# FCC SAR Test Report

| | |
|---|---|
| **Applicant:** | Shenzhen Hollyland Technology Co.,Ltd. |
| **EUT Description:** | Wireless Microphone |
| **Model:** | M71T |
| **Brand:** | HOLLYLAND |
| **FCC ID:** | 2ADZC-M71T |
| **Standards:** | FCC 47CFR §2.1093 |
| **Date of Receipt:** | 2024/12/18 |
| **Date of Test:** | 2025/01/02 to 2025/01/03 |
| **Date of Issue:** | 2025/01/06 |

TOWE. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.

| | |
|---|---|
| **Huang Kun** | **Li Wei** |
| **Approved By:** | **Reviewed By:** |

# Revision History

| Rev. | Issue Date | Description | Revised by |
| --- | --- | --- | --- |
| 01 | 2025/01/06 | Original | Li Wei |

# Table of Contents

# 1 Summary of Test Results

| Band | Highest $SAR_{1g}$(W/kg) |
|---|---|
| | Body 0mm |
| 2.4G | 0.52 |
| SAR Limited(W/kg) | 1.6 |

# 2 Guidance Applied

FCC 47CFR §2.1093
ANSI/IEEE C95.1-1992
IEC/IEEE 62209-1528:2020
FCC KDB 447498 D01 General RF Exposure Guidance v06
FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
FCC KDB 865664 D02 RF Exposure Reporting v01r02

# 3 Lab Information

## 3.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, China. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014
Tel.: +86-755-27212361
Contact Email: info@towewireless.com

## 3.2 Test Facility / Accreditations

**A2LA (Certificate Number: 7088.01)**
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

**FCC Designation No.: CN1353**
Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory.
Designation Number: CN1353.

**ISED CAB identifier: CN0152**
Sushi TOWE Wireless Testing (Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0152
Company Number: 31000

## 3.3 Ambient Condition

Temperature: 18°C~25°C
Relative Humidity: 30%~75%

# 4 Client Information

## 4.1 Applicant

| | |
|---|---|
| Applicant | Shenzhen Hollyland Technology Co.,Ltd. |
| Address | 8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street,Baoan District, Shenzhen, 518055 China |

## 4.2 Manufacturer

| | |
|---|---|
| Manufacturer | Shenzhen Hollyland Technology Co.,Ltd. |
| Address | 8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street,Baoan District, Shenzhen, 518055 China |

## 4.3 Factory

| | |
|---|---|
| Factory | Shenzhen Hollyland Technology Co.,Ltd. |
| Address | 8F, Building 5D, Skyworth Innovation Valley, Tangtou Road, Shiyan Street,Baoan District, Shenzhen, 518055 China |

# 5 Product Information

| | | |
|---|---|---|
| EUT Description | Wireless Microphone | |
| Model | M71T | |
| Brand | HOLLYLAND | |
| Hardware Version | V38 | |
| Software Version | HLD_A6701_H038_S1.0.0.29_BurnFiles_Common_20250118_TX | |
| SN. | 6684521585755 | |
| **Device Capabilities:** | | |
| Band | Frequency Range (MHz) | Modulation Type |
| 2.4G | 2400 ~ 2483.5 | GFSK |
| Antenna Type | ☐ External, ☒ Integrated | |
| Remark: The above EUT's information was declared by applicant, please refer to the specifications or user manual for more detailed description. | | |

# 6 RF Exposure Limits

| Human Exposure | Uncontrolled Environment General Population (W/kg) or (mW/g) | Controlled Environment Occupational (W/kg) or (mW/g) |
|---|---|---|
| **Spatial Peak SAR[1]** (Brain/Trunk) | 1.6 | 8.0 |
| **Spatial Average SAR[2]** (Whole Body) | 0.08 | 0.4 |
| **Spatial Peak SAR[3]** (Hands/Feet/Ankle/Wrist) | 4.0 | 20.0 |

**Note:**

1, 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.

