

FCC SAR Compliance Test Report

For

ORAIMO TECHNOLOGY LIMITED

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET

FOTAN NT HONGKONG

Model: OTW-631

Test Engineer: Jiang Xuling

Report Number: WSCT-ANAB-R&E251200093A-SAR

Report Date: 03 February 2026

FCC ID: 2AXYP-OTW-631-LR

Check By: Wang Xiaoling

Approved By: Li Huaibi

World Standardization Certification & Testing Group
(Shenzhen) Co., Ltd.

Prepared By: Building A-B, Baoli'an Industrial Park, No. 58 and
60, Tangtou Avenue, Shiyuan Street, Bao'an District,
Shenzhen City, Guangdong Province, China
Tel: +86-755-26996192
Fax: +86-755-86376605

Table of contents

1	General information	4
1.1	Notes	4
1.2	Application details	4
1.3	Statement of Compliance	5
1.4	EUT Information	6
2	Testing laboratory	7
3	ACCREDITATIONS	7
4	Test Environment	7
5	Applicant and Manufacturer	7
6	Test standards:	8
6.1	RF exposure limits	9
6.2	SAR Definition	9
7	SAR Measurement System	10
7.1	The Measurement System	10
7.2	Robot	11
7.3	Probe	12
7.4	DAE	13
7.5	Phantom	14
7.6	Device Holder	15
7.7	SAR Scan General Requirement	16
7.8	Measurement procedure	17
7.9	Tissue simulating liquids: dielectric properties	18
7.10	Tissue simulating liquids: parameters	19
8	System Check	20
8.1	System check procedure	20
8.2	System check results	21

9	Detailed Test Results.....	22
9.1	Conducted Power measurements.....	22
9.2	Tune-up powertolerance	23
10	SAR test results	24
10.1	Results overview of BT	25
11	Simultaneous Transmission SAR Summation Scenario	26
12	Measurement uncertainty evaluation for SAR test	27
12.1	Measurement uncertainty evaluation for system check.....	34
13	Test equipment and ancillaries used for tests	35
Annex A:	System Check	36
Annex B:	Measurement Results	36
Annex C:	Calibration Reports	36
Annex D:	Test setup photos.....	36

WSCT Modified History

REV.	Modification Description	Issued Date	Remark
REV.1.0	Initial Test Report Release	03 February 2026	Li Huaibi

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in this test report. QTC Certification & Testing Co., Ltd. does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report is not to be reproduced or published in full without the prior written permission.

1.2 Application details

Date of receipt of test item: 2026-01-20

Start of test: 2026-01-20

End of test: 2026-01-30

1.3 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for OTW-631 is as below:

Band	Position	MAX ReportedSAR _{1g} (W/kg)	Limit (W/kg)
BT	Head	0.185	1.6
BT	Position 2 Body- 0mm	0.543	
Test Result	Pass		

The device is in compliance with Specific Absorption Rate SAR for general population/uncontrolled exposure limits of 1.6 W/Kg as averaged over any 1g tissue according to the FCC rule the ANSI/IEEE C95.1:2005, the NCRP Report Number 86 for uncontrolled environment, according to the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure, and had been tested in accordance with the measurement methods and procedures specified in IEC/IEEE 62209-1528.

1.4 EUT Information

Device Information:	
Product Type:	True Wireless Earbuds
Model:	OTW-631
Trade Mark:	oraimo
Software Version:	V0
Hardware Version:	V1.3.0
Channel Separation:	BT:1MHz BLE:2MHz
Antenna Type:	PIFA
Antenna Gain:	-0.12dBi
Device Type:	Portable device
Exposure Category:	uncontrolled environment / general population
Production Unit or Identical Prototype:	Production Unit
Device Operating Configurations:	
Supporting Mode(s) :	BT
Modulation:	GFSK, $\pi/4$ -DQPSK, 8-DPSK
Operating Frequency Range(s):	2402MHz~2480MHz
Operating Voltage:	Rechargeable Li-ion Polymer Battery: CH1254AA 3.85V 76mAh 0.2926Wh Charging Box: ZWD14280PV 3.8V 650mAh 2.47Wh

Note: The test results of this test report relate exclusively to the test item specified in this test report. World Standardization Certification & Testing Group (Shenzhen) Co.,Ltd does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report is not to be reproduced or published in full without the prior written permission.

2 Testing laboratory

Test Site	World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.
Laboratory:	Building A-B, Baoli'an Industrial Park, No.58 and 60, Tangtuo Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China
TEL:	+86-755-26996192
FAX:	+86-755-86376605

3 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:2017.

USA	ANAB (Certificate Number: AT-3951)
China	CNAS (Registration Number: L3732)
Canada	ISED (CAB identifier: CN0178)

Copies of granted accreditation certificates are available for downloading from our web site, <http://www.wsct-cert.com>

4 Test Environment

	Required	Actual
Ambient temperature:	18 – 25 °C	22 ± 2 °C
Tissue Simulating liquid:	22 ± 2 °C	22 ± 2 °C
Relative humidity content:	30 – 70 %	30 – 70 %

5 Applicant and Manufacturer

Applicant/Client Name:	ORAIMO TECHNOLOGY LIMITED
Applicant Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG
Manufacturer Name:	ORAIMO TECHNOLOGY LIMITED
Manufacturer Address:	FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

6 Test standards:

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	IEC/IEEE 62209-1528	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate in the Human Head from Wireless Communications Devices: Measurement Techniques
3	KDB447498 D04	Interim General RF Exposure Guidance v01
4	KDB865664 D01	SAR measurement 100MHz to 6GHz v01r04
5	KDB865664 D02	RF Exposure Reporting v01r02
6	KDB248227 D01	802.11 Wi-Fi SAR v02r02
7	KDB690783 D01	SAR Listings on Grant v01r03

6.1 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain/Body/Arms/Legs)	1.60mW/g	8.00mW/g
Spatial Average SAR** (Whole Body)	0.08mW/g	0.40mW/g
Spatial Peak SAR*** (Heads/Feet/Ankle/Wrist)	4.00mW/g	20.00mW/g

The limit applied in this test report is shown in bold letters

Notes:

* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

** The Spatial Average value of the SAR averaged over the whole body.

*** The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

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

6.2 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ).

