



MAXIMUM PERMISSIBLE EXPOSURE EVALUATION REPORT

Applicant: AKUVOX (XIAMEN) NETWORKS CO., LTD.

Address: 10/F, No.56 Guanri Road, Software Park II, Xiamen 361009, China

Product Name: Door Phone

FCC ID: 2AHCR-R25A

Standard(s): 47 CFR §1.1310, 47 CFR §2.1091
447498 D01 General RF Exposure Guidance v06

Report Number: 2402A108791E-RF-00D

Report Date: 2025/2/5

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

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DOCUMENT REVISION HISTORY

| Revision Number | Report Number | Description of Revision | Date of Revision |
|-----------------|---------------------|-------------------------|------------------|
| 1.0 | 2402A108791E-RF-00D | Original Report | 2025/2/5 |

1. GENERAL INFORMATION

1.1 General Description Of Equipment under Test

| | |
|-----------------------------|--|
| EUT Name: | Door Phone |
| EUT Model: | R25A |
| Rated Input Voltage: | DC 12V From Adapter DC 48V From POE |
| Serial Number: | 2VON-1 |
| EUT Received Date: | 2024/12/12 |
| EUT Received Status: | Good |

Note 1: Per 15B report, Powered by Adapter was the worst, so only performed it.

2. MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 Applicable Standard

According to 1.1310, 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for Maximum Permissible Exposure (MPE)

| (B) Limits for General Population/Uncontrolled Exposure | | | | |
|---|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency Range (MHz) | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm ²) | Averaging Time (minutes) |
| 0.3–1.34 | 614 | 1.63 | *(100) | 30 |
| 1.34–30 | 824/f | 2.19/f | *(180/f ²) | 30 |
| 30–300 | 27.5 | 0.073 | 0.2 | 30 |
| 300–1500 | / | / | f/1500 | 30 |
| 1500–100,000 | / | / | 1.0 | 30 |

f = frequency in MHz;

* = Plane-wave equivalent power density;

2.2 Calculation For Test Exclusion:

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

2.3 MPE Test Procedure

1. Place the EUT's antenna was vertical polarization on the table.
2. The EUT was set to transmit at the frequency at maximum RF power.
3. The Distance between the test probe and the investigated EUT's antenna equal to the distance be specified as safety distance in the user manual.
4. Power density measurements were taken at different heights of the probe from the ground (0.8 to 2.8 meters) while rotating versus azimuth (from 0° to 360°) the antenna.
5. adjusted the distance between the test probe and the tested antenna to the real safe distance, R_{real} , such that the measured highest power density in the "worst case" position was the same or slightly less than the test limit.
6. The measurement results of final measurements conducted at the chosen azimuth and different heights of the probe above the ground.

