



# EMC TEST REPORT

**Test item description:** Magnetic Wireless Power bank

Trademark(s): /

Model/Type reference: 7897SL

S/N: /

Report No.: CTB26072105801E01

Applicant's name: Nottage International Pty Ltd

Address: U B3, 3-29 Birnie Ave, Lidcombe, NSW2141, Australia

[illegible]

**Address:**

Prepared by: Shenzhen CTB Testing Technology Co., Ltd.

[illegible]

Sample No.: 26072105801

Date of Receipt: Jul. 21, 2026

Date of Test(s): Jul. 21, 2026 ~ Jul. 25, 2026

Date of Issue: Aug. 03, 2026

**Test Standard(s):** EN 55032:2015+A11:2020+A1:2020, EN 55035:2017+A11:2020

**Test Result: Pass**

In the configuration tested, the EUT complied with the standards specified above.

Compiled by:

Reviewed by:

Approved by \_\_\_\_\_

Ice Chan

Leo Huang



Ice Chen

Leo Huang

Note: If there is any objection to the inspection results in this report, please submit a written report to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. The tested sample(s) and the sample information are provided by the applicant. The authenticity, accuracy, and completeness of the provided information are the sole responsibility of the applicant. Without written approval of Shenzhen CTB Testing Technology Co., Ltd. this report can't be reproduced except in full. The result decision rules of our laboratory are based solely on the direct comparison between the actual measured values of test results and the standard limits, without considering the measurement uncertainty. "★" indicates the testing items were fulfilled by subcontracted lab. "✖" indicates the items are not in CNAS accreditation scope.

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## 1. Description of version

| Report No.        | Issue Date    | Description | Approved |
|-------------------|---------------|-------------|----------|
| CTB26072105801E01 | Aug. 03, 2026 | Original    | Valid    |
|                   |               |             |          |

## 2. Test summary

| Emission                                         |                |                  |
|--------------------------------------------------|----------------|------------------|
| Test Item                                        | Test Method    | Result           |
| Conducted Emission                               | EN 55032       | PASS             |
| Radiated emissions at frequencies up to 1 GHz    |                | PASS             |
| Radiated emissions at frequencies above 1 GHz    |                | N/A              |
| Immunity(EN 55035)                               |                |                  |
| Test Item                                        | Test Method    | Result           |
| Electrostatic discharges (ESD)                   | IEC 61000-4-2  | PASS             |
| Continuous RF electromagnetic field disturbances | IEC 61000-4-3  | PASS             |
| Electrical fast transients/burst (EFT/B)         | IEC 61000-4-4  | N/A <sup>1</sup> |
| Surges                                           | IEC 61000-4-5  | N/A <sup>1</sup> |
| Continuous induced RF disturbances               | IEC 61000-4-6  | N/A <sup>1</sup> |
| Power frequency magnetic field                   | IEC 61000-4-8  | N/A <sup>2</sup> |
| Voltage dips and Voltage interruptions           | IEC 61000-4-11 | N/A <sup>1</sup> |

**Note:** N/A is abbreviation for Not Applicable.

1. The Product is powered by USB power, this test items is not applicable.
2. The Product doesn't contain any device susceptible to magnetic fields.

### 3. Measurement uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95 %

| Test Item          | Frequency            | Expanded Uncertainty ( $U_{Lab}$ )      |
|--------------------|----------------------|-----------------------------------------|
| Conducted Emission | 150 kHz to 30 MHz    | No.1 $\pm 3.4$ dB<br>No.2 $\pm 3.5$ dB  |
| Radiated Emission  | 30 MHz to 1000 MHz   | No.1 $\pm 4.9$ dB<br>No.2 $\pm 4.6$ dB  |
| Radiated Emission  | 1000 MHz to 6000 MHz | No.1 $\pm 4.9$ dB,<br>No.2 $\pm 4.8$ dB |

#### 4. General information

##### 4.1. Description of EUT

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test item description                                    | Magnetic Wireless Power bank                                                                                                                                                                                                                                                                                                                                                                               |
| Trademark(s)                                             | /                                                                                                                                                                                                                                                                                                                                                                                                          |
| Model/Type reference                                     | 7897SL                                                                                                                                                                                                                                                                                                                                                                                                     |
| Serial Model No.                                         | /                                                                                                                                                                                                                                                                                                                                                                                                          |
| Model Difference                                         | /                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rated Power                                              | /                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rated Voltage& current                                   | Battery Capacity: 3.6V---5000mAh<br>Type-C input: 5V/3A, 9V/2A<br>Type-C output: 5V/3A, 9V/2.22A, 12V/1.67A                                                                                                                                                                                                                                                                                                |
| Highest Internal Frequency                               | <108MHz                                                                                                                                                                                                                                                                                                                                                                                                    |
| Configuration                                            | <input checked="" type="checkbox"/> Table-top <input type="checkbox"/> Floor-standing                                                                                                                                                                                                                                                                                                                      |
| Classification                                           | <input type="checkbox"/> Class A <input checked="" type="checkbox"/> Class B                                                                                                                                                                                                                                                                                                                               |
| The highest frequency of the internal sources of the EUT | <input checked="" type="checkbox"/> less than 108 MHz, the measurement shall only be made up to 1 GHz.<br><input type="checkbox"/> between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.<br><input type="checkbox"/> between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.<br><input type="checkbox"/> above 1 GHz, the measurement shall be made up to 6 GHz. |
| Adapter Information                                      | /                                                                                                                                                                                                                                                                                                                                                                                                          |

**Note:** The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

##### 4.2. Description of accessory device

| Description   | Manufacturer | Model        | Specification                                                                                                                                                                              | Note                                                                       |
|---------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Adapter       | HUAWEI       | HW-200440C00 | Input: 100-240V~ 50/60Hz 2.4A<br>Output: USB-C: 5V---3A, 9V---3A, 10V---4A, 11V---6A MAX, 12V---3A, 15V---3A MAX, 20V---4.4A MAX<br>USB-A: 5V---2A, 10V---4A, 11V---6A MAX, 20V---4.4A MAX | <input type="checkbox"/> Applicant <input checked="" type="checkbox"/> CTB |
| Wireless load | /            | /            | /                                                                                                                                                                                          | <input type="checkbox"/> Applicant <input checked="" type="checkbox"/> CTB |

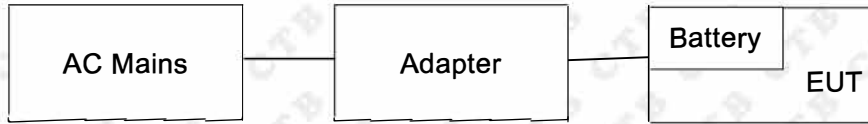
##### External I/O Cable

| Cable Description | Shielded Type                                                           | Ferrite Core                                             | Length(m) | Note                                                            |
|-------------------|-------------------------------------------------------------------------|----------------------------------------------------------|-----------|-----------------------------------------------------------------|
| Cable             | <input type="checkbox"/> Shielded <input type="checkbox"/> Non-shielded | <input type="checkbox"/> Yes <input type="checkbox"/> No | 0.3       | <input type="checkbox"/> Applicant <input type="checkbox"/> CTB |

##### 4.3. Test conditions

Temperature: 15-25℃  
Relative Humidity: 30-60%RH  
Atmospheric pressure: 800hPa-1060hPa

#### 4.4. Block diagram of EUT configuration



#### 4.5. Operating condition of EUT

The test system was pre-tested based on the consideration of all possible combinations of EUT operation modes according to test plan. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively. All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, (\*)the worst data were recorded and reported.

