

# TEST REPORT

REPORT NUMBER:25B02W000008-002

ON

Type of Equipment: Smart POS System

Type of Designation: T6F10

Brand Name: SUNMI

Manufacturer: Shanghai Sunmi Technology Co.,Ltd.

FCC ID: 2AH25T6F10

ACCORDING TO

FCC CFR47 Part 2, FCC CFR47 Part 15C, ANSI C63.10-2013

Chongqing Academy of Information and Communications Technology

*Month date, year*

*Jun.10th, 2025*

*Signature*

*Zhou Jin*

**Director**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communications Technology.



**Report No.: 25B02W000008-002**

**Revision Version**

| <b>Report Number</b> | <b>Revision</b> | <b>Date</b> |
|----------------------|-----------------|-------------|
| 25B02W000008-002     | 00              | 2025-06-10  |

**Chongqing Academy of Information and Communication Technology**

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Tel: 0086-23-88069965

FAX: 0086-23-88608777

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## 1. Test Laboratory

### 1.1. Testing Location

|                          |                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------|
| Name:                    | Chongqing Academy of Information and Communications Technology                              |
| FCC Registration Number: | CN1239                                                                                      |
| Address:                 | No.19 EastRoad,Xiantao Big-data Valley,Yubei District, Chongqing,People's Republic of China |
| Postal Code:             | 401336                                                                                      |
| Telephone:               | 0086-23-88069965                                                                            |
| Fax:                     | 0086-23-88608777                                                                            |

### 1.2. Testing Environment

|                     |          |
|---------------------|----------|
| Normal Temperature: | 15-35°C  |
| Relative Humidity:  | 30-60%RH |

### 1.3. Project data

|                     |            |
|---------------------|------------|
| Testing Start Date: | 2025-04-28 |
| Testing End Date:   | 2025-04-29 |

### 1.4. Signature

2025-06-10

---

**Li Runhao**  
(Prepared this test report)

Date

2025-06-10

---

**Xiao Yu**  
(Reviewed this test report)

Date

2025-06-10

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**Zhou Jin**  
Director of the laboratory  
(Approved this test report)

Date

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## 2. Client Information

### 2.1. Applicant Information

|                 |                                                                  |
|-----------------|------------------------------------------------------------------|
| Company Name:   | Shanghai Sunmi Technology Co.,Ltd.                               |
| Address /Post:  | Room 505, No.388,Song Hu Road, Yang Pu District, Shanghai, China |
| City:           | Shanghai                                                         |
| Country:        | China                                                            |
| Telephone:      | 18826519551                                                      |
| Fax:            | N/A                                                              |
| Email:          | chenxuanfei@sunmi.com                                            |
| Contact Person: | chenxuanfei                                                      |

### 2.2. Manufacturer Information

|                 |                                                                  |
|-----------------|------------------------------------------------------------------|
| Company Name:   | Shanghai Sunmi Technology Co.,Ltd.                               |
| Address /Post:  | Room 505, No.388,Song Hu Road, Yang Pu District, Shanghai, China |
| City:           | Shanghai                                                         |
| Country:        | China                                                            |
| Telephone:      | 18826519551                                                      |
| Fax:            | N/A                                                              |
| Email:          | chenxuanfei@sunmi.com                                            |
| Contact Person: | chenxuanfei                                                      |

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### 3. Equipment under Test (EUT) and Ancillary Equipment (AE)