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dV} \right)$$

SAR is expressed in units of watts per kilogram (W/kg). SAR can be related to the electric field at a point by

$$SAR = \frac{\sigma |E|^2}{\rho}$$

where:

σ = conductivity of the tissue (S/m)

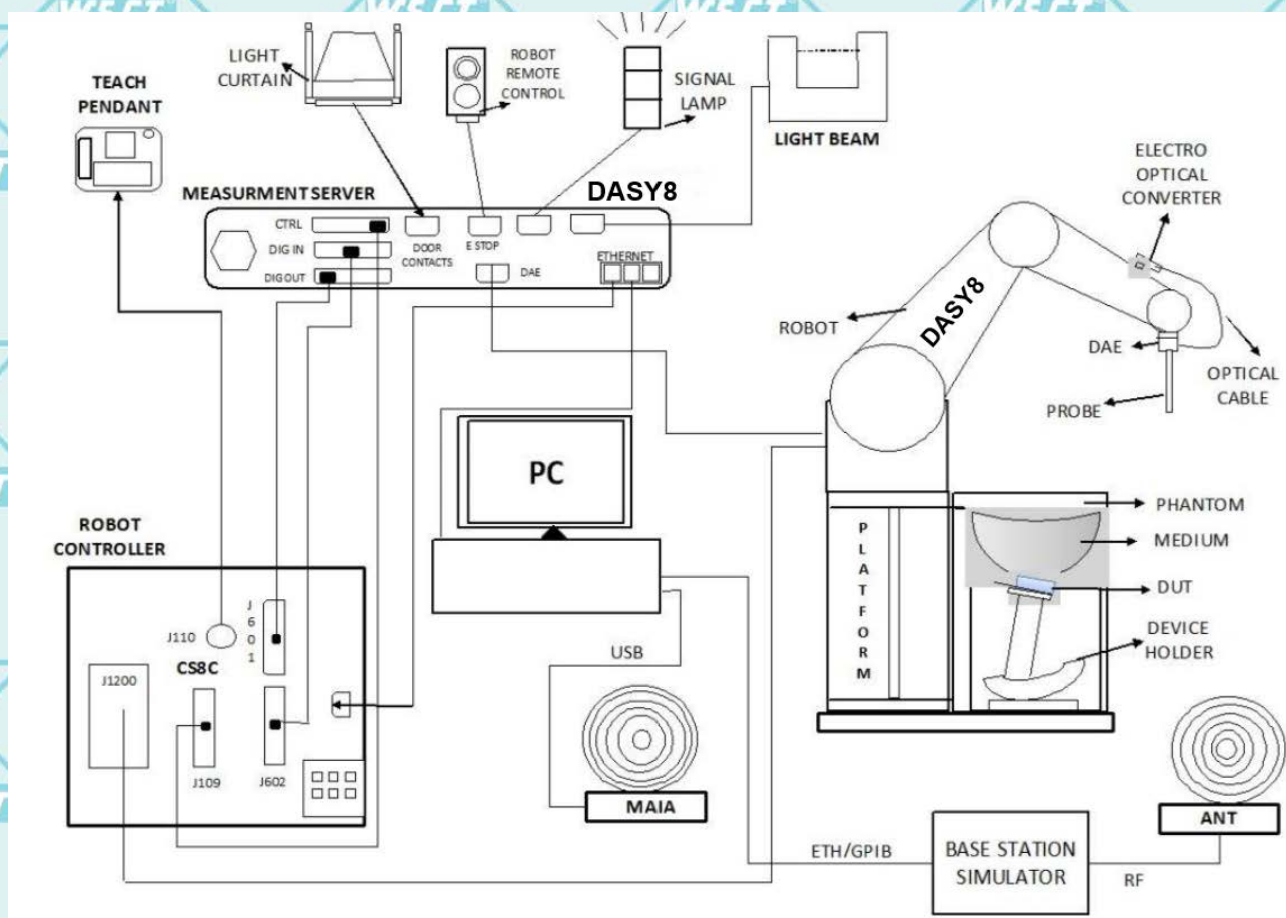
ρ = mass density of the tissue (kg/m³)

E = rms electric field strength (V/m)

7 SAR Measurement System

7.1 The Measurement System

DASY8 is a flexible, high-precision near-field scanner optimized for automated measurements in free-space and tissue simulating liquids (TSL), using the most advanced probes covering the frequency range from 3 kHz to 110 GHz. The software enables point, area, and volume measurements and conformal scanning of complex geometries.



The DASY8 SAR module consists of an isotropic dosimetric probe (SAR) mounted on the TX2 precision robot, which allows field scanning inside anthropomorphic phantoms filled with tissue-simulating liquids. The probes are miniaturized, sensitive, isotropic, linear, stable and calibrated with precise boundary compensation. The spatial accuracy of probe positioning within the phantom is better than 0.2 mm. Scanning is optimized and adaptive to the induced field. The spatial SAR peak is determined without reconstruction.

7.2 Robot

The DASY8 system uses the high-precision industrial robots TX2-60L and TX2-90XL from Stäubli SA (France). The TX2 family of robots provides the ideal combination of speed, rigidity, size, and precision:

- High precision (repeatability 0.03 mm)
- High reliability and low maintenance costs (industrial design)
- ELF interference (motor control fields are shielded by the closed metallic construction)
- Hygienic encapsulated 6-axis arm enabled by a hollow shaft gearbox, no external cables.



7.3 Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

For the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN:7951 with following specifications is used



Frequency: 4MHz – 10GHz ;

Linearity: ± 0.2 dB (30MHz – 10GHz)

Dynamic Range: 10 μ W/g $\rightarrow$ 100 mW/g

Linearity: ± 0.2 dB (noise: typically <1 μ W/g)

Directivity (typical): ± 0.1 dB in TSL (rotation around probe axis)
 ± 0.3 dB in TSL (rotation normal to probe axis)

Sensor Arrangement	Triangular
Connector Angle	46.9°
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	1.4mm

7.4 DAE

DAE4ip– Data Acquisition Electronics 4 with Integrated Power

Data Acquisition Electronics 4 with an integrated power supply for time unlimited measurements.

Performance:

- Measurement range: -100–+300 mV (16-bit resolution and two range settings: 4 mV, 400 mV)
- Input offset voltage: <5 μ V (with auto zero)
- Input resistance: 200M Ω
- Input bias current: <50 fA
- Power supply: integrated (from the DASY8 measurement server)
- Dimensions(L $\times$ W $\times$ H): 60 $\times$ 60 $\times$ 68 mm
- Calibration: ISO/IEC 17025 calibration service available.



7.5 Phantom

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEC/IEEE 62209-1528. It enables the dosimetric evaluation of left—and right-hand phone usage as well as body-mounted usage at the flat phantom region. A cover prevents the liquid from evaporating. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.



