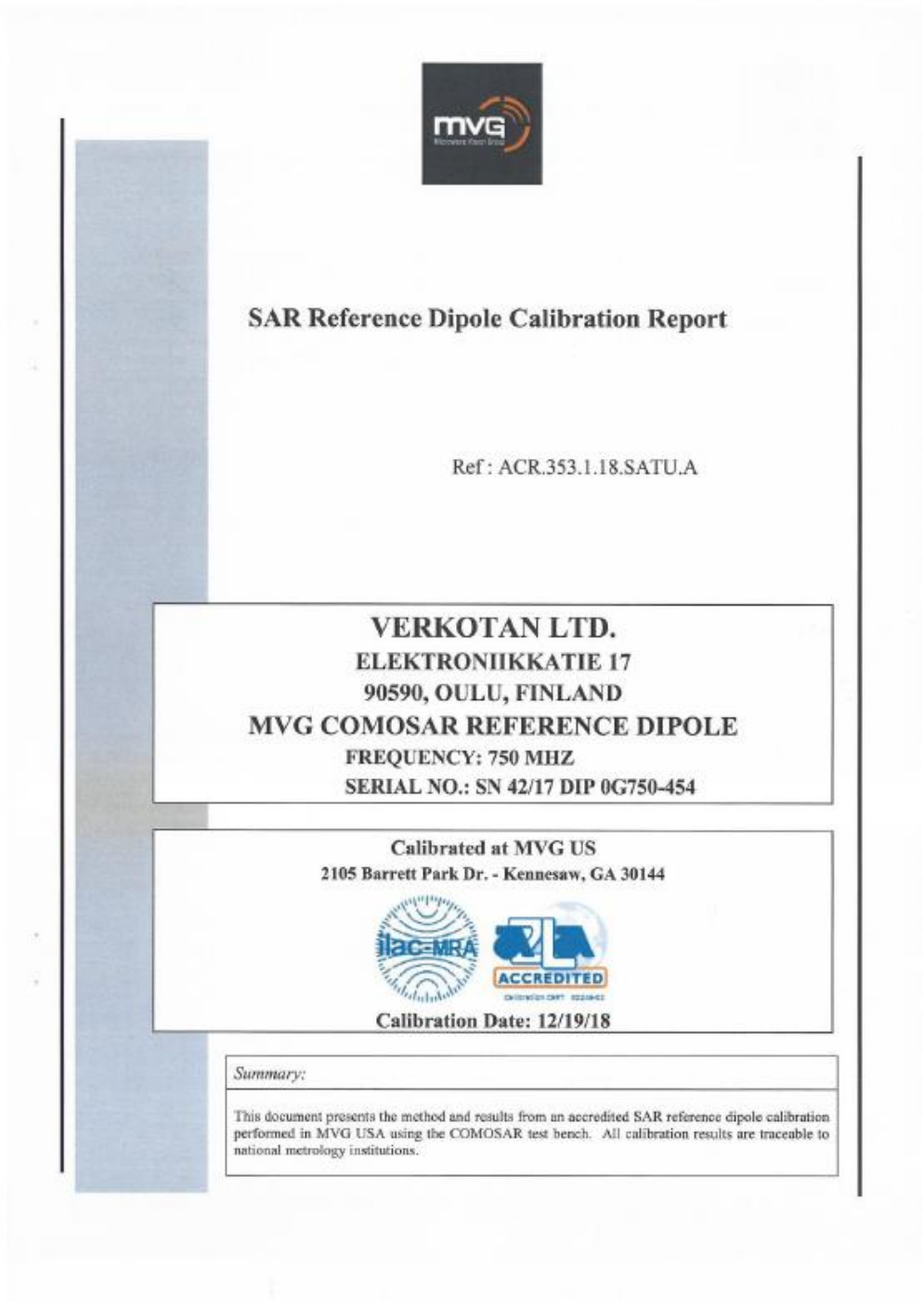
DASY/EASY - Parameters of Probe: EX3DV4 - SN:7447

