NVLAP TESTING
LABORATORY CODE 600341-0

BACL Bay Area Compliance Labs Corp.

TEST REPORT

Applicant: GLOBAL MEI CHUANG CO., LIMITED

Address: FLAT / RM A, 9 /F, SILVERCORP INTERNATIONAL TOWER, 707-713 NATHAN ROAD, MONGKOK, KL, HONGKONG

Product Name: Walkie Talkie

Model Number: T68

FCC ID: 2AMEA-T68981

Standard(s): 47 CFR Part 2(2.1093)

Report Number: SZ5240125-05966E-20

Report Date: 2024/03/06

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

Mark Dong | Brave Lu

Reviewed By: Mark Dong | **Approved By:** Brave Lu

Title: SAR Engineer | Title: SAR Engineer

Bay Area Compliance Laboratories Corp. (Dongguan)

No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China

Tel: +86-769-86858888

Fax: +86-769-86858891

www.baclcorp.com.cn

Note: The information marked ▲ is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested. This report cannot be reproduced except in full, without prior written approval of the Company. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0. This report may contain data that are not covered by the accreditation scope and shall be marked with ★.This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

<table>
<tr><th colspan="5">Attestation of Test Results</th></tr>
<tr><td rowspan="5">EUT Information</td><td>EUT Description</td><td colspan="3">Walkie Talkie</td></tr>
<tr><td>Tested Model</td><td colspan="3">T68</td></tr>
<tr><td>FCC ID</td><td colspan="3">2AMEA-T68981</td></tr>
<tr><td>Serial Number</td><td colspan="3">2H5Z-1</td></tr>
<tr><td>Test Date</td><td colspan="3">2024/02/17</td></tr>
<tr><td colspan="2">Mode</td><td colspan="2">Max. SAR Level(s) Reported(W/kg)</td><td>Limit</td></tr>
<tr><td colspan="2" rowspan="2">PTT(462.5500-467.7125MHz)</td><td>1g Head SAR(Face Up)</td><td>0.17</td><td rowspan="2">1.6 (W/kg)</td></tr>
<tr><td>1g Body SAR(Body Back)</td><td>0.57</td></tr>
<tr><td rowspan="5">Applicable Standards</td><td colspan="4">FCC 47 CFR part 2.1093
Radiofrequency radiation exposure evaluation: portable devices</td></tr>
<tr><td colspan="4">RF Exposure Procedures: TCB Workshop April 2019</td></tr>
<tr><td colspan="4">IEEE1528:2013
IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques</td></tr>
<tr><td colspan="4">IEC 62209-1:2016
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 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz)</td></tr>
<tr><td colspan="4">KDB procedures
KDB 447498 D01 General RF Exposure Guidance v06
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 643646 D01 SAR Test for PTT Radios v01r03</td></tr>
<tr><td colspan="5">Note: This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for Population/Uncontrolled Exposure limits specified in FCC 47 CFR part 2.1093 and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures.
The results and statements contained in this report pertain only to the device(s) evaluated.</td></tr>
</table>

TABLE OF CONTENTS

DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	SZ5240125-05966E-20	Original Report	2024/03/06

EUT DESCRIPTION

The ***GLOBAL MEI CHUANG CO., LIMITED****'s* product, model number: ***T68*** *(FCC ID:* ***2AMEA-T68981****)* in this report is a ***Walkie Talkie***.

**All measurement and test data in this report was gathered from production sample serial number: 2H5Z-1 (Assigned by BACL).The EUT supplied by the applicant was received on 2024-01-25.*

Technical Specification

Device Type:	Portable
Exposure Category:	General Population/Uncontrolled Exposure
Antenna Type(s):	Integral Antenna
Body-Worn Accessories:	Belt Clip
Face-Head Accessories:	None
Operation Mode :	PTT_FM
Frequency Band:	462MHz(462.5500-462.7250 MHz) 467MHz(467.5625-467.7125 MHz)
RF Output Power(ERP):	462MHz(462.5500-462.7250 MHz): 23.37dBm 467MHz(467.5625-467.7125 MHz): 21.34dBm
Power Source:	4.5 VDC From Battery
Normal Operation:	Face Up and Body-worn

REFERENCE, STANDARDS, AND GUIDELINES

FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, ANSI/IEEE standard C95.1-1992 [6], limit the whole-body-averaged SAR to 0.4 and 0.08 W/kg for the controlled and uncontrolled environments. According to the Supplement C of OET Bulletin 65 “Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America.

SAR Limits

FCC Limit

EXPOSURE LIMITS	**SAR (W/kg)**	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	**1.60**	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

