No.: FCCSZ2025-0012-SAR

TEST REPORT

NAME OF SAMPLE	:	viaim OpenNote
CLIENT	:	Hong Kong Future Intelligent Technology Co., Ltd
CLASSIFICATION OF TEST	:	N/A
FCC ID	:	2BKBC-XFVI-E97
Max. SAR (1g):	:	Head: **0.15** W/kg

CVC Testing Technology (Shenzhen) Co., Ltd.

Applicant	**Name :** Hong Kong Future Intelligent Technology Co., Ltd **Address :** Room 1450 14/F, Eton Tower, 8 Hysan Avenue, Causeway Bay, Hong Kong, China
Manufacturer	**Name :** Hong Kong Future Intelligent Technology Co., Ltd **Address :** Room 1450 14/F, Eton Tower, 8 Hysan Avenue, Causeway Bay, Hong Kong, China
quipment Under Test	**Name :** viaim OpenNote **Model/Type:** XFVI-E97 **Trade mark :** viaim **SerialNO.:** N/A **Sampe NO.:** 1-1

Date of Receipt.	2025.03.5	Date of Testing	2025.03.10

Test Specification	**Test Result**
ANSI/IEEE Std. C95.1 FCC 47 CFR Part 2 (2.1093) Published RF exposure KDB procedures IEC/IEEE 62209-1528: 2020	Pass

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. **Seal of CVC** **Issue Date: 2025.03.14**

Compiled by:	Reviewed by:	Approved by:
Liang Jiatong Liang Jiatong Name Signature	Mo Xianbiao Mo Xianbiao Name Signature	Dong Sanbi Name Signature

Other Aspects: NONE.

Abbreviations: Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

TABLE OF CONTENTS

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2025-0012-SAR	Original release	2025.03.14

1 GENERAL INFORMATION

1.1 GENERAL PRODUCT INFORMATION

PRODUCT	viaim OpenNote
BRAND	viaim
MODEL	XFVI-E97
POWER SUPPLY	Earphone: DC 3.85V from Li-ion Battery
MODULATION MODE	Bluetooth® GFSK, π/4-DQPSK, 8-DPSK, LE(1M)
OPERATING FREQUENCY	Bluetooth: 2402 MHz to 2480 MHz
ANTENNA TYPE	Left:PIFA Antenna,"with-1.99dBi gain Right:PIFA Antenna,with-3.33dBi-gain

Remark:

1. For more detailed features description, please refer to the manufacturer’s specifications or the User's Manual.
2. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power
3. This is provided by the manufacturer. The laboratory is not responsible for technical data provided by the customer

1.2 TEST Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (℃)	21.0
Humidity (%RH)	62

1.3 TEST Location

The tests and measurements refer to this report were performed by CVC Testing Technology (Shenzhen) Co., Ltd.

Lab Address:No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

Post Code：518110 Tel：0755-23763060-8805

Fax：0755-23763060 E-mail：sz-kf@cvc.org.cn

FCC(Test firm designation number：CN1363)

IC(Test firm CAB identifier number：CN0137)

CNAS(Test firm designation number：L16091)

1.4 TEST Standards and Limits

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEC/IEEE 62209-1528:2020	·Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 447498 D04 v01	Interim General RF Exposure Guidance

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:
Are defined as locations where there is the exposure of individuals 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).

NOTE
GENERAL POPULATION/UNCONTROLLED EXPOSURE
PARTIAL BODY LIMIT
1.6 W/kg

1.5 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Mode	Highest Reported Head SAR_{1g} (W/kg)
Bluetooth	**0.15**

Note:

1. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg as averaged over any 1 gram of tissue; 10-gram SAR for Product Specific 10g SAR, limit: 4.0W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement methods and procedures specified in IEEE 62209-1528 2020 and FCC KDB publications.

2 SAR Measurement System

2.1 Definition of Specific Absorption Rate (SAR)

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.

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:

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

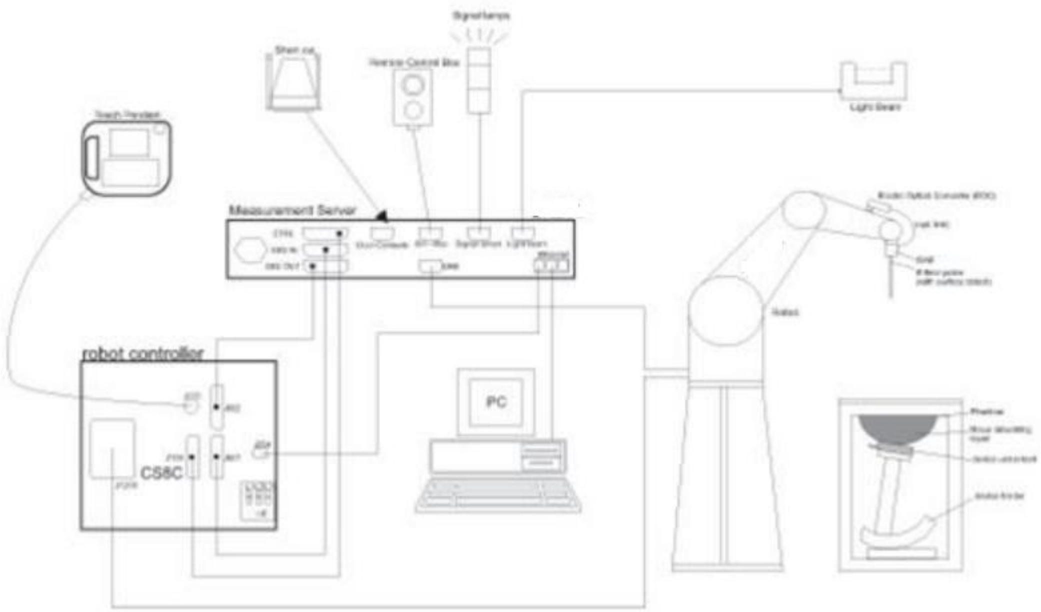
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue;
ρ is the mass density of the tissue and E is the RMS electrical field strength.

2.2 SAR System

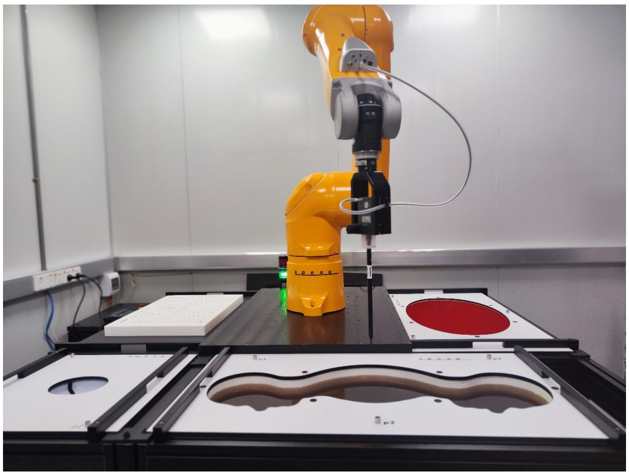
DASY System Diagram:



DASY is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The DASY system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition Electronics
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The Open SAR software computes the results to give a SAR value in a 1g or 10g mass.

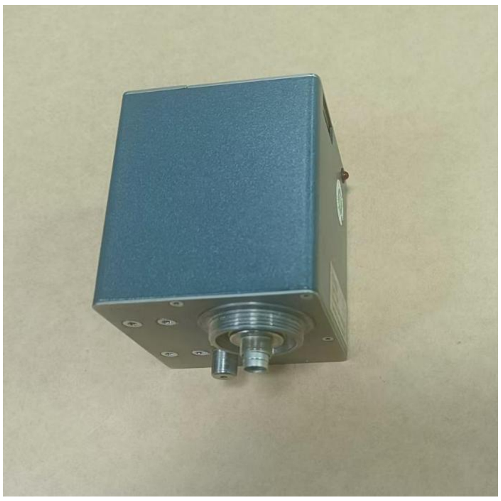
2.3 Probe

EX3DV4 – Smallest isotropic dosimetric probe for high precision SAR measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 10 GHz with a precision of better than 30%
- Frequency range: 4 MHz – 10 GHz
-Dynamic range: 0.01 W/kg – >100 W/kg
-Tip diameter: 2.5 mm
-Scanning distance: ≥1.4 mm

Figure 1-Speag COMOSAR Dosimetric E field Dipole

2.4 Date Acquisition Electronics 4 (DAE4)

High precision 3-channel differential voltmeter for use with SPEAG's field, SAR, and temperature probes. Serial optical link for communication with the DASY8 measurement server. Two-step probe touch detector for mechanical surface detection and emergency robot stop.
- Measurement range: -100 – +300 mV (16-bit resolution and two range settings: 4 mV, 400 mV)
- Input offset voltage: <5 μV (with auto zero)
- Input resistance: 200 MOhm
- Input bias current: <50 fA
- Battery power: >10 hours of operation (with two 9.6 V NiMH batteries)
- Dimensions (L × W × H): 60 × 60 × 68 mm
- Calibration: ISO/IEC 17025 calibration service available.