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	10.38	10.38	10.38	0.52	0.88	± 12.0 %
900	41.5	0.97	9.97	9.97	9.97	0.31	1.05	± 12.0 %
1750	40.1	1.37	8.65	8.65	8.65	0.29	0.88	± 12.0 %
1950	40.0	1.40	8.29	8.29	8.29	0.23	0.98	± 12.0 %
2150	39.7	1.53	8.21	8.21	8.21	0.29	0.88	± 12.0 %
2300	39.5	1.67	8.05	8.05	8.05	0.30	1.00	± 12.0 %
2450	39.2	1.80	7.83	7.83	7.83	0.29	1.00	± 12.0 %
2600	39.0	1.96	7.64	7.64	7.64	0.19	1.20	± 12.0 %
3300	38.2	2.71	7.00	7.00	7.00	0.30	1.30	± 13.1 %
5250	35.9	4.71	5.18	5.18	5.18	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.56	4.56	4.56	0.40	1.80	± 13.1 %
5750	35.4	5.22	4.70	4.70	4.70	0.40	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. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. 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



SAR Reference Dipole Calibration Report

Ref : ACR.353.1.18.SATU.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND
MVG COMOSAR REFERENCE DIPOLE
FREQUENCY: 750 MHZ
SERIAL NO.: SN 42/17 DIP 0G750-454

Calibrated at MVG US
2105 Barrett Park Dr. - Kennesaw, GA 30144

ACCREDITED

Calibration Date: 12/19/18

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed in MVG USA using the COMOSAR test bench. All calibration results are traceable to national metrology institutions.

1800	40.0 ±5 %		1.40 ±5 %	
1900	40.0 ±5 %		1.40 ±5 %	
1950	40.0 ±5 %		1.40 ±5 %	
2000	40.0 ±5 %		1.40 ±5 %	
2100	39.8 ±5 %		1.49 ±5 %	
2300	39.5 ±5 %		1.67 ±5 %	
2450	39.2 ±5 %		1.80 ±5 %	
2600	39.0 ±5 %		1.96 ±5 %	
3000	38.5 ±5 %		2.40 ±5 %	
3500	37.9 ±5 %		2.91 ±5 %	

7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Software	OPENSAR V4
Phantom	SN 20/09 SAM71
Probe	SN 18/11 EPG122
Liquid	Head Liquid Values: eps' : 40.0 sigma : 0.93
Distance between dipole center and liquid	15.0 mm
Area scan resolution	dx=8mm/dy=8mm
Zoom Scan Resolution	dx=8mm/dy=8mm/dz=5mm
Frequency	750 MHz
Input power	20 dBm
Liquid Temperature	21 °C
Lab Temperature	21 °C
Lab Humidity	45 %

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49	8.52 (0.85)	5.55	5.62 (0.56)
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	

SAR Reference Dipole Calibration Report

Ref : ACR.84.3.20.MVGB.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND
SAR REFERENCE DIPOLE
FREQUENCY: 835 MHZ
SERIAL NO.: SN 448

Calibrated at MVG
Z.I. de la pointe du diable
Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 03/23/2020

ilac-MRA cofrac ETALONNAGE

Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed at MVG, using the COMOSAR test bench. The test results covered by accreditation are traceable to the International System of Units (SI).

2300	39.5 ±10 %		1.67 ±10 %	
2450	39.2 ±10 %		1.80 ±10 %	
2600	39.0 ±10 %		1.96 ±10 %	
3000	38.5 ±10 %		2.40 ±10 %	
3500	37.9 ±10 %		2.91 ±10 %	

7.3 MEASUREMENT RESULT

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49		5.55	
835	9.56	9.38 (0.94)	6.22	5.94 (0.59)
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	
1900	39.7		20.5	
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4		24	
2600	55.3		24.6	
3000	63.8		25.7	
3500	67.1		25	

SAR Reference Dipole Calibration Report

Ref : ACR.84.4.20.MVGB.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND
SAR REFERENCE DIPOLE
FREQUENCY: 1800 MHZ
SERIAL NO.: SN 249

Calibrated at MVG
Z.I. de la pointe du diable
Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 03/23/2020

ilac-MRA cofrac ETALONNAGE

Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed at MVG, using the COMOSAR test bench. The test results covered by accreditation are traceable to the International System of Units (SI).

