In accordance with the requirements of
EN50566, EN62209 and COUNCIL RECOMMENDATION
1999/519/EC

CE SAR EVALUATION REPORT

Product Name	Tablet PC
Model No.	Active 8
Serial Model	N/A
Brand Name	Blackview
Report No.	AIT23052502H1

Prepared for

DOKE COMMUNICATION (HK) LIMITED

RM 1902 EASEY COMM BLDG 253-261 HENNESSY ROAD WANCHAI HK CHINA

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name.....................: DOKE COMMUNICATION (HK) LIMITED

Address.......................................: RM 1902 EASEY COMM BLDG 253-261 HENNESSY ROAD WANCHAI HK CHINA

Manufacturer's Name.............: Shenzhen DOKE Electronic Co., Ltd

Address.......................................: 801, Building3, 7th Industrial Zone, Yulv Community, Yutang Road, Guangming District, Shenzhen, China

Product description

Product name............................: Tablet PC

Trademark ....: Blackview

Model and/or type reference .: Active 8

Serial Model...............................: N/A

Standards.................................: EN 50566: 2017
EN 62209-2: 2010
EN 50663: 2017; EN 62479: 2010

This device described above has been tested by Dongguan AIT. In accordance with the measurement methods and procedures specified in EN62209. Testing has shown that this device is capable of compliance with localized specific absorption rate (SAR) specified in COUNCIL 1999/519/EC. The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

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Date of Test

Date (s) of performance of tests...............: June 09, 2023 –June 15, 2023

Date of Issue...: June 16, 2023

Test Result..: **Pass**

Reviewed by: Simba Huang
Simba Huang

Approved by: Seal-Chen
Seal.chen

※ ※ Revision History ※ ※

REV.	DESCRIPTION	ISSUED DATE	REMARK
Rev.1.0	Initial Test Report Release	June 16, 2023	Seal.chen

TABLE OF CONTENTS

1. General Information

1.1. RF exposure limits

(A).Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	10.0	20.0

(B).Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	2.0	4.0

NOTE: ***Whole-Body SAR*** is averaged over the entire body, ***partial-body SAR*** is averaged over any 10 gram of tissue defined as a tissue volume in the shape of a cube.
SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Occupational/Controlled Environments:
Are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

General Population/Uncontrolled Environments:
Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

NOTE
HEAD AND TRUNK LIMIT
2.0 W/kg
APPLIED TO THIS EUT

1.2. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing as follows.

Band	Max SAR Value Reported(W/kg)	
	10-g Body (Separation distance of 0mm)	Max SAR Summation
GSM900	0.265	0.924
GSM1800	0.404	
WCDMA Band I	0.405	
WCDMA Band VIII	0.394	
LTE band 1	0.728	
LTE band 3	0.591	
LTE band 7	0.570	
LTE band 8	0.320	
LTE band 20	0.373	
2.4GHz WLAN	0.196	

NOTE: The Max SAR Summation is calculated based on the same configuration and test position.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (2.0 W/kg) specified in COUNCIL RECOMMENDATION 1999/519/EC, and had been tested in accordance with the measurement methods and procedures specified in EN 62209-1/2.

1.3. EUT Description

Product Name	Tablet PC
Trademark	Blackview
Model Name	Active 8
Serial Model	N/A
Device Phase	Identical Prototype
Exposure Category	General population / Uncontrolled environment
Battery Information	DC 3.87V from Battery
GSM	
Operation Band:	GSM900, DCS1800
Supported type:	GSM/GPRS/EGPRS
Power Class:	GSM850,GSM900:Power Class 4 DCS1800, PCS1900:Power Class 1
Modulation Type:	GMSK for GSM/GPRS, 8-PSK for EGPRS
GSM Release Version	R99
GPRS Multisport Class	12
EGPRS Multisport Class	12
Antenna type:	FPC Antenna
WCDMA	
Operation Band:	FDD Band I, Band VIII
Power Class:	Power Class 3
Modulation Type:	QPSK for WCDMA/HSUPA/HSDPA
WCDMA Release Version:	Release 6 and later
HSDPA Category:	Category 14
HSUPA Category:	Category 6
Antenna type:	FPC Antenna
LTE	
Operation Band:	E-UTRA Band 1, band3, band7, band8, band20
Power Class:	Power Class 3
Modulation Type:	QPSK, 16QAM
Release Version:	Release9, CAT 4
CA-Release Version:	Not Support
Antenna type:	FPC Antenna
WIFI 2.4G	
Supported type:	802.11b/802.11g/802.11n(H20)/802.11n(H40)
Modulation:	802.11b: DSSS 802.11g/802.11n(H20)/802.11n(H40): OFDM
Operation frequency:	802.11b/802.11g/802.11n(H20): 2412MHz~2472MHz 802.11n(H40): 2422MHz~2462MHz
Channel number:	802.11b/802.11g/802.11n(H20): 13 802.11n(H40): 9
Channel separation:	5MHz

Antenna type:	FPC Antenna
Bluetooth	
Supported type:	Bluetooth BR/EDR
Modulation:	GFSK, π/4DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	FPC Antenna
Bluetooth LE	
Supported type:	Bluetooth low Energy
Modulation:	GFSK
Operation frequency:	2402MHz to 2480MHz
Channel number:	40
Channel separation:	2 MHz
Antenna type:	FPC Antenna

1.4. Test specification(s)

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 62209-2: 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) in the head and body for 30MHz to 6GHz Handheld and Body-Mounted Devices used in close proximity to the body
EN 50663: 2017	Generic standard for assessment of low power electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (10MHz to 300GHz)

1.5. Ambient Condition

Ambient temperature	20°C – 24°C
Relative Humidity	30% – 70%

2. SAR Measurement System

2.1. SAR Measurement Set-up

The DASY4 system for performing compliance tests consists of the following items:

A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).

A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

A unit to operate the optical surface detector which is connected to the EOC.

The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY4 measurement server.

The DASY4 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2003.

DASY4 software and SEMCAD data evaluation software.

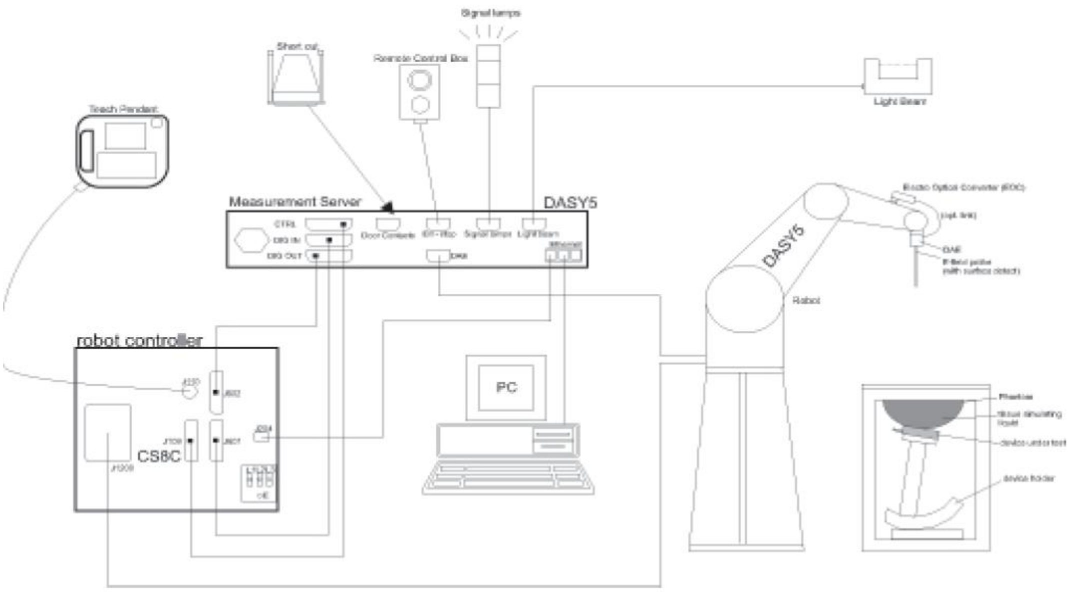
Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.

The generic twin phantom enabling the testing of left-hand and right-hand usage.

The device holder for handheld Mobile Phones.

Tissue simulating liquid mixed according to the given recipes.

System validation dipoles allowing to validate the proper functioning of the system.



2.2. DASY4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

Probe Specification

Construction Symmetrical design with triangular core
Interleaved sensors
Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g., DGBE)

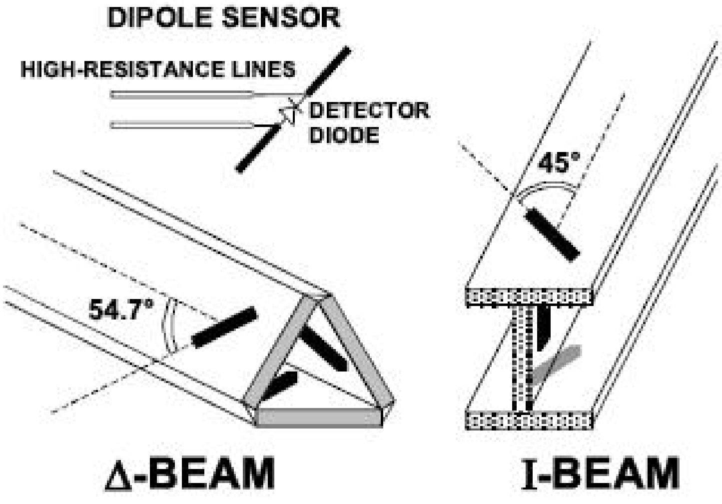
Calibration ISO/IEC 17025 calibration service available.

Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic Range	5 μW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of Mobile Phones
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

Isotropic E-Field Probe

The isotropic E-Field probe has been fully calibrated and assessed for isotropicity, and boundary effect within a controlled environment. Depending on the frequency for which the probe is calibrated the method utilized for calibration will change.

The E-Field probe utilizes a triangular sensor arrangement as detailed in the diagram below:



Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG. The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shell thickness increases to 6mm).
System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

SAM Twin Phantom

2.3. 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.
The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

Device holder supplied by SPEAG

2.4. Scanning Procedure

The DASY4 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.

The “surface check” measurement tests the optical surface detection system of the DASY4 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

Area Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot. Before starting the area scan a grid spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged. After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

Zoom Scan
Zoom Scans are used to estimate the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default Zoom Scan is done by 7x7x7 points within a cube whose base is centered on the maxima found in the preceding area scan.

Spatial Peak Detection
The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses. The DASY4 system allows evaluations that combine measured data and robot positions, such as: • maximum search • extrapolation • boundary correction • peak search for averaged SAR During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard’s method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard’s method for extrapolation. For a grid using 7x7x7 measurement points with 5mm resolution amounting to 343 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.

A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 7x7x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

2.5. Data Storage and Evaluation

Data Storage

The DASY4 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

Data Evaluation

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	Normi, ai0, ai1, ai2
	- Conversion factor	ConvFi
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY4 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

With Vi = compensated signal of channel i (i = x, y, z)
Ui = input signal of channel i (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcpi = diode compression point (DASY parameter)

From the compensated input signals the priMayy field data for each channel can be evaluated:

$$\text{E} - \text{fieldprobes}: \quad E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

$$\text{H} - \text{fieldprobes}: \quad H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1} f + a_{i2} f^2}{f}$$

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel i (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution

aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel i in V/m
Hi = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The priMayy field data are used to calculate the derived field units.

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1'000}$$

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm3

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid.

2.6. Test Equipment List

Test Equipment	Manufacturer	Type/Model	Serial Number	Calibration	
				Last Calibration	Calibration Interval
Data Acquisition Electronics DAEx	SPEAG	DAE4	1331	2022-09-15	1
E-field Probe	SPEAG	EX3DV4	7607	2022-07-04	1
System Validation Dipole 835V2	SPEAG	D835V2	4d238	2021-01-22	3
System Validation Dipole 1750V2	SPEAG	D1750V2	1164	2021-01-22	3
System Validation Dipole 1900V2	SPEAG	D1900V2	5d226	2021-01-22	3
System Validation Dipole 2450V2	SPEAG	D2450V2	1009	2021-01-25	3
System Validation Dipole 2600V2	SPEAG	D2600V2	1150	2021-01-25	3
Communication Tester	R&S	CMW500	116581	2023-01-22	1
Dielectric Probe Kit	Agilent	85070E	NA#F-EP-00777	/	/
Power meter	Agilent	NRVD	835843/014	2022-01-22	1
Power meter	Agilent	NRVD	835843/018	2022-01-22	1
Power meter	Agilent	NRVD	835843/021	2022-01-22	1
Power sensor	Agilent	NRV-Z2	100211	2022-01-22	1
Power sensor	Agilent	NRV-Z2	100215	2022-01-22	1
Power sensor	Agilent	NRV-Z2	100219	2022-01-22	1
Signal generator	ROHDE & SCHWARZ	SME03	100029	2022-01-22	1
Amplifier	AR	2HL-42W-S	100206	/	/

3. SAR Measurement Procedures

Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in Picture 5

Step 1: The tests described in 11.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom),

