SAR TEST REPORT

for

Acer Incorporated

Notebook Computer

Model No.: N24G4

Brand: acer; Gateway

FCC ID: HLZN24G4

IC: 1754F-N24G4

The MAX SAR(1g)	
Body SAR	1.158W/Kg

Maximum SAR Test distance: 0mm

Prepared for : Acer Incorporated
8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City
221 Taiwan

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Kefeng Road, Science & Technology Park,
Nanshan District, Shenzhen, Guangdong, China

Tel: (0755) 26639496
Fax: (0755) 26632877

TESTING
NVLAP LAB CODE 200372-0

Testing Laboratory
1418

Report Number : ACS-SF25004
Date of Test : Mar.12~13, 2025
Date of Report : Mar.19, 2025

TABLE OF CONTENTS

SAR TEST REPORT

Applicant	:	Acer Incorporated
Manufacturer	:	Acer Incorporated
Product	:	Notebook Computer
Model No.	:	N24G4
Brand	:	acer; Gateway
Test Voltage	:	DC 19V

Measurement Standard Used:

- FCC 47 CFR Part 2 (2.1093)
- IEEE C95.1-1999
- IEC/IEEE 62209-1528: 2020
- IEC62209-1:2016
- IEC62209-2:2010
- IEEE1528-2013
- FCC OET Bulletin 65 Supplement C (Edition 01-01)
- RSS-102, Issue 6: 2023
- FCC KDB 447498 D04 v01
- FCC KDB 865664 D01/D02
- FCC KDB 248227 D01 v02r02
- KDB 616217 D04 v01r02
- KDB 941225 D06 v02r01

The device described above is tested by Audix Technology (Shenzhen) Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Audix Technology (Shenzhen) Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. This report contains data that are not covered by the NVLAP accreditation. Also, this report shows that the EUT is technically compliant with the FCC and RSS-102 test requirements.

This report applies to single evaluation of one sample of above mentioned product. And shall not be reproduced in part without written approval of Audix Technology (Shenzhen) Co., Ltd..

Date of Test : Mar.12~13, 2025 Date of Report: Mar.19, 2025

Prepared by : Jasmine Ning / Assistant

Reviewed by : Thomas Chen / Assistant Manager

AUDIX 信華科技（深圳）有限公司 Audix Technology (Shenzhen) Co., Ltd. EMC 部門報告專用章 Stamp only for EMC Dept. Report

Approved & Authorized Signer : Signature: Sunny Liu / Manager

REPORT REVISION HISTORY

Edition No.	Revision	Issue Date	Report No.
Original	Initial issue of report	Mar.19, 2025	ACS-SF25004

1. GENERAL INFORMATION

1.1.Description of Equipment Under Test

Applicant	Acer Incorporated	
Applicant Address	8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221 Taiwan	
Manufacturer	Acer Incorporated	
Manufacturer Address	8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City 221 Taiwan	
Product	Notebook Computer	
Model No.	N24G4	
Brand	acer; Gateway	
FCC ID	HLZN24G4	
IC	1754F-N24G4	
HVIN	N24G4	
PMN	AL15-32P; GW15-32P	
FVIN	N/A	
Sample Type	Prototype production	
Date of Receipt	Feb.13, 2025	
Date of Test	Mar.12~13, 2025	
Operating Mode	BT,WLAN	
Frequency Range	Bluetooth	2402-2480MHz
	802.11 b/g/n(HT20/HT40)	2412MHz~2462MHz
	802.11 a	5150 MHz~5250 MHz
	802.11n(HT20/HT40)	5250 MHz~5350MHz
	802.11ac(VHT20/	5470 MHz~5725 MHz
	VHT40/ VHT80)	5725 MHz~5850 MHz

Antenna Information	
Type of Antenna	PIFA Antenna
Antenna Peak Gain	BT Peak Gain:2.43dBi WIFI 2.4GHz Peak Gain: 2.43dBi WIFI 5 GHz Peak Gain: 2.38dBi

Remark:
This report is for SAR evaluation only.
EUT also supports other radio specification as below listed:
BDR+EDR (Test report No. ACS-F25043)
BLE (Test report No. ACS-F25044)
WiFi 2.4GHz (Test report No. ACS-F25045)
WiFi 5GHz (Test report No. ACS-F25046)
SAR (Test report No. ACS-SF25004)
DFS (Test report No. ACS-F25047)
BDR+EDR (Test report No. ACS-I25029)
BLE (Test report No. ACS-I25030)
WiFi 2.4GHz (Test report No. ACS-I25031)
WiFi 5GHz (Test report No. ACS-I25032)
DFS (Test report No. ACS-I25033)

2. GENERAL DESCRIPTION

2.1.Product Description For EUT

Please refer to section 1.1

2.2.Applied Standards

The Specific Absorption Rate (SAR) testing specification, method and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- IEEE C95.1-1999
- IEC/IEEE 62209-1528: 2020
- IEC62209-1:2016
- IEC62209-2:2010
- IEEE1528-2013
- FCC OET Bulletin 65 Supplement C (Edition 01-01)
- RSS-102, Issue 6: 2023
- FCC KDB 447498 D04 v01
- FCC KDB 865664 D01/D02
- FCC KDB 248227 D01 v02r02
- KDB 616217 D04 v01r02
- KDB 941225 D06 v02r01

2.3.Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

2.4.Test Conditions

2.4.1. Ambient Condition

Ambient Temperature	20 to 24 ℃
Humidity	< 60 %

2.4.2. Test Configuration

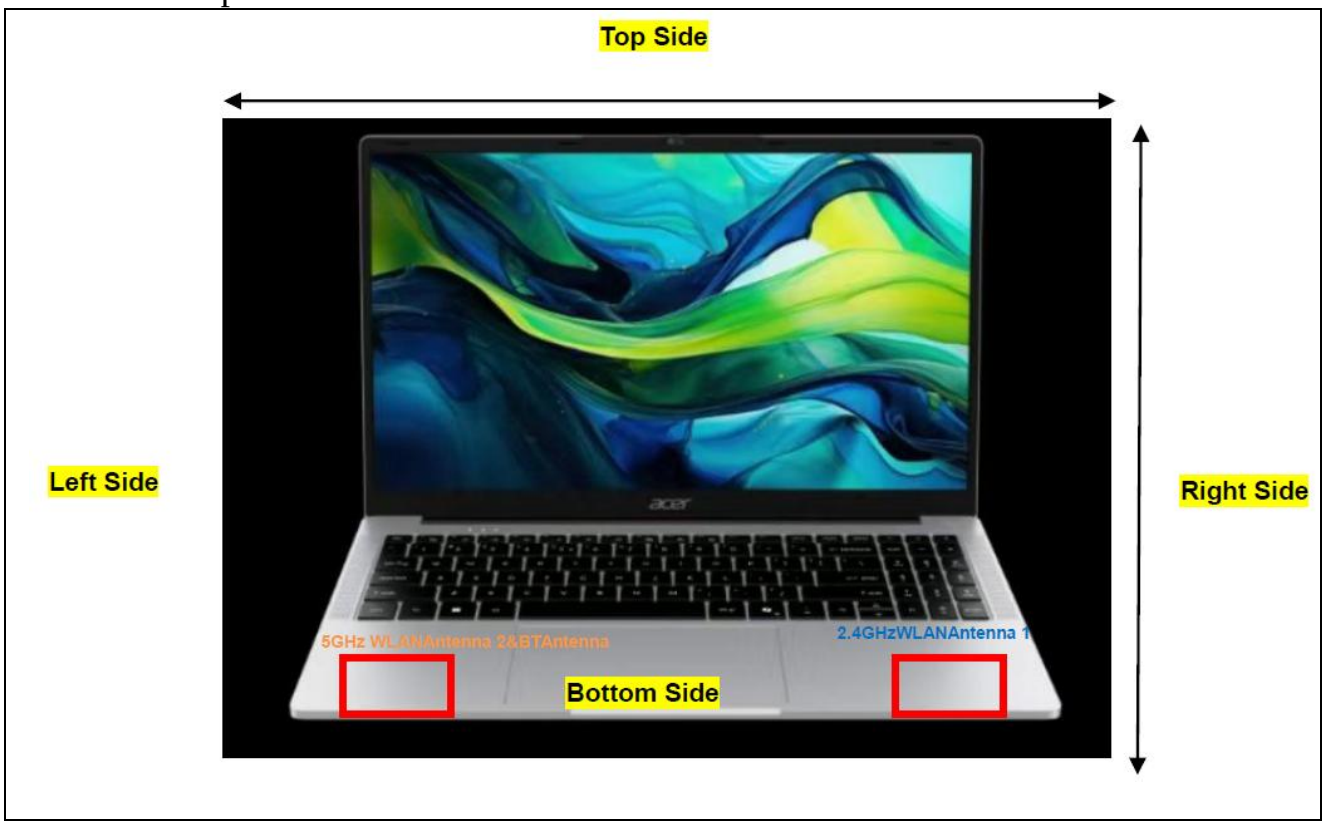
The distance between the EUT and the antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during all tests.

