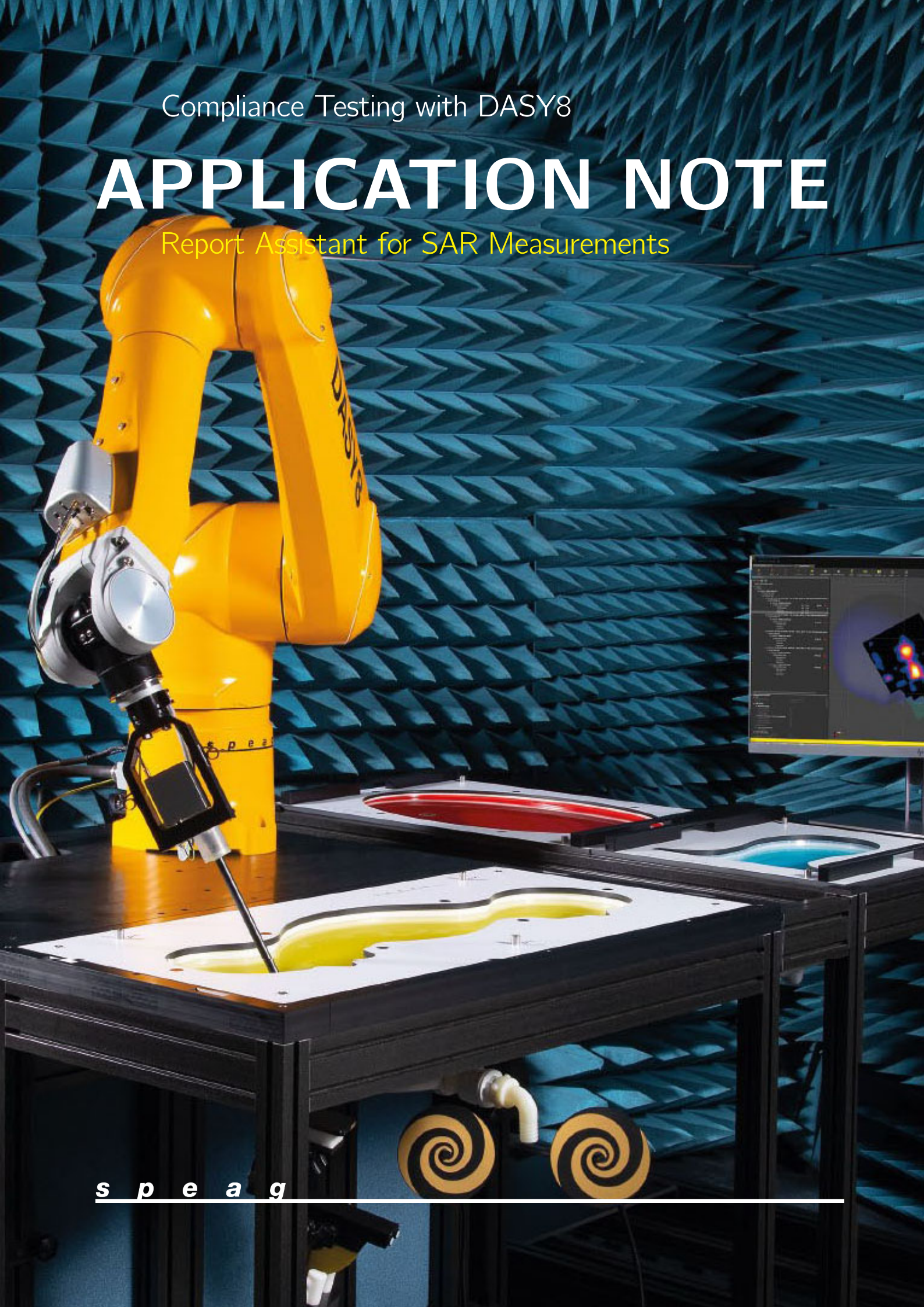
Compliance Testing with DASY8

APPLICATION NOTE

Report Assistant for SAR Measurements



s p e a g

DASY8 Report Assistant

1 Introduction

The preparation of specific absorption rate (SAR) measurement reports – an essential part of the compliance testing workflow – often involves manual export of measurement results and collection of supporting information, and require that the data be formatted into report templates. These repetitive tasks increase the time needed for reporting and can introduce inconsistencies or transcription errors.

To streamline this process, SPEAG provides the DASY8 Report Assistant (DRA), which uses an application programming interface (API) to extract measurement data and metadata directly from DASY8 and generate standardized reports with minimal user intervention. The tool is ready to use out of the box, allowing laboratories to automate report generation without needing to invest in custom software development.

The DRA also demonstrates how the DASY8 API can be used to access measurement data programmatically. Users who require customized report formats, integration with laboratory information management systems (LIMS), quality management systems, or other internal workflows can use the implementation provided as a starting point to develop their own applications.

This application note provides a tutorial on the use of the DRA, including a description of the complete workflow, from preparation of report templates and configuration of the tool to the automated generation of customized reports. In addition, the note provides an overview of how the DASY8 API can be used for automated access to measurement data and metadata.

2 Supported Report Formats and Content

The DRA generates two complementary report types:

- **Word reports** provide detailed documentation of individual SAR measurements. Each report contains the field distribution screenshot together with the corresponding measurement results and test information. These reports are commonly referred to as *plots*.
- **Excel reports** provide a summary of the measurement results in a tabular format for all configurations tested, making it easier to review, compare, and document completed test campaigns.

Together, these reports provide both detailed documentation of individual measurements and a comprehensive overview of an entire test campaign.

Typical Word and Excel reports are shown in Appendix A.

3 Workflow

3.1 Overview

The workflow for generating automated reports is described in this section. First, the DASY8 Module SAR project files to be processed are placed in a folder. Report templates and predefined camera settings typically need to be

configured only once and can then be reused for subsequent measurement campaigns and different devices under test (DUTs). Then, the DASY8 Module SAR software is started after ensuring that the API server is running.

In the Automated Reporting Tool, the folder containing the DASY8 project files is specified and the report template(s) selected. Various report generation settings – such as selection of the scan type to be displayed in the SAR field distribution and enabling or disabling correction of the peak spatial averaged SAR (psSAR) to the Tissue Simulating Liquid (TSL) targets. A comprehensive list of settings is given in Appendix C.