SAM-Twin Phantom

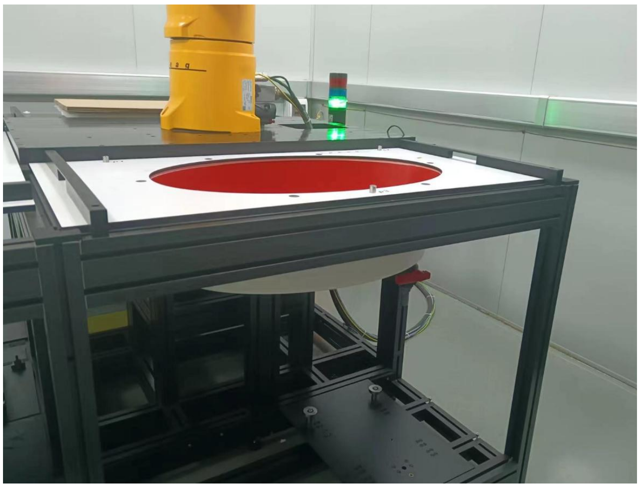
The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEC/IEEE 62209-1528. It enables the dosimetric evaluation of left and right hand phone usage as well as body-mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.SAM-Twin V5.0 and higher has the same shell geometry and is manufactured from the same material as SAM-Twin V4.0 but with reinforced top structure.

- Material: Vinyl ester, fiberglass reinforced (VE-GF)
- Shell Thickness: 2 ± 0.2 mm (6 ± 0.2 mm at ear point)
- Dimensions:Length: 1000 mm
  Width: 500 mm
  Height: adjustable feet

2.4.1 ELI Phantom

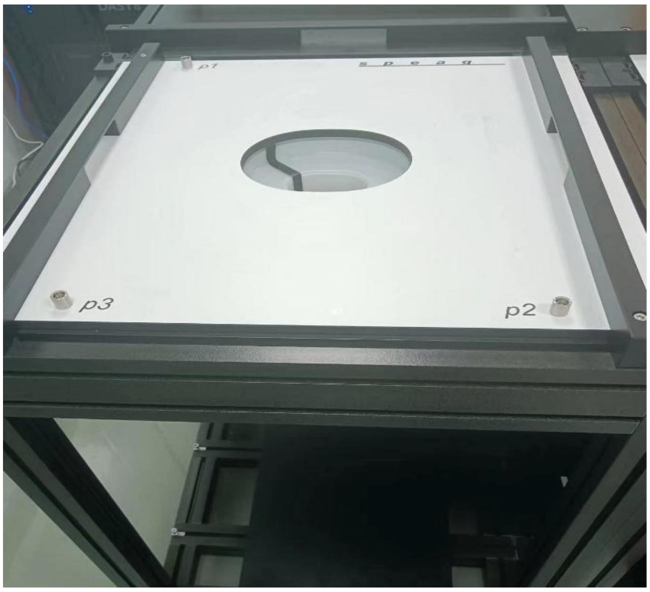
The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 4 MHz to 10 GHz. ELI is fully compatible with the IEC/IEEE 62209-1528 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated 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 of SPEAG's dosimetric probes and dipoles.The latest ELI V8.0 phantom shell has optimized pretension in the bottom surface during production, such that the phantom is more robust and with reduced sagging.

- Material:Vinyl ester, fiberglass reinforced (VE-GF)
- Shell Thickness:2.0 ± 0.2 mm (bottom plate)
- Dimensions:Major axis: 600 mm,
  Minor axis: 400 mm
- Filling Volume:approx. 30 liters.



2.5 WRIST Phantom

The Wrist Phantom V10 is shape-compatible with the CTIA approved OTA GFPC-V1 and optimized for specific absorption rate evaluation of watches and other wireless hand accessories.
- Material:Photosensitive epoxy acrylates
- Shell Thickness:2 ± 0.2 mm
- Wrist Shape:Design compatible with CTIA forearm.



2.6 DEVICE Holder

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 at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

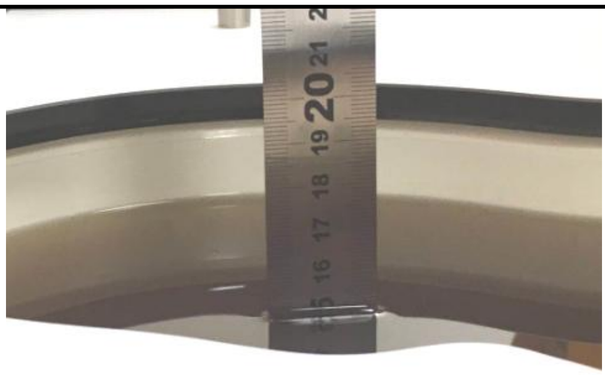
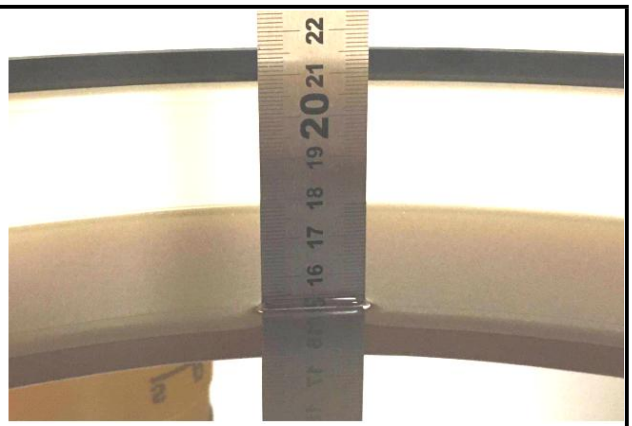
2.7 SYSTEM Validation Dipoles

Symmetrical dipole with l/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.
- Frequency: 300 MHz to 10 GHz
- Return loss: >20 dB
- Power capability: >40 W

3 TISSUE Simulating Liquids

3.1 SIMULATING Liquids Parameter Check

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed.