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

3, 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. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

**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). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

# 7 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person’s awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

## 7.1 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

SAR is expressed in units of Watts per kilogram (W/kg):

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

Where:

σ is the conductivity of the tissue material (S/m)

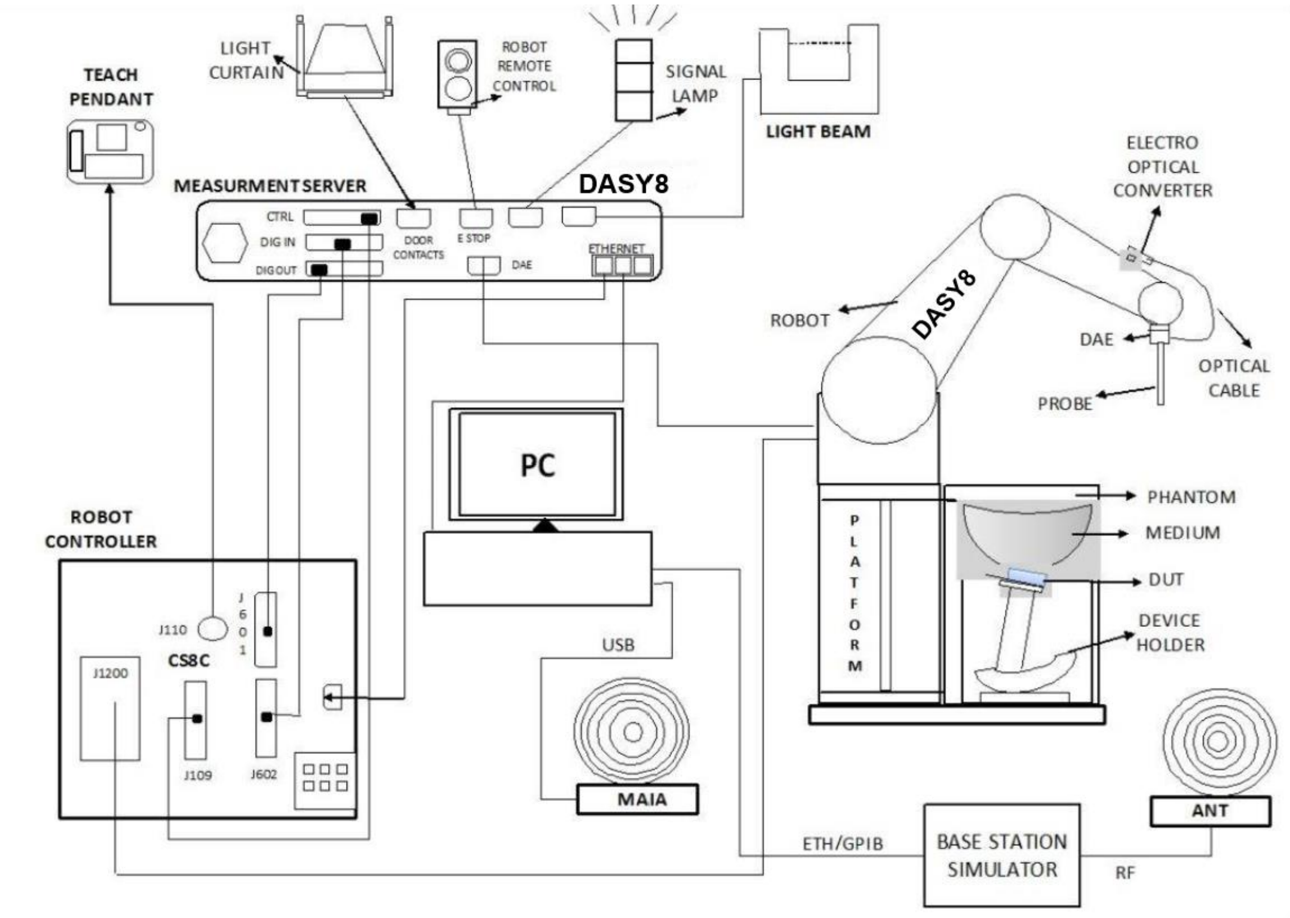
ρ is the mass density of the tissue material (kg/m$^3$)

E is the RMS electrical field strength (V/m)

# 8 SAR Measurements System

## 8.1 The SAR Measurement Set-up

The DASY system used 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 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.
- 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 Windows 11 and the DASY8 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.