Click the **Generate Reports** button to start the report generation process. For each measurement configuration contained in the selected DASY8 project files, a Word report is generated. Summary tables in the Excel format are also generated if the corresponding option is enabled.

The automated report generation workflow is shown in Figure 1.1.

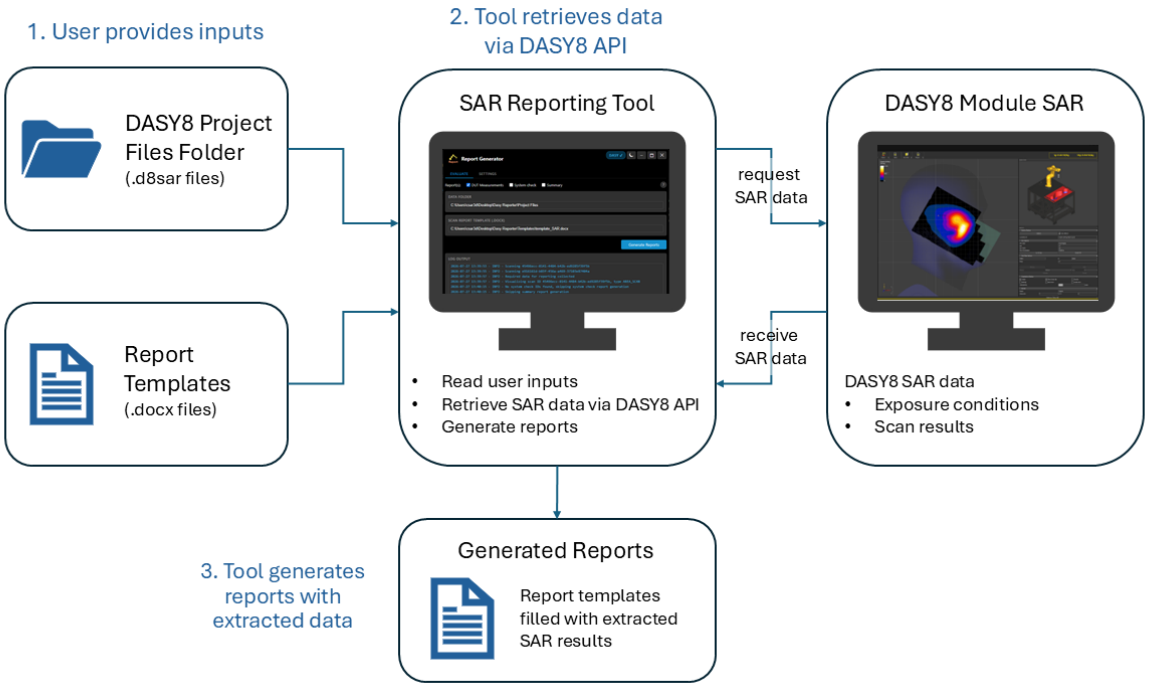


Figure 1.1: The workflow for automated report generation with DASY8 Module SAR API.

3.2 Report Template Preparation

3.2.1 Word Report Templates

Word reports, commonly referred to as *plots*, provide a detailed summary of the measurement results and typically include a screenshot of the SAR distribution.

The report generator makes use of a find-and-replace mechanism based on placeholders. Each placeholder follows the pattern <SOURCE>_<KEY>, where the source identifies the measurement or object from which the data originates, and the key identifies the parameter to be inserted.

Table 1.1 shows a few examples of the placeholders supported.

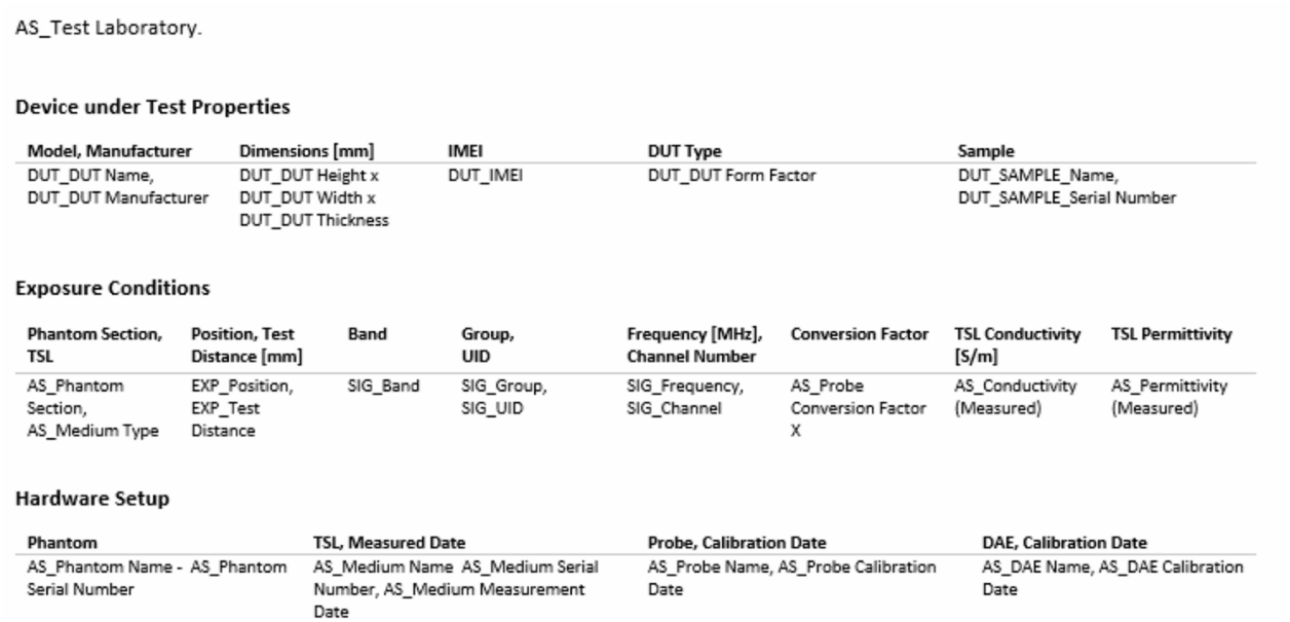
Placeholder	Description
DUT_DUTName	Name of the DUT
DUT_DUTManufacturer	DUT manufacturer
ZS_psSAR1g [W/kg]	$psSAR_{1g}$ for the Zoom Scan
ZS_psSAR10g [W/kg]	$psSAR_{10g}$ for the Zoom Scan
ZS_Frequency	Measurement frequency in MHz

Table 1.1: Examples of supported placeholders.

