

TEST REPORT

Test Report No.: 1-2152-25-01-02_TR1-R02



Deutsche
Akkreditierungsstelle
D-PL-12047-01-00

Testing Laboratory

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Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2018-03) by the Deutsche Akkreditierungsstelle GmbH (DAkkS).

The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number:

D-PL-12047-01-00.

ISED Testing Laboratory Recognized Listing Number: DE0001

FCC designation number: DE0002

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Test Standards

IEC/IEEE
62209-1528-2020

RSS-102 Issue 6

Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)
Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item:

Video Transmitters

Device type:

portable device

Model name:

Falkon X2

S/N serial number:

HAIFKX20326011791

FCC-ID:

2BTDD-AX210NG, 2BTDD-RM520NGL

ISED Number:

31632-AX210NG, 31632-RM520NGL

Product Marketing Name (PMN):

Intel Wi-Fi 6E AX210

Quectel RM520N-GL

Hardware Version Identification No. (HVIN):

AX210NGW

RM520N-GL

HMN:

Falkon X2

Falkon X2

IMEI-Number:

868371056790161

Hardware status:

2.0.0-2

Software status:

DRTU_08119_23.130.0

Frequency:

see technical details

Antenna:

Integrated antennas

Battery option:

integrated battery

Accessories:

Back case and shoulder bag / belt bag

Test sample status:

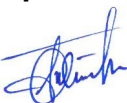
identical prototype / production unit

Exposure category:

general population / uncontrolled environment

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Test Report authorised:



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2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. cetecom advanced GmbH 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 may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of cetecom advanced GmbH.

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2.2 Application details

Date of receipt of order:	2026-02-02
Date of receipt of test item:	2026-03-16
Start of test:	2026-03-16
End of test:	2026-07-01

2.3 Statement of compliance

The SAR values found for the Falcon X2 Video Transmitters are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1 g tissue according to the FCC rule §2.1093, the Health Canada's Safety Code 6 and the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure. The IPD values found for the Falcon X2 Video Transmitters are below the maximum allowed levels according to the standards listed in section 3

2.4 Technical details

Band tested for this test report	Technology	Lowest transmit frequency/MHz	Highest transmit frequency/MHz	Lowest receive Frequency/MHz	Highest receive Frequency/MHz	Kind of modulation	Power Class	Tested power control level	Test channel low	Test channel middle	Test channel high	Maximum P_{avg} /dBm
☐	UMTS FDD I	1922.4	1977.6	2112.4	2167.6	QPSK	3	max	9612	9750	9888	23.7
☒	UMTS FDD II	1852.4	1907.6	1932.4	1987.6	QPSK	3	max	9262	9400	9538	23.8
☒	UMTS FDD IV	1712.4	1752.6	2112.4	2152.6	QPSK	3	max	1312	1412	1513	23.8
☒	UMTS FDD V	826.4	846.6	871.4	891.6	QPSK	3	max	4132	4182	4233	24.0
☐	UMTS FDD VIII	882.4	912.6	927.4	957.6	QPSK	3	max	2712	2788	2863	24.0
☐	UMTS FDD XIX	832.4	842.6	877.4	887.6	QPSK	3	max	312	335	363	24.7
☐	LTE FDD 1	1920	1980	2110	2170	QPSK	3	max	18100	18300	18500	23.9
☒	LTE FDD 2	1850	1910	1930	1990	QPSK	3	max	18700	18900	19100	24.2
☐	LTE FDD 3	1710	1785	1805	1880	QPSK	3	max	19300	19575	19850	24.1
☒	LTE FDD 4	1710	1755	2110	2155	QPSK	3	max	20050	20175	20300	24.2
☒	LTE FDD 5	824	849	869	894	QPSK	3	max	20450	20525	20600	24.2
☒	LTE FDD 7	2500	2570	2620	2690	QPSK	3	max	20850	21100	21350	24.0
☐	LTE FDD 8	880	915	925	960	QPSK	3	max	21500	21625	21750	24.2
☒	LTE FDD 12	704	711	734	741	QPSK	3	max	23060	23095	23130	24.2
☒	LTE FDD 13	777	787	746	756	QPSK	3	max	23205	23230	23255	24.2
☒	LTE FDD 14	788	798	758	768	QPSK	3	max	23305	23330	23355	24.2
☒	LTE FDD 17	704	716	734	746	QPSK	3	max	23780	23790	23800	24.2
☐	LTE FDD 20	832	862	791	821	QPSK	3	max	24250	24300	24350	24.1
☒	LTE FDD 25	1850	1915	1930	1995	QPSK	3	max	26140	26340	26590	24.3
☒	LTE FDD 26	814	849	859	894	QPSK	3	max	26765	26865	26965	24.2
☐	LTE FDD 28	703	748	758	803	QPSK	3	max	27310	27435	27560	24.3
☐	LTE TDD 34	2010	2025	2010	2025	QPSK	3	max	36250	36275	36300	23.5
☒	LTE TDD 38	2570	2620	2570	2620	QPSK	3	max	37850	38000	38150	26.0
☐	LTE TDD 39	1880	1920	1880	1920	QPSK	3	max	38350	38450	38550	24.0
☐	LTE TDD 40	2300	2400	2300	2400	QPSK	3	max	38750	39150	39550	23.7
☒	LTE TDD 41	2496	2690	2496	2690	QPSK	3	max	39750	40620	41490	26.0
☒	LTE TDD 42	3400	3600	3400	3600	QPSK	3	max	41690	42590	43490	26.0
☒	LTE TDD 43	3600	3800	3600	3800	QPSK	3	max	43690	44590	45490	26.1

☒	LTE TDD 48	3550	3700	3550	3700	QPSK	3	max	55240	55990	56739	23.9
☒	LTE TDD 66	1710	1780	2110	2200	QPSK	3	max	132072	132322	132572	24.3
☒	LTE FDD 71	663	698	617	652	QPSK	3	max	133222	133297	133372	24.5
☐	NR FDD n1	1920	1980	2110	2170	QPSK,CP	3	max	386000	390000	394000	24.0
☒	NR FDD n2	1850	1910	1930	1990	QPSK,CP	3	max	372000	376000	380000	24.4
☐	NR FDD n3	1710	1785	1805	1880	QPSK,CP	3	max	345000	349500	354000	24.3
☒	NR FDD n5	824	849	869	894	QPSK,CP	3	max	166800	167300	167800	24.4
☒	NR FDD n7	2500	2570	2620	2690	QPSK,CP	3	max	500000	507000	514000	24.3
☐	NR FDD n8	880	915	925	960	QPSK,CP	3	max	178000	179500	181000	24.3
☒	NR FDD n12	699	716	729	746	QPSK,CP	3	max	139800	141500	143200	24.3
☒	NR FDD n13	777	787	746	756	QPSK,CP	3	max	1555400	156400	157400	24.3
☒	NR FDD n14	788	798	758	768	QPSK,CP	3	max	157600	158600	159600	24.3
☐	NR FDD n20	832	862	791	821	QPSK,CP	3	max	168400	169400	170400	24.3
☒	NR FDD n25	1850	1915	1930	1995	QPSK,CP	3	max	370000	376500	383000	24.2
☒	NR FDD n26	814	849	859	894	QPSK,CP	3	max	162800	166300	169800	25.0
☐	NR FDD n28	703	748	758	803	QPSK,CP	3	max	142600	145100	147600	24.5
☒	NR TDD n38	2570	2620	2570	2620	QPSK,CP	3	max	514000	519000	524000	26.4
☐	NR TDD n40	2300	2400	2300	2400	QPSK,CP	3	max	460000	470000	480000	25.8
☒	NR TDD n41	2496	2690	2496	2690	QPSK,CP	3	max	509202	518598	528000	26.3
☒	NR TDD n48	3550	3700	3550	3700	QPSK,CP	3	max	636667	641667	646666	23.2
☒	NR FDD n66	1710	1780	2110	2200	QPSK,CP	3	max	344000	349000	354000	24.4
☒	NR FDD n71	663	698	617	652	QPSK,CP	3	max	134600	136100	137600	24.6
☒	NR TDD n77	3300	4200	3300	4200	QPSK,CP	3	max	633332	643332	662000	26.3
☒	NR TDD n78	3300	3800	3300	3800	QPSK,CP	3	max	626733	636667	651467	26.2
☒	WLAN	2412	2462	2412	2462	CCK OFDM	--	max	1	6	11	17.9
☒	WLAN U-NII-1	5180	5240	5180	5240	OFDM	--	max	--	40	--	16.9
☒	WLAN U-NII-2	5260	5320	5260	5320	OFDM	--	max	--	60	--	16.8
☒	WLAN U-NII-2e	5500	5700	5500	5700	OFDM	--	max	104	108/116	128/136	17.1
☒	WLAN U-NII-3	5745	5825	5745	5825	OFDM	--	max	149	157	159/165	17.0
☒	WLAN U-NII-5	5925	6425	5925	6425	OFDM	--	max	23/25	55	71/87	17.4
☐	WLAN U-NII-6	6425	6525	6425	6525	OFDM	--	max	--	--	--	7.7
☒	WLAN U-NII-7	6525	6875	6525	6875	OFDM	--	max	135	151	167	17.0
☐	WLAN U-NII-8	6875	7125	6875	7125	OFDM	--	max	--	--	--	6.9
☒	BT EDR	2402	2480	2402	2480	GFSK	3	max	0	39	78	9.4
☐	BT LE	2402	2480	2402	2480	GFSK	3	max	0	19	39	8.0

2.5 Transmitter and Antenna Operating Configurations

Simultaneous transmission conditions	
UMTS / HSPA	+ BT/BLE
UMTS / HSPA	+ WLAN 2.4GHz
UMTS / HSPA	+ WLAN 5GHz
UMTS / HSPA	+ WLAN 6GHz
LTE	+ BT/BLE
LTE	+ WLAN 2.4GHz
LTE	+ WLAN 5GHz
LTE	+ WLAN 6GHz
NR	+ BT/BLE
NR	+ WLAN 2.4GHz
NR	+ WLAN 5GHz
NR	+ WLAN 6GHz

Table 1: Simultaneous transmission conditions

Note: BT and WLAN can be active at the same time, but only with interleaving of packages switched on board level. That means that they don't transmit at the same time.

BLE¹ - Bluetooth low energy

3 Test standards/ procedures references

Test Standard	Version	Test Standard Description
RSS-102 Issue 6	2023-12	Radio Frequency Exposure Compliance of Radiocommuni-cation Apparatus (All Frequency Bands)
Canada's Safety Code No. 6	2015-06	Limits of Human Exposure to Radiofrequency Electromag-netic Fields in the Frequency Range from 3 kHz to 300 GHz
IEEE Std. C95-3	2021	IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave
IEC/IEEE 62209-1528-2020	2020-10-19	Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)
RSS-102.IPD.MEAS Issue 2	2025-09-11	RSS-102.IPD.MEAS — Measurement Procedure for Assessing Incident Power Density (IPD) Compliance in Accordance with RSS-102
RSS-102.SAR.MEAS Issue 2	2025-08-15	Measurement Procedure for Assessing Specific Absorption Rate (SAR) Compliance in Accordance with RSS-102
RSS - Gen Issue 5 incl. Amendment 1 & 2	2021-02	Spectrum Management and Telecommunications Radio Standards Specification - General Requirements for Compliance of Radio Apparatus
IEC/IEEE 63195 ED1	2022-05	Measurement Procedure for the assessment of power density of human exposure to radio frequency fields from wireless devices operating in close proximity to the head and body – Frequency range of 6 GHz to 300 GHz
FCC KDBs:		
KDB 865664D01v01	August 7, 2015	FCC OET SAR measurement requirements 100 MHz to 6 GHz
KDB 865664D02v01	October 23, 2015	RF Exposure Compliance Reporting and Documentation Considerations
KDB 447498D01v06	October 23, 2015	Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies
KDB 941225D01v03	October 23, 2015	SAR Measurements Procedures for 3G Devices
KDB 941225D05v02	October 23, 2015	SAR for LTE Devices
KDB 941225D05Av01	October 23, 2015	LTE Rel. 10 KDB Inquiry Sheet
KDB 248227D01v02	October 23, 2015	SAR Measurement Procedures for 802.11 a/b/g Transmitters

3.1 RF exposure limits

3.1.1 SAR limits

RF Exposure levels according CFR 47 – Part 1, §1.1310 / RSS 102 Issue 06 / safety Code 6:

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain and Trunk)	1.60 W/kg	8.00 W/kg
Spatial Average SAR** (Whole Body)	0.08 W/kg	0.40 W/kg
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	4.00 W/kg	20.00 W/kg

Table 2: RF exposure limits (100 kHz to 6 GHz)

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).

3.1.2 IPD limits for ISED

The localized IPD limits and exposure duration according to RSS 102 above 6 GHz and up to 300 GHz are summarized in the following table:

Exposure scenario	Local incident power density (W/m ²)	Exposure duration (minutes)
Uncontrolled environment	55/ $f^{0.177}$	6
Controlled environment	275/ $f^{0.177}$	6

Note: f is frequency in GHz.

Localized IPD is to be averaged over a square 4 cm² surface area of the body.

For localized IPD frequencies above 30 GHz, an additional constraint, the spatial peak exposure, shall be imposed. The spatial peak limit is:

- two times the limits of the 4 cm² restrictions
- not averaged over an area

Refer to Health Canada's Safety Code 6 and its Notice for relevant notes and additional information.

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

3.1.3 IPD limits for FCC

Maximum Permissible Exposure levels according CFR 47 – Part 1, §1.1310:

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
1500-100000 MHz	10 W/m²	50 W/m ²

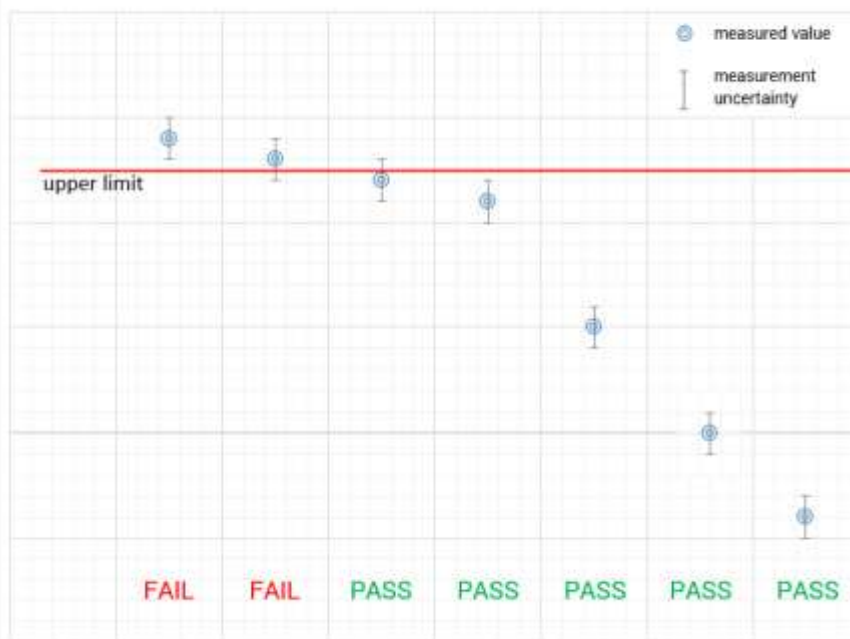
Table 3: Maximum Permissible exposure limits (1500 kHz to 100 GHz)

4 Reporting statements of conformity – decision rule

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed in chapter 3.

The measurement uncertainty is mentioned in this test report, see chapter 9, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 20% that the decision might be wrong."

measured value, measurement uncertainty, verdict



5 Summary of Measurement Results

☒	No deviations from the technical specifications ascertained			
☐	Deviations from the technical specifications ascertained			
Maximum SAR value reported for 1g (W/kg)				
		PCB	DTS	UNII
body worn 0 mm distance		0.661	0.106	0.615
collocated situations	ΣSAR evaluation PCB & DTS	0.855		--
collocated situations	ΣSAR evaluation PCB & UNII	1.486		

☒	No deviations from the technical specifications ascertained			
☐	Deviations from the technical specifications ascertained			
Maximum IPD value for 6065 MHz (W/m²)				
	psPD _{4cm²}		pIPD	
	reported	limit	reported	limit
0 mm separation distance (ISED)	4.04	11.8	4.58	23.5
2 mm separation distance (FCC)	4.04	10.0	--	--

NOTE:

APD was measured informational only at worst case with DASY module SAR:
3.26 W/m² (psAPD /4cm², sq at 0mm distance)

6 Test Environment

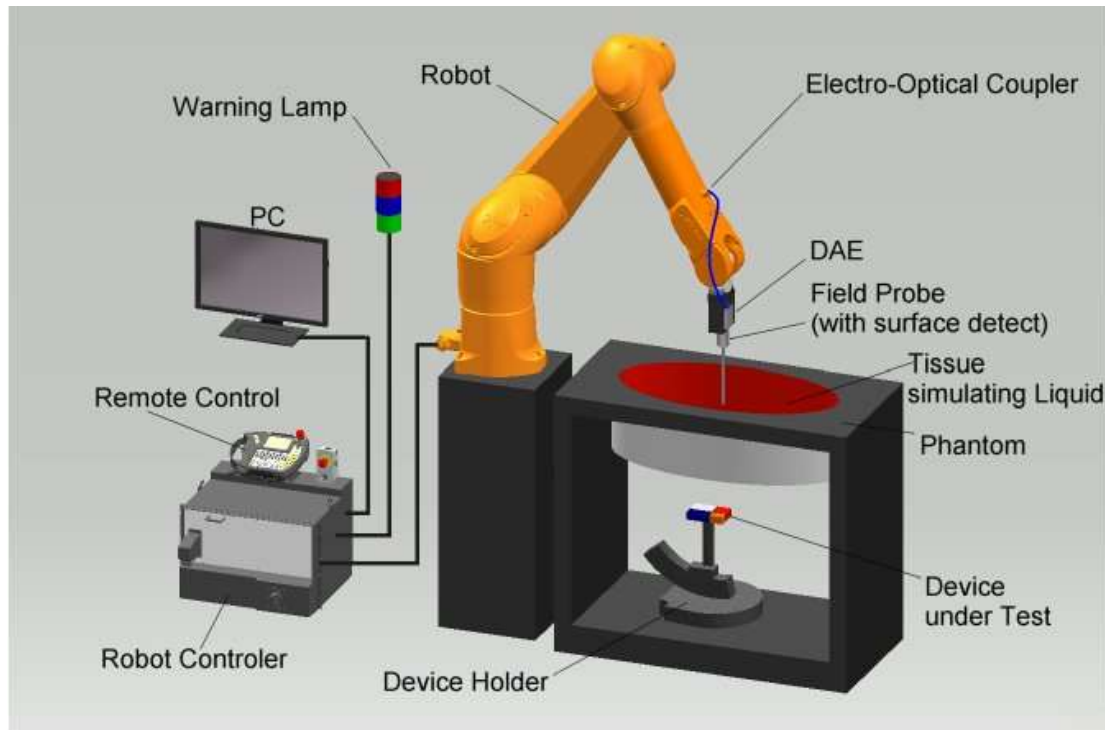
Ambient temperature:	20 – 24 °C
Tissue Simulating liquid:	20 – 24 °C
Relative humidity content:	40 – 50 %
Air pressure:	not relevant for this kind of testing
Power supply:	230 V / 50 Hz

NOTE: For the SAR measurements the exact temperature values for each test are shown in the SAR result tables and are also at the bottom of each measurement plot.

7 Test Set-up

7.1 Measurement system

7.1.1 System Description



- The DASY 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 DASY measurement server.
- The DASY 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.
- DASY 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 check dipoles allowing to validate the proper functioning of the system.

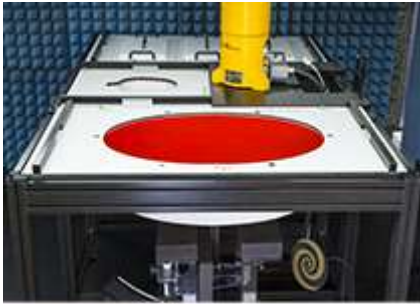
7.1.2 Test environment

The DASY measurement system is placed at the head end of a room with dimensions: 5 x 2.5 x 3 m³, the SAM phantom is placed in a distance of 75 cm from the side walls and 1.1m from the rear wall. Above the test system a 1.5 x 1.5 m² array of pyramid absorbers is installed to reduce reflections from the ceiling. Picture 1 of the photo documentation shows a complete view of the test environment. The system allows the measurement of SAR values larger than 0.005 W/kg.

7.1.3 Probe description

Isotropic E-Field Probe EX3DV4 for Dosimetric Measurements	
Technical data according to manufacturer information	
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 >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic range	10 μ W/g to > 100 W/kg; Linearity: ± 0.2 dB (noise: typically <1 μ W/g)
Dimensions	Overall length: 337 mm (Tip: 20mm) Tip length: 2.5 mm (Body: 12mm) Typical distance from probe tip to dipole centers: 1mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

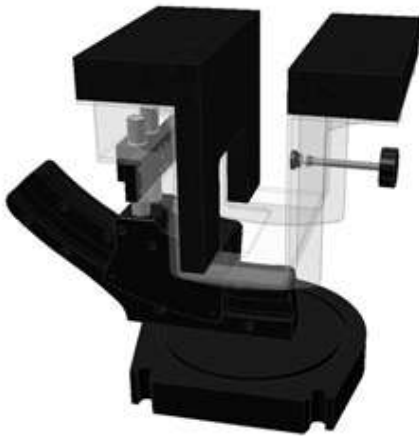
7.1.4 Phantom description



The used ELI Phantom is fully compatible with the IEC/IEEE 62209-1528 and all known tissue stimulating liquids. It meets the requirements specified in KDB865664 D01 for Specific Absorption Rate (SAR) measurements and is fully compatible with the standard IEC 62209-2. The phantom consists of a fibreglass shell integrated in a wooden table. The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 4MHz to 10 GHz.

7.1.5 Laptop Extension Kit for Device holder

SPEAG released a simple but effective extension for their Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc).



The extension is lightweight and made of POM, PET-G acrylic glass and foam. It fits easily on the upper part of the Mounting Device in place of the phone positioner.

Larger DUT's cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.

7.1.6 Scanning procedure

- The DASY installation includes predefined files with recommended procedures for measurements and system check. 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 highest integrated SAR value is the main concern in compliance test applications. These values can mostly be found at the inner surface of the phantom and cannot be measured directly due to the sensor offset in the probe. To extrapolate the surface values, the measurement distances to the surface must be known accurately. A distance error of 0.5mm could produce SAR errors of 6% at 1800 MHz. Measurements can be performed in a fixed plane or by following an arbitrary surface.
- For an automatic and accurate detection of the phantom surface, the DASY system uses Mechanical Surface Detection:

Mechanical Surface Detection

Mechanical surface detection uses the probe collision detector built into the DAE. It is extremely accurate if the probe is normal to the surface (0.05 mm). For angled probes, the distance increases, because the detection is at the edge of the probe tip. It can be used in any liquid with any kind of probe. If the surface is strongly angled with respect to the probe, the probe slides along the surface and is deflected sideways. The second switch system in the DAE will detect this situation and the probe will move backward until the touch condition is cleared. However, there will be some remaining uncertainty in the final probe position. In the job description, the desired distance from the probe sensors to the phantom surface can be entered. The detection is always at touch, but the probe will move backward from the surface the indicated distance before starting the measurement.

Mother Scan in cDASY6/DASY8 Module SAR

The cDASY6/DASY8 Module SAR provides the possibility to do a Mother Scan in which a high resolution Area Scan is done in the phantom filled with liquid to a fixed level using a special teaching probe. This mother scan data is used to recreate the phantom inner surface in software, and all future area and/or zoom scans, and a surface detection check is no longer required.

- The „area scan“ measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The scan uses different grid spacings for different frequency measurements. Standard grid spacing for head measurements in frequency ranges ≤ 2 GHz is 15 mm in x- and y- dimension. For higher frequencies a finer resolution is needed, thus for the grid spacing is reduced according the following table:

Area scan grid spacing for different frequency ranges	
Frequency range	Grid spacing
≤ 2 GHz	≤ 15 mm
2 – 4 GHz	≤ 12 mm
4 – 6 GHz	≤ 10 mm

Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation. Results of this coarse scan are shown in annex B.

- A „zoom scan“ measures the field in a volume around the 2D peak SAR value acquired in the previous „coarse“ scan. It uses a fine meshed grid where the robot moves the probe in steps along all the 3 axis (x, y and z-axis) starting at the bottom of the Phantom. The grid spacing for the cube measurement is varied according to the measured frequency range, the dimensions are given in the following table:

Zoom scan grid spacing and volume for different frequency ranges			
Frequency range	Grid spacing for x, y axis	Grid spacing for z axis	Minimum zoom scan volume
≤ 2 GHz	≤ 8 mm	≤ 5 mm	≥ 30 mm
2 – 3 GHz	≤ 5 mm*	≤ 5 mm	≥ 28 mm
3 – 4 GHz	≤ 5 mm*	≤ 4 mm	≥ 28 mm
4 – 5 GHz	≤ 4 mm*	≤ 3 mm	≥ 25 mm
5 – 6 GHz	≤ 4 mm*	≤ 2 mm	≥ 22 mm

* 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.

- DASY provides an auto-extending feature to expand the size of the measurement area of the zoom scan as long as the maximum is found too close to the edge of the measured range, which eliminates the need to re-measure cubes whose maximum is found on the boundary of the defined measurement cube.
- To meet the requirements of **IEC 62209-2 AMD1 from 2019** it is necessary to perform graded grid measurements to avoid measurement mistakes.

Below 3 GHz it defines:

Horizontal grid step ≤ 8 mm

Vertical grid step ≤ 5 mm for uniform spacing

For variable spacing in vertical direction the maximum distance between the two closest measured points to the phantom shell (M1 and M2) shall be ≤ 4 mm and the spacing between farther points shall increase by a factor ≤ 1.5 . Zoom Scan size ≤ 30 mm by 30 mm by 30 mm.

Above 3 GHz it defines:

Horizontal grid step $\leq (24/f [\text{GHz}])$ mm

Vertical grid step $\leq (10/(f [\text{GHz}] - 1))$ mm for uniform spacing

For variable spacing in vertical direction the maximum distance between the two closest measured points to the phantom shell (M1 and M2) shall be $\leq (12/f [\text{GHz}])$ mm and the spacing between farther points shall increase by a factor ≤ 1.5 . Zoom Scan size ≤ 22 mm by 22 mm by 22 mm.

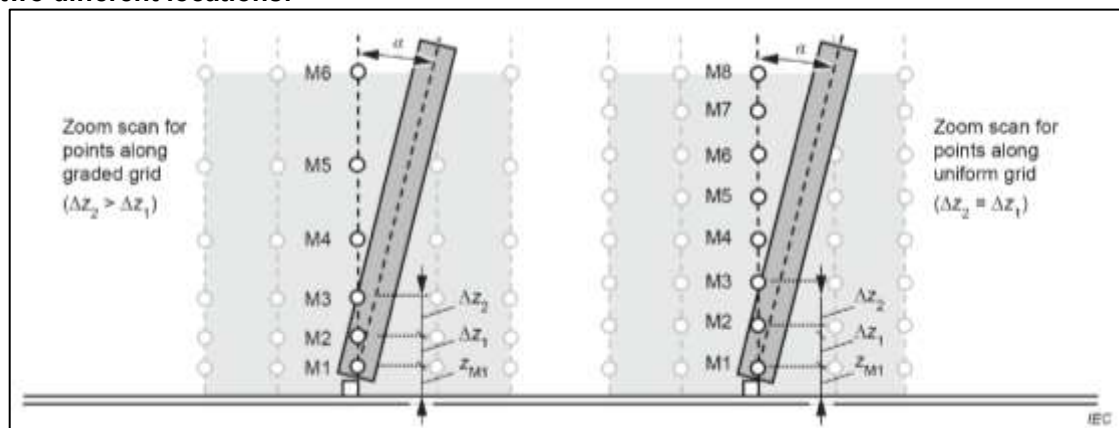
If the zoom scan measured as defined above complies with both of the following criteria, or if the peak spatial-average SAR is below 0.1 W/kg, no additional measurements are needed:

- the smallest horizontal distance from the local SAR peaks to all points 3 dB below the SAR peak shall be larger than the horizontal grid steps in both x and y directions (Δx , Δy). This shall be checked for the measured zoom scan plane conformal to the phantom at the distance z_{M1} . The minimum distance shall be recorded in the SAR test report;
- the ratio of the SAR at the second measured point (M2) to the SAR at the closest measured point (M1) at the x-y location of the measured maximum SAR value shall be at least 30 %. This ratio (in %) shall be recorded in the SAR test report.

If one or both of the above criteria are not met, the zoom scan measurement shall be repeated using a finer resolution while keeping the other zoom scan parameters compatible with the basic requirements for zoom scans.

New horizontal and vertical grid steps shall be determined from the measured SAR distribution so that the above criteria are met. Compliance with the above two criteria shall be demonstrated for the new measured zoom scan. The size of the higher resolution zoom scan and all other parameters shall apply. The closest point to the phantom shell shall be 2 mm or less for graded grids and the grading factor shall be 1.5 or less. Uncertainties due to field distortion between the media boundary and the dielectric enclosure of the probe should also be minimized, which is achieved if the distance between the phantom surface and physical tip of the probe is larger than the probe tip diameter. Other methods may utilize correction procedures to compensate for boundary effects that enable high precision measurements closer than half the probe tip diameter. For all measurement points, the angle of the probe normal to the flat phantom surface shall be less than 5° . If this cannot be achieved, an additional uncertainty evaluation is required.

Orientation of the probe with respect to the line normal to the phantom surface, shown at two different locations:



NOTE M1 to M8 are example measurement points used for extrapolation to the surface. The maximum of the angle α between the evaluation axis and the surface normal line is called the probe angle. The distance z_{M1} is from the phantom shell to the first measurement point M1, and its maximum value is 1.4mm fixed for the DASY system equipped with an EX-Probe. The distances Δz_i ($i = 1, 2, 3, \dots$) are the distances from measurement points M_i to M_{i-1} . For uniform grids, Δz_i are equal. For graded grids, $\Delta z_{i+1} > \Delta z_i$. $R_z = \Delta z_{i+1}/\Delta z_i$ is a ratio with a maximum value (defined in the table below). The z direction corresponds to the vertical direction, the x direction is horizontal and the y direction is horizontal into the page.

NOTE 1: The evaluation of the zoom scan is typically done by the post-processor by interpolation and extrapolation and without reconstruction of the field. More focused induced SAR distributions (e.g., for more localized sources such as capacitively coupled sources) require a more dense grid such that the same integration and extrapolation algorithms can be used for the same assessment uncertainty.

NOTE 2: The minimum ratio of 30 % is derived from the plane wave penetration depth at 6 GHz.

Detailed parameters can be seen in the following table:

Zoom scan parameters

Parameter	DUT transmit frequency being tested	
	$f \leq 3 \text{ GHz}$	$3 \text{ GHz} < f \leq 6 \text{ GHz}$ (f in GHz)
Maximum distance between the closest measured points and the phantom surface (z_{M1} in Figure 18 and Table 1, in mm)	5	$\delta \ln(2)/2^a$
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20)	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Maximum spacing between measured points in the x- and y-directions (Δx and Δy , in mm)	8	$24 / f^b$
For uniform grids: Maximum spacing between measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	5	$10 / (f - 1)$
For graded grids: Maximum spacing between the two closest measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	4	$12/f$
For graded grids: Maximum incremental increase in the spacing between measured points in the direction normal to the phantom shell ($R_z = \Delta z_2/\Delta z_1$ in Figure 20)	1.5	1.5
Minimum edge length of the zoom scan volume in the x- and y-directions (L_z in O.8.3.2, in mm)	30	22
Minimum edge length of the zoom scan volume in the direction normal to the phantom shell (L_h in O.8.3.2 in mm)	30	22
Tolerance in the probe angle	1°	1°

^a δ is the penetration depth for a plane-wave incident normally on a planar half-space.

^b This is the maximum spacing allowed, which might not work for all circumstances.

Minimum probe requirements as a function of frequency and parameters of the tissue equivalent liquid

1	2	3	4	5	6	7	8
Frequency MHz	Relative permittivity	Conductivity S/m	Wavelength in the medium (λ) mm	Plane wave Skin Depth (δ) mm	Maximum Diameter mm	50% Distance for M1 ($z_{50\%} = \delta \ln(2)/2$) mm	Min. distance for M1 (z_{M1}) mm
300	45.3	0.87	148.6	46.1	8.0	16.0	5.0
450	43.5	0.87	101.1	42.9	8.0	14.9	5.0
750	41.9	0.89	61.8	39.8	8.0	13.8	5.0
835	41.5	0.90	55.8	38.9	8.0	13.5	5.0
900	41.5	0.97	51.7	36.1	8.0	12.5	5.0
1450	40.5	1.20	32.5	28.6	8.0	9.9	5.0
1800	40.0	1.40	26.4	24.3	8.0	8.4	5.0
2000	40.0	1.40	23.7	24.2	8.0	8.4	5.0
2450	39.2	1.80	19.6	18.7	6.5	6.5	5.0
2600	39.0	1.96	18.5	17.2	6.2	5.9	5.0
3000	38.5	2.40	16.1	13.9	5.4	4.8	5.0
4000	37.4	3.43	12.3	9.6	4.1	3.3	3.3
5000	36.2	4.45	10.0	7.3	3.3	2.5	2.5
5200	36.0	4.66	9.6	7.0	3.2	2.4	2.4
5400	35.8	4.86	9.3	6.7	3.1	2.3	2.3
5600	35.5	5.07	9.0	6.4	3.0	2.2	2.2
5800	35.3	5.27	8.7	6.1	2.9	2.1	2.1
6000	35.1	5.48	8.4	5.9	2.8	2.0	2.0

Further probe parameters can be seen in Annex M of IEC 62209-2.

7.1.7 Spatial Peak SAR Evaluation

The cDASY6/DASY8 Module SAR software includes all numerical procedures necessary to evaluate the spatial peak SAR values. Based on the IEEE 1528 standard, a new algorithm has been implemented. The spatial-peak SAR can be computed over any required mass.

The base for the evaluation is a "cube" measurement in a volume of 30mm³ below 3GHz or 22mm³ above 3GHz. The measured volume must include the 1 g and 10 g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan. If the 10g cube or both cubes are not entirely inside the measured volumes, the system issues a warning regarding the evaluated spatial peak values within the post-processing engine. This means that if the measured volume is shifted, higher values might be possible. To get the correct values a finer measurement grid for the area scan is used. In complicated field distributions, a large grid spacing for the area scan might miss some details and give an incorrectly interpolated peak location. cDASY6/DASY8 Module SAR allows to automatically extend the grid to make sure that both cubes are inside the measured volume.

The entire evaluation of the spatial peak values is performed within the application in case of cDASY6/DASY8 Module SAR software. The system always gives the maximum values for the 1 g and 10 g cubes. The DASY6 software allow to automatically extend the grid to make sure that both cubes are inside the measured volume. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. extraction of the measured data (grid and values) from the Zoom Scan
2. calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. generation of a high-resolution mesh within the measured volume
4. interpolation of all measured values from the measurement grid to the high-resolution grid
5. extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. calculation of the averaged SAR within masses of 1 g and 10 g The significant parts are outlined in more detail within the following sections.

Interpolation, Extrapolation and Detection of Maxima

The probe is calibrated at the center of the dipole sensors which is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated.

The choice of the coordinate system defining the location of the measurement points has no influence on the uncertainty of the interpolation, Maxima Search and extrapolation routines. The interpolation, extrapolation and maximum search routines are all based on the modified Quadratic Shepard's method [Robert J. Renka, "Multivariate Interpolation Of Large Sets Of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148.].

Thereby, the interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation. The DASY6 routines construct a once-continuously differentiable function that interpolates the measurement values as follows:

- For each measurement point a trivariate (3-D) / bivariate (2-D) quadratic is computed. It interpolates the measurement values at the data point and forms a least-square fit to neighbouring measurement values.
- the spatial location of the quadratic with respect to the measurement values is attenuated by an inverse distance weighting. This is performed since the calculated quadratic will fit measurement values at nearby points more accurate than at points located further away.
- After the quadratics are calculated at all measurement points, the interpolating function is calculated as a weighted average of the quadratics.

There are two control parameters that govern the behavior of the interpolation method.

One specifies the number of measurement points to be used in computing the least-square fits for the local quadratics. These measurement points are the ones nearest the input point for which the quadratic is being computed.

The second parameter specifies the number of measurement points that will be used in calculating the weights for the quadratics to produce the final function. The input data points used there are the ones nearest the point at which the interpolation is desired. Appropriate defaults are chosen for each of the control parameters.

The trivariate quadratics that have been previously computed for the 3-D interpolation and whose input data are at the closest distance from the phantom surface, are used in order to extrapolate the fields to the surface of the phantom.

In order to determine all the field maxima in 2-D (Area Scan) and 3-D (Zoom Scan), the measurement grid is refined by a default factor of 10 (area) and 5 (zoom), respectively, and the interpolation function is used to evaluate all field values between corresponding measurement points. Subsequently, a linear search is applied to find all the candidate maxima. In a last step, non physical maxima are removed and only those maxima which are within 2 dB of the global maximum value are retained.

Important: To be processable by the interpolation/extrapolation scheme, the Area Scan requires at least 6 measurement points. The Zoom Scan requires at least 10 measurement points to allow the application of these algorithms.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extrema of the SAR distribution. The uncertainty on the locations of the extrema is less than 1/20 of the grid size. Only local maxima within 2 dB of the global maximum are searched and passed for the Zoom Scan measurement.

In the Zoom Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

Averaging and Determination of spatial Peak SAR

Within cDASY6/DASY8 Module SAR software, the measured grid is interpolated to a high resolution grid, where the resolution is around 1mm and chosen such that the cube volume is a multiple of the resolution. Points which are outside of the measured grid are masked out and set to zero. Then, the antiderivative of the interpolated grid is computed by using a Gaussian quadrature consecutively for all spatial dimensions.

The antiderivative is used to compute all cube averages of the volume with the same resolution as the interpolated grid. The maximum of these SAR averages is reported. If the cube containing the maximum averaged SAR touches the surface of the measured volume, an appropriate warning is issued within the Post-processing engine.

7.1.8 Data Storage and Evaluation

Data Storage

The DASY 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", ".DA5x". 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], [W/kg], [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 by SEMCAD

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	$\text{Norm}_i, a_{i0}, a_{i1}, a_{i2}$
	- Conversion factor	ConvF_i
	- 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 DASY 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:

$$V_i = U_i + U_i^2 \cdot cf/dcp_i$$

with V_i = compensated signal of channel i (i = x, y, z)
 U_i = input signal of channel i (i = x, y, z)
 cf = crest factor of exciting field (DASY parameter)
 dcp_i = diode compression point (DASY parameter)

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

E-field probes: $E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$

H-field probes: $H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2)/f$

with V_i = compensated signal of channel i (i = x, y, z)
 $Norm_i$ = sensor sensitivity of channel i (i = x, y, z)
[mV/(V/m)²] for E-field Probes
 $ConvF$ = sensitivity enhancement in solution
 a_{ij} = sensor sensitivity factors for H-field probes
 f = carrier frequency [GHz]
 E_i = electric field strength of channel i in V/m
 H_i = magnetic field strength of channel i in A/m

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

$$E_{tot} = (E_x^2 + E_y^2 + E_z^2)^{1/2}$$

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

$$SAR = (E_{tot}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with SAR = local specific absorption rate in W/kg
 E_{tot} = 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. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with P_{pwe} = equivalent power density of a plane wave in mW/cm²
 E_{tot} = total electric field strength in V/m
 H_{tot} = total magnetic field strength in A/m

Data Evaluation in cDASY6/DASY8

cDASY6/DASY8 features basic evaluation capabilities comparable to the above described SEMCAD evaluation.

7.1.9 Workflow for Power Density Compliance Testing

Compliance testing an accurate method ensuring no overestimation of the exposure. The workflow implemented in DASY8 Module consists of the following steps:

1. Project generation,
2. teaching of the DUT position,
3. parallel and perpendicular scan with automated grid optimization,
4. algorithmic reconstruction

Additionally, the system performance is routinely verified using the standard verification sources as DUT's.

7.1.10 Compatibility with IEC/IEEE 63195-1

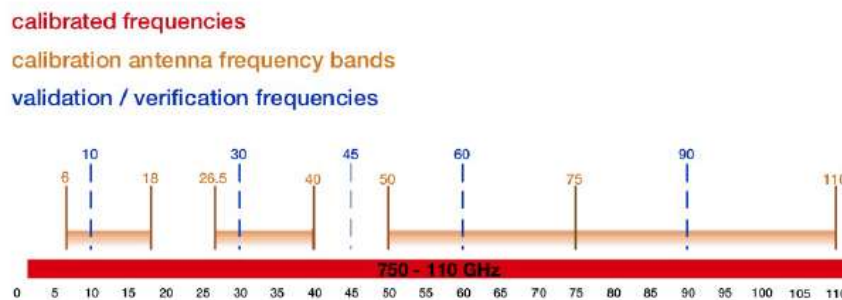
DASY8 mmWave Module is fully compliant with IEC PAS 63184:2021 and evaluates the reference values and basic restrictions according to All international and national standards for incident PD above 6 GHz, e.g., IEC/IEEE 63195-1, and Base station standards, e.g., IEC 62232

7.1.11 Probe description

The EU mmWV4 probe is based on the pseudo-vector probe design, which not only measures the field magnitude but also derives its polarization ellipse. This probe concept is advantageous because the sensor angle errors or distortions of the field by the substrate can be largely nullified by calibration. This is particularly important as field distortions by the substrate are dependent on the wavelength at these very high frequencies.

The probe contains two small 0.8mm dipole sensors mechanically protected by high-density foam, printed on both sides of a 0.9mm wide and 0.12mm thick glass substrate. The body of the probe is specifically constructed to minimize distortion by the scattered fields.

The sensitivity of the probe sensors, which is dependent on frequency, is calibrated during exposure to E-fields of known amplitude. The frequency response of the sensor is smooth over the entire frequency and can be approximated with a lumped element model of five elements. During a pre-calibration step using the same setup as for calibration, we determine the values of the lumped elements. The evaluation method is based on a least-squares optimization and it increases the precision of the calibration. It also provides reliable sensitivity parameters over the entire calibration frequency range, covering the gaps between the calibration bands. The stated uncertainty is therefore also valid for the entire frequency range from 750MHz to 110 GHz.



Calibration bands and frequencies from 6-110 GHz, as shown in DASY8 module mmWave manual

The probe consists of two sensors with different angles (γ_1 and γ_2) arranged in the same plane in the probe axis. Three measurements of the two sensors are taken for different probe rotational angles to derive the amplitude and polarization information.

The probe design allows measurements at distances as small as 2 mm from the sensors to the surface of the DUT. The typical sensor to the probe tip distance is 1.5 mm. The exact distance is calibrated.

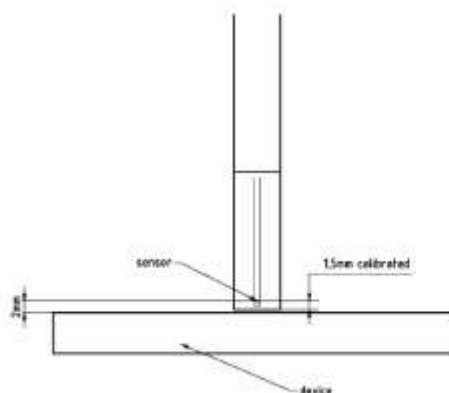


Illustration of the distance sensor to the DUT surface from DASY8 module mmWave manual

7.1.12 Phantom Description

The mmWave Phantom approximates free-space conditions, allowing for the evaluation of the antenna side of the device and the front (screen) side or any opposite-radiating side of wireless devices operating above 10 GHz without distorting the RF field. It consists of a 40 mm thick Rohacell plate used as a test bed, which has a loss tangent ($\tan \delta$) ≤ 0.05 and a relative permittivity (ϵ_r) ≤ 1.2 . High-performance RF absorbers are placed below the foam.



Cross section of the mmWave phantom, as shown in the DASY8 module mmWave manual

The reflectivity performance of the mmWave phantom has been evaluated in comparison to the predecessor 5G Phantom and a total reflective backside of the foam.

The reflectivity of both phantoms was measured with a method similar to the NRL arch approach, except that the phantoms under study were placed in the near-fields of the transmitting antenna and the receiving antenna.

The reflectivity measurement was performed at 10, 30, 60, and 90 GHz. At each frequency, a corresponding pair of pyramidal horns was used as the transmitting antenna and the receiving antenna. The continuous-wave (CW) signal fed into the transmitting antenna was generated by a signal generator at 10 GHz and a Gunn oscillator at 30, 60, and 90 GHz. The power captured by the receiving antenna was measured by a thermal power sensor. The transmitting antenna and the receiving antenna were placed symmetrically to the normal of the metal plate. The antennas were further oriented to provide perpendicular polarization and to roughly meet the specular-reflection law (since either the transmitting antenna or the receiving antenna may be moved slightly around their initial positions to capture the maximum reflected power and/or the casing of the antennas and the power sensor makes it impossible to move the antennas close enough for very small incident angles). Three incident angles, varying from $< 10^\circ$ to approx. 45° , were studied at each frequency. The reflectivity of the phantom is quantified by the difference between the reflected power exclusively from the metal plate and the reflected power from the phantom placed on the same metal plate.

The results demonstrate that the reflectivity of the mmWave phantom is reduced by more than 20 dB between 10 and 90 GHz compared to the predecessor 5G phantom and better than 20 dB with respect to a phantom with total reflections (i.e., the foam with a large metal plate on its backside).

The mmWave phantom meets all the requirements for accurate exposure evaluations of any device operating at >10 GHz. The 5G phantom should only be used if the device radiates away from the phantom.

7.1.13 mmWave Device Holder (mmWDH)

mmWave Device Holder (mmWDH) is designed to ease positioning of the DUT of various sizes when measuring PD along an edge. It is made of low loss Rohacell material and meets the standard requirements. It is provided with an additional spacer to accommodate devices with smaller form factors.

Figure 3.13.1 shows a DASY8 system setup for PD compliance testing at mmWave frequencies (e.g., for testing a laptop positioned within the mmWDH). The DUT is held with a mmWDH placed on top of the mmWave phantom.



Figure 3.13.1: Test Setup with the mmWave Device Holder

Test Setup with the mmWave Device Holder (Side/Edge position of the DUT)

7.1.14 Scanning procedure

The DASY installation includes predefined files with recommended procedures for measurements and system check. 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 highest integrated PD value is the main concern in compliance test applications. These values can mostly be found at the inner surface of the phantom and cannot be measured directly due to the sensor offset in the probe. To extrapolate the surface values, the measurement distances to the surface must be known accurately.

7.1.15 mmWave Verification and Validation Sources

The horn antenna-based verification sources are used for regular system verification. They are available at five different frequencies: 10 GHz, 30 GHz, 45 GHz, 60 GHz, and 90 GHz (see Figure 3.14.1). The 10 GHz source has a SMA connector and can be connected to any supply generator. The other sources comprise a Gunn oscillator.



(a) 10 GHz Source



(b) 30/45/60 and 90 GHz source

Verification sources at mmWave frequencies

The validation sources are used for in-depth performance evaluations and software validation according to the IEC/IEEE 63195-1. Two types of sources are available:

- Cavity-backed array of dipoles arranged in an offset lattice according to the modes generated in the resonant cavity. The dipoles are printed onto one face of a low-loss dielectric substrate and excited by non-resonant rectangular slots located on the opposite face of the substrate.
- Pyramidal horn loaded with an array of rectangular slot antennas on the aperture. Each source type is available for 10 GHz, 30 GHz, 60 GHz, and 90 GHz.

Grid settings:

Frequency [GHz]	Grid step	Grid extent X/Y [mm]	Measurement points
10	0.125 $\left(\frac{\lambda}{8}\right)$	60/60	18×18
30	0.25 $\left(\frac{\lambda}{4}\right)$	60/60	26×26
45	0.25 $\left(\frac{\lambda}{4}\right)$	42/42	28×28
60	0.25 $\left(\frac{\lambda}{4}\right)$	32.5/32.5	28×28
90	0.25 $\left(\frac{\lambda}{4}\right)$	30/30	38×38

Table 5.1.1: Recommended settings for the measurement of verification sources

Recommended settings for the measurement of verification sources advised in DASY8 module mmWave manual

The measured psPD_{n+} , $\text{psPD}_{\text{tot}+}$, and $\text{psPD}_{\text{mod}+}$ values over 1 cm² or 4 cm² for the desired averaging geometry are compared to the calibrated value and expected to be below 0.66 dB.

7.1.16 Tissue simulating liquids: dielectric properties

The following materials are used for producing the tissue-equivalent materials.

HBBL600-10000MHz Simulating Head Liquid, Manufactured by SPEAG:

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

Table 4: Head tissue dielectric properties

7.1.17 Tissue simulating liquids: parameters

Freq. (MHz)	Target head tissue		Measurement head tissue					Measurement date
	Permittivity	Conductivity [S/m]	Permittivity	Dev. %	Conductivity		Dev. %	
					ε"	[S/m]		
673	42.31	0.88	41.2	-2.7	24.09	0.90	1.8	2026-04-20
680	42.27	0.89	41.1	-2.7	23.89	0.90	2.0	
688	42.23	0.89	41.1	-2.7	23.67	0.91	2.2	
700	42.17	0.89	41.1	-2.6	23.34	0.91	2.5	
704	42.15	0.89	41.0	-2.6	23.25	0.91	2.7	
707	42.13	0.89	41.0	-2.6	23.18	0.91	2.8	
709	42.12	0.89	41.0	-2.6	23.13	0.91	2.8	
710	42.11	0.89	41.0	-2.6	23.11	0.91	2.8	
711	42.11	0.89	41.0	-2.6	23.08	0.91	2.9	
750	41.90	0.89	40.9	-2.4	22.15	0.92	3.8	
779	41.76	0.89	40.9	-2.2	21.55	0.93	4.5	
782	41.75	0.89	40.8	-2.2	21.49	0.93	4.6	
784	41.74	0.89	40.8	-2.1	21.44	0.94	4.6	
790	41.71	0.89	40.8	-2.1	21.32	0.94	4.7	
793	41.70	0.90	40.8	-2.1	21.26	0.94	4.8	
795	41.69	0.90	40.8	-2.1	21.21	0.94	4.8	
704	42.15	0.89	41.4	-1.7	22.65	0.89	0.0	2026-05-21
707	42.13	0.89	41.4	-1.7	22.59	0.89	0.1	
711	42.11	0.89	41.4	-1.6	22.49	0.89	0.3	
750	41.90	0.89	41.3	-1.5	21.60	0.90	1.3	
779	41.76	0.89	41.2	-1.3	21.03	0.91	2.0	
782	41.75	0.89	41.2	-1.3	20.97	0.91	2.1	
784	41.74	0.89	41.2	-1.3	20.93	0.91	2.1	
790	41.71	0.89	41.2	-1.2	20.81	0.91	2.2	2026-04-20
793	41.70	0.90	41.2	-1.2	20.75	0.92	2.3	
795	41.69	0.90	41.2	-1.2	20.71	0.92	2.3	
822	41.56	0.90	40.8	-1.9	20.72	0.95	5.5	
829	41.53	0.90	40.8	-1.8	20.59	0.95	5.6	
832	41.51	0.90	40.8	-1.8	20.54	0.95	5.7	
835	41.50	0.90	40.8	-1.8	20.49	0.95	5.7	
837	41.50	0.90	40.8	-1.8	20.45	0.95	5.6	
842	41.50	0.91	40.8	-1.8	20.36	0.95	5.1	
852	41.50	0.92	40.8	-1.8	20.19	0.96	4.2	

Freq. (MHz)	Target head tissue		Measurement head tissue					Measurement date
	Permittivity	Conductivity [S/m]	Permittivity	Dev. %	Conductivity		Dev. %	
					ε"	[S/m]		
824	41.55	0.90	41.1	-1.0	20.22	0.93	3.1	2026-05-21
825	41.55	0.90	41.1	-1.0	20.20	0.93	3.1	
829	41.53	0.90	41.1	-0.9	20.13	0.93	3.2	
832	41.51	0.90	41.1	-0.9	20.08	0.93	3.3	
835	41.50	0.90	41.1	-0.9	20.03	0.93	3.4	
837	41.50	0.90	41.1	-0.9	20.00	0.93	3.2	
840	41.50	0.91	41.1	-0.9	19.95	0.93	3.0	
1712	40.13	1.35	39.4	-1.8	13.96	1.33	-1.5	2026-04-17
1720	40.11	1.35	39.4	-1.8	13.94	1.33	-1.5	
1732	40.10	1.36	39.4	-1.8	13.91	1.34	-1.5	
1740	40.09	1.37	39.3	-1.9	13.89	1.34	-1.5	
1745	40.08	1.37	39.3	-1.9	13.88	1.35	-1.6	
1750	40.07	1.37	39.3	-1.9	13.87	1.35	-1.6	
1752	40.07	1.37	39.3	-1.9	13.86	1.35	-1.6	
1770	40.04	1.38	39.4	-1.6	13.98	1.38	-0.5	2026-05-22
1730	40.10	1.36	39.5	-1.6	14.07	1.35	-0.5	
1745	40.08	1.37	39.4	-1.6	14.03	1.36	-0.5	
1750	40.07	1.37	39.4	-1.6	14.02	1.36	-0.5	
1760	40.06	1.38	39.4	-1.6	14.00	1.37	-0.5	
1850	40.00	1.40	39.2	-2.0	13.66	1.41	0.4	2026-04-16
1852	40.00	1.40	39.2	-2.0	13.65	1.41	0.5	
1860	40.00	1.40	39.2	-2.1	13.64	1.41	0.8	
1880	40.00	1.40	39.1	-2.1	13.60	1.42	1.6	
1882	40.00	1.40	39.1	-2.1	13.60	1.42	1.7	
1900	40.00	1.40	39.1	-2.2	13.57	1.43	2.4	
1905	40.00	1.40	39.1	-2.2	13.56	1.44	2.7	
1908	40.00	1.40	39.1	-2.2	13.56	1.44	2.8	2026-05-20
1870	40.00	1.40	39.8	-0.6	13.78	1.43	2.4	
1880	40.00	1.40	39.7	-0.7	13.76	1.44	2.8	
1890	40.00	1.40	39.7	-0.7	13.74	1.45	3.2	
1900	40.00	1.40	39.7	-0.7	13.73	1.45	3.6	2026-04-29
2402	39.28	1.76	39.8	1.3	13.33	1.78	1.3	
2412	39.27	1.77	39.8	1.3	13.32	1.79	1.2	
2437	39.22	1.79	39.7	1.3	13.32	1.81	1.0	
2442	39.21	1.79	39.7	1.3	13.32	1.81	0.9	
2450	39.20	1.80	39.7	1.3	13.32	1.82	0.9	
2462	39.18	1.81	39.7	1.3	13.32	1.82	0.6	
2472	39.17	1.82	39.7	1.3	13.31	1.83	0.4	
2480	39.16	1.83	39.7	1.3	13.31	1.84	0.2	

Freq. (MHz)	Target head tissue		Measurement head tissue					Measurement date
	Permittivity	Conductivity [S/m]	Permittivity	Dev. %	Conductivity		Dev. %	
					ε"	[S/m]		
2506	39.13	1.86	38.0	-2.8	13.50	1.88	1.2	2026-04-22
2510	39.12	1.86	38.0	-2.8	13.50	1.88	1.1	
2535	39.09	1.89	38.0	-2.9	13.49	1.90	0.6	
2550	39.07	1.91	37.9	-2.9	13.49	1.91	0.4	
2560	39.05	1.92	37.9	-2.9	13.49	1.92	0.2	
2568	39.04	1.93	37.9	-2.9	13.49	1.93	0.1	
2593	39.01	1.95	37.9	-2.9	13.50	1.95	-0.3	
2600	39.00	1.96	37.9	-2.9	13.50	1.95	-0.4	
2680	38.90	2.05	37.7	-3.0	13.49	2.01	-1.8	
2520	39.11	1.87	38.3	-2.0	13.62	1.91	1.9	2026-05-22
2535	39.09	1.89	38.3	-2.0	13.63	1.92	1.6	
2550	39.07	1.91	38.3	-2.0	13.63	1.93	1.4	
2600	39.00	1.96	38.2	-2.0	13.64	1.97	0.7	
3410	38.01	2.82	38.2	0.5	13.99	2.65	-5.8	2026-04-23
3500	37.90	2.91	38.0	0.3	14.03	2.73	-6.1	
3560	37.84	2.97	37.9	0.1	14.05	2.78	-6.4	
3590	37.81	3.00	37.8	0.0	14.06	2.81	-6.5	
3600	37.80	3.01	37.8	0.0	14.06	2.82	-6.6	
3610	37.79	3.02	37.8	0.0	14.06	2.82	-6.6	
3625	37.78	3.04	37.8	0.0	14.07	2.84	-6.7	
3690	37.71	3.11	37.7	-0.1	14.08	2.89	-7.0	
3700	37.70	3.12	37.6	-0.1	14.09	2.90	-7.0	
3790	37.61	3.21	37.5	-0.3	14.13	2.98	-7.2	
3310	38.13	2.72	39.4	3.2	13.65	2.51	-7.5	2026-05-26
3460	37.95	2.87	39.2	3.3	13.69	2.64	-8.1	
3500	37.90	2.91	39.2	3.3	13.74	2.68	-8.1	
3540	37.86	2.95	39.1	3.3	13.78	2.71	-8.1	
3550	37.85	2.96	39.1	3.3	13.79	2.72	-8.1	
3570	37.83	2.98	39.1	3.3	13.82	2.74	-8.0	
3625	37.78	3.04	39.0	3.3	13.89	2.80	-7.9	
3680	37.72	3.10	39.0	3.3	13.96	2.86	-7.7	
3700	37.70	3.12	38.9	3.3	13.99	2.88	-7.6	
3710	37.69	3.13	38.9	3.3	14.00	2.89	-7.6	
3750	37.65	3.17	38.9	3.3	14.05	2.93	-7.5	
3840	37.56	3.26	38.8	3.4	14.15	3.02	-7.4	
3930	37.47	3.36	38.8	3.5	14.24	3.11	-7.2	
3970	37.43	3.40	38.7	3.5	14.27	3.15	-7.3	

Freq. (MHz)	Target head tissue		Measurement head tissue					Measurement date
	Permittivity	Conductivity [S/m]	Permittivity	Dev. %	Conductivity		Dev. %	
					ε"	[S/m]		
5200	36.00	4.66	34.8	-3.4	15.17	4.39	-5.8	2026-05-05
5300	35.90	4.76	34.6	-3.5	15.26	4.50	-5.4	
5500	35.65	4.97	34.4	-3.6	15.38	4.71	-5.2	
5520	35.62	4.99	34.3	-3.6	15.41	4.73	-5.1	
5540	35.59	5.01	34.3	-3.6	15.43	4.76	-5.0	
5580	35.53	5.05	34.2	-3.6	15.47	4.80	-4.9	
5640	35.46	5.11	34.1	-3.7	15.52	4.87	-4.7	
5680	35.42	5.15	34.1	-3.8	15.54	4.91	-4.7	
5745	35.36	5.22	34.0	-3.9	15.58	4.98	-4.5	
5785	35.32	5.26	33.9	-4.0	15.62	5.03	-4.4	
5800	35.30	5.27	33.9	-4.0	15.63	5.04	-4.3	
5825	35.28	5.30	33.8	-4.1	15.65	5.07	-4.2	
5995	35.11	5.47	33.9	-3.5	15.75	5.25	-4.1	2026-06-15
6000	35.10	5.48	33.8	-3.7	15.75	5.26	-4.1	
6065	35.02	5.56	33.7	-3.8	15.80	5.33	-4.0	
6075	35.01	5.57	33.7	-3.8	15.81	5.34	-4.0	
6145	34.93	5.65	33.6	-3.9	15.87	5.43	-4.0	
6225	34.83	5.75	33.4	-4.0	15.94	5.52	-4.0	
6305	34.73	5.84	33.3	-4.1	16.00	5.61	-3.9	
6385	34.64	5.93	33.2	-4.3	16.06	5.70	-3.9	
6500	34.50	6.07	33.0	-4.4	16.14	5.83	-3.9	
6625	34.35	6.22	32.8	-4.6	16.21	5.97	-3.9	
6705	34.25	6.31	32.7	-4.7	16.26	6.06	-3.9	
6785	34.16	6.40	32.5	-4.8	16.31	6.16	-3.8	
7000	33.90	6.65	32.2	-5.1	16.43	6.40	-3.8	

Table 5: Parameter of the head tissue simulating liquid (HSL)

Note: The dielectric properties have been measured using the contact probe method at 22°C.

*) as the liquid parameters deviation is $\geq \pm 5\%$ an extrapolation according IEC / IEEE 62209-1528 chapter 7.8.2 approach 3 is necessary. The DASY software is capable to perform the necessary corrections directly from the tissue and measurement data. The uncertainties in this document have been adjusted accordingly.

For detailed information see chapter 8.2.6 SAR correction for deviations of complex permittivity from target on page 92.

7.1.18 Measurement uncertainty evaluation for SAR test

DASY6/8 Uncertainty Budget									
According to IEC/IEEE 62209-1528 (Frequency band: 300 MHz - 3 GHz range)									
Symbol	Error Description	Uncertainty Value		Probability Distribution	Divisor	c _i	c _i	Standard Uncertainty	
						(1g)	(10g)	± %, (1g)	± %, (10g)
Measurement System Errors									
CF	Probe Calibration Repeat.	±	12.0 %	Normal	2	1	1	± 6.0 %	± 6.0 %
CFdrift	Probe Calibration Drift	±	1.7 %	Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %
LIN	Probe linearity	±	4.7 %	Rectangular	√ 3	1	1	± 2.7 %	± 2.7 %
BBS	Broadband Signal	±	3.0 %	Rectangular	√ 3	1	1	± 1.7 %	± 1.7 %
ISO	Probe Isotropy (axial)	±	7.6 %	Rectangular	√ 3	1	1	± 4.4 %	± 4.4 %
DAE	Data Acquisition	±	0.3 %	Normal	1	1	1	± 0.3 %	± 0.3 %
AMB	RF Ambient	±	1.8 %	Normal	1	1	1	± 1.8 %	± 1.8 %
Δ _{sys}	Probe Positioning	±	0.006 mm	Normal	1	0.14	0.14	± 0.1 %	± 0.1 %
DAT	Data Processing	±	1.2 %	Normal	1	1	1	± 1.2 %	± 1.2 %
Phantom and Device Errors									
LIQ(σ)	Conductivity (meas.) ^{DAK}	±	2.5 %	Normal	1	0.78	0.71	± 2.0 %	± 1.8 %
LIQ(Tσ)	Conductivity (temp.) ^{BB}	±	3.3 %	Rectangular	√ 3	0.78	0.71	± 1.5 %	± 1.4 %
EPS	Phantom Permittivity	±	14.0 %	Rectangular	√ 3	0	0	± 0.0 %	± 0.0 %
DIS	Distance DUT - TSL	±	2.0 %	Normal	1	2	2	± 4.0 %	± 4.0 %
D _{xyz}	Device Positioning	±	1.0 %	Normal	1	1	1	± 1.0 %	± 1.0 %
H	Device Holder	±	3.6 %	Normal	1	1	1	± 3.6 %	± 3.6 %
MOD	DUT Modulation ^m	±	2.4 %	Rectangular	√ 3	1	1	± 1.4 %	± 1.4 %
TAS	Time-average SAR	±	1.7 %	Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %
RF _{drift}	DUT drift	±	2.5 %	Normal	1	1	1	± 2.5 %	± 2.5 %
VAL	Val Antenna Unc. ^{val}	±	0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %
RF _{in}	Unc. Input Power ^{val}	±	0.0 %	Normal	1	1	1	± 0.0 %	± 0.0 %
Correction to the SAR results									
C(ε, σ)	Deviation to Target	±	1.9 %	Normal	1	1	0.84	± 1.9 %	± 1.6 %
C(R)	SAR scaling ^p	±	0.0 %	Rectangular	√ 3	1	1	± 0.0 %	± 0.0 %
u(ΔSAR)	Combined Uncertainty							± 11.0 %	± 10.9 %
U	Expanded Uncertainty							± 21.9 %	± 21.7 %

Table 6: Measurement uncertainties

Worst-Case uncertainty budget for DASY6/8 assessed according to IEC/IEEE 62209-1528 [4]. The budget is valid for the frequency range 300MHz - 3 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller. All listed error components have ν_{eff} equal to ∞ .

Footnote details:

^m SMC calibration is a new method for determining the total deviation from linearity. The uncertainty is $\leq 2.4\%$ for $psSAR \leq 2 \text{ W/kg}$, $\leq 4.8\%$ for $psSAR_{1g/10g} \leq 4 \text{ W/kg}$ and $\leq 9.6\%$ for $psSAR_{1g/10g} \leq 10 \text{ W/kg}$ (see modulation calibration parameter uncertainty in the probe calibration certificate);

^{BB} if SPEAG's broad-band liquids (BBL) are used that have low temperature coefficients;

^{DAK} if SPEAG's high precision dielectric probe kit (DAK) is applied;

^p if power scaling is used, error item "SAR Scaling" must be adjusted accordingly;

^{val} only applies in case of validation measurements.