## 8.2 E-Field Probe

| | |
|---|---|
|  | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |
| **Calibration** | ISO/IEC 17025 calibration service available. |
| **Frequency** | 10 MHz to > 6 GHz<br>Linearity: ± 0.2 dB (30 MHz to 6 GHz) |
| **Directivity** | ± 0.3 dB in TSL (rotation around probe axis)<br>± 0.5 dB in TSL (rotation normal to probe axis) |
| **Dynamic Range** | 10 μW/g to > 100 mW/g<br>Linearity: ± 0.2 dB (noise: typically < 1 μW/g) |
| **Dimensions** | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm |

## 8.3 Data Acquisition Electronics (DAE)

| | |
|---|---|
|  | The data acquisition electronics (DAE) consists 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 and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information<br>as well as an optical uplink for commands and the clock.<br>The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB. |

## 8.4 Phantom

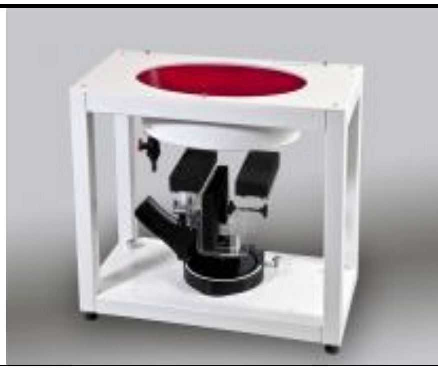
### SAM Twin Phantom:

| | |
|---|---|
| **Material** | Vinylester, glass fiber reinforced (VE-GF) |
| **Shell Thickness** | 2 ± 0.2 mm (6 ± 0.2 mm at ear point) |
| **Dimensions (incl. Wooden Support)** | Length: 1000 mm<br>Width: 500 mm<br>Height: adjustable feet |
| **Filling Volume** | Approx. 25 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.

### ELI Phantom:

| | |
|---|---|
| **Material** | Vinylester, glass fiber reinforced (VE-GF) |
| **Shell Thickness** | 2.0 ± 0.2 mm (bottom plate) |
| **Dimensions** | Major axis: 600 mm<br>Minor axis: 400 mm |
| **Filling Volume** | approx. 30 liters |
| **Wooden Support** | SPEAG standard phantom table |



The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

## 8.5 Device Holder

The SAR measured in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5mm distance, a positioning uncertainty of ±0.5mm would produce uncertainty in the SAR of ±20%. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions at which the devices must be measured are defined by the standards. The DASY8 device holder along with the associated adaptors / options is designed to accommodate different types & sizes (laptops, tablets, phones) of test devices and yet provide accurate and repeatable positioning as described in the test standards.

The device holder is available in two configurations (see Figure 3.13.1): for hand held transmitters (mobile phones) – MD4HHTV5 – Mounting Device for Hand-Held Transmitters and for Body-Worn transmitters – MD4LAP5 – Mounting Device for laptops and other body worn transmitters.

(a) MD4HHTV5 (b) MD4LAPV5

Figure 3.13.1: Mounting Device for Hand-Held Devices and Laptop / Body-Worn Devices

## 8.6 Measurement procedure

### 8.6.1 Power reference measurement

The Power Reference Measurement and Power Drift Measurement jobs are useful jobs for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

### 8.6.2 Area scan

Measurement procedures for evaluating SAR from wireless handsets typically start with a coarse measurement grid to determine the approximate location of the local peak SAR values. This is known as the area-scan procedure. In addition, identify the positions of any local maxima with SAR values within 2 dB of the maximum value, and that will not be within the zoom scan of other peaks. Additional zoom scans shall be measured for such peaks only when the primary peak is within 2 dB of the SAR compliance limit.