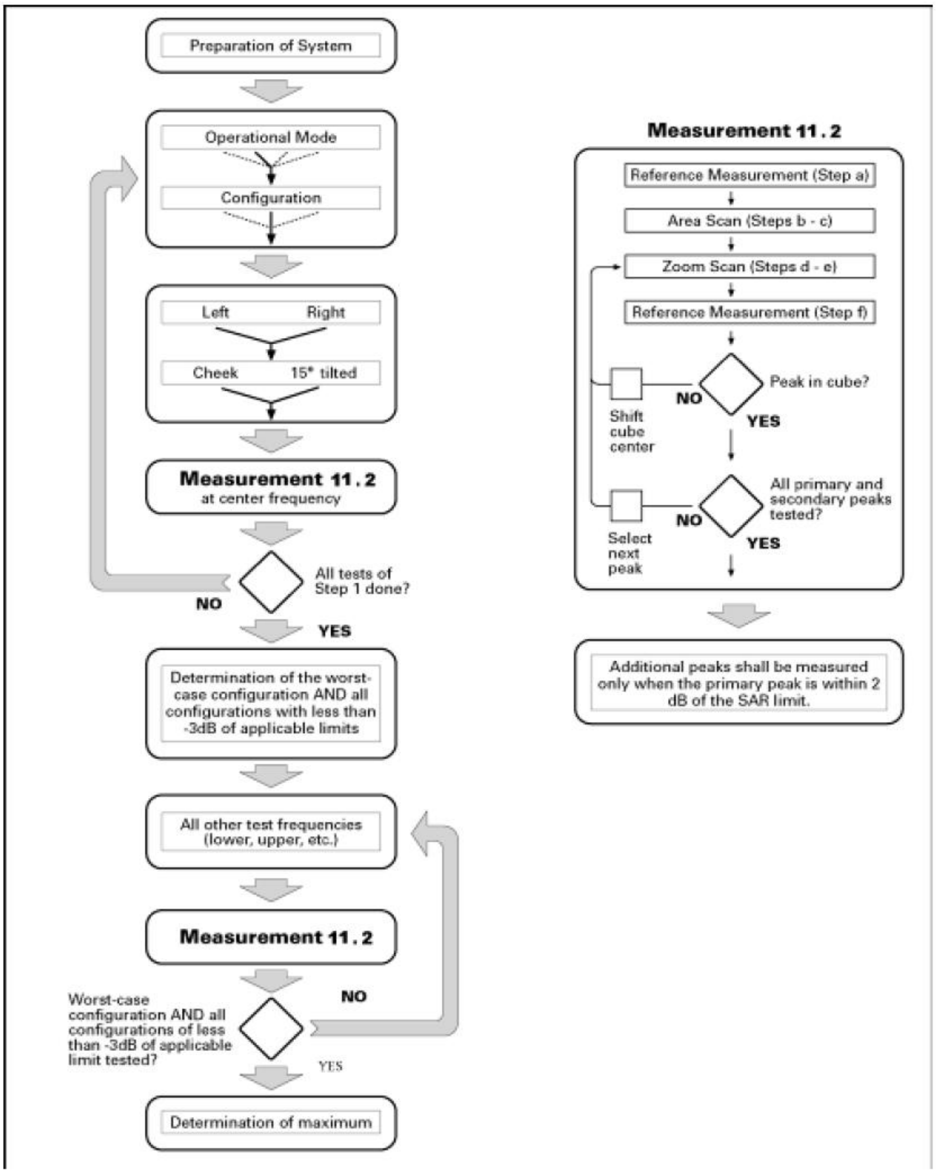
b) all configurations for each device position in a), e.g., antenna extended and retracted, and

c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

d) If more than three frequencies need to be tested according to 11.1 (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1, perform all tests described in 11.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

Step 3: Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 5 Block diagram of the tests to be performed

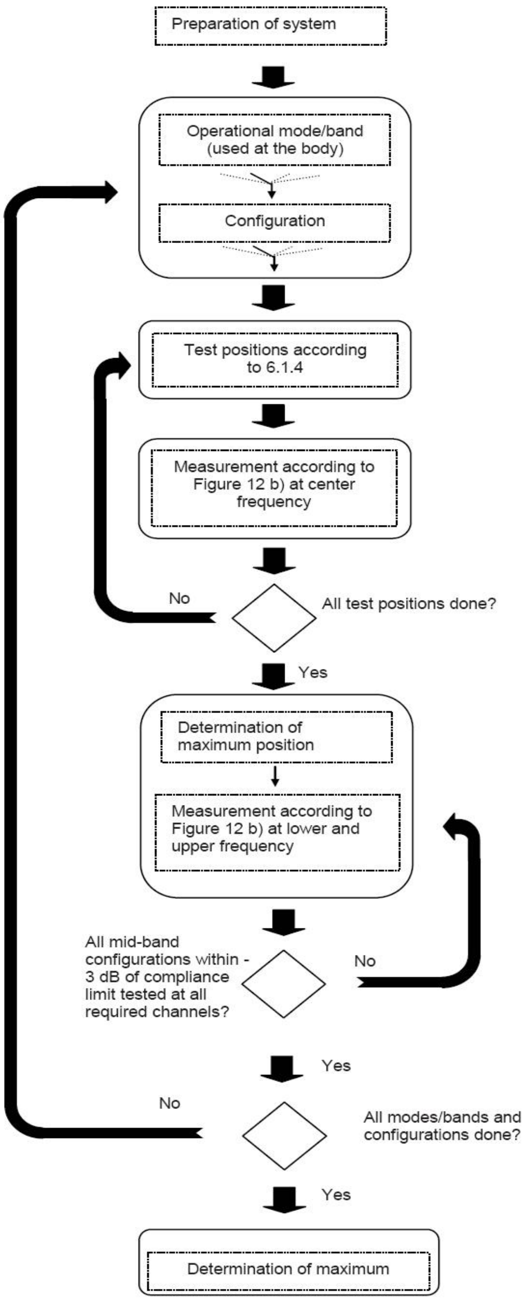


Figure 12a – Tests to be performed

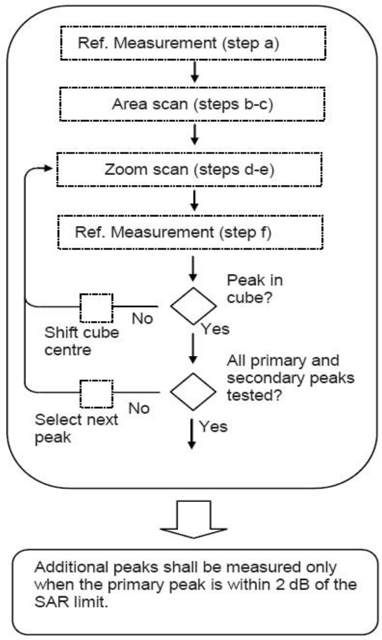


Figure 12b – General procedure

Picture 6 Block diagram of the tests to be performed

Measurement procedure

The following procedure shall be performed for each of the test conditions (see Picture 5).

a) Measure the local SAR at a test point within 8 mm or less in the normal direction from the inner surface of the phantom.

b) Measure the two-dimensional SAR distribution within the phantom (area scan procedure). The boundary of the measurement area shall not be closer than 20 mm from the phantom side walls. The distance between the measurement points should enable the detection of the location of local maximum with an accuracy of better than half the linear dimension of the tissue cube after interpolation. A maximum grip spacing of 20 mm for frequencies below 3 GHz and (60/f [GHz]) mm for frequencies of 3GHz and greater is recommended. The maximum distance between the geometrical centre of the probe detectors and the inner surface of the phantom shall be 5 mm for frequencies below 3 GHz andδln(2)/2 mm for frequencies of 3 GHz and greater, whereδis the plane wave skin depth and ln(x) is the natural logarithm. The maximum variation of the sensor-phantom surface shall be ±1 mm for frequencies below 3 GHz and ±0.5 mm for frequencies of 3 GHz and greater. At all measurement points the angle of the probe with respect to the line normal to the surface should be less than 5°. If this cannot be achieved for a measurement distance to the phantom inner surface shorter than the probe diameter, additional measurement distance to the phantom inner surface shorter than the probe diameter, additional

c) From the scanned SAR distribution, identify the position of the maximum SAR value, in addition identify the positions of any local maxima with SAR values within 2 dB of the maximum value that are not within the zoom-scan volume; additional peaks shall be measured only when the priMayy peak is within 2 dB of the SAR limit. This is consistent with the 2 dB threshold already stated;

d) Measure the three-dimensional SAR distribution at the local maxima locations identified in step

e) The horizontal grid step shall be (24 / f[GHz]) mm or less but not more than 8 mm. The minimum zoom size of 30 mm by 30 mm and 30 mm for frequencies below 3 GHz. For higher frequencies, the minimum zoom size of 22 mm by 22 mm and 22 mm. The grip step in the vertical direction shall be (8-f[GHz]) mm or less but not more than 5 mm, if uniform spacing is used. If variable spacing is used in the vertical direction, the maximum spacing between the two closest measured points to the phantom shell shall be (12 / f[GHz]) mm or less but not more than 4 mm, and the spacing between father points shall increase by an incremental factor not exceeding 1.5. When variable spacing is used, extrapolation routines shall be tested with the same spacing as used in measurements. The maximum distance between the geometrical centre of the probe detectors and the inner surface of the phantom shall be 5 mm for frequencies below 3 GHz and δln(2)/2 mm for frequencies of 3 GHz and greater, where δis the plane wave skin depth and ln(x) is the natural logarithm. Separate grids shall be centered on each of the local SAR maxima found in step c). Uncertainties due to field distortion between the media boundary and the dielectric enclosure of the probe should also be minimized, which is achieved is the distance between the phantom surface and physical tip of the probe is larger than probe tip diameter. Other methods may utilize correction procedures for these boundary effects that enable high precision measurements closer than half the probe diameter. For all measurement points, the angle of the probe with respect to the flat phantom surface shall be less than 5. If this cannot be achieved an additional uncertainty evaluation is needed.

f) Use post processing (e.g. interpolation and extrapolation) procedures to determine the local SAR values at the spatial resolution needed for mass averaging.

Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 2 to Table 6 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

4. System Verification Procedure

4.1. Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% of weight)	Head Tissue								
Frequency Band (MHz)	750	835	900	1800	1900	2000	2450	2600	5200
Water	34.40	34.40	34.40	55.36	55.36	71.88	71.88	71.88	65.53
NaCl	0.79	0.79	0.79	0.35	0.35	0.16	0.16	0.16	0.00
1,2-Propanediol	64.81	64.81	64.81	0.00	0.00	0.00	0.00	0.00	0.00
Triton X-100	0.00	0.00	0.00	30.45	30.45	19.97	19.97	19.97	17.24
DGBE	0.00	0.00	0.00	13.84	13.84	7.99	7.99	7.99	0.00

4.1.1. Tissue Dielectric Parameter Check Results

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameter are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within ±5% of the target values.

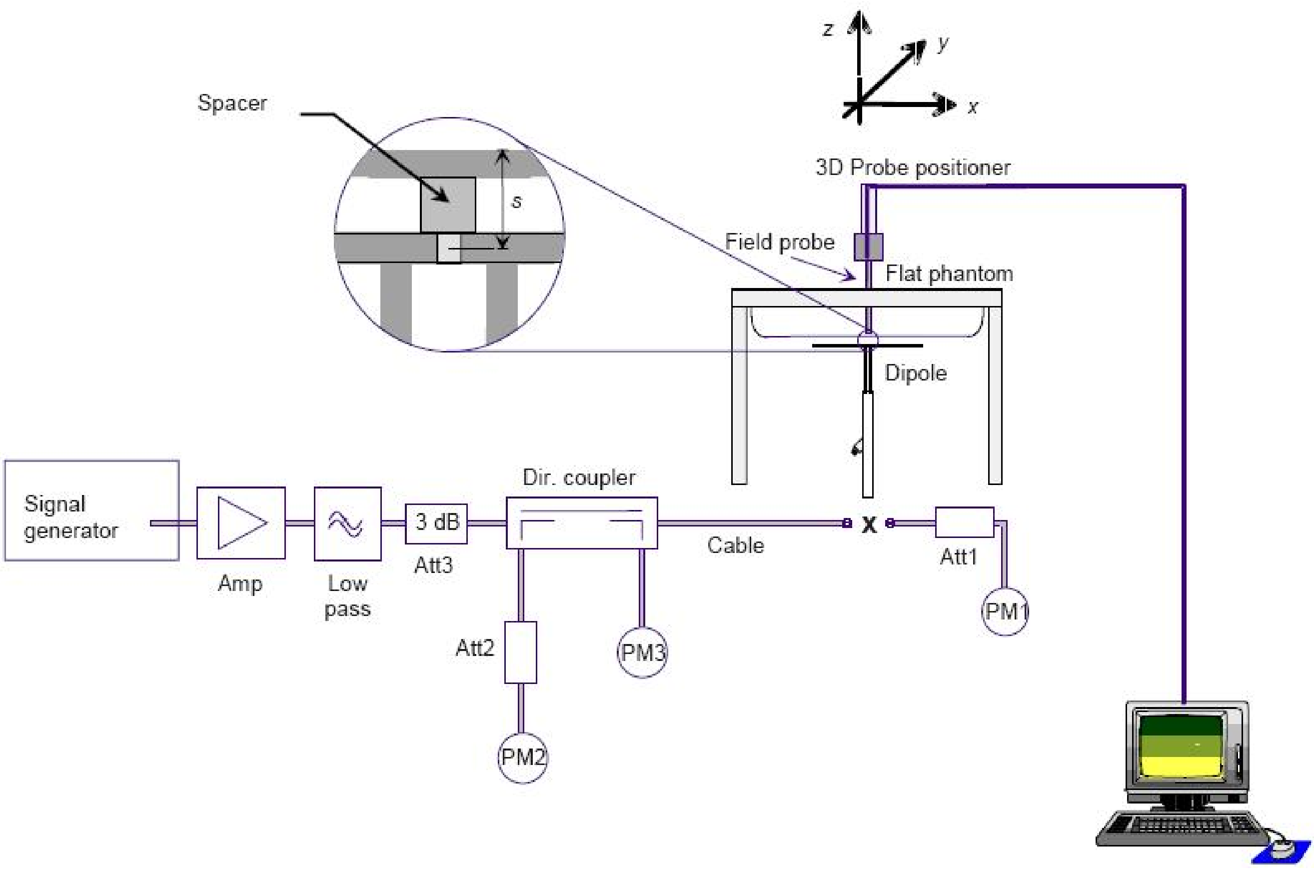
Tissue Type	Measured Frequency (MHz)	Target Tissue		Measured Tissue				Liquid Temp.	Test Data
		ε_r	σ	ε_r	Dev. (%)	σ	Dev. (%)		
835B	835	41.5	0.90	41.317	-0.44%	0.896	2.08%	22.2	06/09/2023
1750B	1750	40.1	1.37	40.473	0.93%	1.383	-1.15%	22.3	06/12/2023
1900B	1900	40.0	1.40	39.496	-1.26%	1.382	-1.27%	22.8	06/13/2023
2450B	2450	39.2	1.80	38.400	-2.04%	1.763	2.65%	22.6	06/14/2023
2600B	2600	39.0	1.96	39.008	0.02%	1.960	2.80%	22.4	06/15/2023

NOTE: The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.