3000	41.5 ±1 %.		25.0 ±1 %.		3.6 ±1 %.	
3500	37.0±1 %.		26.4 ±1 %.		3.6 ±1 %.	
3700	34.7±1 %.		26.4 ±1 %.		3.6 ±1 %.	

7 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

7.1 MEASUREMENT CONDITION

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values: eps' : 41.7 sigma : 1.46
Distance between dipole center and liquid	10.0 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=8mm/dy=8mm/dz=5mm
Frequency	1800 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-80 %

7.2 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ε_r')		Conductivity (σ) S/m	
	required	measured	required	measured
300	45.3 ±10 %		0.87 ±10 %	
450	43.5 ±10 %		0.87 ±10 %	
750	41.9 ±10 %		0.89 ±10 %	
835	41.5 ±10 %		0.90 ±10 %	
900	41.5 ±10 %		0.97 ±10 %	
1450	40.5 ±10 %		1.20 ±10 %	
1500	40.4 ±10 %		1.23 ±10 %	
1640	40.2 ±10 %		1.31 ±10 %	
1750	40.1 ±10 %		1.37 ±10 %	
1800	40.0 ±10 %	41.7	1.40 ±10 %	1.46
1900	40.0 ±10 %		1.40 ±10 %	
1950	40.0 ±10 %		1.40 ±10 %	
2000	40.0 ±10 %		1.40 ±10 %	
2100	39.8 ±10 %		1.49 ±10 %	

2300	39.5 ±10 %		1.67 ±10 %	
2450	39.2 ±10 %		1.80 ±10 %	
2600	39.0 ±10 %		1.96 ±10 %	
3000	38.5 ±10 %		2.40 ±10 %	
3500	37.9 ±10 %		2.91 ±10 %	

7.3 MEASUREMENT RESULT

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49		5.55	
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4	39.21 (3.92)	20.1	20.96 (2.10)
1900	39.7		20.5	
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4		24	
2600	55.3		24.6	
3000	63.8		25.7	
3500	67.1		25	

SAR Reference Dipole Calibration Report

Ref : ACR.84.5.20.MVGB.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND
SAR REFERENCE DIPOLE
FREQUENCY: 1900 MHZ
SERIAL NO.: SN 511

Calibrated at MVG
Z.I. de la pointe du diable
Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 03/23/2020

ilac-MRA cofrac ETALONNAGE

Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed at MVG, using the COMOSAR test bench. The test results covered by accreditation are traceable to the International System of Units (SI).

3000	41.5 ±1 %.		25.0 ±1 %.		3.6 ±1 %.	
3500	37.0±1 %.		26.4 ±1 %.		3.6 ±1 %.	
3700	34.7±1 %.		26.4 ±1 %.		3.6 ±1 %.	

7 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

7.1 MEASUREMENT CONDITION

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values: eps' : 38.5 sigma : 1.45
Distance between dipole center and liquid	10.0 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=8mm/dy=8mm/dz=5mm
Frequency	1900 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-80 %

7.2 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ε_r')		Conductivity (σ) S/m	
	required	measured	required	measured
300	45.3 ±10 %		0.87 ±10 %	
450	43.5 ±10 %		0.87 ±10 %	
750	41.9 ±10 %		0.89 ±10 %	
835	41.5 ±10 %		0.90 ±10 %	
900	41.5 ±10 %		0.97 ±10 %	
1450	40.5 ±10 %		1.20 ±10 %	
1500	40.4 ±10 %		1.23 ±10 %	
1640	40.2 ±10 %		1.31 ±10 %	
1750	40.1 ±10 %		1.37 ±10 %	
1800	40.0 ±10 %		1.40 ±10 %	
1900	40.0 ±10 %	38.5	1.40 ±10 %	1.45
1950	40.0 ±10 %		1.40 ±10 %	
2000	40.0 ±10 %		1.40 ±10 %	
2100	39.8 ±10 %		1.49 ±10 %	