Placeholders can be inserted anywhere in the Word document. Please refer to Section Appendix B for a complete list of supported sources and keys.

Templates are created by inserting placeholders at the desired locations in the document and saving as a `.docx` format Word file.

Figure 1.2 shows an example of a Word report template.


AS_Test Laboratory.

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type	Sample
DUT_DUT Name, DUT_DUT Manufacturer	DUT_DUT Height x DUT_DUT Width x DUT_DUT Thickness	DUT_IMEI	DUT_DUT Form Factor	DUT_SAMPLE_Name, DUT_SAMPLE_Serial Number

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
AS_Phantom Section, AS_Medium Type	EXP_Position, EXP_Test Distance	SIG_Band	SIG_Group, SIG_UID	SIG_Frequency, SIG_Channel	AS_Probe Conversion Factor X	AS_Conductivity (Measured)	AS_Permittivity (Measured)

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
AS_Phantom Name - AS_Phantom Serial Number	AS_Medium Name AS_Medium Serial Number, AS_Medium Measurement Date	AS_Probe Name, AS_Probe Calibration Date	AS_DAE Name, AS_DAE Calibration Date

Figure 1.2: Example of a Word report template.

3.2.2 Excel Report Templates

Excel reports provide a consolidated summary of the test campaign results in tabular format. Each Excel worksheet contains a single output table. During report generation, the Automated Reporting Tool evaluates the filter criteria defined in the template and exports only the scans that satisfy those criteria.

Each worksheet consists of two sections:

- The **Filter section** determines which scans are exported: filters are defined according to the <KEY> convention. The <KEY> is specified in Column A, and the corresponding expected value is shown in Column B. The mandatory `_type` filter can have one of two values: `DUT` to export DUT measurements or `SPC` to export system performance checks. Additional filters can be used to select specific scans or measurement configurations. If no scan type filter is specified, all available scan types that match the defined criteria are exported.

- The **Data section** determines which parameters are exported: each column header specifies the <KEY> of the parameter to be exported. The corresponding values are extracted from the selected scans and written into the table. During report generation, the DRA appends one row for each scan selected.

In a typical application, the Filter section is used to select a specific scan type (e.g., Zoom Scan), and the Data section defines the result parameters to be included in the report table.

During report generation, the Automated Reporting Tool first evaluates the filters defined in the Filter section and selects the scans matching the specified criteria, then reads the <KEY> values defined in the Data section and fills the corresponding columns for each selected scan. Each exported scan is represented by a single row in the table.

Figure 1.3 shows an example of an Excel report template.

	A	B	C	D	E	F	G	H	I	J
1	Filter									
2	_type	DUT								
3	Phantom Section	LeftHead								
4	Job Type	Zoom Scan								
5										
6	Data									
7	**Group**	**Description**	**Phantom Section**	**Modulation**	**Test Distance**	**Position**	**Channel**	**Frequency**	**psSAR1g [W/kg]**	**psSAR10g [W/kg]**
8										
9										
10										
11										

Figure 1.3: Example of an Excel report template.

4 Camera Settings Definition in DASY8 Module SAR

Word reports typically include a screenshot of the SAR field distribution. To ensure that the viewing perspective of a screenshot is appropriate, the camera settings should be adjusted to fit the phantom used during the measurement.

DASY8 Module SAR allows users to define and save camera settings, including the zoom, orbit, and pan of the 3D view. The DRA automatically searches for a saved camera setting for the name that matches the phantom used for the measurement. When a matching camera setting is found, it is applied before the screenshot is captured, thereby ensuring that all reports generated for a given phantom consistently report the correct viewing perspective. If no matching camera setting is found, the current camera view in DASY8 is applied.

The camera settings need to be configured only once for each phantom. Once a predefined camera file is loaded into DASY8 Module SAR, it is used automatically by the DRA.

Camera settings are saved in DASY8 Module SAR as follows:

1. Log in to DASY8 Module SAR as **Administrator**.
2. Define the desired 3D view for the first phantom section (e.g., *Flat*; see Figure 1.4).
3. In the menu bar, select **3D VIEW** → **Camera Settings** → **Save Current**. In the dialog box, save the camera setting according to the phantom section name (e.g., *Flat*).
4. Repeat Steps 2 and 3 for the remaining phantom sections (e.g., *Left Head*, *Right Head*).
5. In the menu bar, select **3D VIEW** → **Camera Settings** → **Import/Export** and export the camera file to a safe location under **Predefined Cameras**.
6. In the menu bar, select **File** → **Application Preferences** → **Application Settings** and select the exported camera file under **Predefined Cameras**.

7. Restart DASY8 Module SAR and verify that the camera settings have been loaded correctly. The predefined camera settings should appear under **3D VIEW** → **Camera Settings** (see Figure 1.5).

Figure 1.4 shows the camera settings for the Left Head section of a TWIN SAM phantom.

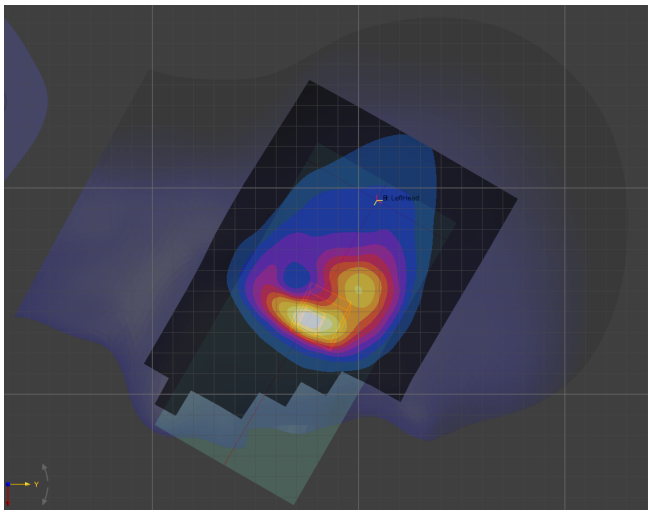


Figure 1.4: Example showing the camera settings for the Left Head section of a TWIN SAM phantom.