DASY8 Uncertainty Budget									
According to IEC/IEEE 62209-1528 (Frequency band: 3 GHz - 6 GHz range)									
Symbol	Error Description	Uncertainty Value		Probability Distribution	Divisor	c _i	c _i	Standard Uncertainty	
						(1g)	(10g)	± %, (1g)	± %, (10g)
Measurement System Errors									
CF	Probe Calibration Repeat.	± 13.1	%	Normal	2	1	1	± 6.6 %	± 6.6 %
CFdrift	Probe Calibration Drift	± 1.7	%	Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %
LIN	Probe linearity	± 4.7	%	Rectangular	√ 3	1	1	± 2.7 %	± 2.7 %
BBS	Broadband Signal	± 2.6	%	Rectangular	√ 3	1	1	± 1.5 %	± 1.5 %
ISO	Probe Isotropy (axial)	± 7.6	%	Rectangular	√ 3	1	1	± 4.4 %	± 4.4 %
DAE	Data Acquisition	± 0.3	%	Normal	1	1	1	± 0.3 %	± 0.3 %
AMB	RF Ambient	± 1.8	%	Normal	1	1	1	± 1.8 %	± 1.8 %
Δ _{sys}	Probe Positioning	± 0.005	mm	Normal	1	0.29	0.29	± 0.2 %	± 0.2 %
DAT	Data Processing	± 2.3	%	Normal	1	1	1	± 2.3 %	± 2.3 %
Phantom and Device Errors									
LIQ(σ)	Conductivity (meas.) ^{DAK}	± 2.5	%	Normal	1	0.78	0.71	± 2.0 %	± 1.8 %
LIQ(Tσ)	Conductivity (temp.) ^{BB}	± 3.4	%	Rectangular	√ 3	0.78	0.71	± 1.5 %	± 1.4 %
EPS	Phantom Permittivity	± 14.0	%	Rectangular	√ 3	0.25	0.25	± 2.0 %	± 2.0 %
DIS	Distance DUT - TSL	± 2.0	%	Normal	1	2	2	± 4.0 %	± 4.0 %
D _{xyz}	Device Positioning	± 1.0	%	Normal	1	1	1	± 1.0 %	± 1.0 %
H	Device Holder	± 3.6	%	Normal	1	1	1	± 3.6 %	± 3.6 %
MOD	DUT Modulation ^m	± 2.4	%	Rectangular	√ 3	1	1	± 1.4 %	± 1.4 %
TAS	Time-average SAR	± 1.7	%	Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %
RF _{drift}	DUT drift	± 2.5	%	Normal	1	1	1	± 2.5 %	± 2.5 %
VAL	Val Antenna Unc. ^{val}	± 0.0	%	Normal	1	1	1	± 0.0 %	± 0.0 %
RF _{in}	Unc. Input Power ^{val}	± 0.0	%	Normal	1	1	1	± 0.0 %	± 0.0 %
Correction to the SAR results									
C(ε, σ)	Deviation to Target	± 1.9	%	Normal	1	1	0.84	± 1.9 %	± 1.6 %
C(R)	SAR scaling ^p	± 0.0	%	Rectangular	√ 3	1	1	± 0.0 %	± 0.0 %
u(ΔSAR)	Combined Uncertainty							± 11.6 %	± 11.5 %
U	Expanded Uncertainty							± 23.2 %	± 23.0 %

Table

7: Measurement uncertainties

Worst-Case uncertainty budget for DASY8 assessed according to IEC/IEEE 62209-1528 [4]. The budget is valid for the frequency range 3 GHz – 6 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller. All listed error components have ν_{eff} equal to ∞ .

Footnote details:

^m SMC calibration is a new method for determining the total deviation from linearity. The uncertainty is $\leq 2.4\%$ for $\text{psSAR} \leq 2 \text{ W/kg}$, $\leq 4.8\%$ for $\text{psSAR}_{1\text{g}/10\text{g}} \leq 4 \text{ W/kg}$ and $\leq 9.6\%$ for $\text{psSAR}_{1\text{g}/10\text{g}} \leq 10 \text{ W/kg}$ (see modulation calibration parameter uncertainty in the probe calibration certificate);

^{BB} if SPEAG's broad-band liquids (BBL) are used that have low temperature coefficients;

^{DAK} if SPEAG's high precision dielectric probe kit (DAK) is applied;

^p if power scaling is used, error item "SAR Scaling" must be adjusted accordingly;

^{val} only applies in case of validation measurements.

7.1.19 Measurement uncertainty evaluation for IPD test

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_1)	Std. Unc. ($\pm \text{dB}$)	(v_1) v_{eff}
Uncertainty terms dependent on the measurement system							
CAL	Calibration	0.49	N	1	1	0.49	∞
COR	Probe correction	0	R	$\sqrt{3}$	1	0	∞
FRS	Frequency response ($\text{BW} \leq 1 \text{ GHz}$)	0.20	R	$\sqrt{3}$	1	0.12	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	1	0	∞
ISO	Isotropy	0.50	R	$\sqrt{3}$	1	0.29	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	1	0.12	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	1	0	∞
PPO	Probe positioning offset	0.30	R	$\sqrt{3}$	1	0.17	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	1	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	1	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	1	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	1	0	∞
MED	Measurement drift	0.05	R	$\sqrt{3}$	1	0.03	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	1	0.02	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	1	0	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	1	0	∞
REC	Field reconstruction	0.60	R	$\sqrt{3}$	1	0.35	∞
SNR	Signal-to-Noise Ratio	0	R	$\sqrt{3}$	1	0	∞
TRA	FTE/MEO	0	R	$\sqrt{3}$	1	0 (0)	∞
SCA	Power density scaling	–	R	$\sqrt{3}$	1	–	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	1	0.06	∞
Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	1	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	1	0.23	∞
IT	Integration time	0	R	$\sqrt{3}$	1	0	∞
RT	Response time	0	R	$\sqrt{3}$	1	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	1	0.06	∞
DA	DUT alignment	0	R	$\sqrt{3}$	1	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	1	0.02	∞
TEM	Laboratory Temperature	0.05	R	$\sqrt{3}$	1	0.03	∞
REF	Laboratory Reflections	0.04	R	$\sqrt{3}$	1	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	1	0	∞
DRI	Drift of the DUT	–	R	$\sqrt{3}$	1	–	∞
Combined Std Uncertainty (w/ FTE/MEO)						0.75	∞
Expanded Std Uncertainty (w/ FTE/MEO)						1.51	

Table 8: Uncertainty budget for DASY8 for Power Density (PD) complies with IEC/IEEE 63195. The budget is valid for evaluation distances $\geq \lambda/25$. The uncertainty budget shown in parentheses is valid for the assessment using the Options FTE/MEO for the evaluation anywhere. For specific tests and configurations, the uncertainty could be considerably smaller.

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 ($\pm \text{dB}$)	Probab. Distri.	Div.	(c_1)	Std. Unc. ($\pm \text{dB}$)	(v_1) v_{eff}
Uncertainty terms dependent on the measurement system							
CAL	Calibration	0.49	N	1	0	0.0	∞
COR	Probe correction	0	R	$\sqrt{3}$	1	0	∞
FRS	Frequency response ($\text{BW} \leq 1 \text{ GHz}$)	0.20	R	$\sqrt{3}$	0	0.0	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	1	0	∞
ISO	Isotropy	0.50	R	$\sqrt{3}$	0.5	0.14	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	0.5	0.06	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	1	0	∞
PPO	Probe positioning offset	0.30	R	$\sqrt{3}$	0	0.0	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	1	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	1	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	1	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	1	0	∞
MED	Measurement drift	0.05	R	$\sqrt{3}$	1	0.03	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	1	0.02	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	1	0	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	1	0	∞
REC	Field reconstruction	0.6	R	$\sqrt{3}$	0.5	0.17	∞
SNR	Signal-to-Noise Ratio	0	R	$\sqrt{3}$	1	0	∞
TRA	FTE/MEO	0 (0)	R	$\sqrt{3}$	0.5	0	∞
SCA	Power density scaling	—	R	$\sqrt{3}$	1	—	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	1	0.06	∞
Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	1	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	1	0.23	∞
IT	Integration time	0	R	$\sqrt{3}$	1	0	∞
RT	Response time	0	R	$\sqrt{3}$	1	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	0	0.0	∞
DA	DUT alignment	0	R	$\sqrt{3}$	1	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	1	0.02	∞
TEM	Laboratory Temperature	0.05	R	$\sqrt{3}$	1	0.03	∞
REF	Laboratory Reflections	0.04	R	$\sqrt{3}$	1	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	1	0	∞
DRI	Drift of the DUT	—	R	$\sqrt{3}$	1	—	∞
Combined Std Uncertainty (w/ FTE/MEO)						0.34	∞
Expanded Std Uncertainty (w/ FTE/MEO)						0.68	

Table 9: Uncertainty budget for DASY8 for the relative Power Density (PD) is in compliance with IEC/IEEE 63195. The budget is valid for evaluating the same device at different power levels and modulations (evaluation distances $\geq \lambda/25$). The uncertainty budget shown in parentheses is valid for the assessment using the Options FTE/MEO for the evaluation anywhere. For specific tests and configurations, the uncertainty could be considerably smaller.

7.1.20 Measurement uncertainty evaluation for System Check

Repeatability Budget for System Check (Frequency band: 300MHz - 6GHz range) with DASY6/8 System									
Symbol	Error Description	Uncertainty Value		Probability Distribution	Divisor	c _i	c _i	Standard Uncertainty	
						(1g)	(10g)	± %, (1g)	± %, (10g)
Measurement System Errors									
CF	Probe Calibration Repeat.	± 3.6 %		Normal	2	2	1	± 5.1 %	± 2.5 %
CFdrift	Probe Calibration Drift	± 1.7 %		Rectangular	√ 3	1	1	± 1.0 %	± 1.0 %
LIN	Probe linearity	± 4.7 %		Rectangular	√ 3	0	0	± 0.0 %	± 0.0 %
BBS	Broadband Signal	± 0.0 %		Rectangular	√ 3	0	0	± 0.0 %	± 0.0 %
ISO	Probe Isotropy (axial)	± 4.7 %		Rectangular	√ 3	0	0	± 0.0 %	± 0.0 %
DAE	Data Acquisition	± 0.3 %		Normal	1	0	0	± 0.0 %	± 0.0 %
AMB	RF Ambient	± 0.6 %		Normal	1	0	0	± 0.0 %	± 0.0 %
Δ _{sys}	Probe Positioning	± 0.2 %		Normal	1	0.33	0.33	± 0.1 %	± 0.1 %
DAT	Data Processing	± 0.0 %		Normal	1	1	1	± 0.0 %	± 0.0 %
Phantom and Device Errors									
LIQ(σ)	Conductivity (meas.) ^{DAK}	± 2.5 %		Normal	1	0.78	0.71	± 2.0 %	± 1.8 %
LIQ(Tσ)	Conductivity (temp.) ^{BB}	± 3.4 %		Rectangular	√ 3	0.78	0.71	± 1.5 %	± 1.4 %
EPS	Phantom Permittivity	± 14.0 %		Rectangular	√ 3	0	0	± 0.0 %	± 0.0 %
DIS	Distance Phantom - DUT	± 1.0 %		Normal	1	2	2	± 2.0 %	± 2.0 %
MOD	DUT Modulation ^m	± 0.0 %		Rectangular	√ 3	1	1	± 0.0 %	± 0.0 %
TAS	Time-average SAR	± 0.0 %		Rectangular	√ 3	1	1	± 0.0 %	± 0.0 %
VAL	Validation antenna	± 0.0 %		Normal	1	1	1	± 0.0 %	± 0.0 %
P _{in}	Accepted power	± 1.2 %		Normal	1	1	1	± 1.2 %	± 1.2 %
Correction to the SAR results									
C(ε, σ)	Deviation to Target	± 1.9 %		Normal	1	1	0.84	± 1.9 %	± 1.6 %
u(ΔSAR)	Combined Uncertainty							± 6.5 %	± 4.5 %
U	Expanded Uncertainty							± 13.0 %	± 9.1 %

Table 10: Repeatability of the system check (300MHz - 6 GHz).

All listed error components have v_{eff} equal to ∞ .

Footnote details:

^{BB} if SPEAG's broad-band liquids (BBL) are used that have low temperature coefficients;

^{DAK} if SPEAG's high precision dielectric probe kit (DAK) is applied.

Note: Worst case probe calibration uncertainty has been applied for all probes used during the measurements.

DASY8 mmWave Uncertainty Budget							
System Performance Check							
using mmWave Verification Sources							
Error Description		Unc. Value (±dB)	Probab. Distri.	Div.	(c_1)	Std. Unc. (±dB)	(v_1) % _{eff}
Uncertainty terms dependent on the measurement system							
CAL	Calibration Repeatability	0.21	N	1	1	0.21	∞
COR	Probe correction	0	R	$\sqrt{3}$	1	0	∞
FRS	Frequency response (BW ≤1GHz)	0.20	R	$\sqrt{3}$	0	0	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	1	0	∞
ISO	Isotropy	0.30	R	$\sqrt{3}$	1	0.17	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	1	0.12	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	1	0	∞
PPO	Probe positioning offset	0.11	R	$\sqrt{3}$	1	0.06	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	1	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	1	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	1	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	1	0	∞
MED	Measurement drift drift	0.05	R	$\sqrt{3}$	1	0.03	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	0	0	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	1	0	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	1	0	∞
REC	Field reconstruction	0.60	R	$\sqrt{3}$	0.3	0.10	∞
SNR	Signal-to-Noise Ratio	0.0	R	$\sqrt{3}$	1	0.0	∞
TRA	Forward transformation	0	R	$\sqrt{3}$	1	0	∞
SCA	Power density scaling	–	R	$\sqrt{3}$	1	0	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	0	0	∞
Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	1	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	0	0	∞
IT	Integration time	0	R	$\sqrt{3}$	1	0	∞
RT	Response time	0	R	$\sqrt{3}$	1	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	0	0	∞
DA	DUT alignment	0	R	$\sqrt{3}$	1	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	1	0.02	∞
TEM	Laboratory temperature	0.05	R	$\sqrt{3}$	1	0.03	∞
AR	Ambient Reflections	0.04	R	$\sqrt{3}$	1	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	0	0	∞
DRI	Drift of the DUT	0.10	R	$\sqrt{3}$	1	0.06	∞
Combined Standard Uncertainty						0.33	∞
Expanded Standard Uncertainty (95%)						0.66	

Table 11: Uncertainty budget for system verification using mmWave sources for the evaluation plane at 10mm from the horn antenna

NOTE:

System is fully compliant to IEC/IEEE 63195

DASY8 mmWave Uncertainty Budget Relative System Performance Check using mmWave Verification Sources							
Error Description		Unc. Value (±dB)	Probab. Distri.	Div.	(c_i)	Std. Unc. (±dB)	(v_i) v_{eff}
Uncertainty terms dependent on the measurement system							
CAL	Calibration Repeatability	0.21	N	1	0	0	∞
COR	Probe correction	0	R	$\sqrt{3}$	1	0	∞
FRS	Frequency response (BW ≤1 GHz)	0.20	R	$\sqrt{3}$	0	0	∞
SCC	Sensor cross coupling	0	R	$\sqrt{3}$	1	0	∞
ISO	Isotropy	0.30	R	$\sqrt{3}$	1	0.17	∞
LIN	Linearity	0.20	R	$\sqrt{3}$	0	0	∞
PSC	Probe scattering	0	R	$\sqrt{3}$	1	0	∞
PPO	Probe positioning offset	0.11	R	$\sqrt{3}$	1	0.06	∞
PPR	Probe positioning repeatability	0.04	R	$\sqrt{3}$	1	0.02	∞
SMO	Sensor mechanical offset	0	R	$\sqrt{3}$	1	0	∞
PSR	Probe spatial resolution	0	R	$\sqrt{3}$	1	0	∞
FLD	Field impedance dependence	0	R	$\sqrt{3}$	1	0	∞
MED	Measurement drift	0.05	R	$\sqrt{3}$	1	0.03	∞
APN	Amplitude and phase noise	0.04	R	$\sqrt{3}$	0	0	∞
TR	Measurement area truncation	0	R	$\sqrt{3}$	1	0	∞
DAQ	Data acquisition	0.03	N	1	1	0.03	∞
SMP	Sampling	0	R	$\sqrt{3}$	1	0	∞
REC	Field reconstruction	0.60	R	$\sqrt{3}$	0.15	0.05	∞
SNR	Signal-to-Noise Ratio	0.0	R	$\sqrt{3}$	1	0.0	∞
TRA	Forward transformation	0	R	$\sqrt{3}$	1	0	∞
SCA	Power density scaling	–	R	$\sqrt{3}$	1	0	∞
SAV	Spatial averaging	0.10	R	$\sqrt{3}$	0	0	∞
Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling with DUT	0	R	$\sqrt{3}$	1	0	∞
MOD	Modulation response	0.40	R	$\sqrt{3}$	0	0	∞
IT	Integration time	0	R	$\sqrt{3}$	1	0	∞
RT	Response time	0	R	$\sqrt{3}$	1	0	∞
DH	Device holder influence	0.10	R	$\sqrt{3}$	0	0	∞
DA	DUT alignment	0	R	$\sqrt{3}$	1	0	∞
AC	RF ambient conditions	0.04	R	$\sqrt{3}$	1	0.02	∞
TEM	Laboratory temperature	0.05	R	$\sqrt{3}$	1	0.03	∞
AR	Ambient Reflections	0.04	R	$\sqrt{3}$	1	0.02	∞
MSI	Immunity / secondary reception	0	R	$\sqrt{3}$	0	0	∞
DRI	Drift of the DUT	0.10	R	$\sqrt{3}$	1	0.06	∞
Combined Standard Uncertainty						0.21	∞
Expanded Standard Uncertainty (95%)						0.42	

Table 12: Uncertainty budget for relative system verification using mmWave sources for the evaluation plane at 10 mm from the horn antenna

7.1.21 System check SAR

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).

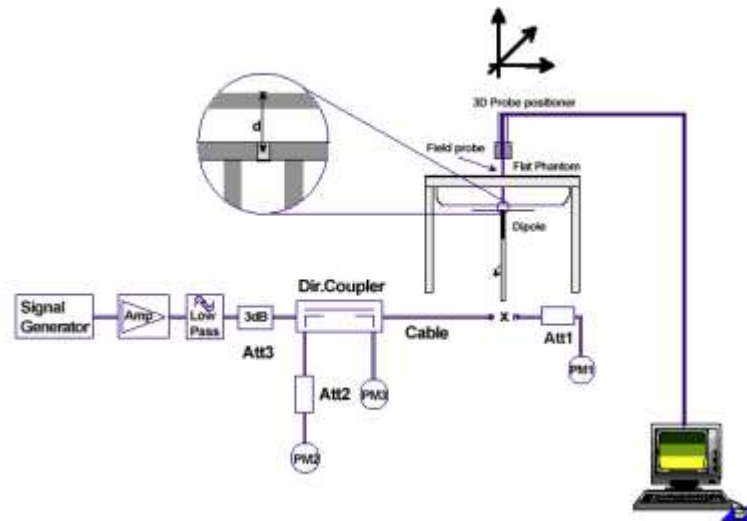
System performance check (1000 mW)									
System validation Kit	Probe	Frequency	Target SAR _{1g}	Target SAR _{10g}	Measured SAR _{1g}	SAR _{1g}	Measured SAR _{10g}	SAR _{10g}	Measured date
		MHz	W/kg (+/- 10%)		W/kg	dev.	W/kg	dev.	
D750V3 S/N: 1041	EX3DV4 S/N: 3944	750	8.52	5.60	8.48	-0.5%	5.54	-1.1%	2026-04-21
D750V3 S/N: 1041	EX3DV4 S/N: 3944	750	8.48	5.57	7.96	-6.1%	5.22	-6.3%	2026-05-21
D835V2 S/N: 4d153	EX3DV4 S/N: 3944	835	9.63	6.27	9.72	0.9%	6.34	1.1%	2026-04-20
D900V2 S/N: 102	EX3DV4 S/N: 3944	900	11.00	7.05	10.22	-7.1%	6.62	-6.1%	2026-05-21
D1750V2 S/N: 1093	EX3DV4 S/N: 3944	1750	36.10	19.30	33.60	-6.9%	17.88	-7.4%	2026-04-17
D1750V2 S/N: 1093	EX3DV4 S/N: 3944	1750	36.10	19.30	36.50	1.1%	19.50	1.0%	2026-05-22
D1900V2 S/N: 5d009	EX3DV4 S/N: 3944	1900	39.10	20.60	37.00	-5.4%	19.34	-6.1%	2026-04-16
D1900V2 S/N: 5d009	EX3DV4 S/N: 3944	1900	40.60	21.50	37.80	-6.9%	19.72	-8.3%	2026-04-20
D2450V2 S/N: 710	EX3DV4 S/N: 7635	2450	52.60	24.50	50.10	-4.8%	23.60	-3.7%	2026-04-29
D2600V2 S/N: 1040	EX3DV4 S/N: 3944	2600	56.20	25.40	56.10	-0.2%	25.20	-0.8%	2026-04-22
D2600V2 S/N: 1040	EX3DV4 S/N: 3944	2600	55.70	25.10	51.40	-7.7%	23.20	-7.6%	2026-05-22
D3500V2 S/N: 1003	EX3DV4 S/N: 3944	3500	66.10	25.10	70.10	6.1%	27.10	8.0%	2026-04-23
D3500V2 S/N: 1003	EX3DV4 S/N: 3944	3500	66.10	25.10	65.10	-1.5%	25.10	0.0%	2026-04-24
D3500V2 S/N: 1003	EX3DV4 S/N: 3944	3500	66.10	25.10	61.20	-7.4%	23.50	-6.4%	2026-05-26
D3700V2 S/N: 1062	EX3DV4 S/N: 3944	3700	70.20	25.80	65.70	-6.4%	24.40	-5.4%	2026-04-24
D3700V2 S/N: 1062	EX3DV4 S/N: 3944	3700	70.20	25.80	65.50	-6.7%	24.30	-5.8%	2026-05-26
D3700V2 S/N: 1062	EX3DV4 S/N: 7852	3700	70.20	25.80	69.30	-1.3%	25.80	0.0%	2026-05-27
D5GHzV2 S/N: 1055	EX3DV4 S/N: 7566	5200	78.30	22.30	81.90	4.6%	23.60	5.8%	2026-05-05
D5GHzV2 S/N: 1055	EX3DV4 S/N: 7566	5500	85.80	24.40	85.40	-0.5%	24.30	-0.4%	2026-05-05
D5GHzV2 S/N: 1055	EX3DV4 S/N: 7566	5800	80.90	22.90	80.50	-0.5%	23.10	0.9%	2026-05-05
D6.5GHzV2 S/N: 1067	EX3DV4 S/N: 3944	6500	287.00	53.20	276.00	-3.8%	52.20	-1.9%	2026-06-15
D7GHzV2 S/N: 1013	EX3DV4 S/N: 3944	7000	285.00	50.20	292.00	2.5%	52.80	5.2%	2026-06-15

Table 13: Results system check

7.1.22 System check procedure

The system check is performed by using a validation 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 plexiglass 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 or 50 mW if used Powersource1. 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.



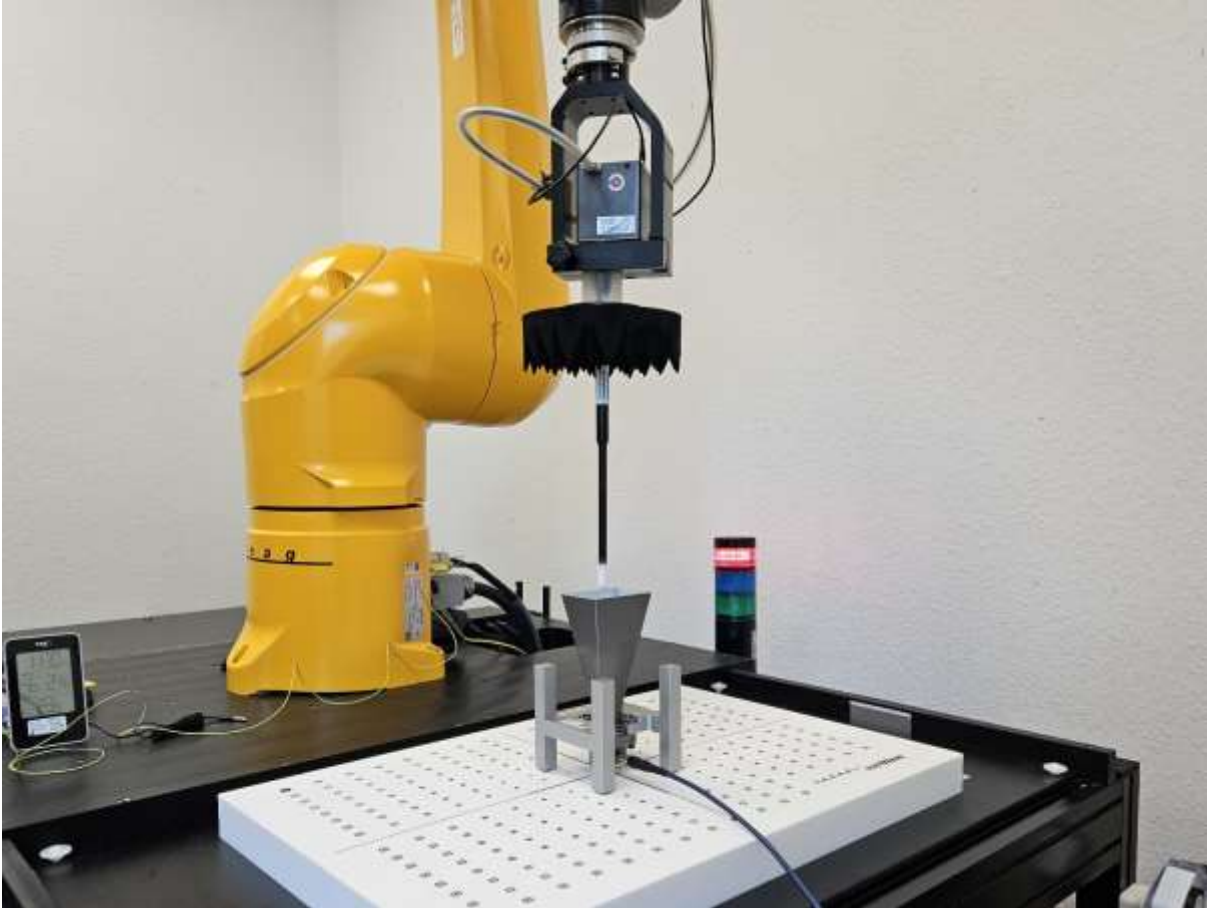
7.1.23 System validation

The system validation is performed in a similar way as a system check. It needs to be performed once a SAR measurement system has been established and allows an evaluation of the system accuracy with all components used together with the specified system. It has to be repeated at least once a year or when new system components are used (DAE, probe, phantom, dipole, liquid type).

In addition to the procedure used during system check a system validation also includes checks of probe isotropy, probe modulation factor and RF signal.

7.1.24 System check IPD

A sytem check was performed prior to measuring the DUT. The results were within the combined confidence interval of 0.33 dB (k=1) stated for the DASY8 module mmWave.



System performance check											
System validation Kit	Probe	DAE S/N	Distance	Frequency	Target 1 cm ²	Target 4 cm ²	Measured 1 cm ²	Deviation	Measured 4 cm ²	Deviation	Measured date
			mm	GHz	W/m ²		W/m ²		W/m ²		
H10GV2 S/N: 1079	EUmmWV S/N: 9551	1842	10	10	58.7	54.9	61.40	4.6%	57.00	3.8%	2026-07-01

NOTE: System check description was performed according IEC/IEEE 62209-1528:2020 Annex A.

8 Detailed Test Results

8.1 Conducted power measurements

8.1.1 Conducted power measurements WCDMA FDD II (1900 MHz)

Max. RMS output power FDD II (1900MHz) / dBm			
	Channel / frequency		
mode	9262 / 1852.4 MHz	9400 / 1880.0 MHz	9538 / 1907.6 MHz
RMC 12.2 kbit/s	23.8	23.8	23.6
RMC 64 kbit/s	23.8	23.8	23.6
RMC 144 kbit/s	23.7	23.7	23.6
RMC 384 kbit/s	23.7	23.8	23.6
AMR 4.75 kbit/s	23.7	23.7	23.6
AMR 5.15 kbit/s	23.7	23.7	23.6
AMR 5.9 kbit/s	23.7	23.8	23.5
AMR 6.7 kbit/s	23.7	23.7	23.5
AMR 7.4 kbit/s	23.7	23.8	23.5
AMR 7.95 kbit/s	23.7	23.7	23.6
AMR 10.2 kbit/s	23.7	23.7	23.6
AMR 12.2 kbit/s	23.7	23.7	23.6
HSDPA Sub test 1	23.7	23.8	23.6
HSDPA Sub test 2	22.8	22.9	22.6
HSDPA Sub test 3	22.3	22.3	22.1
HSDPA Sub test 4	22.3	22.4	22.2
HSUPA Sub test 1	23.7	23.7	23.6
HSUPA Sub test 2	21.8	21.9	21.7
HSUPA Sub test 3	22.9	22.9	22.7
HSUPA Sub test 4	21.7	21.8	21.5
HSUPA Sub test 5	22.8	22.8	22.6

Table 14: Test results conducted power measurement UMTS FDD II 1900MHz

8.1.2 Conducted power measurements WCDMA FDD IV (1700 MHz)

Max. RMS output power FDD IV (1700MHz) / dBm			
mode	CH 1312 / 1712.4 MHz	CH 1412 / 1732.4 MHz	CH 1513 / 1752.6 MHz
RMC 12.2 kbit/s	23.8	23.8	23.7
RMC 64 kbit/s	23.7	23.7	23.7
RMC 144 kbit/s	23.8	23.8	23.7
RMC 384 kbit/s	23.7	23.7	23.7
AMR 4.75 kbit/s	23.7	23.8	23.7
AMR 5.15 kbit/s	23.8	23.7	23.7
AMR 5.9 kbit/s	23.8	23.8	23.6
AMR 6.7 kbit/s	23.7	23.7	23.7
AMR 7.4 kbit/s	23.8	23.7	23.7
AMR 7.95 kbit/s	23.7	23.8	23.7
AMR 10.2 kbit/s	23.7	23.7	23.7
AMR 12.2 kbit/s	23.8	23.8	23.7
HSDPA Sub test 1	23.8	23.7	23.7
HSDPA Sub test 2	22.9	22.8	22.7
HSDPA Sub test 3	22.4	22.3	22.3
HSDPA Sub test 4	22.3	22.3	22.3
HSUPA Sub test 1	23.8	23.8	23.7
HSUPA Sub test 2	21.8	21.8	21.8
HSUPA Sub test 3	23.0	22.9	22.8
HSUPA Sub test 4	21.8	21.7	21.7
HSUPA Sub test 5	22.9	22.9	22.8

Table 15: Test results conducted power measurement UMTS FDD IV 1700MHz

8.1.3 Conducted power measurements WCDMA FDD V (850 MHz)

Max. RMS output power 850 MHz (FDD V) / dBm			
	Channel / frequency		
mode	4132 / 826.4 MHz	4183 / 836.6 MHz	4233 / 846.6 MHz
RMC 12.2 kbit/s	24.0	23.9	24.0
RMC 64 kbit/s	23.9	23.8	24.0
RMC 144 kbit/s	24.0	23.8	24.0
RMC 384 kbit/s	23.9	23.9	24.0
AMR 4.75 kbit/s	23.9	23.9	24.0
AMR 5.15 kbit/s	24.0	23.8	24.0
AMR 5.9 kbit/s	24.0	23.8	24.0
AMR 6.7 kbit/s	24.0	23.8	24.0
AMR 7.4 kbit/s	24.0	23.8	24.0
AMR 7.95 kbit/s	23.9	23.8	24.0
AMR 10.2 kbit/s	24.0	23.8	24.0
AMR 12.2 kbit/s	24.0	23.8	24.0
HSDPA Sub test 1	23.9	23.9	24.0
HSDPA Sub test 2	23.0	22.9	23.0
HSDPA Sub test 3	22.5	22.5	22.6
HSDPA Sub test 4	22.5	22.4	22.5
HSUPA Sub test 1	23.9	23.8	24.0
HSUPA Sub test 2	22.0	22.0	22.1
HSUPA Sub test 3	23.2	23.0	23.2
HSUPA Sub test 4	22.0	21.9	22.0
HSUPA Sub test 5	23.0	23.0	23.0

Table 16: Test results conducted power measurement UMTS FDD V 850MHz

Remark: None of the HSDPA/HSUPA settings leads to conducted power values exceeding the conducted power in RMC mode by more than 0.25 dB.

Therefore no additional SAR measurements were performed in HSDPA/HSUPA mode.

8.1.4 Test-set-up information for WCDMA / HSPDA / HSUPA

a) WCDMA RMC

In RMC (reference measurement channel) mode the conducted power at 4 different bit rates was measured. They correspond with the used spreading factors as follows:

Bit rate	12.2 kbit/s	64 kbit/s	144 kbit/s	384 kbit/s
Spreading factor (SF)	64	16	8	4

In RMC mode only DPCCH and DPDCH are active. As bit rate changes do not influence the relative power of any code channel the measured RMS output power remains on the same level which is set to maximum by TPC (Transmit power control) pattern type 'All 1'.

b) HSDPA

HSDPA adds the HS-DPCCH in uplink as a control channel for high speed data transfer in downlink. In HSDPA mode 4 sub-tests are defined by 3GPP 34.121 according to the following table:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	CM(dB) ⁽²⁾
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 ⁽³⁾	15/15 ⁽³⁾	64	12/15 ⁽³⁾	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1: $\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI} = 8 \iff A_{hs} = \beta_{hs}/\beta_c = 30/15 \iff \beta_{hs} = 30/15 * \beta_c$

Note 2 : CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$

Note 3 : For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$

Table 17: Sub-tests for UMTS Release 5 HSDPA

The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the above table, β_{hs} for HS-DPCCH is set automatically to the correct value when $\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI} = 8$. The variation of the β_c/β_d ratio causes a power reduction at sub-tests 2 - 4.

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Parameter	Value
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI's
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

Table 18: settings of required H-Set 1 QPSK acc. to 3GPP 34.121

c) DC-HSDPA (3GPP Release 8)

Dual Cell – HSDPA has been signaled using the following settings for connection setup:

Parameter During Connection Setup	Value
P-CPICH E_c/I_{or}	-10 dB
P-CCPCH	-12
SCH E_c/I_{or}	-12
PICH E_c/I_{or}	-15
HS-PDSCH	off
HS-SCCH 1	off
DPCH E_c/I_{or}	-5
OCNS E_c/I_{or}	-3.1

Table 19: Downlink Physical Channels according to 3GPP 34.121 Table E.5.0

The fixed reference channel has been set to H-set 12 according to 3GPP TS 34.121 Table C.8.1.12:

Parameter	Unit	Value
Nominal Average Inf. Bit Rate	kbit/s	60
Inter-TTI Distance	TTI's	1
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Process	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codecs	Codecs	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

Table 20: H-Set 12 QPSK configuration

The same Sub-test settings as for Release 5 HSDPA were used for the tests.

d) HSUPA

In HSUPA mode additional code channels (E-DPCCH, E-DPDCHn) are added for data transfer in uplink at higher bit rates.

5 sub-tests are defined by 3GPP 34.121 according to the following table :

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ec} (SF)	β_{ed} (code)	CM ⁽²⁾ (dB)	MPR (dB)	AG ⁽⁴⁾ Index	E-TFCI
1	11/15 ⁽³⁾	15/15 ⁽³⁾	64	11/15 ⁽³⁾	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64	15/15 ⁽⁴⁾	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: $\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI} = 8 \iff A_{hs} = \beta_{hs}/\beta_c = 30/15 \iff \beta_{hs} = 30/15 * \beta_c$
Note 2 : CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference
Note 3 : For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$
Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$
Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g
Note 6 : β_{ed} can not be set directly; it is set by Absolute Grant Value

Table 21: Subtests for UMTS Release 6 HSUPA

To achieve the settings above some additional procedures were defined by 3GPP 34.121. Those have been included in an application note for the CMU200 and were exactly followed :

- Test mode connection (BS signal tab) :
- RMC 12.2 kbit/s + HSPA 34.108 with loop mode 1
- HS-DSCH settings (BS signal tab):
- FRC with H-set 1 QPSK
- ACK-NACK repetition factor = 3
- CQI feedback cycle = 4ms
- CQI repetition factor = 2
- HSUPA-specific signalling settings (UE signal tab) :
- E-TFCI table index = 0
- E-DCH minimum set E-TFCI = 9
- Puncturing limit non-max = 0.84
- max. number of channelisation codes = 2x SF4
- Initial Serving Grant Value = Off
- HSDPA and HSUPA Gain factors (UE signal tab)

Sub-test	β_c	β_d	$\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI}$	$\Delta E-DPCCH)^*$
1	10	15	8	6
2	6	15	8	8
3	15	9	8	8
4	2	15	8	5
5	14	15	8	7

)* : β_{ec} and β_{ed} ratios (relative to β_c and β_d) are set by $\Delta E-DPCCH$

- HSUPA Reference E-TFCIs (UE signal tab > HSUPA gain factors) :

Sub-test	1, 2, 4, 5				
Number of E-TFCIs	5				
Reference E-TFCI	11	67	71	75	81
Reference E-TFCI power offset	4	18	23	26	27

Sub-test	3	
Number of E-TFCIs	2	
Reference E-TFCI	11	92
Reference E-TFCI power offset	4	18

- HSUPA-specific generator parameters (BS Signal tab > HSUPA > E-AGCH > AG Pattern)

Sub-test	Absolute Grant Value (AG Index)
1	20
2	12
3	15
4	17
5	21

- Power Level settings (BS Signal tab > Node B-settings):

- Level reference : Output Channel Power (Ior)

- Output Channel Power (Ior) : -86 dBm

- Downlink Physical Channel Settings (BS signal tab)

- P-CPICH : -10 dB

- S-CPICH : Off

- P-SCH : -15 dB

- S-SCH : -15 dB

- P-CCPCH : -12 dB

- S-CCPCH : -12 dB

- PICH : -15 dB

- AICH : -12 dB

- DPDCH : -10 dB

- HS-SCCH : -8 dB

- HS-PDSCH : -3 dB

- E-AGCH : -20 dB

- E-RGCH/E-HICH : -20 dB

- E-RGCH Active : Off

The settings above were stored once for each sub-test and recalled before the measurement.

HSUPA test procedure :

To reach maximum output power in HSUPA mode the following procedures were followed:

3 different TPC patterns were defined :

Set 1 : Closed loop with target power 10 dBm

Set 2 : Single Pattern+Alternating with binary pattern '11111' for 1 dB steps 'up'

Set 3 : Single Pattern+Alternating with binary pattern '00000' for 1 dB steps 'down'

After recalling a certain HSUPA sub-test the HSUPA E-AGCH graph with E-TFCI event counter is displayed. After starting with the closed loop command the power is increased in 1 dB steps by activating pattern set 2 until the UE decreases the transmitted E-TFCI. At this point set 3 is activated once to reduce the output power to the value at which the original E-TFCI, which is required for the sub-test, appears again.

For conducted power measurements the same steps are repeated in the power menu to read out the corresponding maximum RMS output power with the target E-TFCI.

For SAR measurements it is useful to switch to Code Domain Power vs. Time display.

Here the CMU200 shows relative power values (max. and min.) of each code channel which should roughly correspond to the numerators of the gain factors e.g. :

Sub-test	β_c	β_d	β_{hs}	β_{ec}	β_{ed}
5	15	15	30	24	134

By this way a surveillance of signalling conditions is possible to make sure that HSUPA code channels are active during the complete SAR measurement.

8.1.5 Conducted power measurements LTE & 5G NR

Conducted output power measurements are described in the additional document:
1-2152-25-01-02_TR1-A201-R01

8.1.6 Conducted power measurements 5G NR MIMO

Conducted output power measurements are described in the additional document:
1-2152-25-01-02_TR1-A202-R01

8.1.7 Justification of SAR measurements in LTE mode

According to Chapter 5 'SAR test procedures for LTE devices of FCC KDB Publication 941225 D05 the following test configurations for standalone measurements of the largest channel bandwidth (chapter 5.2) had to be taken into consideration:

5.2.1. QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and *required test channel* combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each *required test channel*. When the *reported SAR* is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and *required test channels* is not required for 1 RB allocation; otherwise, SAR is required for the remaining *required test channels* and only for the RB offset configuration with the highest output power for that channel. When the *reported SAR* of a *required test channel* is > 1.45 W/kg, SAR is required for all three RB offset configurations for that *required test channel*.

5.2.2. QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 5.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.

5.2.3. QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest *reported SAR* for 1 RB and 50% RB allocation in 5.2.1 and 5.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the *reported SAR* is > 1.45 W/kg, the remaining *required test channels* must also be tested.

5.2.4. Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 5.2.1, 5.2.2 and 5.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> \frac{1}{2}$ dB higher than the same configuration in QPSK or when the *reported SAR* for the QPSK configuration is > 1.45 W/kg.

Testing of other channel bandwidths was not necessary because the output power of equivalent channel configurations was less than $\frac{1}{2}$ dB larger compared to the largest channel bandwidth and reported SAR was < 1.45 W/kg.

Conducted and radiated measurements were performed with the maximum number of bundled TTIs supported by the DUT (see section 2.4 for details).

8.1.8 MPR information in LTE mode

There is a permanently applied MPR implemented by the manufacturer.
MPR is enabled for this device according to 3GPP TS36.101.

Modulation	Channel bandwidth / resource block configuration						Target MPR	3 GPP MPR
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz		
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1	≤ 1
16QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1	≤ 1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2	≤ 2

Therefore there is no power reduction at 1.4 MHz bandwidth with 50% RB allocation (3 RBs).

Additional differences in conducted power are not caused by implemented MPR but depend on measurement uncertainty and allowable tolerances per 3GPP or tune-up.

A-MPR was disabled for all SAR tests.

8.1.9 Conducted power measurements WLAN 2.4 GHz SISO

802.11b		maximum average conducted output power [dBm]			
Band	Ch	1Mbps	2Mbps	5.5Mbps	11Mbps
2.4GHz Antenna A	1	17.6	17.5	17.5	17.4
	6	17.9	17.8	17.8	17.7
	11	17.1	17.1	17.1	17.0
2.4GHz Antenna B	1	17.4	17.4	17.3	17.2
	6	17.7	17.7	17.7	17.6
	11	16.8	16.8	16.7	16.7

Table 22: Test results conducted power measurement 802.11b

802.11g		maximum average conducted output power [dBm]							
Band	Ch	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
2.4GHz Antenna A	1	15.1	15.1	15.0	14.8	15.0	14.9	14.6	13.7
	6	17.4	17.3	17.2	17.1	17.3	16.3	15.5	15.0
	11	14.2	14.2	14.1	13.9	14.1	13.6	13.7	12.3
2.4GHz Antenna B	1	14.5	14.5	14.5	14.2	14.5	13.9	14.2	12.4
	6	17.4	17.3	17.3	18.0	16.7	16.0	15.4	14.9
	11	13.2	13.2	13.1	12.9	13.2	13.1	13.1	11.3

Table 23: Test results conducted power measurement 802.11g

802.11n HT-20		maximum average conducted output power [dBm]							
Band	Ch	MCS-0 6.5Mbps	MCS-1 13Mbps	MCS-2 19.5Mbps	MCS-3 26Mbps	MCS-4 39Mbps	MCS-5 52Mbps	MCS-6 58.5Mbps	MCS-7 65Mbps
2.4GHz Antenna A	1	15.1	15.0	14.9	15.2	15.2	15.2	14.3	13.4
	6	17.3	17.3	17.2	17.5	16.7	16.0	15.6	15.4
	11	14.1	14.1	14.0	14.3	14.3	14.3	12.9	12.0
2.4GHz Antenna B	1	14.5	14.4	14.4	14.7	14.2	14.6	13.1	12.1
	6	17.3	17.3	17.1	16.9	16.4	16.0	15.6	15.4
	11	13.1	13.1	13.1	13.4	13.4	13.6	11.9	11.3

Table 24: Test results conducted power measurement 802.11n HT-20

802.11n HT-40		maximum average conducted output power [dBm]							
Band	Ch	MCS-0 13.5Mbps	MCS-1 27Mbps	MCS-2 40.5Mbps	MCS-3 54Mbps	MCS-4 81Mbps	MCS-5 108Mbps	MCS-6 121.5Mbps	MCS-7 135Mbps
2.4GHz Antenna A	3	13.8	13.8	13.8	13.8	13.5	12.6	12.7	11.3
	6	15.0	15.0	15.1	15.1	14.8	14.5	14.6	13.6
	9	13.2	13.3	13.3	13.2	13.0	13.0	12.6	11.0
2.4GHz Antenna B	3	13.4	13.4	13.4	13.4	13.1	11.8	11.5	10.9
	6	14.7	14.8	14.8	14.8	14.6	14.5	14.3	13.3
	9	13.0	13.0	13.1	13.1	12.8	12.3	12.1	10.8

Table 25: Test results conducted power measurement 802.11n HT-40

802.11ax HE-20			maximum average conducted output power [dBm]							
Antenna	Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7
			8.6Mbps	17.2Mbps	25.8Mbps	34.4Mbps	51.6Mbps	68.8Mbps	77.4Mbps	86.0Mbps
A	2412	1	15.1	15.2	15.0	15.5	15.5	15.1	14.3	13.4
	2437	6	17.5	17.4	17.4	17.7	16.9	15.9	15.7	15.5
	2462	11	14.2	14.2	14.1	14.5	14.6	14.2	12.9	12.0
B	2412	1	14.6	14.6	14.5	14.9	14.5	14.5	13.1	12.1
	2437	6	17.5	17.4	17.2	17.2	16.5	15.9	15.6	15.4
	2462	11	13.3	13.4	13.3	13.6	13.7	13.4	12.0	11.3

Table 26: Test results conducted power measurement 802.11ax HE-20

802.11ax HE-40			maximum average conducted output power [dBm]							
Antenna	Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7
			17.2Mbps	34.4Mbps	51.6Mbps	68.8Mbps	103.2Mbps	137.6Mbps	154.9Mbps	172.1Mbps
A	2422	3	13.7	13.7	13.7	13.8	13.6	12.7	12.6	10.5
	2437	6	14.9	14.8	15.0	14.9	14.8	14.5	14.5	13.6
	2452	9	13.1	13.2	13.2	13.2	13.0	13.0	12.5	11.2
B	2422	3	13.2	13.2	13.3	13.3	13.1	11.6	11.4	10.6
	2437	6	14.7	14.6	14.7	14.7	14.6	14.5	14.3	13.3
	2452	9	12.8	12.9	12.9	13.0	12.8	12.3	12.1	10.5

Table 27: Test results conducted power measurement 802.11ax HE-40

8.1.10 Conducted power measurements WLAN 2.4 GHz MIMO

802.11n HT-20		maximum average conducted output power [dBm]															
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7	
		6.5Mbps		13Mbps		19.5Mbps		26Mbps		39Mbps		52Mbps		58.5Mbps		65Mbps	
2412	1	13.29	13.28	13.38	13.38	13.19	13.28	13.07	13.09	12.84	12.85	13.22	13.22	13.1	13.1	12.4	12.36
2437	6	16.88	16.91	16.88	16.89	16.72	16.79	16.97	17.05	16.69	16.53	16.01	16.03	15.67	15.55	15.47	15.37
2462	11	12.42	12.42	12.46	12.47	12.28	12.28	12.54	12.62	12.66	12.67	12.81	12.83	12.72	12.72	12	11.96

Table 28: Test results conducted power measurement 802.11n HT-20

802.11n HT-40		maximum average conducted output power [dBm]															
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7	
		6.5Mbps		13Mbps		19.5Mbps		26Mbps		39Mbps		52Mbps		58.5Mbps		65Mbps	
2422	3	12.18	12.2	11.74	11.7	11.78	11.73	11.55	11.54	11.24	11.21	10.01	9.99	9.84	9.74	9.44	9.33
2437	6	13.83	13.83	13.87	13.91	13.91	13.91	13.93	13.93	13.63	13.64	13.64	13.65	13.46	13.42	12.32	12.28
2452	9	11.79	11.84	11.86	11.9	11.89	11.87	11.92	11.85	11.6	11.62	11.19	11.08	10.45	10.32	9.64	9.52

Table 29: Test results conducted power measurement 802.11n HT-40

802.11ax HE-20		maximum average conducted output power [dBm]															
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7	
		6.5Mbps		13Mbps		19.5Mbps		26Mbps		39Mbps		52Mbps		58.5Mbps		65Mbps	
2412	1	13.43	13.46	13.48	13.46	13.41	13.41	13.26	13.25	13.02	13.04	13.11	13.09	13.06	13.06	12.43	12.4
2437	6	16.98	17.08	16.95	17.05	16.88	16.96	17.24	17.24	16.89	16.73	15.9	15.9	15.7	15.7	15.48	15.5
2462	11	12.53	12.53	12.59	12.6	12.51	12.49	12.77	12.89	12.86	12.85	12.71	12.7	12.71	12.64	12.01	11.95

Table 30: Test results conducted power measurement 802.11ax HE-20

802.11ax HE-40		maximum average conducted output power [dBm]															
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7	
		6.5Mbps		13Mbps		19.5Mbps		26Mbps		39Mbps		52Mbps		58.5Mbps		65Mbps	
2422	3	11.97	11.99	11.55	11.51	11.62	11.55	11.4	11.36	11.18	11.12	9.96	9.91	9.66	9.58	9.33	9.27
2437	6	13.64	13.68	13.71	13.71	13.74	13.77	13.75	13.75	13.58	13.52	13.57	13.59	13.39	13.31	12.34	12.28
2452	9	11.6	11.64	11.64	11.68	11.72	11.7	11.75	11.7	11.53	11.45	11.16	11.01	10.4	10.27	9.56	9.41

Table 31: Test results conducted power measurement 802.11ax HE-40

8.1.11 Conducted power measurements WLAN 5 GHz

802.11a		maximum average conducted output power [dBm] Antenna A							
Freq. [MHz]	Ch	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
5180	36	13.7	13.7	13.6	13.4	13.7	13.6	13.6	13.0
5200	40	16.6	16.5	16.5	16.4	16.6	16.5	15.7	15.0
5220	44	16.5	16.5	16.5	16.3	16.5	16.5	15.7	15.0
5240	48	16.5	16.5	16.4	16.3	16.5	16.4	15.7	15.0
5260	52	16.5	16.4	16.4	16.2	16.4	16.4	15.6	14.8
5280	56	16.5	16.5	16.5	16.3	16.5	16.4	15.7	15.0
5300	60	16.7	16.6	16.6	16.4	16.6	16.5	15.8	15.0
5320	64	15.0	15.0	14.9	14.8	15.0	14.9	14.3	13.6
5500	100	16.0	16.0	15.9	15.7	15.7	15.3	14.7	14.3
5520	104	16.8	16.8	16.8	16.6	16.8	16.7	16.0	15.2
5540	108	16.8	16.7	16.8	16.5	16.8	16.6	15.9	15.2
5560	112	16.8	16.7	16.7	16.6	16.7	16.6	15.9	15.1
5580	116	16.7	16.7	16.6	16.5	16.7	16.6	15.9	15.1
5600	120	16.7	16.7	16.7	16.4	16.7	16.6	15.9	15.1
5620	124	16.8	16.8	16.7	16.5	16.7	16.6	15.9	15.1
5640	128	16.8	16.8	16.7	16.5	16.7	16.6	15.8	15.1
5660	132	16.7	16.7	16.6	16.4	16.7	16.5	15.8	15.0
5680	136	16.7	16.7	16.6	16.4	16.7	16.5	15.8	15.0
5700	140	15.8	15.7	15.7	15.8	15.5	15.6	15.0	14.3
5745	149	16.7	16.7	16.6	16.4	16.7	16.6	15.8	15.0
5765	153	16.7	16.6	16.5	16.4	16.6	16.5	15.8	15.0
5785	157	16.6	16.6	16.5	16.4	16.6	16.5	15.7	15.0
5805	161	16.7	16.6	16.6	16.4	16.7	16.5	15.8	15.0
5825	165	16.7	16.6	16.6	16.3	16.6	16.5	16.0	15.2
802.11a		maximum average conducted output power [dBm] Antenna B							
Freq. [MHz]	Ch	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
5180	36	14.5	14.4	14.4	14.2	14.5	14.4	13.8	12.8
5200	40	16.4	16.3	16.3	16.1	16.4	16.2	15.5	14.8
5220	44	16.4	16.4	16.4	16.1	16.4	16.3	15.5	14.9
5240	48	16.4	16.4	16.4	16.2	16.4	16.3	15.6	14.8
5260	52	16.4	16.4	16.4	16.2	16.4	16.4	15.6	14.8
5280	56	16.5	16.3	16.3	16.1	16.4	16.3	15.5	14.7
5300	60	16.5	16.4	16.4	16.2	16.4	16.3	15.6	14.8
5320	64	15.1	15.0	15.0	14.9	15.0	14.5	13.7	13.3
5500	100	15.5	15.4	15.4	15.2	14.9	14.4	13.8	13.4
5520	104	16.4	16.4	16.4	16.1	16.4	16.3	15.6	14.8
5540	108	16.5	16.4	16.3	16.2	16.4	16.3	15.5	14.8
5560	112	16.4	16.4	16.3	16.2	16.4	16.3	15.6	14.8
5580	116	16.5	16.4	16.2	16.4	16.3	16.2	15.6	14.9
5600	120	16.4	16.4	16.3	16.2	16.5	16.3	15.6	14.8
5620	124	16.4	16.4	16.4	16.2	16.4	16.3	15.6	14.8
5640	128	16.5	16.5	16.4	16.3	16.5	16.4	15.7	14.9
5660	132	16.5	16.4	16.5	16.3	16.5	16.4	15.6	14.9
5680	136	16.5	16.5	16.4	16.2	16.4	16.3	15.6	14.8
5700	140	15.5	15.5	15.4	15.2	15.4	15.3	15.0	14.6
5745	149	16.4	16.4	16.4	16.1	16.3	16.3	15.5	14.8
5765	153	16.4	16.4	16.4	16.1	16.4	16.3	15.6	14.8
5785	157	16.4	16.4	16.4	16.3	16.5	16.3	15.6	14.8
5805	161	16.5	16.4	16.4	16.2	16.4	16.4	15.7	14.9
5825	165	16.6	16.5	16.4	16.3	16.5	16.4	15.6	14.9

Table 32: Test results conducted power measurement 802.11a

802.11n HT-20 / 802.11ac VHT-20 maximum average conducted output power [dBm] Antenna A										
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8
		6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps	78Mbps
5180	36	13.7	13.7	13.7	13.9	14.0	14.1	13.7	13.6	13.6
5200	40	16.6	16.6	16.5	16.8	16.9	16.3	15.7	15.5	15.0
5220	44	16.6	16.6	16.5	16.8	16.9	16.3	15.7	15.5	14.8
5240	48	16.5	16.4	16.4	16.7	16.7	16.2	15.6	15.4	14.8
5260	52	16.4	16.5	16.4	16.7	16.8	16.2	15.6	15.4	14.8
5280	56	16.6	16.5	16.4	16.7	16.8	16.2	15.6	15.4	14.9
5300	60	16.6	16.6	16.5	16.8	16.9	16.3	15.7	15.5	14.9
5320	64	15.0	15.0	14.9	15.2	15.3	14.8	14.3	14.0	13.6
5500	100	16.0	16.0	15.8	15.9	15.8	15.2	15.0	15.0	14.6
5520	104	16.8	16.8	16.7	17.0	17.1	16.5	15.9	15.7	15.1
5540	108	16.8	16.8	16.6	17.0	17.1	16.4	15.8	15.7	15.3
5560	112	16.7	16.8	16.7	16.9	17.0	16.5	15.8	15.7	15.3
5580	116	16.7	16.7	16.7	16.9	17.0	16.4	15.8	15.6	15.3
5600	120	16.7	16.7	16.6	16.9	17.0	16.4	15.8	15.6	15.3
5620	124	16.7	16.8	16.7	17.0	17.0	16.4	15.8	15.7	15.4
5640	128	16.7	16.7	16.6	16.9	17.0	16.4	15.8	15.6	15.3
5660	132	16.7	16.7	16.6	16.9	16.9	16.3	15.7	15.6	15.3
5680	136	16.7	16.6	16.5	16.9	16.9	16.3	15.7	15.6	15.2
5700	140	15.8	15.8	15.7	16.0	16.1	15.5	15.0	15.0	14.2
5745	149	16.7	16.7	16.6	16.9	17.0	16.4	15.7	15.6	15.0
5765	153	16.6	16.7	16.6	16.8	16.9	16.3	15.7	15.5	14.9
5785	157	16.6	16.6	16.5	16.8	16.9	16.2	15.7	15.5	14.9
5805	161	16.6	16.7	16.5	16.8	16.9	16.2	15.7	15.5	14.9
5825	165	16.6	16.6	16.5	16.8	16.8	16.5	15.8	15.6	15.2
802.11n HT-20 / 802.11ac VHT-20 maximum average conducted output power [dBm] Antenna B										
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8
		6.5Mbps	13Mbps	19.5Mbps	26Mbps	39Mbps	52Mbps	58.5Mbps	65Mbps	78Mbps
5180	36	14.4	14.5	14.4	14.7	14.8	14.3	13.6	13.3	13.6
5200	40	16.3	16.3	16.2	16.5	16.6	16.0	15.4	15.2	14.9
5220	44	16.4	16.4	16.3	16.6	16.7	16.1	15.6	15.3	15.0
5240	48	16.3	16.4	16.2	16.6	16.7	16.1	15.5	15.2	14.9
5260	52	16.4	16.4	16.4	16.7	16.7	16.1	15.5	15.3	15.1
5280	56	16.4	16.4	16.3	16.6	16.6	16.0	15.5	15.2	14.9
5300	60	16.5	16.4	16.3	16.6	16.7	16.1	15.5	15.3	14.9
5320	64	15.1	15.1	15.0	15.2	14.9	14.2	13.9	13.5	13.1
5500	100	15.4	15.5	15.4	15.1	14.8	14.4	14.1	14.1	13.4
5520	104	16.4	16.3	16.3	16.6	16.7	16.1	15.5	15.3	15.0
5540	108	16.4	16.3	16.4	16.6	16.7	16.0	15.5	15.3	15.1
5560	112	16.5	16.4	16.3	16.6	16.7	16.1	15.5	15.3	15.1
5580	116	16.4	16.4	16.3	16.5	16.7	16.1	15.5	15.2	15.1
5600	120	16.4	16.4	16.3	16.6	16.7	16.1	15.5	15.3	15.1
5620	124	16.4	16.4	16.3	16.6	16.7	16.1	15.5	15.3	15.1
5640	128	16.5	16.5	16.4	16.7	16.8	16.1	15.6	15.4	15.2
5660	132	16.5	16.5	16.4	16.6	16.7	16.1	15.5	15.4	15.1
5680	136	16.5	16.4	16.3	16.6	16.7	16.1	15.5	15.3	15.1
5700	140	15.5	15.5	15.3	15.6	15.7	15.5	15.2	15.2	14.5
5745	149	16.4	16.3	16.2	16.5	16.6	16.0	15.4	15.3	14.7
5765	153	16.4	16.4	16.3	16.6	16.6	16.0	15.5	15.3	14.7
5785	157	16.4	16.4	16.4	16.6	16.7	16.0	15.5	15.3	14.7
5805	161	16.4	16.5	16.4	16.6	16.7	16.1	15.5	15.3	14.8
5825	165	16.5	16.5	16.3	16.7	16.7	16.1	15.5	15.4	14.1

Table 33: Test results conducted power measurement 802.11n HT-20 / 802.11ac VHT-20

802.11n HT-20 / 802.11ac VHT-20 maximum average conducted output power [dBm] MIMO																			
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8	
		6.5Mbps		13Mbps		19.5Mbps		26Mbps		39Mbps		52Mbps		58.5Mbps		65Mbps		78Mbps	
5180	36	13.1	13.1	13.0	12.8	12.9	12.6	13.2	13.0	13.2	13.0	13.5	13.1	13.5	13.1	13.0	12.6	13.0	12.6
5200	40	14.6	14.7	14.7	14.2	14.6	14.1	14.8	14.4	14.9	14.5	15.0	14.7	15.2	14.7	15.2	14.7	14.6	14.2
5220	44	14.6	14.7	14.6	14.3	14.6	14.2	14.8	14.5	14.8	14.6	15.0	14.7	15.2	14.9	15.1	14.8	14.6	14.3
5240	48	14.1	14.2	14.1	13.9	14.0	13.8	14.3	14.1	14.4	14.2	14.5	14.3	14.7	14.4	14.7	14.4	14.1	13.9
5260	52	14.5	14.8	14.5	14.4	14.4	14.3	14.7	14.6	14.8	14.6	14.9	14.8	15.1	14.9	15.1	14.9	14.5	14.4
5280	56	14.6	14.7	14.6	14.4	14.5	14.2	14.8	14.5	14.8	14.6	15.0	14.8	15.1	14.9	15.2	14.9	14.6	14.3
5300	60	14.7	14.7	14.7	14.5	14.6	14.3	14.9	14.6	14.9	14.7	15.0	14.9	15.2	14.9	15.1	14.9	14.6	14.3
5320	64	13.6	13.7	13.6	13.3	13.5	13.2	13.8	13.4	13.6	13.2	13.2	13.0	13.7	13.4	12.9	12.7	13.6	13.3
5500	100	13.6	13.7	13.6	13.3	13.5	13.2	13.3	12.9	13.4	12.9	13.3	12.8	13.7	13.1	13.5	12.9	13.6	13.2
5520	104	14.7	14.7	14.7	14.6	14.6	14.5	15.0	14.8	14.6	14.3	14.1	13.9	13.7	13.5	13.3	13.1	12.9	12.7
5540	108	14.7	14.7	14.6	14.5	14.6	14.4	14.9	14.7	14.5	14.3	14.1	13.9	13.6	13.4	13.2	13.0	12.8	12.6
5560	112	14.8	14.6	14.5	14.5	14.5	14.3	14.9	14.6	14.4	14.2	14.0	13.8	13.6	13.4	13.2	13.0	12.8	12.5
5580	116	14.7	14.6	14.6	14.5	14.5	14.4	14.9	14.7	14.5	14.3	14.0	13.8	13.6	13.4	13.2	13.0	12.8	12.6
5600	120	14.6	14.6	14.5	14.4	14.5	14.3	14.8	14.6	14.4	14.2	14.0	13.8	13.6	13.3	13.1	12.9	12.7	12.5
5620	124	14.7	14.5	14.5	14.4	14.4	14.3	14.8	14.6	14.3	14.1	13.9	13.7	13.5	13.3	13.1	12.9	12.7	12.5
5640	128	14.7	14.6	14.5	14.5	14.5	14.3	14.8	14.6	14.4	14.2	14.0	13.8	13.6	13.4	13.2	13.0	12.7	12.5
5660	132	14.7	14.5	14.5	14.4	14.5	14.3	14.8	14.6	14.4	14.2	14.0	13.7	13.5	13.3	13.1	12.9	12.7	12.5
5680	136	14.7	14.5	14.4	14.3	14.4	14.2	14.7	14.5	14.3	14.1	13.9	13.7	13.5	13.2	13.0	12.8	12.6	12.4
5700	140	14.7	14.5	14.4	14.3	14.4	14.2	14.7	14.5	14.3	14.1	13.9	13.7	13.4	13.2	13.0	12.8	12.6	12.4
5745	149	16.6	16.4	16.3	16.3	16.3	16.1	16.6	16.4	16.2	16.0	15.8	15.6	15.4	15.2	15.0	14.7	14.5	14.3
5765	153	16.5	16.5	16.4	16.4	16.4	16.2	16.8	16.5	16.3	16.1	15.9	15.7	15.5	15.3	15.1	14.9	14.7	14.4
5785	157	16.5	16.5	16.4	16.4	16.4	16.2	16.7	16.5	16.3	16.1	15.9	15.7	15.5	15.3	15.1	14.8	14.6	14.4
5805	161	16.6	16.6	16.6	16.4	16.4	16.3	16.8	16.6	16.8	16.6	16.2	16.0	15.6	15.3	15.4	15.1	16.5	16.3
5825	165	16.5	16.7	16.6	16.5	16.6	16.4	16.9	16.7	16.5	16.3	16.1	15.9	15.7	15.4	15.2	15.0	14.8	14.6

Table 34: Test results conducted power measurement 802.11n HT-20 / 802.11ac VHT-20 MIMO