Material	Vinyl ester, fiberglass reinforced (VE-GF)
Liquid Compatibility	The phantom shell is compatible with SPEAG's tissue-simulating liquids (sugar and oil-based). However, using other liquids may render the phantom warranty void (see note or consult SPEAG support).
Shell Thickness	$2 \pm 0.2\text{mm}$ ($6 \pm 0.2\text{mm}$ at ear point)
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet
Filling Volume	approx. 25 liters
Support	DASY6/8: standard-size platform slot DASY52 stand-alone: SPEAG standard phantom table
Accessories	Mounting Device and Adaptors

7.6 Device Holder

The DASY instrument holder is designed to accommodate the various positions specified in the standard. It has two scales for instrument rotation (with respect to the body axis) and instrument tilt (with respect to the line between the ear reference points). The center of rotation for both scales is the Ear Reference Point (ERP). This eliminates the need to reposition the instrument when changing angles.

The DASY instrument holder is made of low-loss POM material with the following dielectric parameters: relative permittivity $\epsilon=3$ and loss tangent $\delta=0.02$. The amount of dielectric material in the immediate vicinity of the device was reduced because measurements indicated that the influence of the clamp on the test results could be reduced.



Device holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1° .

7.7 SAR Scan General Requirement

According to kdb865664 D01 v01r04:

Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013. The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports, unless further guidance has been provided by the FCC.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 mm ± 1 mm	$\frac{1}{2} \delta \ln(2)$ mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx Area, Δy Area			≤ 2 GHz: ≤ 15 mm 2-3 GHz: ≤ 12 mm	3-4 GHz: ≤ 12 mm 4-6 GHz: ≤ 10 mm
Maximum zoom scan spatial resolution: ΔxZoom, ΔyZoom			≤ 2 GHz: ≤ 8 mm 2-3 GHz: ≤ 5 mm*	3-4 GHz: ≤ 5 mm* 4-6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: Δz Zoom (n)		≤ 5 mm	3-4 GHz: ≤ 4 mm 4-5 GHz: ≤ 3 mm 5-6 GHz: ≤ 2 mm
	graded grid	ΔzZoom (1): between 1 st two points closest to phantom surface	≤ 4 mm	3-4 GHz: ≤ 3 mm 4-5 GHz: ≤ 2.5 mm 5-6 GHz: ≤ 2 mm
		ΔzZoom (n>1): between subsequent points	≤ 1.5 · ΔzZoom (n-1) mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3-4 GHz: ≥ 28 mm 4-5 GHz: ≥ 25 mm 5-6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.

* When zoom scan is required and the reported SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

7.8 Measurement procedure

Power Drift :

All SAR tests were performed with a fully charged battery under the DUT and transmitting at maximum output power. The DASY measurement software uses the power reference measurement and power drift measurement procedures to monitor the power drift of the DUT during SAR testing. Both methods measure the field value at a specified reference position before and after the SAR test. The software calculates the field difference in dB. If the power drift exceeds 5%, the SAR is retested.

Area scan:

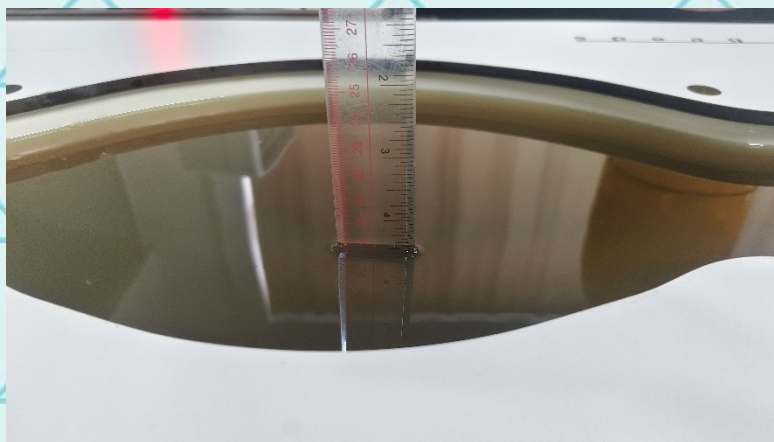
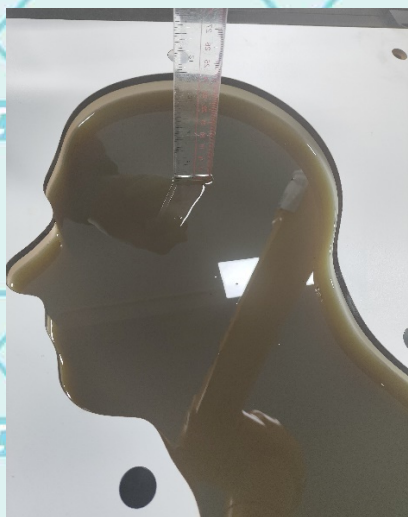
All antennas and radiating structures that may contribute to the measured SAR or influence the SAR distribution must be included in the area scan. The areas of the transmitter(s), antenna(s) and host device, when projected onto the phantom, must be within the area scan measurement region. The area scan measurement resolution must enable the extrapolation algorithms of the SAR system to correctly identify the peak SAR location(s) for subsequent zoom scan measurements to correctly determine the 1-g SAR. Area scans are performed at a constant distance from the phantom surface, determined by the measurement frequencies.

Zoom Scan:

Except when area scan based 1-g SAR estimation applies, a zoom scan measurement is required at the highest peak SAR location determined in the area scan to determine the 1-g SAR. When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR. The zoom scan volume must be larger than the required minimum dimensions described 7.7. There must be at least one measurement point within the first 5 mm from the phantom surface for measurements ≤ 3 GHz, two measurement points for measurements ≤ 5 GHz and three measurement points for measurements above 5 GHz. When graded grids are used, which only applies in the direction normal to the phantom surface, the initial grid separation closest to the phantom surface and subsequent graded grid increment ratios must satisfy the required protocols in 7.7. The 1-g SAR averaging volume must be fully contained within the zoom scan measurement volume boundaries; otherwise, the measurement must be repeated by shifting or expanding the zoom scan volume. The similar requirements also apply to 10-g SAR measurements.

7.9 Tissue simulating liquids: dielectric properties

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The simulating liquids should be checked at the beginning of a series of SAR measurements to determine if the dielectric parameters are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within $\pm 5\%$ of the target values.