2.4.3 Simultaneous Transmission Description

No.	Type
1.	WLAN 2.4G +BT
2.	WLAN 5G + BT

Note: 2.4G and 5G can transmit RF signals at the same time

2.5.Exposure Positions Consideration



Test Sides for SAR tests						
Band	Body					
	Back	Front	Top	Bottom	Left	Right
ANT 1	✓	✓	×	✓	×	✓
ANT 2	✓	✓	×	✓	✓	×

Note:

1. **The side which has a distance larger than 2.5cm from antenna can be excluded from SAR measurement.**

2.6.Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied. The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

According to the KDB447498 appendix A, the SAR test exclusion threshold listed as below

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

According to RSS-102 Issue 6 Table 11, the SAR test exclusion threshold for 2450MHz at 0mm test separation distances is 3mW, 5.8GHz is 1mW.

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

2.7.Block Diagram of connection between EUT and simulators

EUT

(EUT: Notebook Computer)

2.8.Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date	Calibration Body
1.	DASY5 SAR Test System	Speag	TX60 L speag	F09/5B1H1/01	NCR	NCR	N/A
2.	ENA SERIES NETWORK ANALYZER	Agilent	E5071C	MY46316760	2024.09.15	2025.09.14	CCIC
3.	Power Meter	Anritsu	ML2487A	6K00003262	2024.06.19	2025.06.18	CCIC
4.	Power Sensor	Anritsu	MA2491A	032516	2024.06.19	2025.06.18	CCIC
5.	Signal Generator	Rohde&Schwarz	SMB100A	181375	2024.03.16	2025.03.15	CCIC
6.	Amplifier	Milmega	ZHL-42W	C620601316	NCR	NCR	N/A
7.	Dipole Validation Kits	Speag	D2450V2	862	2023.05.18	2026.05.17	CCTL
8.	Dipole Validation Kits	Speag	D5GHzV2	1102	2023.05.19	2026.05.18	CCTL
9.	Attenuator	N/A	1527	001	2024.09.15	2025.09.14	CCIC
10.	Date Acquisition Electronics	Speag	DAE4	899	2024.06.06	2025.06.05	CCTL
11.	E-Field Probe	Speag	EX3DV4	3767	2024.08.01	2025.07.31	CCTL
12.	Test Software	Schmid&Partner Englinnering AG	DASY5	52.8.7.1137	NCR	NCR	NCR
13.	Radio Communication Analyzer	Anritsu	MT8821C	6201547828	2024.03.16	2025.03.15	CCIC
14.	Radio Communication Analyzer	Rohde & Schwarz	CMW500	103249	2024.09.15	2025.09.14	CCIC

Note 1: Calibration Method

a): Calibration conducted by the National Institute of Information and Communications Technology～ NICT～ or a designated calibration agency under Article 102-18 paragraph (1)～ TELEC Engeneering Center, Intertek Japan K.K., Keysight Technologies, Inc～.

b): Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)～Japan Calibration Service Syste～

c): Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)～ TELEC Engeneering Center, Intertek Japan K.K., Keysight Technologies, Inc～.

d): Calibration conducted by using other equipment that listed above from a) to c)

Note 2: CCIC (Shenzhen) Metrology & Testing Service Co., Ltd

Addr : ShengHui Hongxing Chuangzhi Square, Tongren Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen

2.9.Laboratory Environment

Temperature	Min:20℃,Max.25℃
Relative humidity	Min. = 45%, Max. = 70%
Note: Ambient noise is checked and found very low and in compliance with requirement of standards.	

2.10.Measurement Uncertainty

Test Item	Uncertainty
Uncertainty for SAR test	1g: ±21.2
	10g: ±20.7
Uncertainty for SAR tissue fluid	1g: ±21.1(Conductivity)
	10g: ±20.6(Dielectric properties)
Uncertainty for test site temperature and humidity	±0.6℃

Source	Type	Uncertainly Value (%)	Probability Distribution	K	C1(1g)	C1(10g)	Standard uncertainty uI(%)1g	Standard uncertainty uI(%)10g	Degree of freedom Veff or Vi
Measurement system repetivity	A	0.5	N	1		1	0.5	0.5	9
Probe calibration	B	5.9	N	1	1	1	5.9	5.9	∞
Isotropy	B	4.7	R	√3	1	1	2.7	2.7	∞
Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
Probe modulation response	B	0	R	√3	1	1	0	0	∞
Detection limits	B	1.0	R	√3	1	1	0.6	0.6	∞
Boundary effect	B	1.9	R	√3	1	1	1.1	1.1	∞
Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
Response time	B	0	R	√3	1	1	0	0	∞
Integration time	B	4.32	R	√3	1	1	2.5	2.5	∞
RF ambient conditions – noise	B	0	R	√3	1	1	0	0	∞
RF ambient conditions – reflections	B	3	R	√3	1	1	1.73	1.73	∞
Probe positioner mech. restrictions	B	0.4	R	√3	1	1	0.2	0.2	∞
Probe positioning with respect to phantom shell	B	2.9	R	√3	1	1	1.7	1.7	∞
Post-processing	B	0	R	√3	1	1	0	0	∞
Test sample related									
Device holder uncertainty	A	2.94	N	1	1	1	2.94	2.94	M-1
Test sample positioning	A	4.1	N	1	1	1	4.1	4.1	M-1
Power scaling	B	5.0	R	√3	1	1	2.9	2.9	∞
Drift of output power (measured SAR drift)	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up									
Phantom uncertainty (shape and thickness tolerances)	B	4.0	R	√3	1	1	2.3	2.1	∞
Algorithm for correcting SAR for deviations in permittivity and conductivity	B	1.9	N	1	1	0,84	1,9	1,6	∞
Liquid conductivity (meas.)	A	0.55	N	1	0.78	0.71	0.24	0.21	M-1
Liquid permittivity (meas.)	A	0.19	N	1	0.23	0.26	0.09	0.06	M
Liquid permittivity – temperature uncertainty	A	5.0	R	√3	0,78	0,71	1.4	1.1	∞
Liquid conductivity – temperature uncertainty	A	5.0	R	√3	0.23	0,26	1.2	0.8	∞
Combined standard uncertainty	$u_c' = \sqrt{\sum_{i=1}^{23} c_i^2 u_i^2}$						10.57	10.32	
Expanded uncertainty (95 % conf. interval)	$u_e = 2u_c$		N		K=2		21.14	20.64	

3. MEASURE PROCEDURES

3.1.General description of test procedures

For the 802.11b/g SAR body tests, a communication link is set up with the test mode software for WIFI mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate. Testing at higher data rates is not required when the maximum average output power is less than 0.25dB higher than those measured at the lowest data rate.SAR is not required for 802.11g channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels. The same test procedure for 802.11a/n/ac mode.