| Pretest Test Mode | Description                                | Test Voltage |
|-------------------|--------------------------------------------|--------------|
| Mode 1*           | Charging                                   | AC 230V/50Hz |
| Mode 2*           | Full load (Type-C output: 5V $\pm$ 3A)     | DC 3.6V      |
| Mode 3            | Full load (Type-C output: 12V $\pm$ 1.67A) | DC 3.6V      |
| Mode 4            | Full load(5W)                              | DC 3.6V      |
| Mode 5            | Full load(7.5W)                            | DC 3.6V      |
| Mode 6            | Full load(10W)                             | DC 3.6V      |
| Mode 7            | Full load(15W)                             | DC 3.6V      |

| Conducted emission test |             |              |
|-------------------------|-------------|--------------|
| Final Test Mode         | Description | Test Voltage |
| Mode 1*                 | Charging    | AC 230V/50Hz |

| Radiated emission test |             |              |
|------------------------|-------------|--------------|
| Final Test Mode        | Description | Test Voltage |
| Mode 1*                | Charging    | AC 230V/50Hz |

| Immunity test   |                                        |              |
|-----------------|----------------------------------------|--------------|
| Final Test Mode | Description                            | Test Voltage |
| Mode 2*         | Full load (Type-C output: 5V $\pm$ 3A) | DC 3.6V      |

## 5. List of Test and Measurement Instruments

| No.1 Continuous disturbance |                   |               |                      |                            |                  |                  |
|-----------------------------|-------------------|---------------|----------------------|----------------------------|------------------|------------------|
| No.                         | Equipment         | Manufacturer  | Model No.            | Serial No.                 | Firmware version | Calibrated until |
| 1                           | 843 Shield Room   | C/ R/ T       | 843                  | /                          | /                | 2027/6/21        |
| 2                           | LISN              | ROHDE&SCHWARZ | ESH3-Z5              | 100318                     | /                | 2027/5/15        |
| 3                           | Pulse limiter     | ROHDE&SCHWARZ | ESH3-Z2              | 0357.8810.54-1<br>02700-NB | /                | 2027/5/13        |
| 4                           | EMI TEST RECEIVER | R&S           | ESCI                 | 100428                     | V4.42.SP3        | 2027/5/14        |
| 5                           | Coaxial cable     | Agilent       | UCE500-SMNM-1.<br>5M | /                          | /                | 2027/5/13        |
| 6                           | ISN               | Schwarzbeck   | NTFM8158             | 183                        | /                | 2026/6/17        |
| 7                           | ISN               | Schwarzbeck   | CAT5 8158            | 473                        | /                | 2026/6/17        |
| 8                           | Voltage Probe     | Schwarzbeck   | TK 9420              | 01189                      | /                | 2027/5/15        |
| 9                           | EMI test software | Frad          | EZ-EMC               | Ver/<br>EMC-con3A1/1       | /                | /                |
| 10                          | Current Probe     | FCC           | F-52B                | 199453                     | /                | 2027/5/21        |

| Radiated emission(No.2 Chamber) |                                         |              |             |            |                    |                  |
|---------------------------------|-----------------------------------------|--------------|-------------|------------|--------------------|------------------|
| No.                             | Equipment                               | Manufacturer | Model No.   | Serial No. | Firmware version   | Calibrated until |
| 1                               | 966 Chamber                             | C/ R/ T      | 966         | /          | /                  | 2026/11/14       |
| 2                               | Double Ridged Broadband<br>Horn Antenna | Schwarzbeck  | BBHA 9120 D | 01911      | /                  | 2027/5/14        |
| 3                               | Broadband Antenna                       | Schwarzbeck  | VULB 9168   | 1471       | /                  | 2026/9/20        |
| 4                               | Preamplifier                            | Agilent      | 8449B       | 3008A01838 | /                  | 2027/5/14        |
| 5                               | Preamplifier                            | Schwarzbeck  | BBV 9743 B  | 00500      | /                  | 2027/5/15        |
| 6                               | EMI TEST RECEIVER                       | R&S          | ESCI7       | 100861     | /                  | 2027/5/15        |
| 7                               | Apectrum Analyzer                       | Agilent      | N9020A      | MY52090073 | A.14.16            | 2027/5/13        |
| 8                               | EMI test software                       | Farad        | EZ-EMC      | /          | Ver.<br>FARAD-3A1+ | /                |
| 9                               | Coaxial cable                           | Rosenberg    | 8m          | /          | /                  | 2027/5/15        |
| 10                              | Coaxial cable                           | Times        | 2m          | /          | /                  | 2027/5/15        |
| 11                              | Coaxial cable                           | Times        | 2m          | /          | /                  | 2027/5/15        |
| 12                              | Coaxial cable                           | Times        | 1m          | /          | /                  | 2027/5/15        |
| 13                              | loop antenna                            | Schwarzbeck  | FMZB 1519B  | 1519B-224  | /                  | 2027/5/16        |

| Electrostatic discharges |               |              |           |            |                  |                  |
|--------------------------|---------------|--------------|-----------|------------|------------------|------------------|
| No.                      | Equipment     | Manufacturer | Model No. | Serial No. | Firmware version | Calibrated until |
| 1                        | ESD Simulator | TESTQ        | NSG437    | 329        | V01.00           | 2027/5/17        |

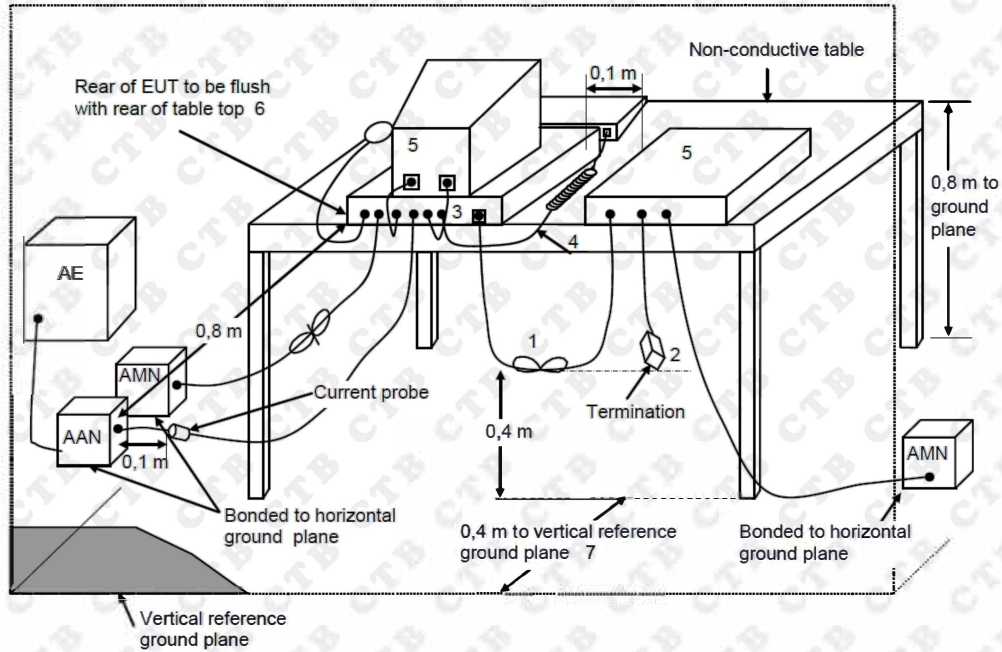
| Radio frequency electromagnetic field |                                  |              |                 |             |                  |                  |
|---------------------------------------|----------------------------------|--------------|-----------------|-------------|------------------|------------------|
| No.                                   | Equipment                        | Manufacturer | Type No.        | Serial No.  | Firmware version | Calibrated until |
| 1                                     | 966 Chamber                      | C/ R/ T      | 966             | /           | /                | 2026/11/14       |
| 2                                     | Signal Generator                 | Agilent      | N5181A          | MY50140365  | A.01.60          | 2027/5/14        |
| 3                                     | Stacked Double Log.-Per. Antenna | SKET         | STLP 9129 Plus  | 2106070106  | /                | /                |
| 4                                     | Switch Controller                | SKET         | RFSU-DC18G-4C   | 2106070105  | /                | /                |
| 5                                     | RF Power Meter                   | Agilent      | E9304A          | MY41490462  | /                | 2027/5/14        |
| 6                                     | RF Power Meter                   | Agilent      | E9301A          | MY41495675  | /                | 2027/5/14        |
| 7                                     | E-Field Probe                    | Narda        | EP-601          | 811ZX10305  | /                | 2026/6/2         |
| 8                                     | Power Amplifier                  | SKET         | HAP-80M01G-250W | 2106070103  | /                | 2026/7/16        |
| 9                                     | Power Amplifier                  | SKET         | HAP-01G 06G-75W | 2106070104  | /                | 2026/7/16        |
| 10                                    | Audio Analysis                   | R&S          | ATS-1           | ATS 1-41152 | /                | 2027/5/14        |
| 11                                    | Audio Output Matching Network    | SKET         | RCO Network     | /           | /                | 2026/11/6        |
| 12                                    | Power Meter                      | Agilent      | E4419B          | GB42421440  | /                | 2027/5/14        |
| 13                                    | RS test software                 | SKET         | EMC-S           | V2.0.0.19   | /                | /                |