802.11n HT-40 / 802.11ac VHT-40 maximum average conducted output power [dBm] Antenna A											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		13.5Mbps	27Mbps	40.5Mbps	54Mbps	81Mbps	108Mbps	121.5Mbps	135Mbps	162Mbps	180Mbps
5190	38	13.2	13.0	12.7	12.5	12.3	12.3	12.3	12.0	11.9	11.9
5230	46	17.0	17.0	17.0	17.0	16.8	16.8	15.9	15.8	15.2	14.4
5270	54	17.0	16.9	17.0	16.9	16.8	16.7	15.9	15.7	15.2	14.3
5310	62	13.5	13.4	13.5	13.4	13.0	13.1	13.1	12.3	11.5	11.8
5510	102	14.2	14.3	14.5	14.3	14.2	14.1	13.8	13.0	12.9	12.6
5550	110	16.7	16.7	16.7	16.7	16.5	16.5	16.1	16.0	15.5	14.8
5590	118	17.2	17.2	17.2	17.2	17.0	17.0	16.0	15.9	15.4	14.7
5630	126	17.3	17.2	17.2	17.3	17.0	17.0	16.1	16.0	15.5	14.8
5670	134	16.6	16.2	16.3	16.2	16.1	16.2	16.1	15.9	15.4	14.6
5755	151	17.2	17.2	17.2	17.2	16.7	16.9	16.0	15.4	14.6	14.6
5795	159	17.2	17.1	17.1	17.1	16.9	16.9	15.9	15.8	15.2	14.6
802.11n HT-40 / 802.11ac VHT-40 maximum average conducted output power [dBm] Antenna B											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		13.5Mbps	27Mbps	40.5Mbps	54Mbps	81Mbps	108Mbps	121.5Mbps	135Mbps	162Mbps	180Mbps
5190	38	12.8	12.8	12.8	12.8	12.7	12.6	12.7	11.6	11.7	11.6
5230	46	16.4	16.4	16.4	16.4	16.1	16.1	15.6	14.5	14.5	13.9
5270	54	16.0	15.9	15.9	16.0	15.8	15.8	15.6	14.5	14.5	14.0
5310	62	12.9	12.9	12.6	12.6	12.8	13.0	12.8	11.2	10.5	10.5
5510	102	14.4	13.5	13.5	13.4	13.0	12.9	12.9	12.5	12.0	12.0
5550	110	15.7	15.6	15.6	15.6	15.5	15.4	15.3	15.2	14.3	13.2
5590	118	17.0	16.9	16.9	16.9	16.7	16.5	15.3	15.2	14.3	13.4
5630	126	16.9	16.9	16.9	16.9	16.7	16.5	15.3	15.1	14.3	13.2
5670	134	16.0	16.0	16.1	16.1	15.9	15.8	15.1	15.0	13.9	13.2
5755	151	16.8	16.9	16.8	16.5	16.1	16.1	14.5	14.2	13.4	11.7
5795	159	17.0	16.9	16.9	16.7	16.5	16.3	14.5	14.8	13.4	11.8

Table 35: Test results conducted power measurement 802.11n HT-40 / 802.11ac VHT-40

802.11n HT-40 / 802.11ac VHT-40 maximum average conducted output power [dBm] MIMO

Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		13.5Mbps		27Mbps		40.5Mbps		54Mbps		81Mbps		108Mbps		121.5Mbps		135Mbps		162Mbps		180Mbps	
5190	38	10.6	10.4	10.7	9.9	10.7	10.0	10.7	9.9	10.5	9.7	10.4	9.4	9.5	8.2	9.4	8.1	10.7	9.9	10.6	9.9
5230	46	15.6	15.5	15.8	15.0	15.8	15.1	15.8	15.0	15.6	14.8	15.5	14.5	14.6	13.3	14.5	13.2	15.8	15.0	15.7	15.0
5270	54	14.4	14.5	14.9	14.1	14.9	14.1	14.8	14.0	14.6	13.8	14.6	13.6	13.7	12.3	13.5	12.3	14.9	14.1	14.8	14.1
5310	62	12.5	12.4	12.7	11.9	12.7	12.0	12.7	11.9	12.5	11.7	12.5	11.4	11.5	10.2	11.4	10.1	12.7	11.9	12.7	11.9
5510	102	13.2	13.0	13.4	12.6	13.4	12.6	13.3	12.5	13.1	12.3	13.1	12.1	12.2	10.8	12.0	10.8	13.4	12.6	13.3	12.6
5550	110	14.7	14.5	14.8	14.0	14.8	14.1	14.8	14.0	14.6	13.8	14.5	13.5	13.6	12.3	13.5	12.2	14.8	14.0	14.7	14.0
5590	118	16.8	16.6	17.0	16.2	17.0	16.2	16.9	16.1	16.7	15.9	16.7	15.7	15.8	14.4	15.6	14.4	17.0	16.2	16.9	16.2
5630	126	17.3	16.9	17.2	16.4	17.2	16.5	17.2	16.4	17.0	16.2	16.9	15.9	16.0	14.7	15.9	14.6	17.2	16.4	17.1	16.4
5670	134	14.7	14.5	14.9	14.1	14.9	14.1	14.8	14.0	14.6	13.8	14.6	13.6	13.7	12.3	13.5	12.3	14.9	14.1	14.8	14.1
5755	151	16.8	16.5	16.8	16.0	16.8	16.0	16.7	16.0	16.5	15.7	16.5	15.5	15.6	14.2	15.5	14.2	16.8	16.0	16.7	16.0
5795	159	17.1	17.0	17.3	16.5	17.3	16.5	17.2	16.5	17.0	16.2	17.0	16.0	16.1	14.7	16.0	14.7	17.3	16.5	17.2	16.5

Table 36: Test results conducted power measurement 802.11n HT-40 / 802.11ac VHT-40 MIMO

802.11ac VHT-80 maximum average conducted output power [dBm] Antenna A

Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		29.3Mbps		58.5Mbps		87.8Mbps		117Mbps		175.5Mbps		234Mbps		263.3Mbps		292.5Mbps		351Mbps		390Mbps	
5210	42	14.3		13.5		13.6		12.2		12.2		12.3		13.2		12.7		12.6		12.6	
5290	58	13.4		13.4		13.4		13.5		12.6		13.1		13.1		12.5		10.1		10.1	
5530	106	15.0		14.5		14.0		12.7		12.6		12.5		13.5		12.9		12.5		12.9	
5610	122	17.3		17.2		17.2		16.4		16.3		16.1		15.3		14.6		14.1		13.7	
5775	155	16.2		16.2		15.8		15.4		14.6		14.5		14.6		13.4		13.2		13.2	

802.11ac VHT-80 maximum average conducted output power [dBm] Antenna B

Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		29.3Mbps		58.5Mbps		87.8Mbps		117Mbps		175.5Mbps		234Mbps		263.3Mbps		292.5Mbps		351Mbps		390Mbps	
5210	42	13.9		13.9		14.0		12.6		12.6		12.6		13.0		12.1		11.7		11.9	
5290	58	13.0		13.0		12.8		11.8		12.2		12.1		12.4		10.9		10.6		9.7	
5530	106	14.3		14.2		13.7		12.7		13.3		12.8		13.3		12.0		12.2		12.2	
5610	122	16.6		16.6		16.4		15.9		15.5		15.5		15.3		14.9		14.2		13.9	
5775	155	16.0		16.0		15.9		15.2		14.8		14.5		14.8		14.0		14.2		13.4	

Table 37: Test results conducted power measurement 802.11ac VHT-80

802.11ac VHT-80 maximum average conducted output power [dBm] MIMO

Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		29.3Mbps		58.5Mbps		87.8Mbps		117Mbps		175.5Mbps		234Mbps		263.3Mbps		292.5Mbps		351Mbps		390Mbps	
5210	42	12.5	12.6	11.9	11.8	12.2	12.1	11.3	11.1	11.2	10.9	11.0	10.8	11.1	10.9	11.0	10.7	10.7	10.5	10.7	10.4
5290	58	11.1	11.1	10.4	10.3	10.7	10.6	9.8	9.6	9.7	9.4	9.5	9.3	9.6	9.4	9.5	9.2	9.2	9.0	9.2	8.9
5530	106	12.8	12.9	12.2	12.1	12.5	12.4	11.6	11.4	11.5	11.2	11.3	11.1	11.4	11.2	11.3	11.0	11.0	10.8	11.0	10.7
5610	122	16.6	16.4	15.7	15.6	16.0	15.9	15.1	14.9	15.0	14.8	14.9	14.7	14.9	14.8	14.8	14.5	14.5	14.3	14.5	14.2
5775	155	15.1	15.1	14.4	14.2	14.7	14.6	13.8	13.6	13.7	13.4	13.5	13.3	13.6	13.4	13.5	13.2	13.2	13.0	13.2	12.9

Table 38: Test results conducted power measurement 802.11ac VHT-80 MIMO

802.11ac VHT-160 maximum average conducted output power [dBm] Antenna A											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		58.5	117.5Mbps	175.5Mbps	234.0Mbps	351.0Mbps	468.0Mbps	526.5Mbps	585.0Mbps	702.0Mbps	780.0Mbps
5250	50	11.6	11.4	11.3	11.3	11.2	11.1	10.9	10.6	10.2	9.8
5570	114	12.8	12.7	12.6	12.5	12.5	12.3	12.2	11.8	11.4	11.0

802.11ac VHT-160 maximum average conducted output power [dBm] Antenna B											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		58.5	117.5Mbps	175.5Mbps	234.0Mbps	351.0Mbps	468.0Mbps	526.5Mbps	585.0Mbps	702.0Mbps	780.0Mbps
5250	50	11.0	10.8	10.7	10.5	10.5	10.3	10.2	9.9	9.1	9.1
5570	114	12.2	12.0	11.9	11.7	11.7	11.5	11.4	11.0	10.0	10.0

Table 39: Test results conducted power measurement 802.11ac VHT-160

802.11ac VHT-160 maximum average conducted output power [dBm] MIMO																					
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		58.5Mbps		117.5Mbps		175.5Mbps		234.0Mbps		351.0Mbps		468.0Mbps		526.5Mbps		585.0Mbps		702.0Mbps		780.0Mbps	
5250	50	10.0	9.5	9.2	9.1	9.5	9.4	8.6	8.4	8.5	8.2	8.3	8.1	8.4	8.2	8.3	8.0	8.0	7.8	8.0	7.7
5570	114	10.9	11.1	10.4	10.2	10.7	10.6	9.8	9.6	9.7	9.4	9.5	9.3	9.6	9.4	9.5	9.2	9.2	9.0	9.2	8.9

Table 40: Test results conducted power measurement 802.11ac VHT-160 MIMO

802.11ax HE-20 maximum average conducted output power [dBm] Antenna A										
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8
		8.6Mbps	17.2Mbps	25.8Mbps	34.4Mbps	51.6Mbps	68.8Mbps	77.4Mbps	86.0Mbps	103.2Mbps
5180	36	13.8	13.8	13.7	14.1	14.1	13.2	12.8	12.5	12.0
5200	40	16.7	16.6	16.5	17.0	17.0	16.1	15.6	15.4	14.8
5220	44	16.6	16.6	16.5	17.0	16.9	16.1	15.6	15.4	14.8
5240	48	16.6	16.6	16.5	16.9	16.9	16.0	15.6	15.3	14.8
5260	52	16.6	16.6	16.5	16.9	16.9	16.0	15.6	15.3	14.7
5280	56	16.6	16.6	16.5	16.9	16.9	16.0	15.6	15.3	14.8
5300	60	16.7	16.6	16.5	17.0	17.0	16.1	15.6	15.4	14.8
5320	64	15.1	15.1	15.0	15.4	15.4	14.6	14.1	13.8	13.3
5500	100	16.1	16.1	16.0	16.4	16.4	15.5	15.1	14.8	14.3
5520	104	16.9	16.9	16.8	17.3	17.2	16.4	15.9	15.7	15.1
5540	108	16.8	16.8	16.7	17.2	17.1	16.3	15.8	15.6	15.0
5560	112	16.9	16.9	16.8	17.2	17.2	16.3	15.9	15.6	15.0
5580	116	16.8	16.8	16.7	17.2	17.1	16.3	15.8	15.6	15.0
5600	120	16.8	16.8	16.7	17.1	17.1	16.2	15.8	15.5	14.9
5620	124	16.9	16.9	16.8	17.2	17.2	16.3	15.9	15.6	15.1
5640	128	16.8	16.8	16.7	17.1	17.1	16.3	15.8	15.5	15.0
5660	132	16.8	16.8	16.7	17.1	17.1	16.3	15.8	15.5	15.0
5680	136	16.7	16.7	16.6	17.0	17.0	16.2	15.7	15.4	14.9
5700	140	15.9	15.9	15.8	16.2	16.2	15.3	14.9	14.6	14.0
5745	149	16.8	16.8	16.7	17.1	17.1	16.2	15.8	15.5	14.9
5765	153	16.8	16.7	16.6	17.1	17.0	16.2	15.7	15.5	14.9
5785	157	16.6	16.6	16.5	16.9	16.9	16.1	15.6	15.3	14.8
5805	161	16.7	16.7	16.6	17.0	17.0	16.2	15.7	15.4	14.9
5825	165	16.7	16.7	16.6	17.0	17.0	16.1	15.7	15.4	14.8
802.11ax HE-20 maximum average conducted output power [dBm] Antenna B										
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8
		8.6Mbps	17.2Mbps	25.8Mbps	34.4Mbps	51.6Mbps	68.8Mbps	77.4Mbps	86.0Mbps	103.2Mbps
5180	36	14.9	14.8	14.7	15.2	15.2	14.6	13.9	13.5	13.5
5200	40	16.7	16.7	16.7	17.0	17.1	16.2	15.8	15.5	15.2
5220	44	16.7	16.8	16.7	17.0	17.2	16.2	15.8	15.5	15.3
5240	48	16.7	16.7	16.7	16.9	17.1	16.2	15.7	15.4	15.2
5260	52	16.8	16.8	16.8	17.1	17.2	16.3	15.9	15.6	15.3
5280	56	16.8	16.8	16.8	17.0	17.2	16.2	15.8	15.5	15.3
5300	60	16.8	16.8	16.8	17.0	17.2	16.2	15.8	15.5	15.3
5320	64	15.5	15.4	15.4	15.7	15.8	14.9	14.5	14.2	14.0
5500	100	15.8	15.8	15.8	16.0	16.2	15.3	14.8	14.5	14.3
5520	104	16.7	16.8	16.8	17.0	17.2	16.3	15.8	15.5	15.3
5540	108	16.7	16.7	16.7	16.9	17.1	16.2	15.8	15.5	15.2
5560	112	16.7	16.6	16.6	16.9	17.0	16.1	15.7	15.4	15.1
5580	116	16.7	16.6	16.6	16.9	17.0	16.1	15.7	15.4	15.1
5600	120	16.6	16.6	16.6	16.9	17.0	16.1	15.7	15.4	15.2
5620	124	16.6	16.6	16.5	16.8	16.9	16.1	15.6	15.3	14.1
5640	128	16.7	16.7	16.6	16.9	17.0	16.1	15.6	15.4	14.2
5660	132	16.7	16.6	16.5	16.9	17.0	16.1	15.6	15.4	14.2
5680	136	16.6	16.5	16.5	16.8	16.9	16.0	15.5	15.3	14.1
5700	140	15.6	15.6	15.5	15.9	16.0	15.1	14.6	14.4	13.2
5745	149	16.6	16.6	16.5	16.8	17.0	16.1	15.6	15.3	14.1
5765	153	16.7	16.7	16.6	17.0	17.1	16.2	15.7	15.5	14.2
5785	157	16.7	16.7	16.6	16.9	17.0	16.2	15.7	15.4	14.2
5805	161	16.7	16.8	16.7	17.0	17.2	16.3	15.8	15.5	14.3
5825	165	16.8	16.8	16.7	17.0	17.2	16.3	15.8	15.5	14.3

Table 41: Test results conducted power measurement 802.11n HT-20 / 802.11ac VHT-20

802.11ax HE-20 maximum average conducted output power [dBm] MIMO													
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8			
		8.6Mbps	17.2Mbps	25.8Mbps	34.4Mbps	51.6Mbps	68.8Mbps	77.4Mbps	86.0Mbps	103.2Mbps			
5180	36	13.1	13.2	13.4	13.2	13.3	13.1	13.7	13.5	13.8	13.5	12.8	12.6
5200	40	14.7	14.8	14.9	14.7	14.9	14.7	15.3	15.0	15.3	15.1	14.4	14.2
5220	44	14.6	14.8	15.0	14.8	15.0	14.8	15.3	15.1	15.4	15.2	14.5	14.3
5240	48	14.2	14.3	14.5	14.3	14.4	14.2	14.8	14.6	14.9	14.6	13.9	13.7
5260	52	14.6	14.9	15.0	14.8	15.0	14.8	15.3	15.1	15.4	15.2	14.5	14.3
5280	56	14.7	14.8	14.9	14.7	14.9	14.7	15.2	15.0	15.3	15.1	14.4	14.2
5300	60	14.7	14.9	15.0	14.9	15.0	14.8	15.4	15.2	15.5	15.2	14.5	14.3
5320	64	13.7	13.8	13.9	13.7	13.9	13.7	14.2	14.0	14.3	14.1	13.4	13.2
5500	100	13.7	13.8	14.0	13.8	14.0	13.8	14.3	14.1	14.4	14.2	13.5	13.3
5520	104	14.9	14.8	15.0	14.8	14.9	14.7	15.3	15.1	15.4	15.1	14.4	14.2
5540	108	14.9	14.8	15.0	14.8	15.0	14.7	15.3	15.1	15.4	15.2	14.5	14.2
5560	112	14.7	14.7	14.9	14.7	14.8	14.6	15.2	15.0	15.3	15.0	14.3	14.1
5580	116	14.8	14.7	14.9	14.7	14.9	14.7	15.2	15.0	15.3	15.1	14.4	14.2
5600	120	14.8	14.8	14.9	14.7	14.9	14.7	15.2	15.0	15.3	15.1	14.4	14.2
5620	124	14.8	14.7	14.8	14.6	14.8	14.6	15.2	14.9	15.2	15.0	14.3	14.1
5640	128	14.8	14.7	14.9	14.7	14.9	14.7	15.2	15.0	15.3	15.1	14.4	14.2
5660	132	14.8	14.7	14.9	14.7	14.8	14.6	15.2	15.0	15.3	15.0	14.3	14.1
5680	136	14.7	14.6	14.8	14.6	14.7	14.5	15.1	14.9	15.2	14.9	14.2	14.0
5700	140	14.8	14.7	14.8	14.6	14.8	14.6	15.1	14.9	15.2	15.0	14.3	14.1
5745	149	16.7	16.5	16.6	16.5	16.6	16.4	17.0	16.8	17.1	16.8	16.1	15.9
5765	153	16.7	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
5785	157	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
5805	161	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
5825	165	16.6	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7

Table 42: Test results conducted power measurement 802.11ax HE-20 MIMO

802.11ax HE-40 maximum average conducted output power [dBm] Antenna A											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		17.2Mbps	34.4Mbps	51.6Mbps	68.8Mbps	103.2Mbps	137.6Mbps	154.9Mbps	172.1Mbps	206.5Mbps	229.4Mbps
5190	38	12.8	12.8	12.8	12.9	12.7	12.8	11.8	11.8	11.2	10.5
5230	46	16.8	16.8	16.8	16.8	16.7	16.7	15.8	15.7	15.1	14.5
5270	54	16.7	16.6	16.6	16.7	16.6	16.6	15.7	15.6	15.0	14.4
5310	62	13.2	13.2	13.1	13.2	13.1	13.1	12.2	12.1	11.5	10.9
5510	102	14.1	14.0	14.0	14.1	14.0	14.0	13.0	13.0	12.4	11.8
5550	110	16.5	16.5	16.5	16.5	16.4	16.5	15.5	15.5	14.9	14.2
5590	118	16.9	16.9	16.9	16.9	16.8	16.9	15.9	15.9	15.3	14.6
5630	126	17.0	17.0	17.0	17.0	16.9	16.9	16.0	15.9	15.3	14.7
5670	134	16.4	16.4	16.3	16.4	16.3	16.3	15.4	15.3	14.7	14.1
5755	151	16.9	16.8	16.8	16.9	16.8	16.8	15.9	15.8	15.2	14.6
5795	159	16.9	16.8	16.8	16.9	16.8	16.8	15.8	15.8	15.2	14.6
802.11ax HE-40 maximum average conducted output power [dBm] Antenna B											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		17.2Mbps	34.4Mbps	51.6Mbps	68.8Mbps	103.2Mbps	137.6Mbps	154.9Mbps	172.1Mbps	206.5Mbps	229.4Mbps
5190	38	12.8	12.7	12.8	12.5	12.4	12.2	10.5	11.0	9.5	7.7
5230	46	16.4	16.3	16.4	16.1	16.0	15.8	14.2	14.6	13.1	11.3
5270	54	16.0	15.9	16.0	15.7	15.6	15.4	13.7	14.2	12.7	10.9
5310	62	12.9	12.8	12.9	12.6	12.5	12.3	10.6	11.1	9.6	7.8
5510	102	14.4	14.3	14.4	14.1	14.1	13.9	12.2	12.6	11.1	9.3
5550	110	15.6	15.5	15.6	15.4	15.3	15.1	13.4	13.8	12.4	10.5
5590	118	16.8	16.8	16.9	16.6	16.5	16.3	14.6	15.0	13.6	11.8
5630	126	16.7	16.7	16.8	16.5	16.4	16.2	14.5	14.9	13.5	11.7
5670	134	15.8	15.7	15.8	15.6	15.5	15.3	13.6	14.0	12.6	10.7
5755	151	16.7	16.7	16.7	16.5	16.4	16.2	14.5	14.9	13.5	11.6
5795	159	16.9	16.8	16.9	16.7	16.6	16.4	14.7	15.1	13.7	11.8

Table 43: Test results conducted power measurement 802.11ax HE-40

802.11ax HE-40 maximum average conducted output power [dBm] MIMO																					
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		17.2Mbps	34.4Mbps	51.6Mbps	68.8Mbps	103.2Mbps	137.6Mbps	154.9Mbps	172.1Mbps	206.5Mbps	229.4Mbps										
5190	38	10.3	10.1	10.2	10.1	10.2	10.0	10.6	10.4	10.7	10.4	9.7	9.5	9.2	8.9	9.0	8.8	8.3	8.2	8.1	8.0
5230	46	15.2	15.3	15.5	15.3	15.4	15.2	15.8	15.6	15.9	15.6	14.9	14.7	14.4	14.2	14.2	14.0	13.5	13.5	13.3	13.2
5270	54	14.0	14.3	14.5	14.3	14.4	14.2	14.8	14.6	14.9	14.6	13.9	13.7	13.4	13.1	13.2	13.0	12.5	12.5	12.3	12.2
5310	62	12.1	12.1	12.3	12.1	12.3	12.0	12.6	12.4	12.7	12.5	11.8	11.5	11.2	11.0	11.1	10.8	10.4	10.3	10.2	10.1
5510	102	13.0	12.9	13.0	12.8	13.0	12.8	13.4	13.1	13.4	13.2	12.5	12.3	11.9	11.7	11.8	11.6	11.1	11.0	10.9	10.8
5550	110	14.3	14.2	14.4	14.2	14.4	14.1	14.7	14.5	14.8	14.6	13.9	13.6	13.3	13.1	13.2	12.9	12.5	12.4	12.3	12.2
5590	118	16.5	16.3	16.5	16.3	16.5	16.3	16.8	16.6	16.9	16.7	16.0	15.8	15.4	15.2	15.3	15.1	14.6	14.5	14.4	14.3
5630	126	17.0	16.6	17.0	16.8	17.0	16.7	16.9	16.7	16.8	16.5	15.8	15.6	15.8	15.6	15.3	15.1	14.6	14.5	14.4	14.3
5670	134	14.5	14.3	14.5	14.3	14.5	14.2	14.8	14.6	14.9	14.7	14.0	13.7	13.4	13.2	13.3	13.0	12.6	12.5	12.4	12.3
5755	151	16.4	16.6	16.8	16.6	16.7	16.5	17.1	16.9	17.2	16.9	16.2	16.0	15.7	15.4	15.5	15.3	14.8	14.8	14.6	14.5
5795	159	16.8	16.2	16.3	16.2	16.3	16.1	16.7	16.5	16.8	16.5	15.8	15.6	15.3	15.0	15.1	14.9	14.4	14.3	14.2	14.1

Table 44: Test results conducted power measurement 802.11ax HE-40 MIMO

802.11ax HE-80 maximum average conducted output power [dBm] Antenna A											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		36.0Mbps	72.1Mbps	108.1Mbps	144.1Mbps	216.2Mbps	288.2Mbps	324.3Mbps	360.3Mbps	432.4Mbps	480.4Mbps
5210	42	13.9	14.0	14.0	13.2	13.1	12.9	12.3	11.6	11.0	10.6
5290	58	13.2	13.3	13.4	12.5	12.4	12.3	11.6	10.9	10.3	9.9
5530	106	14.7	14.8	14.9	14.0	13.9	13.8	13.1	12.4	11.8	11.4
5610	122	17.0	17.0	17.1	16.2	16.1	16.0	15.3	14.6	14.0	13.6
5775	155	15.9	16.0	16.0	15.2	15.1	14.9	14.2	13.6	13.0	12.6
802.11ax HE-80 maximum average conducted output power [dBm] Antenna B											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		36.0Mbps	72.1Mbps	108.1Mbps	144.1Mbps	216.2Mbps	288.2Mbps	324.3Mbps	360.3Mbps	432.4Mbps	480.4Mbps
5210	42	14.1	14.2	14.0	13.6	13.2	13.2	13.0	12.6	12.0	11.6
5290	58	13.0	13.1	12.9	12.5	12.2	12.1	11.9	11.6	10.9	10.5
5530	106	14.3	14.4	14.2	13.8	13.4	13.4	13.2	12.8	12.2	11.8
5610	122	16.5	16.6	16.3	16.0	15.6	15.5	15.4	15.0	14.3	14.0
5775	155	15.9	16.1	15.8	15.5	15.1	15.0	14.8	14.5	13.8	13.4

Table 45: Test results conducted power measurement 802.11ax HE-80

802.11ax HE-80 maximum average conducted output power [dBm] MIMO																					
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		36.0Mbps		72.1Mbps		108.1Mbps		144.1Mbps		216.2Mbps		288.2Mbps		324.3Mbps		360.3Mbps		432.4Mbps		480.4Mbps	
5210	42	12.2	12.2	12.4	12.2	12.3	12.1	12.7	12.5	12.8	12.5	11.8	11.6	11.3	11.1	11.2	10.9	10.5	10.4	10.3	10.2
5290	58	10.9	10.9	11.1	10.9	11.0	10.8	11.4	11.2	11.5	11.2	10.5	10.3	10.0	9.8	9.8	9.6	9.1	9.1	8.9	8.8
5530	106	12.5	12.6	12.8	12.6	12.8	12.5	13.1	12.9	13.2	13.0	12.3	12.0	11.7	11.5	11.6	11.3	10.9	10.8	10.7	10.6
5610	122	16.3	16.2	16.1	15.9	16.2	16.0	15.4	15.2	14.8	14.5	15.0	14.8	14.2	14.0	13.7	13.5	13.2	13.1	13.0	12.9
5775	155	14.8	14.9	15.1	14.9	15.0	14.8	15.4	15.2	15.5	15.2	14.5	14.3	14.0	13.7	13.8	13.6	13.1	13.1	12.9	12.8

Table 46: Test results conducted power measurement 802.11ax HE-80 MIMO

802.11ax HE-160 maximum average conducted output power [dBm] Antenna A											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		72.1Mbps	144.1Mbps	216.2Mbps	288.2Mbps	432.4Mbps	576.5Mbps	648.5Mbps	720.6Mbps	864.7Mbps	960.8Mbps
5250	50	11.4	11.0	10.9	10.9	10.8	10.7	10.6	10.5	9.4	9.6
5570	114	12.7	12.2	12.2	12.2	12.1	12.0	11.9	11.8	10.7	10.9
802.11ax HE-160 maximum average conducted output power [dBm] Antenna B											
Freq. [MHz]	Ch	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
		72.1Mbps	144.1Mbps	216.2Mbps	288.2Mbps	432.4Mbps	576.5Mbps	648.5Mbps	720.6Mbps	864.7Mbps	960.8Mbps
5250	50	10.9	10.4	10.4	10.4	10.3	10.2	10.1	10.0	8.9	9.1
5570	114	12.1	11.6	11.6	11.6	11.5	11.4	11.3	11.2	10.1	10.3

Table 47: Test results conducted power measurement 802.11ax HE-160

802.11ax HE-160 maximum average conducted output power [dBm] MIMO																					
Freq. [MHz]	Ch	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
		72.1Mbps		144.1Mbps		216.2Mbps		288.2Mbps		432.4Mbps		576.5Mbps		648.5Mbps		720.6Mbps		864.7Mbps		960.8Mbps	
5250	50	9.9	9.4	9.6	9.4	9.6	9.4	9.9	9.7	10.0	9.8	9.1	8.9	8.5	8.3	8.4	8.2	7.7	7.6	7.5	7.4
5570	114	10.8	10.9	11.1	10.9	11.1	10.9	11.4	11.2	11.5	11.3	10.6	10.4	10.0	9.8	9.9	9.7	9.2	9.1	9.0	8.9

Table 48: Test results conducted power measurement 802.11ax HE-160 MIMO

8.1.12 Conducted power measurements WLAN 6 GHz

BW 20 MHz			maximum average conducted output power [dBm] Antenna A									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	5955	1	16.5	16.5	16.4	16.4	15.5	15.1	14.7	14.3	14.0	
	5975	5	16.6	16.5	16.4	16.4	15.5	15.1	14.7	14.2	14.0	
	5995	9	16.6	16.5	16.4	16.4	15.6	15.1	14.8	14.3	14.0	
	6015	13	16.6	16.6	16.4	16.4	15.5	15.2	14.7	14.3	14.0	
	6035	17	16.6	16.6	16.5	16.6	15.6	15.3	14.8	14.3	14.0	
	6055	21	16.5	16.6	16.5	16.4	15.6	15.2	14.8	14.2	13.9	
	6075	25	16.7	16.6	16.3	16.2	15.5	14.9	14.5	13.9	14.1	
	6095	29	16.6	16.6	16.3	16.1	15.5	14.9	14.4	13.8	14.0	
	6115	33	16.6	16.6	16.3	16.1	15.4	14.8	14.4	13.9	14.1	
	6135	37	16.5	16.6	16.3	16.1	15.4	14.8	14.4	13.9	14.1	
	6155	41	16.7	16.7	16.4	16.1	15.4	14.8	14.3	13.8	14.2	
	6175	45	16.6	16.6	16.3	16.0	15.3	14.8	14.4	13.8	14.2	
	6195	49	16.6	16.7	16.6	16.2	15.3	15.0	14.5	14.2	14.2	
	6215	53	16.6	16.6	16.6	16.3	15.4	15.0	14.7	14.3	14.1	
	6235	57	16.7	16.8	16.6	16.3	15.3	15.1	14.6	14.2	14.2	
	6255	61	16.7	16.6	16.7	16.3	15.5	15.1	14.7	14.4	14.2	
	6275	65	16.6	16.6	16.5	16.4	15.4	15.1	14.7	14.3	14.1	
	6295	69	16.6	16.7	16.6	16.3	15.4	15.1	14.6	14.2	14.2	
	6315	73	16.6	16.6	16.5	16.3	15.3	15.0	14.7	14.3	14.2	
	6335	77	16.7	16.7	16.6	16.2	15.3	15.0	14.7	14.3	14.3	
U-NII-6	6355	81	16.7	16.6	16.7	16.2	15.3	15.0	14.7	14.3	14.2	
	6375	85	16.6	16.6	16.5	16.3	15.3	15.1	14.7	14.3	14.2	
	6395	89	16.7	16.7	16.6	16.3	15.4	15.1	14.7	14.3	14.1	
	6415	93	16.6	16.6	16.5	16.4	15.5	15.1	14.7	14.5	14.0	
	6435	97	1.8	1.8	1.7	1.7	0.8	0.4	0.0	-0.4	-0.8	
U-NII-7	6455	101	1.9	1.9	1.8	1.8	0.9	0.6	0.1	-0.3	-0.7	
	6475	105	1.8	1.8	1.7	1.7	0.8	0.5	0.0	-0.4	-0.8	
	6495	109	1.8	1.8	1.8	1.8	0.8	0.5	0.0	-0.4	-0.8	
	6515	113	1.9	1.9	1.8	1.8	0.9	0.5	0.1	-0.3	-0.7	
	6535	117	16.8	16.6	16.6	16.2	15.5	14.9	14.3	14.0	13.8	
	6555	121	16.7	16.7	16.6	16.7	15.7	15.4	14.9	14.5	14.3	
	6575	125	16.6	16.6	16.5	16.5	15.6	15.3	14.8	14.4	14.1	
	6595	129	16.6	16.6	16.5	16.5	15.6	15.2	14.8	14.4	14.1	
	6615	133	16.5	16.5	16.4	16.5	15.5	15.2	14.7	14.3	14.0	
	6635	137	16.7	16.5	16.2	15.9	15.1	14.6	14.2	13.4	13.1	
	6655	141	16.6	16.6	16.5	16.5	15.6	15.2	14.8	14.4	14.1	
	6675	145	16.3	16.3	16.2	16.2	15.3	15.0	14.5	14.1	13.8	
	6695	149	16.4	16.4	16.4	16.4	15.5	15.1	14.7	14.2	14.0	
	6715	153	16.4	16.2	16.1	15.7	14.9	14.5	14.0	13.5	13.2	
	6735	157	16.4	16.4	16.3	16.3	15.4	15.0	14.6	14.2	13.9	
U-NII-8	6755	161	16.3	16.3	16.2	16.3	15.3	15.0	14.5	14.1	13.8	
	6775	165	16.4	16.4	16.3	16.4	15.4	15.1	14.6	14.2	13.9	
	6795	169	16.4	16.2	16.1	15.9	15.1	14.6	14.1	13.7	13.4	
	6815	173	16.4	16.4	16.3	16.3	15.4	15.1	14.6	14.2	13.9	
	6835	177	16.3	16.3	16.2	16.2	15.3	14.9	14.5	14.1	13.8	
	6855	181	16.5	16.4	16.6	16.1	15.5	15.0	14.5	14.2	13.8	
	6875	185	1.3	1.3	1.2	1.2	0.3	-0.1	-0.5	-0.9	-1.2	
	6895	189	1.2	1.2	1.1	1.1	0.2	-0.2	-0.6	-1.0	-1.3	
	6915	193	0.9	0.9	0.8	0.8	-0.1	-0.4	-0.9	-1.3	-1.6	
	6935	197	1.0	1.0	0.9	0.9	0.0	-0.4	-0.8	-1.3	-1.5	
	6955	201	1.0	1.0	0.9	0.9	0.0	-0.4	-0.8	-1.2	-1.5	
	6975	205	0.9	0.9	0.8	0.8	-0.1	-0.4	-0.9	-1.3	-1.6	
	6995	209	0.8	0.8	0.7	0.7	-0.2	-0.6	-1.0	-1.4	-1.7	
	7015	213	0.8	0.8	0.8	0.8	-0.2	-0.5	-1.0	-1.4	-1.6	
	7035	217	0.9	0.9	0.8	0.8	-0.1	-0.5	-0.9	-1.4	-1.6	
	7055	221	0.8	0.8	0.7	0.7	-0.2	-0.6	-1.0	-1.4	-1.7	
	7075	225	0.7	0.7	0.6	0.6	-0.3	-0.7	-1.1	-1.6	-1.8	
	7095	229	0.7	0.7	0.6	0.7	-0.3	-0.6	-1.1	-1.5	-1.8	
	7115	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Table 49: Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 20 MHz			maximum average conducted output power [dBm] Antenna B									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	5955	1	16.5	16.3	16.3	16.3	15.4	15.0	14.7	14.5	14.2	
	5975	5	16.7	16.6	16.5	16.5	15.6	15.3	15.0	14.7	14.4	
	5995	9	16.9	16.7	16.7	16.6	15.8	15.4	15.1	14.8	14.6	
	6015	13	16.8	16.7	16.6	16.6	15.7	15.4	15.1	14.8	14.5	
	6035	17	16.8	16.6	16.6	16.5	15.7	15.3	15.0	14.7	14.5	
	6055	21	16.8	16.6	16.6	16.5	15.7	15.3	15.0	14.8	14.5	
	6075	25	16.9	16.7	16.7	16.7	15.8	15.4	15.1	14.9	14.6	
	6095	29	16.8	16.7	16.6	16.6	15.7	15.4	15.1	14.8	14.5	
	6115	33	16.9	16.8	16.7	16.7	15.8	15.5	15.2	14.9	14.6	
	6135	37	16.9	16.8	16.7	16.7	15.8	15.5	15.2	14.9	14.3	
	6155	41	16.9	16.8	16.7	16.7	15.8	15.5	15.2	14.9	14.6	
	6175	45	16.9	17.0	16.9	16.7	15.8	15.5	15.2	14.9	14.3	
	6195	49	16.9	16.8	16.7	16.7	15.9	15.5	15.2	14.9	14.7	
	6215	53	16.9	16.8	16.7	16.7	15.8	15.5	15.2	14.9	14.6	
	6235	57	16.8	16.7	16.6	16.6	15.8	15.4	15.1	14.8	14.6	
	6255	61	16.9	16.7	16.6	16.6	15.8	15.4	15.1	14.8	14.6	
	6275	65	16.8	16.7	16.6	16.6	15.7	15.4	15.1	14.8	14.5	
	6295	69	16.8	16.6	16.6	16.6	15.7	15.3	15.0	14.8	14.5	
	6315	73	16.8	16.7	16.6	16.6	15.7	15.4	15.1	14.8	14.5	
	63335	77	16.8	16.6	16.6	16.5	15.7	15.3	15.0	14.7	14.5	
	6355	81	16.9	16.7	16.7	16.6	15.8	15.4	15.1	14.8	14.6	
U-NII-6	6375	85	16.7	16.6	16.5	16.5	15.7	15.3	15.0	14.7	14.5	
	6395	89	16.7	16.6	16.5	16.5	15.6	15.3	15.0	14.7	14.4	
	6415	93	16.6	16.5	16.4	16.4	15.6	15.2	14.9	14.6	14.4	
	6435	97	1.6	1.4	1.4	1.3	0.5	0.1	-0.2	-0.5	-0.7	
	6455	101	1.5	1.4	1.3	1.3	0.4	0.1	-0.2	-0.5	-0.8	
U-NII-7	6475	105	1.6	1.5	1.4	1.4	0.6	0.2	-0.1	-0.4	-0.6	
	6495	109	1.5	1.4	1.3	1.3	0.4	0.1	-0.2	-0.5	-0.8	
	6515	113	1.6	1.5	1.4	1.4	0.5	0.2	-0.2	-0.4	-0.7	
	6535	117	16.5	16.5	16.4	16.0	15.6	15.3	14.1	13.7	13.3	
	6555	121	16.4	16.3	16.2	15.9	15.5	15.2	14.0	13.6	13.2	
	6575	125	16.3	16.2	16.1	15.8	15.4	15.0	13.9	13.5	13.1	
	6595	129	16.4	16.3	16.2	15.9	15.5	15.1	14.0	13.6	13.2	
	6615	133	16.2	16.1	16.0	15.7	15.3	15.0	13.8	13.4	13.0	
	6635	137	16.2	16.1	16.0	15.7	15.3	14.9	13.8	13.4	13.0	
	6655	141	16.2	16.1	16.0	15.7	15.3	14.9	13.8	13.4	13.0	
	6675	145	16.1	16.1	16.0	15.6	15.2	14.9	13.8	13.4	13.0	
	6695	149	16.2	16.2	16.1	15.7	15.4	15.0	13.9	13.5	13.1	
	6715	153	16.2	16.2	16.1	15.7	15.3	15.0	13.8	13.4	13.0	
	6735	157	16.1	16.1	16.0	15.6	15.2	14.9	13.8	13.4	13.0	
	6755	161	16.2	16.1	16.0	15.7	15.3	14.9	13.8	13.4	13.0	
	6775	165	16.2	16.1	16.0	15.7	15.3	14.9	13.8	13.4	13.0	
	6795	169	16.2	16.2	16.1	15.7	15.3	15.0	13.9	13.5	13.1	
	6815	173	16.5	16.4	16.3	16.0	15.6	15.2	14.1	13.7	13.3	
	6835	177	16.5	16.4	16.3	16.0	15.6	15.3	14.1	13.7	13.3	
	6855	181	16.4	16.3	16.2	15.9	15.5	15.1	14.0	13.6	13.2	
U-NII-8	6875	185	0.8	0.7	0.6	0.3	-0.1	-0.5	-1.6	-2.0	-2.4	
	6895	189	0.8	0.7	0.6	0.3	-0.1	-0.5	-1.6	-2.0	-2.4	
	6915	193	0.8	0.8	0.7	0.3	-0.1	-0.4	-1.5	-1.9	-2.3	
	6935	197	0.7	0.6	0.5	0.2	-0.2	-0.6	-1.7	-2.1	-2.5	
	6955	201	0.5	0.4	0.3	0.0	-0.4	-0.8	-1.9	-2.3	-2.7	
	6975	205	0.5	0.4	0.3	0.0	-0.4	-0.8	-1.9	-2.3	-2.7	
	6995	209	0.6	0.5	0.4	0.1	-0.3	-0.7	-1.8	-2.2	-2.6	
	7015	213	0.8	0.7	0.6	0.3	-0.1	-0.5	-1.6	-2.0	-2.4	
	7035	217	0.9	0.8	0.7	0.4	0.0	-0.4	-1.5	-1.9	-2.3	
	7055	221	0.6	0.6	0.5	0.1	-0.3	-0.6	-1.8	-2.2	-2.6	
	7075	225	0.6	0.5	0.4	0.1	-0.3	-0.7	-1.8	-2.2	-2.6	
	7095	229	0.6	0.5	0.4	0.1	-0.3	-0.7	-1.8	-2.2	-2.6	
	7115	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 20 MHz			maximum average conducted output power [dBm] MIMO																	
Band	Freq. [MHz]	Ch.	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8	
			BPSK		QPSK		QPSK		16-QAM		16-QAM		64-QAM		64-QAM		64-QAM		256-QAM	
U-NII-5	5955	1	16.6	16.5	16.3	16.6	16.0	16.5	15.8	16.3	15.1	15.4	14.5	15.1	14.1	14.7	13.5	14.4	13.0	13.9
	5975	5	16.6	16.7	16.5	16.8	16.2	16.7	16.0	16.6	15.3	15.7	14.8	15.3	14.3	14.9	13.7	14.6	13.2	14.1
	5995	9	16.7	16.7	16.5	16.8	16.2	16.7	16.0	16.6	15.4	15.7	14.8	15.3	14.3	14.9	13.7	14.7	13.2	14.1
	6015	13	16.6	16.7	16.5	16.8	16.3	16.7	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6035	17	16.7	16.7	16.5	16.8	16.3	16.7	16.0	16.6	15.4	15.7	14.8	15.4	14.3	14.9	13.8	14.7	13.3	14.2
	6055	21	16.6	16.7	16.5	16.8	16.2	16.7	16.0	16.6	15.4	15.7	14.8	15.3	14.3	14.9	13.7	14.7	13.2	14.1
	6075	25	16.7	16.7	16.5	16.8	16.3	16.7	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6095	29	16.6	16.7	16.5	16.8	16.3	16.7	16.0	16.6	15.4	15.7	14.8	15.4	14.3	14.9	13.8	14.7	13.3	14.2
	6115	33	16.6	16.8	16.6	16.9	16.3	16.8	16.1	16.7	15.5	15.8	14.9	15.4	14.4	15.0	13.8	14.8	13.3	14.2
	6135	37	16.6	16.8	16.6	16.9	16.3	16.8	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6155	41	16.7	16.7	16.5	16.8	16.3	16.7	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6175	45	16.7	16.8	16.6	16.9	16.4	16.8	16.2	16.7	15.5	15.8	14.9	15.5	14.5	15.1	13.9	14.8	13.4	14.3
	6195	49	16.7	16.8	16.7	16.9	16.4	16.9	16.2	16.7	15.5	15.8	14.9	15.5	14.5	15.1	13.9	14.8	13.4	14.3
	6215	53	16.6	16.8	16.6	16.9	16.3	16.8	16.1	16.7	15.4	15.8	14.9	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6235	57	16.8	16.7	16.5	16.8	16.3	16.7	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6255	61	16.8	16.7	16.6	16.9	16.3	16.8	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	6275	65	16.7	16.6	16.5	16.8	16.2	16.7	16.0	16.5	15.3	15.6	14.7	15.3	14.3	14.9	13.7	14.6	13.2	14.1
	6295	69	16.7	16.6	16.4	16.7	16.1	16.6	15.9	16.5	15.3	15.6	14.7	15.2	14.2	14.8	13.6	14.6	13.1	14.0
	6315	73	16.7	16.7	16.6	16.8	16.3	16.8	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2
	63335	77	16.8	16.7	16.5	16.8	16.2	16.7	16.0	16.5	15.3	15.6	14.7	15.3	14.3	14.9	13.7	14.6	13.2	14.1
6355	81	16.7	16.8	16.6	16.9	16.3	16.8	16.1	16.6	15.4	15.7	14.8	15.4	14.4	15.0	13.8	14.7	13.3	14.2	
6375	85	16.7	16.6	16.4	16.7	16.2	16.6	15.9	16.5	15.3	15.6	14.7	15.3	14.2	14.8	13.7	14.6	13.2	14.1	
6395	89	16.8	16.6	16.4	16.7	16.1	16.6	15.9	16.4	15.2	15.6	14.6	15.2	14.2	14.8	13.6	14.5	13.1	14.0	
6415	93	16.7	16.6	16.4	16.7	16.1	16.6	15.9	16.4	15.2	15.5	14.6	15.2	14.2	14.8	13.6	14.5	13.1	14.0	
U-NII-6	6435	97	-1.1	-1.4	-1.6	-1.3	-1.9	-1.4	-2.1	-1.6	-2.8	-2.4	-3.3	-2.8	-3.8	-3.2	-4.4	-3.5	-4.9	-4.0
	6455	101	-1.0	-1.5	-1.7	-1.4	-1.9	-1.5	-2.1	-1.6	-2.8	-2.5	-3.4	-2.8	-3.8	-3.2	-4.4	-3.5	-4.9	-4.0
	6475	105	-1.0	-1.4	-1.5	-1.2	-1.8	-1.3	-2.0	-1.5	-2.7	-2.4	-3.3	-2.7	-3.7	-3.1	-4.3	-3.4	-4.8	-3.9
	6495	109	-1.1	-1.4	-1.5	-1.3	-1.8	-1.3	-2.0	-1.5	-2.7	-2.4	-3.3	-2.7	-3.7	-3.1	-4.3	-3.4	-4.8	-3.9
	6515	113	-1.0	-1.3	-1.5	-1.2	-1.8	-1.3	-2.0	-1.5	-2.7	-2.3	-3.2	-2.7	-3.7	-3.1	-4.3	-3.4	-4.8	-3.9
U-NII-7	6535	117	16.8	16.4	16.2	16.5	15.9	16.4	15.7	16.2	15.0	15.4	14.4	15.0	14.0	14.6	13.4	14.3	12.9	13.8
	6555	121	16.8	16.3	16.1	16.4	15.8	16.3	15.6	16.2	14.9	15.3	14.4	14.9	13.9	14.5	13.3	14.2	12.8	13.7
	6575	125	16.7	16.2	16.0	16.3	15.8	16.2	15.6	16.1	14.9	15.2	14.3	14.9	13.9	14.5	13.3	14.2	12.8	13.7
	6595	129	16.6	16.1	15.9	16.2	15.7	16.1	15.5	16.0	14.8	15.1	14.2	14.8	13.8	14.4	13.2	14.1	12.7	13.6
	6615	133	16.6	16.1	15.9	16.2	15.6	16.1	15.4	16.0	14.8	15.1	14.2	14.7	13.7	14.3	13.1	14.1	12.6	13.5
	6635	137	16.6	16.0	15.9	16.2	15.6	16.1	15.4	15.9	14.7	15.0	14.1	14.7	13.7	14.3	13.1	14.0	12.6	13.5
	6655	141	16.6	16.0	15.8	16.1	15.6	16.0	15.3	15.9	14.7	15.0	14.1	14.7	13.6	14.2	13.1	14.0	12.6	13.5
	6675	145	16.4	16.0	15.8	16.1	15.5	16.0	15.3	15.8	14.6	14.9	14.0	14.6	13.6	14.2	13.0	13.9	12.5	13.4
	6695	149	16.4	16.1	15.9	16.2	15.6	16.1	15.4	16.0	14.7	15.1	14.2	14.7	13.7	14.3	13.1	14.0	12.6	13.5
	6715	153	16.5	16.0	15.8	16.1	15.6	16.0	15.3	15.9	14.7	15.0	14.1	14.7	13.6	14.2	13.1	14.0	12.6	13.5
	6735	157	16.5	16.0	15.8	16.1	15.6	16.0	15.4	15.9	14.7	15.0	14.1	14.7	13.7	14.3	13.1	14.0	12.6	13.5
	6755	161	16.4	16.0	15.8	16.1	15.5	16.0	15.3	15.9	14.7	15.0	14.1	14.6	13.6	14.2	13.0	14.0	12.5	13.4
	6775	165	16.5	16.0	15.8	16.1	15.6	16.0	15.3	15.9	14.7	15.0	14.1	14.7	13.6	14.2	13.1	14.0	12.6	13.5
	6795	169	16.4	16.2	16.0	16.3	15.7	16.2	15.5	16.1	14.8	15.2	14.3	14.8	13.8	14.4	13.2	14.1	12.7	13.6
	6815	173	16.5	16.4	16.5	16.5	16.4	16.4	16.2	16.0	15.4	15.3	15.0	14.7	14.5	14.1	14.1	13.7	13.4	13.1
	6835	177	16.4	16.4	16.4	16.3	16.2	16.2	16.1	15.8	15.2	15.1	14.8	14.5	14.3	13.9	13.9	13.6	13.2	13.0
	6855	181	16.6	16.3	-2.3	-2.3	-2.4	-2.4	-2.6	-2.8	-3.4	-3.5	-3.8	-4.1	-4.3	-4.7	-4.7	-5.1	-5.4	-5.7
6875	185	-1.9	-2.4	-2.5	-2.6	-2.7	-2.7	-2.8	-3.1	-3.7	-3.8	-4.1	-4.4	-4.6	-5.0	-5.0	-5.3	-5.7	-5.9	
U-NII-8	6895	189	-2.1	-2.6	-1.1	-1.2	-1.2	-1.3	-1.4	-1.6	-2.2	-2.3	-2.6	-2.9	-3.1	-3.5	-3.6	-3.9	-4.2	-4.5
	6915	193	-0.6	-1.2	-1.2	-1.3	-1.4	-1.4	-1.5	-1.8	-2.4	-2.5	-2.8	-3.1	-3.3	-3.7	-3.7	-4.0	-4.4	-4.6
	6935	197	-0.5	-1.4	-1.5	-1.5	-1.6	-1.6	-1.8	-2.0	-2.6	-2.7	-3.0	-3.3	-3.5	-3.9	-3.9	-4.3	-4.6	-4.9
	6955	201	-0.5	-1.6	-1.7	-1.7	-1.8	-1.8	-2.0	-2.2	-2.8	-2.9	-3.2	-3.5	-3.7	-4.1	-4.1	-4.5	-4.8	-5.1
	6975	205	-0.4	-1.8	-1.8	-1.9	-2.0	-2.0	-2.1	-2.4	-3.0	-3.1	-3.4	-3.7	-3.9	-4.3	-4.3	-4.6	-5.0	-5.2
	6995	209	-0.4	-1.9	-2.0	-2.1	-2.2	-2.2	-2.3	-2.6	-3.2	-3.3	-3.6	-3.9	-4.1	-4.5	-4.5	-4.8	-5.2	-5.4
	7015	213	-0.4	-2.2	-2.1	-2.2	-2.3	-2.3	-2.4	-2.7	-3.3	-3.4	-3.7	-4.0	-4.2	-4.6	-4.6	-4.9	-5.3	-5.5
	7035	217	-0.5	-2.2	-2.2	-2.2	-2.3	-2.3	-2.5	-2.7	-3.3	-3.4	-3.7	-4.0	-4.2	-4.6	-4.6	-5.0	-5.3	-5.6
	7055	221	-0.7	-2.3	-0.8	-0.9	-1.0	-1.0	-1.1	-1.4	-2.0	-2.1	-2.4	-2.7	-2.9	-3.3	-3.3	-3.6	-4.0	-4.2
	7075	225	-0.2	-1.0	-0.8	-0.9	-1.0	-1.0	-1.1	-1.4	-2.0	-2.1	-2.4	-2.7	-2.9	-3.3	-3.3	-3.6	-4.0	-4.2
	7095	229	-0.6	-1.0	-0.8	-0.9	-1.0	-1.0	-1.1	-1.4	-2.0	-2.1	-2.4	-2.7	-2.9	-3.3	-3.3	-3.6	-4.0	-4.2
	7115	233	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 40 MHz			maximum average conducted output power [dBm] Antenna A									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	5965	3	16.8	16.8	16.5	16.0	15.2	15.2	14.5	14.4	14.3	13.8
	6005	11	16.9	16.9	16.8	16.4	16.0	15.3	14.8	14.6	14.4	13.9
	6045	19	16.9	16.9	16.8	16.4	16.0	15.3	14.8	14.6	14.4	13.9
	6085	27	16.8	16.8	16.7	16.3	15.9	15.2	14.7	14.5	14.3	13.8
	6125	35	16.7	16.7	16.6	16.2	15.8	15.1	14.6	14.4	14.2	13.7
	6165	43	16.7	16.7	16.6	16.2	15.8	15.1	14.6	14.4	14.2	13.7
	6205	51	17.0	16.8	16.9	16.5	15.9	15.2	14.6	14.5	14.5	14.0
	6245	59	17.0	17.0	16.9	16.5	16.1	15.4	14.9	14.7	14.5	14.0
	6285	67	17.1	16.9	17.0	16.6	16.0	15.3	14.8	14.6	14.6	14.1
	6325	75	17.0	17.0	16.9	16.5	16.1	15.4	14.9	14.7	14.5	14.0
U-NII-6	6365	83	16.9	16.9	16.8	16.4	16.0	15.3	14.8	14.6	14.4	13.9
	6405	91	17.0	16.9	16.8	16.5	16.0	15.3	14.6	14.2	13.8	13.2
U-NII-6	6445	99	5.5	5.7	5.5	5.7	5.0	2.6	3.4	3.4	2.7	0.6
	6485	107	5.5	5.7	5.5	5.7	5.0	2.6	3.4	3.4	2.7	0.6
U-NII-6 & 7	6525	115	5.5	5.7	5.5	5.7	5.0	2.6	3.4	3.4	2.7	0.6
U-NII-7	6565	123	16.8	17.0	16.8	17.0	16.3	13.9	14.7	14.7	14.0	11.9
	6605	131	16.7	16.9	16.7	16.9	16.2	13.8	14.6	14.6	13.9	11.8
	6645	139	16.7	16.9	16.7	16.9	16.2	13.8	14.6	14.6	13.9	11.8
	6685	147	16.3	16.5	16.3	16.5	15.8	13.4	14.2	14.2	13.5	11.4
	6725	155	16.3	16.2	16.2	15.9	15.6	14.9	14.3	14.0	13.3	11.2
	6765	163	16.3	16.2	16.1	15.8	15.5	14.8	14.3	14.2	13.3	11.2
	6805	171	16.5	16.4	16.3	16.0	15.7	15.0	14.5	14.4	13.5	11.4
	6845	179	16.5	16.4	16.3	16.0	15.7	15.0	14.5	14.4	13.5	11.4
U-NII-7 & 8	6885	187	4.7	4.6	4.5	4.2	3.9	3.2	2.7	2.6	1.7	-0.4
U-NII-8	6925	195	4.6	4.5	4.4	4.1	3.8	3.1	2.6	2.5	1.6	-0.5
	6965	203	4.7	4.6	4.5	4.2	3.9	3.2	2.7	2.6	1.7	-0.4
	7005	211	4.4	4.3	4.2	3.9	3.6	2.9	2.4	2.3	1.4	-0.7
	7045	219	4.6	4.5	4.4	4.1	3.8	3.1	2.6	2.5	1.6	-0.5
	7085	227	4.4	4.3	4.2	3.9	3.6	2.9	2.4	2.3	1.4	-0.7

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 40 MHz			maximum average conducted output power [dBm] Antenna B									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	5965	3	16.7	16.5	16.6	16.3	15.8	15.5	15.0	14.9	14.2	13.8
	6005	11	16.9	16.7	16.8	16.5	16.0	15.7	15.2	15.1	14.4	14.0
	6045	19	16.9	16.7	16.8	16.4	16.0	15.7	15.2	15.0	14.4	13.9
	6085	27	16.6	16.4	16.5	16.2	15.7	15.4	14.9	14.8	14.1	13.7
	6125	35	16.6	16.5	16.5	16.2	15.7	15.4	14.9	14.8	14.2	13.7
	6165	43	16.6	16.5	16.5	16.2	15.7	15.4	14.9	14.8	14.1	13.7
	6205	51	16.5	16.3	16.3	16.0	15.5	15.3	14.7	14.6	14.0	13.5
	6245	59	16.6	16.4	16.4	16.1	15.7	15.4	14.9	14.7	14.1	13.6
	6285	67	16.5	16.4	16.4	16.1	15.6	15.3	14.8	14.7	14.1	13.6
	6325	75	16.3	16.1	16.1	15.8	15.4	15.1	14.6	14.4	13.8	13.3
U-NII-6	6365	83	16.2	16.0	16.1	15.7	15.3	15.0	14.5	14.3	13.7	13.2
	6405	91	16.3	16.1	16.1	15.8	15.3	15.1	14.5	14.4	13.8	13.3
U-NII-6	6445	99	5.5	5.3	5.2	5.0	4.7	4.2	3.6	3.5	2.9	0.7
	6485	107	5.5	5.4	5.3	5.1	4.7	4.3	3.6	3.6	2.9	0.8
U-NII-6 & 7	6525	115	5.5	5.4	5.3	5.1	4.8	4.3	3.6	3.6	2.9	0.8
U-NII-7	6565	123	16.7	16.6	16.5	16.3	15.9	15.5	14.8	14.8	14.1	12.0
	6605	131	16.6	16.5	16.4	16.2	15.8	15.4	14.7	14.7	14.0	11.9
	6645	139	16.6	16.4	16.3	16.2	15.8	15.4	14.7	14.6	14.0	11.8
	6685	147	16.3	16.1	16.1	15.9	15.5	15.1	14.4	14.3	13.7	11.5
	6725	155	16.2	16.0	16.0	15.8	15.4	15.0	14.3	14.2	13.6	11.4
	6765	163	16.1	16.0	15.9	15.7	15.3	14.9	14.2	14.2	13.5	11.4
	6805	171	16.2	16.0	15.9	15.8	15.4	15.0	14.3	14.2	13.6	11.4
	6845	179	16.3	16.1	16.0	15.9	15.5	15.1	14.4	14.3	13.7	11.5
U-NII-7 & 8	6885	187	4.5	4.4	4.3	4.1	3.7	3.3	2.6	2.6	1.9	-0.2
U-NII-8	6925	195	4.6	4.4	4.3	4.1	3.8	3.3	2.7	2.6	2.0	-0.2
	6965	203	4.3	4.1	4.0	3.9	3.5	3.1	2.4	2.3	1.7	-0.5
	7005	211	4.4	4.3	4.2	4.0	3.6	3.2	2.5	2.5	1.8	-0.3
	7045	219	4.5	4.3	4.2	4.0	3.7	3.2	2.6	2.5	1.9	-0.3
	7085	227	4.2	4.0	3.9	3.8	3.4	3.0	2.3	2.2	1.6	-0.6

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 40 MHz			maximum average conducted output power [dBm] MIMO																			
Band	Freq. [MHz]	Ch.	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM								
U-NII-5	5965	3	16.2	15.8	16.2	15.7	16.0	15.7	15.6	15.5	15.2	14.9	14.5	14.6	13.9	14.1	13.7	13.9	13.2	13.4	12.7	12.9
	6005	11	17.0	16.7	17.1	16.6	16.9	16.6	16.5	16.4	16.1	15.8	15.4	15.5	14.8	15.0	14.6	14.8	14.1	14.3	13.6	13.8
	6045	19	17.0	16.6	17.0	16.5	16.8	16.5	16.4	16.3	16.0	15.7	15.3	15.4	14.7	15.0	14.6	14.7	14.0	14.2	13.5	13.7
	6085	27	16.9	16.4	16.7	16.2	16.5	16.3	16.2	16.0	15.7	15.4	15.0	15.1	14.5	14.7	14.3	14.5	13.8	13.9	13.2	13.4
	6125	35	16.8	16.5	16.8	16.3	16.6	16.3	16.2	16.1	15.8	15.5	15.1	15.2	14.6	14.8	14.4	14.5	13.8	14.0	13.3	13.5
	6165	43	16.7	16.4	16.7	16.2	16.5	16.3	16.2	16.0	15.7	15.4	15.1	15.1	14.5	14.7	14.3	14.5	13.8	13.9	13.2	13.4
	6205	51	17.1	16.4	16.7	16.2	16.5	16.3	16.2	16.0	15.7	15.4	15.0	15.1	14.5	14.7	14.3	14.5	13.8	13.9	13.2	13.4
	6245	59	17.1	16.3	16.7	16.2	16.5	16.2	16.1	16.0	15.7	15.4	15.0	15.1	14.4	14.7	14.3	14.4	13.7	13.9	13.2	13.4
	6285	67	17.3	16.4	16.7	16.2	16.5	16.3	16.2	16.0	15.7	15.4	15.1	15.1	14.5	14.7	14.3	14.5	13.8	13.9	13.2	13.4
	6325	75	17.1	16.2	16.5	16.0	16.3	16.1	16.0	15.8	15.5	15.2	14.9	14.9	14.3	14.5	14.1	14.3	13.6	13.7	13.0	13.2
	6365	83	17.1	16.1	16.4	16.0	16.2	16.0	15.9	15.7	15.4	15.1	14.8	14.8	14.2	14.4	14.0	14.2	13.5	13.6	12.9	13.1
	6405	91	17.2	16.1	16.5	16.0	16.3	16.0	15.9	15.8	15.5	15.2	14.8	14.9	14.2	14.4	14.0	14.2	13.5	13.7	13.0	13.2
U-NII-6	6445	99	2.7	2.4	2.7	2.3	2.6	2.3	2.2	2.1	1.7	1.5	1.1	1.2	0.5	0.7	0.3	0.5	-0.2	-0.1	-0.7	-0.6
	6485	107	2.7	2.4	2.7	2.3	2.5	2.3	2.2	2.0	1.7	1.4	1.1	1.1	0.5	0.7	0.3	0.5	-0.2	-0.1	-0.8	-0.6
U-NII-6 & 7	6525	115	2.7	2.3	2.7	2.2	2.5	2.2	2.1	2.0	1.7	1.4	1.0	1.1	0.4	0.6	0.2	0.4	-0.3	-0.1	-0.8	-0.6
U-NII-7	6565	123	16.9	16.1	16.6	16.2	16.4	15.9	16.1	15.8	15.8	14.8	15.1	14.7	14.6	14.0	14.6	14.3	14.0	13.6	13.4	12.5
	6605	131	16.8	16.0	16.5	16.1	16.3	15.9	16.0	15.7	15.7	14.7	15.1	14.6	14.5	14.0	14.5	14.2	13.9	13.5	13.4	12.4
	6645	139	16.8	15.9	16.4	16.0	16.2	15.7	15.9	15.6	15.6	14.6	14.9	14.5	14.4	13.8	14.4	14.1	13.8	13.4	13.3	12.3
	6685	147	16.5	16.1	16.6	16.2	16.4	16.0	16.1	15.9	15.8	14.8	15.2	14.7	14.6	14.1	14.7	14.4	14.0	13.7	13.5	12.5
	6725	155	16.4	16.1	16.6	16.2	16.4	16.0	16.1	15.9	15.8	14.8	15.2	14.7	14.6	14.1	14.7	14.4	14.0	13.7	13.5	12.5
	6765	163	16.5	16.0	16.5	16.1	16.3	15.9	16.0	15.8	15.7	14.7	15.1	14.6	14.5	14.0	14.6	14.3	13.9	13.6	13.4	12.4
	6805	171	16.6	16.1	16.6	16.2	16.4	15.9	16.1	15.8	15.8	14.8	15.2	14.7	14.6	14.1	14.6	14.3	14.0	13.6	13.5	12.5
	6845	179	16.7	16.2	16.7	16.3	16.5	16.0	16.2	15.9	15.9	14.9	15.2	14.8	14.7	14.1	14.7	14.4	14.1	13.7	13.5	12.6
U-NII-7 & 8	6885	187	2.1	1.4	1.9	1.5	1.7	1.2	1.4	1.1	1.1	0.1	0.4	0.0	-0.1	-0.7	-0.1	-0.4	-0.7	-1.1	-1.3	-2.2
U-NII-8	6925	195	2.0	1.2	1.8	1.3	1.6	1.1	1.3	1.0	1.0	-0.1	0.3	-0.2	-0.3	-0.8	-0.2	-0.5	-0.8	-1.2	-1.4	-2.4
	6965	203	1.9	1.1	1.6	1.2	1.4	0.9	1.1	0.8	0.8	-0.2	0.1	-0.3	-0.4	-1.0	-0.4	-0.7	-1.0	-1.4	-1.6	-2.5
	7005	211	1.7	1.3	1.8	1.4	1.7	1.2	1.4	1.1	1.1	0.0	0.4	-0.1	-0.2	-0.7	-0.1	-0.4	-0.7	-1.1	-1.3	-2.3
	7045	219	1.9	1.3	1.8	1.4	1.6	1.1	1.3	1.0	1.0	0.0	0.4	-0.1	-0.2	-0.7	-0.2	-0.5	-0.8	-1.2	-1.3	-2.3
	7085	227	1.7	1.0	1.6	1.1	1.4	0.9	1.1	0.8	0.8	-0.3	0.1	-0.4	-0.5	-1.0	-0.4	-0.7	-1.0	-1.4	-1.6	-2.6