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

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

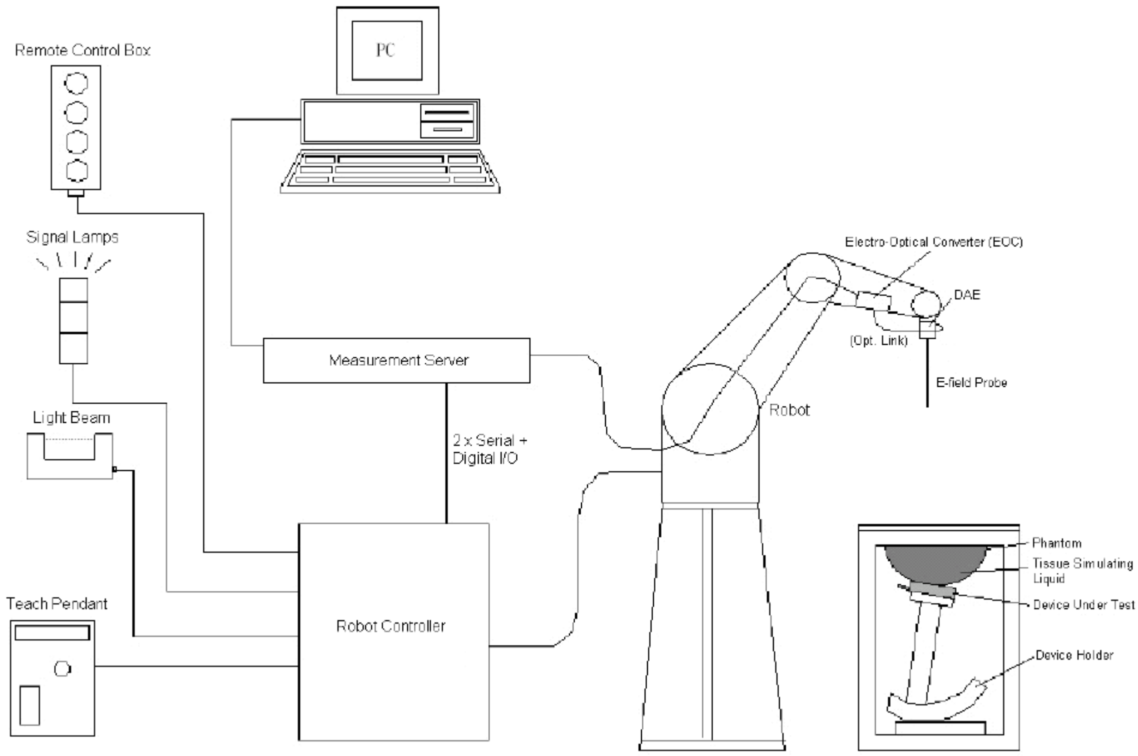
General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg for 1g SAR applied to the EUT.

DESCRIPTION OF TEST SYSTEM

These measurements were performed with the automated near-field scanning system DASY5 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:

DASY5 System Description

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal application, 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.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 professional operating system and the DASY52 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

DASY5 Measurement Server

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz Intel ULV Celeron, 128MB chip-disk and 128MB RAM. The necessary circuits for communication with the DAE4 (or DAE3) electronics box, as well as the 16 bit AD-converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized point out, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

Data Acquisition Electronics

The data acquisition electronics (DAE4) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 E-Field Probes

Frequency	4 MHz - 10 GHz Linearity: ± 0.2 dB (30 MHz to 10 GHz)
Directivity	± 0.1 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 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); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52, DASY6, DASY8 SAR, EASY6, EASY4/MRI

Calibration Frequency Points for EX3DV4 E-Field Probes SN: 3801Calibrated: 2023/6/23

Calibration Frequency Point(MHz)	Frequency Range(MHz)		Conversion Factor		
	From	To	X	Y	Z
150 Head	100	200	11.02	11.02	11.02
450 Head	350	550	10.11	10.11	10.11
750 Head	650	810	9.49	9.49	9.49
835 Head	810	860	9.17	9.17	9.17
900 Head	860	1000	9.08	9.08	9.08
1450 Head	1350	1550	8.32	8.32	8.32
1750 Head	1650	1850	8.22	8.22	8.22
1900 Head	1850	2000	7.93	7.93	7.93
2100 Head	2000	2200	7.87	7.87	7.87
2300 Head	2200	2399	7.62	7.62	7.62
2450 Head	2399	2500	7.38	7.38	7.38
2600 Head	2500	2700	7.16	7.16	7.16
3300 Head	3200	3400	6.52	6.52	6.52
3500 Head	3400	3600	6.46	6.46	6.46
3700 Head	3600	3800	4.40	4.40	4.40
3900 Head	3800	4000	6.33	6.33	6.33
4100 Head	4000	4150	5.98	5.98	5.98
4200 Head	4150	4300	5.95	5.95	5.95
4400 Head	4300	4500	5.74	5.74	5.74
4600 Head	4500	4700	5.73	5.73	5.73
4800 Head	4700	4870	5.72	5.72	5.72
4950 Head	4870	5060	5.38	5.38	5.38
5250 Head	5140	5360	5.19	5.19	5.19
5600 Head	5490	5675	4.60	4.60	4.60
5750 Head	5675	5860	4.69	4.69	4.69

Robots

The DASY5 system uses the high precision industrial robot. The robot offers the same features important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchrony motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

The above mentioned robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm 2 step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm,with the side length of the 10g cube is 21.5mm.

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 x7 x 7 (5mmx5mmx5mm) providing a volume of 30 mm in the X & Y & Z axis.

Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEC 62209-1:2016

Recommended Tissue Dielectric Parameters for Head liquid

Table A.3 – Dielectric properties of the head tissue-equivalent liquid

Frequency MHz	Relative permittivity ε_r	Conductivity (σ) S/m
300	45,3	0,87
450	43,5	0,87
750	*41,9*	*0,89*
835	41,5	0,90
900	41,5	0,97
1 450	40,5	1,20
1 500	*40,4*	*1,23*
1 640	*40,2*	*1,31*
1 750	*40,1*	*1,37*
1 800	40,0	1,40
1 900	40,0	1,40
2 000	40,0	1,40
2 100	*39,8*	*1,49*
2 300	*39,5*	*1,67*
2 450	39,2	1,80
2 600	*39,0*	*1,96*
3 000	38,5	2,40
3 500	*37,9*	*2,91*
4 000	*37,4*	*3,43*
4 500	*36,8*	*3,94*
5 000	*36,2*	*4,45*
5 200	*36,0*	*4,66*
5 400	*35,8*	*4,86*
5 600	*35,5*	*5,07*
5 800	*35,3*	*5,27*
6 000	*35,1*	*5,48*

NOTE For convenience, permittivity and conductivity values at those frequencies which are not part of the original data provided by Drossos et al. [33] or the extension to 5 800 MHz are provided (i.e. the values shown *in italics*). These values were linearly interpolated between the values in this table that are immediately above and below these values, except the values at 6 000 MHz that were linearly extrapolated from the values at 3 000 MHz and 5 800 MHz.