4.2. System Verification Procedure

The system verification is performed for verifying the accuracy of the complete measurement system and performance of the software. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 100mW (below 5GHz) or 100mW (above 5GHz). To adjust this power a power meter is used. The power sensor is connected to the cable before the system verification to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system verification to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

The system verification is shown as below picture:



4.2.1. System Verification Results

Comparing to the original SAR value provided by certification, the verification data should be within its specification of ±10%. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance verification can meet the variation criterion and the plots can be referred to Appendix B of this report.

Frequency (MHz)	Liquid Type	Power fed onto reference dipole (mW)	Targeted SAR (W/kg)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)	Date
835B	Body	250	6.14	1.59	6.22	1.25%	06/09/2023
1750B	Body	250	19.20	4.99	19.63	2.24%	06/12/2023
1900B	Body	250	20.30	5.34	20.60	1.47%	06/13/2023
2450B	Body	250	23.90	5.76	24.48	2.41%	06/14/2023
2600B	Body	250	25.00	6.01	25.47	1.87%	06/15/2023

5. SAR Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2003. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Uncertainty Component	Tol. (±%)	Prob. Dist.	Div.	Ci (1 g)	Ci (10 g)	1 g Ui (±%)	10 g Ui (±%)	Vi
Measurement System								
Probe Calibration	5.8	N	1	1	1	5.80	5.80	∞
Axial Isotropy	3.5	R	√3	0.7	0.7	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	√3	0.7	0.7	2.41	2.41	∞
Boundary Effect	1	R	√3	1	1	0.58	0.58	∞
Linearity	4.7	R	√3	1	1	2.71	2.71	∞
System Detection Limits	1	R	√3	1	1	0.58	0.58	∞
Modulation response	3	N	1	1	1	3.00	3.00	∞
Readout Electronics	0.5	N	1	1	1	0.50	0.50	∞
Response Time	0	R	√3	1	1	0.00	0.00	∞
Integration Time	1.4	R	√3	1	1	0.81	0.81	∞
RF Ambient Conditions - Noise	3	R	√3	1	1	1.73	1.73	∞
RF Ambient Conditions - Reflections	3	R	√3	1	1	1.73	1.73	∞
Probe Positioner Mechanical Tolerance	1.4	R	√3	1	1	0.81	0.81	∞
Probe Positioning with respect to Phantom Shell	1.4	R	√3	1	1	0.81	0.81	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	2.3	R	√3	1	1	1.33	1.33	∞
Test sample Related								
Test Sample Positioning	2.6	N	1	1	1	2.60	2.60	11
Device Holder Uncertainty	3	N	1	1	1	3.00	3.00	7
Output Power Variation - SAR drift measurement	5	R	√3	1	1	2.89	2.89	∞
SAR scaling	2	R	√3	1	1	1.15	1.15	∞
Phantom and Tissue Parameters								
Phantom Uncertainty (shape and thickness tolerances)	4	R	√3	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation (in permittivity and conductivity)	2	N	1	1	0.84	2.00	1.68	∞
Liquid Conductivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
Liquid conductivity - measurement uncertainty	4	N	1	0.23	0.26	0.92	1.04	5
Liquid permittivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	∞
Liquid permittivity - measurement uncertainty	5	N	1	0.23	0.26	1.15	1.30	∞
Combined Standard Uncertainty		RSS				10.63	10.54	
Expanded Uncertainty (95% Confidence interval)		k				21.26	21.08	

6. RF Exposure Positions

6.1. Body-supported device

The example in Figure 6.1) shows a Tablet PC form factor portable computer for which SAR should be separately assessed with

a) each surface and

b) the separation distances

Positioned against the flat phantom that correspond to the intended use as specified by the manufacturer. If the intended use is not specified in the user instructions, the device shall be tested directly against the flat phantom in all usable orientations.

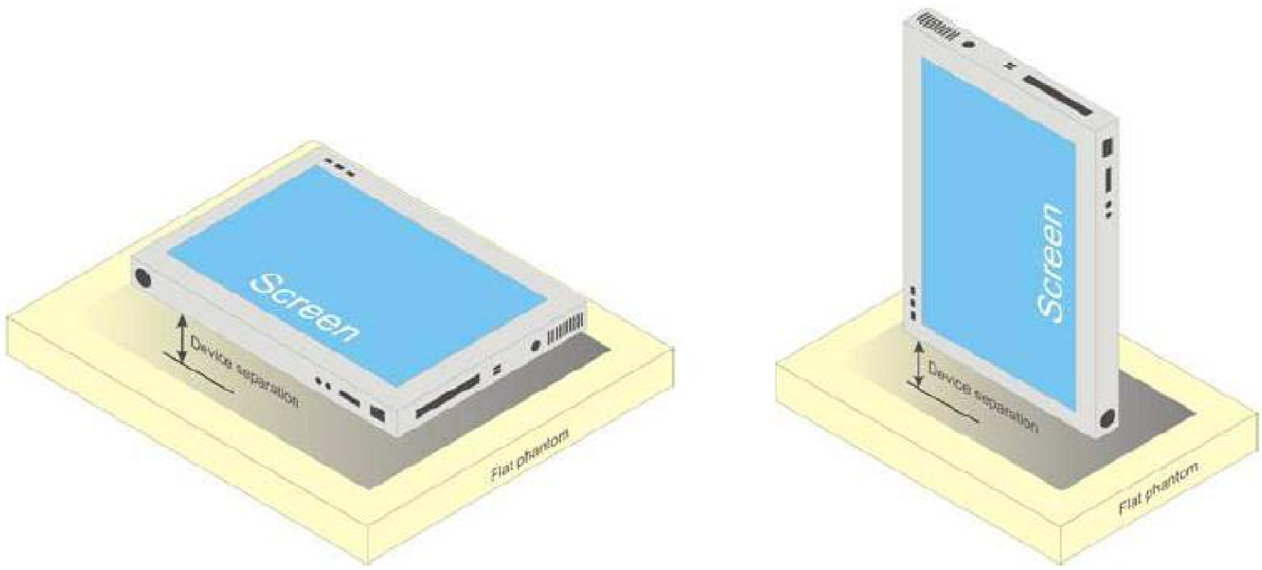
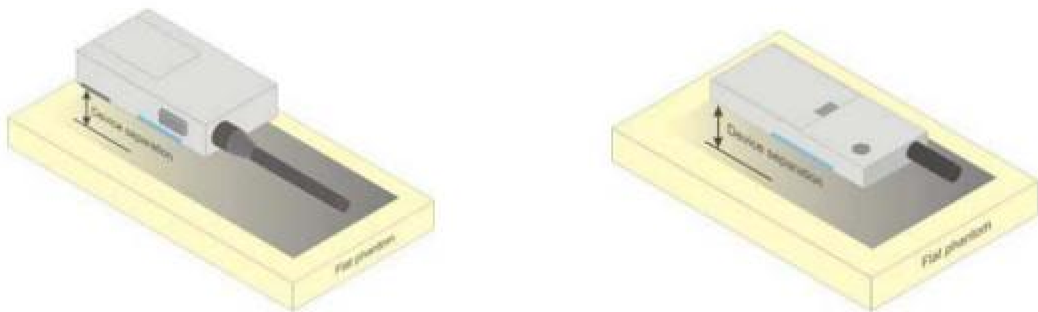


Figure 6.1 – Test positions for Body-supported device

6.2. Test Positions for front-of-face configurations

Test Positions for front-of-face configurations A typical example of a front-of-face device is a two-way radio that is held at a distance from the face of the user when transmitting. In these cases the device under test shall be positioned at the distance to the phantom surface that corresponds to the intended use as specified by the manufacturer in the user instructions. If the intended use is not specified, a separation distance of 25 mm – 0mm between the phantom surface and the device shall be used.



7. RF Output Power

7.1. GSM Conducted Power

Mode	Txslot	Measured Power (dBm)			Tune-Up	Calculation (dB)	Frame-Averaged Power (dBm)		
		880.2 MHz	902.4 MHz	914.8 MHz			880.2 MHz	902.4 MHz	914.8 MHz
GSM900	/	33.86	33.85	33.41	33±1	/	/	/	/
GPRS 900 (GMSK)	1 Txslot	33.28	33.38	33.64	33±1	-9.03	24.25	24.35	**24.61**
	2 Txslot	30.27	30.35	30.12	30±1	-6.02	24.25	24.33	24.10
	3 Txslot	28.66	28.83	28.75	28±1	-4.26	24.40	24.57	24.49
	4 Txslot	25.71	25.73	25.62	25±1	-3.01	22.70	22.72	22.61
GPRS 900 (EDGE)	1 Txslot	28.01	28.06	28.06	28±1	-9.03	18.98	19.03	19.03
	2 Txslot	25.59	25.74	25.42	25±1	-6.02	19.57	19.72	19.40
	3 Txslot	24.92	24.82	25.09	25±1	-4.26	20.66	20.56	**20.83**
	4 Txslot	22.96	23.01	22.92	23±1	-3.01	19.95	20.00	19.91
Mode	**Txslot**	**Measured Power (dBm)**			**Tune-Up**	**Calculation (dB)**	**Frame-Averaged Power (dBm)**		
		1710.2 MHz	**1747.4 MHz**	**1784.8 MHz**			**1710.2 MHz**	**1747.4 MHz**	**1784.8 MHz**
DCS1800	/	30.83	30.85	30.91	30±1	/	/	/	/
GPRS 1800 (GMSK)	1 Txslot	30.57	30.79	30.28	30±1	-9.03	21.54	21.76	21.25
	2 Txslot	28.32	28.20	28.22	28±1	-6.02	22.30	22.18	22.20
	3 Txslot	27.60	27.70	27.48	27±1	-4.26	23.34	**23.44**	23.22
	4 Txslot	25.42	25.30	25.31	25±1	-3.01	22.41	22.29	22.30
GPRS 1800 (EDGE)	1 Txslot	25.89	25.74	25.96	25±1	-9.03	16.86	16.71	16.93
	2 Txslot	24.60	24.67	24.60	24±1	-6.02	18.58	**18.65**	18.58
	3 Txslot	22.37	22.45	22.29	22±1	-4.26	18.11	18.19	18.03
	4 Txslot	20.88	20.82	21.05	21±1	-3.01	17.87	17.81	18.04

Note:

Remark: GPRS, CS4 coding scheme. EGPRS, MCS5 coding scheme.
Multi-Slot Class 8, Support Max 4 downlink, 1 uplink, 5 working link
Multi-Slot Class 10, Support Max 4 downlink, 2 uplink, 5 working link
Multi-Slot Class 12, Support Max 4 downlink, 4 uplink, 5 working link

SAR testing was performed on the maximum frame-averaged power mode.

The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum

Burst-averaged power based on time slots. The calculated method is shown as below:

Frame-averaged power = Burst averaged power (1 TX Slot) – 9.03 dB

Frame-averaged power = Burst averaged power (2 TX Slots) – 6.02 dB

Frame-averaged power = Burst averaged power (3 TX Slots) - 4.26 dB

Frame-averaged power = Burst averaged power (4 TX Slots) – 3.01 dB

7.2. WCDMA Conducted Power

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

1. Release99 Setup Configuration

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

2. HSDPA Setup Configuration

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs =βhs/βc	30/15			

3. HSUPA Setup Configuration

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	15/15
	βec	209/225	12/15	30/15	2/15	24/15
	βc/βd	11/15	6/15	15/9	2/15	15/15
	βhs	22/15	12/15	30/15	4/15	30/15
	βed	1309/225	94/75	47/15 47/15	56/75	134/15
	CM (dB)	1.0	3.0	2.0	3.0	1.0
HSDPA Specific Settings	D_{ACK}	8				
	D_{NAK}	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				

	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	D E-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9

4. WCDMA Conducted Power Results

Choose the highest output power mode RMC 12.2Kbps for Band VIII/I at middle channel to test SAR and determine the worst configuration for further high/low channel test.

Band	WCDMA Band I			Tune-Up	WCDMA Band VIII			Tune-Up
Channel	9612	9750	9888		2712	2787	2863	
Frequency (MHz)	1922.4	1950	1977.6		882.4	897.4	912.6	
RMC 12.2Kbps	23.33	23.32	23.22	23±1	23.55	23.66	23.44	23±1
HSDPA Subtest-1	22.17	22.03	22.33	22±1	22.90	22.84	22.85	22±1
HSDPA Subtest-2	21.14	21.06	20.99	21±1	21.35	21.35	21.30	21±1
HSDPA Subtest-3	21.62	21.65	21.78	21±1	21.42	21.60	21.23	21±1
HSDPA Subtest-4	21.16	21.00	21.36	21±1	21.27	21.11	21.43	21±1
HSUPA Subtest-1	22.65	22.68	22.61	22±1	22.22	22.11	22.18	22±1
HSUPA Subtest-2	21.64	21.58	21.43	21±1	21.63	21.73	21.46	21±1
HSUPA Subtest-3	21.54	21.49	21.69	21±1	21.29	21.39	21.20	21±1
HSUPA Subtest-4	21.33	21.12	21.41	21±1	21.87	21.94	21.87	21±1
HSUPA Subtest-5	22.10	22.29	22.19	22±1	22.31	22.38	22.47	22±1

7.3. LTE Conducted Power

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 36.521-1 specification. A summary of these configurations are illustrated below:

Test Parameters for Channel Bandwidths				
	Downlink Configuration	Uplink Configuration		
Ch BW	N/A for Max UE output power testing	Mod'n	RB allocation	
			FDD	TDD
1.4MHz		QPSK	1	1
1.4MHz		QPSK	5	5
3MHz		QPSK	1	1
3MHz		QPSK	4	4
5MHz		QPSK	1	1
5MHz		QPSK	8	8
10MHz		QPSK	1	1
10MHz		QPSK	12	12
15MHz		QPSK	1	1
15MHz		QPSK	16	16
20MHz		QPSK	1	1
20MHz		QPSK	18	18

Note 1: Test Channel Bandwidths are checked separately for each E-UTRA band, the applicable channel bandwidths are specified in Table 5.4.2.1-1.