## 6. Emission

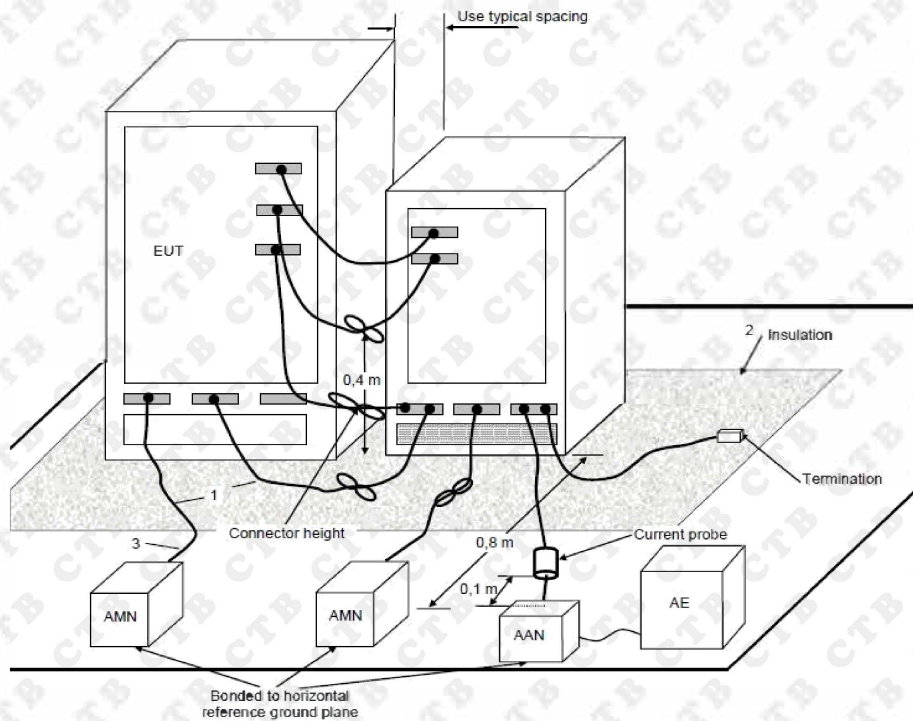
### 6.1. Conducted emission

#### 6.1.1. Block diagram of test setup

For table-top equipment



For floor standing equipment



### 6.1.2. Limit

Requirements for conducted emissions from the AC mains power ports of Class A equipment

| Frequency range<br>MHz | Coupling device | Detector type<br>/ bandwidth | Class A limits<br>dB( $\mu$ V) |
|------------------------|-----------------|------------------------------|--------------------------------|
| 0,15 to 0,5            | AMN             | Quasi Peak / 9 kHz           | 79                             |
| 0,5 to 30              |                 |                              | 73                             |
| 0,15 to 0,5            |                 | Average / 9 kHz              | 66                             |
| 0,5 to 30              |                 |                              | 60                             |

Requirements for conducted emissions from the AC mains power ports of Class B equipment

| Frequency range<br>MHz | Coupling device | Detector type<br>/ bandwidth | Class B limits<br>dB( $\mu$ V) |
|------------------------|-----------------|------------------------------|--------------------------------|
| 0,15 to 0,5            | AMN             | Quasi Peak / 9 kHz           | 66 to 56                       |
| 0,5 to 5               |                 |                              | 56                             |
| 5 to 30                |                 |                              | 60                             |
| 0,15 to 0,5            |                 | Average / 9 kHz              | 56 to 46                       |
| 0,5 to 5               |                 |                              | 46                             |
| 5 to 30                |                 |                              | 50                             |

Requirements for asymmetric mode conducted emissions from Class A equipment

| Frequency range<br>MHz | Coupling device | Detector type<br>/ bandwidth | Class A limits<br>dB( $\mu$ V) |
|------------------------|-----------------|------------------------------|--------------------------------|
| 0,15 to 0,5            | AAN             | Quasi Peak / 9 kHz           | 97 to 87                       |
| 0,5 to 30              |                 |                              | 87                             |
| 0,15 to 0,5            |                 | Average / 9 kHz              | 84 to 74                       |
| 0,5 to 30              |                 |                              | 74                             |

Requirements for asymmetric mode conducted emissions from Class B equipment

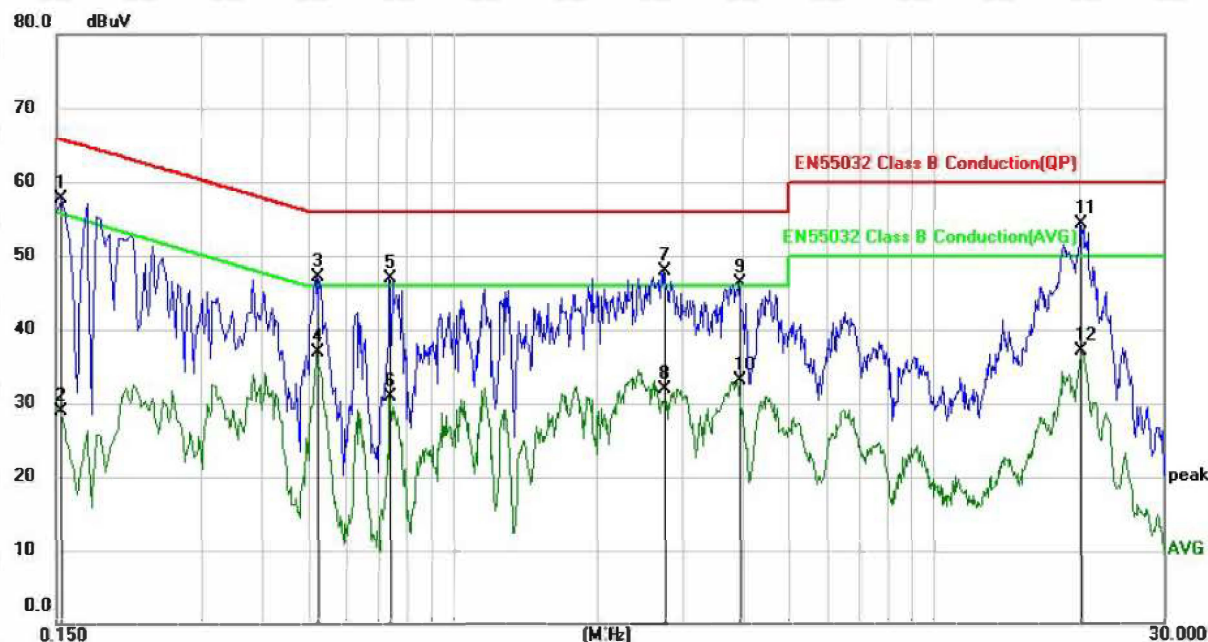
| Frequency range<br>MHz | Coupling device | Detector type<br>/ bandwidth | Class B limits<br>dB( $\mu$ V) |
|------------------------|-----------------|------------------------------|--------------------------------|
| 0,15 to 0,5            | AAN             | Quasi Peak / 9 kHz           | 84 to 74                       |
| 0,5 to 30              |                 |                              | 74                             |
| 0,15 to 0,5            |                 | Average / 9 kHz              | 74 to 64                       |
| 0,5 to 30              |                 |                              | 64                             |

### 6.1.3. Test procedure

1. Measurement was performed in shielded room, and instruments used were followed CISPR 16-2-1 clause 7.
2. Detailed test procedure was following clause 7 of CISPR 16-2-1.
3. Frequency range 150kHz – 30MHz was checked and EMI receiver measurement bandwidth was set to 9 kHz.