Figure 1.5 shows the predefined camera settings loaded when DASY8 Module SAR is started. In this example, three camera settings are defined for the TWIN SAM phantom: Flat, Right Head, and Left Head.

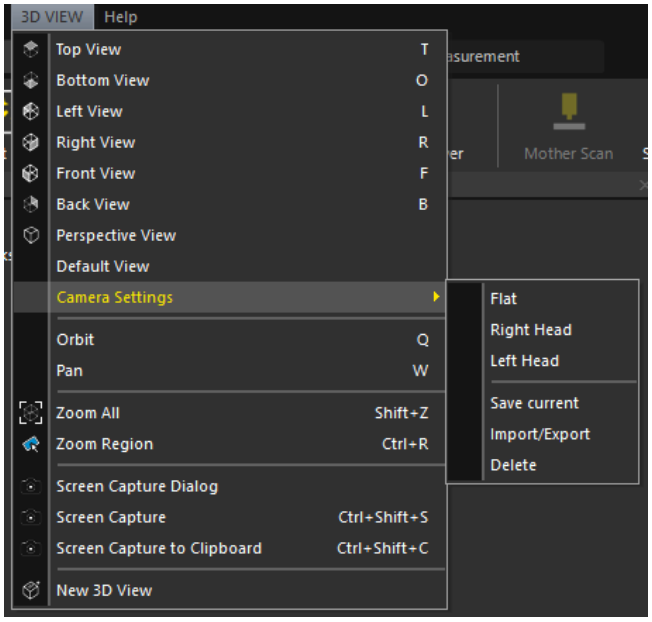


Figure 1.5: Example showing the camera settings when DASY8 Module SAR is started.

5 Report Generation via the DRA

The DRA consists of two tabs:

- The **Evaluate tab** is used to define the DASY8 project file and template locations and to start the report generation process.

- The **Settings tab** is used to configure the settings of the report generation process, e.g., whether power scaling should be applied to the reported SAR data. An exhaustive list of settings is available in Appendix Appendix C.

The DASY icon in the top bar indicates the connection status of the DRA to the DASY8 Module SAR API (see Figure 1.6). Note that DASY8 Module SAR API must first be started before connecting the DRA.

(a) Connected

(b) Not connected

Figure 1.6: Connection status indicator for the DASY8 Module SAR API.

In the Evaluate tab, the user first selects the reports to be generated from the following available options:

- Word reports for DUT measurements
- Word reports for System Performance Checks
- Excel reports in tabular format

A report type is enabled by selecting the corresponding checkbox.

The user then selects the folder containing the DASY8 Module SAR project files to be processed and the template file to be used for each report type.

The report generation process starts when the **Generate Reports** button is clicked and proceeds as follows:

- The tool successively opens all DASY8 Module SAR project files located in the user-specified folder.
- For each project file, the tool creates a subfolder with the same name as the project file, and the Word reports generated are saved in this subfolder, whereas the Excel summary report is saved in the root of the user-specified folder.
- The tool processes each measurement group contained in the current project file.
- A Word report is generated for each measurement group with a name that does not contain the keyword `exclude`. If a measurement group includes multiple scans of the same type, the first scan with a name does not contain the keyword `exclude` is used.

The keyword `exclude` can therefore be used to prevent specific measurement groups or scans from being included in the reports generated.

6 Summary

In this application note, we present the workflow for the use of the DRA for DASY8 Module SAR to automatically generate SAR reports. We describe the preparation of Word and Excel report templates, the configuration of predefined camera settings, the preparation of DASY8 project files, and the report generation process.

Adoption of the DRA enables laboratories to significantly reduce the effort required to produce customized SAR reports while minimizing the risk of manual transcription errors. The reports generated with the DRA provide consistent presentation of measurement results and can be readily incorporated into compliance test documentation processes.

In addition to serving as a ready-to-use reporting solution, the DRA demonstrates the capabilities of the DASY8 API for automated access to measurement data. Users with specific reporting or workflow requirements can apply the implementation provided as a starting point for development of customized applications based on the DASY8 API.

Appendix A Examples of Typical Reports

Ally Pally.

Device under Test Properties

Model, Manufacturer	Dimensions [mm]	IMEI	DUT Type	Sample
sPhone, SPEAG	155 x 73 x 9	494904	Phone	LTE Sample, 1234

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Left Head, Head Simulating Liquid	CHEEK, 5.00	Band 1	LTE-FDD, 10169	1950.000, 18300	7.89	1.38	39.149

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
Twin-SAM V8.0 (30deg probe tilt) - 2068	HBBL600-1000V6, Batch 260104, 2026-Aug-28	EX3DV4 - SN3645, 2024-12-20	DAE4ip Sn1339, 2024-10-15

Scan Setup

	Area Scan	Zoom Scan
Grid Extents [mm]	120 x 210	34.2 x 34.2 x 31.2
Grid Steps [mm]	15 x 15	5.7 x 5.7 x 1.5
Sensor Surface [mm]	3	1.4
Graded Grid	N/A	Y
Grading Ratio	N/A	1.5
MAIA	N/A	N/A
Surface Detection	VMS + 6p	All points
Scan Method	Measured	Measured

Measurement Results

	Area Scan	Zoom Scan
Date	2026-08-28, 19:57	2026-08-28, 20:12
psSAR1g [W/kg]	0.921	1.09
psSAR10g [W/kg]	0.498	0.576
Power Drift [dB]	0.01	-0.02
Power Scaling	Off	Off
Scaling Factor [dB]	0.50	0.50
TSL Correction	Disabled	Disabled
M2/M1 [%]		85.0
Dist 3dB Peak [mm]		7.3

Warning(s) / Error(s)

Details	Area Scan	Zoom Scan
Warning(s)		
Error(s)		