Note 2: For E-UTRA bands not applied with Note 2 in Table 6.2.2.3-1:

- The 1 RB allocation shall be tested at RB#0 for low and mid range, RB #max for high range test frequency.
- The RBstart of non-1RB allocation shall be RB #0 for low and mid range, RB# (max +1 - RB allocation) for high range test frequency.

Note 3: For E-UTRA bands applied with Note 2 in Table 6.2.2.3-1:

- If the test channel bandwidth is larger than 4MHz, then the 1 RB allocation shall be tested at both RB #0 and RB #max.
- If the test channel bandwidth is smaller or equal to 4MHz, then the 1 RB allocation shall be tested at RB #0.
- If the test channel bandwidth = (FUL_high - FUL_low) specified by the operating band, then only one frequency range shall be tested and the 1 RB allocation shall be tested at RB #0, RB # $\lceil N_{RB}^{UL}/2 \rceil$ and RB #max.
- For non-1RB allocation, test frequency is middle range, and the RBstart shall be RB #0.

2. LTE Conducted Power Results

LTE output list

Band	Channel Bandwidth	Modulation	Channel	RB Configure	Result (dBm)	Tune-Up
Band1	5MHz	QPSK	18025	1RB#0	23.38	23±1
	5MHz	QPSK	18025	8RB#0	23.23	23±1
	5MHz	QPSK	18300	1RB#0	23.20	23±1
	5MHz	QPSK	18300	8RB#0	23.17	23±1
	5MHz	QPSK	18575	1RB#24	23.25	23±1
	5MHz	QPSK	18575	8RB#17	23.44	23±1
	20MHz	QPSK	18100	1RB#0	23.01	23±1
	20MHz	QPSK	18100	18RB#0	23.28	23±1
	20MHz	QPSK	18300	1RB#0	22.97	23±1
	20MHz	QPSK	18300	18RB#0	22.93	23±1
	20MHz	QPSK	18500	1RB#99	23.00	23±1
	20MHz	QPSK	18500	18RB#82	23.03	23±1

Band	Channel Bandwidth	Modulation	Channel	RB Configure	Result (dBm)	Tune-Up
Band3	1.4MHz	QPSK	19207	1RB#0	23.03	23±1
	1.4MHz	QPSK	19207	5RB#0	23.40	23±1
	1.4MHz	QPSK	19575	1RB#0	22.55	23±1
	1.4MHz	QPSK	19575	5RB#0	22.94	23±1
	1.4MHz	QPSK	19943	1RB#5	22.97	23±1
	1.4MHz	QPSK	19943	5RB#1	23.25	23±1
	5.0MHz	QPSK	19225	1RB#0	23.03	23±1
	5.0MHz	QPSK	19225	8RB#0	23.40	23±1
	5.0MHz	QPSK	19575	1RB#0	22.55	23±1
	5.0MHz	QPSK	19575	8RB#0	22.94	23±1
	5.0MHz	QPSK	19925	1RB#24	22.97	23±1
	5.0MHz	QPSK	19925	8RB#17	23.25	23±1
	20MHz	QPSK	19300	1RB#0	23.08	23±1
	20MHz	QPSK	19300	18RB#0	23.13	23±1
	20MHz	QPSK	19575	1RB#0	22.65	23±1
	20MHz	QPSK	19575	18RB#0	23.10	23±1
	20MHz	QPSK	19850	1RB#99	22.94	23±1
	20MHz	QPSK	19850	18RB#82	23.17	23±1

Band	Channel Bandwidth	Modulation	Channel	RB Configure	Result (dBm)	Tune-Up
Band7	5MHz	QPSK	20775	1RB#0	21.56	21.5±1
	5MHz	QPSK	20775	8RB#0	21.70	21.5±1
	5MHz	QPSK	21100	1RB#0	21.60	21.5±1
	5MHz	QPSK	21100	8RB#0	21.53	21.5±1
	5MHz	QPSK	21425	1RB#24	21.51	21.5±1
	5MHz	QPSK	21425	8RB#17	21.33	21.5±1
	20MHz	QPSK	20850	1RB#0	21.46	21.5±1
	20MHz	QPSK	20850	18RB#0	21.90	21.5±1
	20MHz	QPSK	21100	1RB#0	21.54	21.5±1
	20MHz	QPSK	21100	18RB#0	21.36	21.5±1
	20MHz	QPSK	21350	1RB#99	21.33	21.5±1
	20MHz	QPSK	21350	18RB#82	21.07	21.5±1

Band	Channel Bandwidth	Modulation	Channel	RB Configure	Result (dBm)	Tune-Up
Band8	1.4MHz	QPSK	21457	1RB#0	22.86	22±1
	1.4MHz	QPSK	21457	5RB#0	22.90	22±1
	1.4MHz	QPSK	21625	1RB#0	22.81	22±1
	1.4MHz	QPSK	21625	5RB#0	22.75	22±1
	1.4MHz	QPSK	21793	1RB#5	22.69	22±1
	1.4MHz	QPSK	21793	5RB#1	22.83	22±1
	5.0MHz	QPSK	21475	1RB#0	22.65	22±1
	5.0MHz	QPSK	21475	8RB#0	22.77	22±1
	5.0MHz	QPSK	21625	1RB#0	22.79	22±1
	5.0MHz	QPSK	21625	8RB#0	22.72	22±1
	5.0MHz	QPSK	21775	1RB#24	22.68	22±1
	5.0MHz	QPSK	21775	8RB#17	22.64	22±1
	10MHz	QPSK	21500	1RB#0	22.59	22±1
	10MHz	QPSK	21500	12RB#0	22.65	22±1
	10MHz	QPSK	21625	1RB#0	22.68	22±1
	10MHz	QPSK	21625	12RB#0	22.49	22±1
	10MHz	QPSK	21750	1RB#49	22.54	22±1
	10MHz	QPSK	21750	12RB#38	22.52	22±1

Band	Channel Bandwidth	Modulation	Channel	RB Configure	Result (dBm)	Tune-Up
Band20	5MHz	QPSK	24175	1RB#0	22.76	22±1
	5MHz	QPSK	24175	8RB#0	22.86	22±1
	5MHz	QPSK	24300	1RB#0	22.74	22±1
	5MHz	QPSK	24300	8RB#0	22.91	22±1
	5MHz	QPSK	24425	1RB#24	22.90	22±1
	5MHz	QPSK	24425	8RB#17	22.94	22±1
	20MHz	QPSK	24250	1RB#0	22.63	22±1
	20MHz	QPSK	24250	18RB#0	22.79	22±1
	20MHz	QPSK	24300	1RB#0	22.74	22±1
	20MHz	QPSK	24300	18RB#0	22.76	22±1
	20MHz	QPSK	24350	1RB#99	22.59	22±1
	20MHz	QPSK	24350	18RB#82	22.53	22±1

7.4. Wi-Fi & BT Output Power

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Tune-Up
802.11b	1	2412	12.72	13±1
	7	2442	13.50	13±1
	13	2472	13.95	13±1
802.11g	1	2412	13.15	13±1
	7	2442	13.32	13±1
	13	2472	13.35	13±1
802.11n (HT20)	1	2412	12.59	13±1
	7	2442	13.31	13±1
	13	2472	12.39	13±1
802.11n (HT40)	3	2422	12.55	13±1
	7	2442	12.95	13±1
	11	2462	13.01	13±1

Mode	Channel	Output Power (dBm)	Tune-up
DH5	Hop	1.77	1±1
2DH5	Hop	1.86	1±1
3DH5	Hop	1.97	1±1
BLE 1M	CH00	-1.15	-1±1
	CH19	0.02	0±1
	CH39	-2.19	-2±1
BLE 2M	CH00	-1.18	-1±1
	CH19	-0.12	0±1
	CH39	-2.42	-2±1

Note: Because the output power of Bluetooth of the EUT is less than 20mW(13dBm), so standalone SAR are exempt according EN62479.

8. SAR Measurement Results

<GSM>

Band	Mode	Test Position	Ch.	*Conducted Power (dBm)*	*Tune-up (dBm)*	*Scale*	*SAR10g (W/kg*	*Reported SAR10g (W/kg)*	Plot
GSM900	GSM	Front	62	33.85	34.00	1.035	0.241	0.249	
GSM900	GSM	Rear	62	33.85	34.00	1.035	**0.253**	0.262	**#1**
GSM900	GSM	Right	62	33.85	34.00	1.035	0.158	0.164	
GSM900	GSM	Left	62	33.85	34.00	1.035	< 0.1	< 0.1	
GSM900	GSM	Top	62	33.85	34.00	1.035	0.249	0.258	
GSM900	GSM	Bottom	62	33.85	34.00	1.035	< 0.1	< 0.1	
GSM900	GPRS 1 Txslot	Rear	975	33.64	34.00	1.086	0.244	**0.265**	
GSM900	E-GPRS 3 Txslot	Rear	124	25.09	26.00	1.233	0.203	0.250	
DCS1800	GSM	Front	698	30.85	31.00	1.035	0.381	0.394	
DCS1800	GSM	Rear	698	30.85	31.00	1.035	**0.390**	**0.404**	**#2**
DCS1800	GSM	Right	698	30.85	31.00	1.035	0.295	0.305	
DCS1800	GSM	Left	698	30.85	31.00	1.035	< 0.1	< 0.1	
DCS1800	GSM	Top	698	30.85	31.00	1.035	0.381	0.394	
DCS1800	GSM	Bottom	698	30.85	31.00	1.035	< 0.1	< 0.1	
DCS1800	GPRS 3 Txslot	Rear	698	27.70	28.00	1.072	0.275	0.295	
DCS1800	E-GPRS 2 Txslot	Rear	698	24.67	25.00	1.079	0.259	0.279	

<WCDMA>

Band	Mode	Test Position	Ch.	*Conducted Power (dBm)*	*Tune-up (dBm)*	*Scale*	*SAR10g (W/kg*	*Reported SAR10g (W/kg)*	Plot
Band I	RMC	Front	9750	23.32	24.00	1.169	0.338	0.395	
Band I	RMC	Rear	9750	23.32	24.00	1.169	**0.346**	**0.405**	**#3**
Band I	RMC	Right	9750	23.32	24.00	1.169	0.252	0.295	
Band I	RMC	Left	9750	23.32	24.00	1.169	< 0.1	< 0.1	
Band I	RMC	Top	9750	23.32	24.00	1.169	0.338	0.395	
Band I	RMC	Bottom	9750	23.32	24.00	1.169	< 0.1	< 0.1	
Band VIII	RMC	Front	2787	23.66	24.00	1.081	0.351	0.380	
Band VIII	RMC	Rear	2787	23.66	24.00	1.081	**0.364**	**0.394**	**#4**
Band VIII	RMC	Right	2787	23.66	24.00	1.081	0.274	0.296	
Band VIII	RMC	Left	2787	23.66	24.00	1.081	< 0.1	< 0.1	
Band VIII	RMC	Top	2787	23.66	24.00	1.081	0.356	0.385	
Band VIII	RMC	Bottom	2787	23.66	24.00	1.081	< 0.1	< 0.1	

<LTE>

Band	Mode	Test Position	Ch.	*Conducted Power (dBm)*	*Tune-up (dBm)*	*Scale*	*SAR10g (W/kg*	*Reported SAR10g (W/kg)*	Plot
Band 1	QPSK	Front	18300	22.97	24.00	1.268	0.559	0.709	
Band 1	QPSK	Rear	18300	22.97	24.00	1.268	0.571	0.724	
Band 1	QPSK	Right	18300	22.97	24.00	1.268	0.478	0.606	
Band 1	QPSK	Left	18300	22.97	24.00	1.268	< 0.1	< 0.1	
Band 1	QPSK	Top	18300	22.97	24.00	1.268	**0.574**	**0.728**	**#5**
Band 1	QPSK	Bottom	18300	22.97	24.00	1.268	< 0.1	< 0.1	
Band 3	QPSK	Front	19575	23.10	24.00	1.230	0.467	0.575	
Band 3	QPSK	Rear	19575	23.10	24.00	1.230	0.474	0.583	
Band 3	QPSK	Right	19575	23.10	24.00	1.230	0.385	0.474	
Band 3	QPSK	Left	19575	23.10	24.00	1.230	< 0.1	< 0.1	
Band 3	QPSK	Top	19575	23.10	24.00	1.230	**0.480**	**0.591**	**#6**
Band 3	QPSK	Bottom	19575	23.10	24.00	1.230	< 0.1	< 0.1	