## 6.1.4. Test results

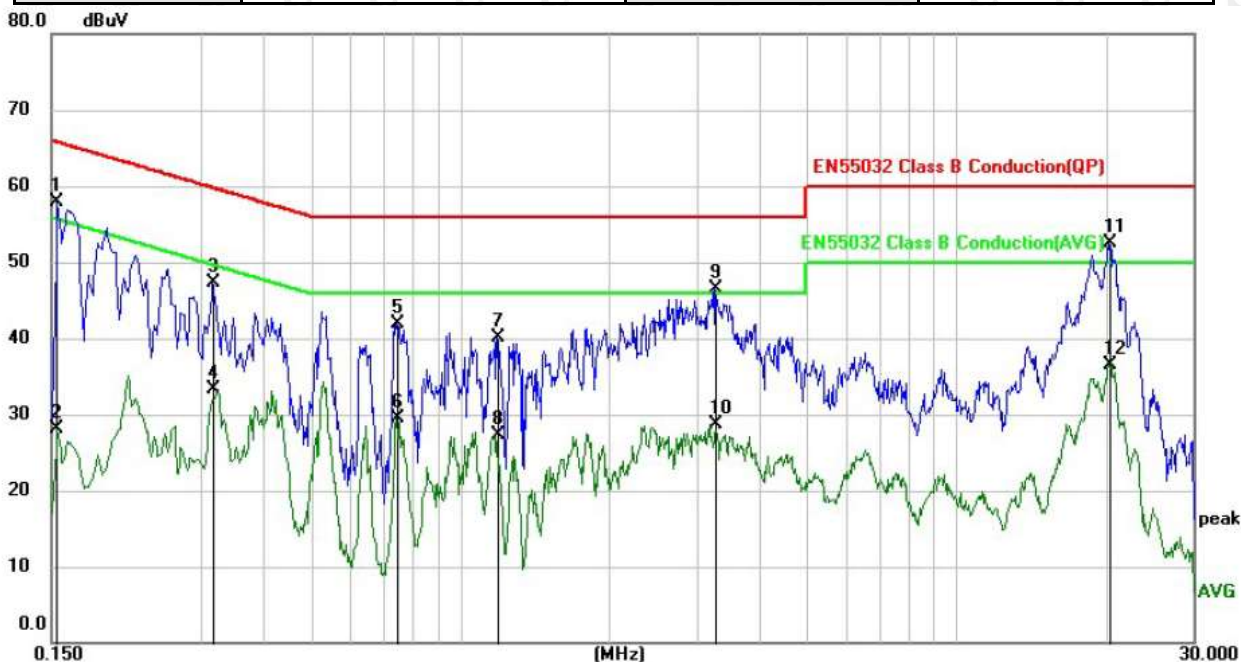
|                |              |                    |        |
|----------------|--------------|--------------------|--------|
| Temperature:   | 23°C         | Relative Humidity: | 54 %RH |
| Pressure:      | 101kPa       | Phase :            | Line   |
| Test Voltage : | AC 230V/50Hz | Test Mode:         | Mode 1 |



| No. | Mk. | Freq.   | Reading Level | Correct Factor | Measurement | Limit | Over   |          |
|-----|-----|---------|---------------|----------------|-------------|-------|--------|----------|
|     |     | MHz     | dBuV          | dB             | dBuV        | dBuV  | dB     | Detector |
| 1   |     | 0.1539  | 47.67         | 10.07          | 57.74       | 65.79 | -8.05  | QP       |
| 2   |     | 0.1539  | 18.93         | 10.07          | 29.00       | 55.79 | -26.79 | AVG      |
| 3   |     | 0.5220  | 37.10         | 10.09          | 47.19       | 56.00 | -8.81  | QP       |
| 4   |     | 0.5220  | 26.83         | 10.09          | 36.92       | 46.00 | -9.08  | AVG      |
| 5   |     | 0.7420  | 36.71         | 10.11          | 46.82       | 56.00 | -9.18  | QP       |
| 6   |     | 0.7420  | 20.86         | 10.11          | 30.97       | 46.00 | -15.03 | AVG      |
| 7   |     | 2.7580  | 37.63         | 10.20          | 47.83       | 56.00 | -8.17  | QP       |
| 8   |     | 2.7580  | 21.78         | 10.20          | 31.98       | 46.00 | -14.02 | AVG      |
| 9   |     | 3.9580  | 35.97         | 10.24          | 46.21       | 56.00 | -9.79  | QP       |
| 10  |     | 3.9580  | 22.80         | 10.24          | 33.04       | 46.00 | -12.96 | AVG      |
| 11  | *   | 20.2540 | 43.38         | 10.97          | 54.35       | 60.00 | -5.65  | QP       |
| 12  |     | 20.2540 | 26.20         | 10.97          | 37.17       | 50.00 | -12.83 | AVG      |

Note: Result=Reading + Factor  
Over Limit=Result – Limit

|                |              |                    |         |
|----------------|--------------|--------------------|---------|
| Temperature:   | 23°C         | Relative Humidity: | 54 %RH  |
| Pressure:      | 101kPa       | Phase :            | Neutral |
| Test Voltage : | AC 230V/50Hz | Test Mode:         | Mode 1  |



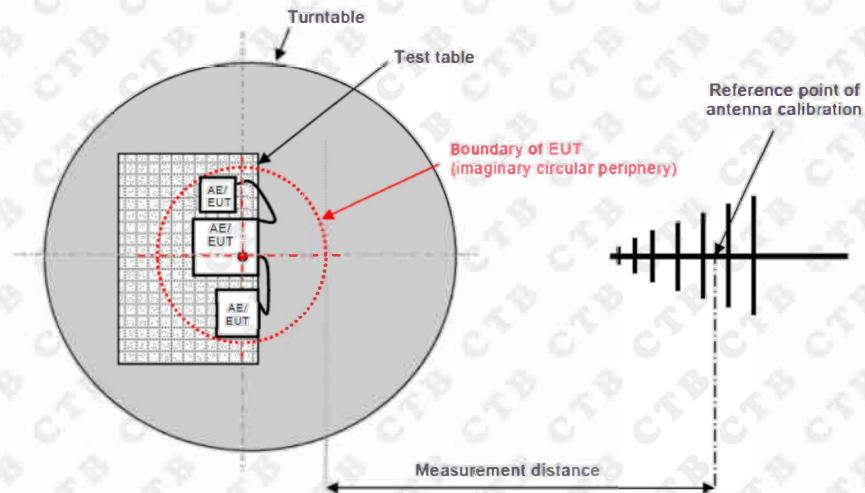
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|
| 1   |     | 0.1539       | 47.85                    | 10.07                   | 57.92                    | 65.79         | -7.87      | QP       |
| 2   |     | 0.1539       | 18.11                    | 10.07                   | 28.18                    | 55.79         | -27.61     | AVG      |
| 3   |     | 0.3180       | 37.27                    | 10.08                   | 47.35                    | 59.76         | -12.41     | QP       |
| 4   |     | 0.3180       | 23.14                    | 10.08                   | 33.22                    | 49.76         | -16.54     | AVG      |
| 5   |     | 0.7460       | 31.84                    | 10.11                   | 41.95                    | 56.00         | -14.05     | QP       |
| 6   |     | 0.7460       | 19.39                    | 10.11                   | 29.50                    | 46.00         | -16.50     | AVG      |
| 7   |     | 1.1860       | 29.98                    | 10.14                   | 40.12                    | 56.00         | -15.88     | QP       |
| 8   |     | 1.1860       | 17.18                    | 10.14                   | 27.32                    | 46.00         | -18.68     | AVG      |
| 9   |     | 3.2659       | 36.34                    | 10.22                   | 46.56                    | 56.00         | -9.44      | QP       |
| 10  |     | 3.2659       | 18.47                    | 10.22                   | 28.69                    | 46.00         | -17.31     | AVG      |
| 11  | *   | 20.3740      | 41.61                    | 10.98                   | 52.59                    | 60.00         | -7.41      | QP       |
| 12  |     | 20.3740      | 25.48                    | 10.98                   | 36.46                    | 50.00         | -13.54     | AVG      |