Area scan parameters extracted from IEC/IEEE 62209-1528 SAR measurement as below:

| Parameter | DUT transmit frequency being tested | |
|---|---|---|
| | $f \leq 3$ GHz | 3 GHz $< f \leq 10$ GHz |
| Maximum distance between the measured points (geometric centre of the sensors) and the inner phantom surface ($z_{M1}$ in Figure 20 in mm) | 5 ± 1 | $\delta \ln(2)/2 \pm 0,5$ [a] |
| Maximum spacing between adjacent measured points in mm (see O.8.3.1)[b] | 20, or half of the corresponding zoom scan length, whichever is smaller | $60/f$, or half of the corresponding zoom scan length, whichever is smaller |
| Maximum angle between the probe axis and the phantom surface normal ($\alpha$ in Figure 20)[c] | 5° (flat phantom only)<br>30° (other phantoms) | 5° (flat phantom only)<br>20° (other phantoms) |
| Tolerance in the probe angle | 1° | 1° |

a $\delta$ is the penetration depth for a plane-wave incident normally on a planar half-space.

b See Clause O.8 on how $\Delta x$ and $\Delta y$ may be selected for individual area scan requirements.

c The probe angle relative to the phantom surface normal is restricted due to the degradation in the measurement accuracy in fields with steep spatial gradients. The measurement accuracy decreases with increasing probe angle and increasing frequency. This is the reason for the tighter probe angle restriction at frequencies above 3 GHz.

### 8.6.3 Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan parameters extracted from IEC/IEEE 62209-1528 SAR measurement as below:

| Parameter | DUT transmit frequency being tested | |
|---|---|---|
| | $f \leq 3$ GHz | 3 GHz < $f \leq 10$ GHz |
| Maximum distance between the closest measured points and the phantom surface ($z_{M1}$ in Figure 20 and Table 3, in mm) | 5 | $\delta \ln(2)/2$ [a] |
| Maximum angle between the probe axis and the phantom surface normal ($\alpha$ in Figure 20) | 5° (flat phantom only)<br>30° (other phantoms) | 5° (flat phantom only)<br>20° (other phantoms) |
| Maximum spacing between measured points in the $x$- and $y$-directions ($\Delta x$ and $\Delta y$, in mm) | 8 | $24/f$ [b] |
| For uniform grids:<br>Maximum spacing between measured points in the direction normal to the phantom shell ($\Delta z_1$ in Figure 20, in mm) | 5 | $10/(f-1)$ |
| For graded grids:<br>Maximum spacing between the two closest measured points in the direction normal to the phantom shell ($\Delta z_1$ in Figure 20, in mm) | 4 | $12/f$ |
| For graded grids:<br>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 $\delta$ 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.

### 8.6.4 Power Drift Measurement

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. Several drift measurements are possible for one reference measurement. This allows a user to monitor the power drift of the device under test that must remain within a maximum variation of ±5%. Detail power drift measurement refer to appendix B.