Note:

1, Effective February 19, 2019, FCC has permitted the use of single head-tissue simulating liquid specified in IEC 62209-1 for all SAR tests.

2, Mix and Match of traditional FCC SAR TSLs and IEC 62209-1 TSL in a single application is not permitted TSL can be changed in a Permissive Change.

3, If SAR increases and original SAR > 1.2 W/kg, additional SAR measurements will be required IEC 62209-1 TSL is an alternative, not mandatory at this time.

4, If FCC parameters are used, ±5% tolerance. If IEC parameters, ±10%.

5, In this case, IEC parameters applied, the tolerance is ±10%.

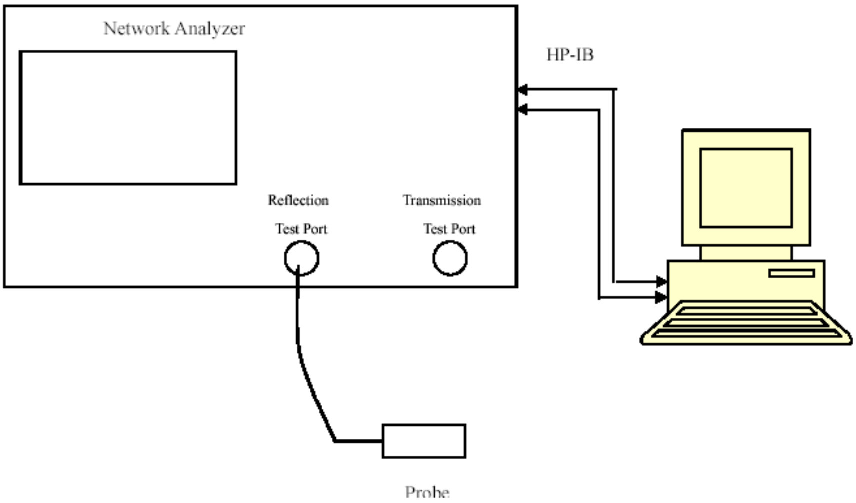
EQUIPMENT LIST AND CALIBRATION

Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52.10	N/A	NCR	NCR
DASY5 Measurement Server	DASY5 4.5.12	1470	NCR	NCR
Data Acquisition Electronics	DAE4	772	2024/1/23	2025/1/22
E-Field Probe	EX3DV4	3801	2023/6/23	2024/6/22
Dipole, 450MHz	D450V3	1107	2022/10/24	2025/10/23
Mounting Device	MD4HHTV5	SD 000 H01 KA	NCR	NCR
Oval Flat Phantom	ELI V8.0	2051	NCR	NCR
Simulated Tissue 450 MHz	TS-450	1709045001	Each Time	/
Network Analyzer	8753C	3033A02857	2023/11/18	2024/11/17
Dielectric assessment kit	1253	SM DAK 040 CA	NCR	NCR
synthesized signal generator	8665B	3438a00584	2023/10/18	2024/10/17
Power Meter	E4419B	MY45103907	2023/10/18	2024/10/17
Power Amplifier	ZHL-5W-202-S+	416402204	NCR	NCR
Directional Coupler	441493	520Z	NCR	NCR
Attenuator	20dB, 100W	LN749	NCR	NCR
Attenuator	6dB, 150W	2754	NCR	NCR
Antenna	JB3	A060611-1	2023/9/6	2026/9/5
EMI Test Receiver	ESR3	102453	2023/8/18	2024/8/17

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

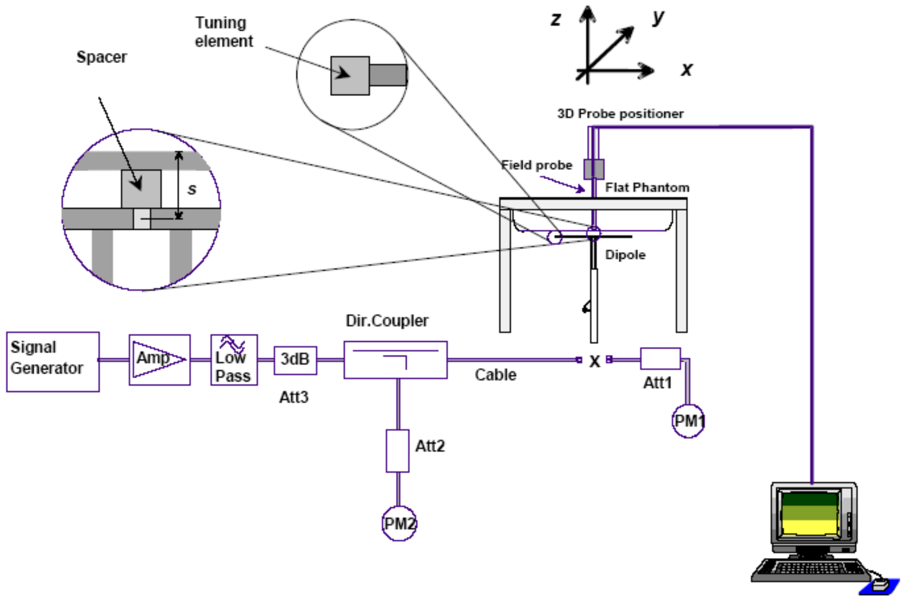
Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
450	Simulated Tissue 450 MHz Head	43.064	0.875	43.5	0.87	-1	0.57	±5
462.6375	Simulated Tissue 450 MHz Head	42.852	0.882	43.43	0.87	-1.33	1.38	±5
467.6375	Simulated Tissue 450 MHz Head	42.718	0.884	43.41	0.87	-1.59	1.61	±5

**Liquid Verification above was performed on 2024/02/17*

System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±10%. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

System Verification Setup Block Diagram



System Accuracy Check Results

Date	Frequency Band	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Target Value (W/kg)	Delta (%)	Tolerance (%)
2024/02/17	450 MHz	Simulated Tissue 450 MHz Head	1000	1g	4.68	4.52	3.54	±10