4. SAR MEASUREMENTS SYSTEM

4.1.SAR Measurement Set-up

DASY5 system for performing compliance tests consists of the following items:

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

(2) A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage It issue simulating liquid. The probe is equipped with an optical surface detector system.

(3) 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.

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

(5) 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 DASY5 measurement server.

(6) The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2003.

(7) DASY5 software and SEMCAD data evaluation software.

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

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

(10) The device holder for handheld mobile phones.

(11) Tissue simulating liquid mixed according to the given recipes.

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

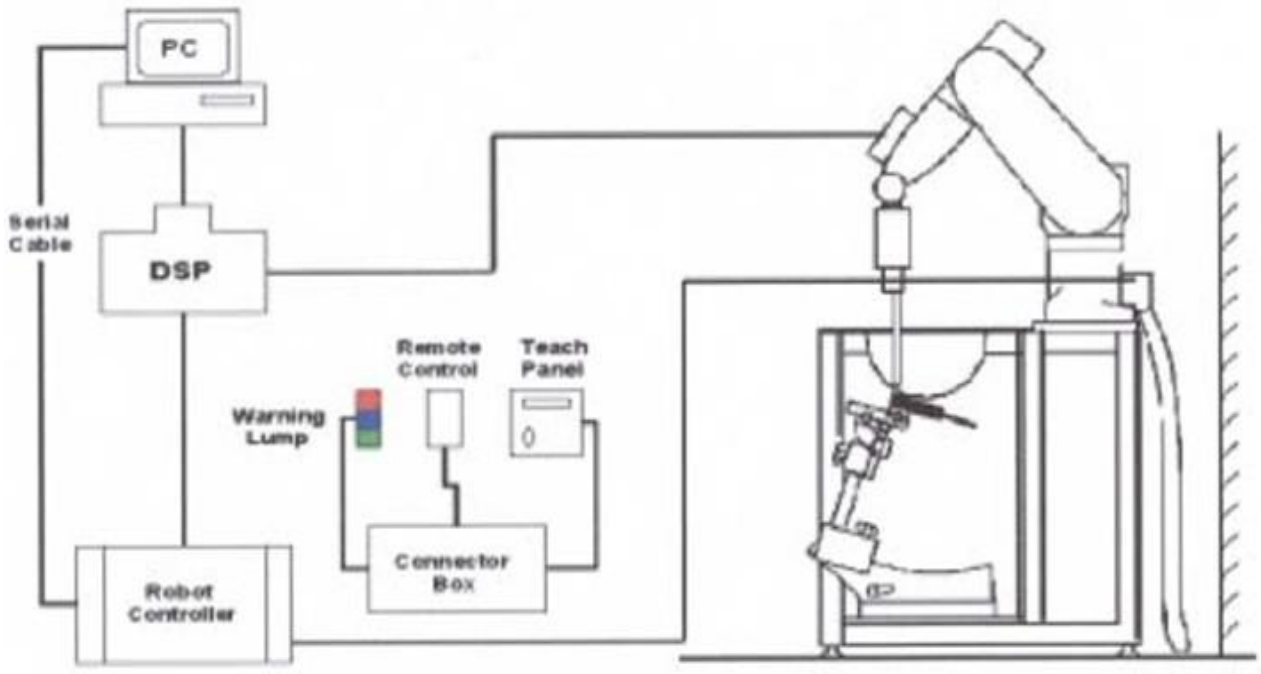


Figure 4.1 SAR Lab Test Measurement Set-up

4.2.ELI Phantom

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

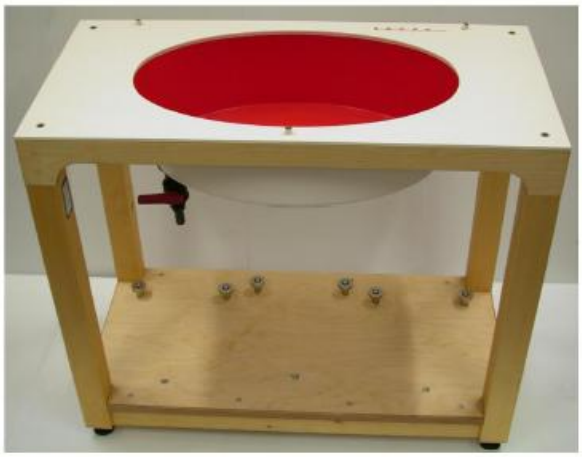


Figure 4.2 Top View of Twin Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)
Shell Thickness	2.0 ± 0.2 mm (bottom plate)
Dimensions	Major axis: 600 mm Minor axis: 400 mm
Filling Volume	approx. 30 liters
Wooden Support	SPEAG standard phantom table

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters.
On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.
The phantom can be used with the following tissue simulating liquids:

*Water-sugar based liquid
*Glycol based liquids

4.3.Device Holder for SAM Twin Phantom

The SAR in the Phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source in 5 mm distance, a positioning uncertainty of ±0.5mm would produce a SAR uncertainty of ± 20%. An accurate device position is therefore crucial for accurate and repeatable measurement. The position in which the devices must be measured, are defined by the standards.

The DASY5 device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (EPR).

Thus the device needs no repositioning when changing the angles.

The DASY5 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε_r=3 and loss tangent□ □δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

Figure 4.3 Device Holder

4.4.DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

Figure 4.4 EX3DV4 E-field Probe

5.4.1. EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core 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 Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2dB (noise: typically < 1 µW/g)
Dimensions	Overall length: PRS-T2 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
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%.

4.5.E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ±10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (Norm X, Norm Y, Norm Z), the diode compression parameter (DCP) and the conversion factor (Conv F) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where: Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
ΔT = Temperature increase due to RF exposure.
Or

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

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m3).

4.6.Scanning procedure

The DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

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

The ”surface check“ measurement tests the optical surface detection system of the DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles.

The difference between the optical surface detection and the actual surface depends on the Probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot. Before starting the area scan a grid spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged.

After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

Zoom Scan

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

Spatial Peak Detection

The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses. The DASY5 system allows evaluations that combine measured data and robot positions, such as:

· maximum search

· extrapolation

· boundary correction

· peak search for averaged SAR

During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.

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

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

5. DATA STORAGE AND EVALUATION

5.1.Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

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

5.2.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 Normi, ai0, ai1, ai2
- Conversion factor ConvFi
- Diode compression point Dcpi

Device parameters: - Frequency
- Crest factor cf

Media parameters: - Conductivity
- Density

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 DASY5 components. In the direct measuring mode of the millimeter 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:

$$Vi = Ui + Ui2 \cdot c f / d c pi$$

With Vi = compensated signal of channel i (i = x, y, z)

Ui = input signal of channel i (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcpi = diode compression point (DASY parameter)

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

E-field probes: Ei = (Vi / Normi · ConvF)1/2

H-field probes: Hi = (Vi)1/2 · (ai0 + ai1 f + ai2f2) / f

With Vi = compensated signal of channel i (i = x, y, z)

Normi = sensor sensitivity of channel i (i = x, y, z)

ConvF = sensitivity enhancement in solution

aij = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

Ei = electric field strength of channel i in V/m

Hi = magnetic field strength of channel i in A/m

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

Etot = (Ex2+ EY2+ Ez2)1/2

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

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with

SAR = local specific absorption rate in mW/g

Etot = total field strength in V/m

= conductivity in [mho/m] or [Siemens/m]

= 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.