	
Liquid Height for Head Position	**Liquid Height for Body Position**

The dielectric properties of the tissue simulating liquids are defined in IEC 62209-1528. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using a dielectric assessment kit and a network analyzer.

Dielectric properties of Tissue Simulating Liquid

Frequency (MHz)	Target Permittivity	Target Conductivity
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
1450	40.5	1.20
1640	40.3	1.29
1750	40.1	1.37
1800	40.0	1.40
1900	40.0	1.40
2000	40.0	1.40
2100	39.8	1.49
2300	39.5	1.67
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40
3500	37.9	2.91
4000	37.4	3.43
4500	36.8	3.94
5000	36.2	4.45
5200	36.0	4.66
5300	35.9	4.76
5500	35.6	4.96
5600	35.5	5.07
5800	35.3	5.27
6000	35.1	5.48

3.2 LIQUIDS Measurement Results

The measuring results for tissue simulating liquid are shown as below.

Tissue Type	Frequency (MHz)	Measured Conductivity (σ)	Measured Permittivity (ε_r)	Target Conductivity (σ)	Target Permittivity (ε_r)	Conductivity Deviation (%)	Permittivity Deviation (%)	Test Date
H2450	2450	1.870	38.200	1.80	39.20	3.89	-2.55	Feb. 14, 2025

Note:

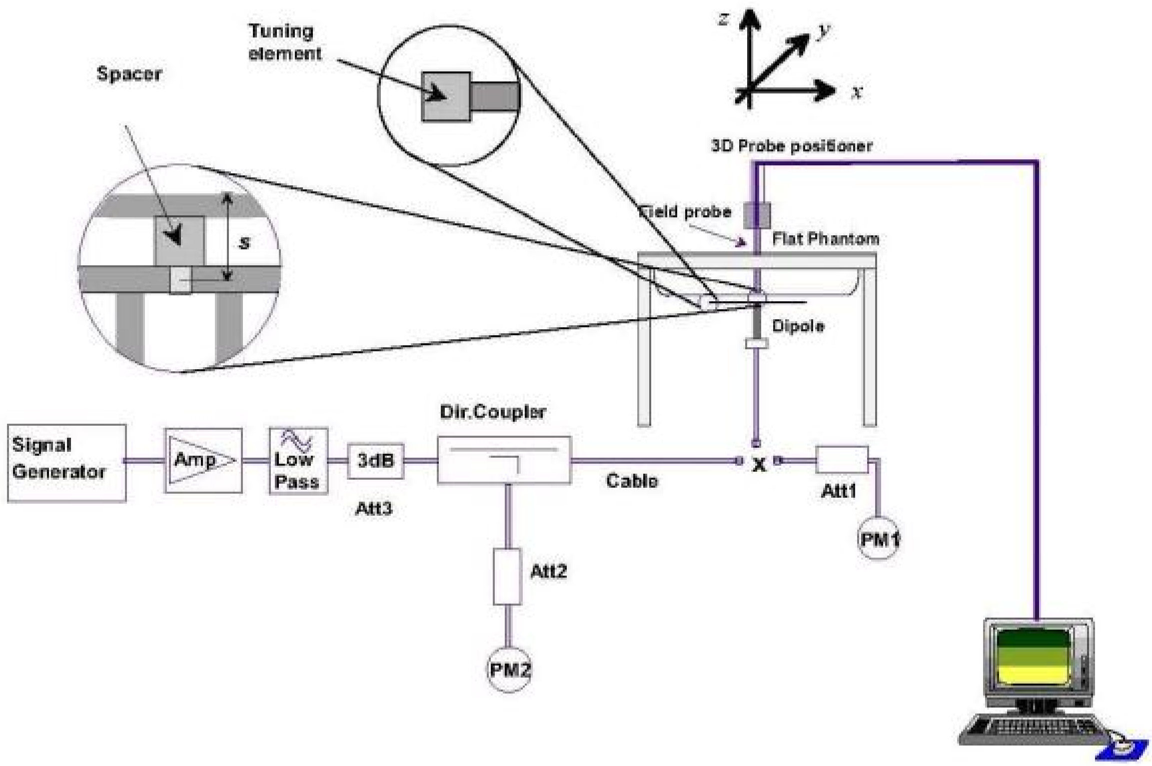
1. The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within ±5% of the target values. Liquid temperature during the SAR testing must be within ±2 ℃.
2. Since the maximum deviation of dielectric properties of the tissue simulating liquid is within 5%.

4 SAR System Validation

4.1 VALIDATION System

Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.