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 80 MHz			maximum average conducted output power [dBm] Antenna A									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	5985	7	17.0	16.8	16.8	16.5	16.1	15.4	14.7	14.2	13.8	13.4
	6065	23	17.0	16.8	16.8	16.5	16.1	15.4	14.7	14.2	13.8	13.4
	6145	39	16.9	16.7	16.7	16.4	16.0	15.3	14.6	14.1	13.7	13.3
	6225	55	17.0	16.8	16.8	16.5	16.1	15.4	14.7	14.2	13.8	13.4
	6305	71	17.2	16.9	17.0	16.6	16.1	15.5	14.9	14.8	14.2	13.6
U-NII-6	6385	87	16.8	16.5	16.6	16.2	15.7	15.1	14.5	14.4	13.8	13.2
U-NII-6	6465	103	7.8	7.7	7.4	6.7	6.4	5.9	5.2	4.9	4.2	3.6
U-NII-6 & 7	6545	119	7.8	7.7	7.4	6.7	6.4	5.9	5.2	4.9	4.2	3.6
U-NII-7	6625	135	17.0	16.9	16.6	15.9	15.6	15.1	14.4	14.1	13.4	12.8
	6705	151	17.0	16.9	16.6	15.9	15.6	15.1	14.4	14.1	13.4	12.8
	6785	167	17.0	16.9	16.6	15.9	15.6	15.1	14.4	14.1	13.4	12.8
U-NII-7 & 8	6865	183	7.1	7.0	6.7	6.0	5.7	5.2	4.5	4.2	3.5	2.9
U-NII-8	6945	199	7.0	6.9	6.6	5.9	5.6	5.1	4.4	4.1	3.4	2.8
	7025	215	6.9	6.8	6.5	5.8	5.5	5.0	4.3	4.0	3.3	2.7

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 80 MHz			maximum average conducted output power [dBm] Antenna B									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	5985	7	17.0	16.7	16.3	15.6	15.1	14.9	14.8	14.6	14.0	13.2
	6065	23	17.3	17.0	16.7	16.0	15.4	15.3	15.2	14.9	14.3	13.5
	6145	39	17.4	17.1	16.8	16.1	15.5	15.4	15.3	15.0	14.4	13.6
	6225	55	17.3	17.1	16.7	16.0	15.4	15.3	15.2	14.9	14.4	13.5
	6305	71	17.2	17.0	16.6	15.9	15.3	15.2	15.1	14.8	14.2	13.4
	6385	87	17.2	16.9	16.6	15.9	15.3	15.2	15.1	14.8	14.2	13.4
U-NII-6	6465	103	7.7	7.4	7.0	6.3	5.8	5.6	5.5	5.3	4.7	3.9
U-NII-6 & 7	6545	119	7.7	7.4	7.0	6.3	5.8	5.6	5.5	5.3	4.7	3.9
U-NII-7	6625	135	17.0	16.5	16.1	15.3	15.0	14.5	13.9	13.6	12.7	11.2
	6705	151	16.9	16.6	16.3	15.6	15.0	14.9	14.8	14.5	13.9	13.1
	6785	167	16.9	16.7	16.3	15.6	15.0	14.9	14.8	14.5	14.0	13.1
U-NII-7 & 8	6865	183	6.8	6.5	6.2	5.5	4.9	4.8	4.7	4.4	3.8	3.0
U-NII-8	6945	199	6.7	6.4	6.0	5.3	4.8	4.6	4.5	4.3	3.7	2.9
	7025	215	6.9	6.6	6.3	5.6	5.0	4.9	4.8	4.5	3.9	3.1

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 80 MHz			maximum average conducted output power [dBm] MIMO																			
Band	Freq. [MHz]	Ch.	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM								
U-NII-5	5985	7	16.6	16.4	15.8	15.9	15.7	15.6	15.4	14.9	15.0	14.2	14.3	14.1	13.7	13.9	13.2	13.6	12.7	13.1	12.4	12.2
	6065	23	17.0	17.4	16.7	16.9	16.7	16.6	16.3	15.8	15.9	15.2	15.2	15.1	14.7	14.9	14.1	14.6	13.7	14.1	13.4	13.2
	6145	39	17.0	17.5	16.9	17.0	16.8	16.7	16.5	16.0	16.1	15.3	15.4	15.2	14.8	15.1	14.3	14.8	13.8	14.2	13.5	13.3
	6225	55	17.0	17.3	16.7	16.8	16.6	16.5	16.3	15.8	15.9	15.1	15.2	15.0	14.6	14.9	14.1	14.6	13.6	14.0	13.3	13.1
	6305	71	17.3	17.2	16.5	16.7	16.5	16.3	16.1	15.6	15.7	15.0	15.0	14.9	14.5	14.7	13.9	14.4	13.5	13.8	13.1	13.0
	6385	87	16.9	17.2	16.5	16.6	16.4	16.3	16.1	15.6	15.7	14.9	15.0	14.9	14.5	14.7	13.9	14.4	13.4	13.8	13.1	13.0
U-NII-6	6465	103	5.1	4.7	4.0	4.2	4.0	3.9	3.7	3.1	3.2	2.5	2.6	2.4	2.0	2.2	1.5	1.9	1.0	1.4	0.7	0.5
U-NII-6 & 7	6545	119	5.0	4.6	4.0	4.1	3.9	3.8	3.6	3.1	3.2	2.4	2.5	2.3	1.9	2.2	1.4	1.9	0.9	1.3	0.6	0.4
U-NII-7	6625	135	17.1	16.6	16.8	16.1	17.1	16.1	16.5	15.1	16.0	14.8	15.3	14.4	14.5	13.7	14.0	13.4	13.5	12.5	12.9	11.0
	6705	151	17.2	16.4	16.7	15.9	16.9	15.9	16.3	15.0	15.9	14.7	15.2	14.2	14.4	13.5	13.9	13.3	13.4	12.3	12.8	10.8
	6785	167	17.2	16.3	16.6	15.9	16.8	15.8	16.3	14.9	15.8	14.6	15.1	14.2	14.3	13.4	13.8	13.2	13.3	12.3	12.7	10.8
U-NII-7 & 8	6865	183	4.4	3.8	4.1	3.3	4.3	3.3	3.7	2.3	3.2	2.0	2.6	1.6	1.8	0.9	1.3	0.6	0.8	-0.3	0.2	-1.8
U-NII-8	6945	199	4.3	3.6	3.9	3.1	4.1	3.1	3.5	2.1	3.0	1.8	2.4	1.4	1.5	0.7	1.0	0.4	0.6	-0.5	0.0	-2.0
	7025	215	4.1	3.7	4.0	3.3	4.2	3.2	3.7	2.3	3.2	2.0	2.5	1.6	1.7	0.8	1.2	0.6	0.7	-0.3	0.1	-1.9

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 160 MHz			maximum average conducted output power [dBm] Antenna A									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	6025	15	13.3	13.3	13.6	13.6	13.5	13.3	13.1	12.4	12.0	10.7
	6185	47	12.7	12.7	13.0	13.0	12.9	12.7	12.5	11.8	11.4	10.1
	6345	79	12.7	12.9	13.2	13.2	13.0	12.9	12.6	12.4	11.5	10.5
U-NII-6 & 7	6505	111	10.7	10.9	11.1	11.0	10.9	10.7	10.5	10.0	9.6	8.3
U-NII-7	6665	143	13.1	13.3	13.5	13.4	13.3	13.1	12.9	12.4	12.0	10.7
U-NII-7 & 8	6825	175	10.0	10.2	10.4	10.3	10.2	10.0	9.8	9.3	8.9	7.6
U-NII-8	6985	207	9.8	10.0	10.2	10.1	10.0	9.8	9.6	9.1	8.7	7.4

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 160 MHz			maximum average conducted output power [dBm] Antenna B									
Band	Freq. [MHz]	Ch.	MCS-0	MCS-1	MCS-2	MCS-3	MCS-4	MCS-5	MCS-6	MCS-7	MCS-8	MCS-9
			BPSK	QPSK	QPSK	16-QAM	16-QAM	64-QAM	64-QAM	64-QAM	256-QAM	256-QAM
U-NII-5	6025	15	13.8	13.7	13.9	13.7	13.7	13.4	13.2	12.5	12.2	11.2
	6185	47	13.8	13.7	13.9	13.8	13.8	13.5	13.2	12.6	12.3	11.3
	6345	79	13.5	13.4	13.6	13.5	13.5	13.1	12.9	12.2	11.9	11.0
U-NII-6 & 7	6505	111	10.7	10.7	10.8	10.7	10.7	10.4	10.1	9.5	9.2	8.2
U-NII-7	6665	143	12.6	12.5	12.7	12.6	12.6	12.3	12.0	11.4	11.1	10.1
U-NII-7 & 8	6825	175	9.9	9.8	10.0	9.9	9.9	9.6	9.3	8.7	8.4	7.4
U-NII-8	6985	207	9.6	9.5	9.7	9.6	9.6	9.3	9.0	8.4	8.1	7.1

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

BW 160 MHz			maximum average conducted output power [dBm] MIMO																			
Band	Freq. [MHz]	Ch.	MCS-0		MCS-1		MCS-2		MCS-3		MCS-4		MCS-5		MCS-6		MCS-7		MCS-8		MCS-9	
			BPSK		QPSK		QPSK		16-QAM		16-QAM		64-QAM		64-QAM		64-QAM		256-QAM		256-QAM	
U-NII-5	6025	15	13.5	13.6	12.8	13.6	13.2	13.8	12.9	13.6	12.9	13.5	12.8	13.2	12.8	13.0	12.6	12.2	11.9	12.0	11.4	11.0
	6185	47	12.9	13.6	12.8	13.6	13.1	13.8	12.9	13.6	12.9	13.5	12.8	13.1	12.8	12.9	12.6	12.2	11.9	12.0	11.4	11.0
	6345	79	12.8	13.4	12.6	13.3	12.9	13.6	12.6	13.4	12.6	13.2	12.5	12.9	12.5	12.7	12.3	11.9	11.6	11.7	11.1	10.7
U-NII-6 & 7	6505	111	7.7	7.5	6.7	7.5	7.0	7.7	6.8	7.5	6.8	7.4	6.6	7.0	6.7	6.8	6.5	6.1	5.8	5.9	5.3	4.9
U-NII-7	6665	143	13.4	12.5	11.7	12.4	12.0	12.7	11.7	12.5	11.8	12.4	11.6	12.0	11.6	11.8	11.4	11.1	10.8	10.8	10.2	9.9
U-NII-7 & 8	6825	175	7.0	6.8	6.0	6.7	6.3	7.0	6.0	6.8	6.0	6.6	5.9	6.3	5.9	6.1	5.7	5.3	5.0	5.1	4.5	4.1
U-NII-8	6985	207	7.1	6.6	5.8	6.5	6.1	6.8	5.8	6.6	5.8	6.4	5.7	6.1	5.7	5.9	5.5	5.1	4.8	4.9	4.3	3.9

Test results conducted power measurement Wi-Fi 6 IEEE 802.11ax

8.1.13 Conducted average power measurements Bluetooth 2.4 GHz

Technology	Frequency / MHz	PeakPower / dBm
BLE 1Msps	2402	7.93
	2440	7.93
	2480	7.71
BLE 2Msps	2404	8.01
	2440	7.97
	2478	7.78
BT Classic GFSK	2402	9.34
	2441	9.43
	2480	9.21
BT Classic Pi/4DQPSK	2402	7.92
	2441	7.90
	2480	7.60
BT Classic 8DPSK	2402	8.06
	2441	8.10
	2480	7.81

Table 50: Test results conducted average power measurement Bluetooth 2.4 GHz

8.1.14 Test reduction based on technologies sharing the same frequency range

As BT LE and the Proprietary system are transmitting in the 2.4 GHz frequency range, only the technology that delivers the larger output power is measured for SAR, representing the worst case scenario of all technologies in the device capabilities.

8.2 SAR test results

8.2.1 General description of test procedures

- The DUT is tested using an Anritsu MT8000A and CMW 500 communications testers as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.
- Test positions as described in the tables below are in accordance with the specified test standard. Top position was performed with backpack and bottom position with 20 mm distance to the phantom to simulate the device being carried in its origin use position by the user. The thickness of the backpack is 20 mm. A reference measurement was performed under worst-case conditions.
- UMTS was tested in RMC mode with 12.2 kbit/s and TPC bits set to 'all 1'.
- WLAN was tested using a test software to control test channels and maximum output power of the DUT.
- Required WLAN test channels were selected according to KDB 248227
- The DUT was tested using a CBT communication tester in BT-test mode to adjust maximum output power, test channels and operating mode.
(GFSK - DH5 - STATIC PBRS - 76% duty cycle)
- According to IEC/IEEE 62209-1528 the SAR test shall be performed at the channel producing the highest rated output power.

- When the width of the transmit frequency band ($\Delta f = f_{\text{high}} - f_{\text{low}}$) exceeds 1 % of its centre frequency f_c , the channels at the lowest and highest frequencies of the transmit band shall also be tested.
- When the width of the transmit frequency band exceeds 10 % of its centre frequency. The following formula shall be used to determine the number of channels, N_c , to be tested:

$$N_c = 2 \times \text{roundup} \left[\frac{10 * (f_{\text{high}} - f_{\text{low}})}{f_c} \right] + 1$$

where

f_c is the centre frequency channel of the transmission band in Hz;

f_{high} is the highest frequency channel of the transmission band in Hz;

f_{low} is the lowest frequency channel of the transmission band in Hz;

N_c is the number of channels

- According to KDB 447498 D01 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:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

8.2.2 SAR test results

measured / extrapolated SAR numbers - UMTS FDD II 1880 MHz 0 mm distance												
Ch.	Freq. (MHz)	test cond.	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
9400	1880.0	RMC	1	top	24.0	23.8	0.105	0.110	0.068	0.071	0.01	21.7
9400	1880.0	RMC	1	bottom	24.0	23.8	0.397	0.416	0.244	0.255	-0.02	21.7
9262	1852.4	RMC	1	bottom	24.0	23.8	0.407	0.426	0.248	0.260	0.02	21.7
9538	1907.6	RMC	1	bottom	24.0	23.6	0.417	0.457	0.259	0.284	0.01	21.7
9400	1880.0	RMC	2	top	24.0	23.8	0.118	0.124	0.075	0.079	0.02	21.7
9400	1880.0	RMC	2	bottom	24.0	23.8	0.143	0.150	0.094	0.098	0.01	21.7
measured / extrapolated SAR numbers - UMTS FDD IV 1700 MHz 0 mm distance												
Ch.	Freq. (MHz)	test cond.	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
1412	1732.4	RMC	1	top	24.0	23.8	0.023	0.024	0.015	0.016	0.08	21.9
1412	1732.4	RMC	1	bottom	24.0	23.8	0.174	0.182	0.109	0.114	-0.07	21.9
1312	1712.4	RMC	1	bottom	24.0	23.8	0.186	0.195	0.117	0.123	0.05	21.9
1513	1752.6	RMC	1	bottom	24.0	23.7	0.245	0.263	0.156	0.167	0.01	21.9
1412	1732.4	RMC	2	top	24.0	23.8	0.049	0.051	0.032	0.034	0.03	21.9
1412	1732.4	RMC	2	bottom	24.0	23.8	0.073	0.076	0.047	0.049	0.02	21.9
1513	1752.6	RMC	2	bottom	24.0	23.7	0.123	0.132	0.079	0.085	-0.09	21.9
measured / extrapolated SAR numbers - UMTS FDD V 850 MHz 0 mm distance												
Ch.	Freq. (MHz)	test cond.	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
4132	826.4	RMC	1	top	24.0	24.0	0.040	0.040	0.029	0.029	0.05	21.8
4132	826.4	RMC	1	bottom	24.0	24.0	0.292	0.292	0.198	0.198	0.04	21.8
4182	836.4	RMC	1	bottom	24.0	23.9	0.278	0.284	0.193	0.197	-0.06	21.8
4233	846.6	RMC	1	bottom	24.0	24.0	0.268	0.268	0.186	0.186	0.02	21.8
4132	826.4	RMC	2	top	24.0	24.0	0.044	0.044	0.031	0.031	0.09	21.8
4132	826.4	RMC	2	bottom	24.0	24.0	0.090	0.090	0.064	0.064	-0.02	21.8

Table 51: SAR test results body worn UMTS FDD II/IV/V (see max. SAR plot in Annex B.1: SAR results – UMTS FDD II/IV/V page 118)

* - maximum possible output power declared by manufacturer.

measured / extrapolated SAR numbers - LTE FDD 2 1900 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
18700	1860	high	1	top	25.0	24.2	0.199	0.239	0.127	0.153	0.09	21.1
18700	1860	high	1	bottom	25.0	24.2	0.341	0.412	0.207	0.250	0.02	21.1
18900	1880	mid	1	bottom	25.0	23.8	0.364	0.479	0.226	0.297	-0.02	21.1
19100	1900	low	1	bottom	25.0	23.8	0.370	0.486	0.230	0.302	-0.02	21.1
18700	1860	high	2	top	25.0	24.2	0.163	0.196	0.103	0.124	0.00	21.1
18700	1860	high	2	bottom	25.0	24.2	0.177	0.214	0.112	0.135	-0.12	21.1
20MHz BW/50%RB/QPSK												
18700	1860	mid	1	top	24.0	22.9	0.159	0.203	0.102	0.130	0.02	21.1
18700	1860	mid	1	bottom	24.0	22.9	0.286	0.366	0.175	0.224	0.00	21.1
18700	1860	mid	2	top	24.0	22.9	0.129	0.166	0.081	0.104	-0.08	21.1
18700	1860	mid	2	bottom	24.0	22.9	0.147	0.191	0.093	0.121	0.09	21.1
measured / extrapolated SAR numbers - LTE FDD 4 1750 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
20300	1745.0	mid	1	top	25.0	24.2	0.042	0.050	0.027	0.032	0.01	22.1
20050	1720.0	high	1	bottom	25.0	23.8	0.188	0.246	0.119	0.155	0.05	22.1
20175	1732.5	high	1	bottom	25.0	23.9	0.222	0.287	0.142	0.184	-0.03	22.1
20300	1745.0	mid	1	bottom	25.0	24.2	0.231	0.278	0.147	0.177	-0.01	22.1
20300	1745.0	mid	2	top	25.0	24.2	0.064	0.077	0.041	0.049	0.08	22.1
20300	1745.0	mid	2	bottom	25.0	24.2	0.078	0.094	0.050	0.060	0.01	22.1
20MHz BW/50%RB/QPSK												
20300	1745.0	high	1	top	24.0	23.0	0.038	0.048	0.025	0.032	-0.07	22.1
20300	1745.0	high	1	bottom	24.0	23.0	0.197	0.249	0.124	0.156	0.06	22.1
20300	1745.0	high	2	top	24.0	23.0	0.055	0.069	0.035	0.044	0.02	22.1
20300	1745.0	high	2	bottom	24.0	23.0	0.068	0.086	0.044	0.056	0.04	22.1
measured / extrapolated SAR numbers - LTE FDD 5 850 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
20600	844.0	mid	1	top	25.0	24.2	0.040	0.048	0.029	0.035	-0.07	21.8
20450	829.0	low	1	bottom	25.0	24.1	0.293	0.360	0.202	0.248	-0.03	21.8
20525	836.5	low	1	bottom	25.0	23.9	0.307	0.395	0.205	0.264	0.00	21.8
20600	844.0	mid	1	bottom	25.0	24.2	0.319	0.384	0.214	0.257	0.01	21.8
20600	844.0	mid	2	top	25.0	24.2	0.037	0.044	0.026	0.031	-0.05	21.8
20600	844.0	mid	2	bottom	25.0	24.2	0.078	0.094	0.055	0.066	0.02	21.8
10MHz BW/50%RB/QPSK												
20600	844.0	high	1	top	24.0	23.1	0.031	0.038	0.022	0.027	-0.04	21.8
20600	844.0	high	1	bottom	24.0	23.1	0.249	0.304	0.172	0.210	0.07	21.8
20600	844.0	high	2	top	24.0	23.1	0.029	0.035	0.020	0.024	-0.02	21.8
20600	844.0	high	2	bottom	24.0	23.1	0.062	0.076	0.044	0.054	0.02	21.8

Table 52: SAR test results body worn LTE FDD 2/4/5 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE page 121)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 7 2600 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
20850	2510	mid	1	top	25.0	23.9	0.080	0.104	0.048	0.062	-0.02	22.0
20850	2510	mid	1	bottom	25.0	23.9	0.250	0.324	0.142	0.184	0.00	22.0
21100	2535	low	1	bottom	25.0	23.8	0.252	0.329	0.142	0.185	0.01	22.0
21350	2560	low	1	bottom	25.0	23.8	0.264	0.350	0.149	0.198	-0.03	22.0
20850	2510	mid	2	top	25.0	23.9	0.156	0.202	0.092	0.119	0.01	22.0
20850	2510	mid	2	bottom	25.0	23.9	0.102	0.132	0.060	0.078	0.07	22.0
20MHz BW/50%RB/QPSK												
20850	2510	low	1	top	24.0	22.8	0.064	0.084	0.038	0.050	0.02	22.0
20850	2510	low	1	bottom	24.0	22.8	0.201	0.265	0.114	0.150	-0.01	22.0
20850	2510	low	2	top	24.0	22.8	0.122	0.161	0.073	0.096	-0.08	22.0
20850	2510	low	2	bottom	24.0	22.8	0.082	0.108	0.049	0.065	-0.03	22.0
measured / extrapolated SAR numbers - LTE FDD 12 700 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
23060	704.0	low	1	top	25.0	24.2	0.040	0.048	0.029	0.035	-0.02	22.0
23060	704.0	low	1	bottom	25.0	24.2	0.219	0.263	0.158	0.190	-0.01	22.0
23095	707.5	mid	1	bottom	25.0	24.1	0.214	0.261	0.151	0.184	-0.01	22.0
23130	711.0	high	1	bottom	25.0	24.0	0.197	0.250	0.138	0.175	0.01	22.0
23060	704.0	low	2	top	25.0	24.2	0.067	0.080	0.048	0.058	-0.03	22.0
23060	704.0	low	2	bottom	25.0	24.2	0.179	0.215	0.129	0.155	0.08	22.0
10MHz BW/50%RB/QPSK												
23060	704.0	low	1	top	24.0	23.2	0.032	0.039	0.023	0.028	-0.08	22.0
23060	704.0	low	1	bottom	24.0	23.2	0.172	0.207	0.122	0.147	0.02	22.0
23060	704.0	low	2	top	24.0	23.2	0.051	0.061	0.037	0.045	0.05	22.0
23060	704.0	low	2	bottom	24.0	23.2	0.142	0.171	0.103	0.124	0.07	22.0

Table 53: SAR test results body worn LTE FDD 7/12 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 13 700 MHz													
Ch.	Freq. (MHz)	RB offset	module	BW	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
23205	779.5	mid	1	5	top	25.0	24.1	0.046	0.056	0.033	0.040	0.02	22.0
23205	779.5	mid	1	5	bottom	25.0	24.1	0.222	0.272	0.153	0.187	0.01	22.0
23230	782.0	low	1	10	bottom	25.0	24.0	0.213	0.267	0.148	0.185	0.00	22.0
23255	784.5	high	1	5	bottom	25.0	24.1	0.212	0.263	0.147	0.182	-0.01	22.0
23205	779.5	mid	2	5	top	25.0	24.1	0.073	0.089	0.053	0.065	0.05	22.0
23205	779.5	mid	2	5	bottom	25.0	24.1	0.168	0.206	0.121	0.148	-0.03	22.0
50%RB/QPSK													
23205	779.5	high	1	5	top	24.0	23.1	0.037	0.046	0.026	0.032	0.02	22.0
23205	779.5	high	1	5	bottom	24.0	23.1	0.174	0.216	0.120	0.149	0.07	22.0
23205	779.5	high	2	5	top	24.0	23.1	0.058	0.072	0.041	0.051	-0.03	22.0
23205	779.5	high	2	5	bottom	24.0	23.1	0.130	0.161	0.093	0.115	0.02	22.0
measured / extrapolated SAR numbers - LTE FDD 14 700 MHz													
Ch.	Freq. (MHz)	RB offset	module	BW	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
23355	795.5	high	1	5	top	25.0	24.2	0.043	0.052	0.031	0.038	-0.08	22.0
23305	790.5	mid	1	5	bottom	25.0	24.2	0.221	0.264	0.153	0.183	0.00	22.0
23330	793.0	low	1	10	bottom	25.0	24.2	0.218	0.265	0.151	0.183	-0.01	22.0
23355	795.5	high	1	5	bottom	25.0	24.2	0.227	0.275	0.153	0.186	0.01	22.0
23355	795.5	high	2	5	top	25.0	24.2	0.060	0.073	0.043	0.052	0.03	22.0
23355	795.5	high	2	5	bottom	25.0	24.2	0.136	0.165	0.098	0.119	0.05	22.0
50%RB/QPSK													
23355	795.5	high	1	5	top	24.0	23.2	0.035	0.042	0.025	0.030	0.17	22.0
23355	795.5	high	1	5	bottom	24.0	23.2	0.178	0.215	0.123	0.149	-0.02	22.0
23355	795.5	high	2	5	top	24.0	23.2	0.049	0.059	0.035	0.042	0.05	22.0
23355	795.5	high	2	5	bottom	24.0	23.2	0.110	0.133	0.079	0.096	0.02	22.0

Table 54: SAR test results body worn LTE FDD 13/14 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 17 700 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
10MHz BW/1RB/QPSK												
23780	709	mid	1	bottom	25.0	23.9	0.216	0.278	0.152	0.195	0.00	22.0
23790	710	low	1	bottom	25.0	24.0	0.215	0.270	0.151	0.190	-0.01	22.0
23800	711	low	1	bottom	25.0	24.1	0.218	0.269	0.153	0.189	0.00	22.0
measured / extrapolated SAR numbers - LTE FDD 25 1900 MHz												
Ch.	Freq. (MHz)	RB offset	Modem	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	measured	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
26140	1860	mid	1	bottom	25.0	24.3	0.358	0.421	0.218	0.256	0.02	21.5
26365	1883	high	1	bottom	25.0	24.0	0.366	0.465	0.223	0.283	-0.01	21.5
26590	1905	low	1	bottom	25.0	23.9	0.376	0.490	0.234	0.305	0.00	21.5
measured / extrapolated SAR numbers - LTE FDD 26 850 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
15MHz BW/1RB/QPSK												
26965	841.5	high	1	top	25.0	24.2	0.036	0.044	0.025	0.030	0.01	21.8
26965	841.5	high	2	top	25.0	24.2	0.034	0.041	0.024	0.029	-0.03	21.8
26765	821.5	mid	1	bottom	25.0	24.2	0.280	0.339	0.194	0.235	0.05	21.8
26865	831.5	high	1	bottom	25.0	24.2	0.283	0.343	0.195	0.236	-0.03	21.8
26965	841.5	high	1	bottom	25.0	24.0	0.316	0.398	0.213	0.268	0.01	21.8
26965	841.5	high	2	bottom	25.0	24.0	0.077	0.097	0.054	0.068	-0.02	21.8

Table 55: SAR test results body worn LTE FDD 17/25/26 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE TDD 38 2600 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
37850	2580	mid	1	bottom	26.0	25.7	0.120	0.129	0.067	0.072	0.04	22.0
38000	2595	low	1	bottom	26.0	25.7	0.122	0.132	0.069	0.075	0.03	22.0
38150	2610	mid	1	bottom	26.0	25.5	0.130	0.146	0.073	0.082	0.01	22.0
measured / extrapolated SAR numbers - LTE TDD 41 2600 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
40620	2593	mid	1	top	26.5	25.8	0.031	0.037	0.018	0.021	0.08	22.0
39750	2506	mid	1	bottom	26.5	25.6	0.106	0.130	0.060	0.073	0.02	22.0
40620	2593	mid	1	bottom	26.5	25.8	0.128	0.152	0.072	0.086	-0.02	22.0
41490	2680	low	1	bottom	26.5	25.2	0.143	0.191	0.079	0.106	0.04	22.0
40620	2593	mid	2	top	26.5	25.8	0.092	0.109	0.054	0.064	-0.04	22.0
39750	2506	mid	2	bottom	26.5	25.6	0.040	0.049	0.023	0.028	-0.07	22.0
20MHz BW/50%RB/QPSK												
40620	2593	mid	1	top	25.5	24.8	0.026	0.031	0.015	0.018	-0.03	22.0
40620	2593	mid	1	bottom	25.5	24.8	0.128	0.150	0.072	0.085	0.03	22.0
40620	2593	mid	2	top	25.5	24.8	0.076	0.089	0.044	0.052	0.01	22.0
40620	2593	mid	2	bottom	25.5	24.8	0.040	0.047	0.023	0.027	-0.08	22.0
measured / extrapolated SAR numbers - LTE TDD 42 3500 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
41690	3410	low	1	top	26.5	25.7	0.059	0.072	0.031	0.038	-0.03	21.6
41690	3410	low	1	bottom	26.5	25.7	0.202	0.245	0.104	0.126	0.02	21.6
42590	3500	mid	1	bottom	26.5	25.6	0.197	0.241	0.099	0.121	0.05	21.6
43490	3590	mid	1	bottom	26.5	25.4	0.246	0.318	0.120	0.155	0.01	21.6
41690	3410	low	2	top	26.5	25.7	0.055	0.067	0.029	0.035	-0.03	21.6
41690	3410	low	2	bottom	26.5	25.7	0.076	0.092	0.040	0.049	0.07	21.6
20MHz BW/50%RB/QPSK												
41690	3410	mid	1	top	25.0	24.8	0.045	0.048	0.023	0.024	0.08	21.6
41690	3410	mid	1	bottom	25.0	24.8	0.164	0.174	0.084	0.089	-0.02	21.6
41690	3410	mid	2	top	25.0	24.8	0.044	0.047	0.022	0.023	-0.05	21.6
41690	3410	mid	2	bottom	25.0	24.8	0.064	0.068	0.034	0.036	0.05	21.6

Table 56: SAR test results body worn LTE TDD 38/41/42 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE TDD 43 3700 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
45490	3790	high	1	top	26.5	25.8	0.043	0.051	0.022	0.026	0.08	21.6
43690	3610	low	1	bottom	26.5	25.4	0.225	0.292	0.111	0.144	-0.02	21.6
44590	3700	mid	1	bottom	26.5	25.6	0.202	0.251	0.099	0.123	0.01	21.6
45490	3790	high	1	bottom	26.5	25.8	0.198	0.234	0.096	0.113	-0.04	21.6
45490	3790	high	2	top	26.5	25.8	0.055	0.065	0.028	0.033	-0.03	21.6
45490	3790	high	2	bottom	26.5	25.8	0.101	0.119	0.052	0.061	0.05	21.6
20MHz BW/50%RB/QPSK												
45490	3790	mid	1	top	25.0	24.8	0.044	0.046	0.023	0.024	-0.07	21.6
45490	3790	low	1	bottom	25.0	24.5	0.160	0.179	0.077	0.086	-0.03	21.6
45490	3790	mid	2	top	25.0	24.8	0.049	0.051	0.024	0.025	0.06	21.6
45490	3790	mid	2	bottom	25.0	24.8	0.082	0.086	0.043	0.045	-0.04	21.6
measured / extrapolated SAR numbers - LTE TDD 48 3600 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
55340	3560	high	1	top	24.0	23.6	0.046	0.051	0.024	0.026	0.03	21.6
55340	3560	high	1	bottom	24.0	23.6	0.232	0.255	0.115	0.126	-0.04	21.6
55990	3625	high	1	bottom	24.0	23.5	0.215	0.241	0.106	0.119	-0.01	21.6
56640	3690	high	1	bottom	24.0	23.5	0.196	0.221	0.097	0.110	0.02	21.6
55340	3560	high	2	top	24.0	23.6	0.050	0.055	0.027	0.030	-0.08	21.6
55340	3560	high	2	bottom	24.0	23.6	0.059	0.065	0.030	0.033	0.04	21.6
20MHz BW/50%RB/QPSK												
55340	3560	high	1	top	23.0	22.7	0.037	0.040	0.019	0.020	-0.05	21.6
55340	3560	high	1	bottom	23.0	22.7	0.189	0.203	0.095	0.102	0.03	21.6
55340	3560	high	2	top	23.0	22.7	0.043	0.046	0.022	0.024	0.07	21.6
55340	3560	high	2	bottom	23.0	22.7	0.048	0.052	0.025	0.027	-0.05	21.6
measured / extrapolated SAR numbers - LTE FDD 66 1750 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
132072	1720.0	high	1	bottom	25.0	23.9	0.185	0.238	0.117	0.150	0.05	22.1
132322	1745.0	low	1	bottom	25.0	24.1	0.204	0.253	0.130	0.161	0.00	22.1
132572	1770.0	low	1	bottom	25.0	24.1	0.284	0.350	0.181	0.223	-0.03	22.1
132572	1770.0	low	2	bottom	25.0	24.1	0.100	0.123	0.064	0.079	-0.03	22.1

Table 57: SAR test results body worn LTE TDD 43/48/66 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - LTE FDD 71 700 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
133372	688.0	low	1	top	25.0	24.4	0.044	0.051	0.032	0.037	0.02	22.0
133222	673.0	low	1	bottom	25.0	24.0	0.236	0.296	0.170	0.214	-0.01	22.0
133297	680.5	low	1	bottom	25.0	24.0	0.238	0.302	0.180	0.229	0.00	22.0
133372	688.0	low	1	bottom	25.0	24.4	0.229	0.266	0.166	0.193	0.01	22.0
133372	688.0	low	2	top	25.0	24.4	0.069	0.080	0.050	0.058	-0.03	22.0
133372	688.0	low	2	bottom	25.0	24.4	0.188	0.218	0.135	0.157	0.02	22.0
20MHz BW/50%RB/QPSK												
133297	680.5	low	1	top	24.0	23.0	0.035	0.044	0.026	0.033	0.04	22.0
133297	680.5	low	1	bottom	24.0	23.0	0.189	0.239	0.136	0.172	0.07	22.0
133297	680.5	low	2	top	24.0	23.0	0.054	0.068	0.039	0.049	0.05	22.0
133297	680.5	low	2	bottom	24.0	23.0	0.151	0.191	0.108	0.137	-0.07	22.0

Table 58: SAR test results body worn LTE FDD 77 (see max. SAR plot Annex B.2:Annex B.2: SAR results – LTE)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - 5G NR FDD n2 1900 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
372000	1860.0	1RB_high-1	1	top	25.0	24.3	0.074	0.087	0.048	0.056	0.08	22.1
372000	1860.0	1RB_high-1	1	bottom	25.0	24.4	0.456	0.530	0.281	0.326	0.15	22.1
376000	1880.0	1RB_high-1	1	bottom	25.0	24.2	0.510	0.612	0.302	0.362	-0.13	22.1
380000	1900.0	1RB_low+1	1	bottom	25.0	24.0	0.493	0.615	0.271	0.338	-0.17	22.1
372000	1860.0	1RB_high-1	2	top	25.0	24.3	0.116	0.136	0.074	0.087	-0.11	22.1
372000	1860.0	1RB_high-1	2	bottom	25.0	24.3	0.173	0.202	0.110	0.129	0.12	22.1
20MHz BW/50%RB/BPSK												
372000	1860.0	50%RB_mid	1	top	25.0	24.2	0.073	0.088	0.047	0.057	0.05	22.1
372000	1860.0	50%RB_mid	1	bottom	25.0	24.2	0.492	0.593	0.301	0.363	-0.02	22.1
372000	1860.0	50%RB_mid	2	top	25.0	24.2	0.113	0.136	0.072	0.087	0.17	22.1
372000	1860.0	50%RB_mid	2	bottom	25.0	24.2	0.168	0.202	0.106	0.128	-0.14	22.1
measured / extrapolated SAR numbers - 5G NR FDD n5 835 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
20MHz BW/1RB/QPSK												
166800	834.0	1RB_low+1	1	bottom	25.0	24.3	0.333	0.390	0.227	0.266	-0.05	22.1
167300	836.5	1RB_low+1	1	bottom	25.0	24.3	0.344	0.402	0.225	0.263	0.09	22.1
167800	839.0	1RB_low+1	1	bottom	25.0	24.3	0.332	0.388	0.225	0.263	-0.02	22.1
measured / extrapolated SAR numbers - 5G NR FDD n7 2600 MHz												
Ch.	Freq. (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
					declared*	meas.	meas.	extrap.	meas.	extrap.		
40MHz BW/1RB/QPSK												
510000	2550.0	1RB_low+1	1	top	25.0	24.2	0.069	0.084	0.041	0.050	0.06	22.1
504000	2520.0	1RB_low+1	1	bottom	25.0	24.1	0.297	0.364	0.168	0.206	0.02	22.1
507000	2535.0	1RB_high-1	1	bottom	25.0	23.9	0.317	0.405	0.175	0.223	0.03	22.1
510000	2550.0	1RB_low+1	1	bottom	25.0	24.2	0.305	0.370	0.172	0.209	-0.05	22.1
510000	2550.0	1RB_low+1	2	top	25.0	24.2	0.111	0.135	0.066	0.080	0.04	22.1
510000	2550.0	1RB_low+1	2	bottom	25.0	24.2	0.104	0.126	0.061	0.074	-0.11	22.1
40MHz BW/50%RB												
510000	2550.0	mid/BPSK	1	top	25.0	24.2	0.067	0.081	0.039	0.047	-0.07	22.1
504000	2520.0	mid/QPSK	1	bottom	25.0	24.0	0.281	0.354	0.160	0.201	0.01	22.1
507000	2535.0	mid/QPSK	1	bottom	25.0	24.0	0.286	0.360	0.162	0.204	-0.04	22.1
510000	2550.0	mid/BPSK	1	bottom	25.0	24.2	0.301	0.366	0.171	0.208	-0.01	22.1
510000	2550.0	mid/BPSK	2	top	25.0	24.2	0.106	0.129	0.063	0.077	0.08	22.1
510000	2550.0	mid/BPSK	2	bottom	25.0	24.2	0.107	0.130	0.062	0.075	-0.12	22.1

Table 59: SAR test results body worn 5G NR n2/n5/n7 (see max. SAR plot Annex B.2:Annex B.3: SAR results – NR page 141)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - 5G NR FDD n12 700 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
141500	707.5	15	1RB_low+1	1	top	25.0	24.2	0.029	0.035	0.021	0.025	-0.03	22.1
140800	704.0	10	1RB_low+1	1	bottom	25.0	24.2	0.263	0.318	0.184	0.222	0.02	22.1
141500	707.5	15	1RB_low+1	1	bottom	25.0	24.2	0.279	0.332	0.186	0.222	0.10	22.1
142200	711.0	10	1RB_low+1	1	bottom	25.0	24.1	0.265	0.329	0.185	0.230	0.12	22.1
141500	707.5	15	1RB_low+1	2	top	25.0	24.2	0.050	0.060	0.036	0.043	-0.10	22.1
141500	707.5	15	1RB_low+1	2	bottom	25.0	24.2	0.150	0.179	0.108	0.129	-0.08	22.1
50%RB/BPSK													
141500	707.5	15	50%RB_mid	1	top	25.0	24.2	0.027	0.032	0.020	0.024	0.14	22.1
141500	707.5	15	50%RB_mid	1	bottom	25.0	24.2	0.268	0.320	0.187	0.223	0.05	22.1
141500	707.5	15	50%RB_mid	2	top	25.0	24.2	0.048	0.057	0.035	0.042	-0.08	22.1
141500	707.5	15	50%RB_mid	2	bottom	25.0	24.2	0.151	0.180	0.109	0.130	0.17	22.1
measured / extrapolated SAR numbers - 5G NR FDD n13 700 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
156400	782.0	5	1RB_low+1	1	top	25.0	24.3	0.052	0.061	0.037	0.043	-0.09	22.1
155900	779.5	5	1RB_low+1	1	bottom	25.0	24.3	0.284	0.334	0.176	0.207	0.01	22.1
156400	782.0	5	1RB_low+1	1	bottom	25.0	24.3	0.287	0.334	0.188	0.219	0.08	22.1
156900	784.5	5	1RB_low+1	1	bottom	25.0	24.1	0.275	0.339	0.183	0.226	0.03	22.1
156400	782.0	5	1RB_low+1	2	top	25.0	24.3	0.073	0.085	0.052	0.061	-0.12	22.1
156400	782.0	5	1RB_low+1	2	bottom	25.0	24.3	0.140	0.163	0.100	0.116	0.05	22.1
50%RB/BPSK													
155900	779.5	5	50%RB_mid	1	top	25.0	24.2	0.052	0.063	0.037	0.044	0.17	22.1
155900	779.5	5	50%RB_mid	1	bottom	25.0	24.2	0.276	0.332	0.191	0.230	-0.06	22.1
155900	779.5	5	50%RB_mid	2	top	25.0	24.2	0.072	0.087	0.051	0.061	0.02	22.1
155900	779.5	5	50%RB_mid	2	bottom	25.0	24.2	0.140	0.168	0.101	0.121	0.13	22.1
measured / extrapolated SAR numbers - 5G NR FDD n14 700 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
158100	790.5	5.0	1RB_low+1	1	top	25.0	24.3	0.055	0.064	0.038	0.044	-0.18	22.1
158100	790.5	5.0	1RB_low+1	1	bottom	25.0	24.3	0.306	0.357	0.210	0.245	0.12	22.1
158600	793.0	10.0	1RB_low+1	1	bottom	25.0	24.3	0.297	0.350	0.204	0.240	0.02	22.1
159100	795.5	5.0	1RB_low+1	1	bottom	25.0	24.3	0.308	0.365	0.203	0.241	-0.13	22.1
158100	790.5	5.0	1RB_low+1	2	top	25.0	24.3	0.063	0.074	0.045	0.053	-0.04	22.1
158100	790.5	5.0	1RB_low+1	2	bottom	25.0	24.3	0.138	0.161	0.099	0.116	-0.07	22.1
50%RB/BPSK													
158100	790.5	5.0	50%RB_mid	1	top	25.0	24.3	0.050	0.059	0.036	0.043	0.09	22.1
158100	790.5	5.0	50%RB_mid	1	bottom	25.0	24.3	0.291	0.346	0.199	0.237	0.02	22.1
158100	790.5	5.0	50%RB_mid	2	top	25.0	24.3	0.062	0.074	0.045	0.053	-0.03	22.1
158100	790.5	5.0	50%RB_mid	2	bottom	25.0	24.3	0.133	0.158	0.095	0.113	0.08	22.1

Table 60: SAR test results body worn 5G NR n12/n13/n14 (see max. SAR plot Annex B.2:Annex B.3: SAR results – NR)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - 5G NR FDD n25 1900 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
374000	1870.0	40	1RB_high-1	1	bottom	25.0	24.2	0.547	0.661	0.331	0.400	0.02	22.1
376500	1882.5	40	1RB_low+1	1	bottom	25.0	24.1	0.516	0.636	0.314	0.387	-0.05	22.1
379000	1895.0	40	1RB_low+1	1	bottom	25.0	24.0	0.524	0.654	0.319	0.398	0.03	22.1
measured / extrapolated SAR numbers - 5G NR FDD n26 800 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
164800	824.0	20	1RB_low+1	1	top	25.0	24.8	0.047	0.050	0.033	0.035	-0.14	22.1
164800	824.0	20	1RB_low+1	1	bottom	25.0	24.8	0.344	0.364	0.234	0.248	0.04	22.1
166300	831.5	20	1RB_low+1	1	bottom	25.0	24.2	0.355	0.427	0.241	0.290	0.02	22.1
167800	839.0	20	1RB_high-1	1	bottom	25.0	24.0	0.369	0.465	0.247	0.311	0.05	22.1
164800	824.0	20	1RB_low+1	2	top	25.0	24.8	0.055	0.058	0.039	0.041	-0.12	22.1
164800	824.0	20	1RB_low+1	2	bottom	25.0	24.8	0.092	0.097	0.066	0.070	0.11	22.1
50%RB/BPSK													
164800	824.0	20	50%RB_mid	1	top	25.0	25.0	0.049	0.049	0.035	0.035	-0.08	22.1
164800	824.0	20	50%RB_mid	1	bottom	25.0	25.0	0.358	0.360	0.243	0.245	0.05	22.1
164800	824.0	20	50%RB_mid	2	top	25.0	25.0	0.057	0.057	0.041	0.041	-0.09	22.1
164800	824.0	20	50%RB_mid	2	bottom	25.0	25.0	0.087	0.088	0.062	0.062	0.18	22.1
measured / extrapolated SAR numbers - 5G NR TDD n38 2600 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
518000	2590.0	40	1RB_high-1	1	bottom	25.0	26.2	0.119	0.091	0.064	0.049	0.03	22.1
519000	2595.0	40	1RB_low+1	1	bottom	25.0	26.2	0.111	0.083	0.062	0.047	-0.03	22.1
520000	2600.0	40	1RB_low+1	1	bottom	25.0	26.1	0.113	0.088	0.063	0.049	0.02	22.1

Table 61: SAR test results body worn 5G NR n25/n26/n30/n38 (see max. SAR plot Annex B.2:Annex B.3: SAR results – NR)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - 5G NR TDD n41 2600 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB/QPSK													
518598	2593.0	30	1RB_low+1	1	top	27.0	26.3	0.010	0.012	0.005	0.006	-0.09	22.1
502200	2511.0	30	1RB_high	1	bottom	27.0	26.2	0.046	0.055	0.026	0.031	0.18	22.1
518598	2593.0	30	1RB_low+1	1	bottom	27.0	26.3	0.113	0.133	0.063	0.074	0.12	22.1
534996	2675.0	30	1RB_high-1	1	bottom	27.0	26.2	0.116	0.138	0.065	0.077	-0.03	22.1
518598	2593.0	30	1RB_low+1	2	top	27.0	26.3	0.019	0.022	0.010	0.012	-0.08	22.1
518598	2593.0	30	1RB_low+1	2	bottom	27.0	26.3	0.028	0.033	0.016	0.019	0.07	22.1
50%RB/BPSK													
518598	2593.0	30	50%RB_mid	1	top	27.0	26.2	0.020	0.024	0.012	0.014	0.06	22.1
518598	2593.0	30	50%RB_mid	1	bottom	27.0	26.2	0.111	0.133	0.062	0.074	-0.02	22.1
518598	2593.0	30	50%RB_mid	2	top	27.0	26.2	0.039	0.047	0.023	0.027	0.02	22.1
518598	2593.0	30	50%RB_mid	2	bottom	27.0	26.2	0.032	0.038	0.018	0.021	0.08	22.1
measured / extrapolated SAR numbers - 5G NR TDD n48 3600 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
40MHz BW/1RB/QPSK													
638000	3570.0	40	1RB_low+1	1	top	24.0	23.0	0.009	0.011	0.004	0.005	-0.13	22.1
638000	3570.0	40	1RB_low+1	1	bottom	24.0	23.0	0.074	0.094	0.036	0.046	0.15	22.1
641666	3625.0	40	1RB_high-1	1	bottom	24.0	22.8	0.068	0.089	0.033	0.043	0.18	22.1
645332	3680.0	40	1RB_high-1	1	bottom	24.0	22.8	0.057	0.075	0.028	0.037	-0.02	22.1
638000	3570.0	40	1RB_low+1	2	top	24.0	23.0	0.017	0.022	0.009	0.011	0.04	22.1
638000	3570.0	40	1RB_low+1	2	bottom	24.0	23.0	0.022	0.028	0.011	0.014	-0.08	22.1
40MHz BW/50%RB/BPSK													
641666	3625.0	40	50%RB_mid	1	top	24.0	23.2	0.012	0.014	0.006	0.007	0.07	22.1
641666	3625.0	40	50%RB_mid	1	bottom	24.0	23.2	0.068	0.082	0.035	0.042	-0.17	22.1
641666	3625.0	40	50%RB_mid	2	top	24.0	23.2	0.026	0.031	0.014	0.017	0.03	22.1
641666	3625.0	40	50%RB_mid	2	bottom	24.0	23.2	0.021	0.025	0.010	0.012	-0.02	22.1
measured / extrapolated SAR numbers - 5G NR FDD n66 1750 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB													
346000	1730.0	40	high-1/QPSK	1	top	25.5	24.2	0.040	0.055	0.026	0.035	0.07	22.1
346000	1730.0	40	high-1/QPSK	1	bottom	25.5	24.2	0.238	0.325	0.145	0.198	0.01	22.1
349000	1745.0	40	low+1/QPSK	1	bottom	25.5	24.1	0.196	0.271	0.124	0.171	0.05	22.1
352000	1760.0	40	low+1/QPSK	1	bottom	25.5	24.1	0.218	0.302	0.137	0.190	-0.02	22.1
346000	1730.0	40	high-1/QPSK	2	top	25.5	24.2	0.066	0.090	0.042	0.057	0.03	22.1
346000	1730.0	40	high-1/QPSK	2	bottom	25.5	24.2	0.095	0.130	0.061	0.083	-0.09	22.1
50%RB													
349000	1745.0	40	mid/BPSK	1	top	25.5	24.3	0.035	0.046	0.022	0.029	0.05	22.1
349000	1745.0	40	mid/BPSK	1	bottom	25.5	24.3	0.232	0.308	0.145	0.192	-0.04	22.1
349000	1745.0	40	mid/BPSK	2	top	25.5	24.3	0.061	0.081	0.040	0.053	0.06	22.1
349000	1745.0	40	mid/BPSK	2	bottom	25.5	24.3	0.091	0.121	0.058	0.077	0.02	22.1

Table 62: SAR test results body worn 5G NR n41/n48/n66 (see max. SAR plot Annex B.2:Annex B.3: SAR results – NR)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - 5G NR FDD n71 600 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB													
137600	688.0	20	low+1/BPSK	1	top	25.5	24.4	0.032	0.042	0.023	0.030	-0.07	22.1
134600	673.0	20	high-1/QPSK	1	bottom	25.5	24.1	0.288	0.399	0.185	0.257	-0.05	22.1
136100	680.5	20	high-1/QPSK	1	bottom	25.5	24.0	0.273	0.387	0.191	0.270	0.02	22.1
137600	688.0	20	low+1/BPSK	1	bottom	25.5	24.4	0.270	0.352	0.190	0.248	0.05	22.1
137600	688.0	20	low+1/BPSK	2	top	25.5	24.4	0.054	0.070	0.039	0.051	-0.08	22.1
137600	688.0	20	low+1/BPSK	2	bottom	25.5	24.4	0.179	0.233	0.128	0.167	0.12	22.1
50%RB													
136100	680.5	20	mid/BPSK	1	top	25.5	24.3	0.031	0.040	0.023	0.030	-0.09	22.1
136100	680.5	20	mid/BPSK	1	bottom	25.5	24.3	0.269	0.351	0.190	0.248	0.07	22.1
136100	680.5	20	mid/BPSK	2	top	25.5	24.3	0.053	0.069	0.038	0.050	-0.13	22.1
136100	680.5	20	mid/BPSK	2	bottom	25.5	24.3	0.178	0.232	0.128	0.167	0.11	22.1
measured / extrapolated SAR numbers - 5G NR TDD n77 3700 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB													
664666	3970.0	20	low+1/BPSK	1	top	26.5	26.3	0.033	0.035	0.016	0.017	0.09	22.1
630668	3460.0	20	low+1/BPSK	1	bottom	26.5	26.1	0.109	0.119	0.055	0.060	0.07	22.1
633332	3500.0	100	high-1/QPSK	1	bottom	26.5	25.7	0.136	0.164	0.068	0.082	-0.12	22.1
636000	3540.0	20	high-1/QPSK	1	bottom	26.5	25.9	0.147	0.168	0.072	0.082	-0.03	22.1
647334	3710.0	20	low+1/QPSK	1	bottom	26.5	25.9	0.107	0.123	0.053	0.061	0.02	22.1
656000	3840.0	20	high-1/BPSK	1	bottom	26.5	26.1	0.120	0.132	0.057	0.062	-0.05	22.1
664666	3970.0	20	low+1/BPSK	1	bottom	26.5	26.3	0.174	0.183	0.082	0.086	-0.01	22.1
664666	3970.0	20	low+1/BPSK	1MIMO	bottom	26.5	26.3	0.091	0.096	0.044	0.046	0.13	22.1
656000	3840.0	100	high-1/BPSK	1	bottom	26.5	25.6	0.119	0.147	0.055	0.068	0.03	22.1
662000	3930.0	100	high-1/QPSK	1	bottom	26.5	25.7	0.160	0.193	0.070	0.085	-0.08	22.1
664666	3970.0	20	low+1/BPSK	2	top	26.5	26.3	0.037	0.039	0.018	0.019	-0.07	22.1
664666	3970.0	20	low+1/BPSK	2	bottom	26.5	26.3	0.058	0.061	0.028	0.030	0.12	22.1
50%RB													
633332	3500.0	100	mid/BPSK	1	top	26.5	25.8	0.019	0.022	0.009	0.011	-0.13	22.1
633332	3500.0	100	mid/BPSK	1	bottom	26.5	25.8	0.114	0.135	0.057	0.067	0.05	22.1
633332	3500.0	100	mid/BPSK	2	top	26.5	25.8	0.035	0.041	0.018	0.021	-0.09	22.1
633332	3500.0	100	mid/BPSK	2	bottom	26.5	25.8	0.039	0.046	0.020	0.024	0.07	22.1
measured / extrapolated SAR numbers - 5G NR TDD n78 3500 MHz													
Ch.	Freq. (MHz)	BW (MHz)	RB offset	module	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
						declared*	meas.	meas.	extrap.	meas.	extrap.		
1RB													
620668	3310.0	20	high-1/QPSK	1	top	26.5	26.1	0.019	0.021	0.010	0.011	0.12	22.1
620668	3310.0	20	high-1/QPSK	1	bottom	26.5	26.1	0.105	0.116	0.053	0.059	-0.08	22.1
636666	3550.0	100	low+1/QPSK	1	bottom	26.5	25.5	0.112	0.142	0.054	0.068	0.08	22.1
650000	3750.0	100	high/BPSK	1	bottom	26.5	25.7	0.047	0.056	0.023	0.028	0.05	22.1
620668	3310.0	20	high-1/QPSK	2	top	26.5	26.1	0.032	0.035	0.017	0.019	-0.03	22.1
620668	3310.0	20	high-1/QPSK	2	bottom	26.5	26.1	0.042	0.046	0.020	0.022	0.13	22.1

Table 63: SAR test results body worn 5G NR n71/n77/n78 (see max. SAR plot Annex B.2:Annex B.3: SAR results – NR)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - WLAN 2.4 GHz													
Ch.	Freq. (MHz)	test cond.	Ant./pos.	cond. P _{max} (dBm)		SAR _{1g} (W/kg)			SAR _{10g} (W/kg)			P _{drift} (dB)	liquid (°C)
				declared*	meas.	meas.	extrap.	100% DF	meas.	extrap.	100% DF		
1	2412	1Mbit/s	A/top	18.5	17.6	0.020	0.025	0.025	0.012	0.015	0.015	0.01	21.6
1	2412	1Mbit/s	B/top	18.5	17.4	0.024	0.031	0.032	0.014	0.018	0.018	-0.04	21.6
1	2412	1Mbit/s	A/bottom	18.5	17.6	0.070	0.087	0.088	0.042	0.052	0.053	0.01	21.6
6	2437	1Mbit/s	A/bottom	18.5	17.9	0.059	0.069	0.069	0.035	0.041	0.041	0.12	21.6
11	2462	1Mbit/s	A/bottom	18.5	17.1	0.045	0.062	0.062	0.026	0.036	0.036	-0.03	21.6
1	2412	1Mbit/s	B/bottom	18.5	17.4	0.081	0.105	0.106	0.047	0.061	0.062	0.16	21.6
6	2437	1Mbit/s	B/bottom	18.5	17.7	0.078	0.093	0.094	0.045	0.054	0.054	0.06	21.6
6	2437	6.5Mbit/s	AB/bottom	18.5	16.9	0.043	0.062	0.063	0.025	0.036	0.036	0.06	21.6
11	2462	1Mbit/s	B/bottom	18.5	16.8	0.058	0.085	0.086	0.034	0.050	0.050	0.15	21.6

Table 64: Test results body worn SAR WLAN 2.4 GHz (see max. SAR plot Annex B.4: SAR results – WLAN IEEE802.11a/b/g/n/ac/ax page 160)

measured / extrapolated SAR numbers - WLAN 5 GHz													
Ch.	Freq. (MHz)	test cond.	Ant./pos.	cond. P _{max} (dBm)		SAR _{1g} (W/kg)			SAR _{10g} (W/kg)			P _{drift} (dB)	liquid (°C)
				declared*	meas.	meas.	extrap.	100% DF	meas.	extrap.	100% DF		
40	5200	6Mbit/s	A/top	18.0	16.6	0.032	0.044	0.045	0.013	0.018	0.018	-0.09	21.8
60	5300	6Mbit/s	A/top	18.0	16.7	0.032	0.043	0.044	0.014	0.019	0.019	0.05	21.8
104	5520	6Mbit/s	A/top	18.0	16.8	0.059	0.078	0.079	0.027	0.036	0.036	0.00	21.8
165	5825	6Mbit/s	A/top	18.0	16.7	0.132	0.178	0.180	0.059	0.080	0.080	-0.03	21.8
40	5200	6Mbit/s	B/top	18.0	16.4	0.017	0.025	0.025	0.006	0.009	0.009	0.01	21.8
60	5300	6Mbit/s	B/top	18.0	16.5	0.026	0.037	0.037	0.010	0.014	0.014	-0.03	21.8
108	5540	6Mbit/s	B/top	18.0	16.5	0.032	0.045	0.046	0.014	0.020	0.020	-0.01	21.8
165	5825	6Mbit/s	B/top	18.0	16.6	0.043	0.059	0.060	0.018	0.025	0.025	-0.08	21.8
40	5200	6Mbit/s	A/bottom	18.0	16.6	0.063	0.087	0.088	0.028	0.039	0.039	0.12	21.8
60	5300	6Mbit/s	A/bottom	18.0	16.7	0.068	0.092	0.093	0.031	0.042	0.042	-0.07	21.8
104	5520	6Mbit/s	A/bottom	18.0	16.8	0.158	0.208	0.210	0.069	0.091	0.092	0.19	21.8
124	5620	6Mbit/s	A/bottom	18.0	16.8	0.157	0.207	0.209	0.067	0.088	0.089	0.10	21.8
149	5745	6Mbit/s	A/bottom	18.0	16.7	0.135	0.182	0.184	0.061	0.082	0.083	0.10	21.8
165	5825	6Mbit/s	A/bottom	18.0	16.7	0.129	0.174	0.176	0.057	0.077	0.078	0.09	21.8
40	5200	6Mbit/s	B/bottom	18.0	16.4	0.169	0.244	0.247	0.074	0.107	0.108	0.00	21.8
60	5300	6Mbit/s	B/bottom	18.0	16.5	0.175	0.247	0.250	0.076	0.107	0.108	0.04	21.8
108	5540	6Mbit/s	B/bottom	18.0	16.5	0.292	0.412	0.417	0.130	0.184	0.185	-0.12	21.8
116	5580	6Mbit/s	B/bottom	18.0	16.5	0.279	0.394	0.398	0.120	0.170	0.171	-0.12	21.8
128	5640	6Mbit/s	B/bottom	18.0	16.5	0.264	0.373	0.377	0.114	0.161	0.163	0.06	21.8
136	5680	6Mbit/s	B/bottom	18.0	16.5	0.284	0.401	0.405	0.123	0.174	0.175	0.05	21.8
149	5745	6Mbit/s	B/bottom	18.0	16.4	0.360	0.520	0.526	0.163	0.236	0.238	-0.07	21.8
157	5785	6Mbit/s	B/bottom	18.0	16.4	0.366	0.529	0.534	0.160	0.231	0.234	0.06	21.8
165	5825	6Mbit/s	B/bottom	18.0	16.6	0.441	0.609	0.615	0.196	0.271	0.273	0.14	21.8
159	5795	13.5Mbit/s	AB/bottom	18.0	17.1	0.304	0.374	0.378	0.135	0.166	0.168	0.14	21.8

Table 65: Test results body worn SAR WLAN 5 GHz (see max. SAR plot Annex B.4: SAR results – WLAN IEEE802.11a/b/g/n/ac/ax)

* - maximum possible output power declared by manufacturer

measured / extrapolated SAR numbers - WLAN 6 GHz MCS-0

Ch.	Freq. (MHz)	BW	Ant./pos.	cond. P _{max} (dBm)		SAR _{1g} (W/kg)			SAR _{10g} (W/kg)			P _{drift} (dB)	liquid (°C)
				declared*	meas.	meas.	extrap.	100% DF	meas.	extrap.	100% DF		
23	6065	80	AB/top	18.0	17.4	0.202	0.232	0.234	0.088	0.101	0.102	0.08	21.7
55	6225	80	A/top	18.0	17.0	0.189	0.238	0.240	0.085	0.107	0.108	0.08	21.7
55	6225	80	B/top	18.0	17.3	0.038	0.045	0.045	0.011	0.013	0.013	-0.14	21.7
151	6705	80	A/top	18.0	17.0	0.121	0.152	0.154	0.051	0.064	0.065	0.19	21.7
151	6705	80	B/top	18.0	16.9	0.035	0.045	0.046	0.014	0.018	0.018	0.11	21.7
9	5995	20	B/bottom	18.0	16.9	0.314	0.405	0.409	0.141	0.182	0.183	-0.05	21.7
23	6065	80	AB/bottom	18.0	17.4	0.349	0.401	0.405	0.159	0.183	0.184	0.00	21.7
23	6065	80	A/bottom	18.0	16.8	0.081	0.107	0.108	0.026	0.034	0.035	-0.03	21.7
23	6065	80	B/bottom	18.0	17.3	0.332	0.390	0.394	0.152	0.179	0.180	0.07	21.7
25	6075	20	AB/bottom	18.0	16.7	0.332	0.448	0.452	0.152	0.205	0.207	0.11	21.7
25	6075	20	B/bottom	18.0	16.9	0.317	0.408	0.413	0.146	0.188	0.190	-0.02	21.7
39	6145	80	B/bottom	18.0	17.4	0.324	0.372	0.376	0.148	0.170	0.172	0.05	21.7
55	6225	80	B/bottom	18.0	17.3	0.323	0.379	0.383	0.146	0.172	0.173	0.10	21.7
71	6305	80	B/bottom	18.0	17.2	0.306	0.368	0.372	0.138	0.166	0.168	0.02	21.7
87	6385	80	B/bottom	18.0	17.2	0.287	0.345	0.349	0.130	0.156	0.158	-0.01	21.7
135	6625	80	B/bottom	18.0	17.0	0.272	0.342	0.346	0.108	0.136	0.137	0.03	21.7
135	6625	80	AB/bottom	18.0	17.0	0.258	0.325	0.328	0.112	0.141	0.142	0.08	21.7
151	6705	80	B/bottom	18.0	16.9	0.210	0.271	0.273	0.095	0.122	0.124	0.04	21.7
167	6785	80	B/bottom	18.0	16.9	0.308	0.397	0.401	0.130	0.167	0.169	-0.07	21.7

Table 66: Test results body worn SAR WLAN 6 GHz (see max. SAR plot Annex B.4: SAR results – WLAN IEEE802.11a/b/g/n/ac/ax)

measured / extrapolated SAR numbers - Bluetooth 2.4 GHz

Ch.	Freq. (MHz)	test cond.	Position	cond. P _{max} (dBm)		SAR _{1g} (W/kg)		SAR _{10g} (W/kg)		P _{drift} (dB)	liquid (°C)
				declared*	meas.	meas.	extrap.	meas.	extrap.		
39	2441	DH5	top	10.0	9.4	0.003	0.003	0.001	0.001	0.15	21.8
39	2441	DH5	bottom	10.0	9.4	0.006	0.007	0.003	0.003	-0.15	21.8
0	2402	DH5	bottom	10.0	9.3	0.006	0.007	0.003	0.003	0.19	21.8
78	2480	DH5	bottom	10.0	9.2	0.002	0.002	0.000	0.000	-0.14	21.8

Table 67: SAR test results body worn Bluetooth 2.4 GHz (see max. SAR plot Annex B.5: SAR results – Bluetooth 2.4 GHz page 164)

* - maximum possible output power declared by manufacturer

8.2.3 APD test results

APD result from DASY8 Module SAR

APD result from DASY8 Module SAR					
Mod.	Frequency	Test Position	Antenna	Gap	4 cm ² , sq
	MHz			mm	psAPD
WLAN 6 GHz	6065.0	Bottom	MIMO	0	3.26

Table 68: APD test results at worst case from WLAN 6 GHz (informational only) (see max. SAR plot Annex B.6: APD result page 165)

8.2.4 IPD test results

5G Scan Square Averaging for FCC								
Mod.	Frequency	Test Position	Antenna	Gap	Limit	4 cm ²		
	MHz					psPDn+	psPDtot+	psPDmod+
				mm	W/m ²	W/m ²	W/m ²	W/m ²
WLAN 6 GHz	6065.0	Bottom	MIMO	2	10.0	3.56	3.99	4.04

Table 69: IPD test results at worst case from WLAN 6 GHz for FCC (see max. SAR plot Annex B.7: IPD system check & test results page 167)

5G Scan Square Averaging for ISED										
Mod.	Frequency	Test Position	Antenna	Gap*	Limit	4 cm ²			Limit	pIPD
	MHz					psPDn+	psPDtot+	psPDmod+		
				mm	W/m ²	W/m ²	W/m ²	W/m ²	W/m ²	W/m ²
WLAN 6 GHz	6065.0	Bottom	MIMO	0	11.8	3.56	3.99	4.04	23.5	4.58

Table 70: IPD test results at worst case from WLAN 6 GHz for ISED (see max. SAR plot Annex B.7: IPD system check & test results)

*) Evaluation distance = Separation distance + 2mm virtual Phantom

- sPD_{n+} - surface normal propagating power flux density into the phantom
- sPD_{tot+} - total propagating power flux density into the phantom
- sPD_{mod+} - **total power flux density into the phantom considering near-field exposure.**

8.2.5 Multiple Transmitter Information

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB 447498D01 General RF Exposure Guidance v05.

reported SAR WWAN, WLAN 2.4/5/6GHz, ΣSAR _{1g} evaluation								
1	2	3	4	5	6	1+2+3	1+4+5	1+6
SAR _{max 1g} /W/kg						ΣSAR _{1g} /W/kg		
WWAN worst-case	WLAN 2.4GHz Antenna A	WLAN 2.4GHz Antenna B	WLAN 5GHz Antenna A	WLAN 5GHz Antenna B	WLAN 6GHz MIMO	<1.6W/kg		
0.661	0.088	0.106	0.210	0.615	0.452	0.855	1.486	1.113

Table 71: SAR_{max} ΣSAR evaluation

reported SAR WWAN and WLAN 5GHz, Σ SAR _{1g} evaluation, SPLSRi							
Frequency band	Module/W/kg		SARmax /W/kg		Σ SAR _{1g} <1.6W/kg	distance Ri, mm	ratio ≤ 0.04
	1	2	WWAN	WLAN			
UMTS FDD II	0.457	0.150	0.607	0.615	1.222	150.0	0.01
UMTS FDD IV	0.263	0.132	0.395	0.615	1.010	150.0	0.01
UMTS FDD V	0.292	0.090	0.382	0.615	0.997	150.0	0.01
LTE FDD 2	0.486	0.214	0.700	0.615	1.315	150.0	0.01
LTE FDD 4	0.287	0.094	0.381	0.615	0.996	150.0	0.01
LTE FDD 5	0.395	0.094	0.489	0.615	1.104	150.0	0.01
LTE FDD 7	0.350	0.132	0.482	0.615	1.097	150.0	0.01
LTE FDD 12	0.263	0.215	0.478	0.615	1.093	150.0	0.01
LTE FDD 13	0.272	0.206	0.478	0.615	1.093	150.0	0.01
LTE FDD 14	0.275	0.165	0.440	0.615	1.055	150.0	0.01
LTE FDD 17	0.278	0.215	0.493	0.615	1.108	150.0	0.01
LTE FDD 25	0.490	0.214	0.704	0.615	1.319	150.0	0.01
LTE FDD 26	0.398	0.097	0.495	0.615	1.110	150.0	0.01
LTE TDD 38	0.146	0.132	0.278	0.615	0.893	150.0	0.01
LTE TDD 41	0.191	0.049	0.240	0.615	0.855	150.0	0.01
LTE TDD 42	0.318	0.092	0.410	0.615	1.025	150.0	0.01
LTE TDD 43	0.292	0.119	0.411	0.615	1.026	150.0	0.01
LTE TDD 48	0.255	0.065	0.320	0.615	0.935	150.0	0.01
LTE FDD 66	0.350	0.123	0.473	0.615	1.088	150.0	0.01
LTE FDD 71	0.302	0.218	0.520	0.615	1.135	150.0	0.01
n2	0.615	0.202	0.817	0.615	1.432	150.0	0.01
n5	0.402	0.097	0.499	0.615	1.114	150.0	0.01
n7	0.405	0.130	0.535	0.615	1.150	150.0	0.01
n12	0.332	0.180	0.512	0.615	1.127	150.0	0.01
n13	0.339	0.168	0.507	0.615	1.122	150.0	0.01
n14	0.365	0.161	0.526	0.615	1.141	150.0	0.01
n25	0.661	0.202	0.863	0.615	1.478	150.0	0.01
n26	0.465	0.097	0.562	0.615	1.177	150.0	0.01
n38	0.091	0.091	0.182	0.615	0.797	150.0	0.00
n41	0.138	0.038	0.176	0.615	0.791	150.0	0.00
n48	0.094	0.028	0.122	0.615	0.737	150.0	0.00
n66	0.325	0.130	0.455	0.615	1.070	150.0	0.01
n71	0.399	0.233	0.632	0.615	1.247	150.0	0.01
n77	0.193	0.061	0.254	0.615	0.869	150.0	0.01
n78	0.142	0.046	0.188	0.615	0.803	150.0	0.00

Table 72: SAR_{max} Σ SAR_{1g} evaluation for both WWAN modules and worst case WLAN

reported SAR WWAN and WLAN 5GHz , Σ SAR _{1g} evaluation, SPLSR _i							
NSA	Module/W/kg		SAR _{max} /W/kg		Σ SAR _{1g}	distance	ratio
	1	2	Σ WWAN	WLAN	<1.6W/kg	R _i , mm	$\leq$ 0.04
DC5A_n2A	0.697	0.312	1.009	0.615	1.624	150.0	0.01
DC5A_n25A	1.056	0.296	1.352	0.615	1.967	150.0	0.02
DC7A_n25A	1.011	0.334	1.345	0.615	1.960	150.0	0.02
DC13A_n25A	0.933	0.408	1.341	0.615	1.956	150.0	0.02
DC25A_n41A	0.628	0.252	0.880	0.615	1.495	150.0	0.01
DC26A_n25A	1.059	0.299	1.358	0.615	1.973	150.0	0.02
DC66A_n25A	1.011	0.325	1.336	0.615	1.951	150.0	0.02
DC71A_n25A	0.963	0.420	1.383	0.615	1.998	150.0	0.02

Table 73: SAR_{max} Σ SAR_{1g} evaluation for both **WWAN** modules in **NSA** and worst case **WLAN**

It supports ENDC (NSA)

DC_13A_n66A;DC_5A_n2A;DC_14A_n2A;DC_2A_n5A;
 DC_66A_n5A;DC_2A_n12A;DC_66A_n12A;DC_2A_n66A;DC_5A_n66A;DC_12A_n66A;
 DC_14A_n66A;DC_12A_n2A;DC_66A_n2A;DC_71A_n2A;DC_12A_n41A;
 DC_71A_n66A;DC_2A_n71A;DC_66A_n71A;DC_66A_n25A;DC_25A_n41A;DC_12A_n78A;
 DC_13A_n78A;DC_25A_n78A;DC_12A_n77A;DC_13A_n77A;DC_14A_n77A;DC_26A_n78A;
 DC_2A_n78A;DC_26A_n41A;DC_2A_n41A;DC_7A_n5A;DC_38A_n78A;DC_7A_n71A;
 DC_41A_n78A;DC_5A_n7A;DC_12A_n7A;DC_66A_n7A;DC_13A_n2A;DC_7A_n66A;
 DC_4A_n78A;DC_20A_n77A;DC_5A_n78A;DC_4A_n41A;DC_66A_n38A;DC_2A_n38A;
 DC_12A_n38A;DC_4A_n38A;DC_5A_n38A;DC_66A_n78A;DC_12A_n25A;DC_25A_n77A;
 DC_2A_n77A;DC_71A_n78A;DC_71A_n38A;DC_13A_n7A;DC_5A_n41A;DC_66A_n41A;
 DC_2A_n7A;DC_7A_n2A;DC_5A_n40A;DC_30A_n77A;DC_41A_n77A;DC_7A_n78A;
 DC_66A_n28A;DC_71A_n41A;DC_28A_n66A;DC_30A_n12A;DC_2A_n14A;
 DC_30A_n14A;DC_66A_n14A;DC_2A_n30A;DC_5A_n30A;DC_12A_n30A;DC_14A_n30A;
 DC_71A_n7A;DC_7A_n12A;DC_5A_n77A;DC_66A_n77A;DC_71A_n77A;
 DC_4A_n2A;DC_7A_n25A;DC_71A_n25A;DC_5A_n25A;DC_26A_n25A;DC_4A_n7A;DC_13A_n25A;DC_7A_n77A

The highest SAR values were used for the sum.