2300	39.5 ±10 %		1.67 ±10 %	
2450	39.2 ±10 %		1.80 ±10 %	
2600	39.0 ±10 %		1.96 ±10 %	
3000	38.5 ±10 %		2.40 ±10 %	
3500	37.9 ±10 %		2.91 ±10 %	

7.3 MEASUREMENT RESULT

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49		5.55	
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	
1900	39.7	37.10 (3.71)	20.5	19.14 (1.91)
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4		24	
2600	55.3		24.6	
3000	63.8		25.7	
3500	67.1		25	

SAR Reference Dipole Calibration Report

Ref : CR.55.2.20.SATU.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND
MVG COMOSAR REFERENCE DIPOLE
FREQUENCY: 2300 MHZ
SERIAL NO.: SN 14/15 DIP2G300-366

Calibrated at MVG
Z.I. de la pointe du diable
Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 02/24/20

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed at MVG, using the COMOSAR test bench. The test results covered by accreditation are traceable to the International System of Units (SI).

2000	64.5 ±1 %.		37.5 ±1 %.		3.6 ±1 %.	
2100	61.0 ±1 %.		35.7 ±1 %.		3.6 ±1 %.	
2300	55.5 ±1 %.	-	32.6 ±1 %.	-	3.6 ±1 %.	-
2450	51.5 ±1 %.		30.4 ±1 %.		3.6 ±1 %.	
2600	48.5 ±1 %.		28.8 ±1 %.		3.6 ±1 %.	
3000	41.5 ±1 %.		25.0 ±1 %.		3.6 ±1 %.	
3500	37.0±1 %.		26.4 ±1 %.		3.6 ±1 %.	
3700	34.7±1 %.		26.4 ±1 %.		3.6 ±1 %.	

7 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

7.1 MEASUREMENT CONDITION

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values: eps' : 40.1 sigma : 1.69
Distance between dipole center and liquid	10.0 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=5mm/dy=5mm/dz=5mm
Frequency	23002300 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	21 +/- 1 °C
Lab Humidity	30-80 %

7.2 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ε,')		Conductivity (σ) S/m	
	required	measured	required	measured
300	45.3 ±10 %		0.87 ±10 %	
450	43.5 ±10 %		0.87 ±10 %	
750	41.9 ±10 %		0.89 ±10 %	
835	41.5 ±10 %		0.90 ±10 %	
900	41.5 ±10 %		0.97 ±10 %	
1450	40.5 ±10 %		1.20 ±10 %	
1500	40.4 ±10 %		1.23 ±10 %	
1640	40.2 ±10 %		1.31 ±10 %	
1750	40.1 ±10 %		1.37 ±10 %	

1800	40.0 ±10 %		1.40 ±10 %	
1900	40.0 ±10 %		1.40 ±10 %	
1950	40.0 ±10 %		1.40 ±10 %	
2000	40.0 ±10 %		1.40 ±10 %	
2100	39.8 ±10 %		1.49 ±10 %	
2300	39.5 ±10 %	40.1	1.67 ±10 %	1.69
2450	39.2 ±10 %		1.80 ±10 %	
2600	39.0 ±10 %		1.96 ±10 %	
3000	38.5 ±10 %		2.40 ±10 %	
3500	37.9 ±10 %		2.91 ±10 %	

7.3 MEASUREMENT RESULT

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49		5.55	
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	
1900	39.7		20.5	
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7	48.67 (4.87)	23.3	22.51 (2.25)
2450	52.4		24	
2600	55.3		24.6	
3000	63.8		25.7	
3500	67.1		25	

SAR Reference Dipole Calibration Report

Ref : ACR.84.6.20.MVGB.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND
SAR REFERENCE DIPOLE
FREQUENCY: 2450 MHZ
SERIAL NO.: SN 758

Calibrated at MVG
Z.I. de la pointe du diable
Technopôle Brest Iroise – 295 avenue Alexis de Rochon
29280 PLOUZANE - FRANCE

Calibration date: 03/23/2020

Accreditations #2-6789 and #2-6814
Scope available on www.cofrac.fr

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed at MVG, using the COMOSAR test bench. The test results covered by accreditation are traceable to the International System of Units (SI).