4.2 SYSTEM Validation Result

The measuring result for system verification is tabulated as below.

Test Date	Frequency (MHz)	1W Target SAR-1g (W/kg)	Measured SAR-1g (W/kg)	Normalized to 1W SAR-1g (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
Feb. 14, 2025	2450	51.40	5.47	54.70	6.42	1081	7628	1557

Note:

Comparing to the reference SAR value provided by SPEAG, the validation data should be within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.

5 SAR Evaluation Procedures

To evaluate the peak spatial-average SAR values with respect to 1 g or 10 g cubes, fine resolution volume scans, called zoom scans, are performed at the peak SAR locations identified during the area scan. If the cube volume within the zoom scan chosen to calculate the peak spatial-average SAR touches any boundary of the zoom-scan volume, the zoom scan shall be repeated with the center of the zoom-scan volume shifted to the new maximum SAR location. For any secondary peaks found in the area scan that are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan shall be performed for such peaks, unless the peak spatial-average SAR at the location of the maximum peak is more than 2 dB below the applicable SAR limit (i.e., 1 W/kg for a 1.6 W/kg 1 g limit, or 1.26 W/kg for a 2 W/kg 10 g limit). The zoom scan resolutions specified in the table below must be applied to the SAR measurements.

Table 3 - Area scan parameters

Parameter	DUT transmit frequency being tested	
	f≤ 3 GHz	3 GHz <f≤ 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	δ ln(2)/2 ± 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 (a in Figure 20)[c]	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Tolerance in the probe angle	1°	1°

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

b See Clause O.8 on how Δx and Δy 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.

Table 4 - Zoom scan parameters

Parameter	DUT transmit frequency being tested	
	f≤ 3 GHz	3 GHz <f≤ 10 GHz
Maximum distance between the closest measured points and the phantom surface (z_{M1} in Figure 20 and Table 3, in mm)	5	δ ln(2)/2 ± 0,5[a]
Maximum angle between the probe axis and the phantom surface normal (α in Figure 20)	5° (flat phantom only) 30° (other phantoms)	5° (flat phantom only) 20° (other phantoms)
Maximum spacing between measured points in the x- and y-directions (Δx and Δy, in mm)	8	24/f b
For uniform grids: Maximum spacing between measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	5	10/(f - 1)
For graded grids: Maximum spacing between the two closest measured points in the direction normal to the phantom shell (Δz_1 in Figure 20, in mm)	4	12/f
For graded grids: Maximum incremental increase in the spacing between measured points in the direction normal to the phantom shell ($R_z = \Delta z_2/\Delta z_1$ in Figure 20)	1,5	1,5
Minimum edge length of the zoom scan volume in the x- and y-directions (L_z, in O.8.3.2, in mm)	30	22
Minimum edge length of the zoom scan volume in the direction normal to the phantom shell (L_h in O.8.3.2 in mm)	30	22
Tolerance in the probe angle	1°	1°

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

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

6 SAR Measurement Evaluation

6.1 EUT Configuration and Setting

<Considerations Related to Bluetooth for Setup and Testing>

This device has installed Bluetooth engineering testing software which can provide continuous transmitting RF signal. During Bluetooth SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

6.2 EUT Testing Position

6.2.1 Head mounted Device(Headset)

(a) To position the device parallel to the phantom surface with inner and outside surfaces of the device.
(b) To adjust the device parallel to the flat phantom.
(c) To adjust the distance between the device surface and the flat phantom to 0mm.