Ppwe = Etot2 / 3770 or Ppwe = Htot2 · 37.7

with Ppwe = equivalent power density of a plane wave in mW/cm2

Etot = total electric field strength in V/m

Htot = total magnetic field strength in A/m

6. SYSTEM CHECK

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured every day using the dielectric probe kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the simulates, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system check results (dielectric parameters and SAR values) are given in the ANNEX A.

System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system (±10 %).

System check is performed regularly on all frequency bands where tests are performed with the DASY5 system.

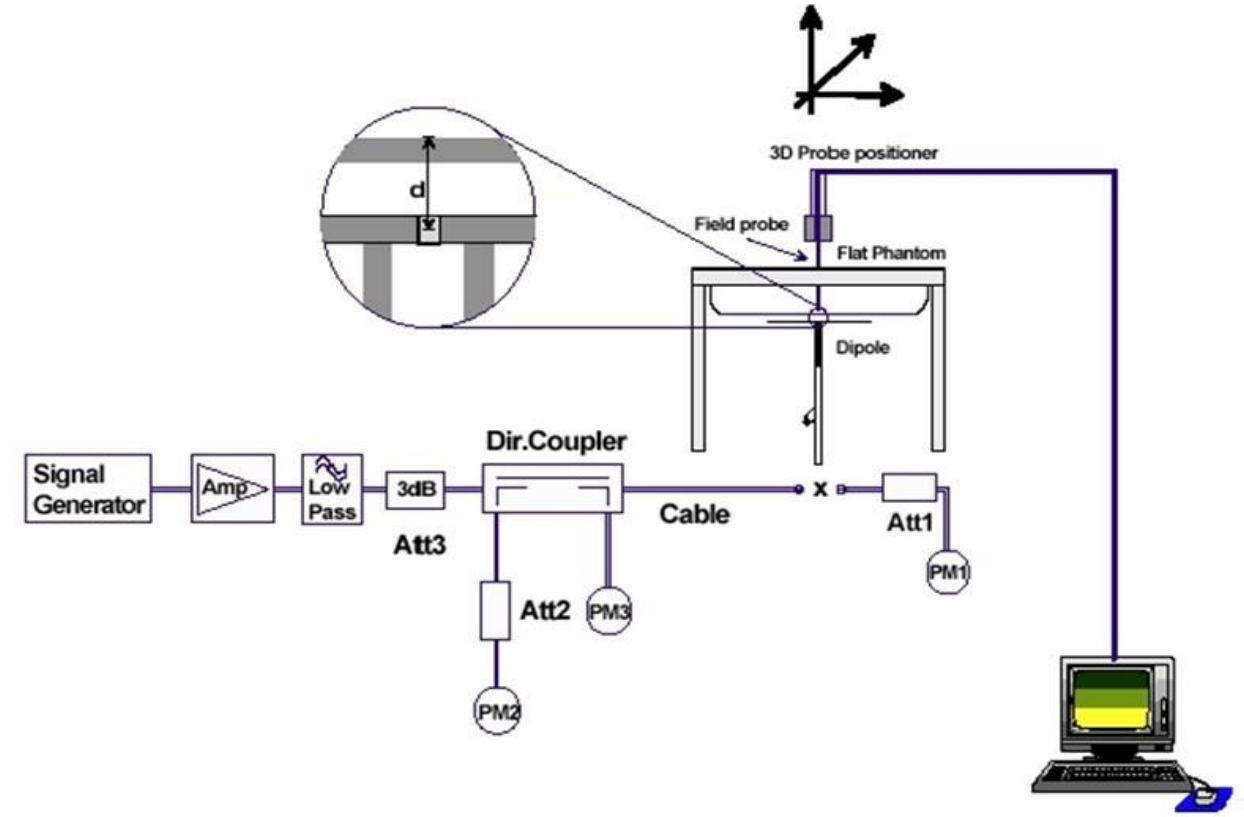


Figure 6.1: System Check Set-up

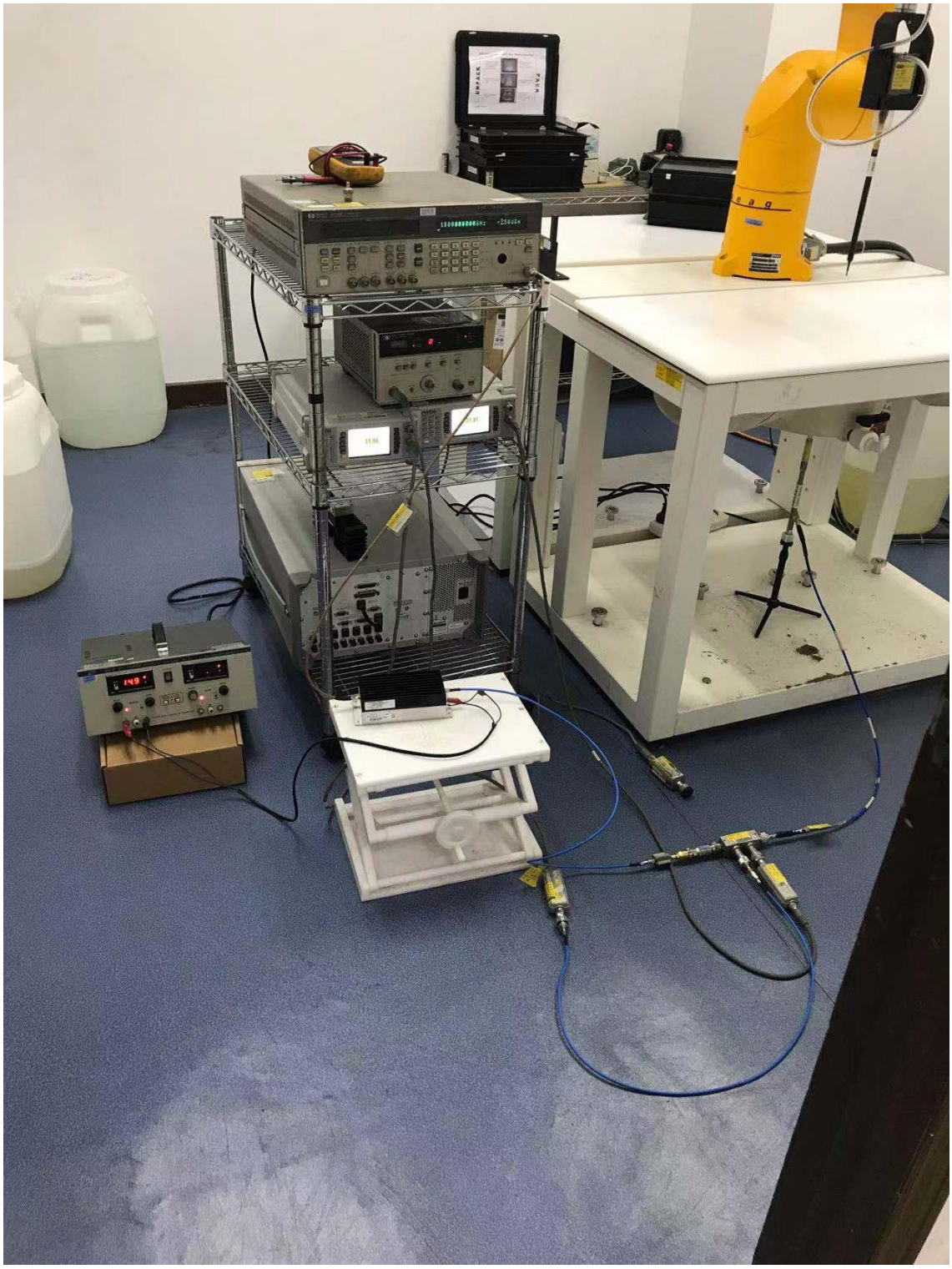


Figure 6.3: photos of system

7. TEST RESULTS

7.1.Output power

Bluetooth

Mode	Channel	Output Power (dBm)
GFSK	**0**	6.674
	39	7.060
	78	6.866
8-DPSK	**0**	7.479
	39	7.765
	78	7.838
BLE1M	**0**	2.249
	19	2.281
	39	2.315