SAR SYSTEM VALIDATION DATA

System Performance 450 MHz Head

DUT: Dipole 450 MHz; Type: D450V3; Serial: 1107

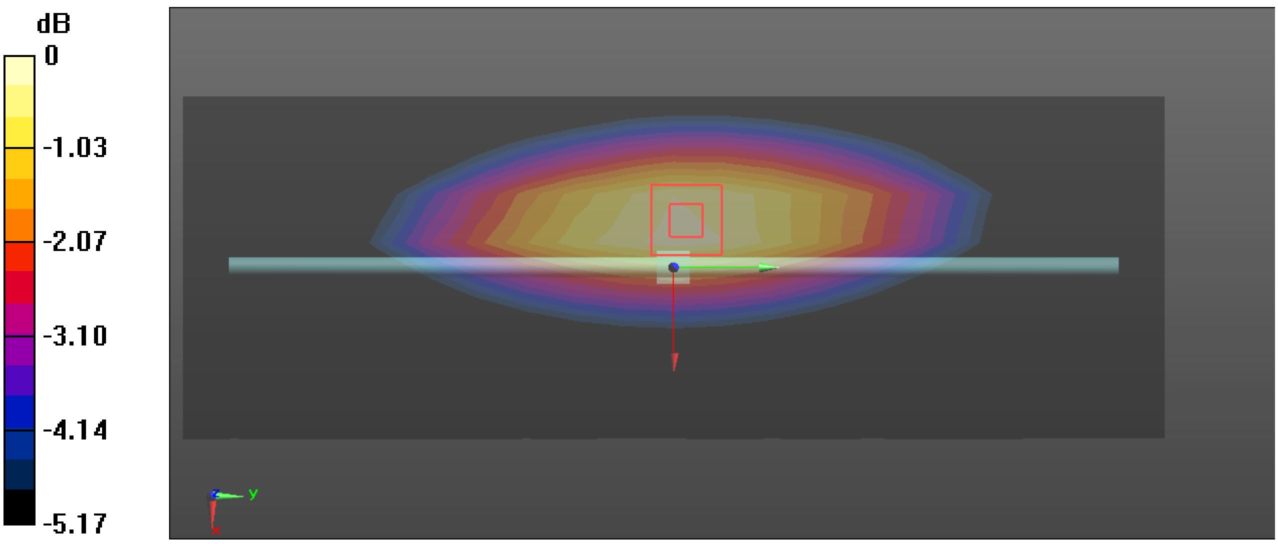
Communication System: CW; Frequency: 450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 450 MHz; σ = 0.875 S/m; ε_r = 43.064; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV42 - SN3801; ConvF(10.11, 10.11, 10.11) @ 450 MHz; Calibrated: 2023/6/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: ELI v8.0; Type: QDOVA002AA; Serial: TP:2051
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x21x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 4.79 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 67.95 V/m; Power Drift = -0.07dB
Peak SAR (extrapolated) = 6.82 W/kg
SAR(1 g) = 4.68 W/kg; SAR(10 g) = 3.18 W/kg
Maximum value of SAR (measured) = 4.87 W/kg

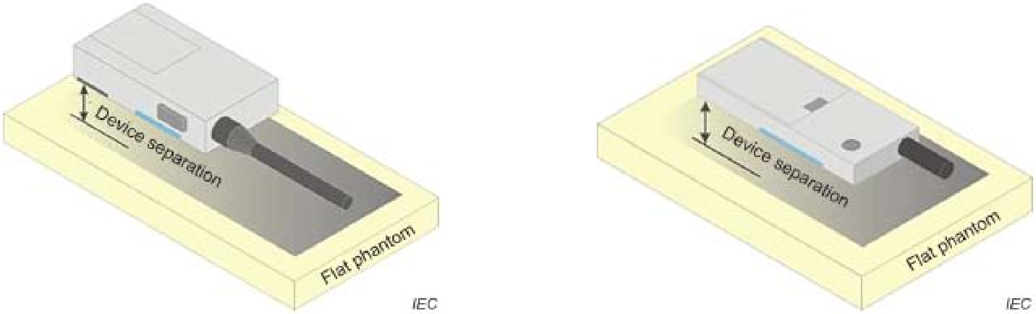


0 dB = 4.87 W/kg = 6.88 dBW/kg

EUT TEST STRATEGY AND METHODOLOGY

Test positions for Front-of-face configurations

Passive body-worn and audio accessories generally do not apply to the head SAR of PTT radios. Head SAR is measured with the front surface of the radio positioned at 2.5 cm parallel to a flat phantom. A phantom shell thickness of 2 mm is required. When the front of the radio has a contour or non-uniform surface with a variation of 1.0 cm or more, the average distance of such variations is used to establish the 2.5 cm test separation from the phantom.



b) Two-way radios

Figure 10 – Test positions for front-of-face devices

Test positions for body-worn and other configurations

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body must be tested.

Body-worn accessories may not always be supplied or available as options for some devices that are intended to be authorized for body-worn use. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the device may use body-worn accessories that provide a separation distance greater than that tested for the device provided however that the accessory contains no metallic components.

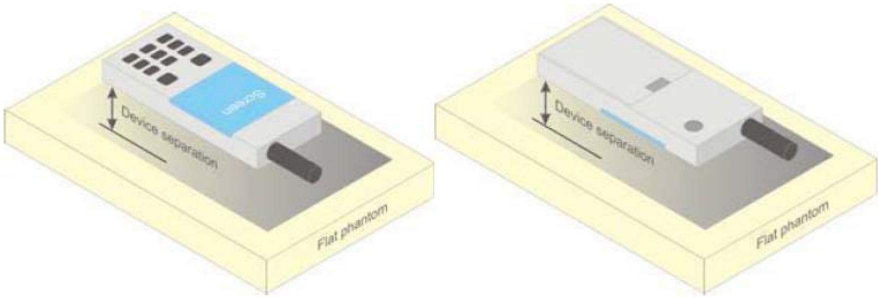


Figure 5 – Test positions for body-worn devices

Test Distance for SAR Evaluation

In this case the DUT(Device Under Test) is set directly against the phantom, the test distance is 0mm for Body Back mode; for Face Up mode the distance is 25mm.

SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or radiating structures of the EUT, the horizontal grid spacing was 15 mm x 15 mm, and the SAR distribution was determined by integrated grid of 1.5mm x 1.5mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the “Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

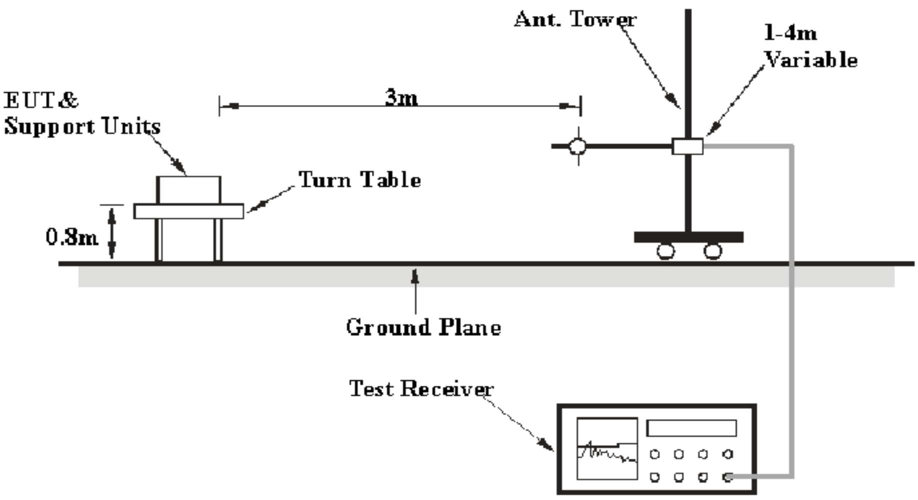
Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

RADIATED OUTPUT POWER MEASUREMENT

Test Procedure

ERP:

The RF output power was perfomed in an Anechoic chamber.



Maximum Target Output Power

Mode	Max. ERP(with tolerance) for Production Unit (dBm)
462MHz(462.5500-462.7250 MHz)	23.5
467MHz(467.5625-467.7125 MHz)	21.5

Test Results:

Mode	Frequency (MHz)	Measured Output Power(ERP) Unit (dBm)
462MHz(462.5500-462.7250 MHz)	462.6375	23.37
467MHz(467.5625-467.7125 MHz)	467.6375	21.34

Note:
Per IEEE1528:2013, the width of the transmit frequency band, $\Delta f = f_{high} - f_{low}$ (where f_{high} is the highest frequency in the band and f_{low} is the lowest) does not exceeds 1% of its center frequency f_c .then only **center frequency** need be tested.

Antennas Location:

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

SAR Test Data

Environmental Conditions

Temperature:	22.6-23.2 ℃
Relative Humidity:	45 %
ATM Pressure:	101.2 kPa
Test Date:	2024/02/17

Testing was performed by Wen Wang.

Test Result:

Test Mode		Frequency (MHz)	Worn accessories	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1 g SAR Value(W/kg)				
						Scaled Factor	Meas. SAR	50%	Scaled SAR	Plot
FM (12.5 kHz)	Head Face Up (25 mm)	462.6375	None	23.37	23.5	1.03	0.321	0.1605	0.17	**1#**
		467.6375	None	21.34	21.5	1.038	0.312	0.156	0.16	2#
	Body Back (0 mm)	462.6375	Belt Clip	23.37	23.5	1.03	1.1	0.55	0.57	**3#**
		467.6375	Belt Clip	21.34	21.5	1.038	0.801	0.4005	0.42	4#

Note:

1. For a PTT, only simplex communication technology was supported, so the SAR value need to be corrected by Multiplying 50%.
2. Passive body-worn and audio accessories generally do not apply to the head SAR of PTT radios.
3. The whole antenna and radiating structures that may contribute to the measured SAR or influence the SAR distribution has been included in the area scan.

SAR Plots

Plot 1#: FM 12.5kHz_462.6375MHz_ Face Up

DUT: Walkie Talkie; Type: T68; Serial: 2H5Z-1

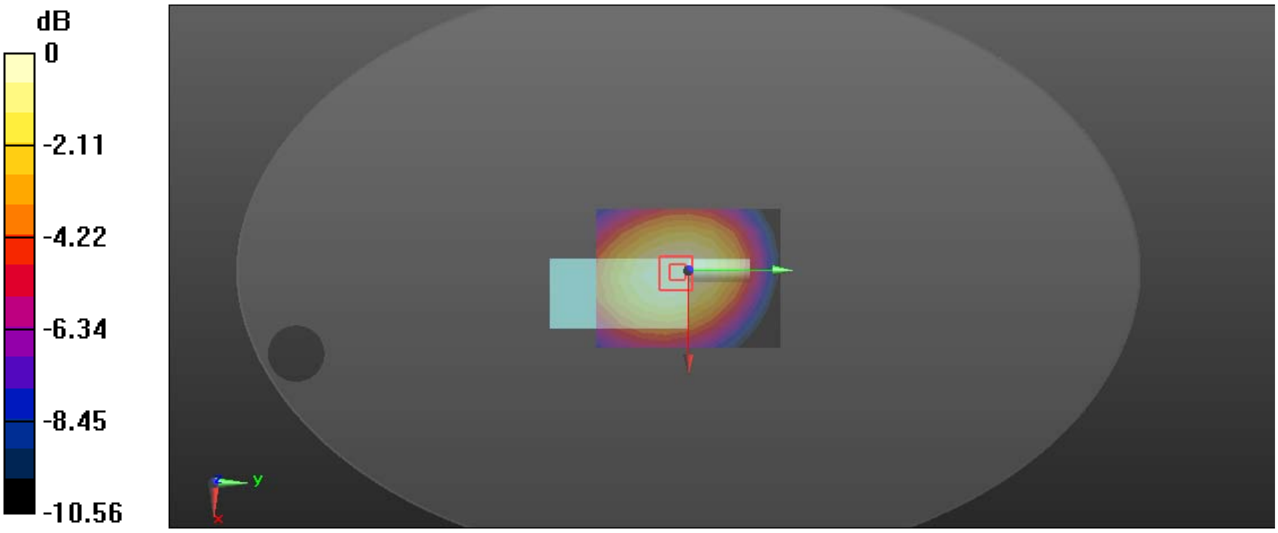
Communication System: FM; Frequency: 462.637 MHz;Duty Cycle: 1:1
Medium parameters used: f = 462.637 MHz; σ = 0.882 S/m; ε_r = 42.852; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV42 - SN3801; ConvF(10.11, 10.11, 10.11) @ 462.637 MHz; Calibrated: 2023/6/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: ELI v8.0; Type: QDOVA002AA; Serial: TP:2051
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.375 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.24 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.225 W/kg
Maximum value of SAR (measured) = 0.366 W/kg