7 Maximum Output Power

7.1 Maximum Conducted Power

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.
<Left ear>

Mode	2.4G Bluetooth
GFSK	3.5
π/4-DQPSK	4.5
8DPSK	4.5
LE 1M	4.5

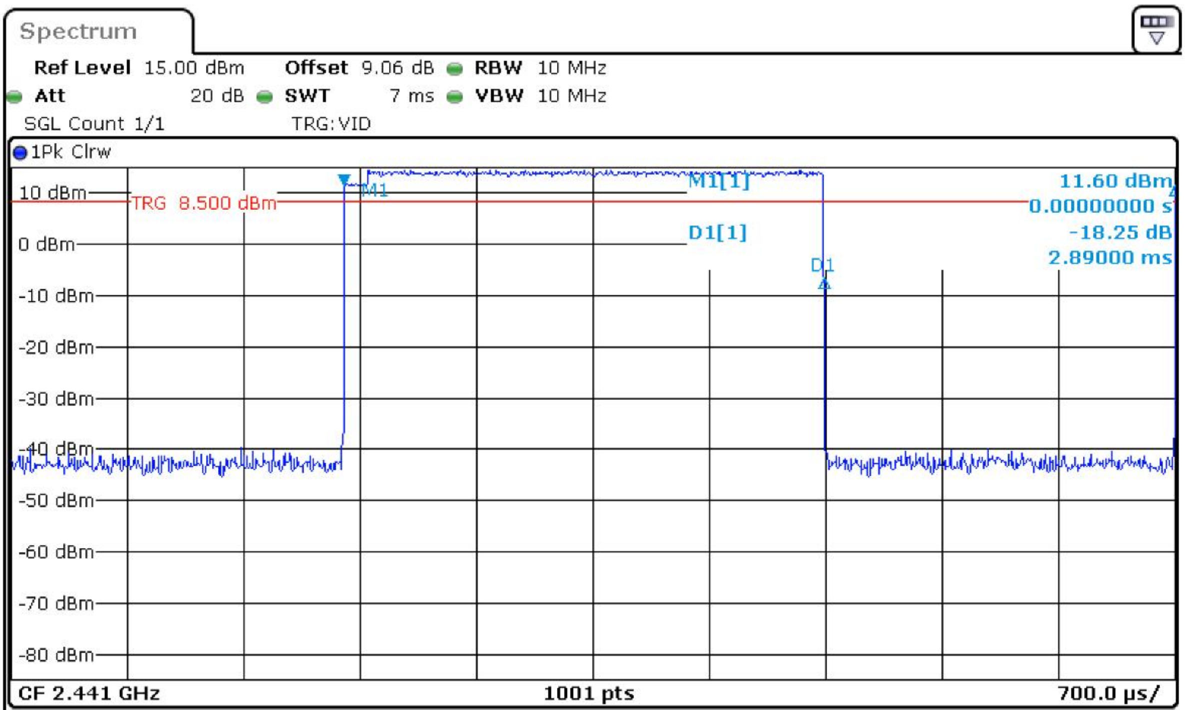
<Right ear>

Mode	2.4G Bluetooth
GFSK	4.0
π/4-DQPSK	4.5
8DPSK	4.0
LE 1M	4.5

7.2 Duty Cycle

General Note:
The Bluetooth duty cycle are 57.8% for left ear & right ear as folowing figure, according to Oct. 2016 TCBworkshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, thereforethe actual duty cvcle will be scaled up to 100% for Bluetooth reported SAR calculation.

Bluetooth time-domain plot for left ear& right ear



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	0.0 s	11.60 dBm		
D1	M1	1	2.89 ms	-18.25 dB		
D2	M1	1	5.0 ms	0.02 dB		

Date: 18.FEB.2025 14:02:30

7.3 Measured Conducted Power Result

All Rate have been tested, the Worst average power (Unit: dBm) is shown as below.

<Left ear>

Mode	Bluetooth GFSK		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Average Power	3.36	3.47	**3.35**
Mode	Bluetooth π/4-DQPSK		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Average Power	3.90	**4.02**	**4.15**
Mode	Bluetooth 8DPSK		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Average Power	3.94	**4.02**	4.00
Mode	Bluetooth LE 1M		
Channel / Frequency (MHz)	0 (2402)	19 (2440)	39 (2480)
Average Power	3.78	4.05	**4.11**

<Right ear>

Mode	Bluetooth GFSK		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Average Power	3.56	**3.70**	**3.51**
Mode	Bluetooth π/4-DQPSK		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Average Power	4.05	4.18	**4.09**
Mode	Bluetooth 8DPSK		
Channel / Frequency (MHz)	0 (2402)	39 (2441)	78 (2480)
Average Power	3.38	**3.68**	3.60
Mode	Bluetooth LE 1M		
Channel / Frequency (MHz)	0 (2402)	19 (2440)	39 (2480)
Average Power	3.66	**4.06**	4.02

8 SAR Testing Results

8.1 SAR Test Reduction Considerations

<KDB 447498 D01, General RF Exposure Guidance>

Testing of other required channels within the operating mode of a frequency band is not required when the reported SAR for the mid-band or highest output power channel is:

(1) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz

(2) ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz

(3) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

8.2 Head SAR

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Duty Cycle (%)	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg) Duty Cycle 100%
Left ear												
	Bluetooth	2DH5	inside of left earphone	0	78	57.8	4.5	4.15	1.08	0.01	0.003	0.01
1	Bluetooth	2DH5	Rear Face	0	78	57.8	4.5	4.15	1.08	0.09	0.079	**0.15**
	Bluetooth	2DH5	Left Side	0	78	57.8	4.5	4.15	1.08	-0.05	0.049	0.09
	Bluetooth	2DH5	Right Side	0	78	57.8	4.5	4.15	1.08	0.02	0.015	0.03
	Bluetooth	2DH5	Top Side	0	78	57.8	4.5	4.15	1.08	-0.03	0.004	0.01
	Bluetooth	2DH5	Bottom Side	0	78	57.8	4.5	4.15	1.08	0.00	0.003	0.01
	Bluetooth	2DH5	Rear Face	0	0	57.8	4.5	3.90	1.15	-0.05	0.021	0.04
	Bluetooth	2DH5	Rear Face	0	39	57.8	4.5	4.02	1.12	0.02	0.026	0.05
Right ear												
	Bluetooth	2DH5	inside of Right earphone	0	39	57.8	4.5	4.18	1.08	0.04	0.002	<0.01
2	Bluetooth	2DH5	Rear Face	0	39	57.8	4.5	4.18	1.08	-0.07	0.024	**0.04**
	Bluetooth	2DH5	Left Side	0	39	57.8	4.5	4.18	1.08	0.00	0.014	0.03
	Bluetooth	2DH5	Right Side	0	39	57.8	4.5	4.18	1.08	-0.03	0.007	0.01
	Bluetooth	2DH5	Top Side	0	39	57.8	4.5	4.18	1.08	0.02	0.002	<0.01
	Bluetooth	2DH5	Bottom Side	0	39	57.8	4.5	4.18	1.08	0.01	0.002	<0.01
	Bluetooth	2DH5	Rear Face	0	0	57.8	4.5	4.05	1.11	-0.03	0.022	0.04
	Bluetooth	2DH5	Rear Face	0	78	57.8	4.5	4.09	1.10	0.02	0.018	0.03