Simulating Head Liquid for 5G(HBBL600-10000MHz V6), Manufactured by SPEAG:

Ingredients	(% by weight)
Water	50-65%
Mineral oil	10-30%
Emulsifiers	8-25%
Sodium salt	0-1.5%

7.10 Tissue simulating liquids: parameters

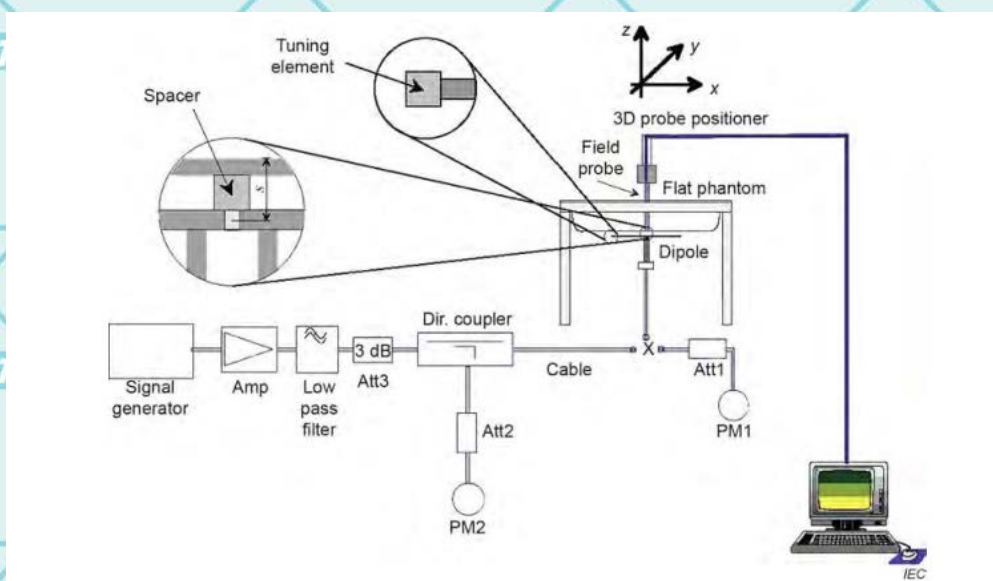
Used Target Frequency	Target Tissue		Measured Tissue		Liquid Temp.	Test Date
	ϵ_r (+/-5%)	σ (S/m) (+/-5%)	ϵ_r	σ (S/m)		
2450MHz Head	39.20 (37.24~41.16)	1.80 (1.71~1.89)	40.27	1.82	21.6°C	2026/01/30
ϵ_r = Relative permittivity, σ = Conductivity						

8 System Check

8.1 System check procedure

The System check is performed by using a System check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a spacer. 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 100 mW. To adjust this power a power meter is used. The power sensor is connected to the cable before the System check 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 validation 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).

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



8.2 System check results

The system Check is performed for verifying the accuracy of the complete measurement system and performance of the software. The following table shows System check results for all frequency bands and tissue liquids used during the tests (plot(s) see annex A).

System Check	Target SAR (1W) (+/-10%)		Measured SAR (Normalized to 1W)		Liquid Temp.	Test Date
	1-g (W/kg)	10-g (W/kg)	1-g (W/kg)	10-g (W/kg)		
D2550V2 Body	54.10 (48.69~59.51)	24.70 (22.23~27.17)	55.80	25.60	21.6°C	2026/01/30

Note: 1. All SAR values are normalized to 1W forward power.
2. The actual forward power output to the dipole antenna is 20dbm(100mw), so the measured value differs ten times from the table

9 Detailed Test Results

9.1 Conducted Power measurements

The measuring conducted average power (Unit: dBm) is shown as below.

9.1.1 Conducted Power of BT

BT	Mode	Maximum Tune-up (dBm)	Average Conducted Output Power (dBm)		
			0	39	78
			2402MHz	2441MHz	2480MHz
	DH5	10.00	9.54	9.46	8.63
	2DH5	10.50	10.25	10.27	9.55
	3DH5	10.50	10.35	10.44	9.73
BLE	Mode	Maximum Tune-up (dBm)	Average Conducted Output Power (dBm)		
			0	19	39
			2402MHz	2440MHz	2480MHz
	1Mbps	9.00	8.92	8.93	8.14
	2Mbps	9.50	9.11	9.09	8.23

Note-

- Per KDB 447498 D04 Interim General RF Exposure Guidance v01, the 1-g SAR test exclusion thresholds for 300 MHz to 6 GHz at test separation distances ≤ 40 cm are determined by:

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

*When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine estimated SAR.

- Per KDB 248227 D01 v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
- The output power of all data rate were prescan, just the worst case (the lowest data rate) of all mode were shown in report.

9.2 Tune-up powertolerance

Band	Tune-up power tolerance(dBm)	
BT	DH5	Max output power =10.00±1.0dBm
	2DH5	Max output power =10.50±1.0dBm
	3DH5	Max output power =10.50±1.0dBm
BLE	1Mbps Power	Max output power =9.00 ±1.0dBm
	2Mbps Power	Max output power =9.50 ±1.0dBm

10 SAR test results

Notes:

1) Per KDB447498, the SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the scaled SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8 \text{ W/kg}$), testing at the high and low channels is optional.

2) Per KDB447498, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is: $\leq 0.8 \text{ W/kg}$ or 2.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\leq 100 \text{ MHz}$. When the maximum output power variation across the required test channels is $> \frac{1}{2} \text{ dB}$, instead of the middle channel, the highest output power channel must be used.

3) Per KDB447498, All measurement SAR result is scaled-up to account for tune-up tolerance is compliant.

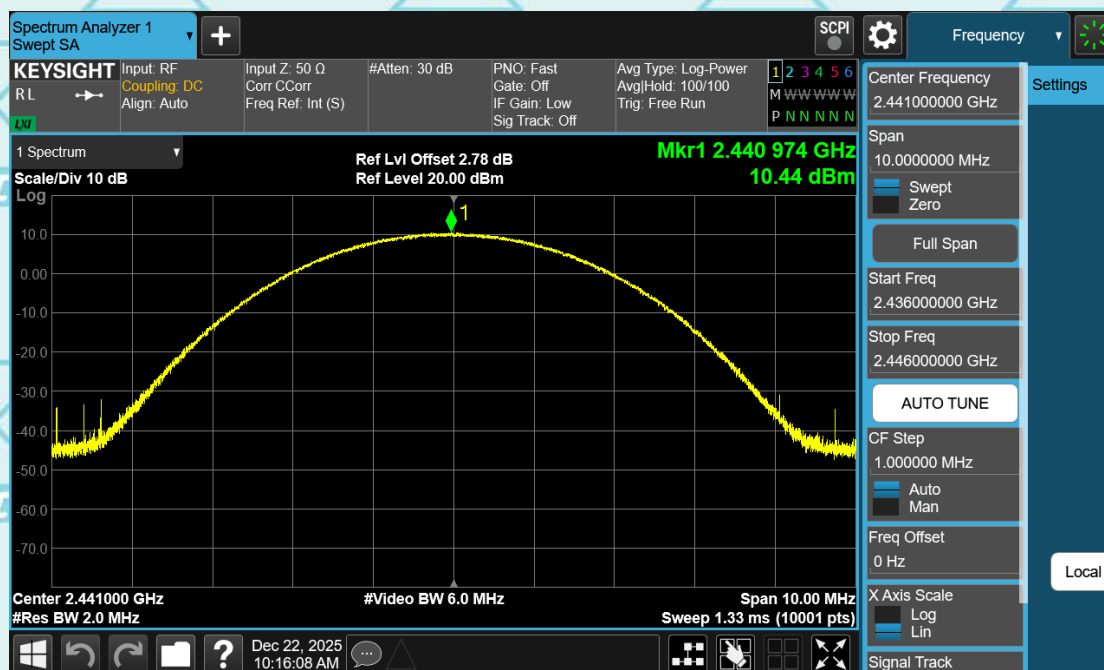
4) Per KDB248227 D01v02r02, the procedures required to establish specific device operating configurations for testing the SAR of 802.11 a/b/g transmitters.