Band 7	QPSK	Front	21100	21.54	22.50	1.247	0.443	0.553	
Band 7	QPSK	Rear	21100	21.54	22.50	1.247	**0.457**	**0.570**	**#7**
Band 7	QPSK	Right	21100	21.54	22.50	1.247	0.361	0.450	
Band 7	QPSK	Left	21100	21.54	22.50	1.247	< 0.1	< 0.1	
Band 7	QPSK	Top	21100	21.54	22.50	1.247	0.448	0.559	
Band 7	QPSK	Bottom	21100	21.54	22.50	1.247	< 0.1	< 0.1	
Band 8	QPSK	Front	21625	22.68	23.00	1.076	0.287	0.309	
Band 8	QPSK	Rear	21625	22.68	23.00	1.076	**0.297**	**0.320**	**#8**
Band 8	QPSK	Right	21625	22.68	23.00	1.076	0.203	0.219	
Band 8	QPSK	Left	21625	22.68	23.00	1.076	< 0.1	< 0.1	
Band 8	QPSK	Top	21625	22.68	23.00	1.076	0.295	0.318	
Band 8	QPSK	Bottom	21625	22.68	23.00	1.076	< 0.1	< 0.1	
Band 20	QPSK	Front	24300	22.74	23.00	1.062	0.335	0.356	
Band 20	QPSK	Rear	24300	22.74	23.00	1.062	**0.351**	**0.373**	**#9**
Band 20	QPSK	Right	24300	22.74	23.00	1.062	0.256	0.272	
Band 20	QPSK	Left	24300	22.74	23.00	1.062	< 0.1	< 0.1	
Band 20	QPSK	Top	24300	22.74	23.00	1.062	0.351	0.373	
Band 20	QPSK	Bottom	24300	22.74	23.00	1.062	< 0.1	< 0.1	

< WIFI 2.4G >

Band	Mode	Test Position	Ch.	*Conducted Power (dBm)*	*Tune-up (dBm)*	*Scale*	*SAR10g (W/kg*	*Reported SAR10g (W/kg)*	Plot
WIFI2.4	DSSS	Front	07	13.50	14.00	1.122	0.164	0.184	
WIFI2.4	DSSS	Rear	07	13.50	14.00	1.122	**0.175**	**0.196**	#10
WIFI2.4	DSSS	Right	07	13.50	14.00	1.122	< 0.1	< 0.1	
WIFI2.4	DSSS	Left	07	13.50	14.00	1.122	< 0.1	< 0.1	
WIFI2.4	DSSS	Top	07	13.50	14.00	1.122	0.171	0.192	
WIFI2.4	DSSS	Bottom	07	13.50	14.00	1.122	< 0.1	< 0.1	

< Simultaneous Transmission Analysis >

Position	Simultaneous State
Body	1.GSM+ 2.4G/WLAN
	2.GSM+Bluetooth
	3.WCDMA+ 2.4G
	4.WCDMA+Bluetooth
	5.LTE+ 2.4G
	6.LTE+Bluetooth

Note:
1. The Bluetooth and WLAN can't simultaneous transmission at the same time.
2. The 2.4GHz WLAN and 5GHz WLAN can't simultaneous transmission at the same time.
3. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
4. The reported SAR summation is calculated based on the same configuration and test position.
5. DUT will choose either 2G/3G/4G according to the network signal condition, therefore, 2G/3G/4G will not transmit simultaneously.
6. Multi-band transmission analysis for Body SAR is performed following EN 62209-2 procedure. One way of determining the threshold power level available to the secondary transmitter($P_{available}$) is to calculate it from the measured peak spatial-average SAR of the primary transmitter (SAR_1) according to the equation:

$$P_{available} = P_{th,m} * (SAR_{lim.} - SAR_1)/SAR_{lim.}$$

where:

$P_{th.m}$ is the threshold exclusion power level taken from Annex B of IEC 62479 for the frequency of the secondary transmitter at the separation distance used in the testing.

If the output power of the secondary transmitter is less than $P_{available,}$ SAR measurement for the secondary transmitter is not necessary.

Simultaneous Mode	Position	SAR1	secondary transmitter Maximum Average Power		Separation distance (mm)	P available	Result
			dBm	mW			
GSM + WIFI	Body	0.404	14.0	25.119	5	15.960	Yes
WCDMA + WIFI	Body	0.405	14.0	25.119	5	15.950	Yes
LTE + WIFI	Body	0.728	14.0	25.119	5	12.720	Yes
GSM + BT	Body	0.404	2.0	1.585	5	15.960	No
WCDMA + BT	Body	0.405	2.0	1.585	5	15.950	No
LTE + BT	Body	0.728	2.0	1.585	5	12.720	No

Note：
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.
The “No” is represent that SAR measurement for the secondary transmitter is not necessary.
The “Yes” is means that SAR measurement for the secondary transmitter is necessary.

Simultaneous Mode	Position	Mode	Max. 10-g SAR W/Kg	10-g Sum SAR W/Kg
GSM + WIFI	Body	GSM	0.404	0.600
		WIFI	0.196	
WCDMA + WIFI	Body	WCDMA	0.405	0.601
		WIFI	0.196	
LTE + WIFI	Body	LTE	0.728	0.924
		WIFI	0.196	

Liquid depth

Body Position with 835MHz liquid depth (15.3cm)	Body Position with 900MHz liquid depth (15.2cm)
	
Body Position with 1800MHz liquid depth (15.1cm)	Body Position with 2000MHz liquid depth (15.4cm)
	
Body Position with 2450MHz liquid depth (15.3cm)	Body Position with 2600MHz liquid depth (15.1cm)
	

Appendix B. System Check Plots

System Performance Check-body 835MHz

DUT: D835V2; Type: D835V2; Serial: 4d238

Date: 06/09/2023

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.896 S/m; ε_r =41.317; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6℃;Liquid Temperature:22.3℃;

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.44, 10.44, 10.44) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (7x7x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.888 W/kg

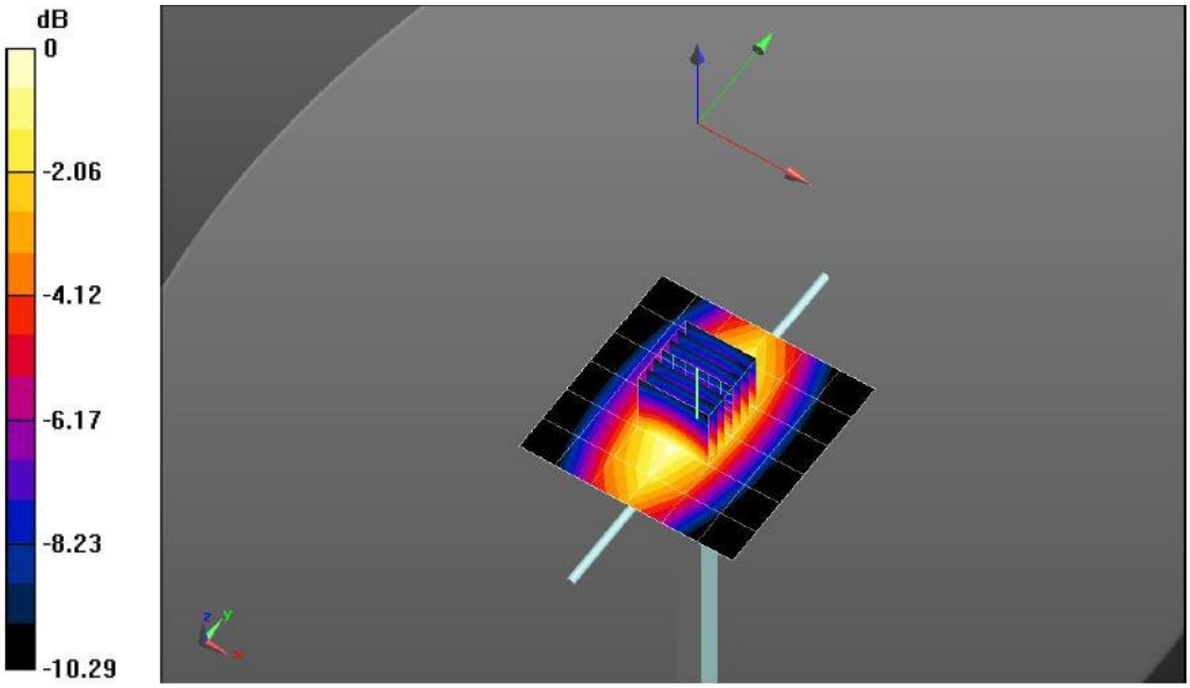
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.236 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.339 W/kg

SAR(1 g) = 2.47 W/kg; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 2.871 W/kg



0 dB = 2.871 W/kg = 4.58 dBW/kg

System Performance Check 835MHz 250mW

System Performance Check-Body 1750MHz

DUT: D1750V2; Type: D1750V2; Serial: 1164

Date: 06/12/2023

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1750 MHz; σ = 1.383 S/m; ε_r = 40.473; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6℃;Liquid Temperature:22.8℃;

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.69, 8.69, 8.69) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (7x7x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.354 W/kg

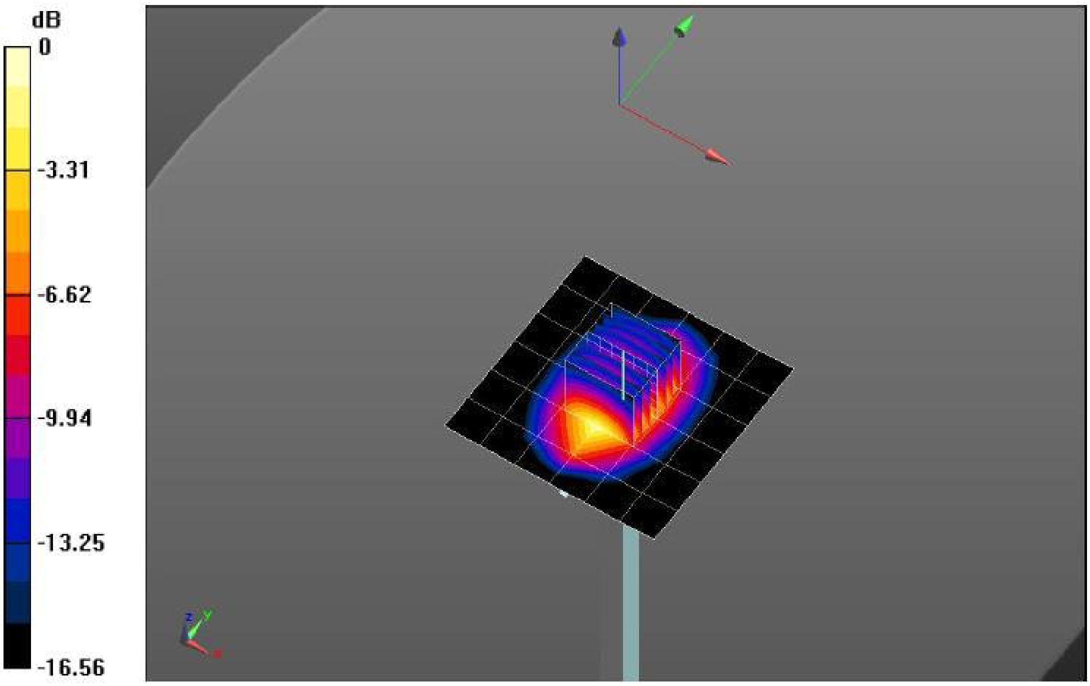
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.582 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 16.752 W/kg

SAR(1 g) = 9.30 W/kg; SAR(10 g) = 4.99 W/kg

Maximum value of SAR (measured) = 13.273 W/kg



0 dB = 13.273 W/kg = 11.23 dBW/kg

System Performance Check 1750MHz 250mW

System Performance Check-Body 1900MHz

DUT: D1900V2; Type: D1900V2; Serial: 5d226

Date: 06/13/2023

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.382 S/m; ε_r = 39.496; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6℃;Liquid Temperature:22.6℃;

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.40, 8.40, 8.40) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (7x7x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 15.187 W/kg

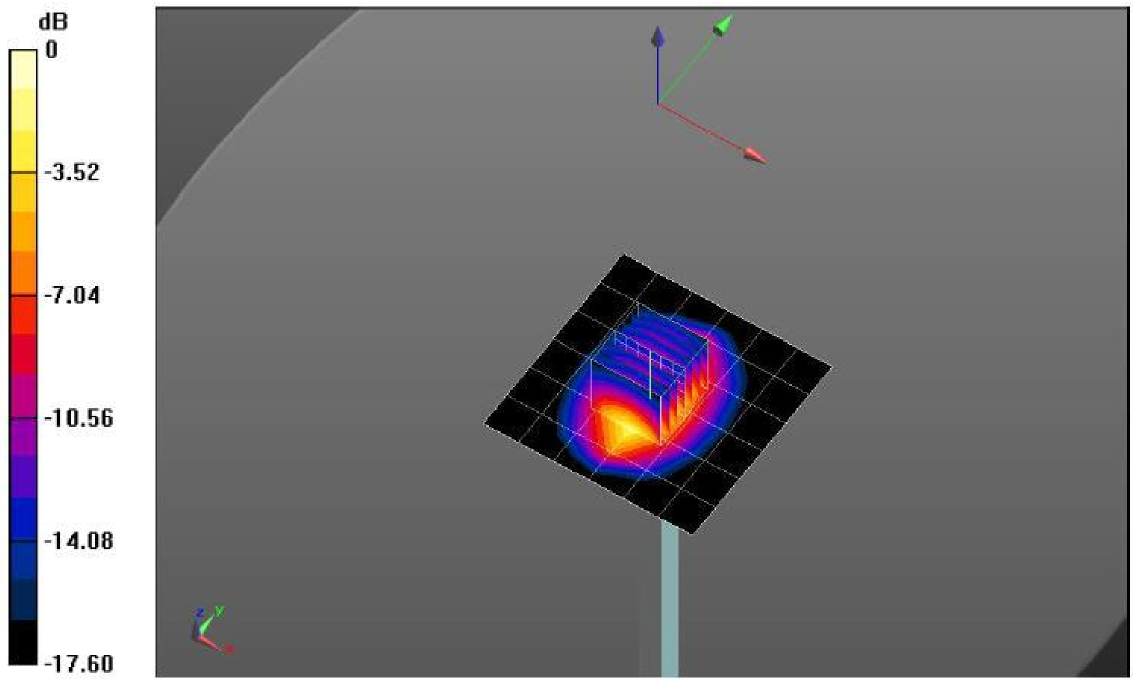
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.679 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 19.027 W/kg