WiFi 2.4GHz

Mode	Channel	Output Power (dBm)
		Ant 1
11b	**CH1**	16.940
	CH6	16.620
	CH11	16.390
11g	**CH1**	11.820
	CH6	11.440
	CH11	11.310
11n20	**CH1**	12.450
	CH6	12.200
	CH11	11.900
11n40	**CH3**	10.270
	CH6	10.170
	CH9	10.070

WiFi 5GHz Band1

Mode	Channel	Output Power(dBm)
		Ant 2
11a	CH36	14.84
	CH40	15.01
	CH48	15.66
11n20	CH36	13.77
	CH40	14.20
	CH48	14.60
11n40	CH38	11.15
	CH46	11.78
11ac20	CH36	13.29
	CH40	13.63
	CH48	14.09
11ac40	CH38	10.72
	CH46	11.48
11ac80	CH42	11.26

WiFi 5GHz Band2A

Mode	Channel	Output Power (dBm)
		Ant 2
11a	CH52	14.29
	CH60	14.62
	CH64	14.90
11n20	CH52	13.13
	CH60	13.45
	CH64	13.63
11n40	CH54	9.83
	CH62	10.40
11ac20	CH52	13.44
	CH60	13.72
	CH64	13.97
11ac40	CH54	10.56
	CH62	10.84
11ac80	CH58	8.12

WiFi 5GHz Band2C

Mode	Channel	Output Power (dBm)
		Ant 2
11a	CH100	9.71
	CH116	9.26
	CH140	9.82
11n20	CH100	9.00
	CH116	8.43
	CH140	9.19
11n40	CH102	7.98
	CH110	7.64
	CH134	8.05
11ac20	CH100	8.89
	CH116	8.39
	CH140	9.10
11ac40	CH102	8.12
	CH110	7.74
	CH134	7.96
11ac80	CH106	6.25
	CH122	5.71

WiFi 5GHz Band3

Mode	Channel	Output Power (dBm)
		Ant 2
11a	CH149	15.36
	CH157	15.54
	CH165	15.34
11n20	CH149	14.89
	CH157	14.93
	CH165	14.92
11n40	CH151	13.75
	CH159	13.70
11ac20	CH149	13.30
	CH157	13.42
	CH165	13.33
11ac40	CH151	12.35
	CH159	12.46
11ac80	CH155	11.84

7.2.System Check & Tissue simulating liquid

Frequency	Description	SAR		Dielectric Parameters (±10% for window)		Temp
		1g	10g	σ(s/m)	εr	℃
2450MHz	Recommended value	13.5 10.962-16.038	6.29 5.11377-7.46623	1.80 1.62-1.98	39.2 35.28-43.12	/
	Measurement value 2025-03-12	13.94	6.32	1.8	39.2	22.05
5250MHz	Recommended value	7.88 5.95728-9.80272	2.23 1.69034-2.76966	4.71 4.239-5.181	35.9 32.31-39.49	/
	Measurement value 2025-03-13	7.57	2.27	4.52	35.49	22.03
5600MHz	Recommended value	8.20 6.1992-10.2008	2.32 1.75856-2.88144	5.07 4.563-5.577	35.5 31.95-39.05	/
	Measurement value 2025-03-13	7.41	2.15	4.851	35.134	22.03
5750MHz	Recommended value	7.75 5.859-9.641	2.17 1.64486-2.69514	5.22 4.698-5.742	35.4 31.86-38.94	/
	Measurement value 2025-03-13	7.20	2.35	5.29	35.211	22.03

Test Laboratory: Audix SAR Lab Date: 12/03/2025

CW 2450

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:862

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;Communication System PAR: 0 dB

Medium parameters used: f = 2450 MHz; σ = 1.818 S/m; ε_r = 39.440; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(7.6, 7.6, 7.6); Calibrated: 01/08/2024;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 06/06/2024
- Phantom: ELI4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 2450MHz/Area Scan (61x71x1): Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 16.6 W/kg

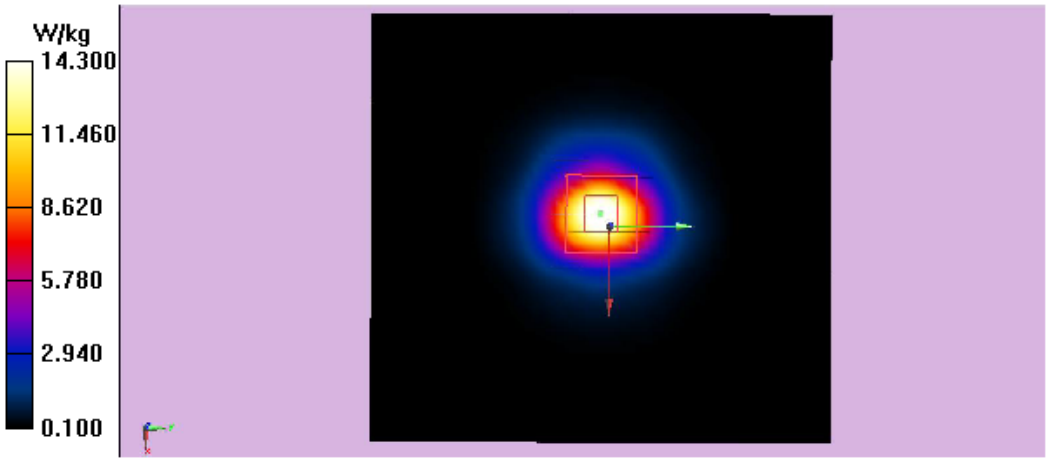
Configuration/CW 2450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 79.77 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 25.4 W/kg

SAR(1 g) = 12.1 W/kg; SAR(10 g) = 5.54 W/kg

Maximum value of SAR (measured) = 14.1 W/kg



Test Laboratory: Audix SAR Lab Date: 13/03/2025

CW 5250

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5250 MHz;Communication System PAR: 0 dB

Medium parameters used: f = 5250 MHz; σ = 4.52 S/m; ε_r = 35.49; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(5.5, 5.5, 5.5); Calibrated: 01/08/2024;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 06/06/2024
- Phantom: ELI4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5250MHz/Area Scan (61x71x1): Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 9.40 W/kg