5) Per KDB865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8 \text{ W/Kg}$; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR $< 1.45 \text{ W/Kg}$, only one repeated measurement is required.

6) Per KDB865664 D02v01r02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is $> 1.5 \text{ W/kg}$, or $> 7.0 \text{ W/kg}$ for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing (Refer to appendix B for details).

10.1 Results overview of BT

Mode	Position	Ch.	Freq. (MHz)	Power Drift (db)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)
GFSK-DH5	Left Cheek	39	2441	0.050	0.182	67.8%	1.475	10.44	10.50	1.014	0.272
Mode	Position	Ch.	Freq. (MHz)	Power Drift (db)	1g Meas. SAR (W/kg)	Duty cycle (%)	Duty cycle Factor	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)
GFSK-DH5	position 1	39	2441	-0.060	0.191	67.8%	1.475	10.44	10.50	1.014	0.286
	position 2	39	2441	-0.010	0.363	67.8%	1.475	10.44	10.50	1.014	0.543
	position 3	39	2441	0.170	0.155	67.8%	1.475	10.44	10.50	1.014	0.232
	position 4	39	2441	-0.020	0.035	67.8%	1.475	10.44	10.50	1.014	0.052
	position 5	39	2441	0.090	0.066	67.8%	1.475	10.44	10.50	1.014	0.099
	position 6	39	2441	-0.020	0.292	67.8%	1.475	10.44	10.50	1.014	0.437
	position 2	0	2402	-0.180	0.345	75.0%	1.333	10.35	10.50	1.035	0.476
	position 2	78	2480	0.050	0.349	64.9%	1.541	9.73	10.00	1.064	0.572



Note: As can be seen from the graph, the duty cycle.

11 Simultaneous Transmission SAR Summation Scenario

Simultaneous TX SAR Considerations

No. Applicable Simultaneous Transmission

1. NA

The headphones and the earphone case cannot transmit simultaneously.

12 Measurement uncertainty evaluation for SAR test

The following table includes the uncertainty table of the IEEE 1528. The values are determined by SPEAG. The breakdown of the individual uncertainties is as follows:

DASY8 Uncertainty Budget								
According to IEC/IEEE 62209-1528 (Frequency band: 300MHz-3GHz range)								
Symbol	Error Description	Uncert. value	Prob. Dist.	Div.	(c <i>i</i>) (1g)	(c <i>i</i>) (10g)	Std. Unc (1g)	Std. Unc (10g)
Measurement System Errors								
CF	Probe Calibration	±13.3%	N	2	1	1	±6.7%	±6.7%
CF _{drift}	Probe Calibration Drift	±1.7%	R	√3	1	1	±1.0%	±1.0%
LIN	Probe Linearity	±4.7%	R	√3	1	1	±2.7%	±2.7%
BBS	Broadband Signal	±2.8%	R	√3	1	1	±1.6%	±1.6%
ISO	Probe Isotropy	±7.6%	R	√3	1	1	±4.4%	±4.4%
DAE	Other Probe+Electronic	±0.8%	N	1	1	1	±0.8%	±0.8%
AMB	RF Ambient	±1.8%	N	1	1	1	±1.8%	±1.8%
Δ _{sys}	Probe Positioning	±0.006 mm	N	1	0.14	0.14	±0.10%	±0.10%
DAT	Data Processing	±1.2%	N	1	1	1	±1.2%	±1.2%
Phantom and Device Errors								
LIQ(σ)	Conductivity (meas.)DAK	±2.5%	N	1	0.78	0.71	±2.0%	±1.8%
LIQ(T _σ)	Conductivity (temp.)BB	±3.3%	R	√3	0.78	0.71	±1.5%	±1.4%
EPS	Phantom Permittivity	±14.0%	R	√3	0	0	±0%	±0%
DIS	Distance DUT – TSL	±2.0%	N	1	2	2	±4.0%	±4.0%
D _{xyz}	Device Positioning	±1.0%	N	1	1	1	±1.0%	±1.0%
H	Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%
MOD	DUT Modulation ^m	±2.4%	R	√3	1	1	±1.4%	±1.4%
TAS	Time-average SAR	±1.7%	R	√3	1	1	±1.0%	±1.0%
RF _{drift}	DUT drift	±2.5%	N	1	1	1	±2.5%	±2.5%
VAL	Val Antenna Unc. ^{val}	±0.0%	N	1	1	1	±0.0%	±0.0%
RF _{in}	Unc.Input Power ^{val}	±0.0%	N	1	1	1	±0.0%	±0.0%
Correction to the SAR results								
C(ε, σ)	Deviation to Target	±1.9%	N	1	1	0.84	±1.9%	±1.6%
C(R)	SAR scaling ^p	±0.0%	R	√3	1	1	±0.0%	±0.0%
u(ΔSAR)	Combined Uncertainty						±11.3%	±11.2%
U	Expanded Uncertainty						±22.6%	±22.5%

DASY8 Uncertainty Budget

According to IEC/IEEE 62209-1528
(Frequency band: 3GHz-6GHz range)