SAR(1 g) = 10.3 W/kg; SAR(10 g) = 5.34 W/kg

Maximum value of SAR (measured) = 15.09 W/kg



0 dB = 15.09 W/kg = 11.79 dBW/kg

System Performance Check 1900MHz 250mW

System Performance Check-Body 2450MHz

DUT: D2450V2; Type: D2540V2; Serial: 1009

Date: 06/14/2023

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2450 MHz; σ = 1.763 S/m; ε_r = 38.400; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6℃;Liquid Temperature:22.4℃;

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.79, 7.79, 7.79) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (8x8x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 24.8 W/kg

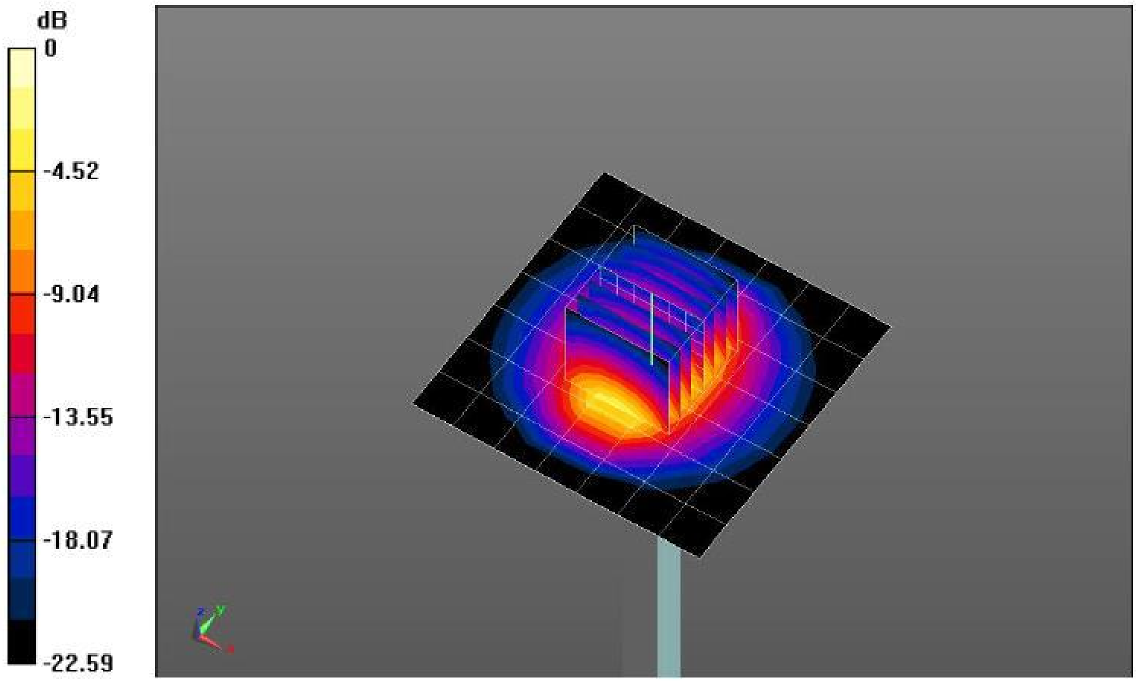
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.170 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 26.174 W/kg

SAR(1 g) = 12.5 W/kg; SAR(10 g) = 5.76 W/kg

Maximum value of SAR (measured) = 19.27 W/kg



0 dB = 19.27 W/kg = 12.85 dBW/kg

System Performance Check 2450MHz 250mW

SystemPerformanceCheck-Body 2600MHz

DUT: D2600V2; Type: D2600V2; Serial: 1150

Date: 06/15/2023

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2600 MHz; σ = 1.960 S/m; ε_r = 39.008; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.6℃;Liquid Temperature:22.5℃;

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.56, 7.56, 7.56) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (8x8x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 24.6 W/kg

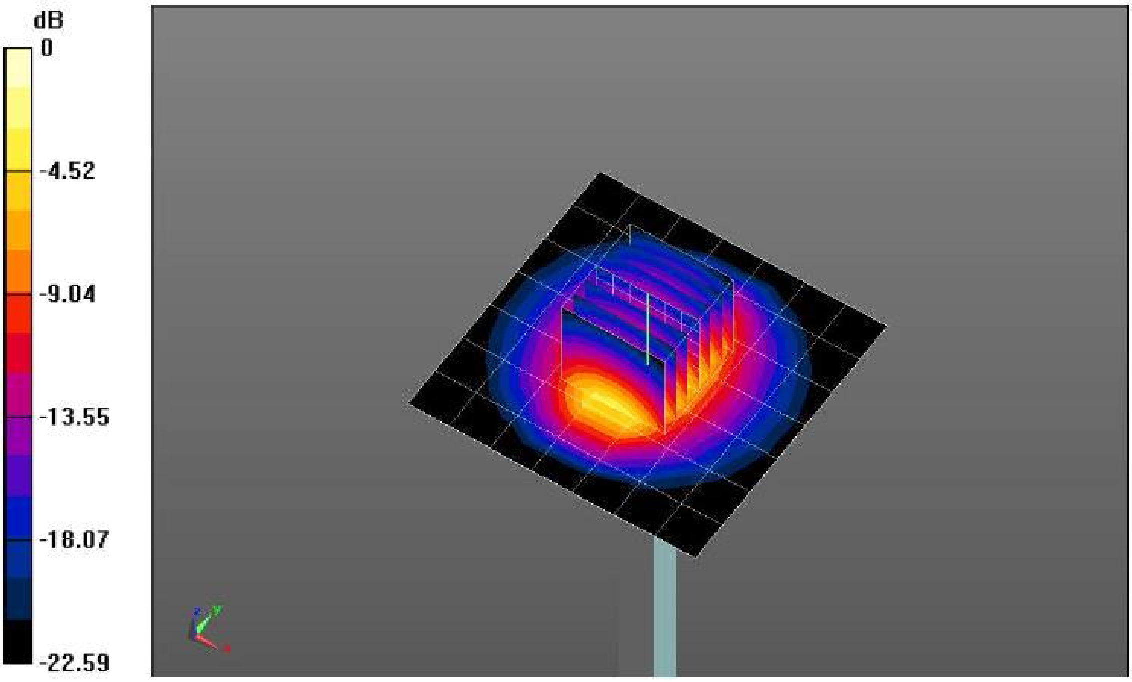
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 108.4 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 30.0 W/kg

SAR(1 g) = 13.8 W/kg; SAR(10 g) = 6.01 W/kg

Maximum value of SAR (measured) = 23.8 W/kg



0 dB = 23.8 W/kg = 13.77 dBW/kg

System Performance Check 2600MHz 250mW

Appendix C. SAR Test Plots

GSM900_Rear side_0mm_Middle Channel

Date: 06/09/2023

Communication System: GSM 900; Frequency: 902.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): f =902 MHz; σ = 0.947 mho/m; εr = 42.78; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.44, 10.44, 10.44) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (61x61x1): Measurement grid: dx=1.5mm, dy=1.5mm

Maximum value of SAR (interpolated) = 0.741 W/kg

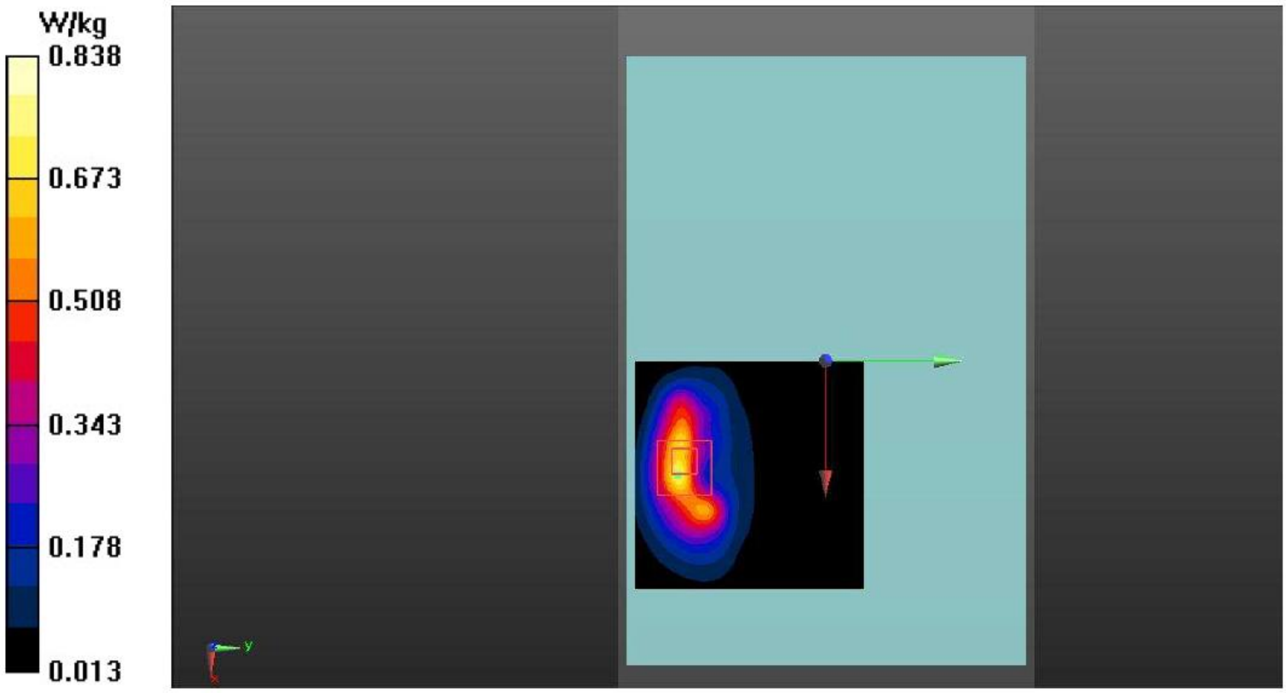
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.921 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.30 W/kg

SAR(1 g) = 0.536 W/kg; SAR(10 g) = 0.253 W/kg

Maximum value of SAR (measured) = 0.838 W/kg



Plot #1: GSM900_Rear side_0mm_Middle Channel

DCS1800_Rear side_0mm_Middel Channel

Date: 06/12/2023

Communication System: DCS 1800; Frequency: 1747.4 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1747 MHz; σ = 1.374 mho/m; εr = 39.38; ρ = 1000 kg/m3
Phantom section: Flat Section

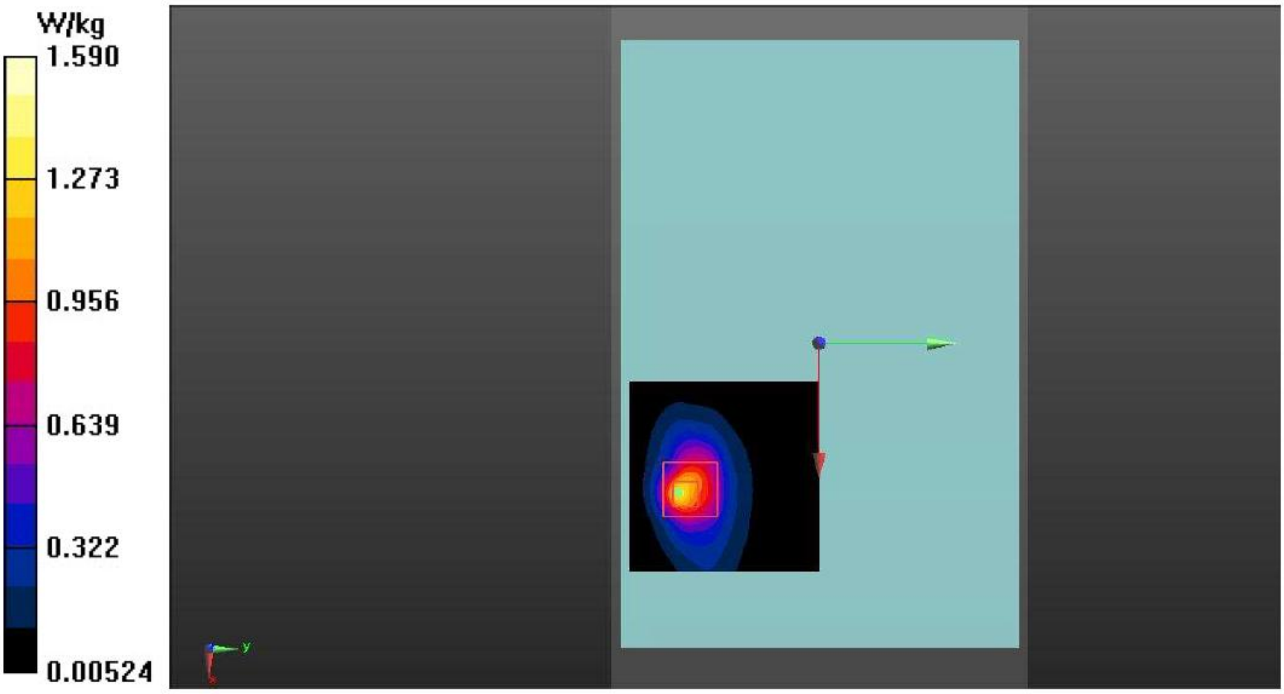
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.69, 8.69, 8.69) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (51x51x1): Measurement grid: dx=1.5mm, dy=1.5mm
Maximum value of SAR (interpolated) = 1.31 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.124 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.95 W/kg

SAR(1 g) = 0.931W/kg; SAR(10 g) = 0.390 W/kg
Maximum value of SAR (measured) = 1.59 W/kg



Plot #2: DCS1800_Rear side_0mm_Middle Channel

WCDMA BAND I_Rear side_0mm_Middle Channel

Date: 06/13/2023

Communication System: W2100; Frequency: 1950 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1950 MHz; σ = 1.42 mho/m; εr = 40.4; ρ = 1000 kg/m3
Phantom section: Flat Section