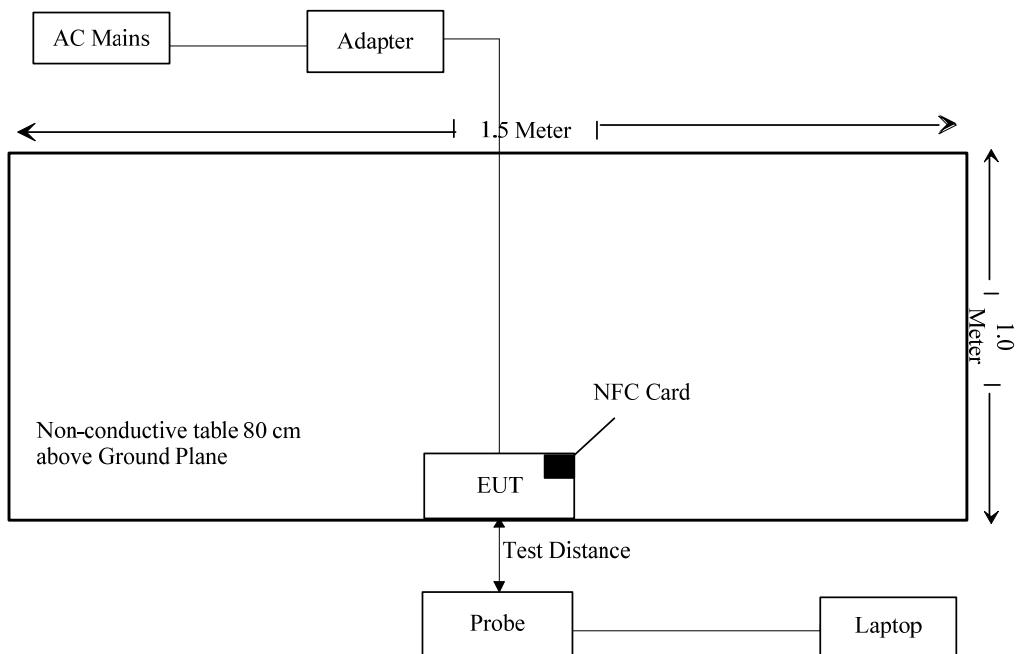
2.4 Support Equipment List and Details

| Manufacturer | Description | Model | Serial Number |
|--------------|-------------|---------------|-------------------|
| HEWEISHUN | Adapter | BN073-A12012E | 220617-27055ERFS1 |
| Unknown | NFC Card | EINOLDA | EMZBNC21103001 |
| Lenovo | Laptop | G510 | CB30920865 |

2.5 Support Cable List and Details

| Cable Description | Shielding Type | Ferrite Core | Length (m) | From Port | To |
|-------------------|----------------|--------------|------------|-----------------|--------|
| DC Cable | No | No | 1.5 | Adapter(DC 12V) | EUT |
| Signal Cable | No | No | 3 | Probe | Laptop |

2.6 Block Diagram of Test Setup



2.7 Test Data:

Test Information:

| | | | |
|-------------|--------------|--------------|--------------|
| Serial No.: | 2VON-1 | Test Date: | 2024/12/31 |
| Test Site: | Chamber 10m | Test Mode: | Transmitting |
| Tester: | Leesin Xiang | Test Result: | Pass |

Environmental Conditions:

| | | | | | |
|--------------------|------|------------------------|----|---------------------|-------|
| Temperature: (°C): | 21.9 | Relative Humidity: (%) | 41 | ATM Pressure: (kPa) | 102.1 |
|--------------------|------|------------------------|----|---------------------|-------|

Test Equipment List and Details:

| Manufacturer | Description | Model | Serial Number | Calibration Date | Calibration Due Date |
|--------------|--|-----------|---------------|------------------|----------------------|
| Narda | Electric and Magnetic Field Probe-Analyzer | EHP-200AC | 180ZX10204 | 2023/9/1 | 2026/8/31 |

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

H-Field Strength

| Frequency Range (kHz) | Position A (A/m) | Position B (A/m) | Position C (A/m) | Position D (A/m) | Position E (A/m) | Limit (A/m) |
|-----------------------|------------------|------------------|------------------|------------------|------------------|-------------|
| 125 | 0.1540 | 0.1801 | 0.2077 | 0.1690 | 0.4652 | 1.63 |

Note: Test with 20cm distance from the center of the probe(s) to the edge of the device.

E-Field Strength

| Frequency Range (kHz) | Position A (V/m) | Position B (V/m) | Position C (V/m) | Position D (V/m) | Position E (V/m) | Limit (V/m) |
|-----------------------|------------------|------------------|------------------|------------------|------------------|-------------|
| 125 | 0.703 | 0.7645 | 0.7882 | 0.594 | 1.592 | 614 |

Note: Test with 20cm distance from the center of the probe(s) to the edge of the device.

For NFC(13.56MHz):

| Operation Modes | Frequency (MHz) | Antenna Gain | | Conducted output power including Tune-up Tolerance | | Evaluation Distance (cm) | Power Density (mW/cm ²) | MPE Limit (mW/cm ²) |
|-----------------|-----------------|--------------|-----------|--|-------|--------------------------|-------------------------------------|---------------------------------|
| | | (dBi) | (numeric) | (dBm) | (mW) | | | |
| NFC(13.56MHz) | 13.56 | / | / | -31.0 | 0.001 | 20.00 | <<0.0001 | 0.98 |

Note: NFC field strength is 63.87dB μ V/m @ 3m = -31.33 dBm(0.001mW) EIRP. That equal to antenna gain is 0dBi and used the EIRP value as conducted power.

Note:

The Conducted output power including Tune-up Tolerance provided by manufacturer.

For Simultaneous transmission, the result of NFC and 125kHz too low to calculated the Simultaneous transmission result.

Result: The device meet FCC MPE at 20 cm distance.

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402A108791E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402A108791E-RF-INP EUT INTERNAL PHOTOGRAPHS

EXHIBIT B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2402A108791E-RF-00D-TSP test setup photographs.

******* END OF REPORT *******