Symbol	Error Description	Uncert. value	Prob. Dist.	Div.	(ci) (1g)	(ci) (10g)	Std. Unc (1g)	Std. Unc (10g)
Measurement System Errors								
CF	Probe Calibration	±13.1%	N	2	1	1	±6.55%	±6.55%
CF _{drift}	Probe Calibration Drift	±1.7%	R	$\sqrt{3}$	1	1	±1.0%	±1.0%
LIN	Probe Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%
BBS	Broadband Signal	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%
ISO	Probe Isotropy	±7.6%	R	$\sqrt{3}$	1	1	±4.4%	±4.4%
DAE	Other Probe+Electronic	±1.2%	N	1	1	1	±1.2%	±1.2%
AMB	RF Ambient	±1.8%	N	1	1	1	±1.8%	±1.8%
Δ _{sys}	Probe Positioning	±0.005 mm	N	1	0.29	0.29	±0.2%	±0.20%
DAT	Data Processing	±2.3%	N	1	1	1	±2.3%	±2.3%
Phantom and Device Errors								
LIQ(σ)	Conductivity (meas.) DAK	±2.5%	N	1	0.78	0.71	±2.0%	±1.8%
LIQ(T _σ)	Conductivity (temp.) BB	±3.4%	R	$\sqrt{3}$	0.78	0.71	±1.5%	±1.4%
EPS	Phantom Permittivity	±14.0%	R	$\sqrt{3}$	0.25	0.25	±2.0%	±2.0%
DIS	Distance DUT – TSL	±2.0%	N	1	2	2	±4.0%	±4.0%
D _{xyz}	Device Positioning	±1.0%	N	1	1	1	±1.0%	±1.0%
H	Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%
MOD	DUT Modulation ^m	±2.4%	R	$\sqrt{3}$	1	1	±1.4%	±1.4%
TAS	Time-average SAR	±1.7%	R	$\sqrt{3}$	1	1	±1.0%	±1.0%
RF _{drift}	DUT drift	±2.5%	N	1	1	1	±2.5%	±2.5%
VAL	Val Antenna Unc. ^{val}	±0.0%	N	1	1	1	±0.0%	±0.0%
RF _{in}	Unc. Input Power ^{val}	±0.0%	N	1	1	1	±0.0%	±0.0%
Correction to the SAR results								
C(ε, σ)	Deviation to Target	±1.9%	N	1	1	0.84	±1.9%	±1.6%
C(R)	SAR scaling ^p	±0.0%	R	$\sqrt{3}$	1	1	±0.0%	±0.0%
u(ΔSAR)	Combined Uncertainty						±11.6%	±11.6%
U	Expanded Uncertainty						±23.3%	±23.1%

DASY8 Uncertainty Budget

According to IEC/IEEE 62209-1528

(Frequency band: 6 GHz–10 GHz range)

Symbol	Error Description	Uncert. value	Prob. Dist.	Div.	(c_i) (1 g)	(c_i) (10 g)	Std. Unc. (1 g)	Std. Unc. (10 g)
Measurement System Errors								
CF	Probe Calibration	$\pm 18.6\%$	N	2	1	1	$\pm 9.3\%$	$\pm 9.3\%$
CF_{drift}	Probe Calibration Drift	$\pm 1.7\%$	R	$\sqrt{3}$	1	1	$\pm 1.0\%$	$\pm 1.0\%$
LIN	Probe Linearity	$\pm 4.7\%$	R	$\sqrt{3}$	1	1	$\pm 2.7\%$	$\pm 2.7\%$
BBS	Broadband Signal	$\pm 2.6\%$	R	$\sqrt{3}$	1	1	$\pm 1.5\%$	$\pm 1.5\%$
ISO	Probe Isotropy	$\pm 7.6\%$	R	$\sqrt{3}$	1	1	$\pm 4.4\%$	$\pm 4.4\%$
DAE	Other Probe+Electronic	$\pm 2.4\%$	N	1	1	1	$\pm 2.4\%$	$\pm 2.4\%$
AMB	RF Ambient	$\pm 1.8\%$	N	1	1	1	$\pm 1.8\%$	$\pm 1.8\%$
Δ_{sys}	Probe Positioning	± 0.005 mm	N	1	0.50	0.50	$\pm 0.3\%$	$\pm 0.3\%$
DAT	Data Processing	$\pm 3.5\%$	N	1	1	1	$\pm 3.5\%$	$\pm 3.5\%$
Phantom and Device Errors								
LIQ(σ)	Conductivity (meas.) ^{DAK}	$\pm 2.5\%$	N	1	0.78	0.71	$\pm 2.0\%$	$\pm 1.8\%$
LIQ(T_σ)	Conductivity (temp.) ^{BB}	$\pm 2.4\%$	R	$\sqrt{3}$	0.78	0.71	$\pm 1.1\%$	$\pm 1.0\%$
EPS	Phantom Permittivity	$\pm 14.0\%$	R	$\sqrt{3}$	0.5	0.5	$\pm 4.0\%$	$\pm 4.0\%$
DIS	Distance DUT – TSL	$\pm 2.0\%$	N	1	2	2	$\pm 4.0\%$	$\pm 4.0\%$
D_{xyz}	Device Positioning	$\pm 1.0\%$	N	1	1	1	$\pm 1.0\%$	$\pm 1.0\%$
H	Device Holder	$\pm 3.6\%$	N	1	1	1	$\pm 3.6\%$	$\pm 3.6\%$
MOD	DUT Modulation ^m	$\pm 2.4\%$	R	$\sqrt{3}$	1	1	$\pm 1.4\%$	$\pm 1.4\%$
TAS	Time-average SAR	$\pm 1.7\%$	R	$\sqrt{3}$	1	1	$\pm 1.0\%$	$\pm 1.0\%$
RF_{drift}	DUT drift	$\pm 2.5\%$	N	1	1	1	$\pm 2.5\%$	$\pm 2.5\%$
VAL	Val Antenna Unc. ^{val}	$\pm 0.0\%$	N	1	1	1	$\pm 0.0\%$	$\pm 0.0\%$
RF_{in}	Unc. Input Power ^{val}	$\pm 0.0\%$	N	1	1	1	$\pm 0.0\%$	$\pm 0.0\%$
Correction to the SAR results								
$C(\epsilon, \sigma)$	Deviation to Target	$\pm 1.9\%$	N	1	1	0.84	$\pm 1.9\%$	$\pm 1.6\%$
$C(R)$	SAR scaling ^p	$\pm 0.0\%$	R	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$
$u(\Delta SAR)$	Combined Uncertainty						$\pm 14.2\%$	$\pm 14.1\%$
U	Expanded Uncertainty						$\pm 28.4\%$	$\pm 28.3\%$

DASY8 Uncertainty Budget for PD (avg $\geq 1 \text{ cm}^2$)