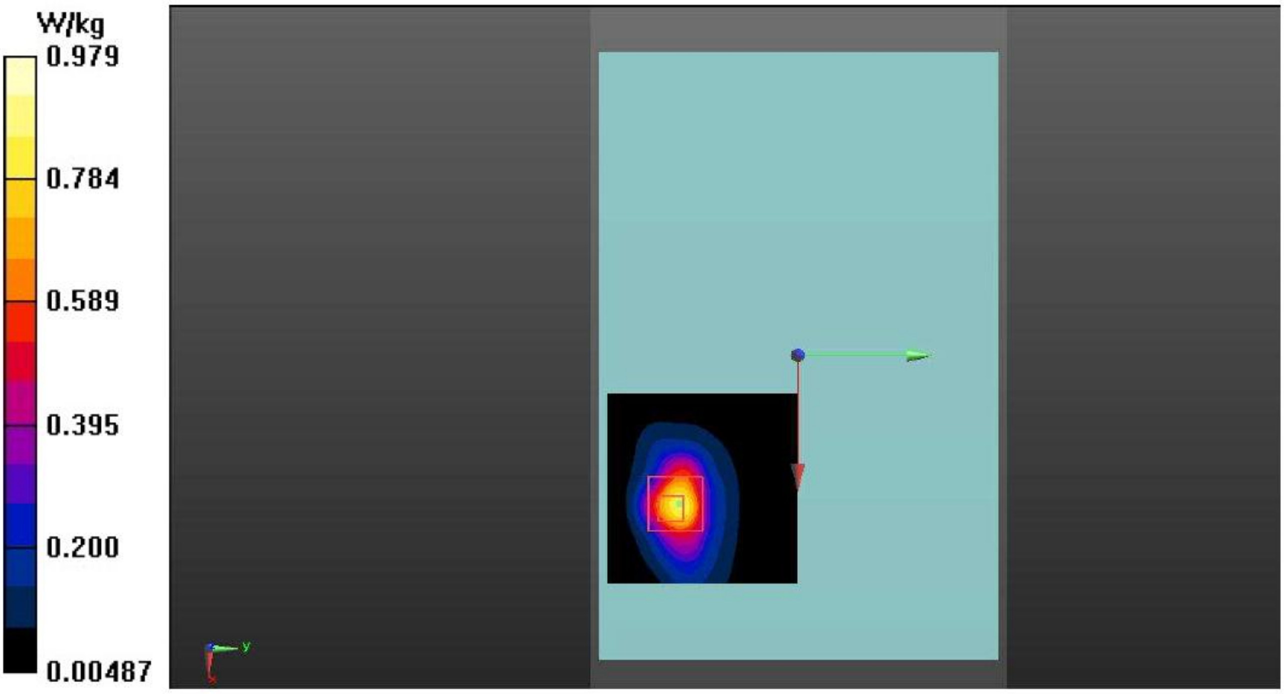
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.40, 8.40, 8.40) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (51x51x1): Measurement grid: dx=1.5mm, dy=1.5mm
Maximum value of SAR (interpolated) = 0.856 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.163 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 0.829 W/kg; SAR(10 g) = 0.346 W/kg
Maximum value of SAR (measured) = 0.979 W/kg



Plot #3: WCDMA BAND I_Rear side_0mm_Middle Channel

WCDMA Band VIII Rear Side Middle Channel

Date: 06/09/2023

Communication System: W900; Frequency: 897.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 898 MHz; σ = 0.97 mho/m; ε_r = 41.52; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.44, 10.44, 10.44) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (61x51x1): Measurement grid: dx=1.5mm, dy=1.5mm

Maximum value of SAR (interpolated) = 0.867 W/kg

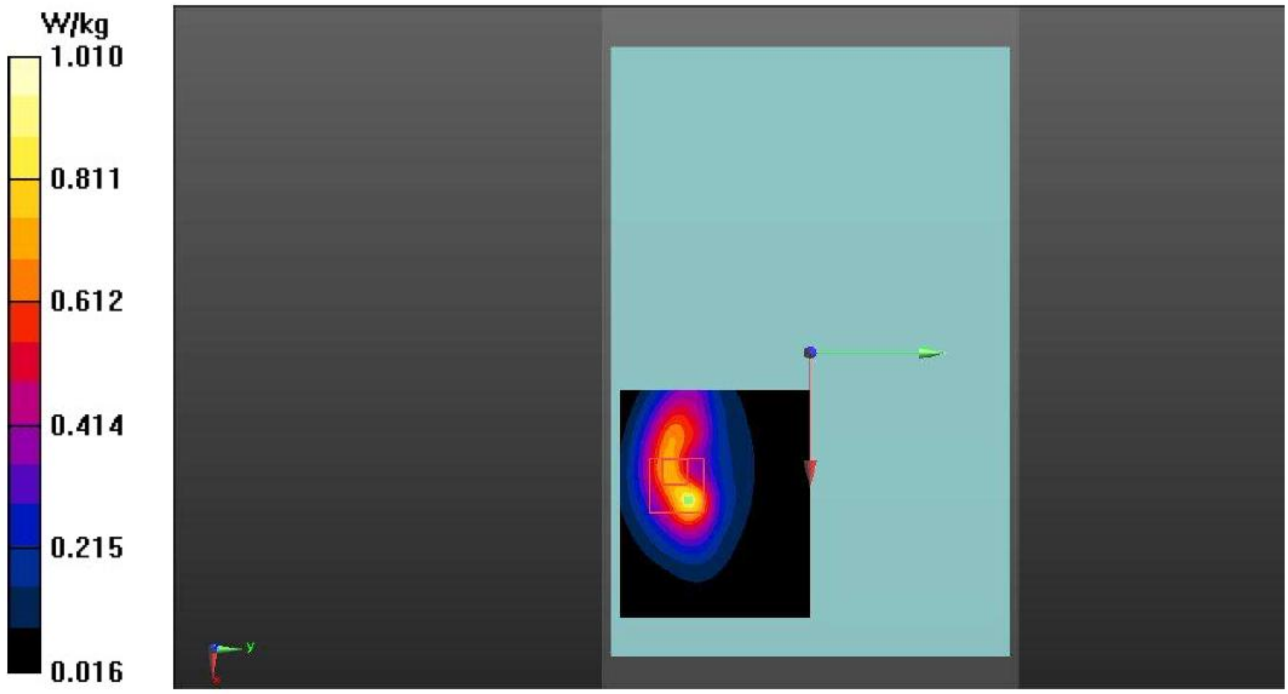
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.775 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) =1.85 W/kg

SAR(1 g) = 0.769 W/kg; SAR(10 g) = 0.364 W/kg

Maximum value of SAR (measured) = 1.01 W/kg



Plot #4: WCDMA Band VIII_Rear side_0mm_Middle Channel

LTE BAND 1_Top side_0mm_Middle Channel

Date: 06/13/2023

Communication System: LTE1; Frequency: 1950 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1950 MHz; σ = 1.42 mho/m; εr = 40.4; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.40, 8.40, 8.40) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (71x41x1): Measurement grid: dx=1.5mm, dy=1.5mm

Maximum value of SAR (interpolated) = 1.24 W/kg

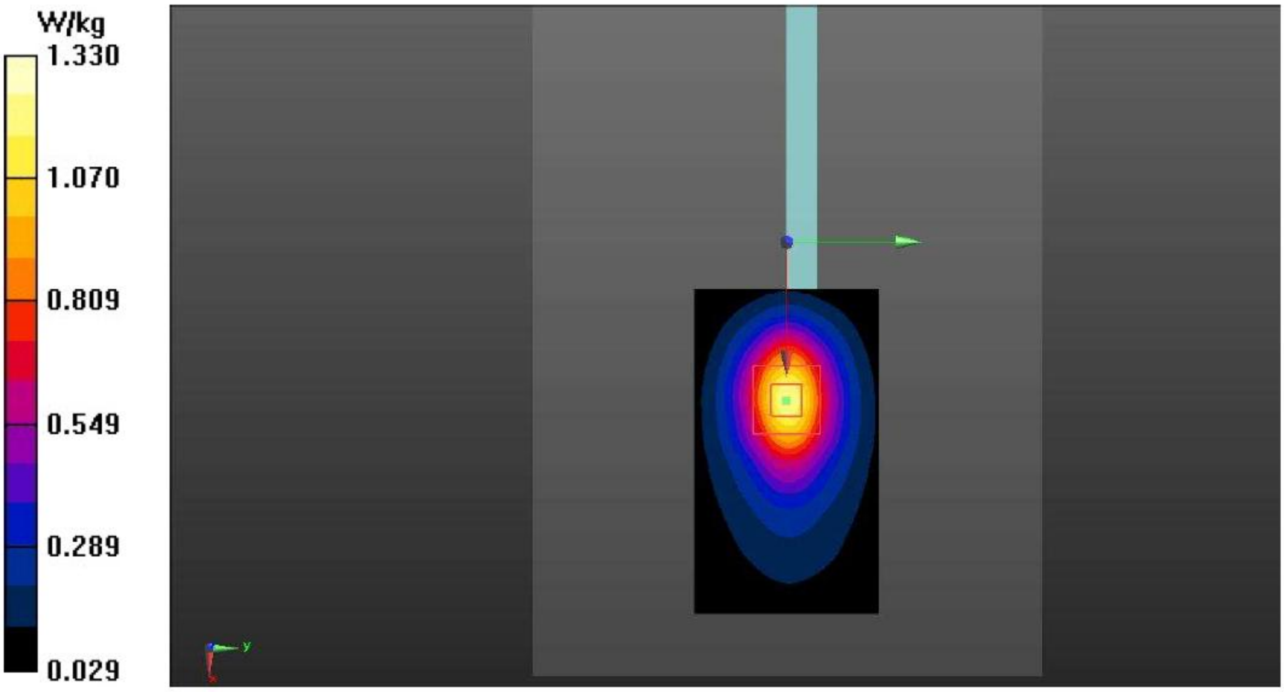
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.063 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.574 W/kg

Maximum value of SAR (measured) = 1.33 W/kg



Plot #5: LTE BAND 1_Top side_0mm_Middle Channel

LTE BAND 3_Top side_0mm_Middle Channel

Date: 06/12/2023

Communication System: LTE3; Frequency: 1747.5 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1748 MHz; σ = 1.36 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

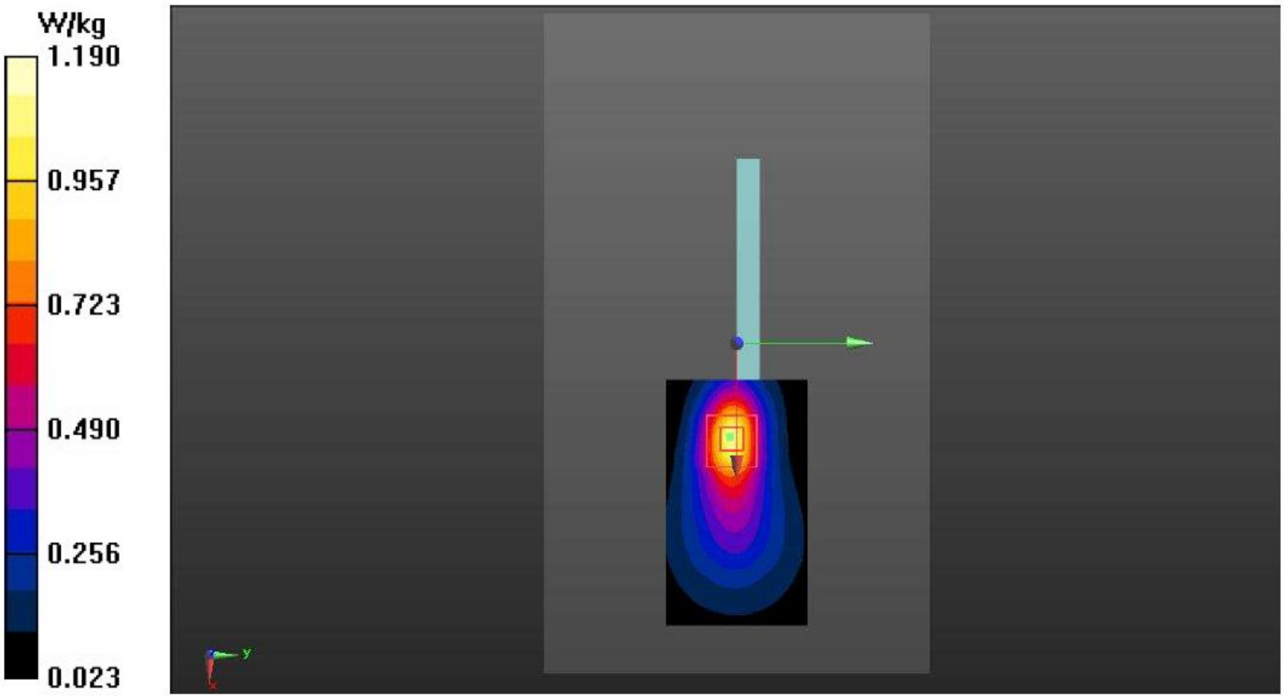
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.69, 8.69, 8.69) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (71x41x1): Measurement grid: dx=1.5mm, dy=1.5mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.241 V/m; Power Drift = 0.08dB
Peak SAR (extrapolated) = 1.48W/kg

SAR(1 g) = 0.872 W/kg; SAR(10 g) = 0.480 W/kg
Maximum value of SAR (measured) = 1.19 W/kg



Plot #6: LTE BAND 3_Top side_0mm_Middle Channel

LTE BAND 7_Rear side_0mm_Middle Channel

Date: 06/15/2023

Communication System: LTE7; Frequency: 2535 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2535 MHz; σ = 1.87 mho/m; εr = 38.45; ρ = 1000 kg/m3
Phantom section: Flat Section