0 dB = 0.366 W/kg = -4.37 dBW/kg

Plot 2#: FM 12.5kHz_467.6375MHz_ Face Up

DUT: Walkie Talkie; Type: T68; Serial: 2H5Z-1

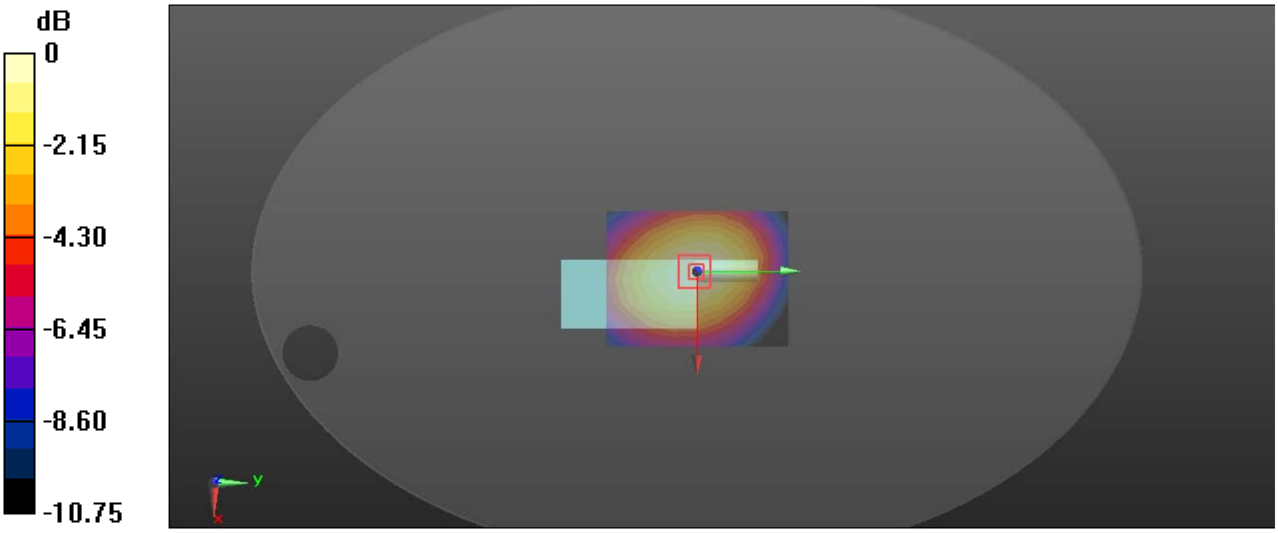
Communication System: FM; Frequency: 467.637 MHz;Duty Cycle: 1:1
Medium parameters used: f = 467.637 MHz; σ = 0.884 S/m; ε_r = 42.718; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV42 - SN3801; ConvF(10.11, 10.11, 10.11) @ 467.637 MHz; Calibrated: 2023/6/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: ELI v8.0; Type: QDOVA002AA; Serial: TP:2051
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.359 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.78 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.468 W/kg
SAR(1 g) = 0.312 W/kg; SAR(10 g) = 0.218 W/kg
Maximum value of SAR (measured) = 0.356 W/kg