Note: Result=Reading + Factor  
Over Limit=Result - Limit

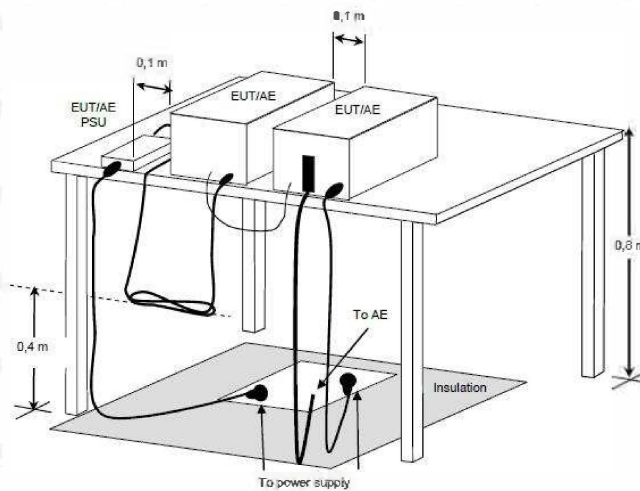
## 6.2. Radiated emissions

### 6.2.1. Block diagram of test setup

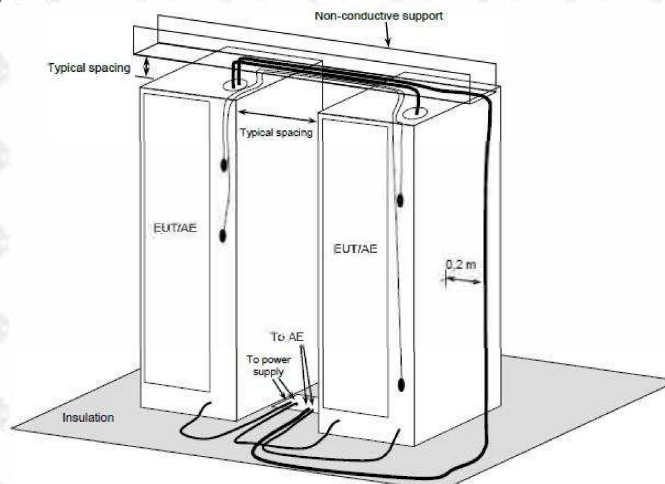
Measurement distance



For table-top equipment



For floor standing equipment



### 6.2.2. Limit

Requirements for radiated emissions at frequencies up to 1 GHz for class A equipment

| Frequency range MHz | Measurement |            |                           | Class A limits dB( $\mu$ V/m) |
|---------------------|-------------|------------|---------------------------|-------------------------------|
|                     | Facility    | Distance m | Detector type / bandwidth |                               |
| 30 to 230           | SAC         | 3          | Quasi Peak / 120 kHz      | 50                            |
| 230 to 1 000        |             |            |                           | 57                            |

Requirements for radiated emissions at frequencies above 1 GHz for class A equipment

| Frequency range MHz | Measurement |            |                           | Class A limits dB( $\mu$ V/m) |
|---------------------|-------------|------------|---------------------------|-------------------------------|
|                     | Facility    | Distance m | Detector type / bandwidth |                               |
| 1 000 to 6 000      | FSOATS      | 3          | Average / 1MHz            | 60                            |
| 1 000 to 6 000      |             | 3          | Peak / 1MHz               | 80                            |

Requirements for radiated emissions at frequencies up to 1 GHz for class B equipment

| Frequency range MHz | Measurement |            |                           | Class B limits dB( $\mu$ V/m) |
|---------------------|-------------|------------|---------------------------|-------------------------------|
|                     | Facility    | Distance m | Detector type / bandwidth |                               |
| 30 to 230           | SAC         | 3          | Quasi Peak / 120 kHz      | 40                            |
| 230 to 1 000        |             |            |                           | 47                            |

Requirements for radiated emissions at frequencies above 1 GHz for class B equipment

| Frequency range MHz | Measurement |            |                           | Class B limits dB( $\mu$ V/m) |
|---------------------|-------------|------------|---------------------------|-------------------------------|
|                     | Facility    | Distance m | Detector type / bandwidth |                               |
| 1 000 to 6 000      | FSOATS      | 3          | Average / 1MHz            | 54                            |
| 1 000 to 6 000      |             | 3          | Peak / 1MHz               | 74                            |

### 6.2.3. Test procedure

1. The measurement was performed in a semi-anechoic chamber.
2. The distance from EUT to receiving antenna is 3 meters.
3. Measurement was performed according to clause 7.3 of CISPR 16-2-3.

## 6.2.4. Test results

|                |              |                    |            |
|----------------|--------------|--------------------|------------|
| Temperature:   | 23°C         | Relative Humidity: | 54 %RH     |
| Pressure:      | 101kPa       | Polarization :     | Horizontal |
| Test Voltage : | AC 230V/50Hz | Test Mode:         | Mode 1     |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1   | 51.3005         | 33.48          | -13.25        | 20.23          | 40.00          | -19.77      | QP       |
| 2   | 143.3260        | 31.47          | -12.93        | 18.54          | 40.00          | -21.46      | QP       |
| 3 * | 204.2377        | 52.22          | -15.60        | 36.62          | 40.00          | -3.38       | QP       |
| 4   | 437.1200        | 30.96          | -9.45         | 21.51          | 47.00          | -25.49      | QP       |
| 5   | 568.6126        | 26.43          | -6.27         | 20.16          | 47.00          | -26.84      | QP       |
| 6   | 755.3873        | 26.23          | -2.84         | 23.39          | 47.00          | -23.61      | QP       |

Note: Result=Reading+Factor  
Over Limit=Result-Limit

|                |              |                    |          |
|----------------|--------------|--------------------|----------|
| Temperature:   | 23°C         | Relative Humidity: | 54 %RH   |
| Pressure:      | 101kPa       | Polarization :     | Vertical |
| Test Voltage : | AC 230V/50Hz | Test Mode:         | Mode 1   |



| No. | Frequency (MHz) | Reading (dBuV) | Factor (dB/m) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector |
|-----|-----------------|----------------|---------------|----------------|----------------|-------------|----------|
| 1 * | 32.0667         | 46.93          | -13.56        | 33.37          | 40.00          | -6.63       | QP       |
| 2   | 50.7636         | 45.52          | -13.22        | 32.30          | 40.00          | -7.70       | QP       |
| 3   | 58.2030         | 42.43          | -13.62        | 28.81          | 40.00          | -11.19      | QP       |
| 4   | 77.3210         | 43.37          | -16.41        | 26.96          | 40.00          | -13.04      | QP       |
| 5   | 126.3285        | 42.42          | -15.33        | 27.09          | 40.00          | -12.91      | QP       |
| 6   | 193.7727        | 46.26          | -15.58        | 30.68          | 40.00          | -9.32       | QP       |

Note: Result=Reading+Factor  
Over Limit=Result-Limit

## 7. Immunity

### Performance criteria

#### Performance criterion A

The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

#### Performance criterion B

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.