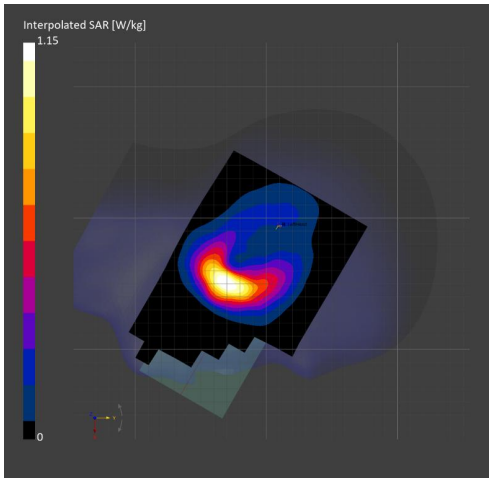
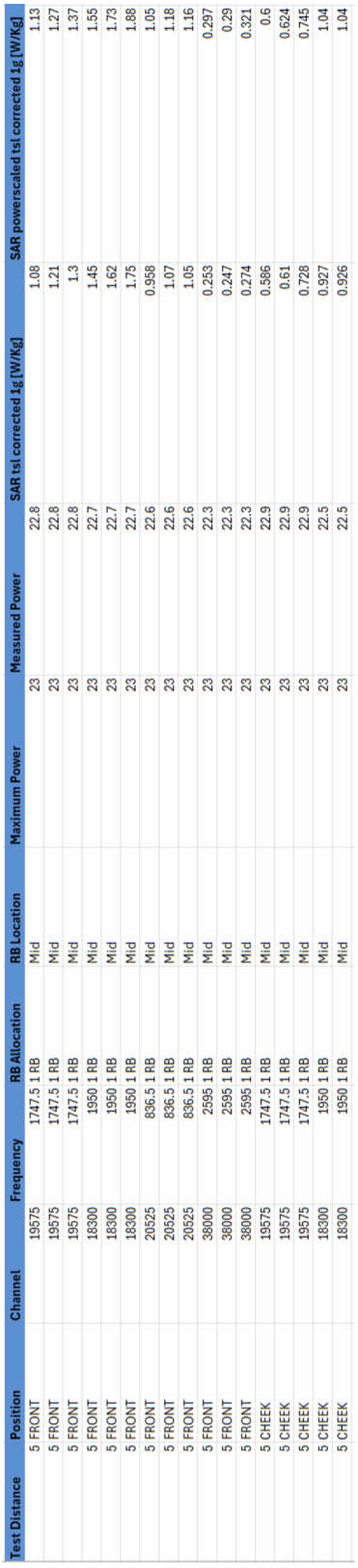


Figure 7: Example of a typical Word report.



Test Distance	Position	Channel	Frequency	RB Allocation	RB Location	Maximum Power	Measured Power	SAR tsl corrected 1g [W/Kg]	SAR powerscaled tsl corrected 1g [W/Kg]
	5 FRONT	19575	1747.5	1 RB	Mid		23	22.8	1.08
	5 FRONT	19575	1747.5	1 RB	Mid		23	22.8	1.21
	5 FRONT	19575	1747.5	1 RB	Mid		23	22.8	1.3
	5 FRONT	18300	1950	1 RB	Mid		23	22.7	1.45
	5 FRONT	18300	1950	1 RB	Mid		23	22.7	1.62
	5 FRONT	18300	1950	1 RB	Mid		23	22.7	1.75
	5 FRONT	20525	836.5	1 RB	Mid		23	22.6	0.958
	5 FRONT	20525	836.5	1 RB	Mid		23	22.6	1.07
	5 FRONT	20525	836.5	1 RB	Mid		23	22.6	1.05
	5 FRONT	38000	2595	1 RB	Mid		23	22.3	0.253
	5 FRONT	38000	2595	1 RB	Mid		23	22.3	0.247
	5 FRONT	38000	2595	1 RB	Mid		23	22.3	0.274
	5 CHEEK	19575	1747.5	1 RB	Mid		23	22.9	0.586
	5 CHEEK	19575	1747.5	1 RB	Mid		23	22.9	0.61
	5 CHEEK	19575	1747.5	1 RB	Mid		23	22.9	0.728
	5 CHEEK	18300	1950	1 RB	Mid		23	22.5	0.927
	5 CHEEK	18300	1950	1 RB	Mid		23	22.5	0.926

	5 FRONT	19575	1747.5	1 RB	Mid		23	22.8	1.13
	5 FRONT	19575	1747.5	1 RB	Mid		23	22.8	1.27
	5 FRONT	19575	1747.5	1 RB	Mid		23	22.8	1.37
	5 FRONT	18300	1950	1 RB	Mid		23	22.7	1.55
	5 FRONT	18300	1950	1 RB	Mid		23	22.7	1.73
	5 FRONT	18300	1950	1 RB	Mid		23	22.7	1.88
	5 FRONT	20525	836.5	1 RB	Mid		23	22.6	1.05
	5 FRONT	20525	836.5	1 RB	Mid		23	22.6	1.18
	5 FRONT	20525	836.5	1 RB	Mid		23	22.6	1.16
	5 FRONT	38000	2595	1 RB	Mid		23	22.3	0.297
	5 FRONT	38000	2595	1 RB	Mid		23	22.3	0.29
	5 FRONT	38000	2595	1 RB	Mid		23	22.3	0.321
	5 CHEEK	19575	1747.5	1 RB	Mid		23	22.9	0.6
	5 CHEEK	19575	1747.5	1 RB	Mid		23	22.9	0.624
	5 CHEEK	19575	1747.5	1 RB	Mid		23	22.9	0.745
	5 CHEEK	18300	1950	1 RB	Mid		23	22.5	1.04
	5 CHEEK	18300	1950	1 RB	Mid		23	22.5	1.04

Figure 8: Example of a typical Excel report.

Appendix B Supported Placeholders

This appendix is a reference listing the placeholder keys supported by the DRA. Placeholders are used in report templates to define the data fields that should be inserted during report generation.

Each placeholder follows the naming convention:

<SOURCE>_<KEY>

where <SOURCE> identifies the origin of the data and <KEY> identifies the parameter to be exported. For some data categories, the key may contain additional information to further specify the requested parameter.