3000	41.5 ±1 %.		25.0 ±1 %.		3.6 ±1 %.	
3500	37.0±1 %.		26.4 ±1 %.		3.6 ±1 %.	
3700	34.7±1 %.		26.4 ±1 %.		3.6 ±1 %.	

7 VALIDATION MEASUREMENT

The IEEE Std. 1528, FCC KDBs and CEI/IEC 62209 standards state that the system validation measurements must be performed using a reference dipole meeting the fore mentioned return loss and mechanical dimension requirements. The validation measurement must be performed against a liquid filled flat phantom, with the phantom constructed as outlined in the fore mentioned standards. Per the standards, the dipole shall be positioned below the bottom of the phantom, with the dipole length centered and parallel to the longest dimension of the flat phantom, with the top surface of the dipole at the described distance from the bottom surface of the phantom.

7.1 MEASUREMENT CONDITION

Software	OPENSAR V5
Phantom	SN 13/09 SAM68
Probe	SN 41/18 EPGO333
Liquid	Head Liquid Values: eps' : 37.5 sigma : 1.80
Distance between dipole center and liquid	10.0 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=5mm/dy=5mm/dz=5mm
Frequency	2450 MHz
Input power	20 dBm
Liquid Temperature	20 +/- 1 °C
Lab Temperature	20 +/- 1 °C
Lab Humidity	30-80 %

7.2 HEAD LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ε')		Conductivity (σ) S/m	
	required	measured	required	measured
300	45.3 ±10 %		0.87 ±10 %	
450	43.5 ±10 %		0.87 ±10 %	
750	41.9 ±10 %		0.89 ±10 %	
835	41.5 ±10 %		0.90 ±10 %	
900	41.5 ±10 %		0.97 ±10 %	
1450	40.5 ±10 %		1.20 ±10 %	
1500	40.4 ±10 %		1.23 ±10 %	
1640	40.2 ±10 %		1.31 ±10 %	
1750	40.1 ±10 %		1.37 ±10 %	
1800	40.0 ±10 %		1.40 ±10 %	
1900	40.0 ±10 %		1.40 ±10 %	
1950	40.0 ±10 %		1.40 ±10 %	
2000	40.0 ±10 %		1.40 ±10 %	
2100	39.8 ±10 %		1.49 ±10 %	

2300	39.5 ±10 %		1.67 ±10 %	
2450	39.2 ±10 %	37.5	1.80 ±10 %	1.80
2600	39.0 ±10 %		1.96 ±10 %	
3000	38.5 ±10 %		2.40 ±10 %	
3500	37.9 ±10 %		2.91 ±10 %	

7.3 MEASUREMENT RESULT

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49		5.55	
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	
1900	39.7		20.5	
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4	55.34 (5.53)	24	24.43 (2.44)
2600	55.3		24.6	
3000	63.8		25.7	
3500	67.1		25	

SAR Reference Dipole Calibration Report

Ref : ACR.353.3.18.SATU.A

VERKOTAN LTD.
ELEKTRONIIKKATIE 17
90590, OULU, FINLAND

MVG COMOSAR REFERENCE DIPOLE
FREQUENCY: 2600 MHZ
SERIAL NO.: SN 51/18 DIP 2G600-474

Calibrated at MVG US
2105 Barrett Park Dr. - Kennesaw, GA 30144

ilac-MRA ACCREDITED

Calibration Date: 12/19/18

Summary:

This document presents the method and results from an accredited SAR reference dipole calibration performed in MVG USA using the COMOSAR test bench. All calibration results are traceable to national metrology institutions.