After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended. The performance level may be replaced by a permissible loss of performance.

If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

#### Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

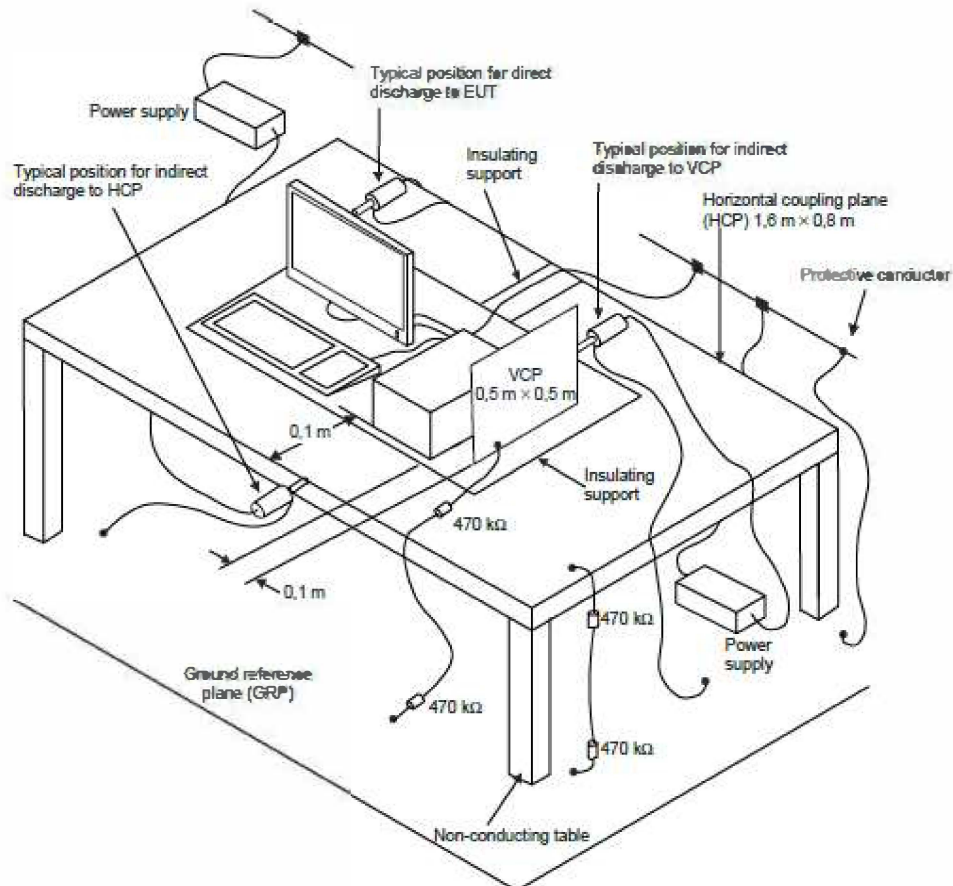
## 7.1. Electrostatic discharges (ESD)

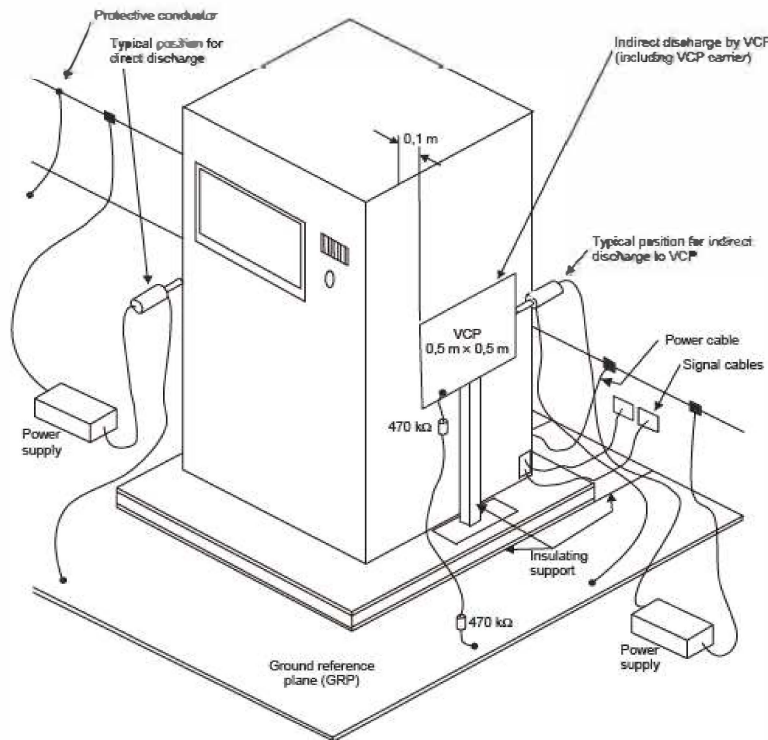
### 7.1.1. Test standard and Levels

| Environmental phenomenon | Test specifications          | Basic standard |
|--------------------------|------------------------------|----------------|
| Electrostatic discharge  | $\pm 8$ kV air discharge     | IEC 61000-4-2  |
|                          | $\pm 4$ kV contact discharge |                |

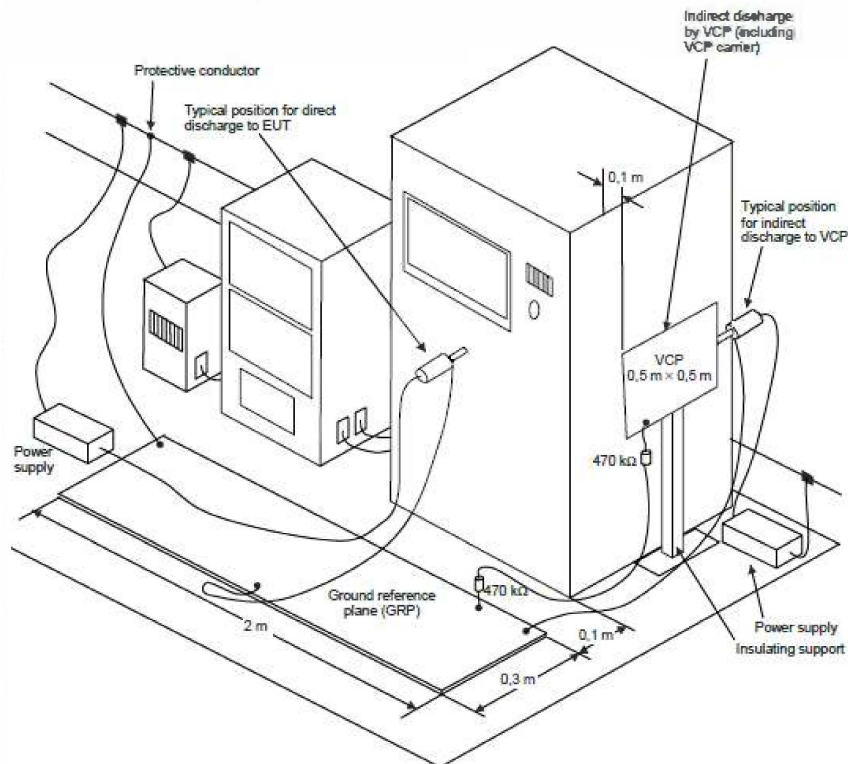
### 7.1.2. Block diagram of test setup

For table-top equipment





## For table-top & floor standing equipment



### 7.1.3. Test Procedure

#### 1. Air discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

#### 2. Contact discharge:

All the procedure shall be same as Section 1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