Conclusion:

Σ SAR > 1.6 W/kg, but SAR-to-(peak-locations spacing) **ratio** (SPLSR_i) is less than **0.04** therefore simultaneous transmissions SAR measurement with the enlarged zoom scan measurement and volume scan post-processing procedures is **not** required.

8.2.5.1 Multi-TX SAR Measurement Alternatives

Standards such as FCC KDB 447498, RF Exposure procedures and equipment authorization policies for mobile and portable devices and IEC/IEEE 62209-1528:2020 offer several alternative methods for assessment of Multi-TX SAR measurements. The alternatives are summarized as follows:

- **Alternative 1:** Algebraic summation of psSAR1g/8g/10g values – This is the most conservative method, and does not consider separation between the peaks. The sum of psSAR1g/8g/10g values are available in the combined area / zoom scan properties.
- **Alternative 2:** Selection of the highest assessed peak spatial-average SAR value – This method is applicable when the two or more SAR distributions have negligible overlap between the peaks. An important measure of the degree of overlap as described in FCC KDB 447498 is the SAR to peak location separation ratio (SPLSR). DASY8 software calculates the SPLSR ratio for each combination of transmitters in a Multi-TX combined area / zoom scan and these values are available in the combined scan properties.
- **Alternative 3:** Calculation of combined volumetric SAR from existing area and/or zoom – In this alternative, the existing area / zoom scans, which have been previously measured are combined to obtain the Multi-TX combined SAR. The DASY8 combiner evaluated the combined SAR in the overlapping region of the individual scans and evaluates the psSAR1g/8g/10g. If the overlapping regions are not sufficient for the evaluations, appropriate warnings are raised.
- **Alternative 4: Volumetric scanning** – In case the existing zoom scans don't have a sufficient degree of overlap, large zoom scans covering the region of the individual zoom scans are performed and then combined in the normal way. To define the grid, existing zoom scans are displayed in the 3D window and the measurement grid extents / offsets (user defined settings for zoom scan, with the anchor as the device reference point) for the enlarged zoom scan are adjusted to cover the total volume.

All the above evaluation alternatives are available and can be conveniently performed with DASY8.

Alternative 4: Volumetric scanning was used for this report.

Measurement Report for Multi-TX Evaluator can be found in

8.2.6 SAR correction for deviations of complex permittivity from targets

The max reported SAR values are once more corrected wherever the deviation of the liquid parameters is larger than $\pm 5\%$.

According IEC / IEEE 62209-1528 chapter 7.8.2 SAR correction formula

there is a linear relationship between the percentage change in SAR (denoted ΔSAR) and the percentage change in the permittivity and conductivity from the target values (denoted $\Delta\epsilon_r$ and $\Delta\sigma$, respectively).

The relationship is given by:

$$\Delta\text{SAR} = c_\epsilon \Delta\epsilon_r + c_\sigma \Delta\sigma$$

where

$c_\epsilon = \partial (\Delta\text{SAR}) / \partial (\Delta\epsilon_r)$ is the coefficient representing the sensitivity of SAR to permittivity where SAR is normalized to output power;

$c_\sigma = \partial (\Delta\text{SAR}) / \partial (\Delta\sigma)$ is the coefficient representing the sensitivity of SAR to conductivity, where SAR is normalized to output power.

The values of c_ϵ and c_σ have a simple relationship with frequency that can be described using polynomial equations. For dipole antennas at frequencies from 4 MHz to 6 GHz, the **1 g averaged SAR** c_ϵ and c_σ are given by

$$c_\epsilon = -7.854 \times 10^{-4} \times f^3 + 9.402 \times 10^{-3} \times f^2 - 2.742 \times 10^{-2} \times f - 0.2026$$

$$c_\sigma = 9.804 \times 10^{-3} \times f^3 - 8.661 \times 10^{-2} \times f^2 + 2.981 \times 10^{-2} \times f + 0.7829$$

where f is the frequency in GHz. Above 6 GHz, the sensitivity is non-varying with frequency due to the small penetration depth; the values of $c_\epsilon = -0,198$ and $c_\sigma = 0$ shall be used.

For frequencies from 4 MHz to 6 GHz, the **10 g averaged SAR** c_ϵ and c_σ are given by:

$$c_\epsilon = 3.456 \times 10^{-3} \times f^3 - 3.531 \times 10^{-2} \times f^2 + 7.675 \times 10^{-2} \times f - 0.1860$$

$$c_\sigma = 4.479 \times 10^{-3} \times f^3 - 1.586 \times 10^{-2} \times f^2 - 0.1972 \times f + 0.7717$$

where f is the frequency in GHz. Above 6 GHz, the sensitivity is non-varying with frequency due to the small penetration depth; the values of $c_\epsilon = -0,250$ and $c_\sigma = 0$ shall be used.

NOTE:

The Tables in the uncertainties of this report are updated accordingly with the values from table 6 – Root-mean-squared error SAR correction formula as a function of the maximum change in permittivity or conductivity:

Max. change in ϵ_r or σ	RMS uncertainty for SAR _{1g} %	RMS uncertainty for SAR _{10g} %
$\pm 5\%$	1.2	0.97
$\pm 10\%$	1.9	1.6

NOTE:

The DASY software is capable of directly correcting the measured values according to the above-described procedure, fully compliant to IEC / IEEE 62209-1528, so that no further evaluation is necessary.

9 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.

Equipment	Type	Manufacturer	Serial No.	Last Calibration	Frequency (months)
Dosimetric E-Field Probe	EX3DV4	Schmid & Partner Engineering AG	3944	May 16, 2025 May 05, 2026	12
Dosimetric E-Field Probe	EX3DV4		7566	August 7, 2025	12
Dosimetric E-Field Probe	EX3DV4		7635	January 19, 2026	12
Dosimetric E-Field Probe	EX3DV4		7852	March 12, 2026	12
Dosimetric E-Field Probe	EUmmWV4		9551	July 8, 2025	12
750 MHz System Validation Dipole	D750V3	Schmid & Partner Engineering AG	1041	May 11, 2023 May 6, 2026	36
835 MHz SV Dipole	D835V2		4d153	May 11, 2023	36
900 MHz SV Dipole	D900V2		102	January 19, 2026	36
1750 MHz SV Dipole	D1750V2		1093	August 15, 2024	36
1900 MHz SV Dipole	D1900V2		5d009	May 12, 2023 May 7, 2026	36
2450 MHz SV Dipole	D2450V2		710	May 07, 2025	36
2600 MHz SV Dipole	D2600V2		1040	May 11, 2023 May 5, 2026	36
3500 MHz SV Dipole	D3500V2		1003	August 5, 2025	36
3700 MHz SV Dipole	D3700V2		1062	August 5, 2025	36
5 GHz SV Dipole	D5GHzV2		1055	May 16, 2024	36
6.5 GHz SV Dipole	D6.5GHzV2		1067	January 08, 2025	36
7 GHz SV Dipole	D7GHzV2		1013	January 09, 2025	36
10 GHz Verification Source	H10GV2		1079	November 5, 2025	36
Data acquisition electronics	DAE4	Schmid & Partner Engineering AG	477	May 12, 2025	12
Data acquisition electronics	DAE4ip		1842	November 12, 2025	12
Software	V17.0.0.6455 V18.0.0.7250 V3.2.2.2358	Schmid & Partner Engineering AG	---	N/A	--
Phantom ELI 8.0	QD OVA 004 AA	Schmid & Partner Engineering AG	2214	N/A	--
Universal Radio Communication Tester	CMW500	Rohde & Schwarz	170616	December 05, 2025	24
5G Wireless Test Platform	MT8000A	Anritsu	6262186399	September 17, 2024	24
Network Analyser 300 kHz to 6 GHz	8753ES	Agilent Technologies)*	US39174436	December 10, 2025	24
Dielectric Assessment Kit (DAK)	DAK 200MHz – 20GHz Package	Schmid & Partner Engineering AG	1127	N/A	--
Powersource1	SE UMS 160 CC	Schmid & Partner Engineering AG	4342	May 15, 2024 May 07, 2026	24
Signal Generator	8671B	Hewlett Packard	2823A00656	December 10, 2024	24
Signal Generator	SML03	Rohde & Schwarz	102519	December 02, 2025	24
RF Power Amplifier	BLMA 0760-6 (6 Watt)	BONN Elektronik	1510273	N/A	--
Power Meter	NRP	Rohde & Schwarz	101367	December 02, 2025	12
Power Meter Sensor	NRP Z22	Rohde & Schwarz	100227	December 02, 2025	12
Power Meter Sensor	NRP Z22	Rohde & Schwarz	100234	December 02, 2025	12
Directional Coupler	778D	Hewlett Packard	19171	December 02, 2025	12

)* : Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

10 Observations

No observations exceeding those reported with the single test cases have been made.

Annex A: System performance check

Date/Time: 2026-04-21, 10:09 2026-04-21, 10:14

SystemPerformanceCheck-D750**DUT: Dipole; Type: D750V3; Serial: SN1041**

Communication System: CW; Communication System Frequency: 750.0 MHz

Medium parameters used: $f = 750.0$ MHz, $\sigma = 0.924$ S/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

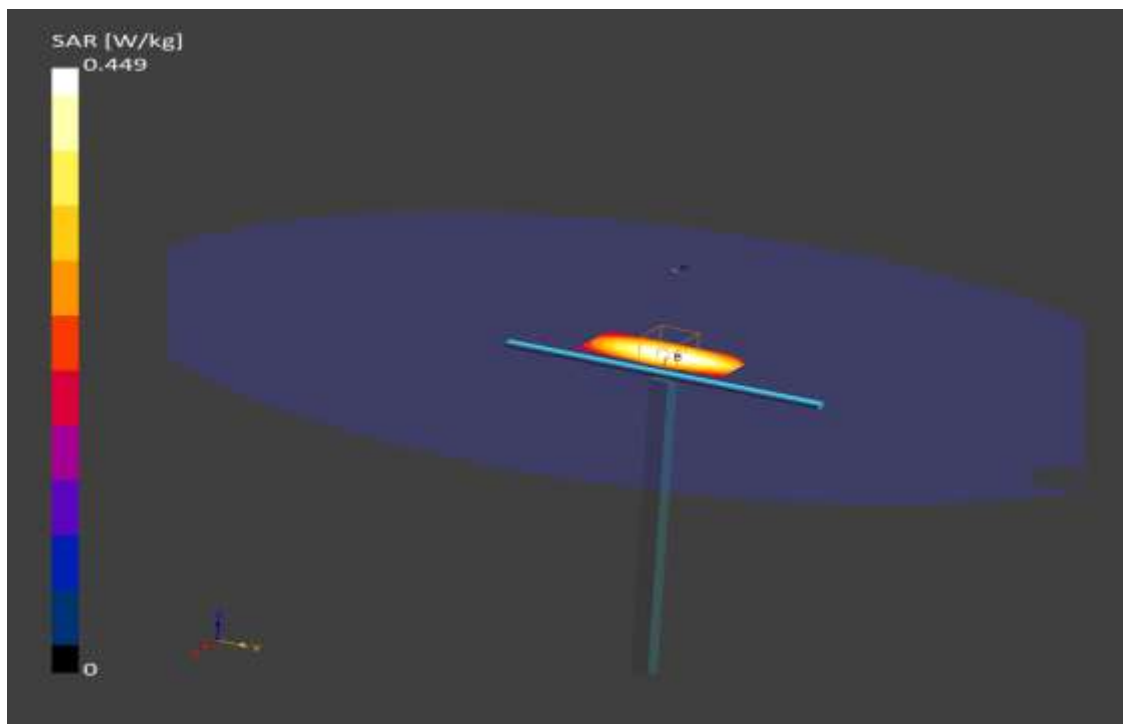
Maximum value of SAR (interpolated) - SAR(1 g) = 0.425 W/kg; SAR(10 g) = 0.283 W/kg

HBBL-600-10000/750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = -0.01 dB

SAR(1 g) = 0.424 W/kg; SAR(10 g) = 0.277 W/kg**Additional information:**

ambient temperature: 22.6°C; liquid temperature: 22.0°C;

SystemPerformanceCheck-D750**DUT: Dipole; Type: D750V3; Serial: SN1041**

Communication System: CW; Communication System Frequency: 750.0 MHz

Medium parameters used: $f = 750.0$ MHz, $\sigma = 0.901$ S/m; $\epsilon_r = 41.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.54, 10.22, 9.89); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

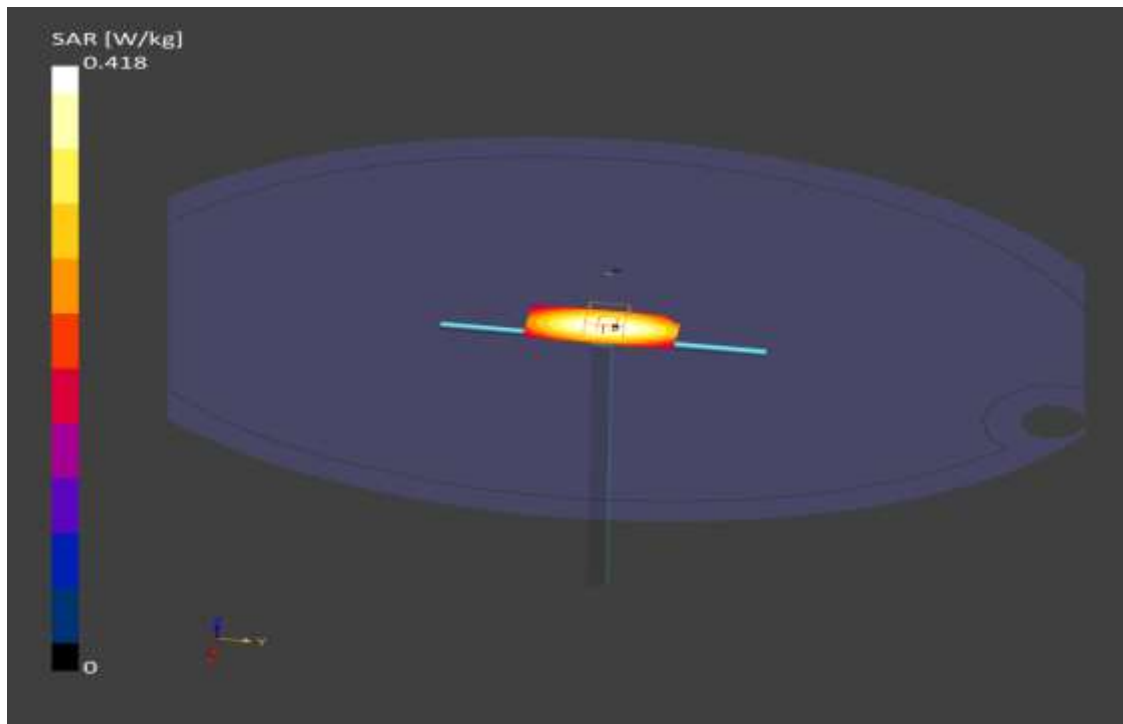
Maximum value of SAR (interpolated) - SAR(1 g) = 0.402 W/kg; SAR(10 g) = 0.268 W/kg

HBBL-600-10000/750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = -0.05 dB

SAR(1 g) = 0.398 W/kg; SAR(10 g) = 0.261 W/kg**Additional information:**

ambient temperature: 22.1°C; liquid temperature: 21.7°C;

SystemPerformanceCheck-D835**DUT: Dipole; Type: D835V2; Serial: SN4d153**

Communication System: CW; Communication System Frequency: 835.0 MHz

Medium parameters used: $f = 835.0$ MHz, $\sigma = 0.951$ S/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.97, 9.29, 9.17); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/835.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

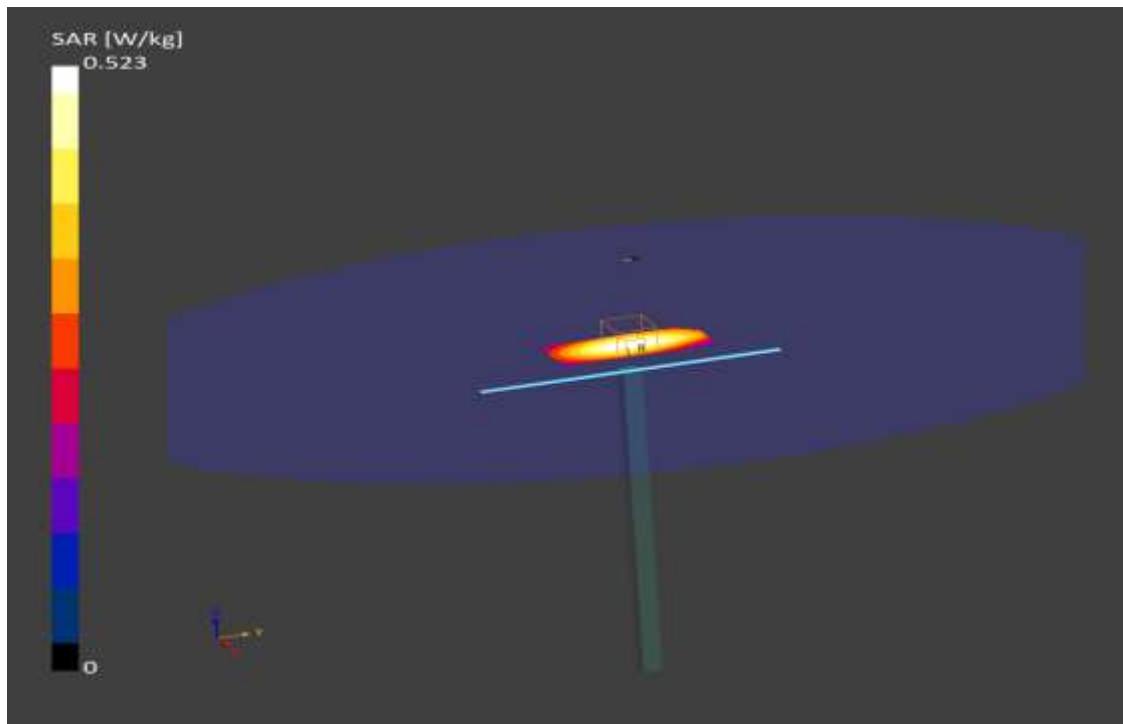
Maximum value of SAR (interpolated) - SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.322 W/kg

HBBL-600-10000/835.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = 0.01 dB

SAR(1 g) = 0.486 W/kg; SAR(10 g) = 0.317 W/kg**Additional information:**

ambient temperature: 23.1°C; liquid temperature: 21.8°C;

SystemPerformanceCheck-D900

DUT: Dipole; Type: D900V2; Serial: SN102

Communication System: CW; Communication System Frequency: 900.0 MHz

Medium parameters used: $f = 900.0$ MHz, $\sigma = 0.954$ S/m; $\epsilon_r = 41.0$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.91, 9.55, 9.25); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/900.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.507 W/kg; SAR(10 g) = 0.330 W/kg

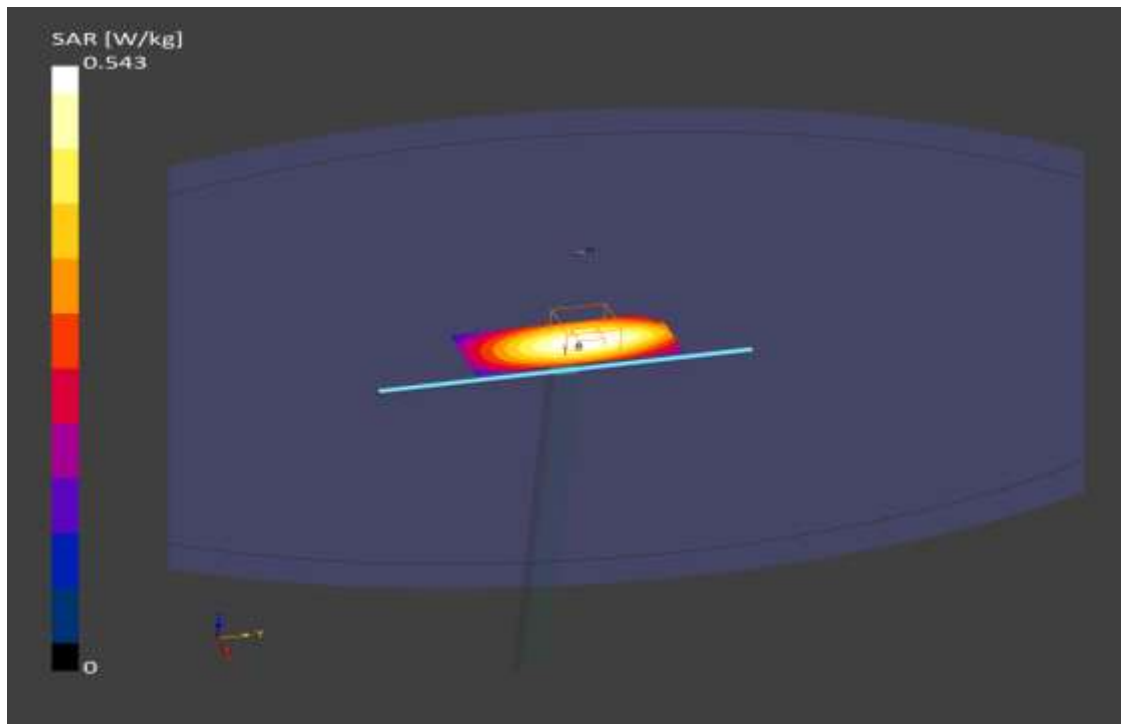
HBBL-600-10000/900.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = 0.06 dB

SAR(1 g) = 0.511 W/kg; SAR(10 g) = 0.331 W/kg



Additional information:

ambient temperature: 22.1°C; liquid temperature: 21.7°C;

SystemPerformanceCheck-D1750

DUT: Dipole; Type: D1750V2; Serial: SN1093

Communication System: CW; Communication System Frequency: 1750.0 MHz

Medium parameters used: $f = 1750.0$ MHz, $\sigma = 1.35$ S/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASy 8

DASy Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.0, 8.29, 8.19); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASy8 Module SAR V17.0.4.7034

HBBL-600-10000/1750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

Maximum value of SAR (interpolated) - SAR(1 g) = 1.67 W/kg; SAR(10 g) = 0.905 W/kg

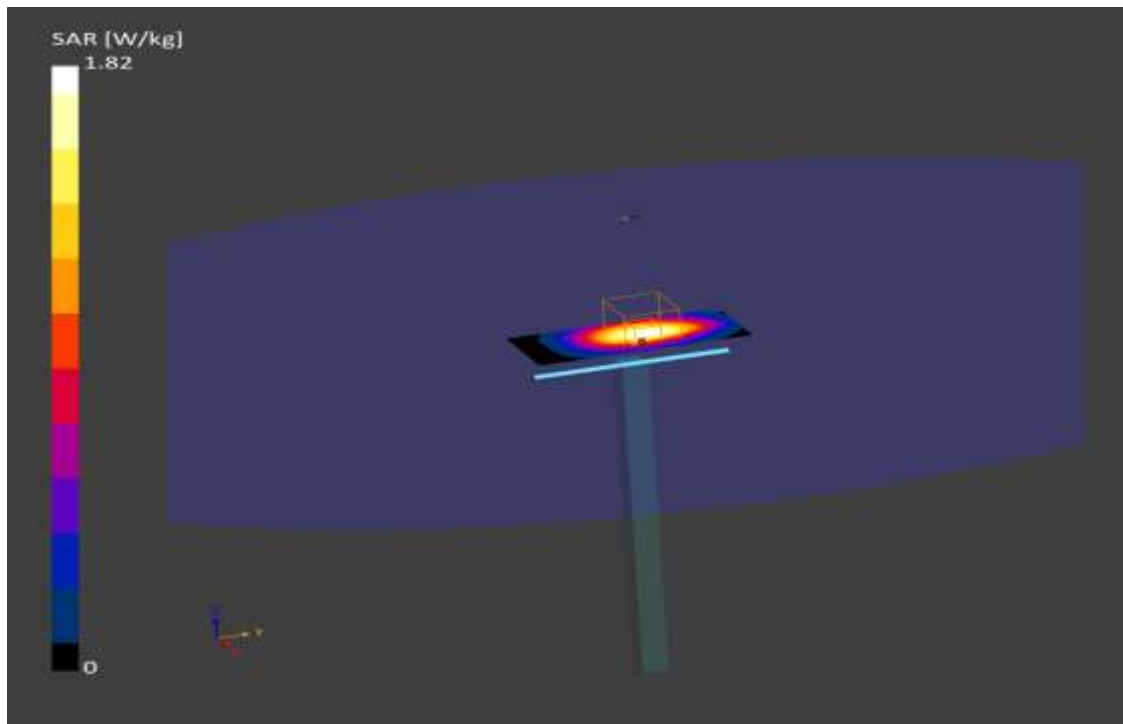
HBBL-600-10000/1750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = -0.00 dB

SAR(1 g) = 1.68 W/kg; SAR(10 g) = 0.894 W/kg



Additional information:

ambient temperature: 23.7°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D1750

DUT: Dipole; Type: D1750V2; Serial: SN1093

Communication System: CW; Communication System Frequency: 1750.0 MHz

Medium parameters used: $f = 1750.0$ MHz, $\sigma = 1.36$ S/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.96, 8.53, 8.26); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/1750.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

Maximum value of SAR (interpolated) - SAR(1 g) = 3.65 W/kg; SAR(10 g) = 1.96 W/kg

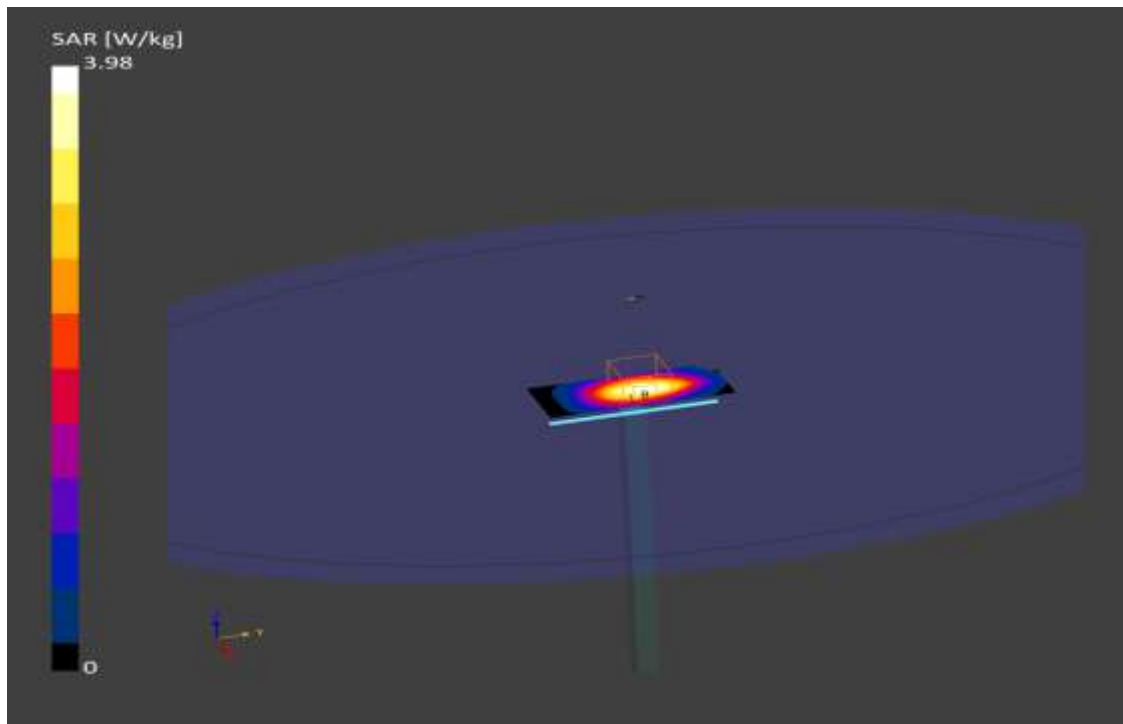
HBBL-600-10000/1750.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 20.0 dBm

Power Drift = -0.03 dB

SAR(1 g) = 3.65 W/kg; SAR(10 g) = 1.95 W/kg



Additional information:

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D1900

DUT: Dipole; Type: D1900V2; Serial: SN5d009

Communication System: CW; Communication System Frequency: 1900.0 MHz

Medium parameters used: $f = 1900.0$ MHz, $\sigma = 1.43$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.67, 7.94, 7.85); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/1900.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

Maximum value of SAR (interpolated) - SAR(1 g) = 1.88 W/kg; SAR(10 g) = 0.985 W/kg

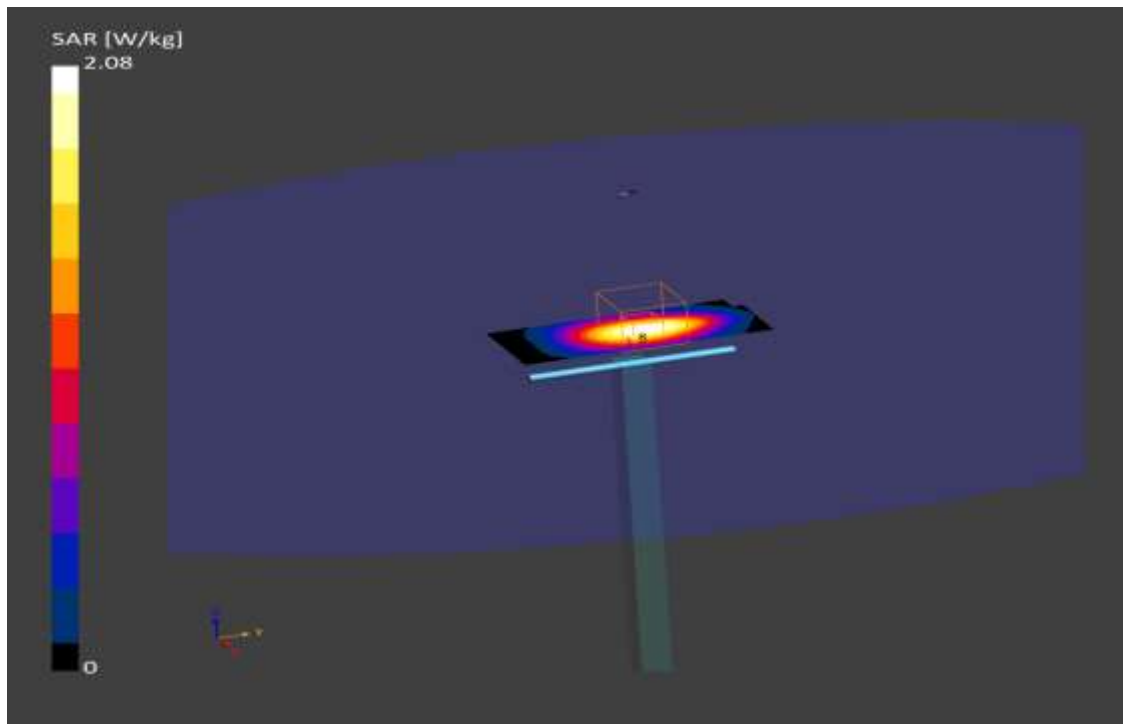
HBBL-600-10000/1900.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = 0.05 dB

SAR(1 g) = 1.85 W/kg; SAR(10 g) = 0.967 W/kg



Additional information:

ambient temperature: 23.0°C; liquid temperature: 21.1°C;

SystemPerformanceCheck-D1900

DUT: Dipole; Type: D1900V2; Serial: SN5d009

Communication System: CW; Communication System Frequency: 1900.0 MHz

Medium parameters used: $f = 1900.0$ MHz, $\sigma = 1.45$ S/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.86, 8.41, 8.15); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/1900.0MHz/Area Scan (10.0 x 15.0 x 1.0) :

Grid Extents [mm]: 40.0 x 90.0

Maximum value of SAR (interpolated) - SAR(1 g) = 1.91 W/kg; SAR(10 g) = 0.996 W/kg

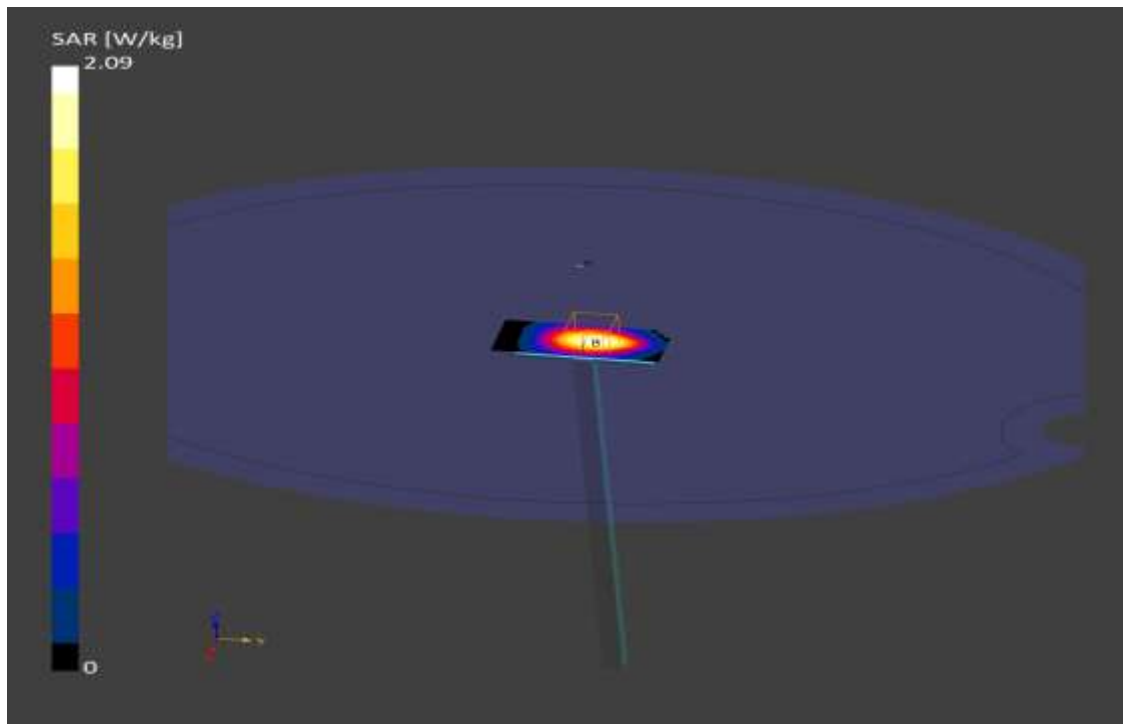
HBBL-600-10000/1900.0MHz/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = 0.00 dB

SAR(1 g) = 1.89 W/kg; SAR(10 g) = 0.986 W/kg



Additional information:

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D2450

DUT: Dipole; Type: D2450V2; Serial: SN710

Communication System: CW; Communication System Frequency: 2450.0 MHz

Medium parameters used: $f = 2450.0$ MHz, $\sigma = 1.82$ S/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7635; ConvF(7.88, 7.34, 7.56); Calibrated: 2026-01-19
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/2450.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 5.09 W/kg; SAR(10 g) = 2.37 W/kg

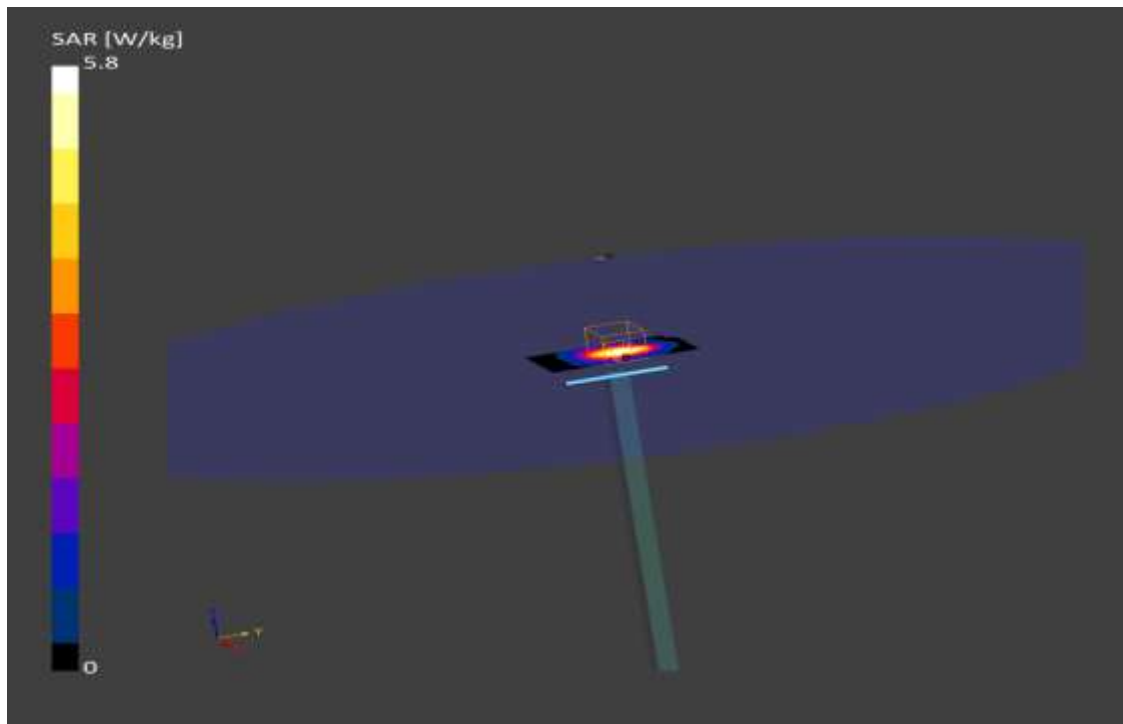
HBBL-600-10000/2450.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 20.0 dBm

Power Drift = -0.01 dB

SAR(1 g) = 5.01 W/kg; SAR(10 g) = 2.36 W/kg



Additional information:

ambient temperature: 23.7°C; liquid temperature: 21.6°C;

SystemPerformanceCheck-D2450

DUT: Dipole; Type: D2450V2; Serial: SN710

Communication System: CW; Communication System Frequency: 2450.0 MHz

Medium parameters used: $f = 2450.0$ MHz, $\sigma = 1.86$ S/m; $\epsilon_r = 38.4$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.45, 7.98, 7.73); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/2450.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.14 W/kg

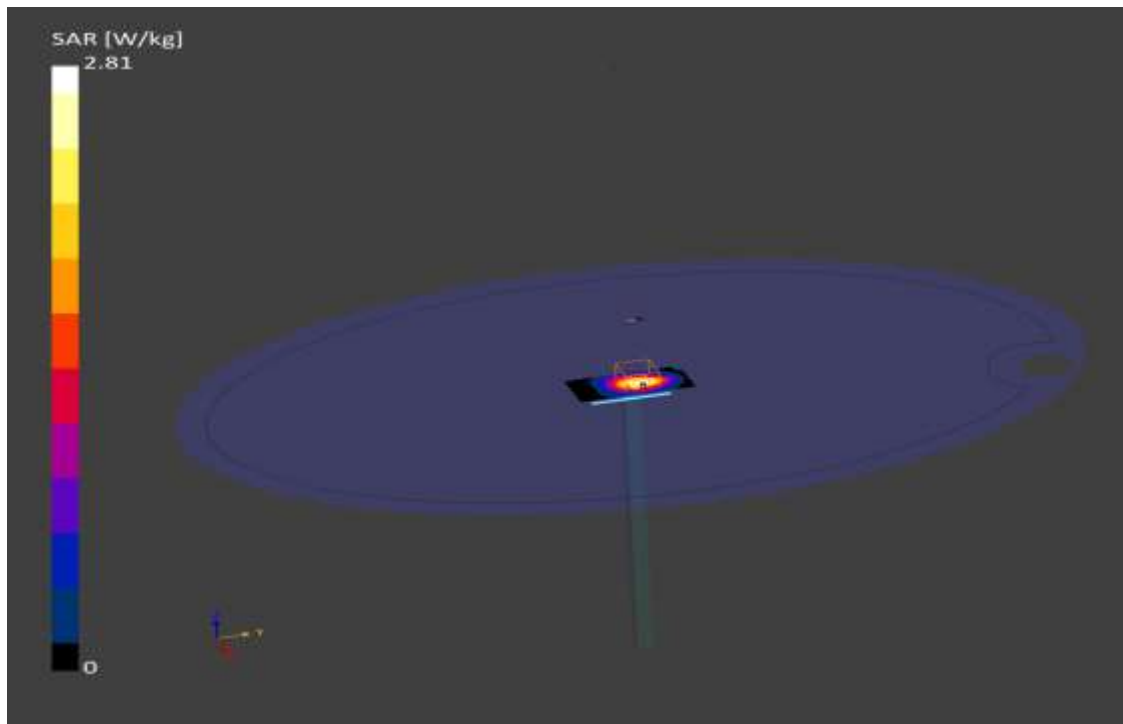
HBBL-600-10000/2450.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = 0.04 dB

SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.14 W/kg



Additional information:

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D2450

DUT: Dipole; Type: D2450V2; Serial: SN710

Communication System: CW; Communication System Frequency: 2450.0 MHz

Medium parameters used: $f = 2450.0$ MHz, $\sigma = 1.89$ S/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.45, 7.98, 7.73); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/2450.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 5.51 W/kg; SAR(10 g) = 2.59 W/kg

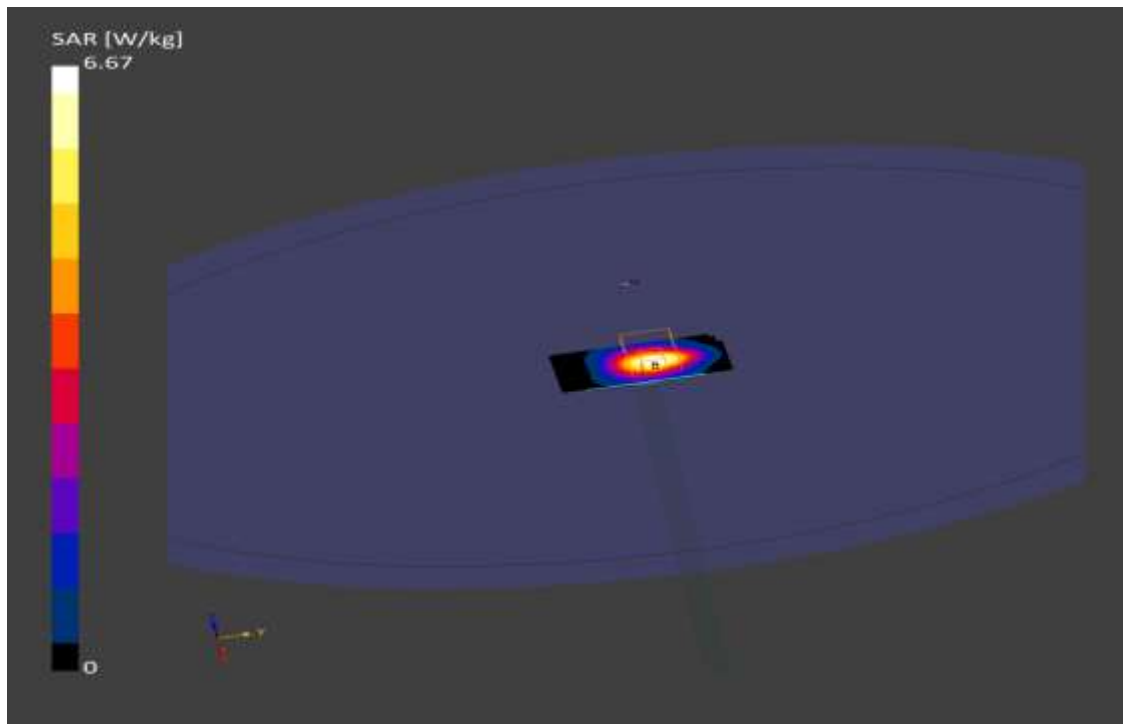
HBBL-600-10000/2450.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 20.0 dBm

Power Drift = -0.08 dB

SAR(1 g) = 5.26 W/kg; SAR(10 g) = 2.47 W/kg



Additional information:

ambient temperature: 22.4°C; liquid temperature: 21.8°C;

SystemPerformanceCheck-D2600

DUT: Dipole; Type: D2600V2; Serial: SN1040

Communication System: CW; Communication System Frequency: 2600.0 MHz

Medium parameters used: $f = 2600.0$ MHz, $\sigma = 1.95$ S/m; $\epsilon_r = 37.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.31, 7.57, 7.48); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/2600.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 5.55 W/kg; SAR(10 g) = 2.53 W/kg

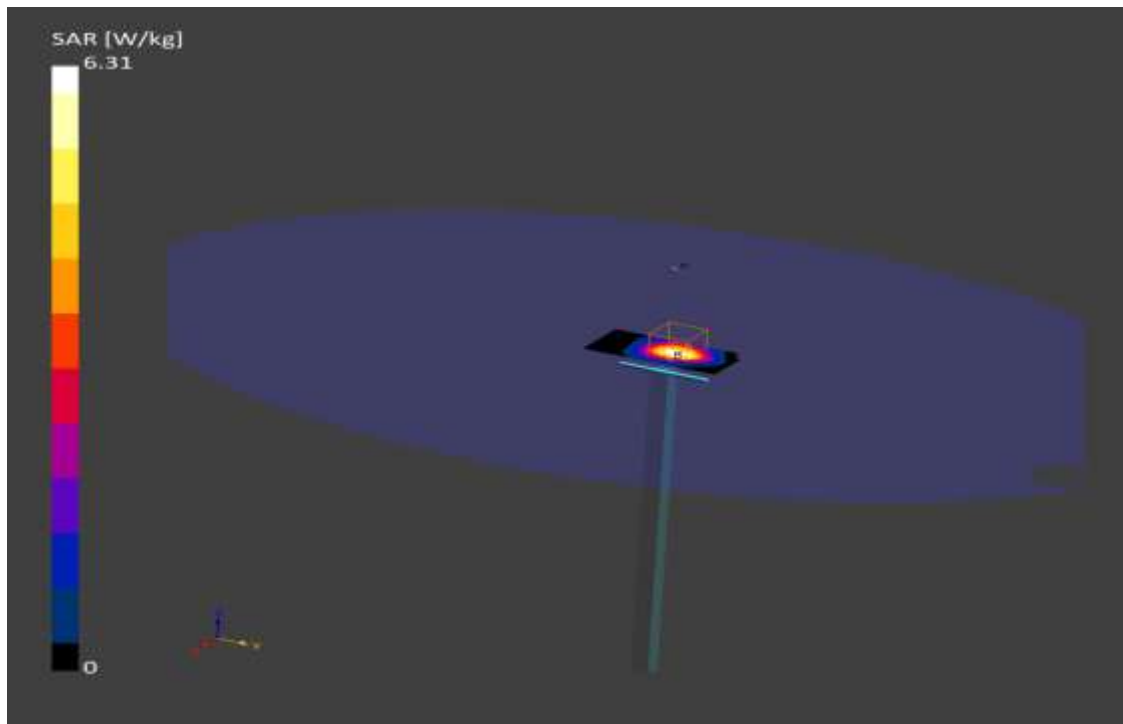
HBBL-600-10000/2600.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 20.0 dBm

Power Drift = 0.01 dB

SAR(1 g) = 5.61 W/kg; SAR(10 g) = 2.52 W/kg



Additional information:

ambient temperature: 22.3°C; liquid temperature: 22.0°C;

SystemPerformanceCheck-D2600

DUT: Dipole; Type: D2600V2; Serial: SN1040

Communication System: CW; Communication System Frequency: 2600.0 MHz

Medium parameters used: $f = 2600.0$ MHz, $\sigma = 1.97$ S/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.34, 7.86, 7.61); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/2600.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 2.51 W/kg; SAR(10 g) = 1.14 W/kg

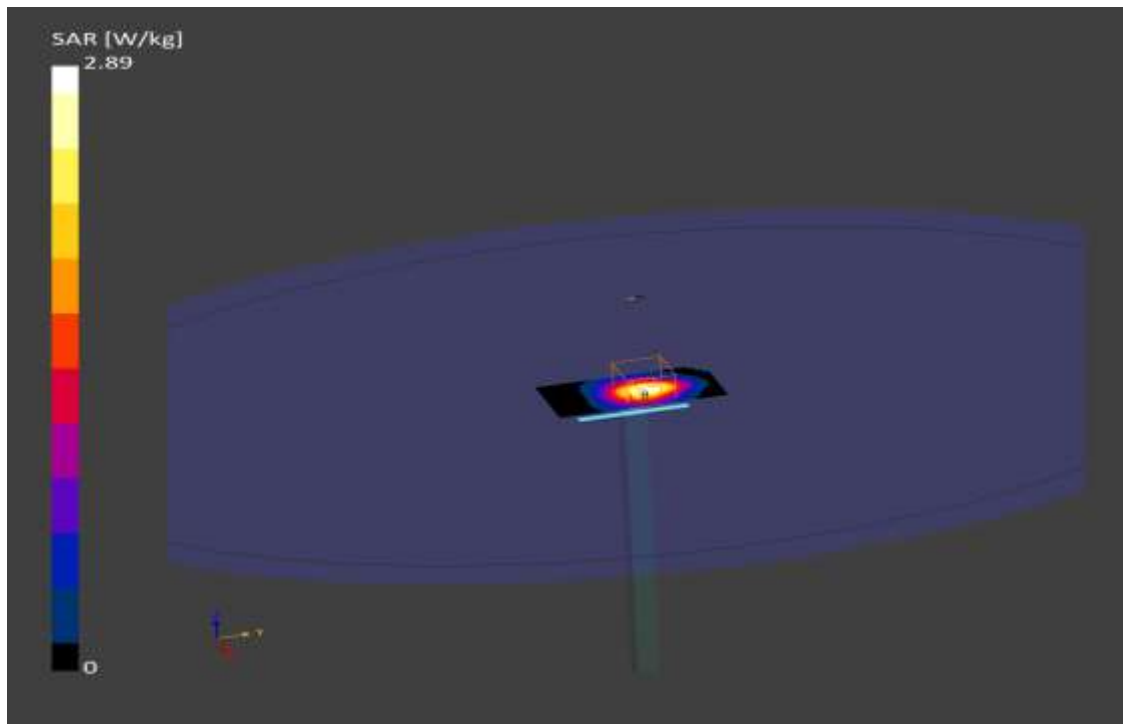
HBBL-600-10000/2600.0MHz/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

SPC Power = 17.0 dBm

Power Drift = 0.09 dB

SAR(1 g) = 2.57 W/kg; SAR(10 g) = 1.16 W/kg



Additional information:

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D3500

DUT: Dipole; Type: D3500V2; Serial: SN1003

Communication System: CW; Communication System Frequency: 3500.0 MHz

Medium parameters used: $f = 3500.0$ MHz, $\sigma = 2.73$ S/m; $\epsilon_r = 38.0$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.71, 6.95, 6.87); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/3500.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 6.99 W/kg; SAR(10 g) = 2.69 W/kg

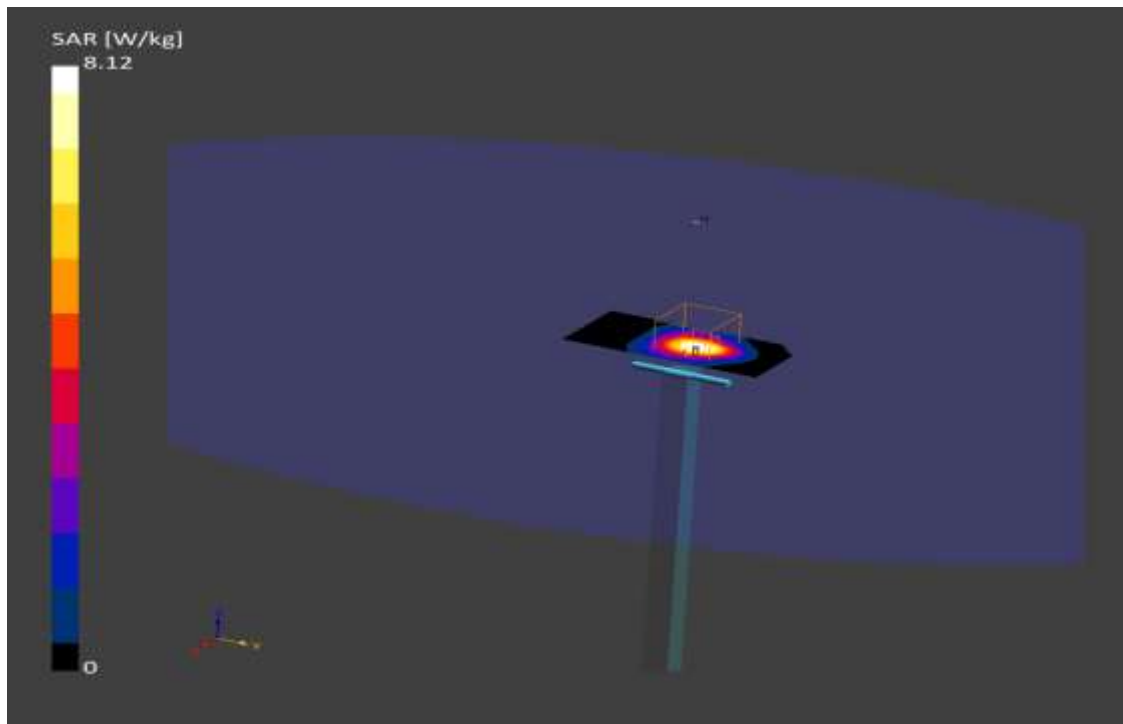
HBBL-600-10000/3500.0MHz/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

SPC Power = 20.0 dBm

Power Drift = 0.02 dB

SAR(1 g) = 7.01 W/kg; SAR(10 g) = 2.71 W/kg



Additional information:

ambient temperature: 23.5°C; liquid temperature: 21.6°C;

SystemPerformanceCheck-D3500

DUT: Dipole; Type: D3500V2; Serial: SN1003

Communication System: CW; Communication System Frequency: 3500.0 MHz

Medium parameters used: $f = 3500.0$ MHz, $\sigma = 2.73$ S/m; $\epsilon_r = 38.0$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.71, 6.95, 6.87); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/3500.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 6.38 W/kg; SAR(10 g) = 2.46 W/kg

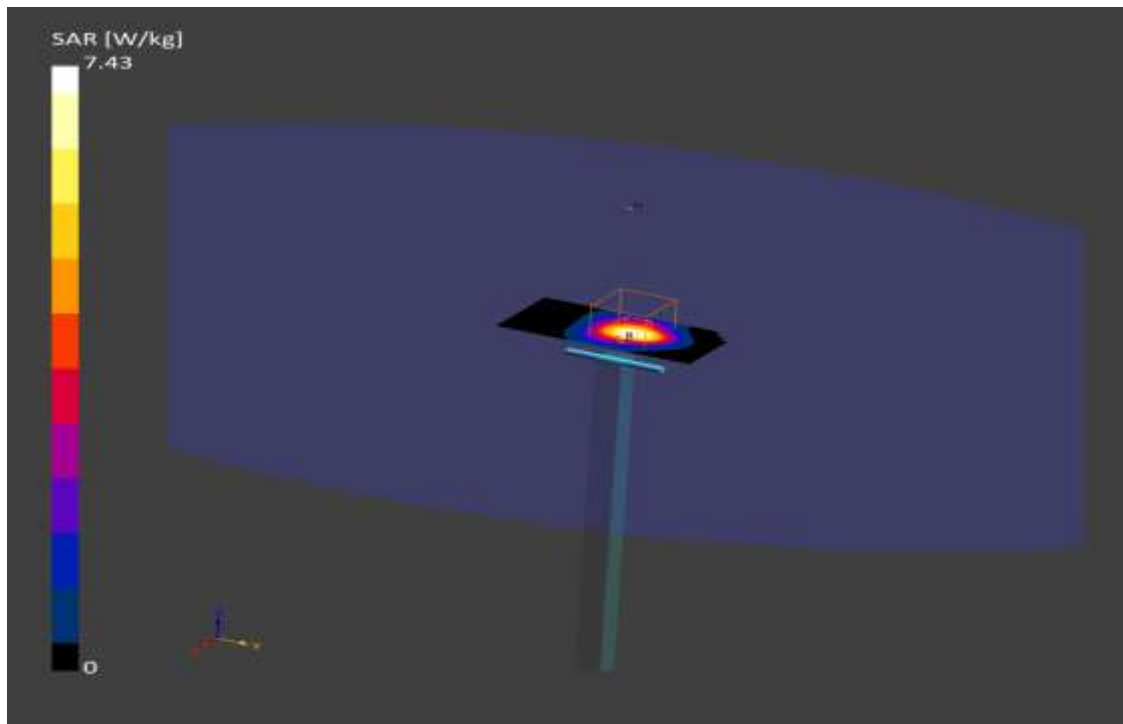
HBBL-600-10000/3500.0MHz/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

SPC Power = 20.0 dBm

Power Drift = 0.01 dB

SAR(1 g) = 6.51 W/kg; SAR(10 g) = 2.51 W/kg



Additional information:

ambient temperature: 23.5°C; liquid temperature: 21.6°C;