Note: The reported SAR was scaled to 57.8% transmission duty factor to determine compliance since the duty factor of the device is permanently limited to 57.8% per the manufacturer

8.3 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was 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. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10, the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

Since all the measured SAR are less than 0.8 W/kg, the repeated measurement is not required.

9 Equitpment List

Equipment	Manufacturer	Model	SN	Cal. Data	Cal. interval
System Validation Dipole	SPEAG	D450V3	1118	May. 27, 2022	3 years
System Validation Dipole	SPEAG	D750V3	1219	May. 22, 2022	3 years
System Validation Dipole	SPEAG	D850V2	1026	May. 23, 2022	3 years
System Validation Dipole	SPEAG	D1450V2	1092	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D1750V2	1192	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D1900V2	5d247	May. 23, 2022	3 years
System Validation Dipole	SPEAG	D2000V2	1099	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D2300V2	1126	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D2450V2	1081	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D2600V2	1195	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D3500V2	1140	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D3700V2	1116	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D3900V2	1087	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D4900V2	1066	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D5GHzV2	1353	May. 27, 2022	3 years
System Validation Dipole	SPEAG	D6.5GHz|V2	1057	May. 24, 2022	3 years
Dosimetric E-Field Probe	SPEAG	EX3DV4	7628	July. 03, 2024	1 year
Data Acquisition Electronics	SPEAG	DAE4	1557	Oct. 08, 2024	1 year
Wideband Radio Communication Tester	R&S	CMW500	168558	May. 25, 2024	1 year
Wideband Radio Communication Tester	Anritsu	MT8000A	6272354169	Jan. 08, 2025	1 year
Signal Analyzer	R&S	FSV	104408	May. 22, 2024	1 year
Vector Network Analyzer	R&S	ZNB 40	101544	May. 25, 2024	1 year
Dielectric assessment Kit	SPEAG	DAK-3.5	1327	Oct. 22, 2022	N/A
Signal Generator	R&S	SMB 100B	101440	Sep. 23, 2024	1 year
Power Sensor	R&S	NRP18S-10	101843	Sep. 20, 2024	1 year
Power Sensor	R&S	NRP18S-10	101845	Sep. 20, 2024	1 year
DC Power Supply	Topward	3303D	810984	Sep. 20, 2024	1 year
Cavity Coupler	/	/	LS0300103	Jan. 08, 2025	1 year
Directional Couper	/	SHX-DC04/12-20N	2206171042	Jan. 08, 2025	1 year
Coaxial attenuator	R&S	8491A	1424.6721k02-101845-HX	Sep. 20, 2024	1 year
Coaxial attenuator	R&S	8491A	1424.6721K02-101843-aM	Sep. 20, 2024	1 year
Digital Thermometer	LKM	DTM3000	3946	Jan. 13, 2025	1 year
Head Tissue Simulating Liquid	SPEAG	HBBL600-10000V6	SL AAH U16 BC	1-Jun-22	N/A
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 30	104408	May. 22, 2025	1 year
temperature and humidity indicator	LINI-T	A10T	C193561473	Apr. 28, 2024	1 year
Power Amplifier Mini circuit	mini-circuits	ZVA-183W-S+	726202215	Jan. 08, 2025	1 year
PHANTOM	SPEAG	ELI V8.0	2171	N/A	N/A
PHANTOM	SPEAG	SAM-Twin V8.0	2097	N/A	N/A