1800	40.0 ±5 %		1.40 ±5 %	
1900	40.0 ±5 %		1.40 ±5 %	
1950	40.0 ±5 %		1.40 ±5 %	
2000	40.0 ±5 %		1.40 ±5 %	
2100	39.8 ±5 %		1.49 ±5 %	
2300	39.5 ±5 %		1.67 ±5 %	
2450	39.2 ±5 %		1.80 ±5 %	
2600	39.0 ±5 %	PASS	1.96 ±5 %	PASS
3000	38.5 ±5 %		2.40 ±5 %	
3500	37.9 ±5 %		2.91 ±5 %	

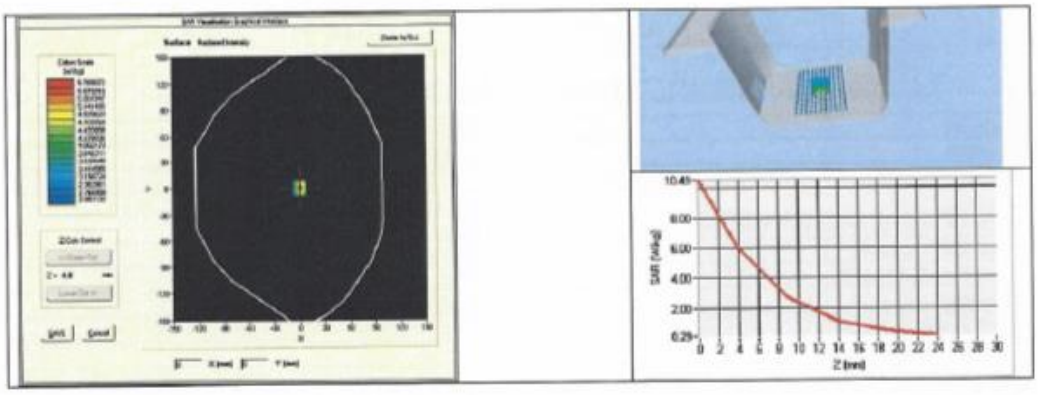
7.2 SAR MEASUREMENT RESULT WITH HEAD LIQUID

The IEEE Std. 1528 and CEI/IEC 62209 standards state that the system validation measurements should produce the SAR values shown below (for phantom thickness of 2 mm), within the uncertainty for the system validation. All SAR values are normalized to 1 W forward power. In bracket, the measured SAR is given with the used input power.

Software	OPENSAR V4
Phantom	SN 20/09 SAM71
Probe	SN 18/11 EPG122
Liquid	Head Liquid Values: eps' : 39.8 sigma : 1.99
Distance between dipole center and liquid	10.0 mm
Area scan resolution	dx=8mm/dy=8mm
Zoon Scan Resolution	dx=5mm/dy=5mm/dz=5mm
Frequency	2600 MHz
Input power	20 dBm
Liquid Temperature	21 °C
Lab Temperature	21 °C
Lab Humidity	45 %

Frequency MHz	1 g SAR (W/kg/W)		10 g SAR (W/kg/W)	
	required	measured	required	measured
300	2.85		1.94	
450	4.58		3.06	
750	8.49		5.55	
835	9.56		6.22	
900	10.9		6.99	
1450	29		16	
1500	30.5		16.8	
1640	34.2		18.4	
1750	36.4		19.3	
1800	38.4		20.1	

1900	39.7		20.5	
1950	40.5		20.9	
2000	41.1		21.1	
2100	43.6		21.9	
2300	48.7		23.3	
2450	52.4		24	
2600	55.3	55.08 (5.51)	24.6	24.14 (2.41)
3000	63.8		25.7	
3500	67.1		25	
3700	67.4		24.2	



7.3 BODY LIQUID MEASUREMENT

Frequency MHz	Relative permittivity (ε')		Conductivity (σ) S/m	
	required	measured	required	measured
150	61.9 ±5 %		0.80 ±5 %	
300	58.2 ±5 %		0.92 ±5 %	
450	56.7 ±5 %		0.94 ±5 %	
750	55.5 ±5 %		0.96 ±5 %	
835	55.2 ±5 %		0.97 ±5 %	
900	55.0 ±5 %		1.05 ±5 %	
915	55.0 ±5 %		1.06 ±5 %	
1450	54.0 ±5 %		1.30 ±5 %	
1610	53.8 ±5 %		1.40 ±5 %	
1800	53.3 ±5 %		1.52 ±5 %	
1900	53.3 ±5 %		1.52 ±5 %	
2000	53.3 ±5 %		1.52 ±5 %	
2100	53.2 ±5 %		1.62 ±5 %	