# 9 Test Equipment list

| Manufacturer | Equipment Name | Model | Serial Number | Calibration Date | Due Date of calibration |
|---|---|---|---|---|---|
| SPEAG | Twin Phantom | SAM | 2168 | NCR | NCR |
| SPEAG | E-Field Probe | EX3DV4 | 7812 | 2024/06/25 | 2025/06/24 |
| SPEAG | Data Acquisition Electronics | DAE4 | 1846 | 2024/12/10 | 2025/12/09 |
| SPEAG | System Validation Kits | D2450V2 | 1099 | 2023/02/02 | 2026/02/01 |
| SPEAG | Dielectric parameter probes | DAK3.5 | 1341 | 2024/07/15 | 2025/07/14 |
| R&S | Vector network analyzer | ZNB8 | 101413 | 2024/07/17 | 2025/07/16 |
| R&S | Signal Generator | SMR20 | 100621 | 2024/03/25 | 2025/03/24 |
| R&S | AVG Power Sensor | NRP-Z21 | 101651 | 2024/03/25 | 2025/03/24 |
| R&S | AVG Power Sensor | NRP-Z21 | 104189 | 2024/03/25 | 2025/03/24 |
| HAISIDIKE | Thermometer | TP300 | TOWE-EQ-SR-023 | 2024/03/27 | 2025/03/26 |
| BingYu | Temperature and Humidity Indicator | HTC-1 | TOWE-EQ-SR-024 | 2024/03/26 | 2025/03/25 |
| Talent Microwave | Directional Coupler | TC-05180-10S | 220420003 | NCR | NCR |
| QiJi | Amplifier | YX28982301 | TOWE-EQ-SR-020 | NCR | NCR |

Note:

1. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged or repaired during the interval.

2. The justification data of dipole can be found in Appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

# 10 SAR measurement variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue equivalent medium.
The following procedures are applied to determine if repeated measurements are required.
1) Repeated measurement is not required when the original highest measured SAR is < 0.80 or 2 W/kg (1-g or 10-g respectively); steps2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 or 2 W/kg (1-g or 10-g respectively), repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 or 3.6W/kg (~ 10% from the 1-g or 10-g respective SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

# 11 Description of Test Position

## 11.1 Body exposure conditions

SAR can test the sides near the antenna, the surface of the device should be tested for SAR compliance with the device touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent device surface is used to determine if SAR testing is required for the adjacent surfaces, with the adjacent surface positioned against the phantom and the surface containing the antenna positioned perpendicular to the phantom.

# 12 System Verification

## 12.1 Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands:

| Ingredients (% by weight) | Frequency (MHz) | | | | |
|---|---|---|---|---|---|
| | 450 | 700-900 | 1750-2000 | 2300-2500 | 2500-2700 |
| Water | 38.56 | 40.30 | 55.24 | 55.00 | 54.92 |
| Salt (NaCl) | 3.95 | 1.38 | 0.31 | 0.2 | 0.23 |
| Sucrose | 56.32 | 57.90 | 0 | 0 | 0 |
| HEC | 0.98 | 0.24 | 0 | 0 | 0 |
| Bactericide | 0.19 | 0.18 | 0 | 0 | 0 |
| Tween | 0 | 0 | 44.45 | 44.80 | 44.85 |

Salt: 99⁺% Pure Sodium Chloride
Sucrose: 98⁺% Pure Sucrose
Water: De-ionized, 16 MΩ⁺ resistivity
HEC: Hydroxyethyl Cellulose
Tween: Polyoxyethylene (20) sorbitan monolaurate

## 12.2 Tissue Verification

The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. The temperature variation of the Tissue Simulate Liquids was 22±2°C, the liquid depth of the ear reference point or the flat phantom was at least 15 cm (which is shown in Figure 12-1).