10 Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Source of Uncertainty	Tolerance (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)	Vi Veff
Measurement System Errors								
Probe Calibration	±11.0%	Normal (k=2)	2	1	1	± 5.5 %	± 5.5 %	∞
Probe Calibration Drift	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
Probe Linearity	±4.7%	Rectangular	√3	1	1	±2.7%	±2.7%	∞
Broadband Signal	±3.0%	Rectangular	√3	1	1	±1.7%	±1.7%	∞
Probe Isotropy	±7.6%	Rectangular	√3	1	1	±4.4%	±4.4%	∞
Other Probe + Electronic	±0.7%	Normal	1	1	1	±0.7%	±0.7%	∞
RF Ambient	±1.8%	Normal	1	1	1	±1.8%	±1.8%	∞
Probe Positioning	±0.006mm	Normal	1	0.14	0.14	±0.10%	±0.10%	∞
Data Processing	±1.2%	Normal	1	1	1	±1.2%	±1.2%	∞
Phantom and Device Errors								
Conductivity (meas.)[DAK]	±2.5%	Normal	1	0.78	0.71	±2.0%	±1.8%	100
Conductivity (temp.)[BB]	±3.3%	Rectangular	√3	0.78	0.71	±1.5%	±1.4%	∞
Phantom Permittivity	±14.0%	Rectangular	√3	0	0	±0%	±0%	∞
Distance DUT – TSL	±2.0%	Normal	1	2	2	±4.0%	±4.0%	∞
Device Positioning	±2.4%/±2.8%	Normal	1	1	1	±2.8%	±2.8%	30
Device Holder	±3.4%/±3.5%	Normal	1	1	1	±3.5%	±3.5%	30
DUT Modulation[m]	±2.4%	Rectangular	√3	1	1	±1.4%	±1.4%	∞
Time-average SAR	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
DUT drift	±2.5%	Normal	1	1	1	±2.5%	±2.5%	30
Val Antenna Unc.[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Unc. Input Power[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Correction to the SAR results								
C(ε,σ)	±1.9%	Normal	1	1	0.84	±1.9%	±1.6%	
SAR scaling[p]	±0.0%	Rectangular	√3	1	1	±0%	±0%	
Combined Standard Uncertainty (K = 1)						±12.54%	±12.44%	
Expanded Uncertainty (K = 2)						**±25.1%**	**±24.9%**	

Uncertainty budget for frequency range 300 MHz to 3 GHz

Source of Uncertainty	Tolerance (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)	Vi Veff
Measurement System Errors								
Probe Calibration	±13.1%	Normal (k=2)	2	1	1	± 6.55 %	± 6.55 %	∞
Probe Calibration Drift	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
Probe Linearity	±4.7%	Rectangular	√3	1	1	±2.7%	±2.7%	∞
Broadband Signal	±2.6%	Rectangular	√3	1	1	±1.5%	±1.5%	∞
Probe Isotropy	±7.6%	Rectangular	√3	1	1	±4.4%	±4.4%	∞
Other Probe + Electronic	±1.2%	Normal	1	1	1	±1.2%	±1.2%	∞
RF Ambient	±1.8%	Normal	1	1	1	±1.8%	±1.8%	∞
Probe Positioning	±0.005mm	Normal	1	0.29	0.29	±0.15%	±0.15%	∞
Data Processing	±2.3%	Normal	1	1	1	±2.3%	±2.3%	∞
Phantom and Device Errors								
Conductivity (meas.)[DAK]	±2.5%	Normal	1	0.78	0.71	±2.0%	±1.8%	60
Conductivity (temp.)[BB]	±3.3%	Rectangular	√3	0.78	0.71	±1.5%	±1.4%	∞
Phantom Permittivity	±14.0%	Rectangular	√3	0.25	0.25	±2%	±2%	∞
Distance DUT – TSL	±2.0%	Normal	1	2	2	±4.0%	±4.0%	∞
Device Positioning	±2.4%/±2.8%	Normal	1	1	1	±2.8%	±2.8%	30
Device Holder	±3.4%/±3.5%	Normal	1	1	1	±3.5%	±3.5%	30
DUT Modulation[m]	±2.4%	Rectangular	√3	1	1	±1.4%	±1.4%	∞
Time-average SAR	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
DUT drift	±2.5%	Normal	1	1	1	±2.5%	±2.5%	30
Val Antenna Unc.[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Unc. Input Power[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Correction to the SAR results								
Deviation to Target	±1.9%	Normal	1	1	0.84	±1.9%	±1.6%	
SAR scaling[p]	±0.0%	Rectangular	√3	1	1	±0%	±0%	
Combined Standard Uncertainty (K = 1)						±12.8%	±12.7%	
Expanded Uncertainty (K = 2)						**±26.1%**	**±25.9%**	

Uncertainty budget for frequency range 3 GHz to 6 GHz

11 Appendixes

<u>All attachments are integral parts of this test report. This applies especially to the following appendix:</u>

11.1 Appendix A: SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

11.2 Appendix B: SAR Plots of SAR Measurement

11.3 Appendix C: Calibration Certificate for probe and Dipole

Refer the appendix Calibration Report.

11.4 Appendix D: Test Photos and Results

Important

(1) The test report is invalid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

Address: No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong,China

Post Code：518110 Tel：0755-23763060-8805

Fax：0755-23763060 E-mail：sz-kf@cvc.org.cn

http://www.cvc.org.cn