#### 3. Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

#### 4. Indirect discharge for vertical coupling plane

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

### 7.1.4. Test Result

|                |         |                    |        |
|----------------|---------|--------------------|--------|
| Temperature:   | 23°C    | Relative Humidity: | 54 %RH |
| Pressure:      | 101kPa  | Test Mode:         | Mode 2 |
| Test Voltage : | DC 3.6V |                    |        |

| Discharge Method  | Discharge Position                        | Voltage (±kV) | Min. No. of Discharge per polarity (Each Point) | Performance Criterion | Required Criterion |
|-------------------|-------------------------------------------|---------------|-------------------------------------------------|-----------------------|--------------------|
| Contact Discharge | Conductive Surfaces                       | 4             | 10                                              | B                     | A                  |
|                   | Indirect Discharge HCP                    | 4             | 10                                              | B                     | A                  |
|                   | Indirect Discharge VCP                    | 4             | 10                                              | B                     | A                  |
| Air Discharge     | Slots, Apertures, and Insulating Surfaces | 8             | 10                                              | B                     | A                  |
| Note: N/A         |                                           |               |                                                 |                       |                    |

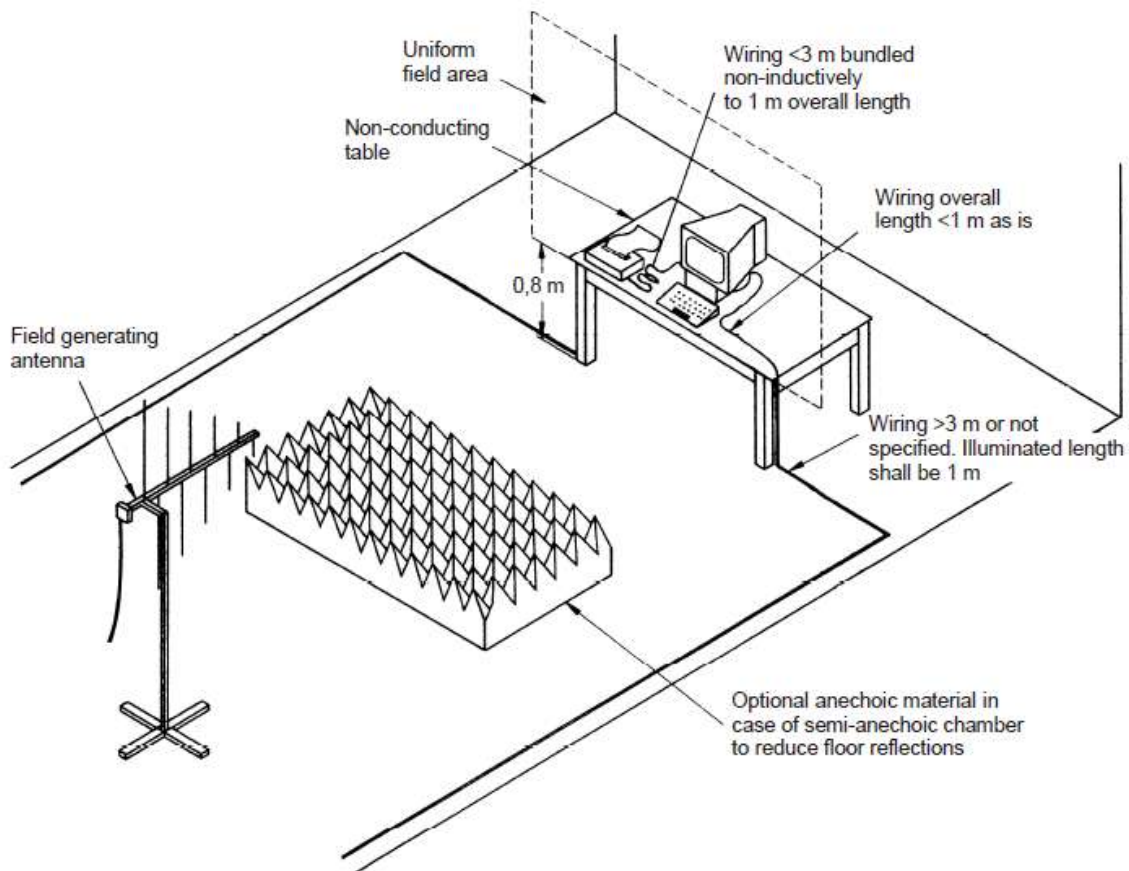
## 7.2. Electromagnetic field

### 7.2.1. Test standard and Levels

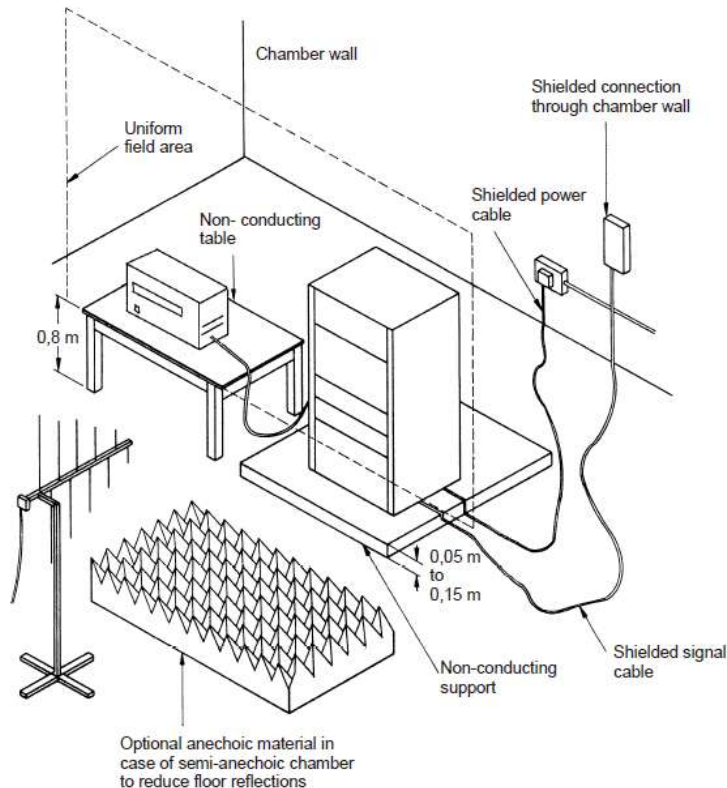
| Characteristics | Test levels               | Test levels                           | Basic standard |
|-----------------|---------------------------|---------------------------------------|----------------|
| Frequency range | 80 MHz to 1000 MHz,       | 1800MHz, 2600MHz,<br>3500MHz, 5000MHz | IEC 61000-4-3  |
| Test level      | 3 V/m (unmodulated)       | 3 V/m (unmodulated)                   |                |
| Modulation      | 1 kHz, 80 % AM, sine wave | 1 kHz, 80 % AM, sine wave             |                |

### 7.2.2. Block diagram of test setup

For table-top equipment



For floor standing equipment



### 7.2.3. Test Procedure

1. Measurement was performed in full-anechoic chamber.
2. Measurement procedure was applied according to EN 61000-4-3 clause 8.
3. The test method and equipment was specified by EN 61000-4-3.