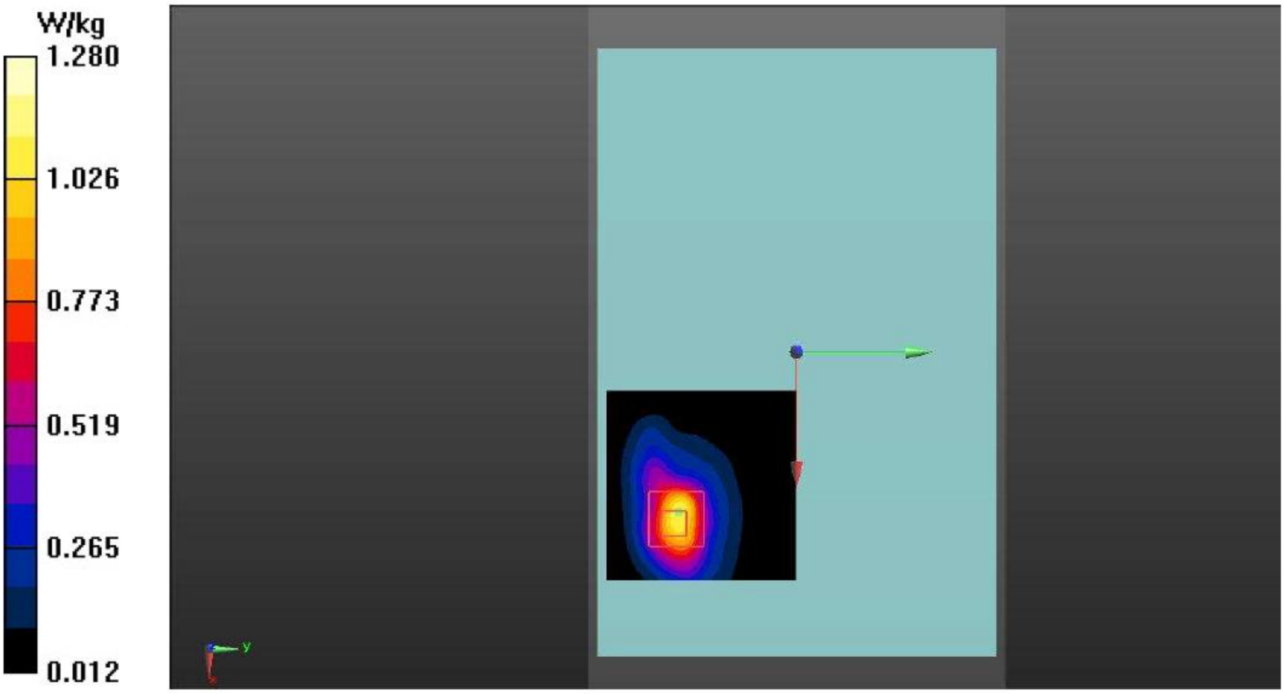
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.56, 7.56, 7.56) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (51x51x1): Measurement grid: dx=1.5mm, dy=1.5mm
Maximum value of SAR (interpolated) = 0.928 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.030 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.41 W/kg

SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.457 W/kg
Maximum value of SAR (measured) = 1.28 W/kg



Plot #7: LTE BAND 7_Rear side_0mm_Middle Channel

LTE BAND 8_Rear side_0mm_Middle Channel

Date: 06/09/2023

Communication System: LTE8; Frequency: 897.5 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 898 MHz; σ = 0.973 mho/m; εr = 42.3; ρ = 1000 kg/m3
Phantom section: Flat Section

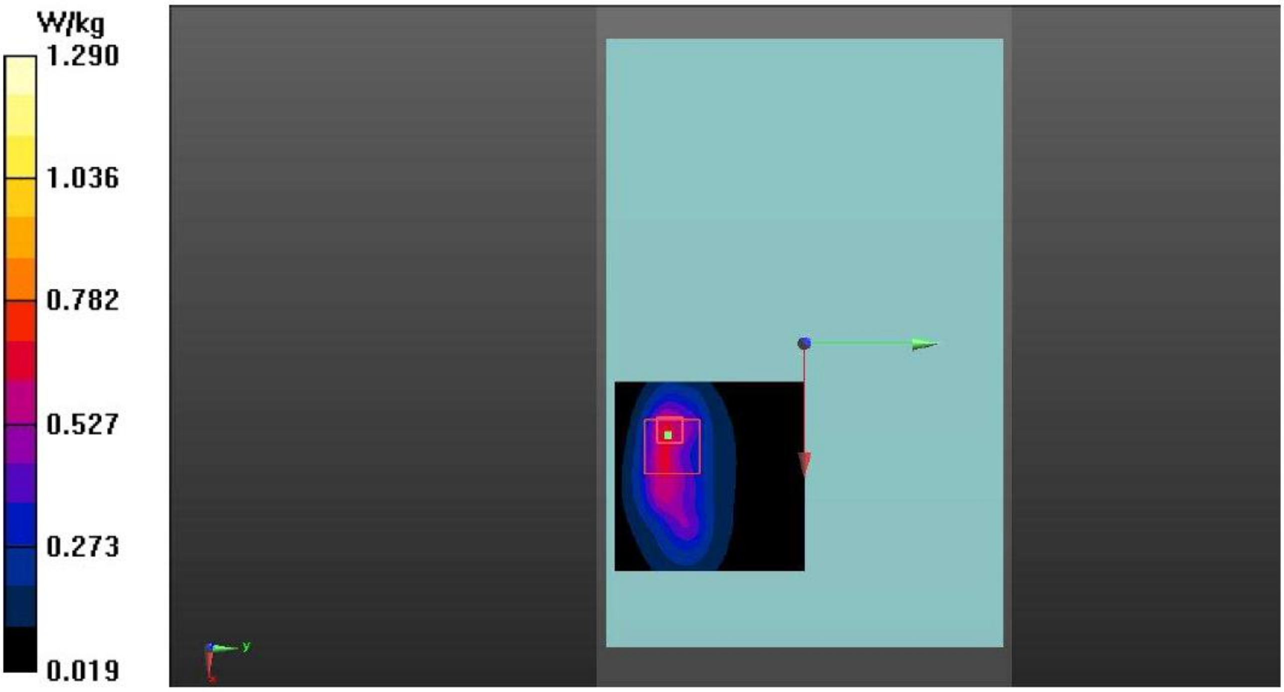
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.44, 10.44, 10.44) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (51x51x1): Measurement grid: dx=1.5mm, dy=1.5mm
Maximum value of SAR (interpolated) = 0.800 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.525 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) =1.95 W/kg

SAR(1 g) = 0.658 W/kg; SAR(10 g) = 0.297 W/kg
Maximum value of SAR (measured) = 1.29 W/kg



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Plot #8: LTE BAND 8_Rear side_0mm_Middle Channel

LTE BAND 20_Rear side_0mm_Middle Channel

Date: 06/09/2023

Communication System: LTE20; Frequency: 847 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 847 MHz; σ = 0.87 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

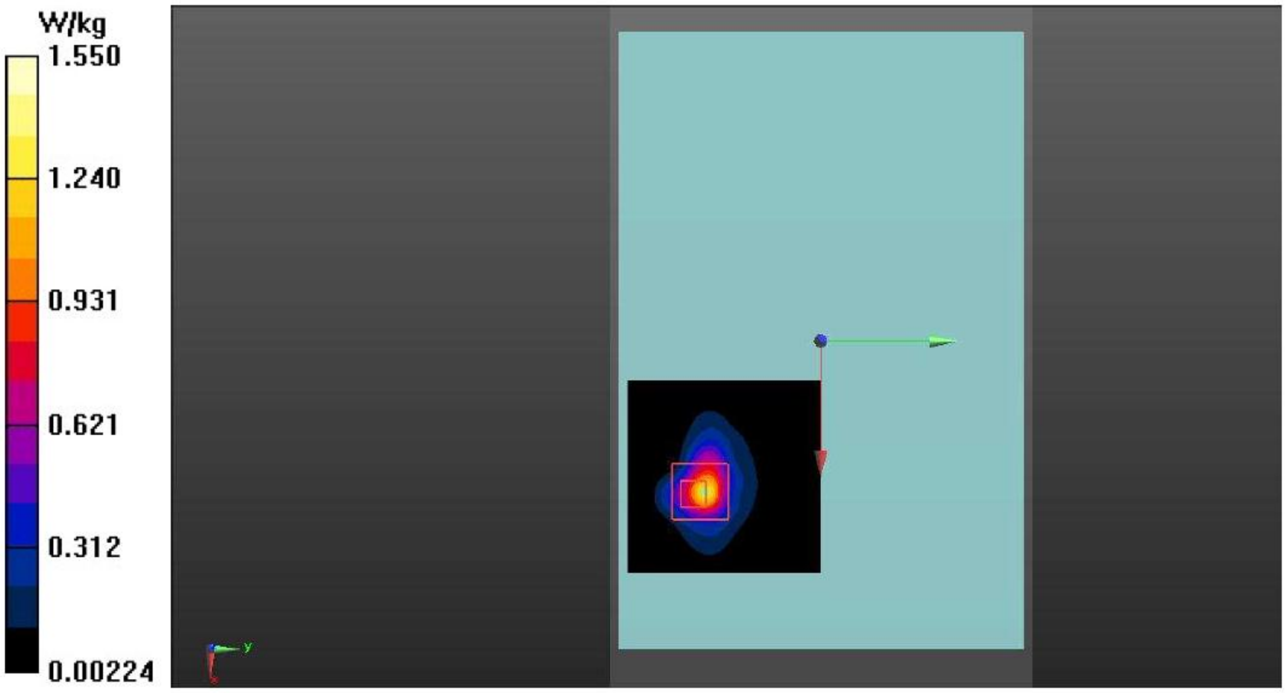
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.44, 10.44, 10.44) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (61x61x1): Measurement grid: dx=1.5mm, dy=1.5mm
Maximum value of SAR (interpolated) = 1.29 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =1.023 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 2.79 W/kg

SAR(1 g) = 0.996 W/kg; SAR(10 g) = 0.351 W/kg
Maximum value of SAR (measured) = 1.55 W/kg



Plot #9: LTE BAND 20_Rear side_0mm_Middle Channel

WLAN2.4G_802.11b_Rear side_0mm_middle Channel

Date: 06/14/2023

Communication System: 802.11; Frequency: 2442 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2442 MHz; σ = 1.82 mho/m; εr = 39.7; ρ = 1000 kg/m3
Phantom section: Flat Section

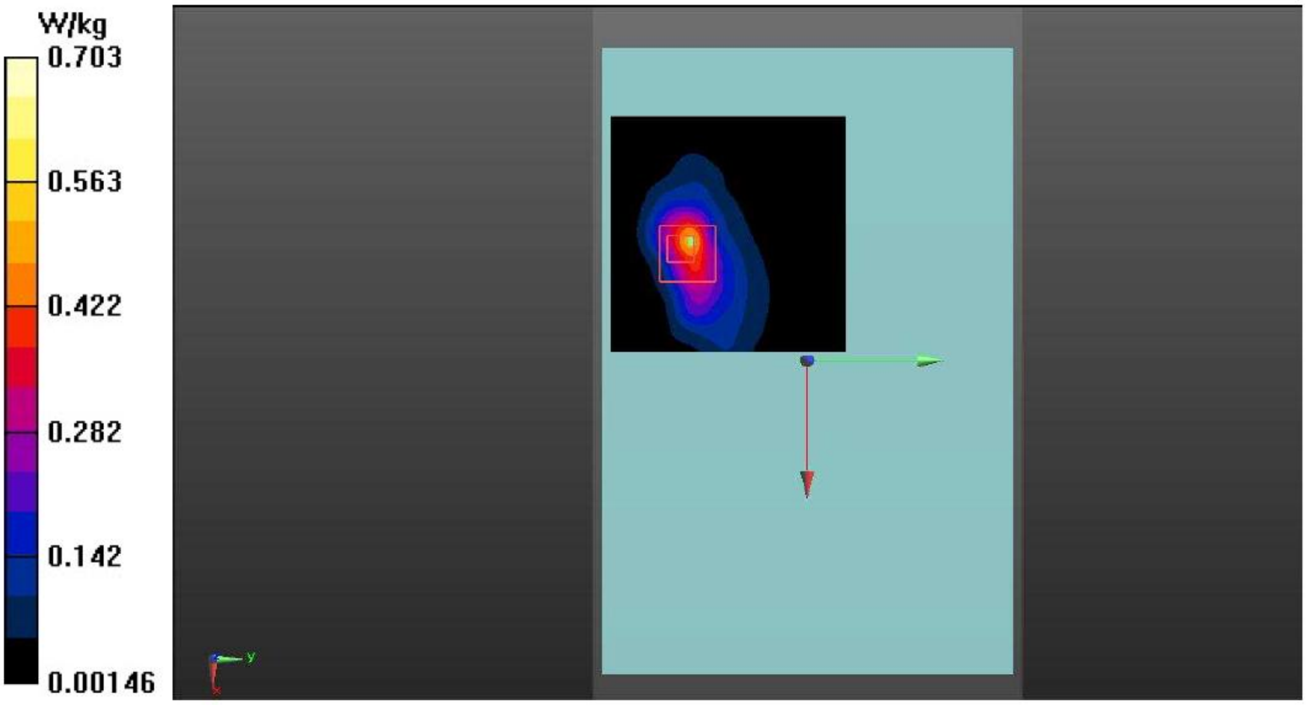
DASY Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.79, 7.79, 7.79) ; Calibrated: 7/4/2022;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 9/15/2022
- Phantom: SAM 1 ; Type: QD 000 P40 CB; Serial: TP - 1438
- Measurement SW: DASY5, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Area Scan (91x91x1): Measurement grid: dx=1.2mm, dy=1.2mm
Maximum value of SAR (interpolated) = 0.493 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.513 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) =1.16 W/kg

SAR(1 g) = 0.431 W/kg; SAR(10 g) = 0.175 W/kg
Maximum value of SAR (measured) = 0.703 W/kg



Plot #10 WLAN2.4G_802.11b_Rear side_0mm_middle Channel

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