The source prefix identifies the origin of the data. The following prefixes are currently supported:

- FA: Fast Area Scan
- AS: Area Scan
- ZS: Zoom Scan
- DUT: DUT and sample information
- EXP: Exposure conditions
- SIG: Signal properties

The tables in Appendix B list the supported keys and indicate the scan types or data sources for which each key is available. A checkmark indicates that the key can be used with the corresponding source.

Appendix B.1 Grid Settings

Key	Description	FA	AS	ZS
Grid Extent				
Grid Extent X [mm]	Grid extent in the X direction.	✓	✓	✓
Grid Extent Y [mm]	Grid extent in the Y direction.	✓	✓	✓
Grid Extent Z [mm]	Grid extent in the Z direction.			✓
Grid Extent [mm]	Overall grid extent.	✓	✓	✓
Effective Grid Extent X [mm]	Effective grid extent in the X direction.	✓	✓	✓
Effective Grid Extent Y [mm]	Effective grid extent in the Y direction.	✓	✓	✓
Effective Grid Extent Z [mm]	Effective grid extent in the Z direction.			✓
Effective Grid Extent [mm]	Overall effective grid extent.	✓	✓	✓
Grid Step				
Grid Step X [mm]	Grid spacing in the X direction.	✓	✓	✓
Grid Step Y [mm]	Grid spacing in the Y direction.	✓	✓	✓
Grid Step Z [mm]	Grid spacing in the Z direction.			✓
Initial Grid Grading Ratio Z	Grid grading ratio in the Z direction.			✓
Grid Graded Z	Indicates whether the Z direction is graded.			✓
Grid Step [mm]	Overall grid step.	✓	✓	✓
Effective Grid Step X [mm]	Effective grid spacing in the X direction.	✓	✓	✓
Effective Grid Step Y [mm]	Effective grid spacing in the Y direction.	✓	✓	✓
Effective Grid Step Z [mm]	Effective grid spacing in the Z direction.			✓
Grid Grading Ratio Z	Effective Grid grading ratio in the Z direction.			✓
Effective Grid Step [mm]	Overall effective grid step.	✓	✓	✓
Grid Offset				
Grid Offset X [mm]	Grid offset in the X direction.	✓	✓	✓
Grid Offset Y [mm]	Grid offset in the Y direction.	✓	✓	✓
Grid Offset [mm]	Overall grid offset.	✓	✓	✓
DUT Position				
DUT Offset X [mm]	DUT offset in the X direction.	✓	✓	✓
DUT Offset Y [mm]	DUT offset in the Y direction.	✓	✓	✓
DUT Rotation [degree]	DUT rotation angle.	✓	✓	✓

Table 2: Grid setting placeholder keys.

Appendix B.2 Hardware Setup

Key	Description	FA	AS	ZS
Probe				
Probe Name	Name of the probe used for the measurement.	✓	✓	✓
Probe Type	Type of the probe used for the measurement.	✓	✓	✓
Probe Serial Number	Serial number of the probe.	✓	✓	✓
Probe Calibration Date	Calibration date of the probe.	✓	✓	✓
Probe Conversion Factor X	Probe conversion factor in the X direction.	✓	✓	✓
Probe Conversion Factor Y	Probe conversion factor in the Y direction.	✓	✓	✓
Probe Conversion Factor Z	Probe conversion factor in the Z direction.	✓	✓	✓
DAE				
DAE Name	Name of the DAE.	✓	✓	✓
DAE Type	Type of the DAE.	✓	✓	✓
DAE Serial Number	Serial number of the DAE.	✓	✓	✓
DAE Calibration Date	Calibration date of the DAE.	✓	✓	✓
Phantom				
Phantom Name	Name of the phantom.	✓	✓	✓
Phantom Type	Type of the phantom.	✓	✓	✓
Phantom Serial Number	Serial number of the phantom.	✓	✓	✓
Medium				
Medium Name	Name of the medium.	✓	✓	✓
Medium Type	Type of the medium.	✓	✓	✓
Medium Serial Number	Serial number of the measurement medium.	✓	✓	✓
Medium Measurement Date	Measurement date of the medium.	✓	✓	✓
Conductivity (Measured)	Measured conductivity of the medium.	✓	✓	✓
Permittivity (Measured)	Measured permittivity of the medium.	✓	✓	✓

Table 3: Hardware setup placeholder keys.

Appendix B.3 DUT Properties

Key	Description	Source
DUT Manufacturer	Manufacturer of the DUT.	DUT
DUT Name	Name of the DUT.	DUT
DUT Height	DUT height.	DUT
DUT Width	DUT width.	DUT
DUT Thickness	DUT thickness.	DUT
DUT Speaker Position	DUT Speaker Position.	DUT
DUT Form Factor	Form factor of the DUT.	DUT
Sample Information		
SAMPLE_IMEI	IMEI of the DUT sample.	DUT
SAMPLE_Name	Name of the DUT sample.	DUT
SAMPLE_Serial Number	Serial number of the DUT sample.	DUT
SAMPLE_Software Version	Software version of the DUT sample.	DUT
SAMPLE_Notes	Notes associated with the DUT sample.	DUT

Table 4: DUT property placeholder keys.

Appendix B.4 Exposure Conditions

Key	Description	Source
Phantom	Phantom Section used for the measurement.	EXP
Position	DUT position used for the measurement.	EXP
Test Distance	Test distance used for the measurement.	EXP

Table 5: Exposure conditions property keys.

In addition to the predefined placeholders listed above, the EXP source supports user-defined exposure condition categories. Any user-defined exposure condition category defined in the DASY8 project can be included in a report by constructing a placeholder in the form EXP_<Category Name>, where <Category Name> exactly matches the name of the exposure condition category.

Appendix B.5 Signal Properties

The SIG source provides access to signal properties, with the following placeholders available for all signal technologies supported.