Evaluation Distances to the Antennas $\geq \lambda/25$

in Compliance with IEC/IEEE 63195

Error Description	Unc. Value ($\pm \text{dB}$)	Probab. Distri.	Div.	(c_i)	Std. Unc. ($\pm \text{dB}$)	(v_i) v_{eff}
Uncertainty terms dependent on the measurement system						
CAL	Calibration	0.49	N	1	0.49	∞
COR	Probe correction	0	R	$\sqrt{3}$	0	∞
FRS	Frequency response ($\text{BW} \leq 1 \text{ GHz}$)	0.20	R	$\sqrt{3}$	0.12	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	0	∞
ISO	Isotropy	0.50	R	$\sqrt{3}$	0.29	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	0.12	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	0	∞
PPO	Probe positioning offset	0.30	R	$\sqrt{3}$	0.17	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	0	∞
MED	Measurement drift	0.05	R	$\sqrt{3}$	0.03	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	0.02	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	0	∞
DAQ	Data acquisition	0.03	N	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	0	∞
REC	Field reconstruction	0.60	R	$\sqrt{3}$	0.35	∞
SNR	Signal-to-Noise Ratio	0	R	$\sqrt{3}$	0	∞
TRA	FTE/MEO	0	R	$\sqrt{3}$	0 (0)	∞
SCA	Power density scaling	—	R	$\sqrt{3}$	—	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	0.06	∞
Uncertainty terms dependent on the DUT and environmental factors						
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	0.23	∞
IT	Integration time	0	R	$\sqrt{3}$	0	∞
RT	Response time	0	R	$\sqrt{3}$	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	0.06	∞
DA	DUT alignment	0	R	$\sqrt{3}$	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	0.02	∞
TEM	Laboratory Temperature	0.05	R	$\sqrt{3}$	0.03	∞
REF	Laboratory Reflections	0.04	R	$\sqrt{3}$	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	0	∞
DRI	Drift of the DUT	—	R	$\sqrt{3}$	—	∞
Combined Std Uncertainty (w/ FTE/MEO)					0.75	∞
Expanded Std Uncertainty (w/ FTE/MEO)					1.51	

DASY8 Uncertainty Budget for relative PD (avg $\geq 1 \text{ cm}^2$)

Evaluation Distances to the Antennas $\geq \lambda/25$

in Compliance with IEC/IEEE 63195

Error Description		Unc. Value (± dB)	Probab. Distri.	Div.	(<i>c</i> _{<i>i</i>})	Std. Unc. (± dB)	(<i>v</i> _{<i>i</i>}) <i>V</i> _{eff}
Uncertainty terms dependent on the measurement system							
CAL	Calibration	0.49	N	1	0	0.0	∞
COR	Probe correction	0	R	√3	1	0	∞
FRS	Frequency response (BW ≤ 1 GHz)	0.20	R	√3	0	0.0	∞
SCC	Sensor cross coupling	0	R	√3	1	0	∞
ISO	Isotropy	0.50	R	√3	0.5	0.14	∞
LIN	Linearity	0.20	R	√3	0.5	0.06	∞
PSC	Probe scattering	0	R	√3	1	0	∞
PPO	Probe positioning offset	0.30	R	√3	0	0.0	∞
PPR	Probe positioning repeatability	0.04	R	√3	1	0.02	∞
SMO	Sensor mechanical offset	0	R	√3	1	0	∞
PSR	Probe spatial resolution	0	R	√3	1	0	∞
FLD	Field impedance dependence	0	R	√3	1	0	∞
MED	Measurement drift	0.05	R	√3	1	0.03	∞
APN	Amplitude and phase noise	0.04	R	√3	1	0.02	∞
TR	Measurement area truncation	0	R	√3	1	0	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
SMP	Sampling	0	R	√3	1	0	∞
REC	Field reconstruction	0.6	R	√3	0.5	0.17	∞
SNR	Signal-to-Noise Ratio	0	R	√3	1	0	∞
TRA	FTE/MEO	0 (0)	R	√3	0.5	0	∞
SCA	Power density scaling	–	R	√3	1	–	∞
SAV	Spatial averaging	0.10	R	√3	1	0.06	∞
Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling with DUT	0	R	√3	1	0	∞
MOD	Modulation response	0.40	R	√3	1	0.23	∞
IT	Integration time	0	R	√3	1	0	∞
RT	Response time	0	R	√3	1	0	∞
DH	Device holder influence	0.10	R	√3	0	0.0	∞
DA	DUT alignment	0	R	√3	1	0	∞
AC	RF ambient conditions	0.04	R	√3	1	0.02	∞
TEM	Laboratory Temperature	0.05	R	√3	1	0.03	∞
REF	Laboratory Reflections	0.04	R	√3	1	0.02	∞
MSI	Immunity / secondary reception	0	R	√3	1	0	∞
DRI	Drift of the DUT	–	R	√3	1	–	∞
Combined Std Uncertainty (w/ FTE/MEO)						0.34	∞
Expanded Std Uncertainty (w/ FTE/MEO)						0.68	

DASY8 Uncertainty Budget for peak PD or H-field

Evaluation Distances to the Antennas $\geq \lambda/25$

in Compliance with IEC/IEEE 63195

Error Description	Unc. Value ($\pm$ dB)	Probab. Distri.	Div.	(C_i)	Std. Unc. ($\pm$ dB)	(V_i) V_{eff}
Uncertainty terms dependent on the measurement system						
CAL	Calibration	0.49	N	1	0.49	∞
COR	Probe correction	0	R	1	0	∞
FRS	Frequency response ($BW \leq 1$ GHz)	0.20	R	$\sqrt{3}$	0.12	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	0	∞
ISO	Isotropy	0.50	R	$\sqrt{3}$	0.29	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	0.12	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	0	∞
PPO	Probe positioning offset	0.30	R	$\sqrt{3}$	0.17	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	0	∞
MED	Measurement drift	0	R	$\sqrt{3}$	0	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	0.02	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	0	∞
DAQ	Data acquisition	0.03	N	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	0	∞
REC	Field reconstruction	0.8	R	$\sqrt{3}$	0.46	∞
SNR	Signal-to-Noise Ratio	0	R	$\sqrt{3}$	0	∞
TRA	FTE/MEO	0 (0)	R	$\sqrt{3}$	0	∞
SCA	Power density scaling	—	R	$\sqrt{3}$	—	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	0.06	∞
Uncertainty terms dependent on the DUT and environmental factors						
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	0.23	∞
IT	Integration time	0	R	$\sqrt{3}$	0	∞
RT	Response time	0	R	$\sqrt{3}$	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	0.06	∞
DA	DUT alignment	0	R	$\sqrt{3}$	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	0.02	∞
TEM	Laboratory Temperature	0.05	R	$\sqrt{3}$	0.03	∞
REF	Laboratory Reflections	0.04	R	$\sqrt{3}$	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	0	∞
DRI	Drift of the DUT	—	R	$\sqrt{3}$	—	∞
Combined Std Uncertainty (w/ FTE/MEO)					0.81	∞
Expanded Std Uncertainty (w/ FTE/MEO)					1.62	