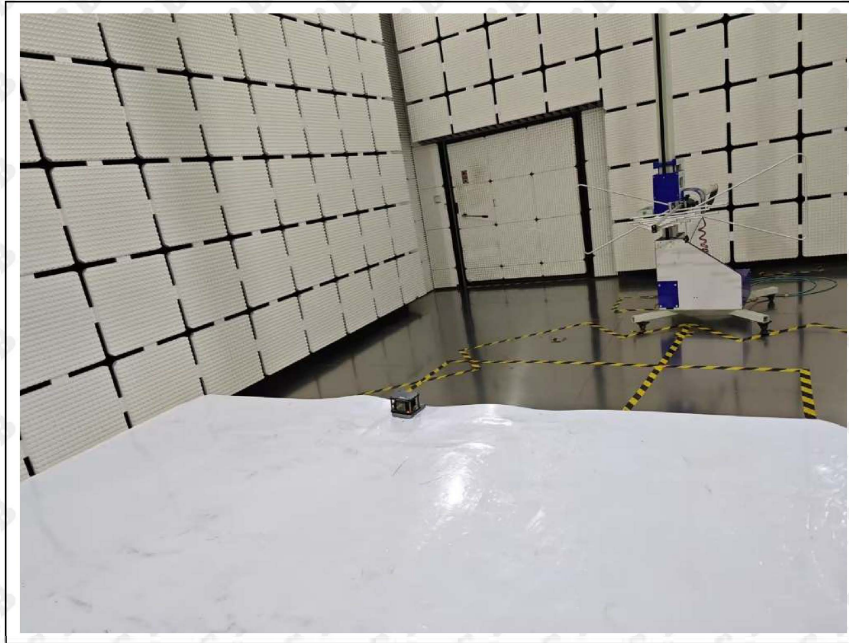
### 7.2.4. Test Result

|                |         |                    |        |
|----------------|---------|--------------------|--------|
| Temperature:   | 23°C    | Relative Humidity: | 54 %RH |
| Pressure:      | 101kPa  | Test Mode:         | Mode 2 |
| Test Voltage : | DC 3.6V |                    |        |

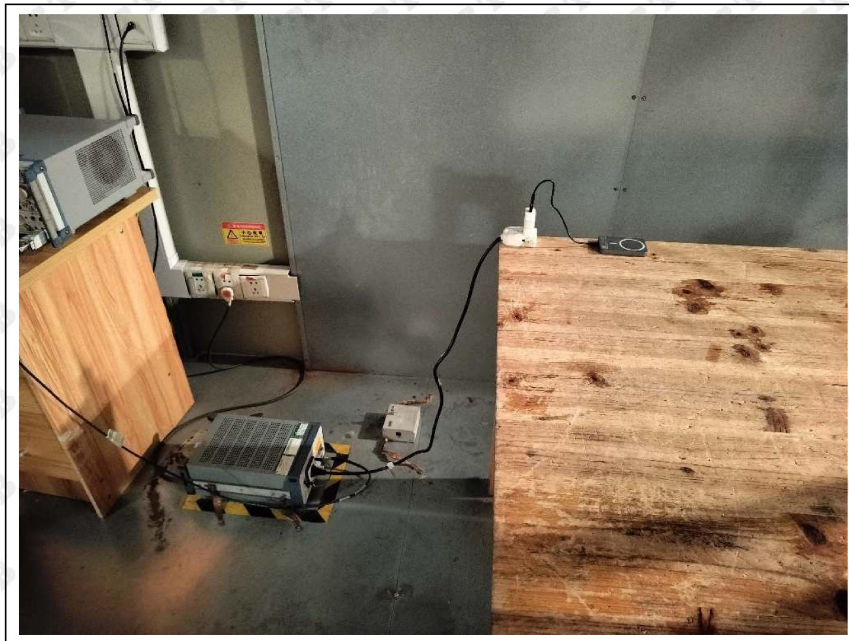
| Frequency range<br>[MHz]                 | Test Level<br>[V/m] | Polarization             | EUT Face       | Performance<br>Criterion | Required<br>Criterion |
|------------------------------------------|---------------------|--------------------------|----------------|--------------------------|-----------------------|
| 80 to 1000,<br>1800, 2600,<br>3500, 5000 | 3                   | Horizontal &<br>Vertical | Front/ Rear    | A                        | A                     |
|                                          |                     |                          | Right/ Left    | A                        | A                     |
|                                          |                     |                          | Top/ Underside | A                        | A                     |
| Note: N/A                                |                     |                          |                |                          |                       |

## 8. Photographs of test setup

RE



CE



## ESD



## RS



## 9. Photographs of EUT

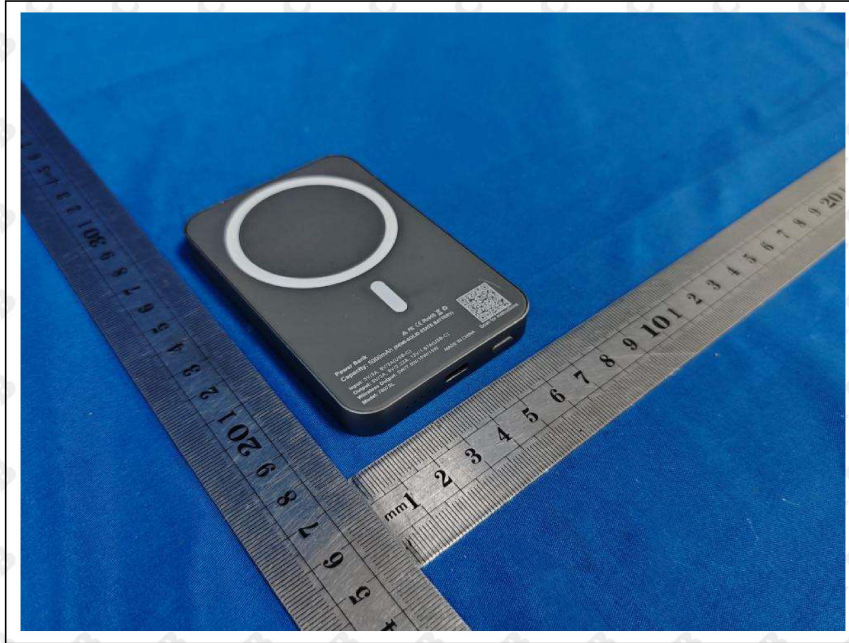
EUT photo 1



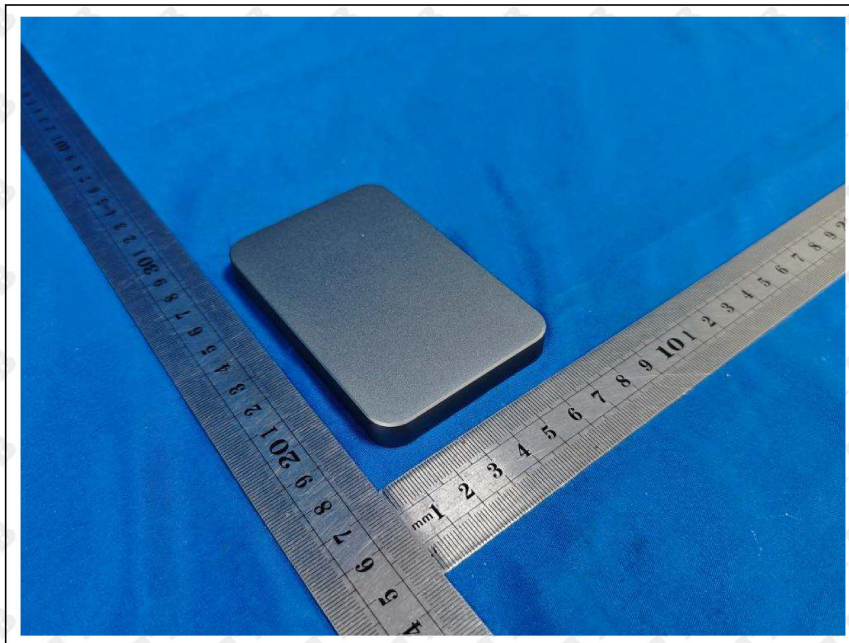
EUT photo 2



EUT photo 3



EUT photo 4



\*\*\*End of report\*\*\*