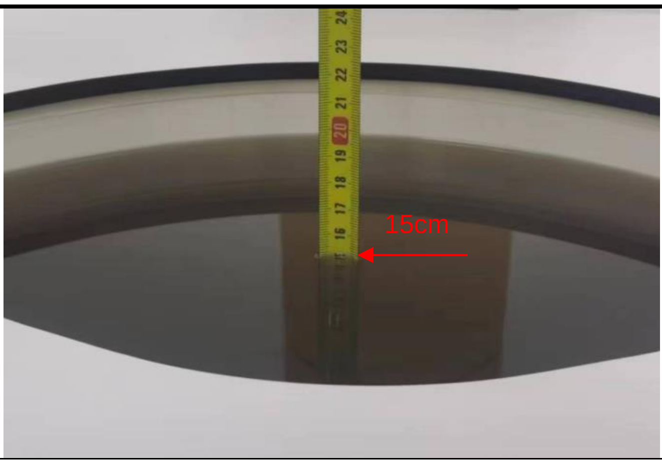



**Figure 12-1** Liquid depth in the Flat Phantom

| Frequency (MHz) | Tissue Type | Liquid Temp. (℃) | Target Tissue | | Measured Tissue | | Deviation (Limit ±5%) | | Date |
|---|---|---|---|---|---|---|---|---|---|
| | | | Permittivity $\varepsilon_r$ | Conductivity σ(S/m) | Permittivity $\varepsilon_r$ | Conductivity σ(S/m) | $\Delta\varepsilon_r$ | Δσ | |
| 2450 | Head | 22.2 | 39.20 | 1.80 | 39.600 | 1.840 | 1.02% | 2.22% | 2025/01/02 |

Table 1： Measurement Tissue Parameters

## 12.3 SAR System Check

Prior to SAR assessment, a SAR system Check measurement was performed to see if the measured SAR was within ±10% from the target SAR values. The System Performance Check Setup in Figure 12-3.