SystemPerformanceCheck-D3500

DUT: Dipole; Type: D3500V2; Serial: SN1003

Communication System: CW; Communication System Frequency: 3500.0 MHz

Medium parameters used: $f = 3500.0$ MHz, $\sigma = 2.68$ S/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASy 8

DASy Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.72, 7.19, 6.96); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASy8 Module SAR V18.0.0.7250

HBBL-600-10000/3500.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 5.91 W/kg; SAR(10 g) = 2.29 W/kg

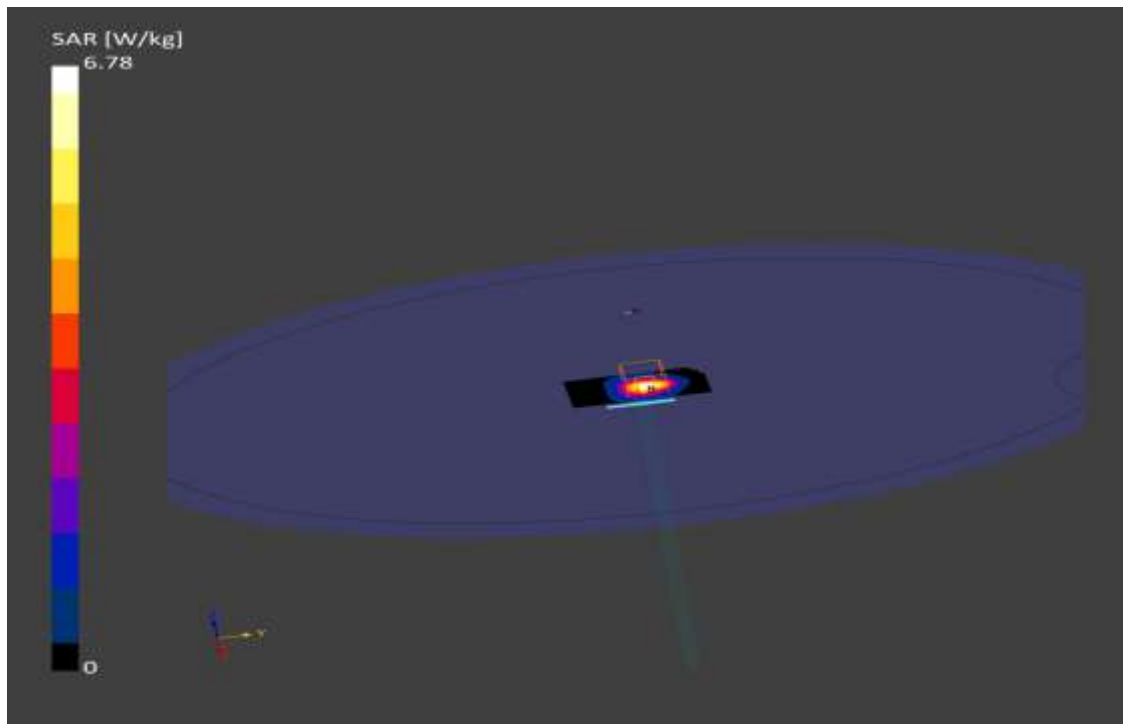
HBBL-600-10000/3500.0MHz/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

SPC Power = 20.0 dBm

Power Drift = 0.03 dB

SAR(1 g) = 6.12 W/kg; SAR(10 g) = 2.35 W/kg



Additional information:

ambient temperature: 23.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D3700

DUT: Dipole; Type: D3700V2; Serial: SN1062

Communication System: CW; Communication System Frequency: 3700.0 MHz

Medium parameters used: $f = 3700.0$ MHz, $\sigma = 2.90$ S/m; $\epsilon_r = 37.6$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.77, 7.01, 6.93); Calibrated: 2025-05-16
- Sensor-Surface: 1.4 mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/3700.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 6.48 W/kg; SAR(10 g) = 2.40 W/kg

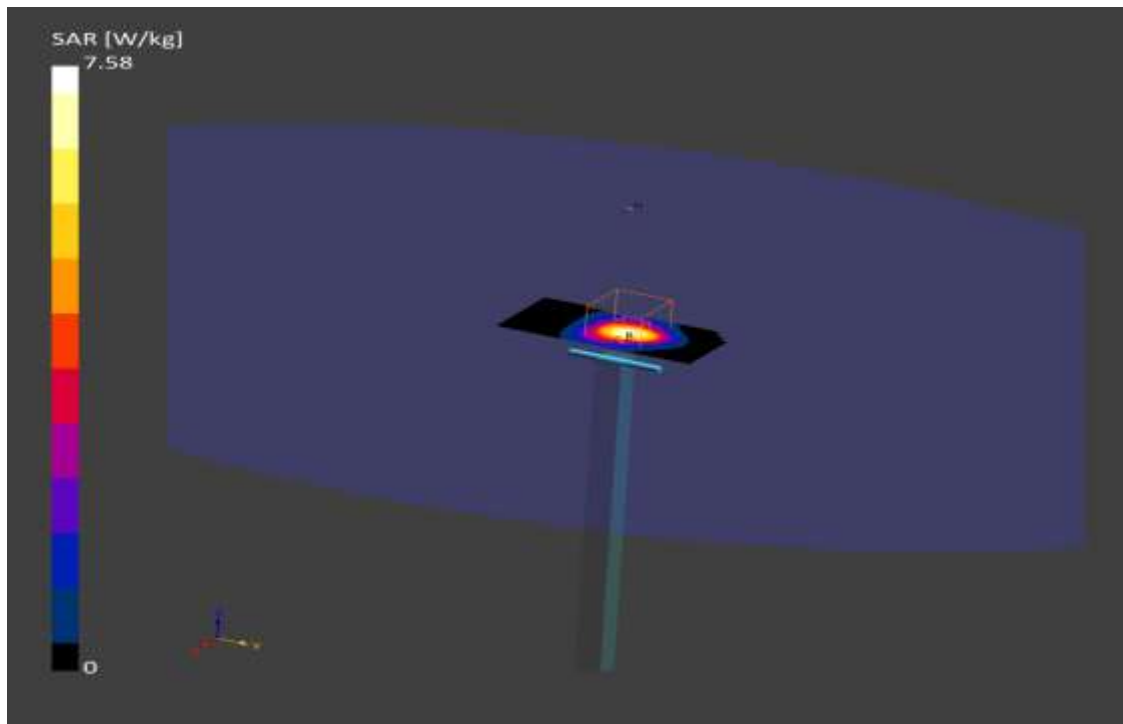
HBBL-600-10000/3700.0MHz/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

SPC Power = 20.0 dBm

Power Drift = -0.00 dB

SAR(1 g) = 6.57 W/kg; SAR(10 g) = 2.44 W/kg



Additional information:

ambient temperature: 23.1°C; liquid temperature: 21.6°C;

SystemPerformanceCheck-D3700

DUT: Dipole; Type: D3700V2; Serial: SN1062

Communication System: CW; Communication System Frequency: 3700.0 MHz

Medium parameters used: $f = 3700.0$ MHz, $\sigma = 2.88$ S/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.6, 7.07, 6.84); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/3700.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 6.35 W/kg; SAR(10 g) = 2.38 W/kg

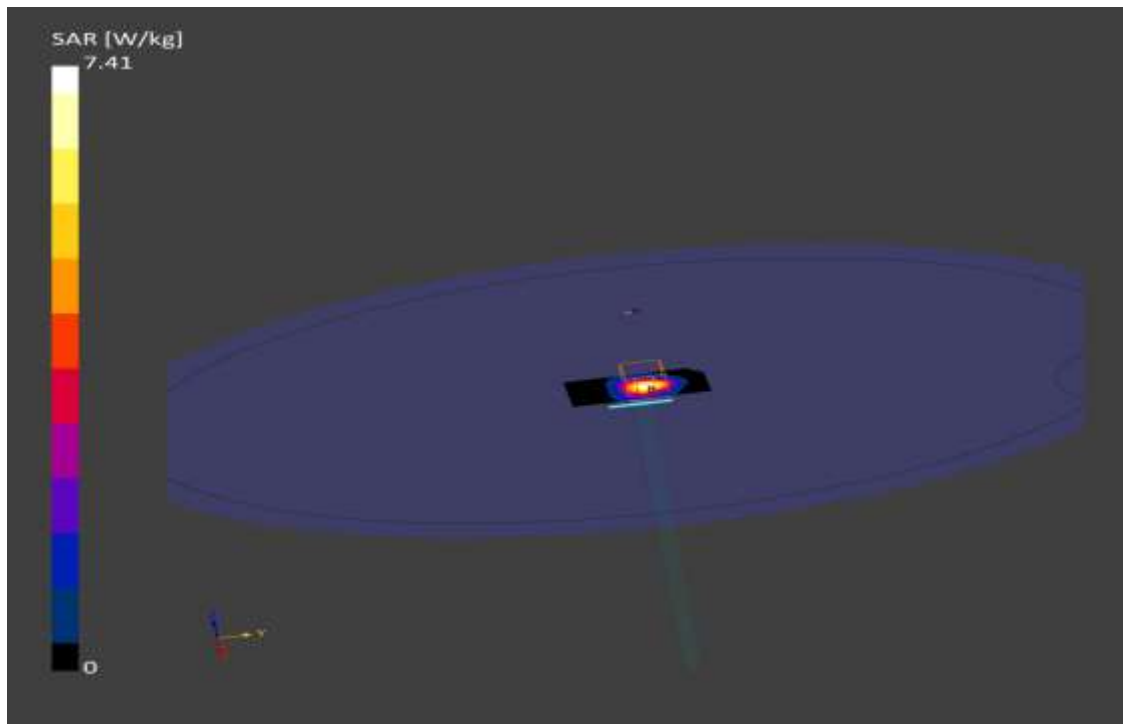
HBBL-600-10000/3700.0MHz/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

SPC Power = 20.0 dBm

Power Drift = 0.07 dB

SAR(1 g) = 6.55 W/kg; SAR(10 g) = 2.43 W/kg



Additional information:

ambient temperature: 23.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D3700

DUT: Dipole; Type: D3700V2; Serial: SN1062

Communication System: CW; Communication System Frequency: 3700.0 MHz

Medium parameters used: $f = 3700.0$ MHz, $\sigma = 2.88$ S/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7852; ConvF(5.83, 5.97, 6.49); Calibrated: 2026-03-12
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/3700.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 6.73 W/kg; SAR(10 g) = 2.52 W/kg

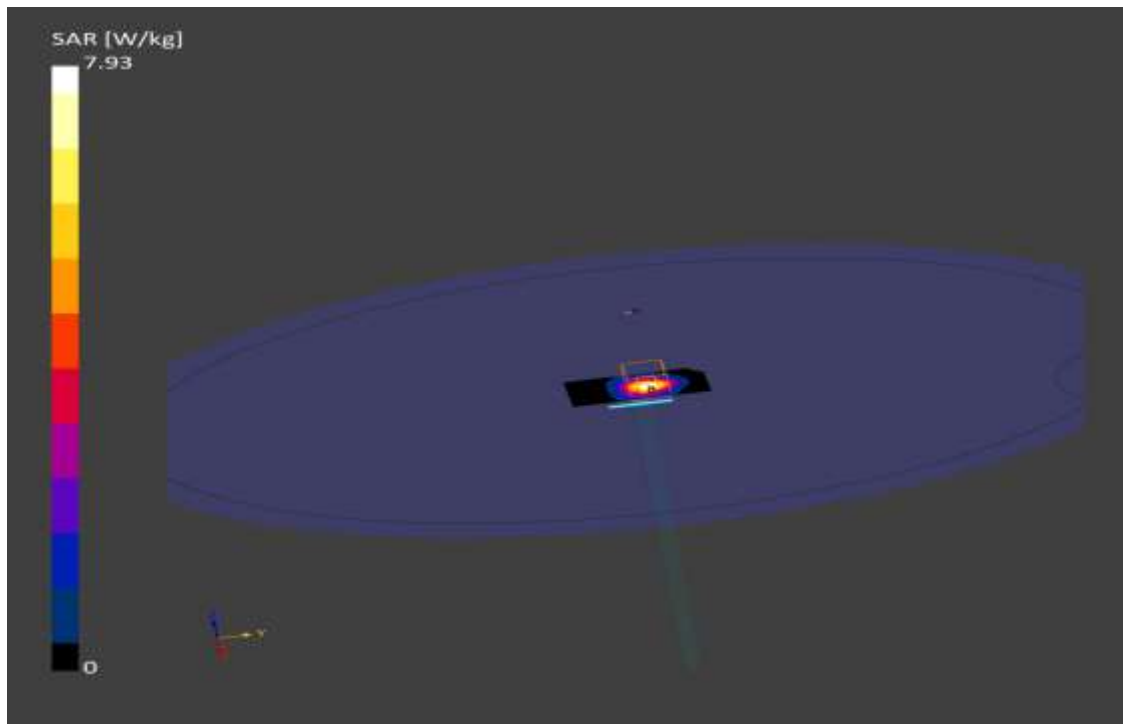
HBBL-600-10000/3700.0MHz/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

SPC Power = 20.0 dBm

Power Drift = -0.02 dB

SAR(1 g) = 6.93 W/kg; SAR(10 g) = 2.58 W/kg



Additional information:

ambient temperature: 23.6°C; liquid temperature: 22.1°C;

SystemPerformanceCheck-D5GHz

DUT: Dipole; Type: D5GHzV2; Serial: SN1055

Communication System: CW; Communication System Frequency: 5200.0 MHz

Medium parameters used: $f = 5200.0$ MHz, $\sigma = 4.39$ S/m; $\epsilon_r = 34.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7566; ConvF(5.8, 5.66, 5.27); Calibrated: 2025-08-07
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/5200.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 7.14 W/kg; SAR(10 g) = 2.18 W/kg

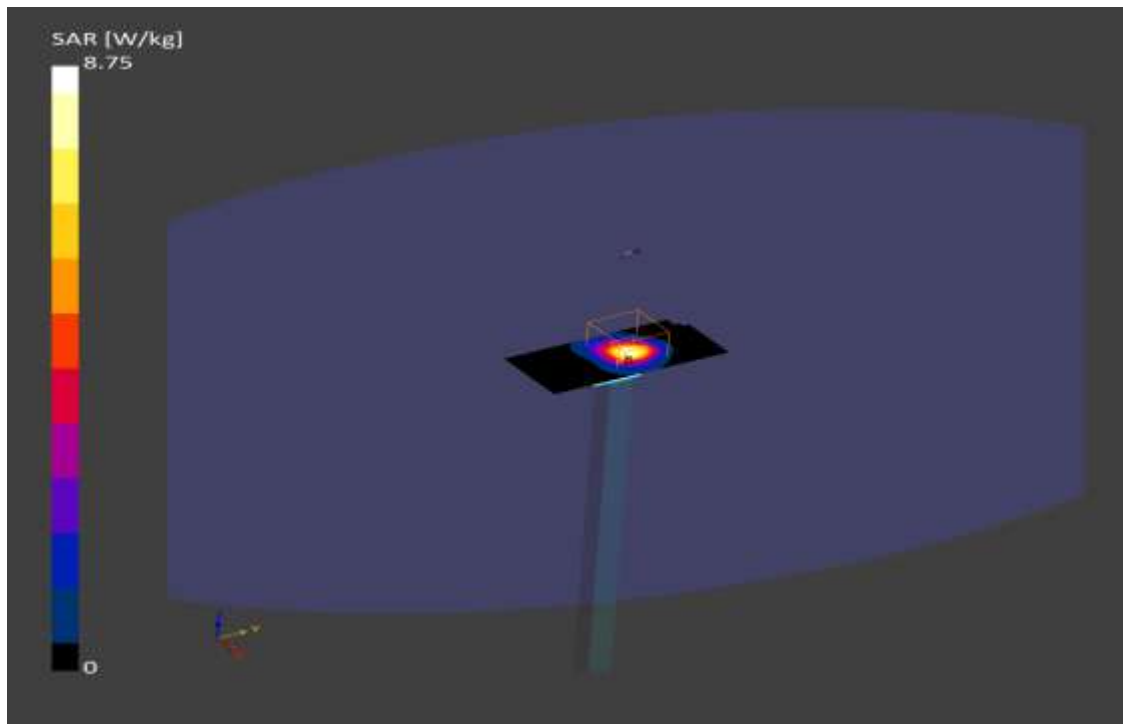
HBBL-600-10000/5200.0MHz/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

SPC Power = 20.0 dBm

Power Drift = -0.02 dB

SAR(1 g) = 8.19 W/kg; SAR(10 g) = 2.36 W/kg



Additional information:

ambient temperature: 22.4°C; liquid temperature: 21.8°C;

SystemPerformanceCheck-D5GHz

DUT: Dipole; Type: D5GHzV2; Serial: SN1055

Communication System: CW; Communication System Frequency: 5500.0 MHz

Medium parameters used: $f = 5500.0$ MHz, $\sigma = 4.71$ S/m; $\epsilon_r = 34.4$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7566; ConvF(5.1, 4.98, 4.63); Calibrated: 2025-08-07
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/5500.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 7.39 W/kg; SAR(10 g) = 2.22 W/kg

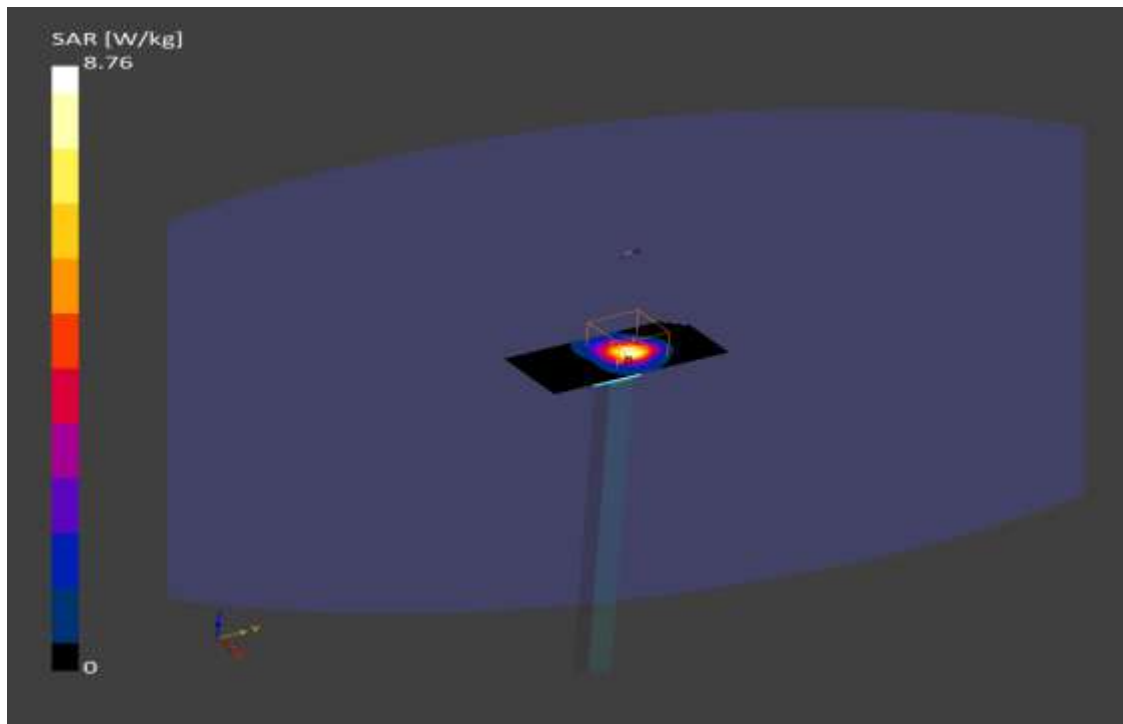
HBBL-600-10000/5500.0MHz/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

SPC Power = 20.0 dBm

Power Drift = -0.03 dB

SAR(1 g) = 8.54 W/kg; SAR(10 g) = 2.43 W/kg



Additional information:

ambient temperature: 22.4°C; liquid temperature: 21.8°C;

SystemPerformanceCheck-D5GHz

DUT: Dipole; Type: D5GHzV2; Serial: SN1055

Communication System: CW; Communication System Frequency: 5800.0 MHz

Medium parameters used: $f = 5800.0$ MHz, $\sigma = 5.04$ S/m; $\epsilon_r = 33.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7566; ConvF(5.1, 4.98, 4.63); Calibrated: 2025-08-07
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/5800.0MHz/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 40.0 x 80.0

Maximum value of SAR (interpolated) - SAR(1 g) = 6.79 W/kg; SAR(10 g) = 2.09 W/kg

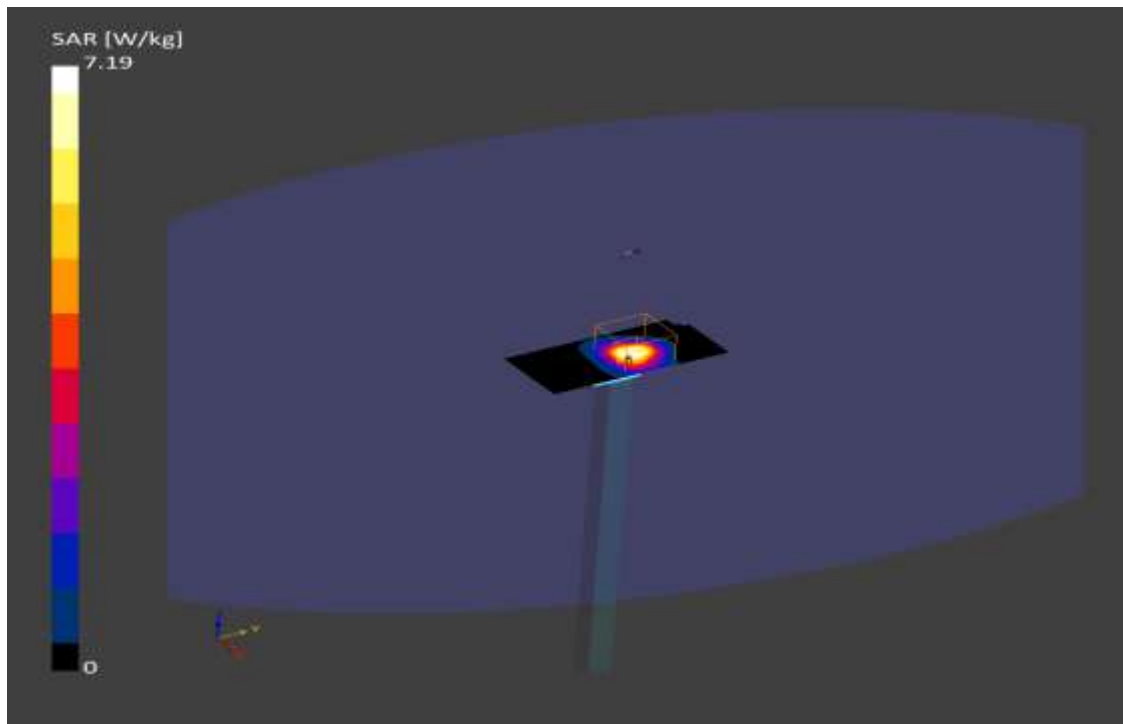
HBBL-600-10000/5800.0MHz/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

SPC Power = 20.0 dBm

Power Drift = 0.03 dB

SAR(1 g) = 8.05 W/kg; SAR(10 g) = 2.31 W/kg



Additional information:

ambient temperature: 22.4°C; liquid temperature: 21.8°C;

SystemPerformanceCheck-D6.5GHz**DUT: Dipole; Type: D6.5GHzV2; Serial: SN1067**

Communication System: CW; Communication System Frequency: 6500.0 MHz

Medium parameters used: $f = 6500.0$ MHz, $\sigma = 5.83$ S/m; $\epsilon_r = 33.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(5.17, 5.54, 5.36); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/6500.0MHz/Area Scan (8.5 x 8.5 x 1.0) :

Grid Extents [mm]: 51.0 x 85.0

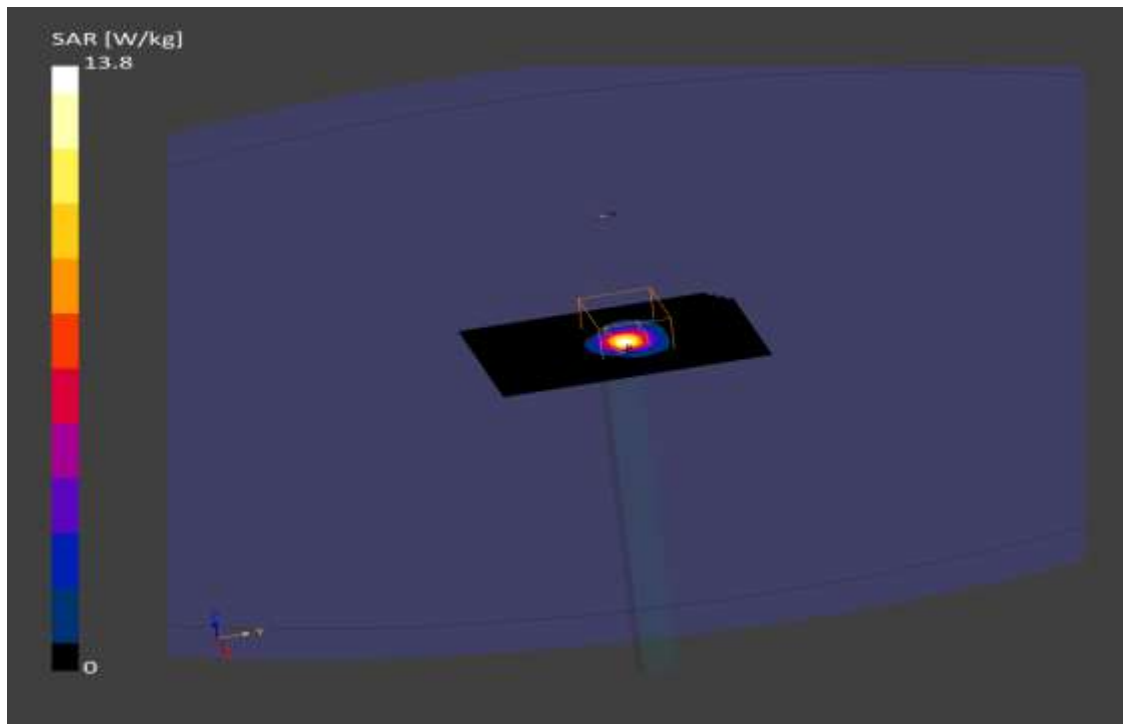
Maximum value of SAR (interpolated) - SAR(1 g) = 11.1 W/kg; SAR(10 g) = 2.39 W/kg

HBBL-600-10000/6500.0MHz/Zoom Scan (3.4 x 3.4 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

SPC Power = 17.0 dBm

Power Drift = -0.09 dB

SAR(1 g) = 13.8 W/kg; SAR(10 g) = 2.61 W/kg**Additional information:**

ambient temperature: 22.1°C; liquid temperature: 21.7°C;

SystemPerformanceCheck-D7GHz

DUT: Dipole; Type: D7GHzV2; Serial: SN1013

Communication System: CW; Communication System Frequency: 7000.0 MHz

Medium parameters used: $f = 7000.0$ MHz, $\sigma = 6.40$ S/m; $\epsilon_r = 32.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(5.17, 5.54, 5.36); Calibrated: 2026-05-05
- Sensor-Surface: 1.4 mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/7000.0MHz/Area Scan (7.5 x 7.5 x 1.0) :

Grid Extents [mm]: 45.0 x 90.0

Maximum value of SAR (interpolated) - SAR(1 g) = 11.9 W/kg; SAR(10 g) = 2.49 W/kg

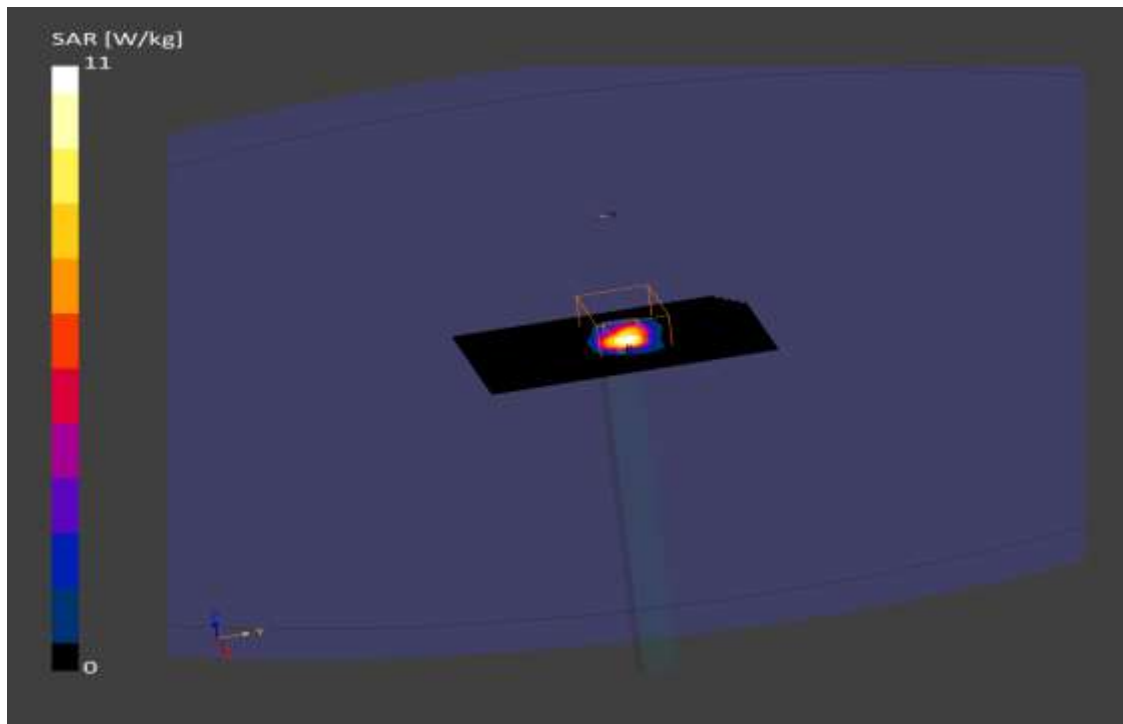
HBBL-600-10000/7000.0MHz/Zoom Scan (3.0 x 3.0 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

SPC Power = 17.0 dBm

Power Drift = -0.02 dB

SAR(1 g) = 14.6 W/kg; SAR(10 g) = 2.64 W/kg



Additional information:

ambient temperature: 22.1°C; liquid temperature: 21.7°C;

Annex B: DASY measurement results

SAR plots for the **highest measured SAR** in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02

Annex B.1: SAR results – UMTS FDD II/IV/V

Date/Time: 2026-04-16, 17:13 2026-04-16, 17:19

IEC/IEEE 62209-1528 UMTS FDD II

DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791

Communication System: UMTS-FDD: Rel. 99, RMC, QPSK, 5.0 MHz; Communication System Band: Band 2;

Communication System Frequency: 1907.6 MHz

Medium parameters used: $f = 1907.6$ MHz, $\sigma = 1.44$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.67, 7.94, 7.85); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 9538/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.247 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 9538/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

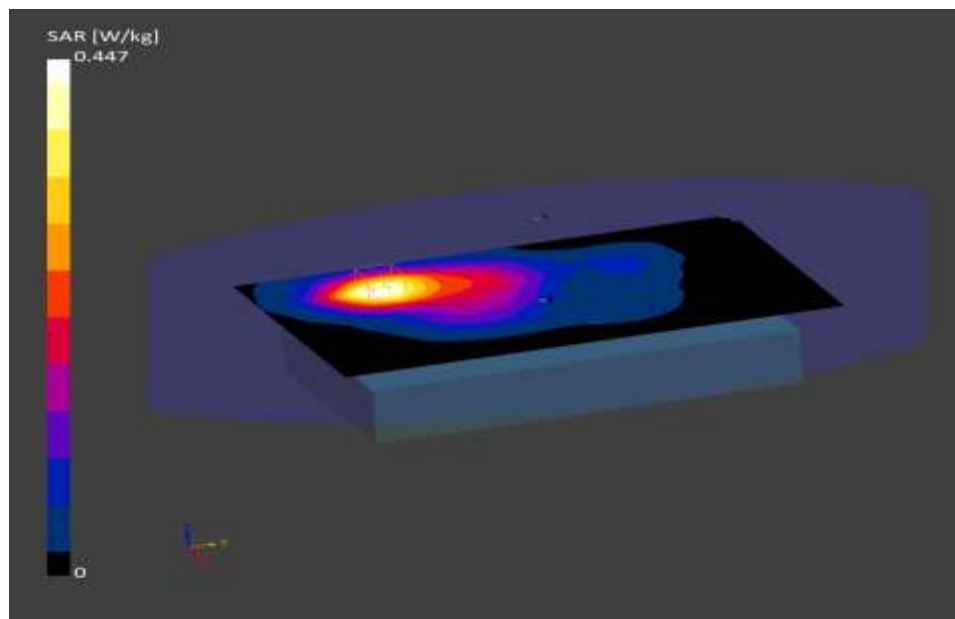
Power Drift = 0.01 dB

SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.259 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.7



Additional information:

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.7°C;

IEC/IEEE 62209-1528 UMTS FDD IV**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: UMTS-FDD: Rel. 99, RMC, QPSK, 5.0 MHz; Communication System Band: Band 4;

Communication System Frequency: 1752.6 MHz

Medium parameters used: $f = 1752.6$ MHz, $\sigma = 1.35$ S/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.0, 8.29, 8.19); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 1513/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.147 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 1513/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

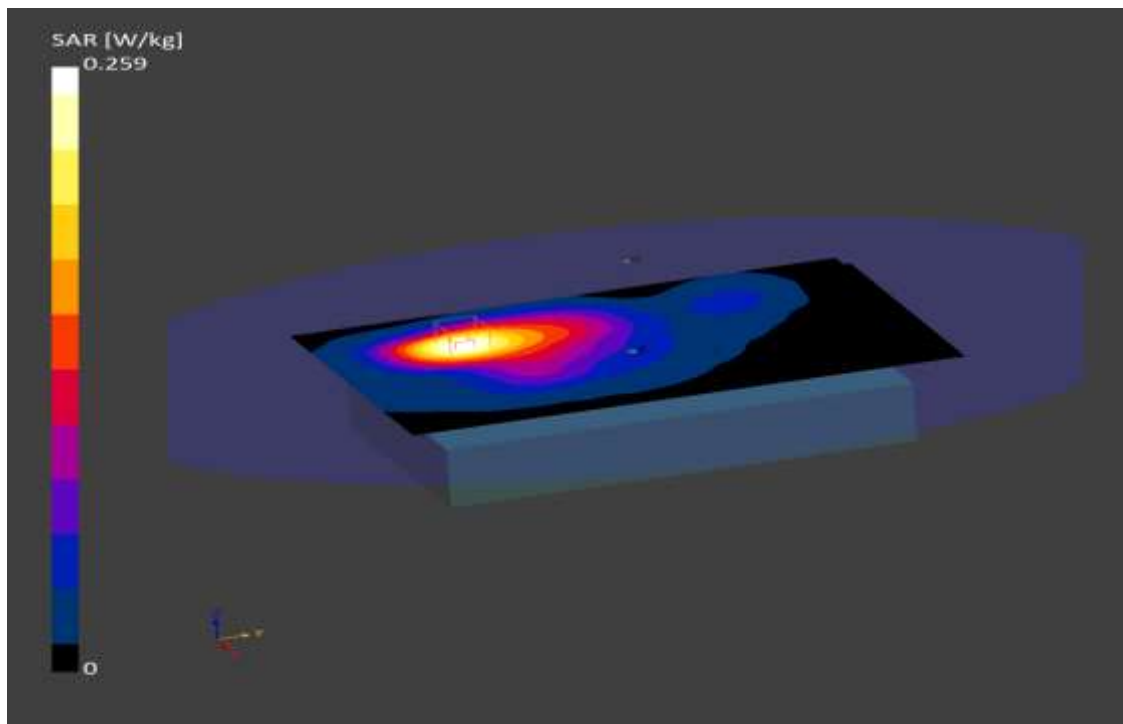
Power Drift = -0.00 dB

SAR(1 g) = 0.245 W/kg; SAR(10 g) = 0.156 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.3

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.7°C; liquid temperature: 21.9°C;

IEC/IEEE 62209-1528 UMTS FDD V**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: UMTS-FDD: Rel. 99, RMC, QPSK, 5.0 MHz; Communication System Band: Band 5;

Communication System Frequency: 826.4 MHz

Medium parameters used: $f = 826.4$ MHz, $\sigma = 0.948$ S/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.97, 9.29, 9.17); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 4132/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.288 W/kg; SAR(10 g) = 0.196 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 4132/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

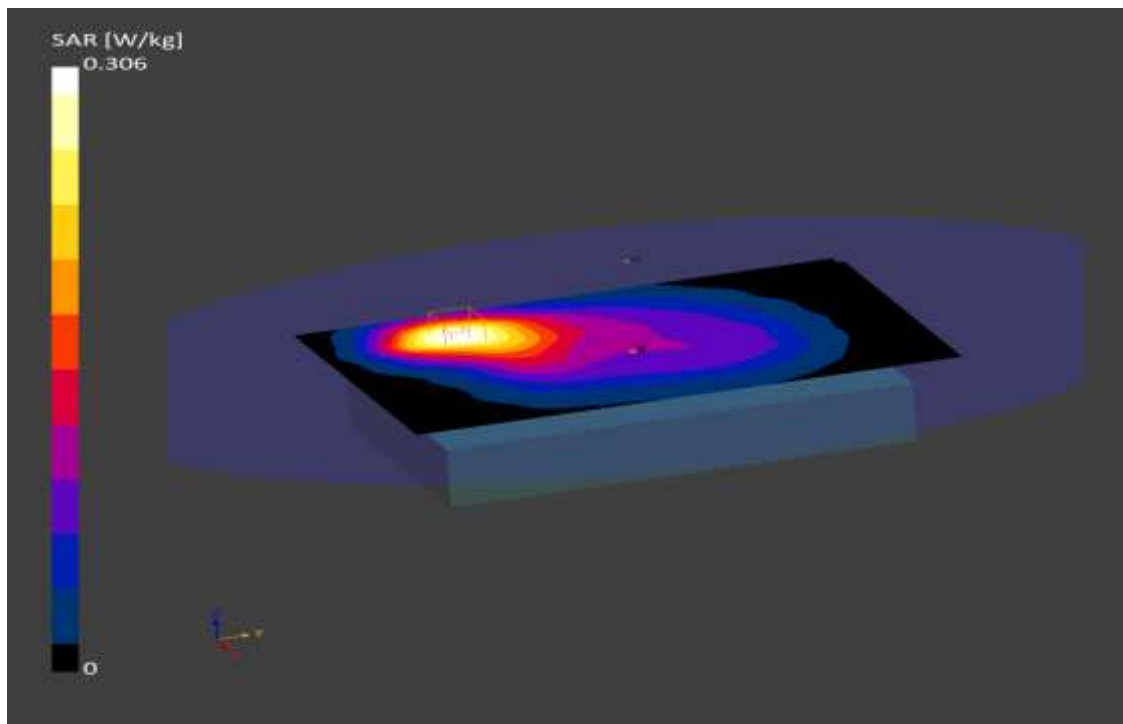
Power Drift = 0.04 dB

SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.198 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 87.2

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.8°C;

Annex B.2: SAR results – LTE

Date/Time: 2026-04-16, 15:18 2026-04-16, 15:23

IEC/IEEE 62209-1528 LTE FDD 2**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 2;

Communication System Frequency: 1900.0 MHz

Medium parameters used: $f = 1900.0$ MHz, $\sigma = 1.43$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASYS 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.67, 7.94, 7.85); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 19100/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.365 W/kg; SAR(10 g) = 0.221 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 19100/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

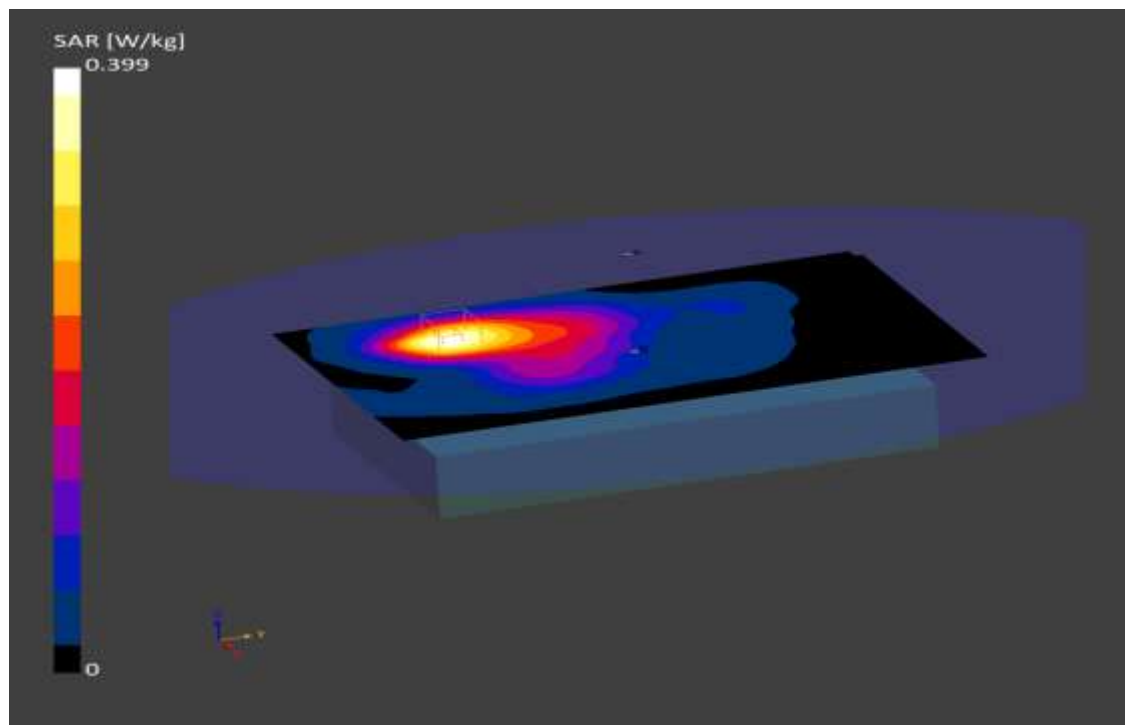
Power Drift = -0.02 dB

SAR(1 g) = 0.370 W/kg; SAR(10 g) = 0.230 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 85.9

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.1°C;

IEC/IEEE 62209-1528 LTE FDD 4**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (High); Communication System Band: Band 4;

Communication System Frequency: 1732.5 MHz

Medium parameters used: $f = 1732.5$ MHz, $\sigma = 1.34$ S/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.0, 8.29, 8.19); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 20175/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.222 W/kg; SAR(10 g) = 0.138 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 20175/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

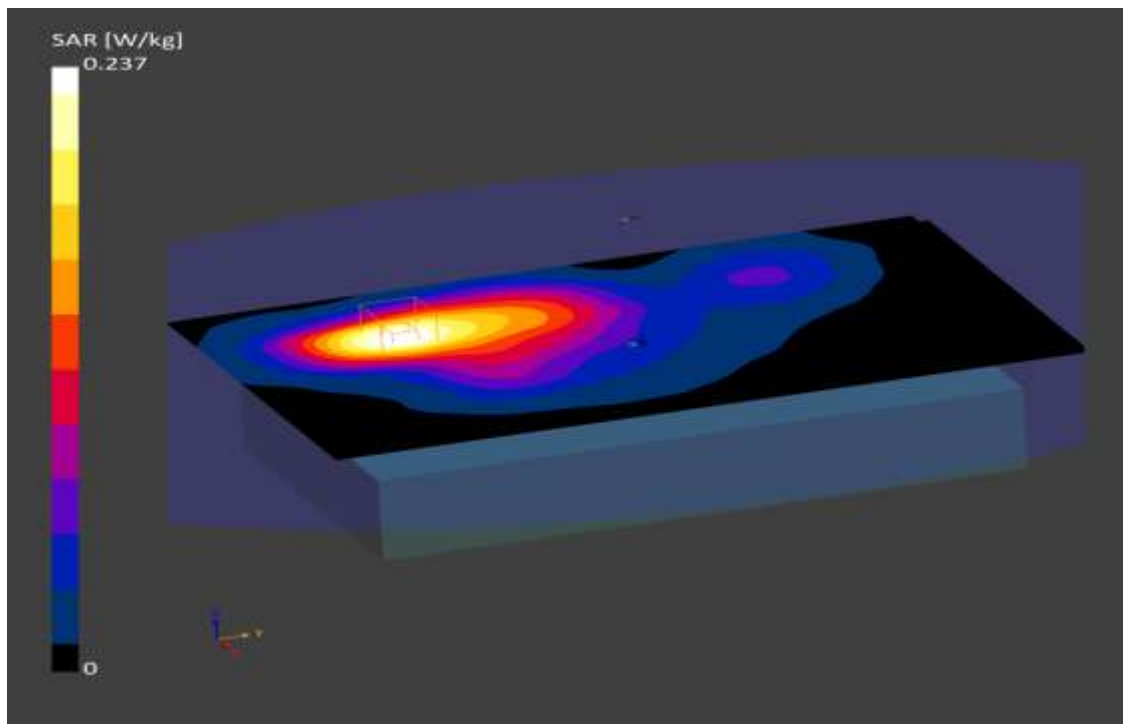
Power Drift = -0.03 dB

SAR(1 g) = 0.222 W/kg; SAR(10 g) = 0.142 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 85.3

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.1°C;

IEC/IEEE 62209-1528 LTE FDD 4**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (Mid); Communication System Band: Band 4;

Communication System Frequency: 1745.0 MHz

Medium parameters used: $f = 1745.0$ MHz, $\sigma = 1.35$ S/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.0, 8.29, 8.19); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 20300/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.229 W/kg; SAR(10 g) = 0.142 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 20300/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

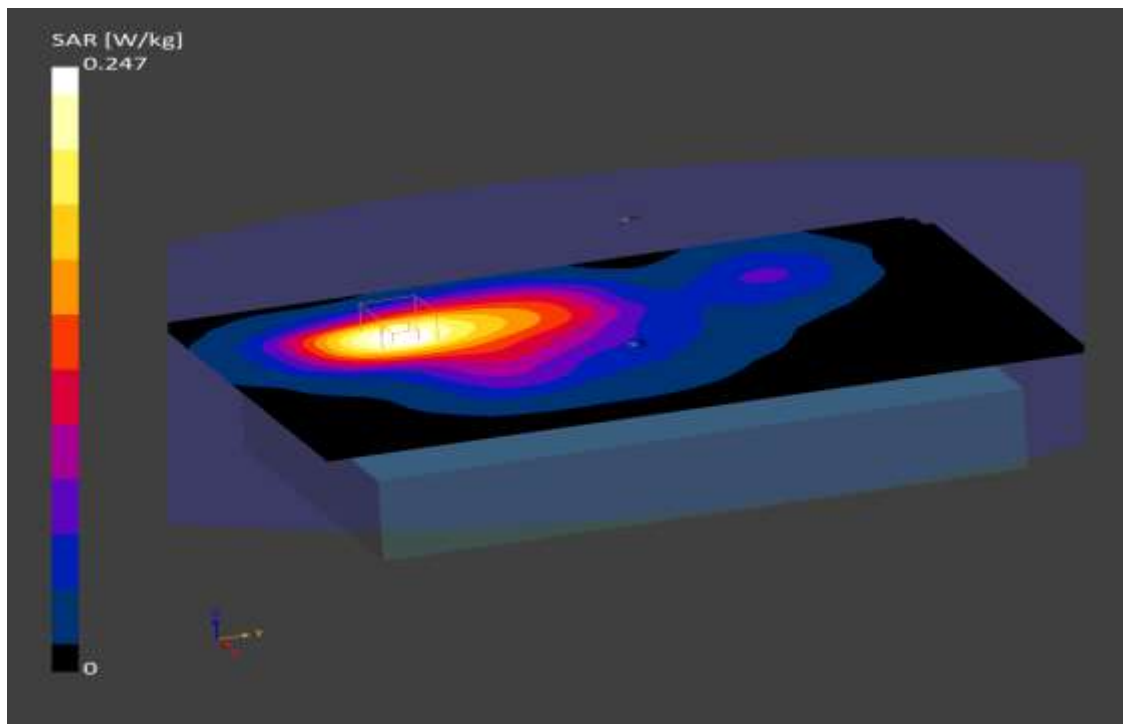
Power Drift = -0.01 dB

SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.147 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.2

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.1°C;

IEC/IEEE 62209-1528 LTE FDD 5**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 10.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 5;

Communication System Frequency: 836.5 MHz

Medium parameters used: $f = 836.5$ MHz, $\sigma = 0.952$ S/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.97, 9.29, 9.17); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE TOP, 20 mm - Channel 20525/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.303 W/kg; SAR(10 g) = 0.206 W/kg

HBBL-600-10000/EDGE TOP, 20 mm - Channel 20525/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

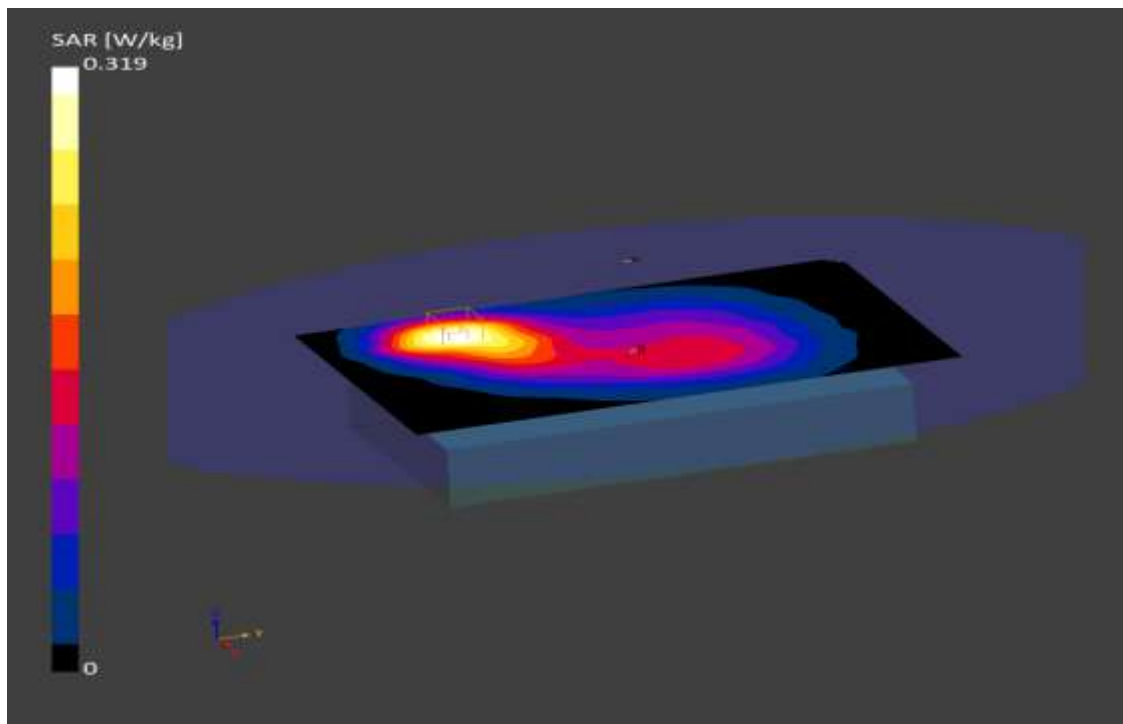
Power Drift = 0.00 dB

SAR(1 g) = 0.307 W/kg; SAR(10 g) = 0.205 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.3

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.8°C;

IEC/IEEE 62209-1528 LTE FDD 5**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 10.0 MHz, QPSK, 1 RB (Mid); Communication System Band: Band 5;

Communication System Frequency: 844.0 MHz

Medium parameters used: $f = 844.0$ MHz, $\sigma = 0.954$ S/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.97, 9.29, 9.17); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE TOP, 20 mm - Channel 20600/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.317 W/kg; SAR(10 g) = 0.215 W/kg

HBBL-600-10000/EDGE TOP, 20 mm - Channel 20600/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

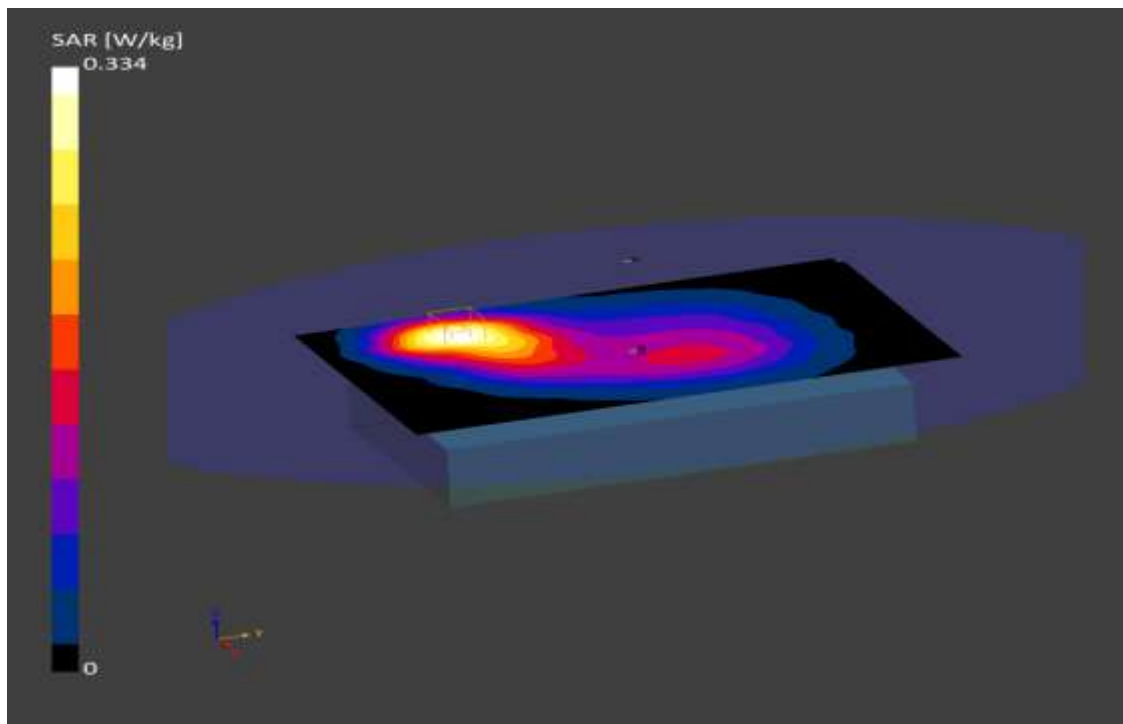
Power Drift = 0.01 dB

SAR(1 g) = 0.319 W/kg; SAR(10 g) = 0.214 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 87.0

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.8°C;

IEC/IEEE 62209-1528 LTE FDD 7**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 7;

Communication System Frequency: 2560.0 MHz

Medium parameters used: $f = 2560.0$ MHz, $\sigma = 1.92$ S/m; $\epsilon_r = 37.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.31, 7.57, 7.48); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 21350/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.261 W/kg; SAR(10 g) = 0.146 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 21350/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

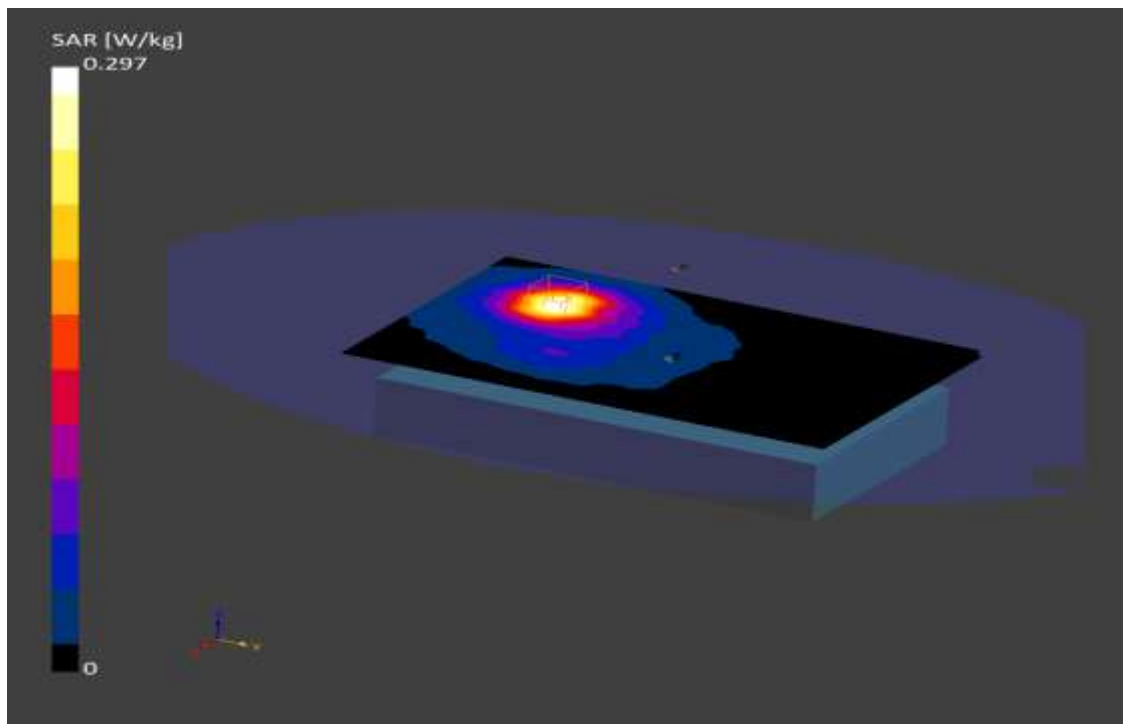
Power Drift = -0.03 dB

SAR(1 g) = 0.264 W/kg; SAR(10 g) = 0.149 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 82.7

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.9°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE FDD 12**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 10.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 12;

Communication System Frequency: 704.0 MHz

Medium parameters used: $f = 704.0$ MHz, $\sigma = 0.910$ S/m; $\epsilon_r = 41.0$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23060/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.154 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23060/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

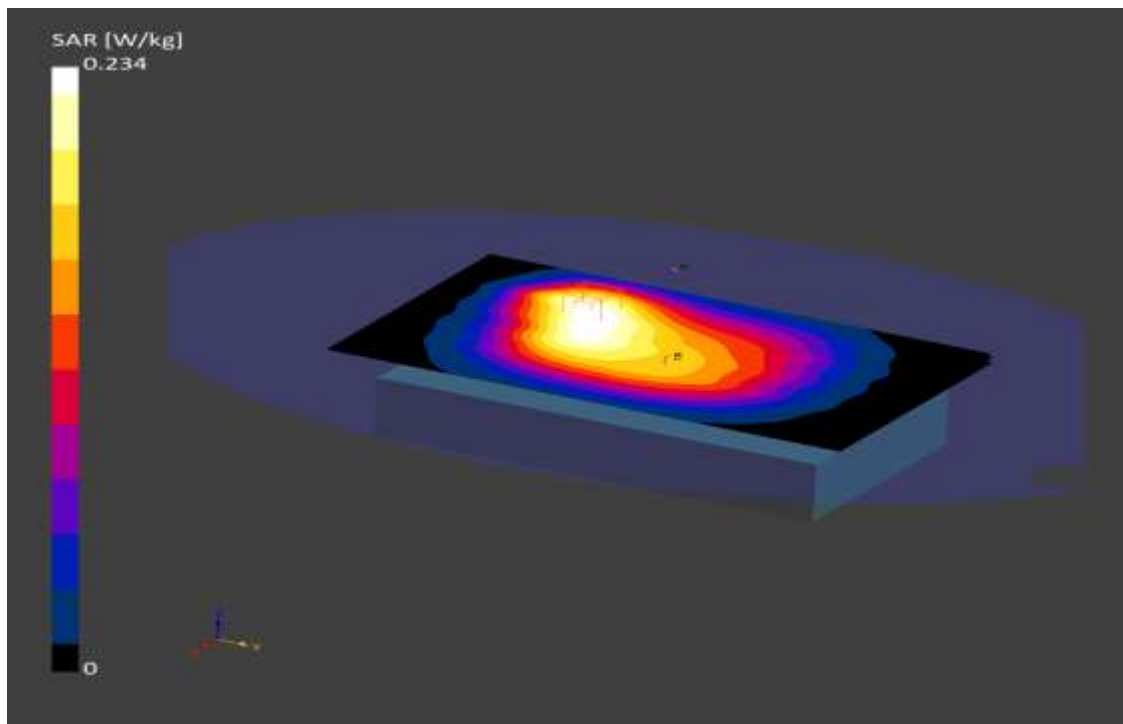
Power Drift = -0.01 dB

SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.158 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 87.9

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.1°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE FDD 13**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 5.0 MHz, QPSK, 1 RB (Mid); Communication System Band: Band 13;

Communication System Frequency: 779.5 MHz

Medium parameters used: $f = 779.5$ MHz, $\sigma = 0.933$ S/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23205/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.152 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23205/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

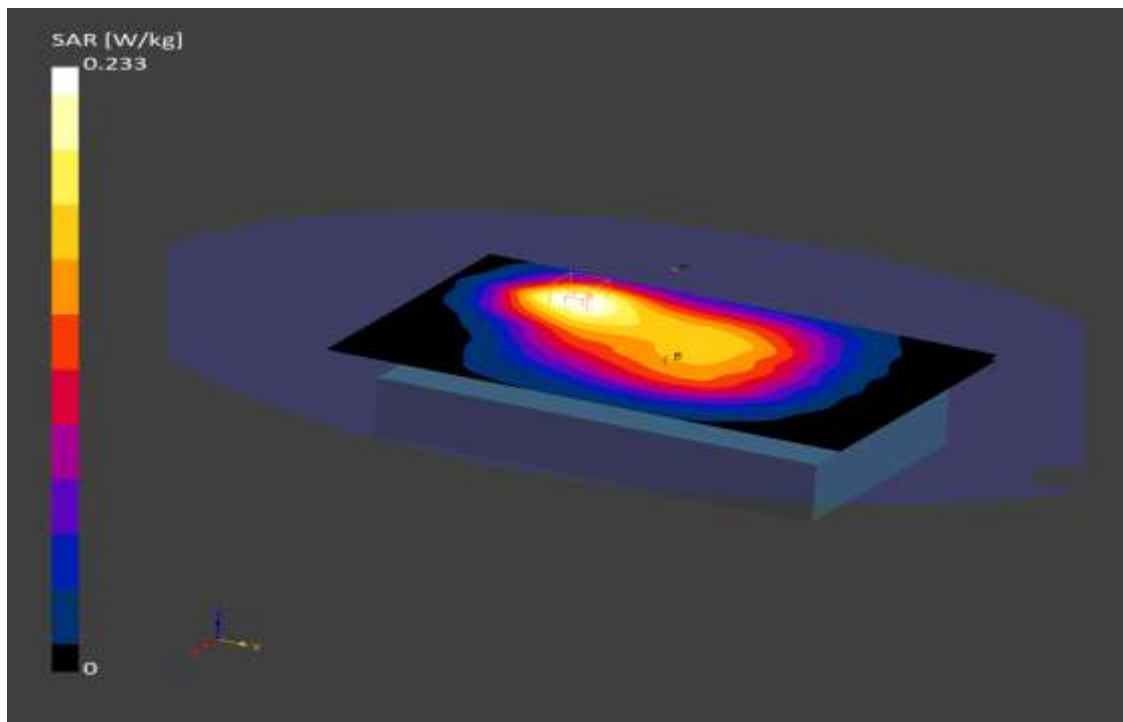
Power Drift = 0.01 dB

SAR(1 g) = 0.222 W/kg; SAR(10 g) = 0.153 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.9

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.1°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE FDD 14**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 5.0 MHz, QPSK, 1 RB (High); Communication System Band: Band 14;

Communication System Frequency: 795.5 MHz

Medium parameters used: $f = 795.5$ MHz, $\sigma = 0.938$ S/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23355/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.154 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23355/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

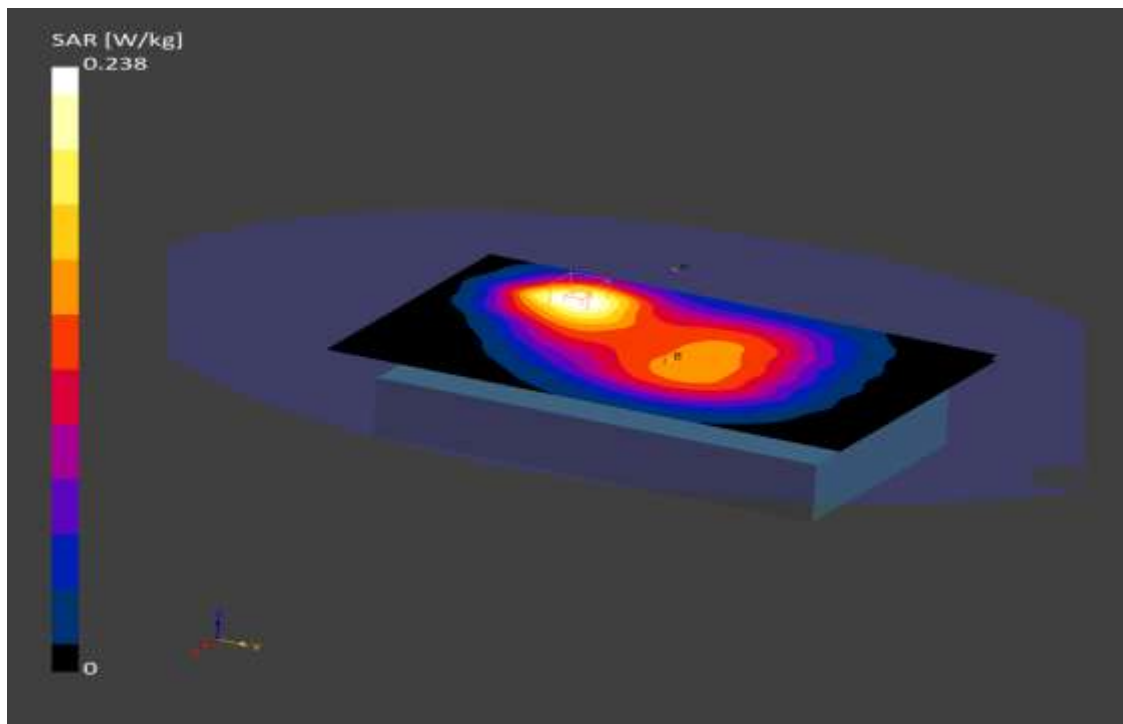
Power Drift = 0.01 dB

SAR(1 g) = 0.227 W/kg; SAR(10 g) = 0.153 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.2