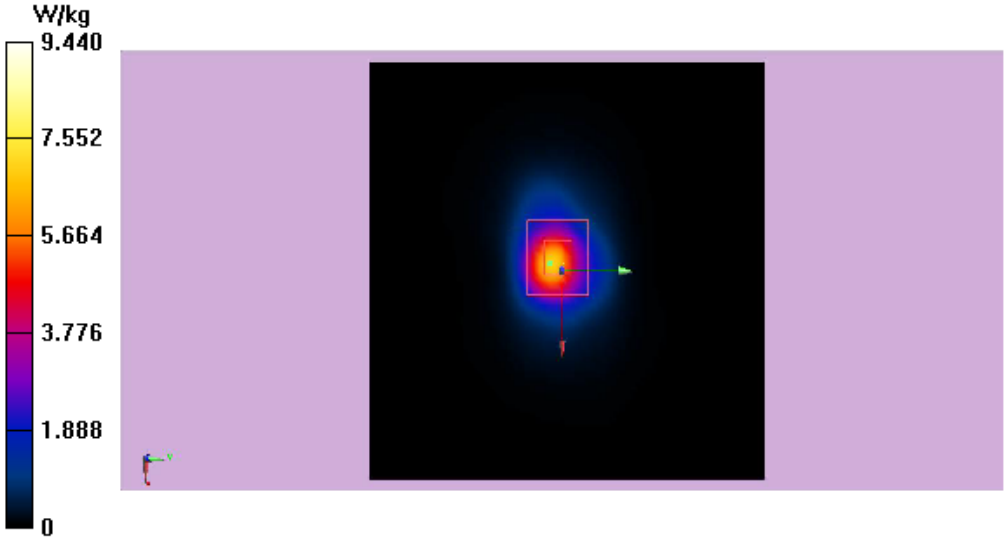
Configuration/CW 5250MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 42.22 V/m; Power Drift = 0.06dB

Peak SAR (extrapolated) = 27.6 W/kg

SAR(1 g) = 8.31 W/kg; SAR(10 g) = 2.53 W/kg

Maximum value of SAR (measured) = 9.44 W/kg



Test Laboratory: Audix SAR Lab Date: 13/03/2025

CW 5600

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;Communication System PAR: 0 dB

Medium parameters used: f = 5600 MHz; σ = 4.851 S/m; ε_r = 35.134; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.85, 4.85, 4.85); Calibrated: 01/08/2024;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 06/06/2024
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5600MHz/Area Scan (61x71x1): Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 8.11 W/kg

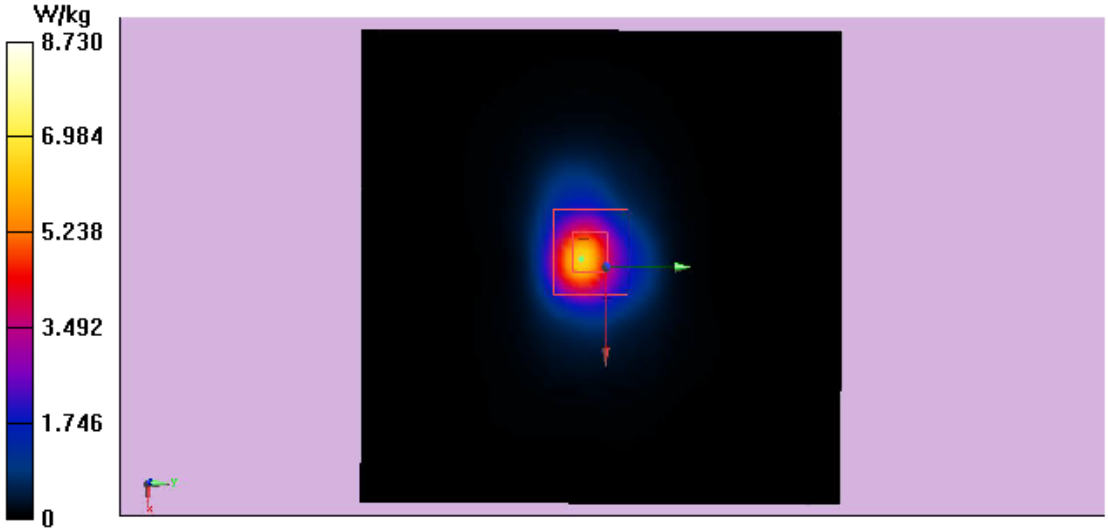
Configuration/CW 5600MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 37.57 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 27.7 W/kg

SAR(1 g) = 7.41 W/kg; SAR(10 g) = 2.15 W/kg

Maximum value of SAR (measured) = 8.73 W/kg



Test Laboratory: Audix SAR Lab Date: 13/03/2025

CW 5750

DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1102

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5750 MHz;Communication System PAR: 0 dB

Medium parameters used: f = 5750 MHz; σ = 5.29 S/m; ε_r = 35.211; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3767; ConvF(4.91, 4.91, 4.91); Calibrated: 01/08/2024;
- Modulation Compensation:
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn899; Calibrated: 06/06/2024
- Phantom: ELI4.0; Type: QDOVA001BA; Serial: 1112
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CW 5750MHz/Area Scan (61x71x1): Interpolated grid: dx=2.000 mm, dy=2.000 mm

Maximum value of SAR (interpolated) = 8.55 W/kg

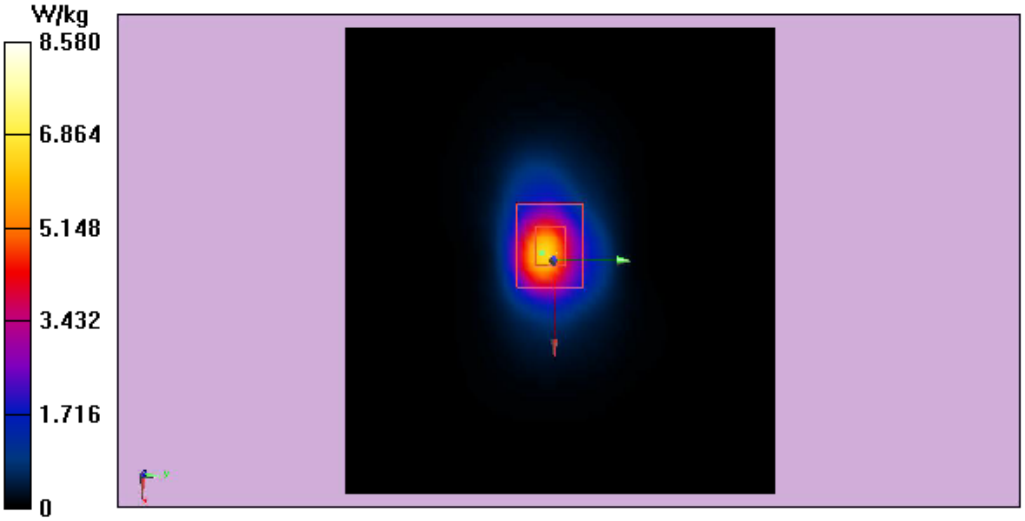
Configuration/CW 5750MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 33.99 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 23.9 W/kg

SAR(1 g) = 7.20 W/kg; SAR(10 g) = 2.35 W/kg

Maximum value of SAR (measured) = 8.58 W/kg



7.3.Dielectric Performance for Body Tissue simulating liquid

Frequency		Description	Dielectric Parameters (±10% window)		Temp
			σ(s/m)	εr	℃
BT (Ant 2)	2402MHz (Front)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.828	38.913	22.05
	2441MHz (Front)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.878	38.734	22.05
	2480MHz (Bottom)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.917	38.579	22.05
	2480MHz (Front)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.917	38.579	22.05
	2480MHz (Left)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.917	38.579	22.05
	2480MHz (Back)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.917	38.579	22.05
WiFi 2.4GHz (Ant 2)	2412MHz (Bottom)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.841	38.849	22.05
	2412MHz (Back)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.841	38.849	22.05
	2412MHz (Right)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.841	38.849	22.05
	2412MHz (Front)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.841	38.849	22.05
	2437MHz (Front)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.873	38.753	22.05
	2462MHz (Front)	Recommended value	1.80 1.62-1.98	39.20 35.28-43.12	/
		Measurement value 2025-03-12	1.899	38.666	22.05