0 dB = 0.356 W/kg = -4.49 dBW/kg

Plot 3#: FM 12.5kHz_462.6375MHz _ Body Back

DUT: Walkie Talkie; Type: T68; Serial: 2H5Z-1

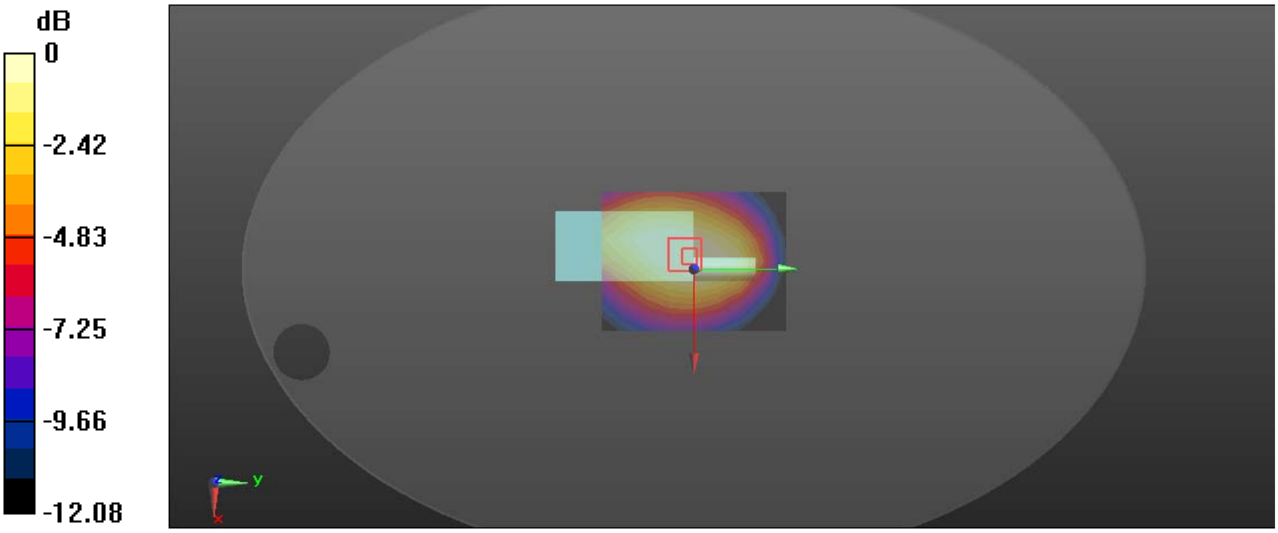
Communication System: FM; Frequency: 462.637 MHz;Duty Cycle: 1:1
Medium parameters used: f = 462.637 MHz; σ = 0.882 S/m; ε_r = 42.852; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV42 - SN3801; ConvF(10.11, 10.11, 10.11) @ 462.637 MHz; Calibrated: 2023/6/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: ELI v8.0; Type: QDOVA002AA; Serial: TP:2051
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.37 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 39.69 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.758 W/kg
Maximum value of SAR (measured) = 1.27 W/kg



0 dB = 1.27 W/kg = 1.04 dBW/kg

Plot 4#: FM 12.5kHz_467.6375MHz_ Body Back

DUT: Walkie Talkie; Type: T68; Serial: 2H5Z-1

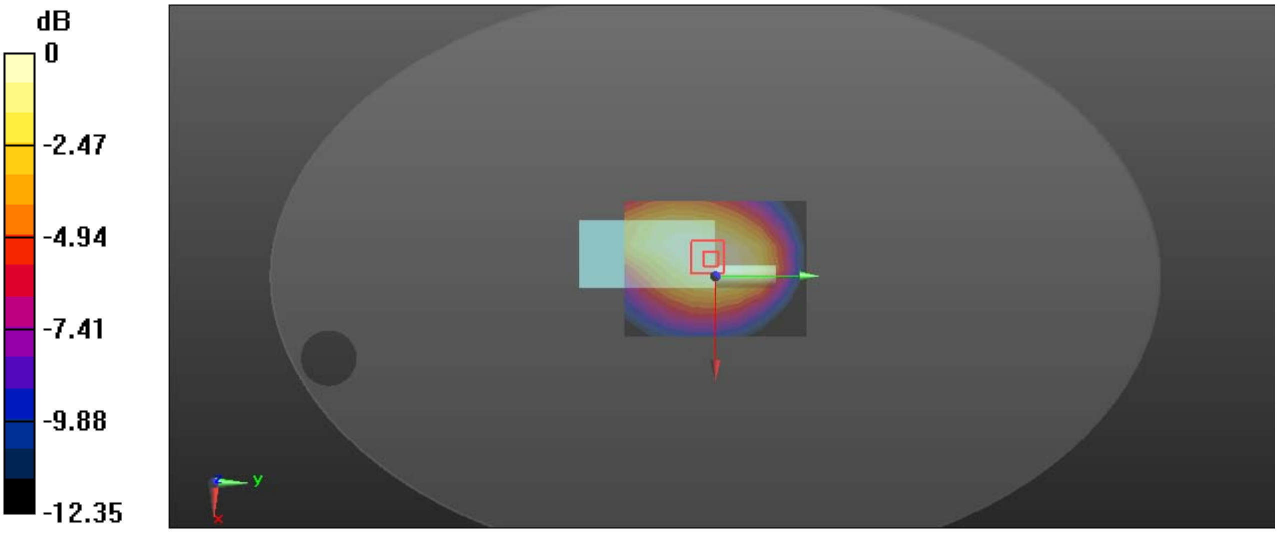
Communication System: FM; Frequency: 467.637 MHz;Duty Cycle: 1:1
Medium parameters used: f = 467.637 MHz; σ = 0.884 S/m; ε_r = 42.718; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV42 - SN3801; ConvF(10.11, 10.11, 10.11) @ 467.637 MHz; Calibrated: 2023/6/23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: ELI v8.0; Type: QDOVA002AA; Serial: TP:2051
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.899 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.29 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.801 W/kg; SAR(10 g) = 0.550 W/kg
Maximum value of SAR (measured) = 0.924 W/kg