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE FDD 17**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 10.0 MHz, QPSK, 1 RB (Mid); Communication System Band: Band 17;

Communication System Frequency: 709.0 MHz

Medium parameters used: $f = 709.0$ MHz, $\sigma = 0.912$ S/m; $\epsilon_r = 41.0$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23780/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.151 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23780/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

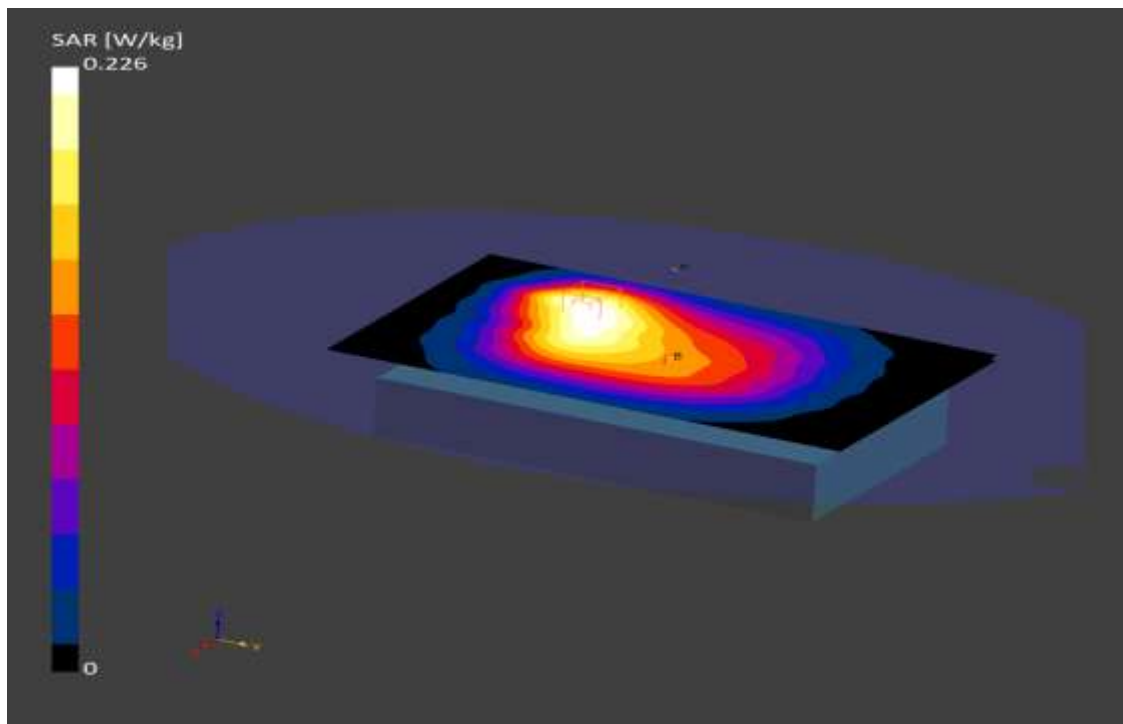
Power Drift = -0.00 dB

SAR(1 g) = 0.216 W/kg; SAR(10 g) = 0.152 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 87.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE FDD 17**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 10.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 17;

Communication System Frequency: 711.0 MHz

Medium parameters used: $f = 711.0$ MHz, $\sigma = 0.912$ S/m; $\epsilon_r = 41.0$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23800/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.215 W/kg; SAR(10 g) = 0.152 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23800/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

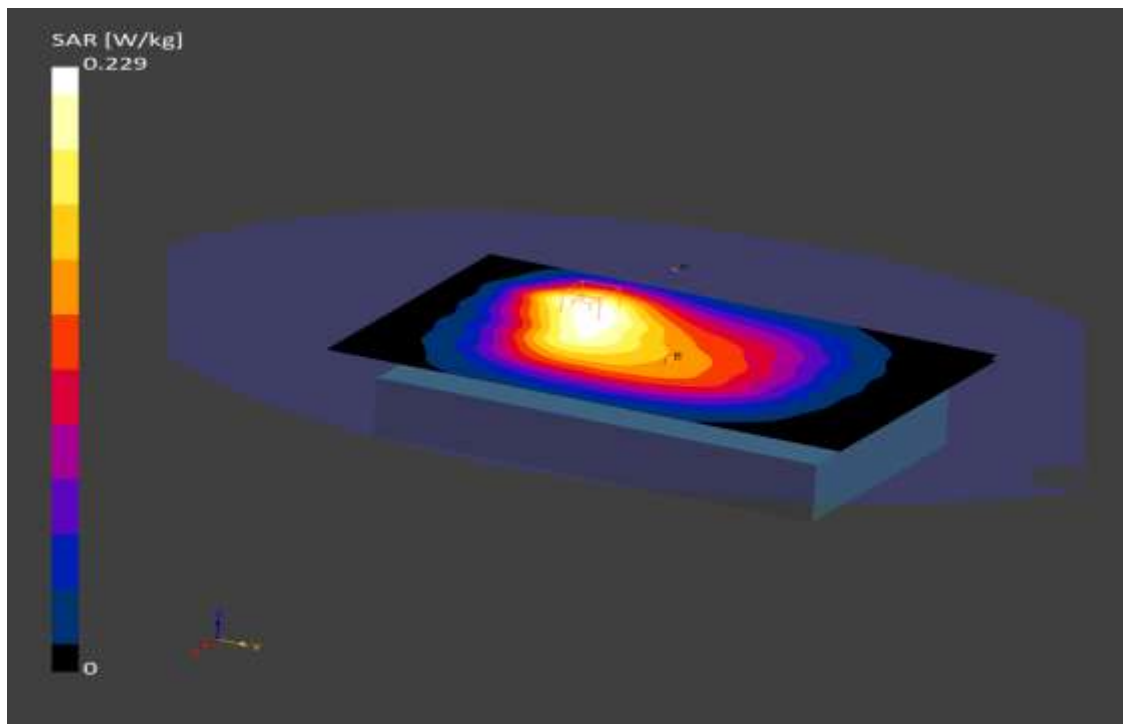
Power Drift = -0.00 dB

SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.153 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 87.0

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE FDD 25**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 25;

Communication System Frequency: 1905.0 MHz

Medium parameters used: $f = 1905.0$ MHz, $\sigma = 1.44$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.67, 7.94, 7.85); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 26590/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.383 W/kg; SAR(10 g) = 0.232 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 26590/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

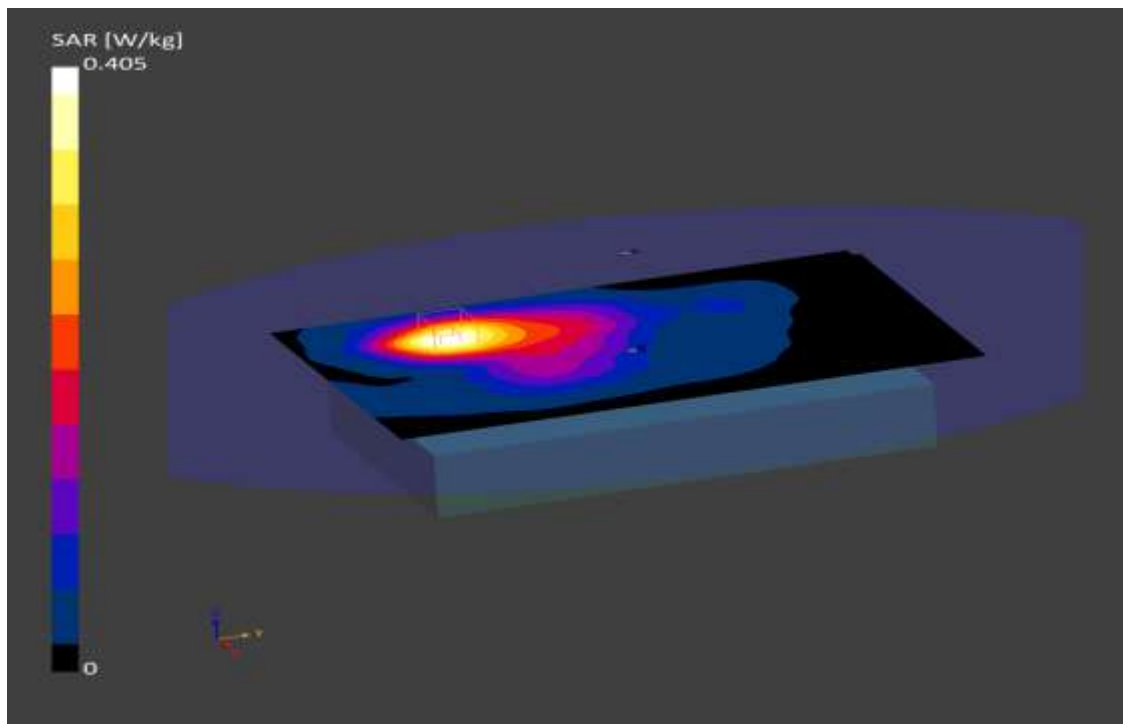
Power Drift = -0.00 dB

SAR(1 g) = 0.376 W/kg; SAR(10 g) = 0.234 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.1

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.5°C;

IEC/IEEE 62209-1528 LTE FDD 26**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 15.0 MHz, QPSK, 1 RB (High); Communication System Band: Band 26;

Communication System Frequency: 841.5 MHz

Medium parameters used: $f = 841.5$ MHz, $\sigma = 0.953$ S/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.97, 9.29, 9.17); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE TOP, 20 mm - Channel 26965/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.314 W/kg; SAR(10 g) = 0.213 W/kg

HBBL-600-10000/EDGE TOP, 20 mm - Channel 26965/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

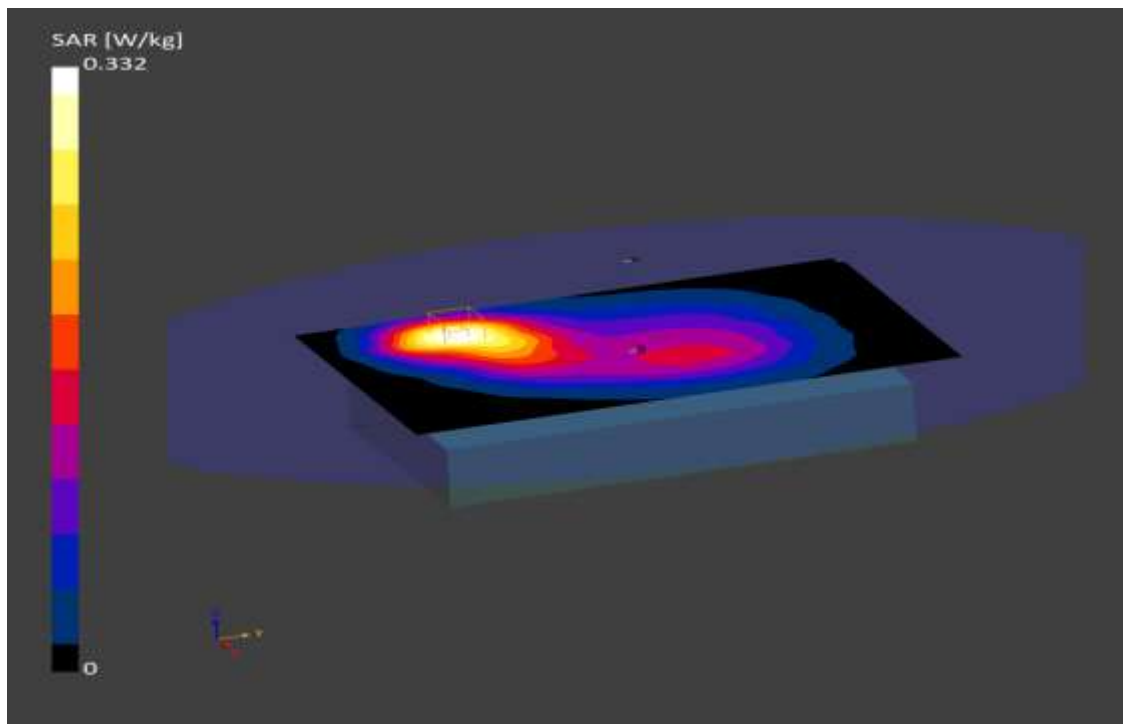
Power Drift = 0.01 dB

SAR(1 g) = 0.316 W/kg; SAR(10 g) = 0.213 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 88.0

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.8°C;

IEC/IEEE 62209-1528 LTE TDD 38**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-TDD: 20.0 MHz, QPSK, UL/DL CFG: 0, SSC: 7, 1 RB (Mid); Communication System Band: Band 38; Communication System Frequency: 2610.0 MHz

Medium parameters used: $f = 2610.0$ MHz, $\sigma = 1.96$ S/m; $\epsilon_r = 37.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.31, 7.57, 7.48); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 38150/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.073 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 38150/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

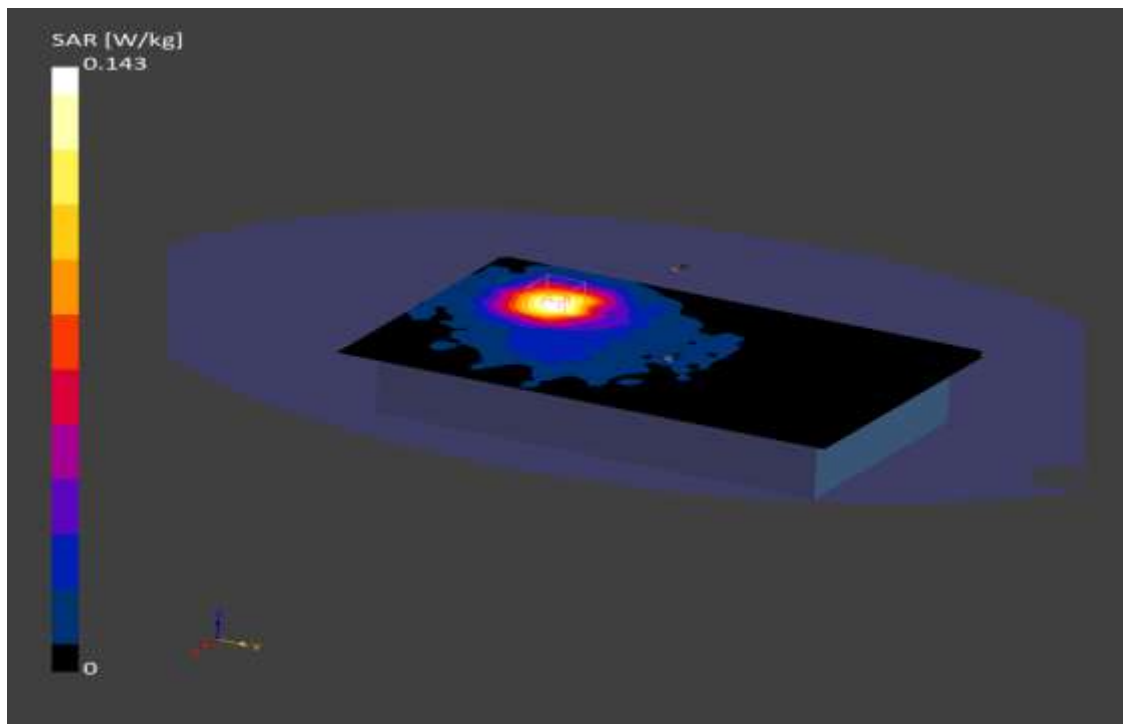
Power Drift = 0.01 dB

SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.073 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 81.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE TDD 41**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-TDD: 20.0 MHz, QPSK, UL/DL CFG: 0, SSC: 7, 1 RB (Low); Communication System Band: Band 41; Communication System Frequency: 2680.0 MHz

Medium parameters used: $f = 2680.0$ MHz, $\sigma = 2.01$ S/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.31, 7.57, 7.48); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 41490/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.143 W/kg; SAR(10 g) = 0.079 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 41490/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

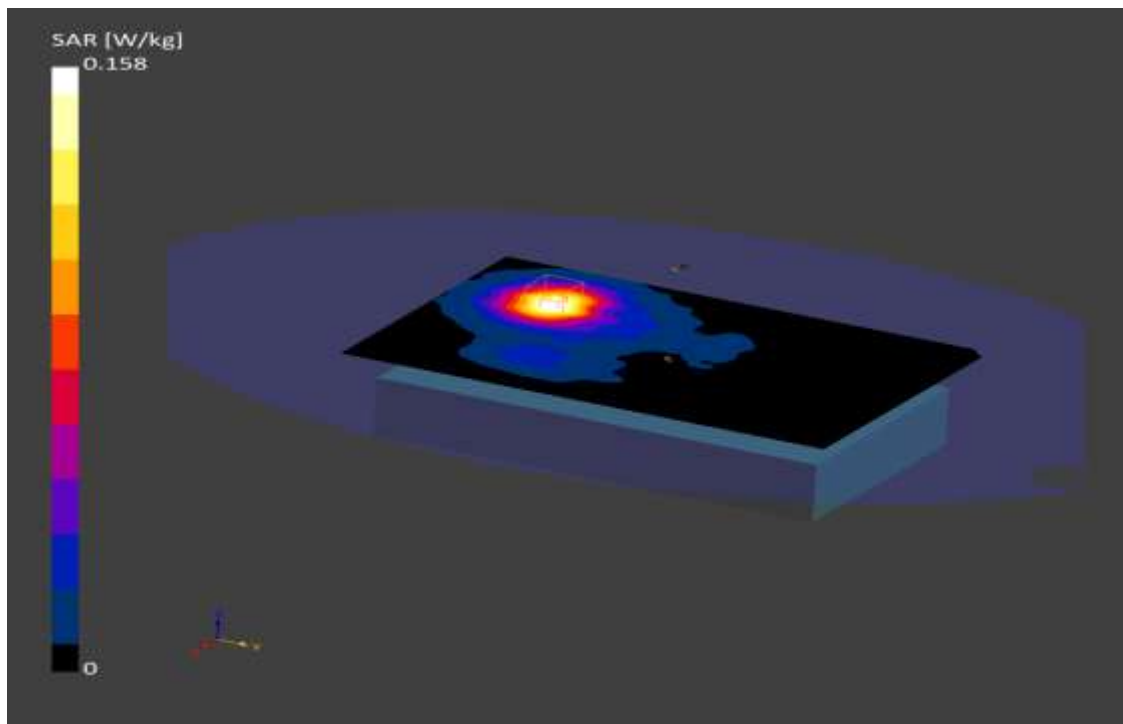
Power Drift = 0.04 dB

SAR(1 g) = 0.143 W/kg; SAR(10 g) = 0.079 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 81.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.9°C; liquid temperature: 22.0°C;

IEC/IEEE 62209-1528 LTE TDD 42**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-TDD: 20.0 MHz, QPSK, UL/DL CFG: 0, SSC: 7, 1 RB (Mid); Communication System Band: Band 42; Communication System Frequency: 3590.0 MHz

Medium parameters used: $f = 3590.0$ MHz, $\sigma = 2.81$ S/m; $\epsilon_r = 37.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.71, 6.95, 6.87); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 43490/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.245 W/kg; SAR(10 g) = 0.120 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 43490/Zoom Scan (5.0 x 5.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

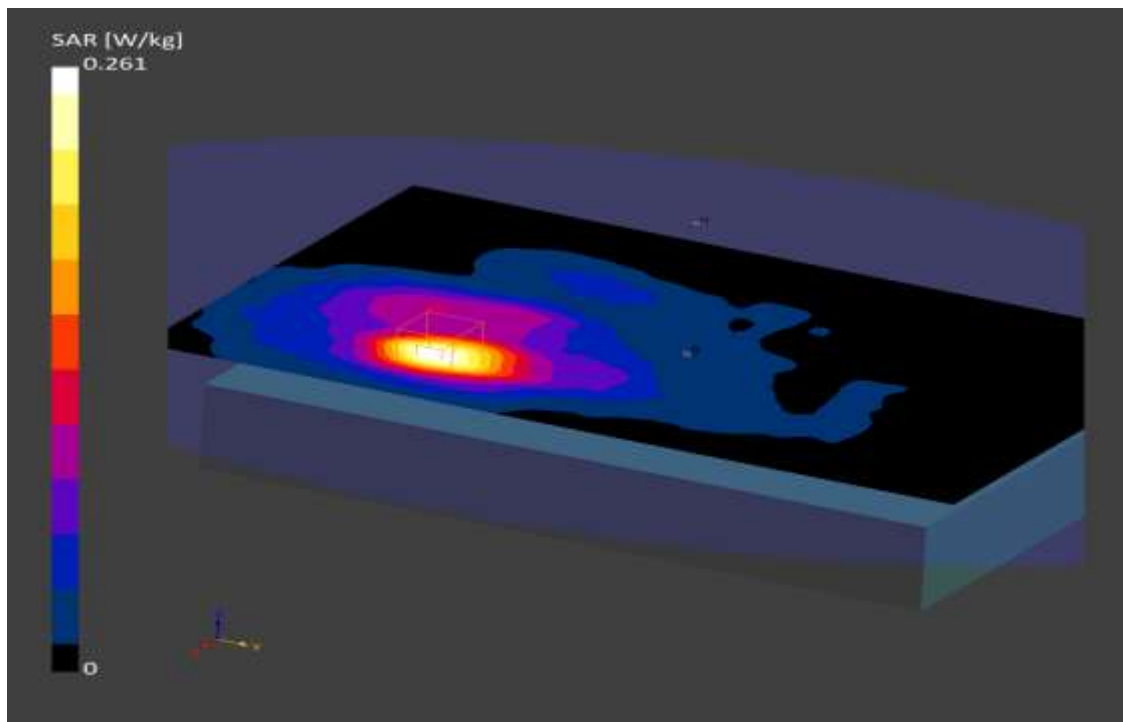
Power Drift = 0.01 dB

SAR(1 g) = 0.246 W/kg; SAR(10 g) = 0.120 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 19.3

M2/M1 [%]: 76.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.6°C;

IEEE 1528 LTE TDD 43

DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791

Communication System: LTE-TDD: 20.0 MHz, QPSK, UL/DL CFG: 0, SSC: 7, 1 RB (Low); Communication System Band: Band 43; Communication System Frequency: 3610.0 MHz

Medium parameters used: $f = 3610.0$ MHz, $\sigma = 2.82$ S/m; $\epsilon_r = 37.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.77, 7.01, 6.93); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 43690/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.223 W/kg; SAR(10 g) = 0.110 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 43690/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

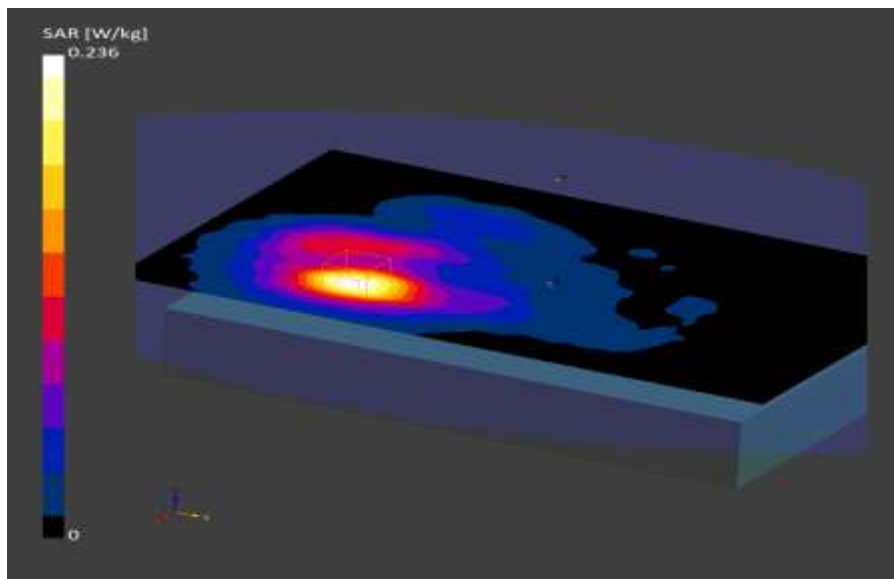
Power Drift = -0.02 dB

SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.111 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 14.0

M2/M1 [%]: 76.5



Additional information:

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.6°C;

IEC/IEEE 62209-1528 LTE TDD 48**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-TDD: 20.0 MHz, QPSK, UL/DL CFG: 0, SSC: 7, 1 RB (High); Communication System Band: Band 48; Communication System Frequency: 3560.0 MHz

Medium parameters used: $f = 3560.0$ MHz, $\sigma = 2.78$ S/m; $\epsilon_r = 37.9$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.71, 6.95, 6.87); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 55340/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.115 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 55340/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

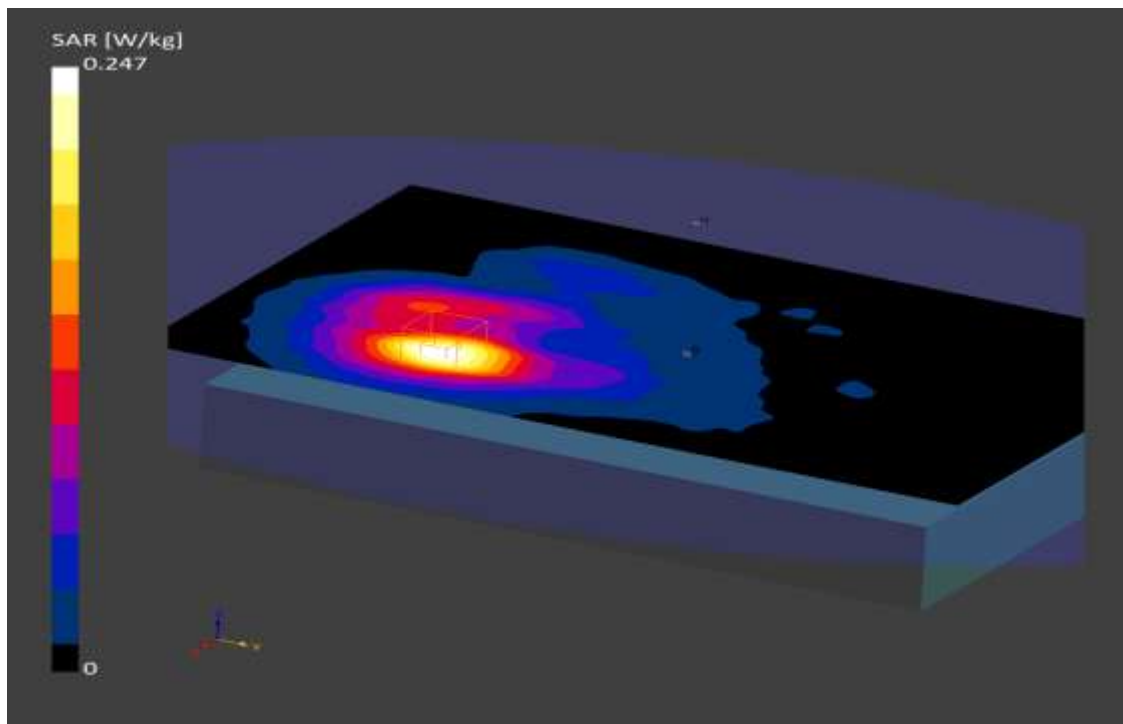
Power Drift = -0.04 dB

SAR(1 g) = 0.232 W/kg; SAR(10 g) = 0.115 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 14.0

M2/M1 [%]: 75.9

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 21.6°C;

IEC/IEEE 62209-1528 LTE FDD 66**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 66;

Communication System Frequency: 1770.0 MHz

Medium parameters used: $f = 1770.0$ MHz, $\sigma = 1.36$ S/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(8.0, 8.29, 8.19); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 132572/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.171 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 132572/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

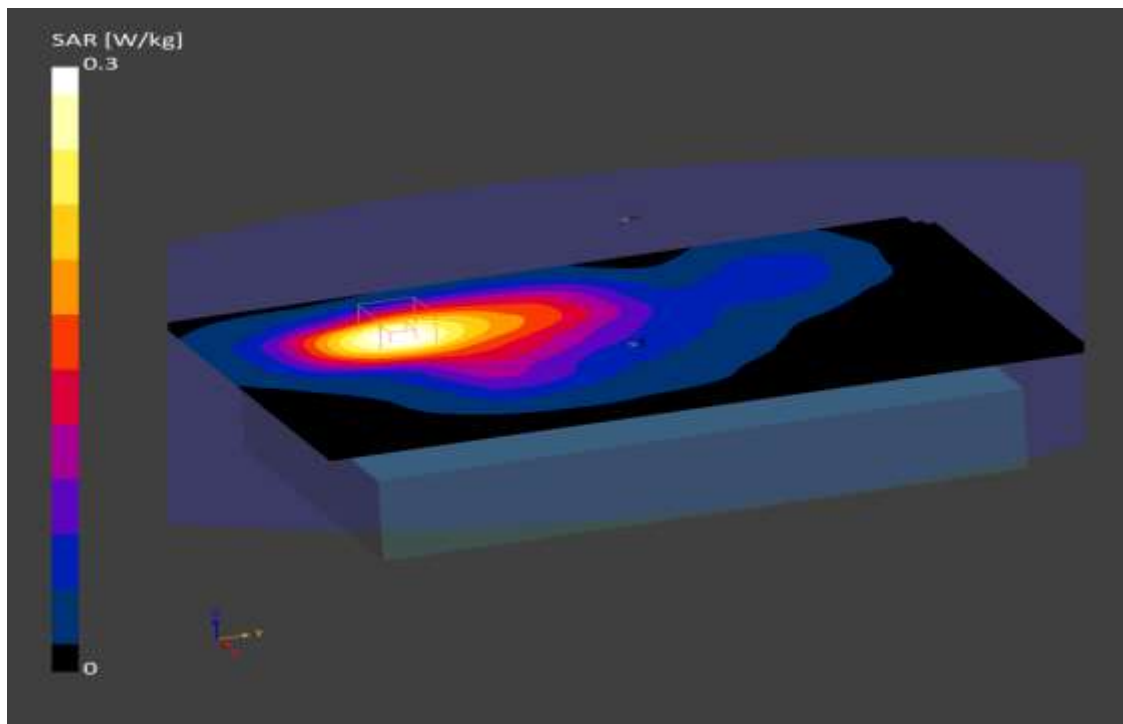
Power Drift = -0.03 dB

SAR(1 g) = 0.284 W/kg; SAR(10 g) = 0.181 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 86.8

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.7°C; liquid temperature: 22.1°C;

IEC/IEEE 62209-1528 LTE FDD 71**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: LTE-FDD: 20.0 MHz, QPSK, 1 RB (Low); Communication System Band: Band 71;

Communication System Frequency: 680.5 MHz

Medium parameters used: $f = 680.5$ MHz, $\sigma = 0.903$ S/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.46, 9.79, 9.67); Calibrated: 2025-05-16
- Sensor-Surface: 1.4mm
- DAE: DAE4 Sn477; Calibrated: 2025-05-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 133297/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.232 W/kg; SAR(10 g) = 0.166 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 133297/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

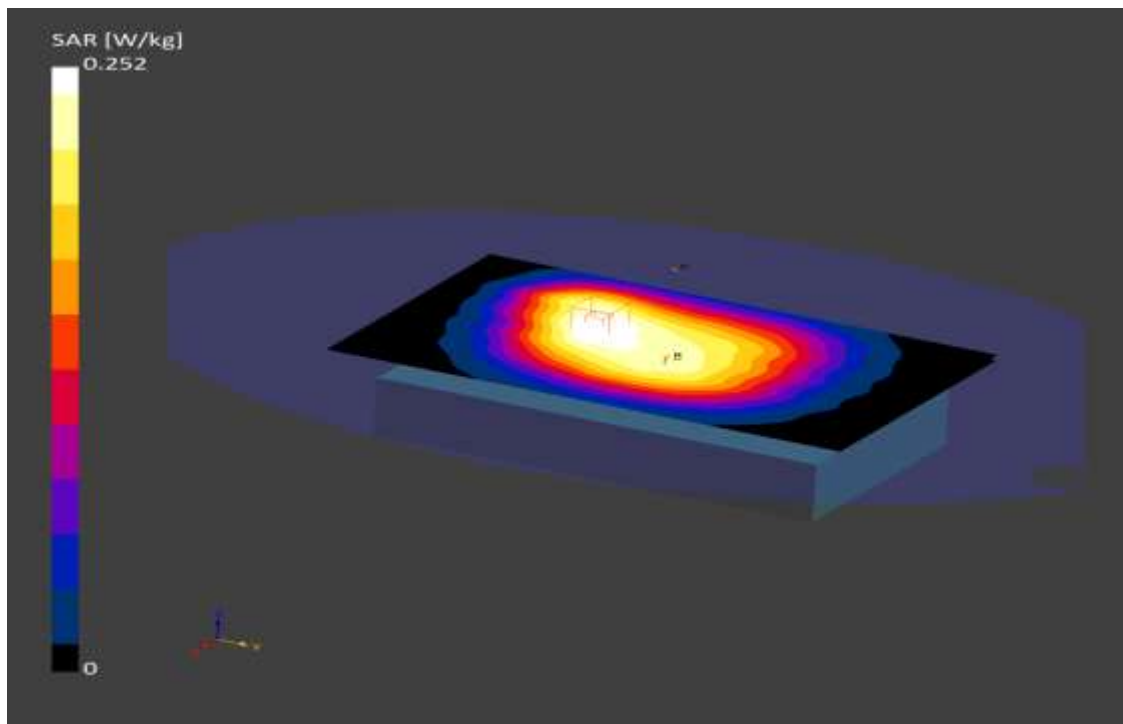
Power Drift = 0.00 dB

SAR(1 g) = 0.238 W/kg; SAR(10 g) = 0.180 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 89.0

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 23.1°C; liquid temperature: 22.0°C;

Annex B.3: SAR results – NR

Date/Time: 2026-05-20, 16:36 2026-05-20, 16:42

IEC/IEEE 62209-1528 5G FDD n2 Module 1

DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791

Communication System: NR FR1 FDD: DFT-s-OFDM, 20.0 MHz, QPSK, 15 kHz, 1 RB (High); Communication

System Band: n2; Communication System Frequency: 1880.0 MHz

Medium parameters used: $f = 1880.0$ MHz, $\sigma = 1.44$ S/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.86, 8.41, 8.15); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 376000/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.473 W/kg; SAR(10 g) = 0.284 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 376000/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

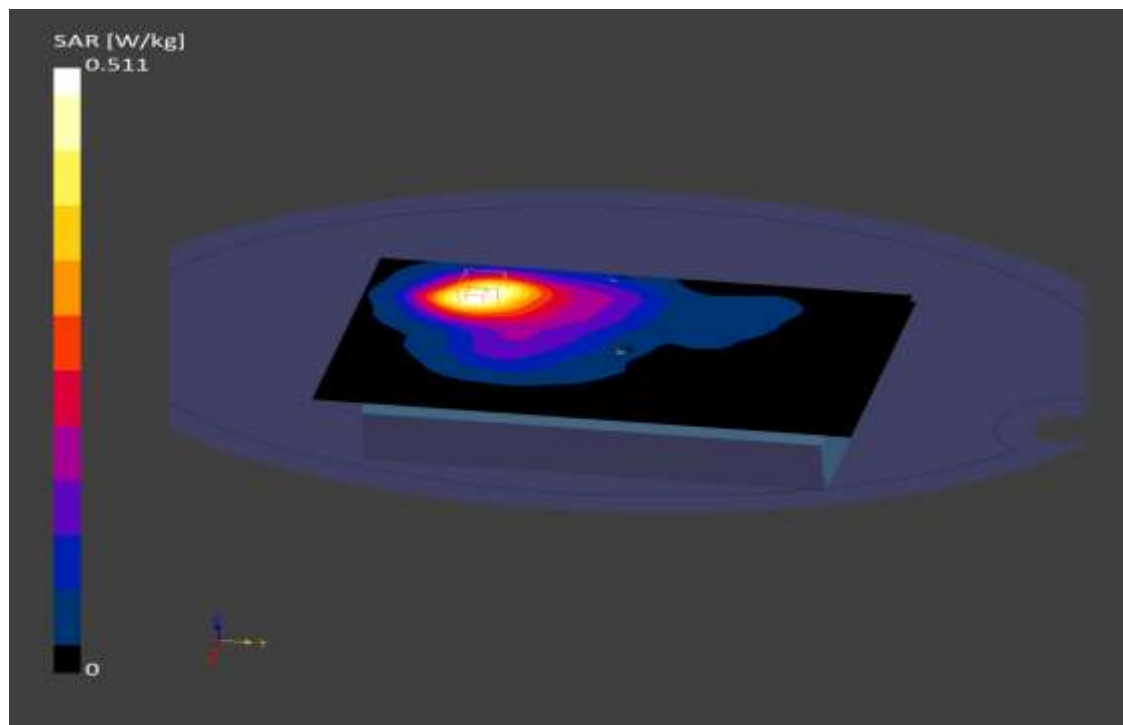
Power Drift = -0.13 dB

SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.302 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 8.5

M2/M1 [%]: 85.6



Additional information:

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

IEC/IEEE 62209-1528 5G FDD n2 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 20.0 MHz, QPSK, 15 kHz, 1 RB (Low); Communication System Band: n2; Communication System Frequency: 1900.0 MHz

Medium parameters used: $f = 1900.0$ MHz, $\sigma = 1.45$ S/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.86, 8.41, 8.15); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 380000/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.480 W/kg; SAR(10 g) = 0.288 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 380000/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

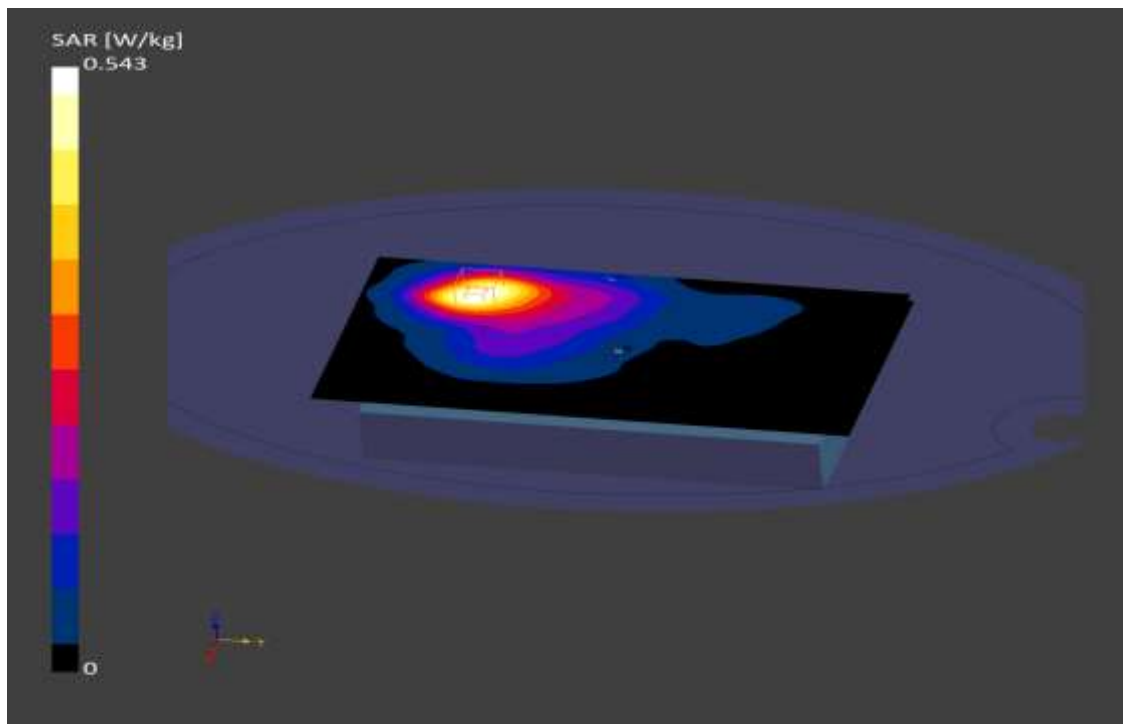
Power Drift = -0.17 dB

SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.271 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 4.8

M2/M1 [%]: 85.3

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 10:17 2026-05-21, 10:23

IEC/IEEE 62209-1528 5G FDD n5 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 20.0 MHz, QPSK, 15 kHz, 1 RB (Low); Communication System Band: n5; Communication System Frequency: 836.5 MHz

Medium parameters used: $f = 836.5$ MHz, $\sigma = 0.931$ S/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.08, 9.72, 9.41); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 167300/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.225 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 167300/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

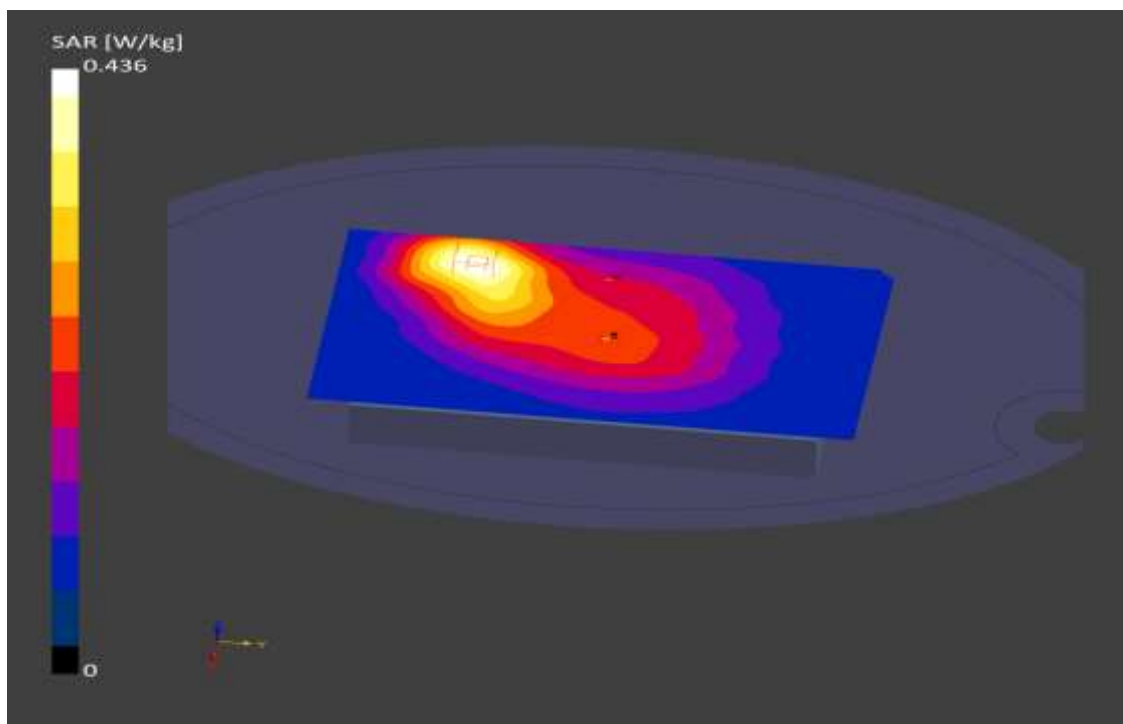
Power Drift = 0.09 dB

SAR(1 g) = 0.344 W/kg; SAR(10 g) = 0.225 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 7.8

M2/M1 [%]: 82.8

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-22, 10:09 2026-05-22, 10:16

IEC/IEEE 62209-1528 5G FDD n7 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 40.0 MHz, QPSK, 15 kHz, 1 RB (High); Communication System Band: n7; Communication System Frequency: 2535.0 MHz

Medium parameters used: $f = 2535.0$ MHz, $\sigma = 1.92$ S/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.34, 7.86, 7.61); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 507000/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.174 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 507000/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

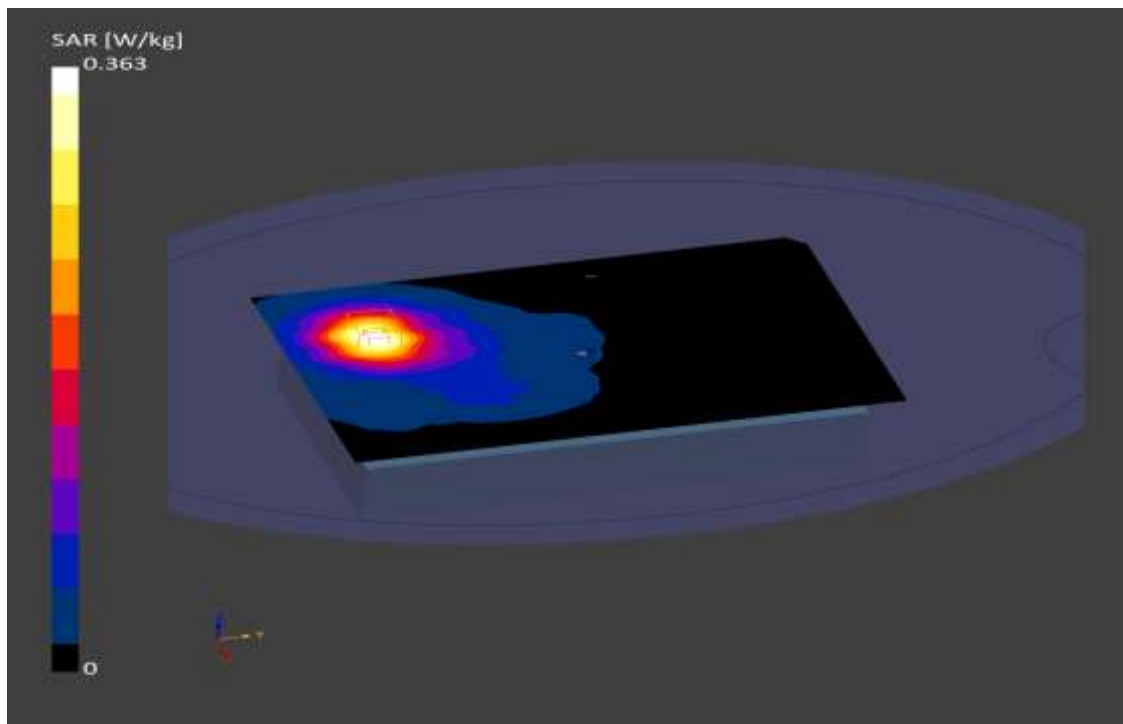
Power Drift = 0.03 dB

SAR(1 g) = 0.317 W/kg; SAR(10 g) = 0.175 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 6.2

M2/M1 [%]: 82.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 11:12 2026-05-21, 11:34

IEC/IEEE 62209-1528 5G FDD n12 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 15.0 MHz, QPSK, 15 kHz, 1 RB (Low); Communication System Band: n12; Communication System Frequency: 707.5 MHz

Medium parameters used: $f = 707.5$ MHz, $\sigma = 0.888$ S/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.54, 10.22, 9.89); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 141500/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.301 W/kg; SAR(10 g) = 0.205 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 141500/Zoom Scan (3.0 x 3.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

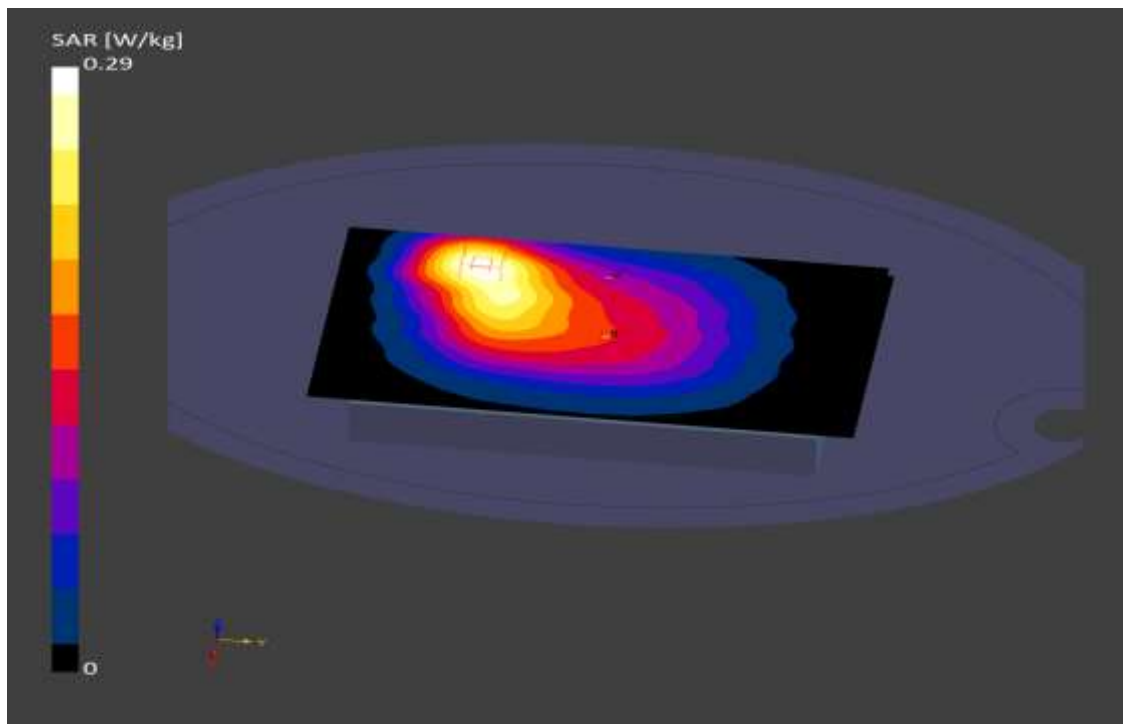
Power Drift = 0.10 dB

SAR(1 g) = 0.279 W/kg; SAR(10 g) = 0.186 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 4.4

M2/M1 [%]: 84.9

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 12:51 2026-05-21, 13:09

IEC/IEEE 62209-1528 5G FDD n13 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 5.0 MHz, QPSK, 15 kHz, 1 RB (Low); Communication System Band: n13; Communication System Frequency: 782.0 MHz

Medium parameters used: $f = 782.0$ MHz, $\sigma = 0.912$ S/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.54, 10.22, 9.89); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 156400/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.281 W/kg; SAR(10 g) = 0.192 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 156400/Zoom Scan (3.0 x 3.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

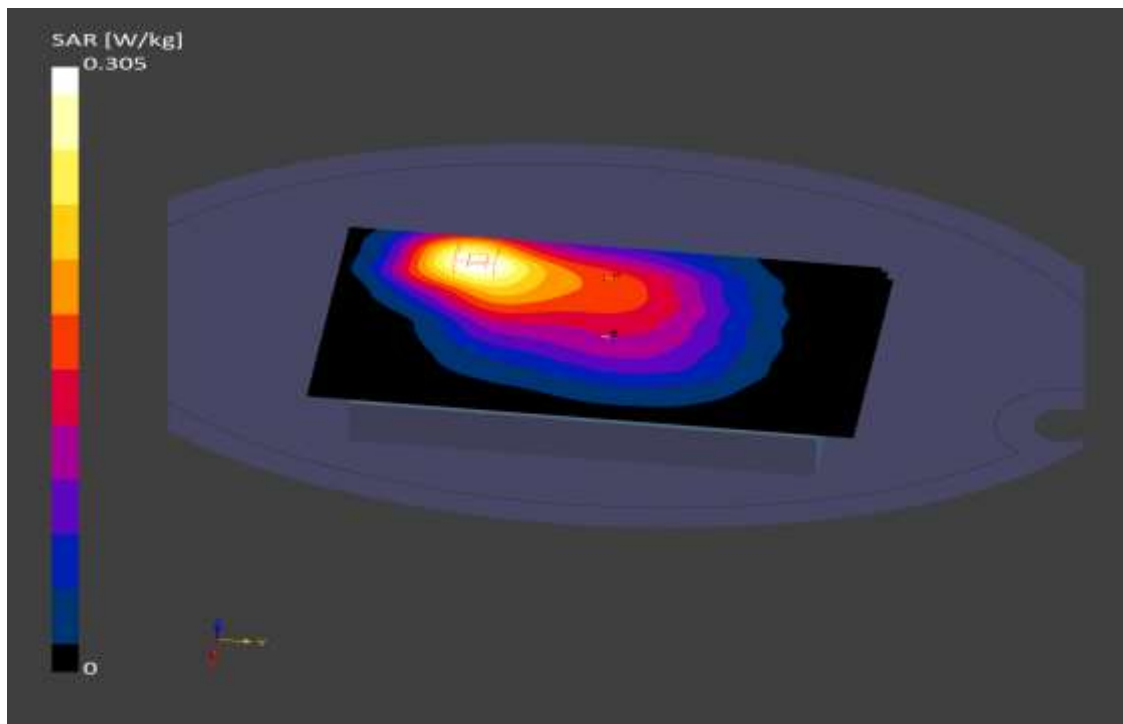
Power Drift = 0.08 dB

SAR(1 g) = 0.287 W/kg; SAR(10 g) = 0.188 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 6.8

M2/M1 [%]: 85.3

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 12:07 2026-05-21, 12:14

IEC/IEEE 62209-1528 5G FDD n13 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 5.0 MHz, QPSK, 15 kHz, 1 RB (Low); Communication System Band: n13; Communication System Frequency: 784.5 MHz

Medium parameters used: $f = 784.5$ MHz, $\sigma = 0.912$ S/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.54, 10.22, 9.89); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 156900/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.305 W/kg; SAR(10 g) = 0.210 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 156900/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

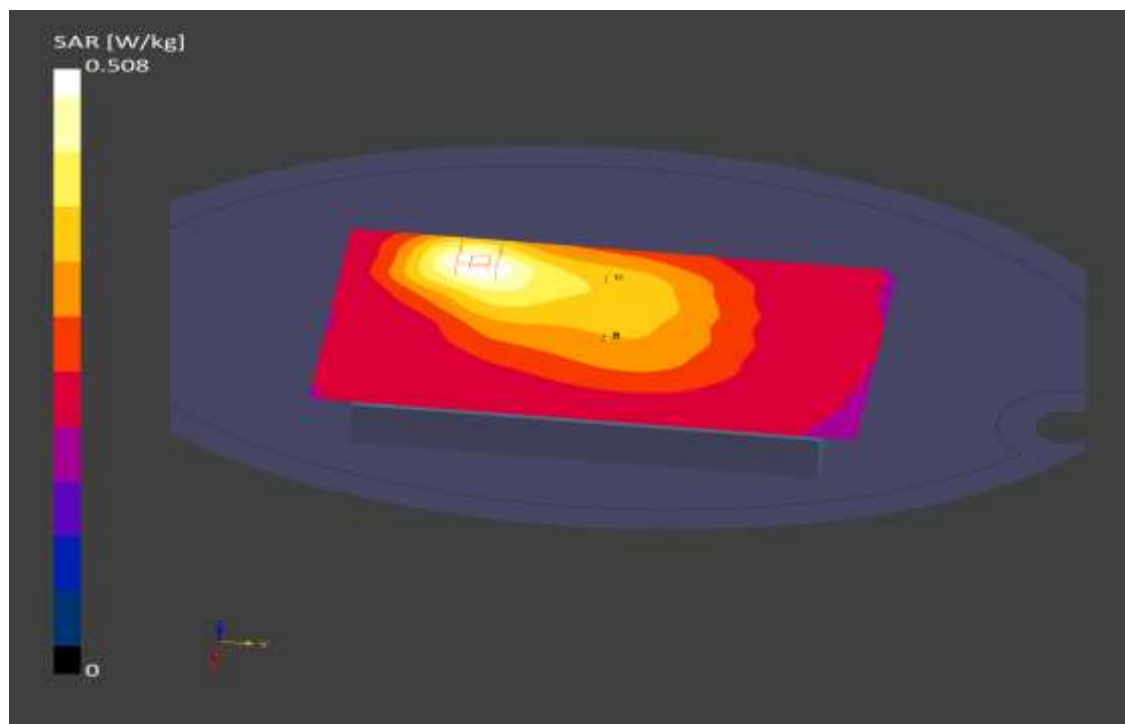
Power Drift = 0.03 dB

SAR(1 g) = 0.275 W/kg; SAR(10 g) = 0.183 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 6.8

M2/M1 [%]: 85.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 14:02 2026-05-21, 14:18

IEC/IEEE 62209-1528 5G FDD n14 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 5.0 MHz, QPSK, 15 kHz, 1 RB (Low); Communication System Band: n14; Communication System Frequency: 795.5 MHz

Medium parameters used: $f = 795.5$ MHz, $\sigma = 0.916$ S/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.54, 10.22, 9.89); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 159100/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.294 W/kg; SAR(10 g) = 0.201 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 159100/Zoom Scan (3.0 x 3.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

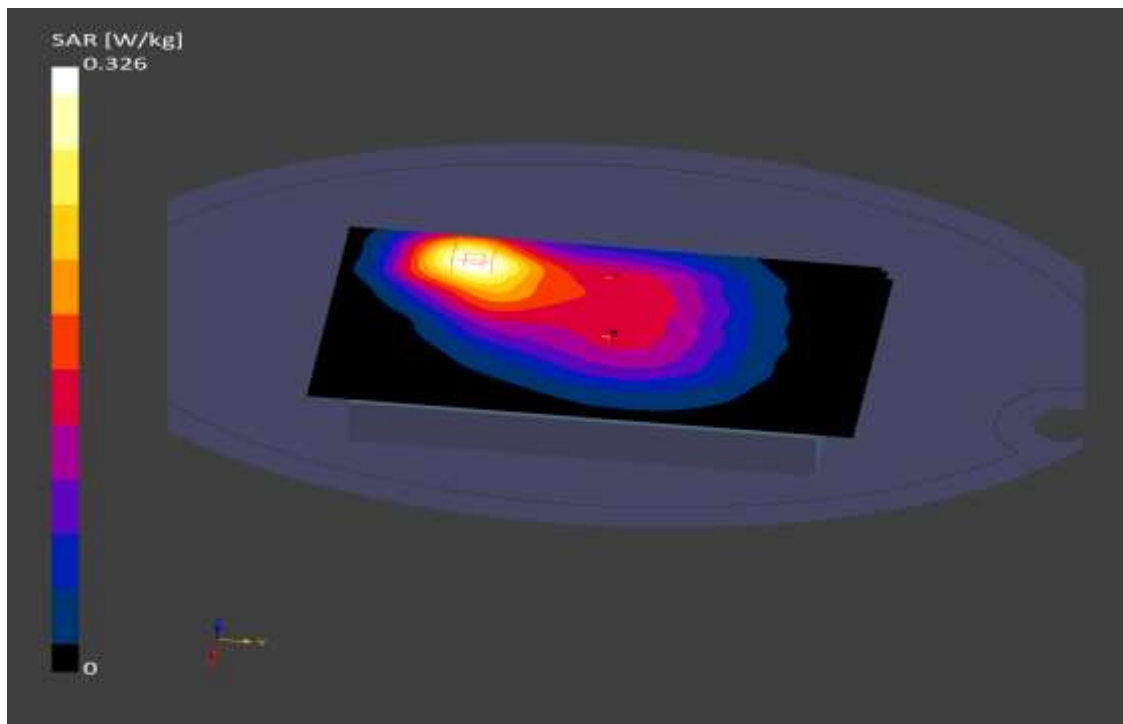
Power Drift = -0.13 dB

SAR(1 g) = 0.308 W/kg; SAR(10 g) = 0.203 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 3.2

M2/M1 [%]: 85.6

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-20, 17:51 2026-05-20, 17:56

IEC/IEEE 62209-1528 5G FDD n25 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 40.0 MHz, QPSK, 15 kHz, 1 RB (High); Communication System Band: n25; Communication System Frequency: 1870.0 MHz

Medium parameters used: $f = 1870.0$ MHz, $\sigma = 1.43$ S/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.86, 8.41, 8.15); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 374000/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.524 W/kg; SAR(10 g) = 0.315 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 374000/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

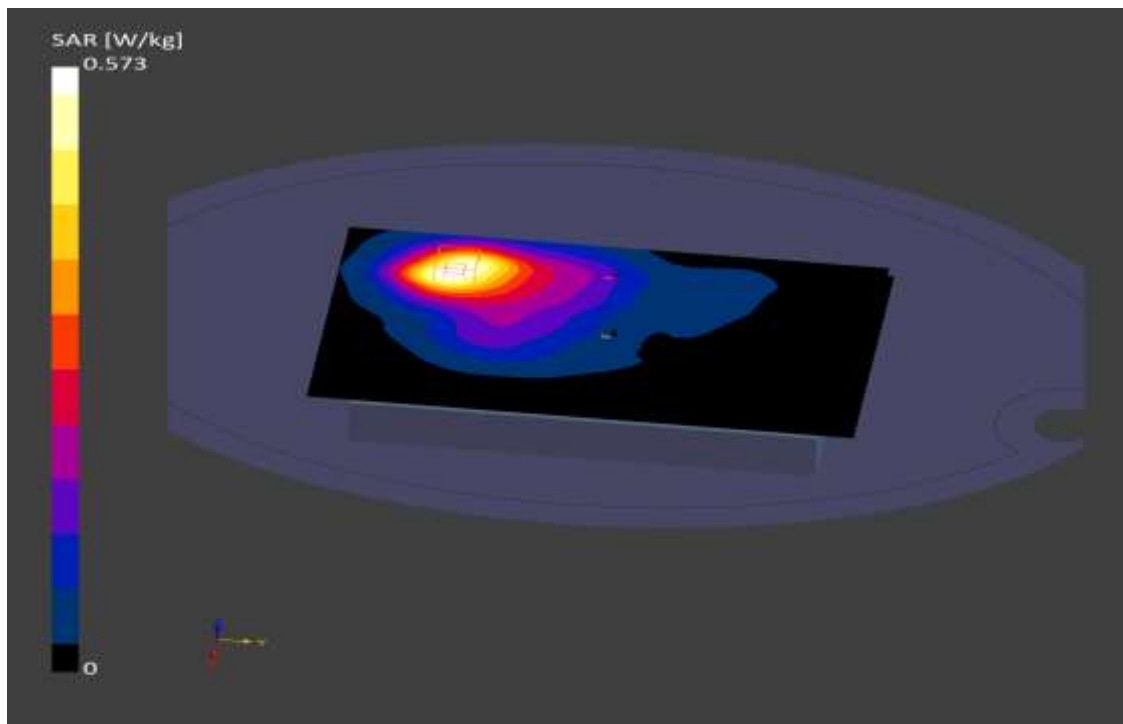
Power Drift = 0.02 dB

SAR(1 g) = 0.547 W/kg; SAR(10 g) = 0.331 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 4.8

M2/M1 [%]: 85.2

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 09:17 2026-05-21, 09:22

IEC/IEEE 62209-1528 5G FDD n26 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 20.0 MHz, QPSK, 15 kHz, 1 RB (High); Communication System Band: n26; Communication System Frequency: 839.0 MHz

Medium parameters used: $f = 839.0$ MHz, $\sigma = 0.932$ S/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(9.08, 9.72, 9.41); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 167800/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.381 W/kg; SAR(10 g) = 0.257 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 167800/Zoom Scan (6.0 x 6.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

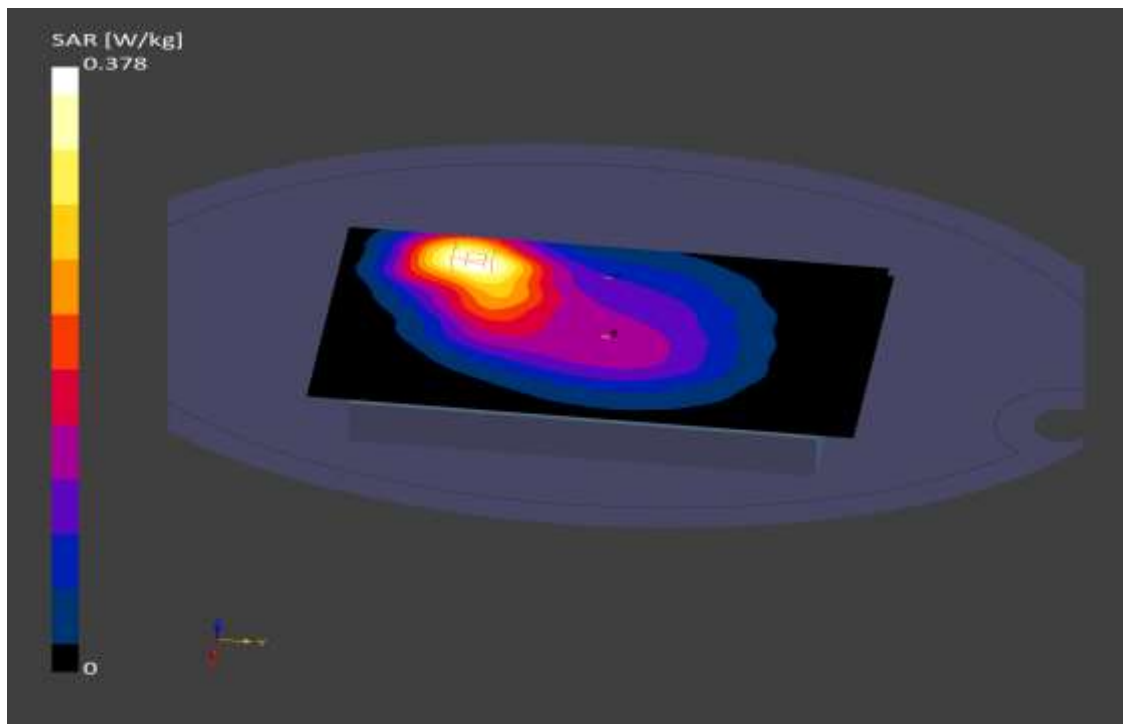
Power Drift = 0.05 dB

SAR(1 g) = 0.369 W/kg; SAR(10 g) = 0.247 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 14.6