#### 3.1. About EUT

|                                      |                                                                                                                                                                                                                           |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EUT Description                      | Smart POS System                                                                                                                                                                                                          |
| Model name                           | T6F10                                                                                                                                                                                                                     |
| Brand name                           | SUNMI                                                                                                                                                                                                                     |
| Power Rating                         | DC 7.7V form battery, DC 5V form adapter                                                                                                                                                                                  |
| Modulation Type                      | ASK                                                                                                                                                                                                                       |
| Operating Frequency                  | 13.56MHz                                                                                                                                                                                                                  |
| Supported Radio Technology and Bands | GSM850/GSM900/GSM1800/GSM1900<br>WCDMA Band I/II/IV/V/VI/VIII/XIX<br>LTE Band 1/2/3/4/5/7/8/18/19/20/26/28/34/38/39/40/41<br>BT 5.0 BR/EDR/BLE<br>WLAN 802.11b,g,n<br>WLAN 802.11a,n,ac<br>GPS/Galileo/GLONASS/BDS<br>NFC |
| HVIN number                          | T6F10                                                                                                                                                                                                                     |

Note: Photographs of EUT are shown in ANNEX B of this test report.

#### 3.2. Internal Identification of EUT used during the test

| EUT ID          | SN or IMEI                          | HW Version  | SW Version | Date of receipt |
|-----------------|-------------------------------------|-------------|------------|-----------------|
| 25B02W000008#S1 | 866413070768997/<br>866413070770860 | V1.0(LA+EU) | V3.0.0     | 2025-04-16      |

\*EUT ID: is used to identify the test sample in the lab internally.

#### 3.3. Internal Identification of AE used during the test

| AE ID* | Description | Note                                                                             |
|--------|-------------|----------------------------------------------------------------------------------|
| A2     | Adapter     | Model: TPA-141A050200UU01<br>INPUT: 100-240V ~ 50/60Hz 0.3A<br>OUTPUT: 5.0V 2.0A |

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|     |                   |                                                                                 |
|-----|-------------------|---------------------------------------------------------------------------------|
| A3  | Adapter           | Model: UC13US<br>INPUT: 100-240V ~ 50/60Hz<br>0.35A<br>OUTPUT: 5.0V 2.0A        |
| A1  | Adapter           | Model: TPA-23A050200UU01<br>INPUT: 100-240V ~ 50/60Hz 0.3A<br>OUTPUT: 5.0V 2.0A |
| C1  | USB Cable         | N/A                                                                             |
| B2  | Battery           | Model: HPPA<br>7.7V, 2550mAh                                                    |
| B1  | Battery           | Model: FHPS<br>7.74V, 3000mAh                                                   |
| AE1 | Type-A Card       | N/A                                                                             |
| AE2 | NFC Test Software | NFC Polling Monitor                                                             |

\*AE ID: is used to identify the test sample in the lab internally.  
AE Information is provided by the customer.

## 4. Reference Documents

### 4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

| Reference                                                                | Title                                                                                          |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| FCC CFR47 Part 2                                                         | Frequency allocations and radio treaty matters;<br>general rules and regulations               |
| FCC CFR47 Part 15C                                                       | Radio Frequency Devices-Intentional Radiators                                                  |
| ANSI C63.10                                                              | American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices |
| Note: The standard of FCC 47 CFR Part 2 has not been accredited by A2LA. |                                                                                                |

## 5. Test Equipments Utilized

| No. | Equipment                           | Model    | SN       | HW Version | SW Version | Manufacture | Cal.Due Date |
|-----|-------------------------------------|----------|----------|------------|------------|-------------|--------------|
| 1   | Test Receiver                       | ESR 3    | 101382   | 03         | 3.48 SP2   | R&S         | 2025-06-28   |
| 2   | Test Receiver                       | ESW 26   | 101382   | 00         | 1.50 SP1   | R&S         | 2025-06-28   |
| 3   | Ultra-wideband Log Periodic Antenna | VULB9163 | 9163-586 | --         | --         | Schwarzbeck | 2026-10-28   |
| 4   | Double Ridged Guide Antenna         | 9120D    | 1083     | --         | --         | R&S         | 2026-11-08   |
| 5   | 2-Line V-Network                    | ENV216   | 102368   | --         | --         | R&S         | 2025-05-16   |
| 6   | Test Receiver                       | ESU 40   | 100350   | 01         | 4.43 SP3   | R&S         | 2025-06-28   |
| 7   | Loop Antenna                        | 6502     | 00213256 | --         | --         | ETS         | 2026-09-04   |
| 8   | Spectrum analyzer                   | FSQ 26   | 201137   | --         | --         | R&S         | 2025-06-28   |
| 9   | Small temperature box               | SH-241   | 92010759 | --         | --         | ESPEC       | 2025-06-28   |