0 dB = 0.924 W/kg = -0.34 dBW/kg

APPENDIX A MEASUREMENT UNCERTAINTY

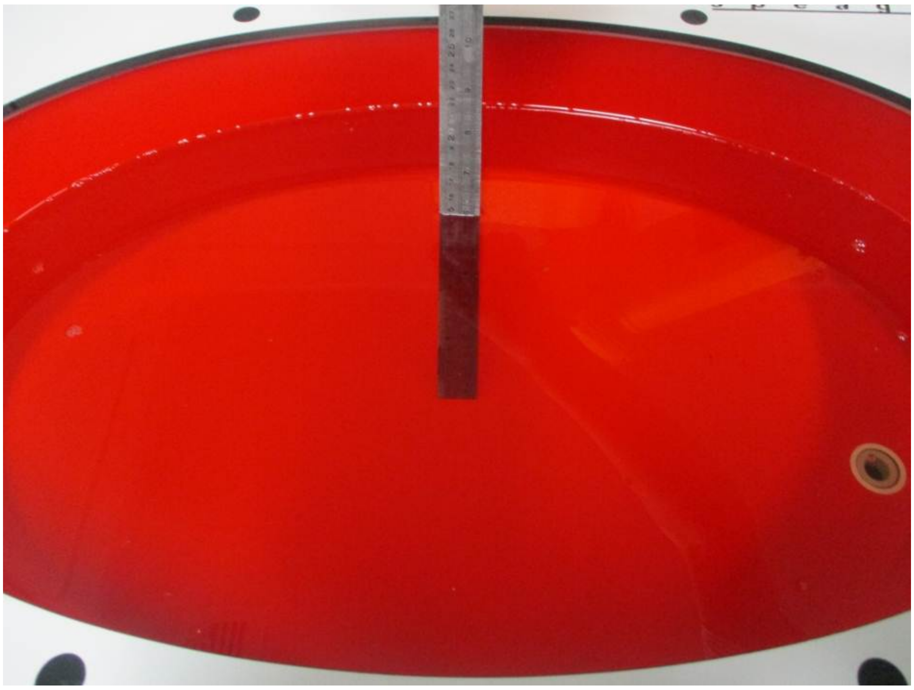
The uncertainty budget has been determined for the measurement system and is given in the following Table.

Measurement uncertainty evaluation for IEEE1528-2013 SAR test

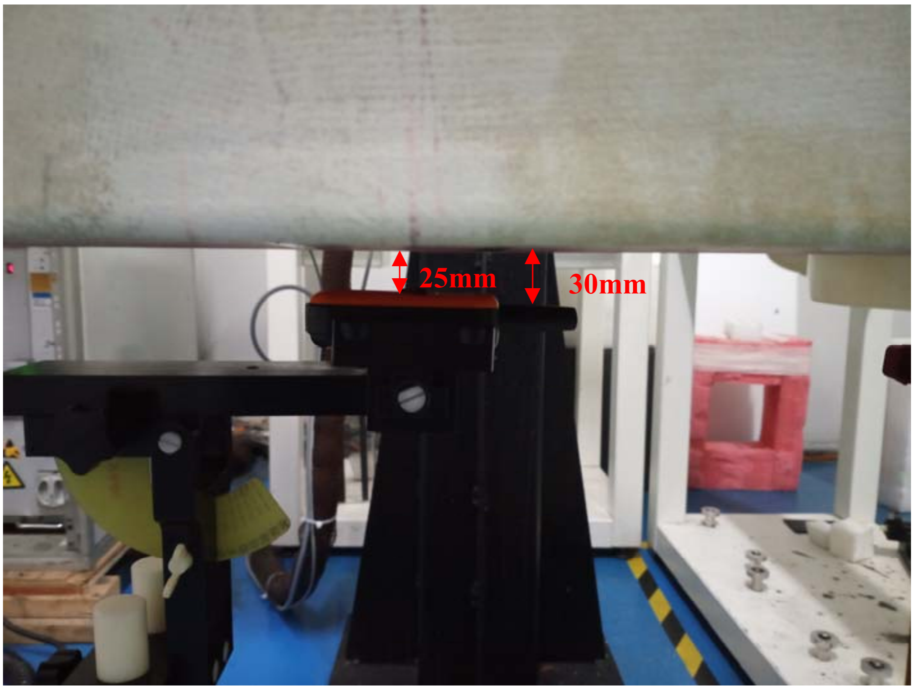
Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
Detection limits	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambient conditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	6.3	N	1	1	1	6.3	6.3
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Liquid conductivity target)	5.0	R	√3	0.64	0.43	1.8	1.2
Liquid conductivity meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity target)	5.0	R	√3	0.6	0.49	1.7	1.4
Liquid permittivity meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.3	23.9

APPENDIX B EUT TEST POSITION PHOTOS

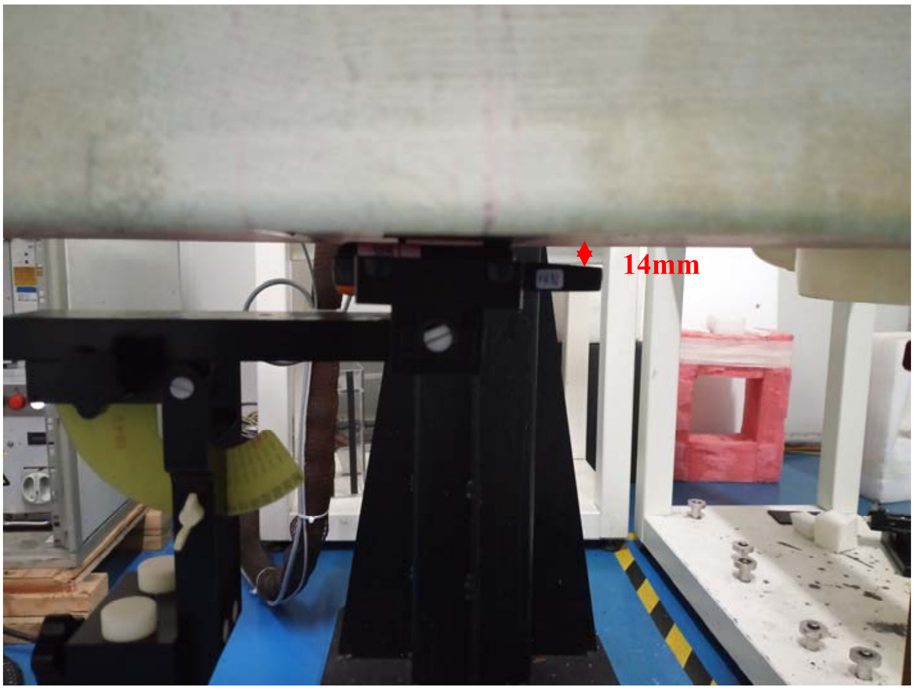
Liquid depth ≥ 15cm



Face Up (25mm)



Body Back (0mm)



APPENDIX C CALIBRATION CERTIFICATES

Please refer to the attachment.

===== END OF REPORT ====