Key	Description	Source
Group	Signal technology or group.	SIG
Band	Signal band name.	SIG
Band UID	Unique identifier of the signal band.	SIG
Channel	Channel number.	SIG
Frequency [MHz]	Signal frequency in MHz.	SIG
Description	Signal name or description.	SIG
UID	Unique identifier of the signal.	SIG
PAR [dB]	Peak-to-average power ratio (PAR).	SIG
Period [s]	Signal period in seconds.	SIG
Duty Cycle [%]	Signal duty cycle.	SIG
Bandwidth [MHz]	Signal bandwidth in MHz.	SIG
Modulation	Modulation scheme.	SIG

Table 6: Common signal property keys.

Appendix B.5.1 GSM

Key	Description	Source
Nb Active Slots	Number of active slots.	SIG
Mode	GSM operating mode.	SIG

Table 7: GSM signal property keys.

Appendix B.5.2 UMTS-FDD/TDD

Key	Description	Source
Mode	UMTS-FDD/TDD operating mode.	SIG

Table 8: UMTS-FDD/TDD signal property keys.

Appendix B.5.3 LTE-FDD

Key	Description	Source
Nb Allocated RBs	Number of allocated resource blocks.	SIG
Nb Max RBs	Maximum number of resource blocks.	SIG
RB Allocation	Resource block allocation.	SIG

Table 9: LTE-FDD signal property keys.

Appendix B.5.4 CDMA2000

Key	Description	Source
Mode	CDMA2000 operating mode.	SIG
Evolution	CDMA2000 evolution.	SIG

Table 10: CDMA2000 signal property keys.

Appendix B.5.5 WiMAX

Key	Description	Source
Nb Traffic Symbols	Number of traffic symbols.	SIG
Downlink Uplink Ratio	Downlink-to-uplink ratio.	SIG
Frame Size	Frame size.	SIG
Uplink Zone Type	Uplink zone type.	SIG

Table 11: WiMAX signal property keys.

Appendix B.5.6 LTE-TDD

Key	Description	Source
Nb Allocated RBs	Number of allocated resource blocks.	SIG
Nb Max RBs	Maximum number of resource blocks.	SIG
RB Allocation	Resource block allocation.	SIG
Uplink Downlink Configuration	Uplink/downlink configuration.	SIG
Subframe Configuration	Subframe configuration.	SIG

Table 12: LTE-TDD signal property keys.

Appendix B.5.7 NR FR1 FDD/TDD

Key	Description	Source
Nb Allocated RBs	Number of allocated resource blocks.	SIG
Nb Max RBs	Maximum number of resource blocks.	SIG
RB Allocation	Resource block allocation.	SIG
OFDM Version	OFDM version.	SIG
SCS [kHz]	Subcarrier spacing in kHz.	SIG

Table 13: NR FR1 FDD/TDD signal property keys.

Appendix B.5.8 Bluetooth

Key	Description	Source
Mode	Bluetooth operating mode.	SIG
Packet Type	Bluetooth packet type.	SIG

Table 14: Bluetooth signal property keys.

Appendix B.5.9 WiFi 802.11b/g/a

Key	Description	Source
Bitrate [Mbps]	Signal bitrate in Mbps.	SIG
Transmission	Transmission mode.	SIG
Standard	WiFi standard.	SIG

Table 15: WiFi 802.11b/g/a signal property keys.

Appendix B.5.10 WiFi 802.11n/ac/ax/be

Key	Description	Source
Bitrate [Mbps]	Signal bitrate in Mbps.	SIG
Transmission	Transmission mode.	SIG
Standard	WiFi standard.	SIG
Modulation Coding Scheme	Modulation and coding scheme.	SIG

Table 16: WiFi 802.11n/ac/ax/be signal property keys.

Appendix B.5.11 ULLA

Key	Description	Source
Mode	ULLA operating mode.	SIG

Table 17: ULLA signal property keys.

Appendix B.5.12 DECT

Key	Description	Source
Nb Active Slots	Number of active slots.	SIG
Mode	DECT operating mode.	SIG

Table 18: DECT signal property keys.

Appendix B.6 SAR Results

Key	Description	FA	AS	ZS
Scan Information				
Anchor scan name	Name of the anchor scan.		✓	✓
Anchor scan uuid	UUID of the anchor scan.		✓	✓
Evaluation Application Version	DASY8 SW version used for post processing.	✓	✓	✓
Measurement Application Version	DASY8 SW version used for measurement.	✓	✓	✓
Information	Additional information associated to the scan.	✓	✓	✓
Warnings	Warning(s) associated to the scan.	✓	✓	✓
Errors	Error(s) associated to the scan.	✓	✓	✓
Job Name	Scan name.	✓	✓	✓
Job Type	Scan type (Area Scan, ...).	✓	✓	✓
Measurement Date	Date and time of the measurement.	✓	✓	✓
Measurement Date No Time	Measurement date without time information.	✓	✓	✓
Measurement Distance [mm]	Measurement distance in mm.	✓	✓	✓
Measurement Group GUID	UUID of the measurement group.	✓	✓	✓
Measurement Group Name	Name of the measurement group.	✓	✓	✓
Measurement GUID	UUID of the scan.	✓	✓	✓
Test Laboratory	Name of the test laboratory.	✓	✓	✓
Surface Detection	Surface detection method used.	✓	✓	✓
Power Reference				
Power Drift [dB]	Power drift in dB.		✓	✓
Power Drift including anchor scan [dB]	Power drift including the anchor scan in dB.			✓
PowerReferenceBegin	Power reference at the beginning of the measurement.		✓	✓
PowerReferenceEnd	Power reference at the end of the measurement.		✓	✓
Power Scaling / Tissue Simulating Liquid (TSL) Correction				
Maximum Power	Maximum power (Conducted).	✓	✓	✓
Measured Power	Measured power (Conducted).	✓	✓	✓
Power Scaling Enabled	Indicates whether power scaling is enabled.	✓	✓	✓
Pwr Scaling [dB]	Computed power scaling in dB.	✓	✓	✓
TSL Correction	TSL correction information or status.	✓	✓	✓
SAR and APD Results				
pAPD [W/m2]	Peak power density in W/m^2.			✓
psAPD1cm2 [W/m2]	Peak spatial-average power density over 1 cm^2.			✓
psAPD4cm2 [W/m2]	Peak spatial-average power density over 4 cm^2.			✓
pSAR [W/Kg]	Peak SAR.			✓
pSAR location	Location of the peak SAR.			✓
psSAR1g [W/Kg]	Peak spatial-average SAR averaged over 1g.	✓	✓	✓
psSAR1g location	Location of the $psSAR_{1g}$.		✓	✓
psSAR8g [W/Kg]	Peak spatial-average SAR averaged over 8g.	✓	✓	✓
psSAR8g location	Location of the $psSAR_{8g}$.		✓	✓
psSAR10g [W/Kg]	Peak spatial-average SAR averaged over 10g.	✓	✓	✓
psSAR10g location	Location of the $psSAR_{10g}$.		✓	✓
SAR measured 1g [W/Kg]	$psSAR_{1g}$ without any correction.	✓	✓	✓
SAR measured 8g [W/Kg]	$psSAR_{8g}$ without any correction.	✓	✓	✓
SAR measured 10g [W/Kg]	$psSAR_{10g}$ without any correction.	✓	✓	✓