DASY8 Uncertainty Budget for E-field

Evaluation Distances to the Antennas $\geq \lambda/25$

in Compliance with IEC/IEEE 63195

Error Description	Unc. Value ($\pm$ dB)	Probab. Distri.	Div.	(c_i)	Std. Unc. ($\pm$ dB)	(v_i) v_{eff}
Uncertainty terms dependent on the measurement system						
CAL	Calibration	0.49	N	1	0.49	∞
COR	Probe correction	0	R	$\sqrt{3}$	0	∞
FRS	Frequency response ($BW \leq 1$ GHz)	0.20	R	$\sqrt{3}$	0.12	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	0	∞
ISO	Isotropy	0.50	R	$\sqrt{3}$	0.29	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	0.12	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	0	∞
PPO	Probe positioning offset	0.30	R	$\sqrt{3}$	0.17	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	0	∞
MED	Measurement drift	0.05	R	$\sqrt{3}$	0.03	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	0.02	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	0	∞
DAQ	Data acquisition	0.03	N	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	0	∞
REC	Field reconstruction	0 (0)	R	$\sqrt{3}$	0	∞
SNR	Signal-to-Noise Ratio	0	R	$\sqrt{3}$	0	∞
TRA	Forward transformation	0 (0)	R	$\sqrt{3}$	0	∞
SCA	Power density scaling	—	R	$\sqrt{3}$	—	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	0.06	∞
Uncertainty terms dependent on the DUT and environmental factors						
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	0.23	∞
IT	Integration time	0	R	$\sqrt{3}$	0	∞
RT	Response time	0	R	$\sqrt{3}$	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	0.06	∞
DA	DUT alignment	0	R	$\sqrt{3}$	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	0.02	∞
TEM	Laboratory Temperature	0.05	R	$\sqrt{3}$	0.03	∞
REF	Laboratory Reflections	0.04	R	$\sqrt{3}$	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	0	∞
DRI	Drift of the DUT	—	R	$\sqrt{3}$	—	∞
Combined Std Uncertainty (w/ FTE/MEO)					0.67	∞
Expanded Std Uncertainty (w/ FTE/MEO)					1.33	

12.1 Measurement uncertainty evaluation for system check

The following table includes the uncertainty table of the IEEE 1528. The values are determined by SPEAG. The breakdown of the individual uncertainties is as follows:

Uncertainty For System Performance Check								
Uncertainty Component	Tol. (±%)	Prob. Dist.	Div.	C _i 1g	C _i 10g	1g U _i (±%)	10g U _i (±%)	V _i
measurement system								
Probe Calibration	6.7	N	1	1	1	6.70	6.70	∞
Axial Isotropy	4.7	R	$\sqrt{3}$	0.7	0.7	1.90	1.90	∞
Hemispherical Isotropy	9.6	R	$\sqrt{3}$	0.7	0.7	3.88	3.88	∞
Boundary Effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	∞
system detection Limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Modulation response	0	N	1	1	1	0.00	0.00	∞
Readout Electronics	0.3	N	1	1	1	0.30	0.30	∞
Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
Integration Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	∞
RF ambient Conditions - Noise	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
RF ambient Conditions – Reflections	1	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Probe positioned Mechanical Tolerance	0.8	R	$\sqrt{3}$	1	1	0.46	0.46	∞
Probe positioning with respect to Phantom Shell	6.7	R	$\sqrt{3}$	1	1	3.87	3.87	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Dipole								
Deviation of experimental source from numerical source	5.5	N	1	1	1	3.18	3.18	∞
Input power and SAR drift measurement	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Dipole axis to liquid Distance	3.4	R	$\sqrt{3}$	1	1	1.96	1.96	∞
Phantom and Tissue Parameters								
Phantom Uncertainty (shape and thickness tolerances)	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	∞
Uncertainty in SAR correction for deviation (in permittivity and conductivity)	2	N	1	1	0.84	2.0	1.68	∞
Liquid conductivity (meas.)	2.5	N	1	0.78	0.71	1.13	1.03	5
Liquid conductivity (target.)	5	R	$\sqrt{3}$	0.78	0.71	3.90	3.55	5
Liquid Permittivity (meas.)	2.5	N	1	0.23	0.26	0.33	0.38	∞
Liquid Permittivity (target.)	5	R	$\sqrt{3}$	0.23	0.26	1.15	1.30	∞
Combined Standard Uncertainty		Rss				11.29	11.18	
Expanded Uncertainty (95% Confidence interval)		k				20.57	19.95	

13 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

	Manufact urer	Device Type	Type(Model)	Serial number	calibration	
					Last Cal.	Due Date
☒	SPEAG	E-Field PROBE	EX3DV4	7951	2025-09-10	2026-09-09
☒	SPEAG	Validation Sources	D2550V2	1015	2024-08-16	2027-08-15
☒	SPEAG	DAE	DAE4ip	1921	2025-09-04	2026-09-03
☒	R & S	Universal Radio Communication Tester	CMU 200	119733	2025-11-27	2026-11-26
☒	R & S	Universal Radio Communication Tester	CMW500	144459	2025-11-27	2026-11-26
☒	R & S	UXM5G Wireless Test Platform	E7515B	MY60192341	2025-11-27	2026-11-26
☒	HP	Network Analyser	8753D	3410A08889	2025-11-27	2026-11-26
☒	HP	Signal Generator	E4421B	GB39340770	2025-11-27	2026-11-26
☒	Keithley	Multimeter	Keithley 2000	4014539	2025-11-27	2026-11-26
☒	SATIMO	Amplifier	Power Amplifier	MODU-023-A- 0004	2025-11-27	2026-11-26
☒	Agilent	Power Meter	E4418B	GB43312909	2025-11-27	2026-11-26
☒	Agilent	Power Meter	E9340A	US39400100	2025-03-06	2026-03-05
☒	Agilent	Power Meter Sensor	E4412A	MY41500046	2025-11-27	2026-11-26

Annex A: System Check

(Please See the SAR Measurement Plots of annex A.)

Annex B: Measurement Results

(Please See the SAR Measurement Plots of annex B.)

Annex C: Calibration Reports

(Please See the Calibration reports of annex C.)

Annex D: Test setup photos

--END OF REPORT--