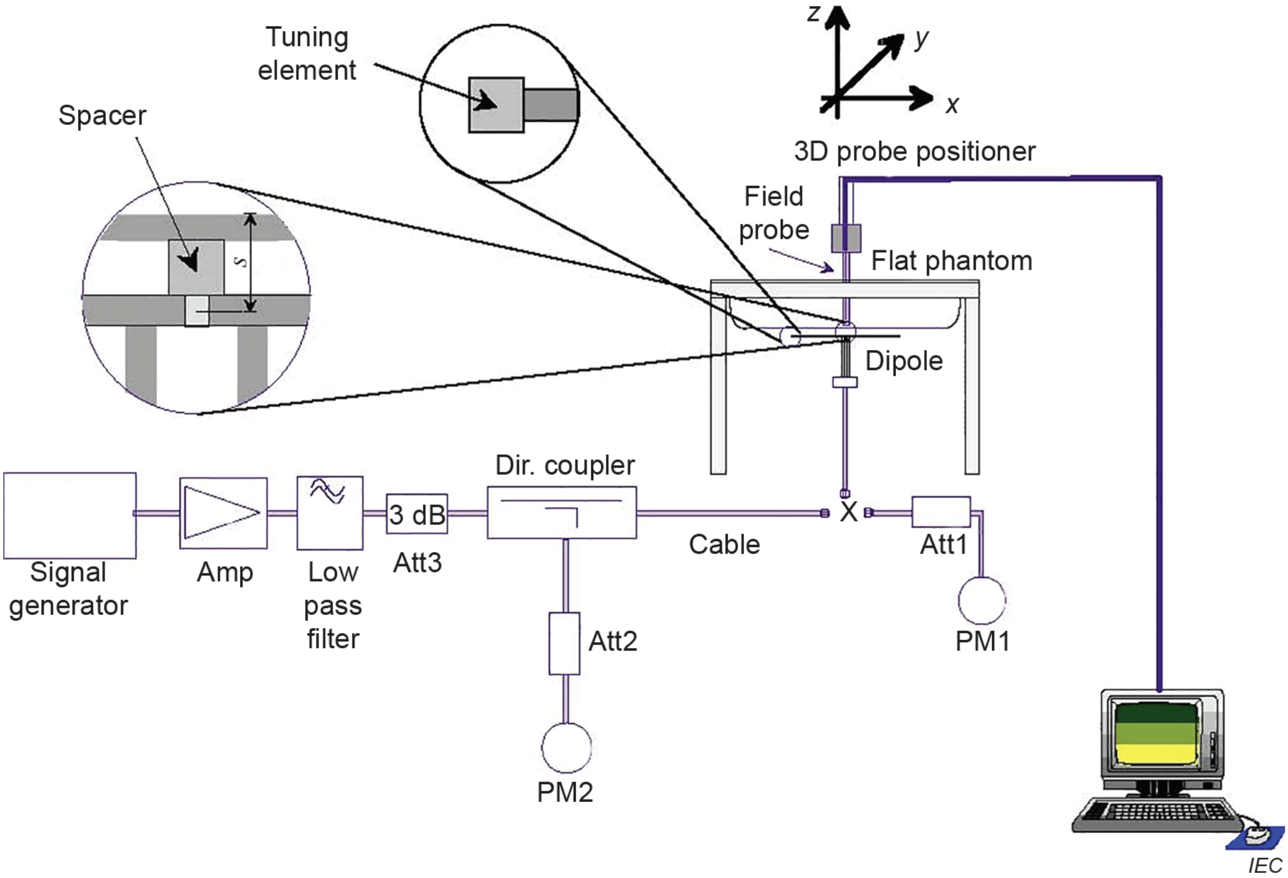



**Figure 12-3** System Performance Check Setup

### 12.3.1 System Check Result

| Frequency (MHz) | Tissue Type | Dipole | S/N | Target SAR (1W) | | Measured SAR (100mW) | | Measured SAR (normalized to 1W) | | Deviation (Limit ±10%) | | Date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 1g (W/kg) | 10g (W/kg) | 1g (W/kg) | 10g (W/kg) | 1g (W/kg) | 10g (W/kg) | Δ1g | Δ10g | |
| 2450 | Head | D2450V2 | 1099 | 51.40 | 23.90 | 5.14 | 2.41 | 51.40 | 24.10 | 0.00% | 0.84% | 2025/01/02 |

Table 2： SAR System Check Result

### 12.3.2 Detailed System Check Result

Please see the Appendix A

# 13 Conducted Power

## 13.1 Conducted Power of 2.4G Band

| Band/Ant | Mode | Ch./Freq. (MHz) | Average Conducted Power(dBm) | Tune up (dBm) |
|---|---|---|---|---|
| 2.4G | GFSK | 1/2404 | 14.81 | 16.0 |
| | GFSK | 19/2440 | 15.41 | 16.0 |
| | GFSK | 38/2478 | 15.75 | 16.0 |

# 14 SAR Data Summary

## 14.1 SAR Measurement Result of 2.4G Band

| Test Results | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Test position** | **Mode** | **Ch./Freq. (MHz)** | **SAR (W/kg) 1g** | **SAR (W/kg) 10g** | **Power Drift (dB)** | **Conducted Power (dBm)** | **Tune up Limit(dBm)** | **Scaling Factor** | **Reported 1g SAR (W/kg)** |
| Body 0mm | | | | | | | | | |
| Front side | GFSK | 38/2478 | 0.462 | 0.206 | 0.01 | 15.75 | 16.00 | 1.059 | 0.489 |
| Back side | GFSK | 38/2478 | 0.068 | 0.031 | 0.00 | 15.75 | 16.00 | 1.059 | 0.072 |
| Left side | GFSK | 38/2478 | 0.324 | 0.122 | -0.01 | 15.75 | 16.00 | 1.059 | 0.343 |
| Top side | GFSK | 38/2478 | 0.162 | 0.078 | 0.00 | 15.75 | 16.00 | 1.059 | 0.172 |
| Bottom side | GFSK | 38/2478 | 0.074 | 0.039 | 0.00 | 15.75 | 16.00 | 1.059 | 0.078 |
| Front side | GFSK | 1/2404 | 0.338 | 0.146 | 0.00 | 14.81 | 16.00 | 1.315 | 0.445 |
| Front side | GFSK | 19/2440 | 0.451 | 0.199 | -0.01 | 15.41 | 16.00 | 1.146 | **0.517** |

Table 3： SAR of 2.4G Band.

Note：

1) For the SAR test is using the maximum duty cycle.
2) The Highest Reported SAR Plot refer to Appendix B.

# 15 Measurement Uncertainty

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

# 16 Calibration Certificate

Please see the Appendix C

# 17 Test Setup Photos

Please see the Appendix D

# Appendix A: System Check Plots

# Appendix B: SAR Test Plots

# Appendix C: Calibration certificate

# Appendix D: Test Setup Photos

**--- The End ---**