Key	Description	FA	AS	ZS
SAR powerscaled 1g [W/Kg]	$psSAR_{1g}$ with power scaling.	✓	✓	✓
SAR powerscaled 8g [W/Kg]	$psSAR_{8g}$ with power scaling.	✓	✓	✓
SAR powerscaled 10g [W/Kg]	$psSAR_{10g}$ with power scaling.	✓	✓	✓
SAR tsl corrected 1g [W/Kg]	$psSAR_{1g}$ with TSL correction.	✓	✓	✓
SAR tsl corrected 8g [W/Kg]	$psSAR_{8g}$ with TSL correction.	✓	✓	✓
SAR tsl corrected 10g [W/Kg]	$psSAR_{10g}$ with TSL correction.	✓	✓	✓
SAR powerscaled tsl pos corrected 1g [W/Kg]	$psSAR_{1g}$ with power scaling / positive TSL correction.	✓	✓	✓
SAR powerscaled tsl pos corrected 8g [W/Kg]	$psSAR_{8g}$ with power scaling / positive TSL correction.	✓	✓	✓
SAR powerscaled tsl pos corrected 10g [W/Kg]	$psSAR_{10g}$ with power scaling / positive TSL correction.	✓	✓	✓
SAR powerscaled tsl corrected 1g [W/Kg]	$psSAR_{1g}$ with power scaling / TSL correction.	✓	✓	✓
SAR powerscaled tsl corrected 8g [W/Kg]	$psSAR_{8g}$ with power scaling / TSL correction.	✓	✓	✓
SAR powerscaled tsl corrected 10g [W/Kg]	$psSAR_{10g}$ with power scaling / TSL correction.	✓	✓	✓
SAR tsl pos corrected 1g [W/Kg]	$psSAR_{1g}$ with positive TSL correction.	✓	✓	✓
SAR tsl pos corrected 8g [W/Kg]	$psSAR_{8g}$ with positive TSL correction.	✓	✓	✓
SAR tsl pos corrected 10g [W/Kg]	$psSAR_{10g}$ with positive TSL correction.	✓	✓	✓
M2/M1 [%]	M2/M1 ratio in percent.			✓
MAIA	MAIA information.		✓	✓
Min 3dB Dist [mm]	3 dB SAR radius in mm.			✓

Table 19: Measurement and evaluation keys.

Appendix B.7 System Performance Checks

Key	Description	Source
Dipole Name	Name of the dipole.	SPC
Target 1g [W/Kg/W]	$psSAR_{1g}$ target	SPC
Target 8g [W/Kg/W]	$psSAR_{8g}$ target	SPC
Target 10g [W/Kg/W]	$psSAR_{10g}$ target	SPC
Target Peak +/- 20 mm [W/Kg/W]	pSAR 20 mm offset target	SPC
Target Peak [W/Kg/W]	pSAR offset target	SPC
Dev. 1g	$psSAR_{1g}$ deviation in percent	SPC
Dev. 8g	$psSAR_{8g}$ deviation in percent	SPC
Dev. 10g	$psSAR_{10g}$ deviation in percent	SPC
Dev. Isotropy	Isotropy error in percent	SPC
Dev. Peak 20 mm	pSAR 20 mm offset deviation in percent	SPC
Dev. Peak	pSAR deviation in percent	SPC

Table 20: System performance check property keys.

Appendix C DRA Settings

The settings available in the Automated Reporting Tool and the impact of each setting on the report generation process, together with descriptions and applicability of the settings, are summarized in Table 21.

Category	**Setting**	**Description**	**Applies to**
3D View Screenshots	Keep field PNGs	When enabled, screenshots of the 3D view are saved as standalone image files in the report output folder.	All scans
	Use camera position	When enabled, the predefined camera setting is applied before capturing screenshots for Word reports (see Section 4).	All scans
Corrections	Power Scaling	When enabled, the reported psSAR values are scaled according to the power scaling factors defined in the DASY8 project file. Selection of the *Default* option preserves the current power scaling state stored in the project file.	All scans
	SAR TSL Correction	When enabled, the reported psSAR values are corrected to the nominal TSL values.	All scans
Visualization	Scan selection	Selects which scan field distribution is included in the SAR distribution screenshot.	All scans
Viewer Settings	Viewer scalar	Defines the quantity displayed in the 3D viewer.	All scans
	Viewer transparency	Defines the transparency level of the field displayed.	All scans
	Slice view	Defines the visualization mode (e.g., slice, volume, or surface).	Zoom Scans
	Slice plane	Defines the plane used for the slice view.	Zoom Scans
	Use slice maximum	Moves the slice plane to the location of the maximum field value.	Zoom Scans

Table 21: Automated Reporting Tool settings.

Acronyms

API application programming interface. i, vi

DRA DASY8 Report Assistant. i–xxi

DUT Device Under Test. x, xiii

psSAR peak spatial averaged SAR. ii, xxi

psSAR$_{10g}$ peak spatial SAR averaged over 10 g of tissue. iii, xviii–xx

psSAR$_{1g}$ peak spatial SAR averaged over 1 g of tissue. iii, xviii–xx

psSAR$_{8g}$ peak spatial SAR averaged over 8 g of tissue. xviii–xx

SAR specific absorption rate. i, ii, iv, vi, xxi

TSL Tissue Simulating Liquid. ii, xviii, xix, xxi