WiFi 5GHz Band 1 (Ant 1)	**5180MHz (Front)**	Recommended value	4.71 4.239 - 5.181	35.90 32.31 - 39.49	/
		Measurement value 2025-03-12	4.525	37.179	22.03
	5200MHz (Front)	Recommended value	4.71 4.239 - 5.181	35.90 32.31- 39.49	/
		Measurement value 2025-03-12	4.51	35.53	22.03
	5240MHz (Bottom)	Recommended value	4.71 4.239 - 5.181	35.90 32.31- 39.49	/
		Measurement value 2025-03-12	4.565	37.130	22.03
	5240MHz (Front)	Recommended value	4.71 4.239 - 5.181	35.90 32.31- 39.49	/
		Measurement value 2025-03-12	4.565	37.130	22.03
	5240MHz (Left)	Recommended value	4.71 4.239 - 5.181	35.90 32.31- 39.49	/
		Measurement value 2025-03-12	4.565	37.130	22.03
	5240MHz (Back)	Recommended value	4.71 4.239 - 5.181	35.90 32.31- 39.49	/
		Measurement value 2025-03-12	4.565	37.130	22.03
WiFi 5GHz Band 2 (Ant 1)	**5260MHz (Front)**	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	4.523	37.018	22.03
	5300MHz (Front)	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	4.51	35.53	22.03
	5320MHz (Bottom)	Recommended value	5.07 4.563-5.577	35.5 31.95-39.05	/
		Measurement value 2025-03-13	4.611	37.015	22.03
	5320MHz (Back)	Recommended value	5.07 4.563-5.577	35.5 31.95-39.05	/
		Measurement value 2025-03-13	4.611	37.015	22.03
	5320MHz (Left)	Recommended value	5.07 4.563-5.577	35.5 31.95-39.05	/
		Measurement value 2025-03-13	4.611	37.015	22.03
	5320MHz (Back)	Recommended value	5.07 4.563-5.577	35.5 31.95-39.05	/
		Measurement value 2025-03-13	4.611	37.015	22.03

WiFi 5GHz Band 3 (Ant 1)	**5500MHz (Front)**	Recommended value	5.07 4.563-5.577	35.5 31.95-39.05	/
		Measurement value 2025-03-13	4.82	35	22.03
	5600MHz (Front)	Recommended value	5.07 4.563-5.577	35.5 31.95-39.05	/
		Measurement value 2025-03-13	4.729	36.707	22.03
	5700MHz (Bottom)	Recommended value	5.22 4.698-5.742	35.4 31.86-38.94	/
		Measurement value 2025-03-13	4.912	34.791	22.03
	5700MHz (Front)	Recommended value	5.22 4.698-5.742	35.4 31.86-38.94	/
		Measurement value 2025-03-13	4.912	34.791	22.03
	5700MHz (Left)	Recommended value	5.22 4.698-5.742	35.4 31.86-38.94	/
		Measurement value 2025-03-13	4.912	34.791	22.03
	5700MHz (Back)	Recommended value	5.22 4.698-5.742	35.4 31.86-38.94	/
		Measurement value 2025-03-13	4.912	34.791	22.03
WiFi 5GHz Band 4 (Ant 1)	**5745MHz (Front)**	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	5.0032	34.933	21.04
	5785MHz (Bottom)	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	5.134	34.842	21.04
	5785MHz (Front)	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	5.134	34.842	21.04
	5785MHz (Left)	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	5.134	34.842	21.04
	5785MHz (Back)	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	5.134	34.842	21.04
	5825MHz (Front)	Recommended value	4.71 4.239-5.181	35.9 32.31-39.49	/
		Measurement value 2025-03-13	5.101	34.88	21.04