M2/M1 [%]: 85.1

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-22, 11:53 2026-05-22, 12:08

IEC/IEEE 62209-1528 5G TDD n38 Module 1 SISO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 TDD: DFT-s-OFDM, 40.0 MHz, QPSK, 30 kHz, 100.0% DC, 1 RB (High);

Communication System Band: n38; Communication System Frequency: 2590.0 MHz

Medium parameters used: $f = 2590.0$ MHz, $\sigma = 1.97$ S/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.34, 7.86, 7.61); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 518000/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.065 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 518000/Zoom Scan (3.0 x 3.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

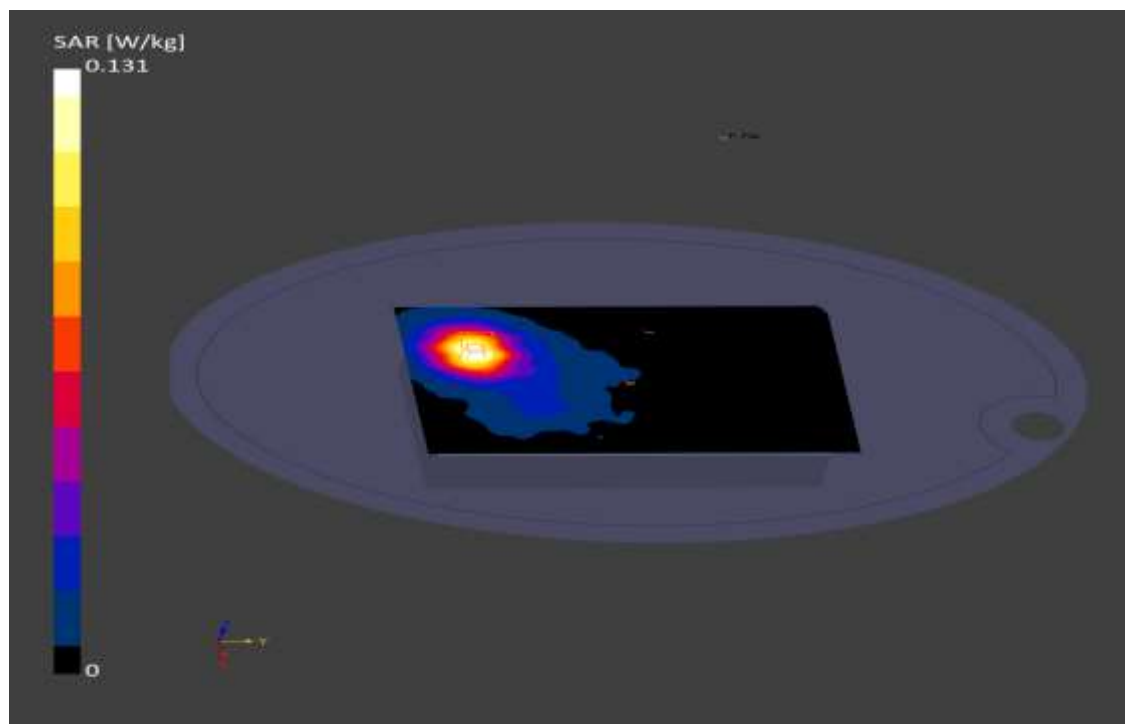
Power Drift = 0.03 dB

SAR(1 g) = 0.119 W/kg; SAR(10 g) = 0.064 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 3.4

M2/M1 [%]: 82.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-22, 11:05 2026-05-22, 11:15

IEC/IEEE 62209-1528 5G TDD n41 Module 1 SISO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 TDD: DFT-s-OFDM, 30.0 MHz, QPSK, 30 kHz, 100.0% DC, 1 RB (High);

Communication System Band: n41; Communication System Frequency: 2675.0 MHz

Medium parameters used: $f = 2675.0$ MHz, $\sigma = 2.03$ S/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.34, 7.86, 7.61); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 534996/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.063 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 534996/Zoom Scan (3.75 x 3.75 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

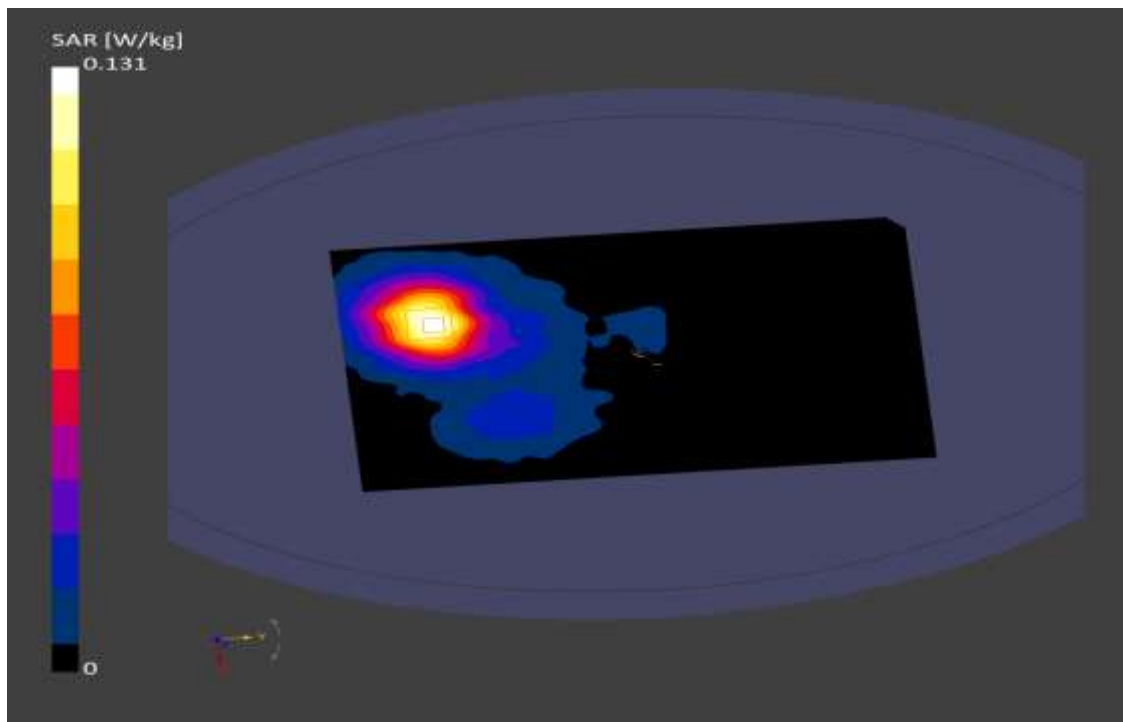
Power Drift = -0.03 dB

SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.065 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 4.1

M2/M1 [%]: 81.8

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-26, 15:45 2026-05-26, 16:00

IEC/IEEE 62209-1528 5G TDD n48 Module 1 SISO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 TDD: DFT-s-OFDM, 40.0 MHz, QPSK, 30 kHz, 100.0% DC, 1 RB (Low);

Communication System Band: n48; Communication System Frequency: 3570.0 MHz

Medium parameters used: $f = 3570.0$ MHz, $\sigma = 2.74$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.72, 7.19, 6.96); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 638000/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.077 W/kg; SAR(10 g) = 0.039 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 638000/Zoom Scan (3.0 x 3.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

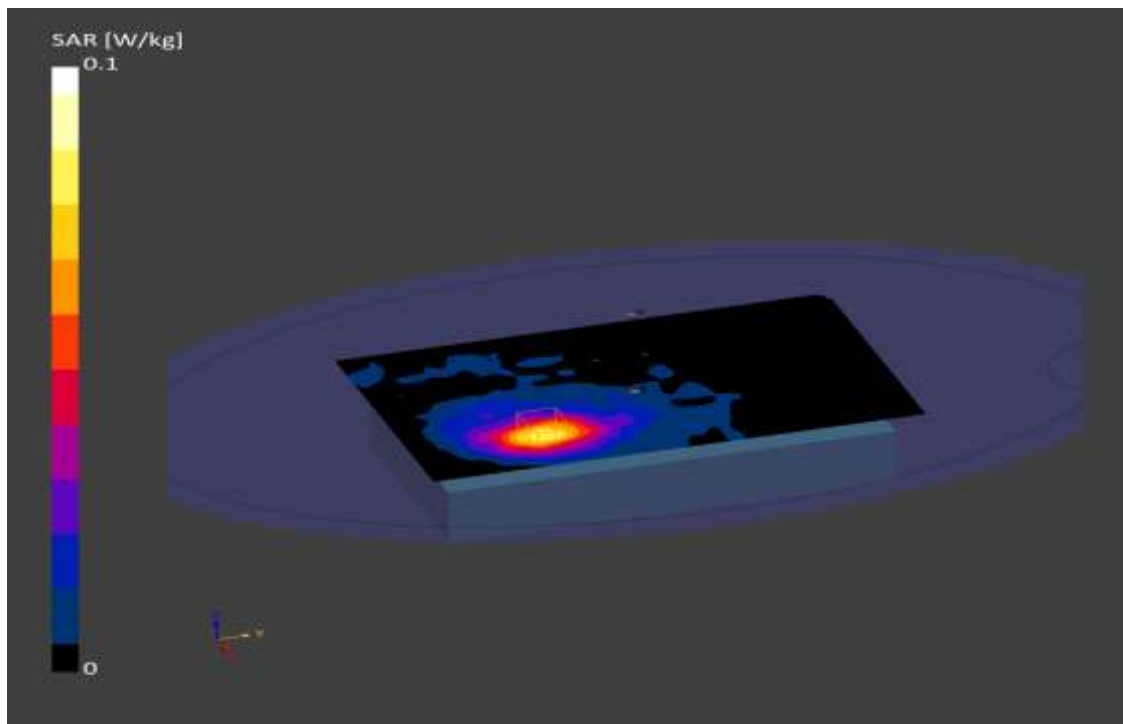
Power Drift = 0.15 dB

SAR(1 g) = 0.074 W/kg; SAR(10 g) = 0.036 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 3.8

M2/M1 [%]: 73.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-22, 12:51 2026-05-22, 13:10

IEC/IEEE 62209-1528 5G FDD n66 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 40.0 MHz, QPSK, 15 kHz, 1 RB (High); Communication System Band: n66; Communication System Frequency: 1730.0 MHz

Medium parameters used: $f = 1730.0$ MHz, $\sigma = 1.35$ S/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.96, 8.53, 8.26); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 346000/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.144 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 346000/Zoom Scan (3.0 x 3.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

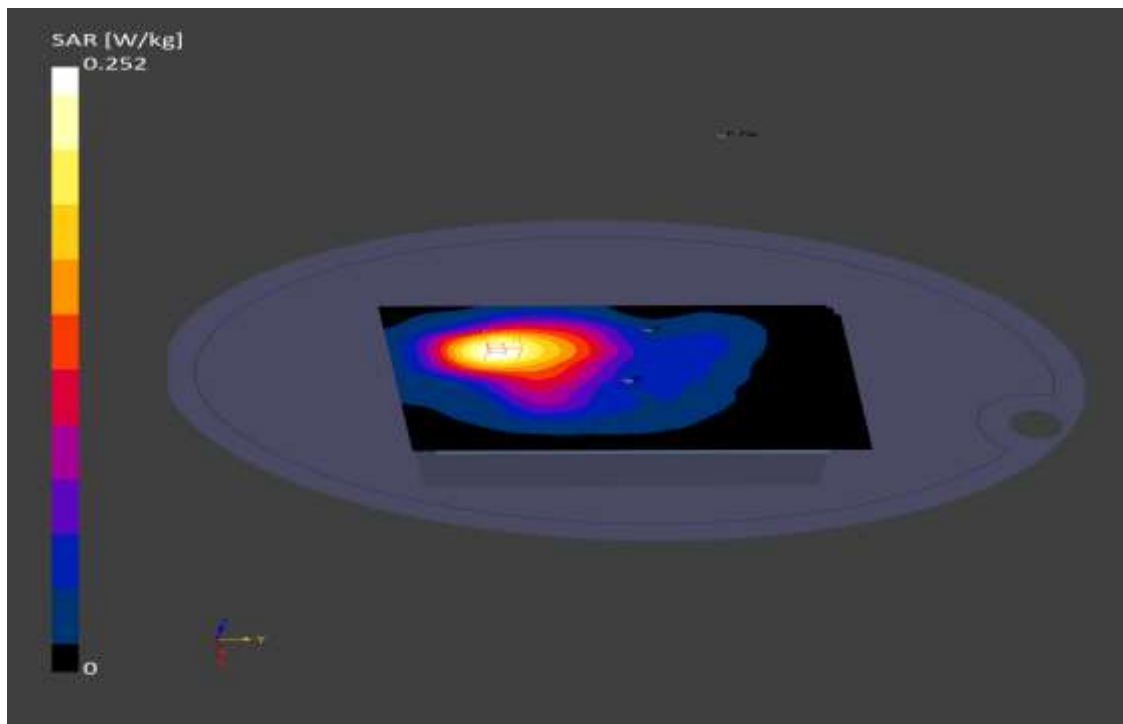
Power Drift = 0.01 dB

SAR(1 g) = 0.238 W/kg; SAR(10 g) = 0.145 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 3.4

M2/M1 [%]: 85.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-21, 15:01 2026-05-21, 15:16

IEC/IEEE 62209-1528 5G FDD n71 Module 1**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 FDD: DFT-s-OFDM, 20.0 MHz, QPSK, 15 kHz, 1 RB (High); Communication System Band: n71; Communication System Frequency: 673.0 MHz

Medium parameters used: $f = 673.0$ MHz, $\sigma = 0.878$ S/m; $\epsilon_r = 41.6$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(10.39, 10.39, 10.39); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 134600/Area Scan (15.0 x 15.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.284 W/kg; SAR(10 g) = 0.200 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 134600/Zoom Scan (3.0 x 3.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

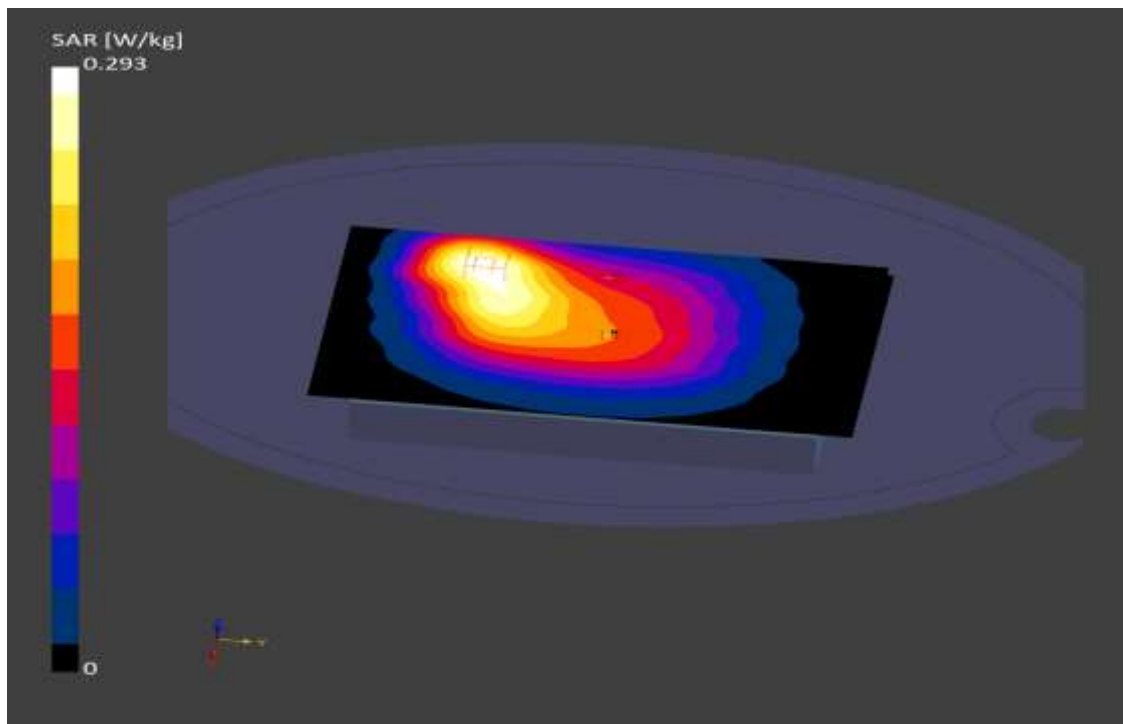
Power Drift = -0.05 dB

SAR(1 g) = 0.288 W/kg; SAR(10 g) = 0.185 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 4.4

M2/M1 [%]: 80.8

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-27, 09:59 2026-05-27, 10:09

IEC/IEEE 62209-1528 5G TDD n77 Module 1 SISO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 TDD: DFT-s-OFDM, 20.0 MHz, pi/2-BPSK, 30 kHz, 100.0% DC, 1 RB (Low);

Communication System Band: n77; Communication System Frequency: 3970.0 MHz

Medium parameters used: $f = 3970.0$ MHz, $\sigma = 3.15$ S/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7852; ConvF(5.84, 5.98, 6.5); Calibrated: 2026-03-12
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 664666/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.189 W/kg; SAR(10 g) = 0.089 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 664666/Zoom Scan (3.5 x 3.5 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

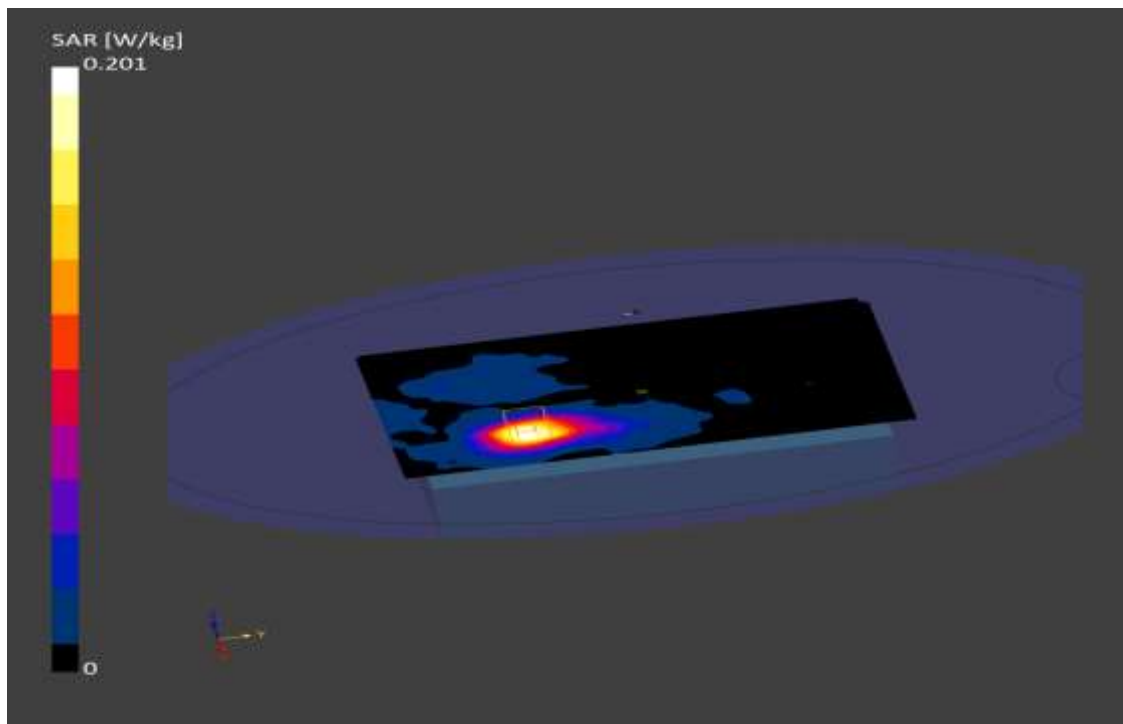
Power Drift = -0.01 dB

SAR(1 g) = 0.174 W/kg; SAR(10 g) = 0.082 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 3.8

M2/M1 [%]: 73.9

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-27, 15:08 2026-05-27, 15:21

IEC/IEEE 62209-1528 5G TDD n77 Module 1 MIMO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**Communication System: NR FR1 TDD: DFT-s-OFDM, 20.0 MHz, $\pi/2$ -BPSK, 30 kHz, 100.0% DC, 1 RB (Low);

Communication System Band: n77; Communication System Frequency: 3970.0 MHz

Medium parameters used: $f = 3970.0$ MHz, $\sigma = 3.15$ S/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7852; ConvF(5.84, 5.98, 6.5); Calibrated: 2026-03-12
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 664666/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.090 W/kg; SAR(10 g) = 0.044 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 664666/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

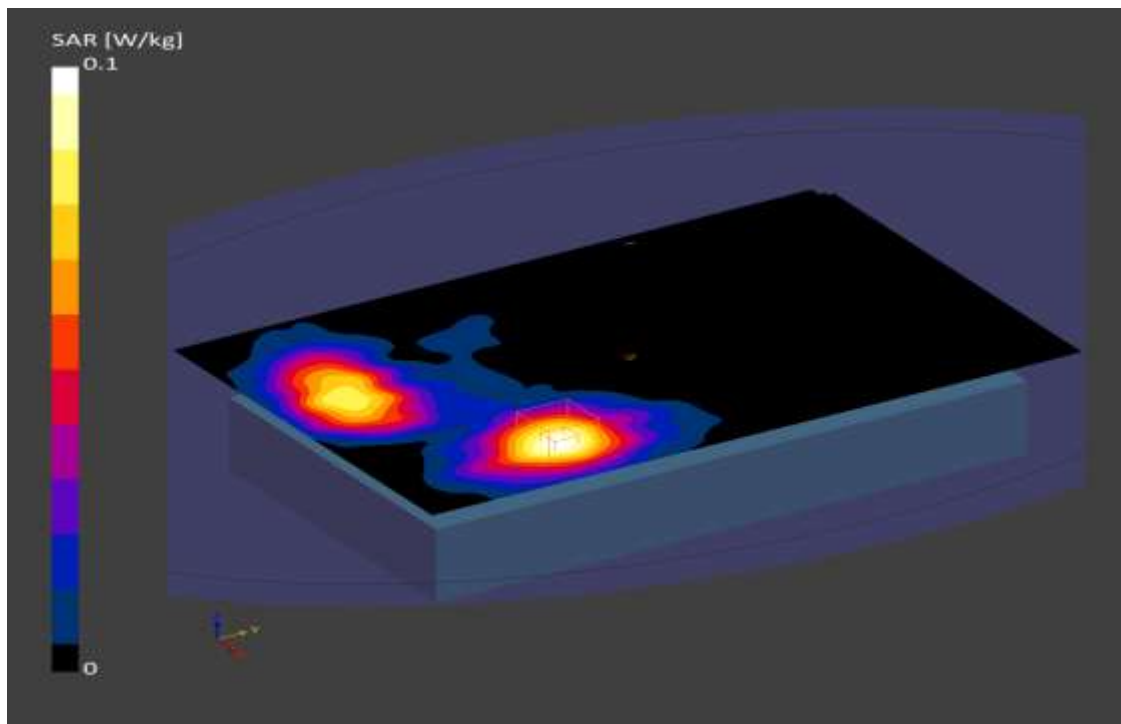
Power Drift = 0.13 dB

SAR(1 g) = 0.091 W/kg; SAR(10 g) = 0.044 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 17.4

M2/M1 [%]: 72.7

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-27, 10:29 2026-05-27, 10:42

IEC/IEEE 62209-1528 5G TDD n77 Module 1 SISO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 TDD: DFT-s-OFDM, 100.0 MHz, QPSK, 30 kHz, 100.0% DC, 1 RB (High);

Communication System Band: n77; Communication System Frequency: 3930.0 MHz

Medium parameters used: $f = 3930.0$ MHz, $\sigma = 3.11$ S/m; $\epsilon_r = 38.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7852; ConvF(5.84, 5.98, 6.5); Calibrated: 2026-03-12
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 662000/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.075 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 662000/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

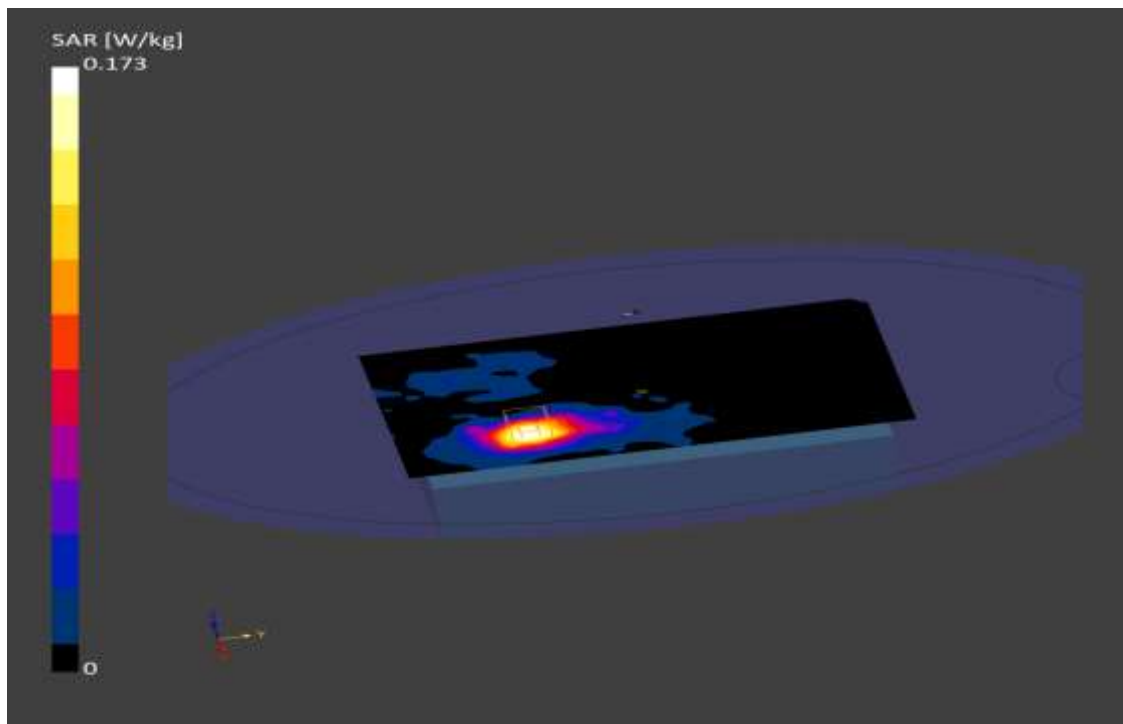
Power Drift = -0.08 dB

SAR(1 g) = 0.160 W/kg; SAR(10 g) = 0.070 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 4.9

M2/M1 [%]: 73.7

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Date/Time: 2026-05-26, 14:39 2026-05-26, 15:00

IEC/IEEE 62209-1528 5G TDD n78 Module 1 SISO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: NR FR1 TDD: DFT-s-OFDM, 100.0 MHz, QPSK, 30 kHz, 100.0% DC, 1 RB (Low);

Communication System Band: n78; Communication System Frequency: 3550.0 MHz

Medium parameters used: $f = 3550.0$ MHz, $\sigma = 2.72$ S/m; $\epsilon_r = 39.1$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(6.72, 7.19, 6.96); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 636666/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.057 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 636666/Zoom Scan (3.0 x 3.0 x 1.4) :

Grid Extents [mm]: 28.0 x 28.0 x 28.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

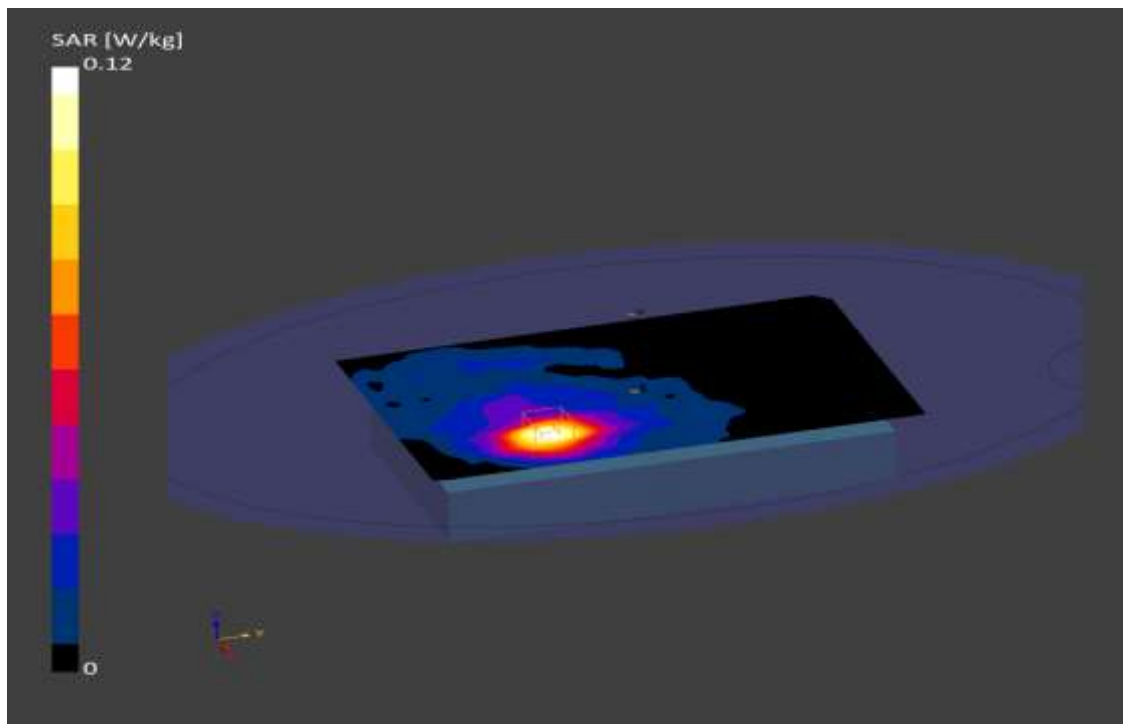
Power Drift = 0.08 dB

SAR(1 g) = 0.112 W/kg; SAR(10 g) = 0.054 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 3.8

M2/M1 [%]: 76.5

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.6°C; liquid temperature: 22.1°C;

Annex B.4: SAR results – WLAN IEEE802.11a/b/g/n/ac/ax

Date/Time: 2026-04-29, 10:41 2026-04-29, 10:48

IEC/IEEE 62209-1528 WLAN 2.4 GHz SISO Antenna B**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: WiFi (802.11b): DSSS, DBPSK, 1.0 Mbps, 99.9% DC; Communication System Band: 2.4 GHz; Communication System Frequency: 2412.0 MHz

Medium parameters used: $f = 2412.0$ MHz, $\sigma = 1.79$ S/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7635; ConvF(7.88, 7.34, 7.56); Calibrated: 2026-01-19
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 1/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.082 W/kg; SAR(10 g) = 0.048 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 1/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

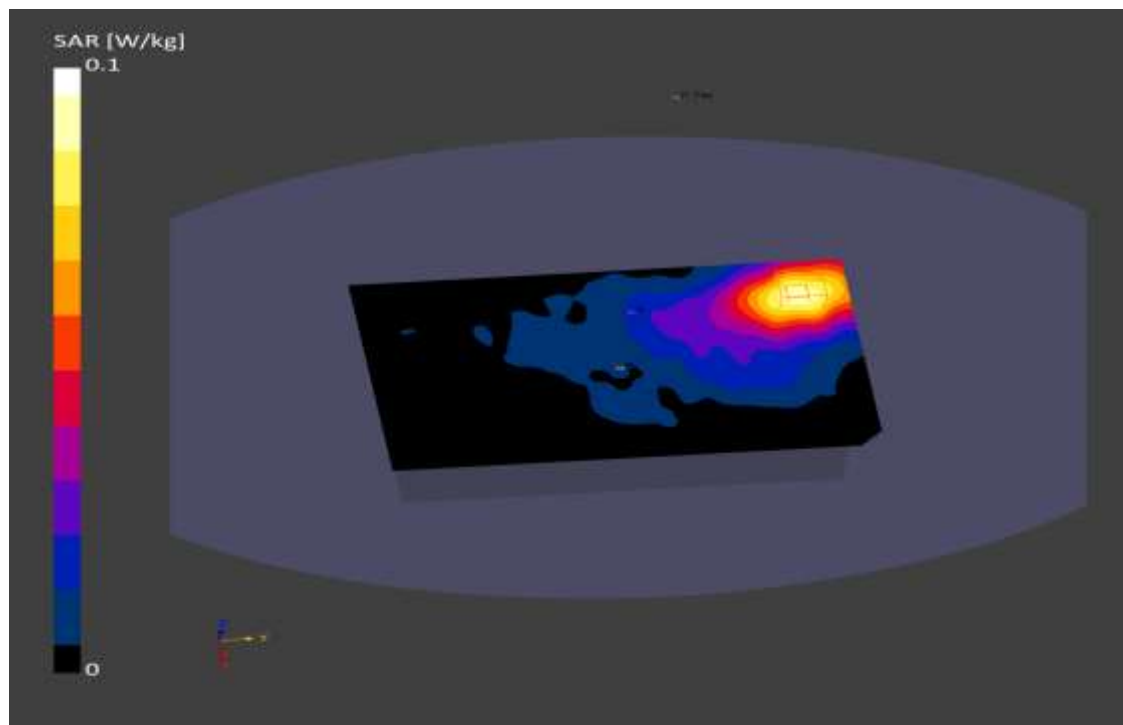
Power Drift = 0.16 dB

SAR(1 g) = 0.081 W/kg; SAR(10 g) = 0.047 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 15.0

M2/M1 [%]: 82.0

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.1°C; liquid temperature: 21.6°C;

Date/Time: 2026-05-05, 15:47 2026-05-05, 15:54

IEC/IEEE 62209-1528 WLAN 5 GHz SISO Antenna B**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: WiFi (802.11a): OFDM, BPSK, 6.0 Mbps, 99.9% DC; Communication System Band: U-NII 3; Communication System Frequency: 5825.0 MHz

Medium parameters used: $f = 5825.0$ MHz, $\sigma = 5.07$ S/m; $\epsilon_r = 33.8$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7566; ConvF(5.1, 4.98, 4.63); Calibrated: 2025-08-07
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 165/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.454 W/kg; SAR(10 g) = 0.199 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 165/Zoom Scan (4.0 x 4.0 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

Graded Grid: Ratio 1.4 - Distance Sensor to Surface 1.4 mm

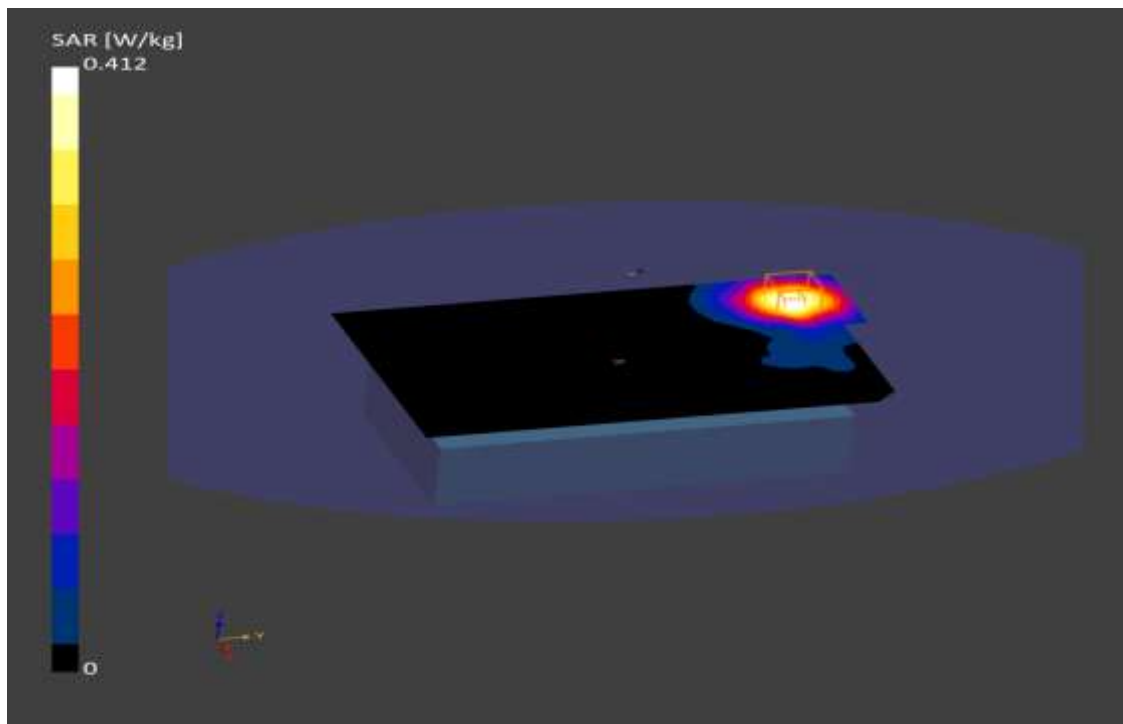
Power Drift = 0.14 dB

SAR(1 g) = 0.441 W/kg; SAR(10 g) = 0.196 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 11.0

M2/M1 [%]: 58.4

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.4°C; liquid temperature: 21.8°C;

IEEE 1528 WLAN 6 GHz

DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791

Communication System: WiFi (802.11ax): HE80, MCS0 (36.0 Mbps), 100.0% DC; Communication System

Band: U-NII 5; Communication System Frequency: 6065.0 MHz

Medium parameters used: $f = 6065.0$ MHz, $\sigma = 5.59$ S/m; $\epsilon_r = 33.6$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(5.17, 5.54, 5.36); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23/Area Scan (8.5 x 8.5 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.316 W/kg; SAR(10 g) = 0.143 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 23/Zoom Scan (3.4 x 3.4 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

Graded Grid: Ratio 1.4 - Distance Sensor to Surface 1.4 mm

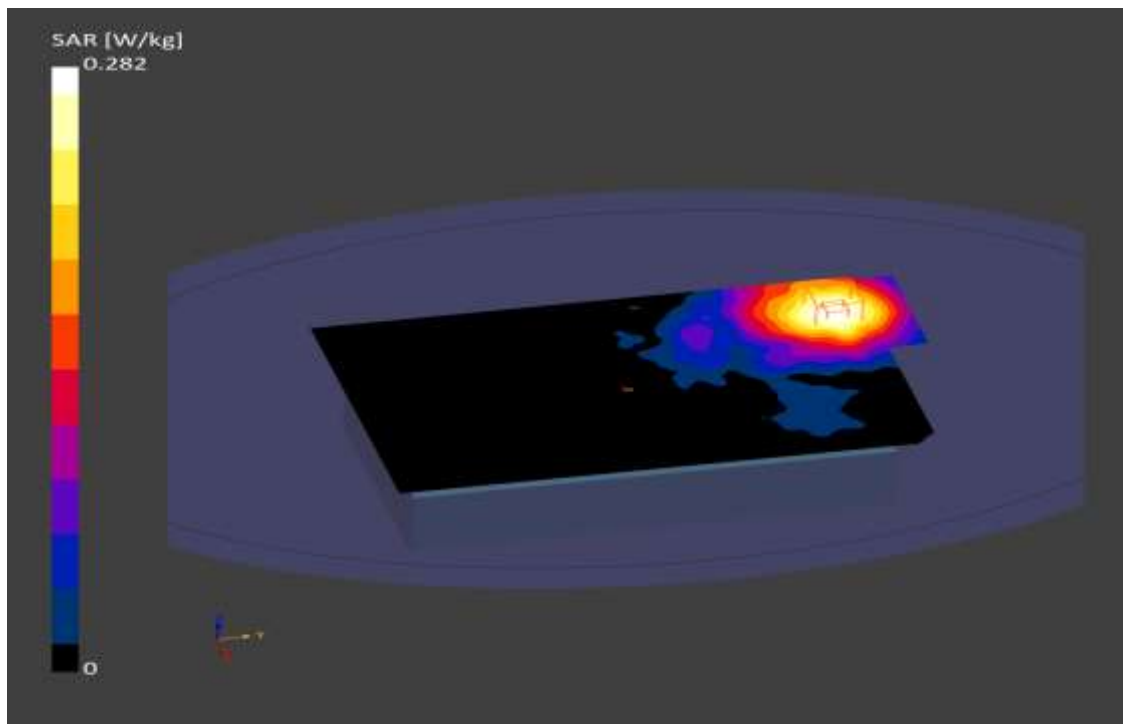
Power Drift = 0.00 dB

SAR(1 g) = 0.349 W/kg; SAR(10 g) = 0.159 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 11.0

M2/M1 [%]: 55.3



Additional information:

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.4°C; liquid temperature: 21.7°C;

IEC/IEEE 62209-1528 WLAN 6 GHz MIMO**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: WiFi (802.11ax): HE20, MCS0 (8.6 Mbps), 100.0% DC; Communication System Band: U-NII 5; Communication System Frequency: 6075.0 MHz

Medium parameters used: $f = 6075.0$ MHz, $\sigma = 5.60$ S/m; $\epsilon_r = 33.6$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN3944; ConvF(5.17, 5.54, 5.36); Calibrated: 2026-05-05
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V18.0.0.7250

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 25/Area Scan (8.5 x 8.5 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.302 W/kg; SAR(10 g) = 0.137 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 25/Zoom Scan (3.4 x 3.4 x 1.4) :

Grid Extents [mm]: 22.0 x 22.0 x 22.0

Graded Grid: Ratio 1.4 - Distance Sensor to Surface 1.4 mm

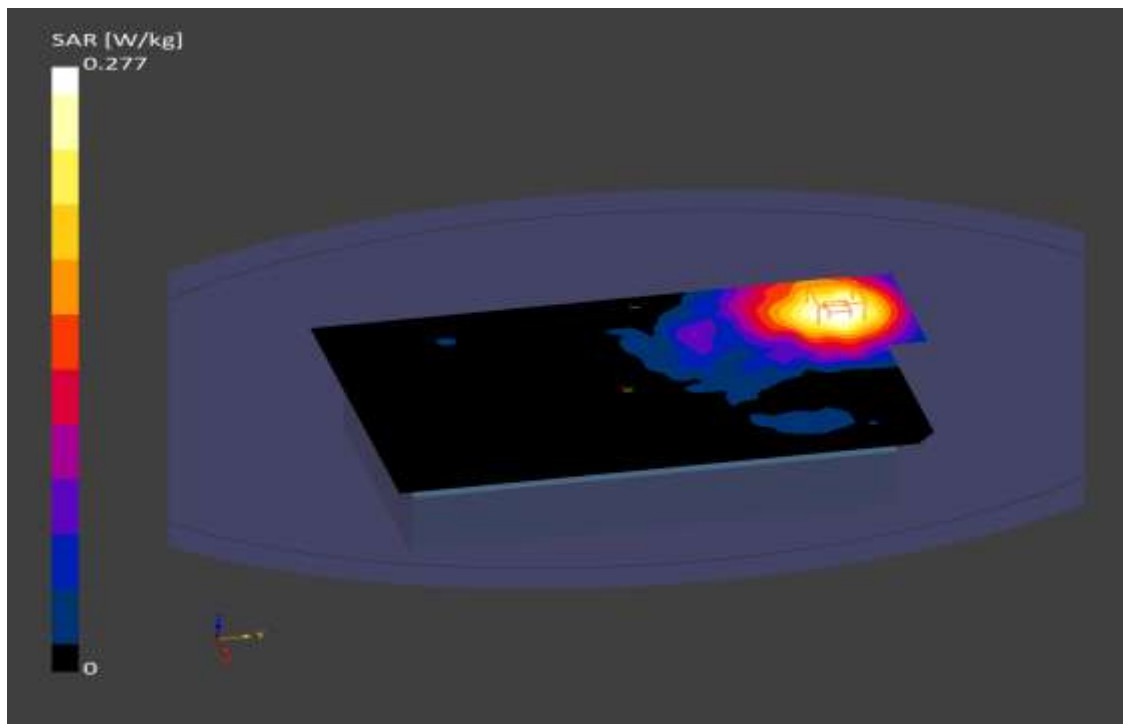
Power Drift = 0.11 dB

SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.152 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: > 11.0

M2/M1 [%]: 56.2

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.4°C; liquid temperature: 21.7°C;

Annex B.5: SAR results – Bluetooth 2.4 GHz

Date/Time: 2026-04-29, 11:00 2026-04-29, 11:13

IEC/IEEE 62209-1528 Bluetooth 2.4 GHz**DUT: HAIVISION; Type: Falkon X2; Serial: HAIFKX20326011791**

Communication System: Bluetooth: BR, DH5, GFSK; Communication System Band: ISM 2.4 GHz Band;

Communication System Frequency: 2441.0 MHz

Medium parameters used: $f = 2441.0$ MHz, $\sigma = 1.81$ S/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom Section: Flat

Measurement Standard: DASY 8

DASY Configuration:

- Probe: EX3DV4 - SN7635; ConvF(7.88, 7.34, 7.56); Calibrated: 2026-01-19
- Sensor-Surface: 1.4mm
- DAE: DAE4ip Sn1842; Calibrated: 2025-11-12
- Phantom: ELI V8.0 (20deg probe tilt); Serial: 2214;
- Software: DASY8 Module SAR V17.0.4.7034

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 39/Area Scan (10.0 x 10.0 x 1.0) :

Grid Extents [mm]: 60.0 x 60.0

Maximum value of SAR (interpolated) - SAR(1 g) = 0.006 W/kg; SAR(10 g) = 0.003 W/kg

HBBL-600-10000/EDGE BOTTOM, 20 mm - Channel 39/Zoom Scan (5.0 x 5.0 x 1.5) :

Grid Extents [mm]: 30.0 x 30.0 x 30.0

Graded Grid: Ratio 1.5 - Distance Sensor to Surface 1.4 mm

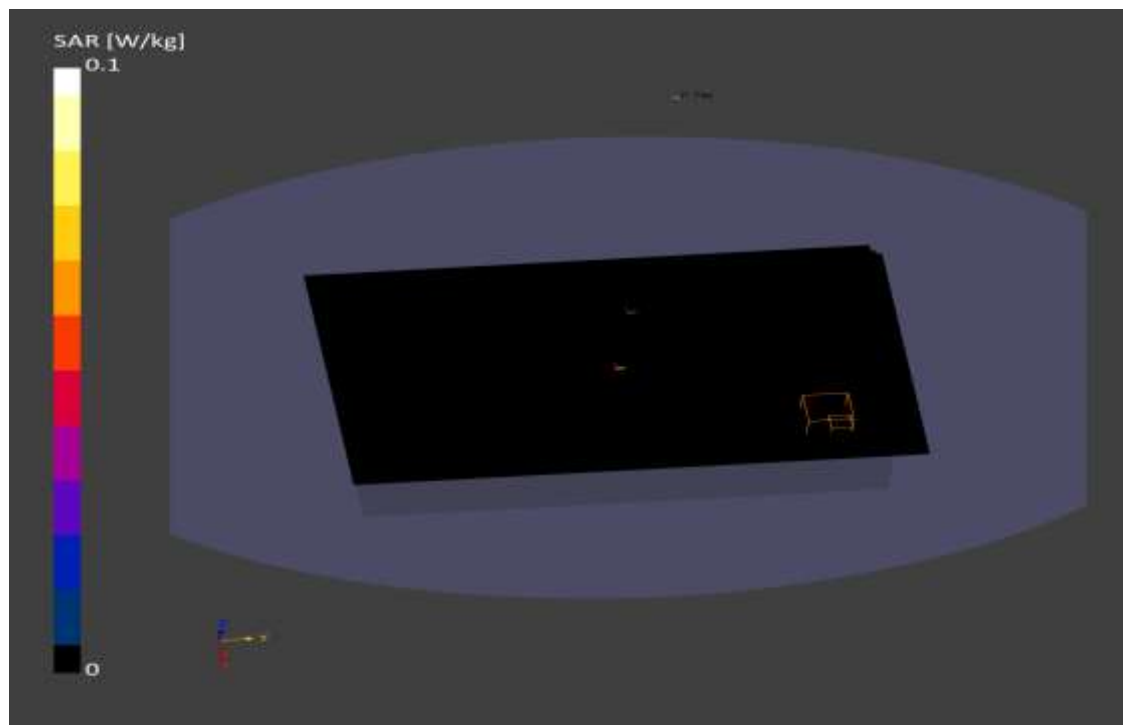
Power Drift = -0.15 dB

SAR(1 g) = 0.006 W/kg; SAR(10 g) = 0.003 W/kg

Additional Info for IEC 62209-2 AMD1:

TDist 3dB Peak [mm]: 22.4

M2/M1 [%]: 85.2

**Additional information:**

position or distance of DUT to SAM: 20 mm

ambient temperature: 22.7°C; liquid temperature: 21.8°C;

Annex B.6: APD result

Measurement Report for DASY 8, EDGE BOTTOM, U-NII 5, WiFi (802.11ax): HE80, MCS0, MIMO, 100.0% DC, Channel 23 (6065.0 MHz)

Device Under Test Properties

Model, Manufacturer	Dimensions [mm]	SN
HAIVISION Falkon X2	50.0 x 250.0 x 140.0	HAIFKX20326011791

Exposure Conditions

Phantom Section, TSL	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor	TSL Conductivity [S/m]	TSL Permittivity
Flat, Head Simulating Liquid	EDGE BOTTOM, 0	U-NII 5	WiFi (802.11ax), 10731	6065.0, 23	4.68	5.58	37.6

Hardware Setup

Phantom	TSL, Measured Date	Probe, Calibration Date	DAE, Calibration Date
ELI V8.0 (20deg probe tilt) - 2214	HBBL-600-10000 2026-06-26 (ELI), 2026-06-26	EX3DV4 - SN7852, 2026-03-12	DAE4ip Sn1842, 2025-11-12

Software

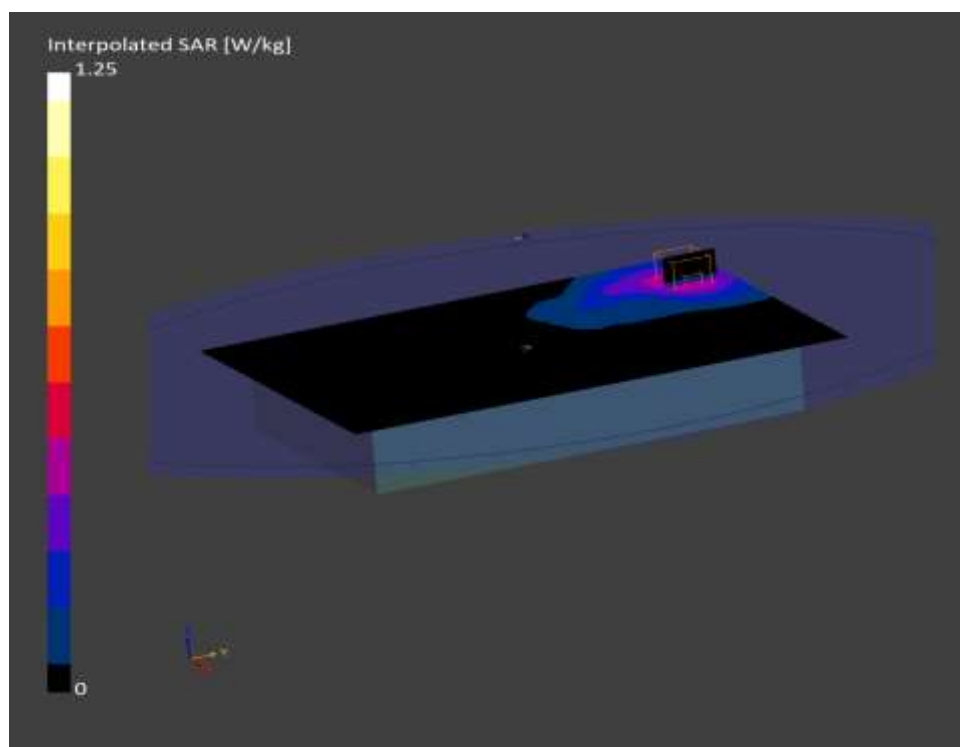
DASY8 Module SAR V18.0.0.7250

Scans Setup

	FastVolume Scan	Zoom Scan
Grid Extents [mm]	180.0 x 288.0	22.0 x 22.0 x 22.0
Grid Steps [mm]	3.0 x 3.0	3.4 x 3.4 x 1.4
Sensor Surface [mm]	2.0	1.4
Graded Grid	N/A	Yes
Grading Ratio	N/A	1.4
MAIA	Y	N/A
Surface Detection	VMS + 6p	VMS + 6p
Scan Method	Measured	Measured

Measurement Results

	FastVolume Scan	Zoom Scan
Date	2026-06-26, 17:01	2026-06-26, 17:21
psSAR _{1g} [W/Kg]	0.291	0.331
psSAR _{10g} [W/Kg]	0.165	0.151
psAPD (1.0cm ² , sq) [W/m ²]		3.31
psAPD (4.0cm ² , sq) [W/m ²]		3.26
Power Drift [dB]	-0.01	-0.16
Power Scaling	Disabled	Disabled
M2/M1 [%]		55.3
Dist 3dB Peak [mm]		> 11.0
ambient temperature: 22.6°C; liquid temperature: 22.1°C;		

SAR Pattern

Annex B.7: IPD system check & test results

Measurement Report for Device, FRONT, Validation band, CW, Channel 10000 (10000.0 MHz)

Device Under Test Properties

Dipole	Dimensions [mm]	SN
H10GV2	100.0 x 100.0 x 172.0	1079

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor
5G	FRONT, 5.55	Validation band	CW, 0--	10000	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1127	Air -	EUmmWV4 - SN9551_F1-55GHz, 2025-07-08	DAE4ip Sn1842, 2025-11-12

Scans Setup

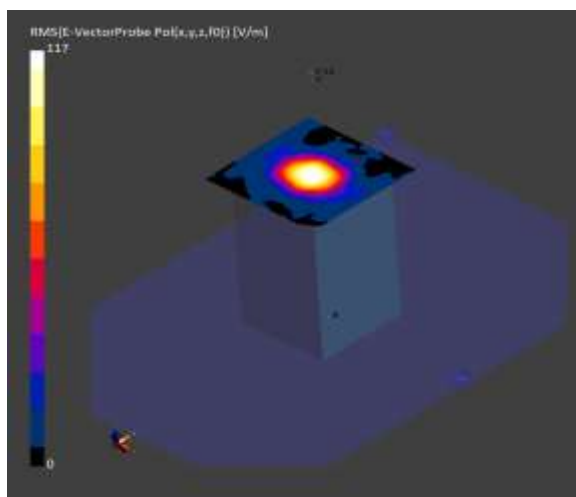
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	5.55
MAIA	Y

Measurement Results

Scan Type	5G Scan
Date	2026-07-01, 12:56
Avg. Area [cm ²]	1.00
psPDn+ [W/m ²]	30.4
psPDtot+ [W/m ²]	30.6
psPDmod+ [W/m ²]	30.7
Power feed was only 17 dBm thus for results need to be normalized to 20 dBm for comparison to the targets. (Factor 2)	
E _{max} [V/m]	109
Power Drift [dB]	-0.19

Measurement Results for incidentPD

Max (Sn) [W/m ²]	31.5
Max (Stot) [W/m ²]	31.8
Max(Stot) [W/m ²]	31.7



Measurement Report for Device, FRONT, Validation band, CW, Channel 10000 (10000.0 MHz)

Device Under Test Properties

Dipole	Dimensions [mm]	SN
H10GV2	100.0 x 100.0 x 172.0	1079

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz]	Conversion Factor
5G	FRONT, 5.55	Validation band	CW, 0--	10000	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1127	Air -	EUmmWV4 - SN9551_F1-55GHz, 2025-07-08	DAE4ip Sn1842, 2025-11-12

Scans Setup

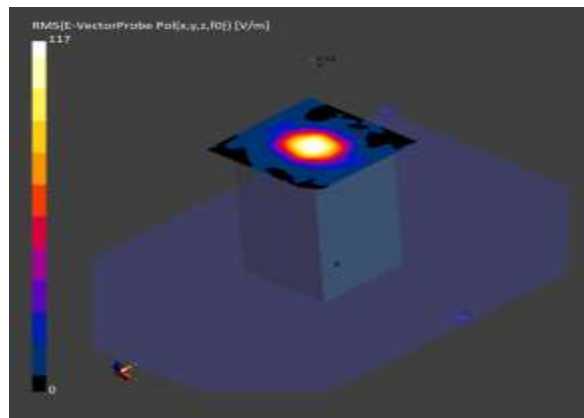
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	5.55
MAIA	Y

Measurement Results

Scan Type	5G Scan
Date	2026-07-01, 12:56
Avg. Area [cm ²]	4.00
psPDn+ [W/m ²]	28.1
psPDtot+ [W/m ²]	28.4
psPDmod+ [W/m ²]	28.5
Power feed was only 17 dBm thus for results need to be normalized to 20 dBm for comparison to the targets. (Factor 2)	
E _{max} [V/m]	109
Power Drift [dB]	-0.19

Measurement Results for incidentPD

Max (Sn) [W/m ²]	31.5
Max (Stot) [W/m ²]	31.8
Max(Stot) [W/m ²]	31.7



Measurement Report for HAIVISION, BACK, U-NII-5, IEEE 802.11ac WiFi (80MHz, MCS0, MIMO, 99pc duty cycle), Channel 23 (6065.0 MHz)
Device Under Test Properties

Model	Dimensions [mm]	SN
HAIVISION Falcon X2	210.0 x 130.0 x 85.0	HAIFKX20326011791

Exposure Conditions

Phantom Section	Position, Test Distance [mm]	Band	Group, UID	Frequency [MHz], Channel Number	Conversion Factor
5G	BOTTOM, 2.00	U-NII-5	WLAN, 10544-AAD	6065.0, 23	1.0

Hardware Setup

Phantom	Medium	Probe, Calibration Date	DAE, Calibration Date
mmWave - 1127	Air -	EUmmWV4 - SN9551_F1-55GHz, 2025-07-08	DAE4ip Sn1842, 2025-11-12

Scans Setup

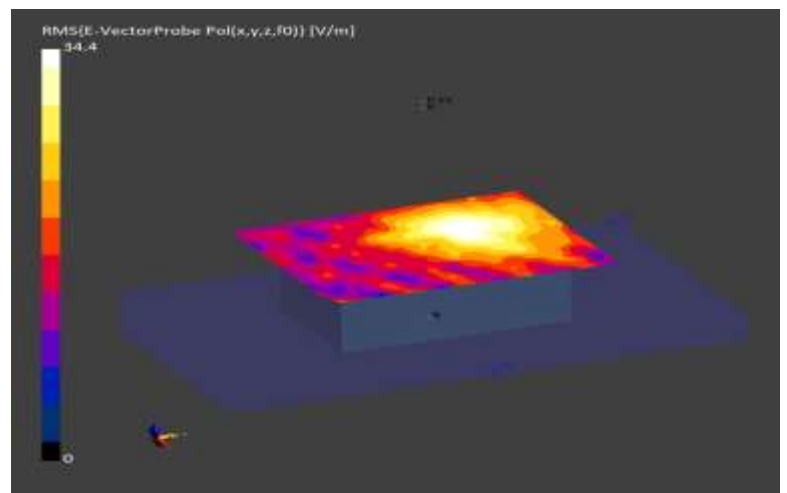
Scan Type	5G Scan
Grid Extents [mm]	25.0 x 25.0
Grid Steps [lambda]	0.04238508241820993 x 0.04238508241820993
Sensor Surface [mm]	2.0
MAIA	Y

Measurement Results

Scan Type	5G Scan
Date	2026-07-08, 09:36
Avg. Area [cm ²]	4.00
psPDn+ [W/m ²]	3.56
psPDtot+ [W/m ²]	3.99
psPDmod+ [W/m ²]	4.04
E _{max} [V/m]	41.6
Power Drift [dB]	0.21

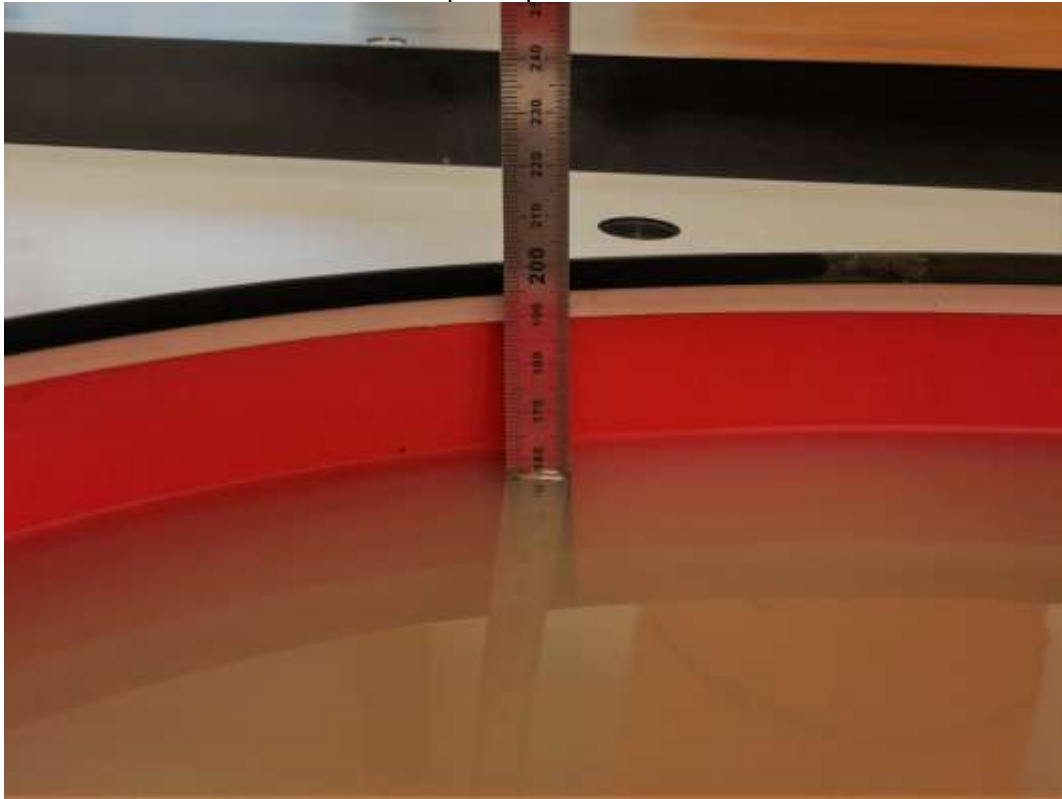
Measurement Results for incidentPD

Max (Sn) [W/m ²]	4.30
Max (Stot) [W/m ²]	4.58
Max(Stot) [W/m ²]	4.48



Annex B.8: Liquid depth

Photo 1: Liquid depth 600-10000 MHz



Annex C: Photo documentation

Photo documentation is described in the additional document:
1-2152-25-01-02_TR1-A101-R01

Annex D: Calibration parameters

Calibration parameters are described in the additional document:
1-2152-25-01-02_TR1-A301-R01_Caldata
1-2152-25-01-02_TR1-A302-R01_Caldata
1-2152-25-01-02_TR1-A303-R01_Caldata

Annex E: RSS-102 Annex A

ISED RF documents are described in the additional document:
1-2152-25-01-02_TR1-A401-R01_ISED - RSS-102 Annex A

Annex F: Document History

Version	Applied Changes	Date of Release
-R01	Initial Release	2026-07-15
-R02	LTE 30 & NR 5G n30 results were removed	2026-09-16

Annex G: Further Information**Glossary**

BW	-	Bandwidth
DTS	-	Distributed Transmission System
DUT	-	Device under Test
EUT	-	Equipment under Test
FCC	-	Federal Communication Commission
FCC ID	-	Combination of Grantee Code and Equipment Product Code
HW	-	Hardware
ISED	-	Innovation, Science and Economic Development Canada
LTE	-	Long Term Evolution
N/A	-	not applicable
PCB	-	PCS Licensed Transmitter
PCE	-	Personal Consumption Expenditure (PCS Licensed Transmitter held to ear)
PCS	-	Personal Consumption Services
OET	-	Office of Engineering and Technology
RB	-	resource block(s)
SAR	-	Specific Absorption Rate
S/N	-	Serial Number
SW	-	Software
UNII	-	Unlicensed National Information Infrastructure