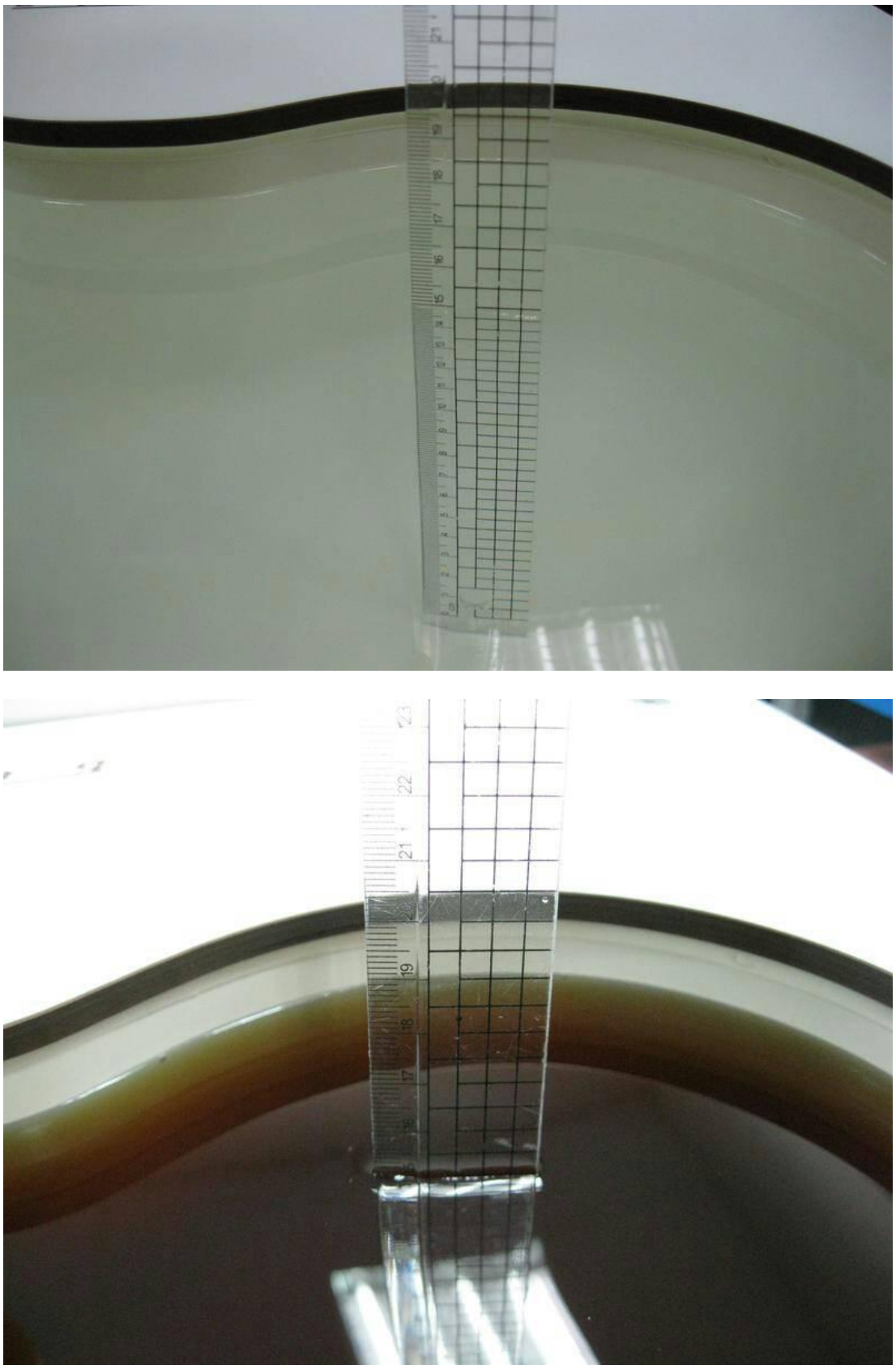


Figure 4.4: Liquid depth in the Flat Phantom

7.4.Test Results

Test Mode: BT + WIFI 2.4G

SAR Test Record For BT / WIFI 2.4G														
/	Test Mode					Measure			/	Power(dBm)		/	Report SAR(W/kg)	
Remark	Test Position	distance	Band	Mode	Test CH	SAR (W/kg) 1g	SAR (W/kg) 10g	Power Drift (dB)	Duty cycle	Conducted	Tune up	Factor	SAR 1g	SAR 10g
Ant1	Right	0mm	2.4G	11b	1	0.123	0.065	0.15	0.994	16.94	17	1.0139	0.126	0.066
Ant1	Back	0mm	2.4G	11b	1	0.82	0.177	-0.1	0.994	16.94	17	1.0139	0.837	0.181
Ant1	Front	0mm	2.4G	11b	1	1.01	0.096	-0.08	0.994	16.94	17	1.0139	1.031	0.098
Ant1	Bottom	0mm	2.4G	11b	1	0.00182	0.000964	-0.19	0.994	16.94	17	1.0139	0.002	0.001
Ant1	Front	0mm	2.4G	11b	6	1.05	0.094	-0.17	0.994	16.62	17	1.0914	1.153	0.103
Ant1	Front	0mm	2.4G	11b	11	0.00143	0.000521	-0.15	0.994	16.39	17	1.1508	0.002	0.001
Ant2	Left	0mm	BT	3DH5	78	0.00303	0.00232	-0.02	0.782	7.84	8	1.038	0.004	0.003
Ant2	Back	0mm	BT	3DH5	78	0.00391	0.00302	0.11	0.782	7.84	8	1.038	0.005	0.004
Ant2	Front	0mm	BT	3DH5	78	0.00361	0.00285	0.11	0.782	7.84	8	1.038	0.005	0.004
Ant2	Bottom	0mm	BT	3DH5	78	0.00374	0.00272	0.02	0.782	7.84	8	1.038	0.005	0.004
Ant2	Front	0mm	BT	3DH5	0	0.0032	0.00264	0.09	0.782	7.48	8	1.1275	0.005	0.004
Ant2	Front	0mm	BT	3DH5	39	0.00365	0.00289	-0.11	0.782	7.77	8	1.0556	0.005	0.004

Test Mode: WIFI 5GHz

SAR Test Record For WIFI 5G

/	Test Mode					Measure			/	Power(dBm)		/	Report SAR(W/kg)	
Remark	Test Position	distance	Band	Mode	Test CH	SAR(W/kg) 1g	SAR(W/kg) 10g	Power Drift (dB)	Duty cycle	Conducted	Tune up	Factor	SAR 1g	SAR 10g
Ant2	Left	0mm	Band1	11a	48	0.00172	0.000263	-0.16	0.916	15.66	16	1.0814	0.002	0
Ant2	Back	0mm	Band1	11a	48	0.011	0.00218	0.01	0.916	15.66	16	1.0814	0.013	0.003
Ant2	Front	0mm	Band1	11a	48	0.095	0.088	0	0.916	15.66	16	1.0814	0.112	0.104
Ant2	Bottom	0mm	Band1	11a	48	0.064	0.056	-0.13	0.916	15.66	16	1.0814	0.076	0.066
Ant2	Front	0mm	Band1	11a	36	0.108	0.099	0.19	0.916	14.84	16	1.3062	0.154	0.141
Ant2	Front	0mm	Band1	11a	40	0.094	0.086	0.16	0.916	15.01	16	1.256	0.129	0.118
Ant2	Left	0mm	Band2	11a	64	0.00698	0.00437	-0.1	0.996	14.9	15	1.0233	0.007	0.004
Ant2	Back	0mm	Band2	11a	64	0.323	0.282	0.18	0.996	14.9	15	1.0233	0.332	0.29
Ant2	Front	0mm	Band2	11a	64	0.086	0.08	0.14	0.996	14.9	15	1.0233	0.088	0.082
Ant2	Bottom	0mm	Band2	11a	64	0.095	0.056	-0.08	0.996	14.9	15	1.0233	0.098	0.058
Ant2	Front	0mm	Band2	11a	52	0.108	0.095	-0.15	0.996	14.29	15	1.1776	0.128	0.112
Ant2	Front	0mm	Band2	11a	60	0.088	0.081	0.05	0.996	14.62	15	1.0914	0.096	0.089
Ant2	Left	0mm	Band3	11a	140	0.012	0.0093	0.19	0.927	9.82	10	1.0423	0.013	0.01
Ant2	Back	0mm	Band3	11a	140	0.365	0.324	0.18	0.927	9.82	10	1.0423	0.41	0.364
Ant2	Front	0mm	Band3	11a	140	0.156	0.144	0.14	0.927	9.82	10	1.0423	0.175	0.162
Ant2	Bottom	0mm	Band3	11a	140	0.00543	0.00174	0.12	0.927	9.82	10	1.0423	0.006	0.002
Ant2	Front	0mm	Band3	11a	100	0.256	0.232	-0.11	0.927	9.71	10	1.0691	0.295	0.268
Ant2	Front	0mm	Band3	11a	120	0.168	0.147	-0.16	0.927	9.26	10	1.1858	0.215	0.188
Ant2	Left	0mm	Band4	11a	157	0.00916	0.00475	0.1	0.996	15.54	16	1.1117	0.01	0.005
Ant2	Back	0mm	Band4	11a	157	0.014	0.00598	-0.13	0.996	15.54	16	1.1117	0.016	0.007
Ant2	Front	0mm	Band4	11a	157	0.152	0.136	0.19	0.996	15.54	16	1.1117	0.17	0.152
Ant2	Bottom	0mm	Band4	11a	157	0.06	0.048	-0.19	0.996	15.54	16	1.1117	0.067	0.054
Ant2	Front	0mm	Band4	11a	149	0.144	0.13	-0.1	0.996	15.36	16	1.1588	0.168	0.151
Ant2	Front	0mm	Band4	11a	165	0.14	0.126	0.1	0.996	15.34	16	1.1641	0.164	0.147

Total SAR:

WLAN 2.4G			Total SAR 1g	Limit
Position	Ant1	BT		
Front	1.153	0.005	**1.158**	1.6W/kg
Back	0.000	0.005	0.005	
Top	0.002	0.000	0.002	
Bottom	0.837	0.005	0.842	
Left	0.000	0.004	0.004	
Right	0.126	0.000	0.126	

WLAN 5G			Total SAR 1g	Limit
Position	Band1			
	Ant2	BT		
Front	0.154	0.005	0.159	1.6W/kg
Back	0.013	0.005	0.018	
Bottom	0.076	0.005	0.081	
Left	0.002	0.004	0.006	

WLAN 5G			Total SAR 1g	Limit
Position	Band2			
	Ant2	BT		
Front	0.128	0.005	0.133	1.6W/kg
Back	0.332	0.005	0.337	
Bottom	0.098	0.005	0.103	
Left	0.007	0.004	0.011	

WLAN 5G			Total SAR 1g	Limit
Position	Band3			
	Ant2	BT		
Front	0.295	0.005	0.300	1.6W/kg
Back	0.410	0.005	0.415	
Bottom	0.006	0.005	0.011	
Left	0.013	0.004	0.017	

WLAN 5G			Total SAR 1g	Limit
Position	Band4			
	Ant2	BT		
Front	0.170	0.005	0.175	1.6W/kg
Back	0.016	0.005	0.021	
Bottom	0.067	0.005	0.072	
Left	0.010	0.004	0.014	