### Test software

| No. | Name  | version   | SN | Manufacture |
|-----|-------|-----------|----|-------------|
| 1   | EMC32 | V10.40.10 | -- | R&S         |
| 2   | EMC32 | V10.20.01 | -- | R&S         |

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## 6. Test Results

### 6.1. Summary of Test Results

| FCC Rules                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Name of Test        | Result                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------|
| 15.215(c)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 dB bandwidth     | Pass                   |
| 15.225(e)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Frequency Stability | Pass                   |
| 15.225 (a) (b) (c) (d) and<br>15.209                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Radiated Emission   | Pass                   |
| 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Conducted Emissions | Pass                   |
| 2.1049                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Occupied bandwidth  | Pass                   |
| 15.203                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Antenna requirement | Pass <sup>Note 2</sup> |
| <p>Note1:<br/>The T6F10, manufactured by Shanghai Sunmi Technology Co.,Ltd. is a variant product for testing.<br/>This project is a variant project based on the original project 24T04I300102 tested by 3in with below changes:<br/>- Modify the NFC antenna.<br/>- PCB changes.<br/>- Add a small screen and Camera.<br/>- Add secondary battery.<br/>According to the product change description, we retested the NFC with secondary battery.</p> <p>Note2:<br/>The EUT has an internal loop antenna for NFC (13.56MHz) function, so this EUT complies with the 15.203 antenna requirements, please refer to the internal photos.</p> |                     |                        |

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## 7. Test Results

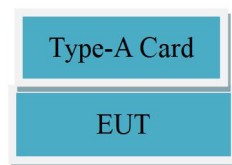
### 7.1. 20 dB bandwidth

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>Specifications:</b>    | 15.215(c)                                                  |
| <b>DUT Serial Number:</b> | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 1: TX mode+ AE1+ AE2+ B1                              |
| <b>Test Results:</b>      | Pass                                                       |

**Limit/Criterion:**

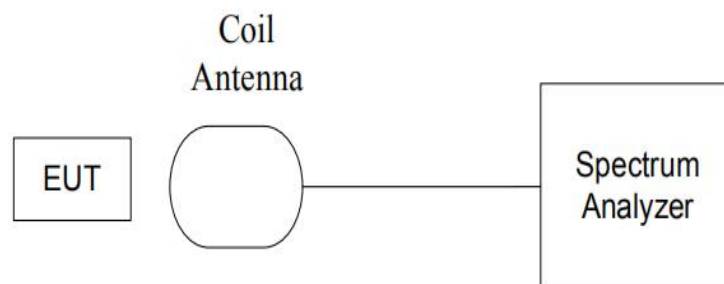
N/A

**EUT Setup:**



Mode 1

**EUT Connection Diagram of Test System**



**Test Method:**

- The transmitter output signal was picked up by coil antenna to the spectrum analyzer.
- The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer.
- The bandwidth of the center frequency was measured with 200Hz RBW, 500Hz VBW and 14kHz span.

**Uncertainty Measurement:**

The measurement uncertainty is 40Hz (k=2)

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### Test Condition:

The measurement of EUT is carried out under the transmit state of NFC and without modulation.

EUT had been not connected to a travel adapter.

During the measurements, the ambient temperature is in the range of 15~25°C.

### Test Result:

| Carrier frequency<br>(MHz) | 20dB Bandwidth<br>(kHz) | Test Results     | Conclusion |
|----------------------------|-------------------------|------------------|------------|
| 13.56                      | 0.852                   | See Figure 7.1.1 | Pass       |

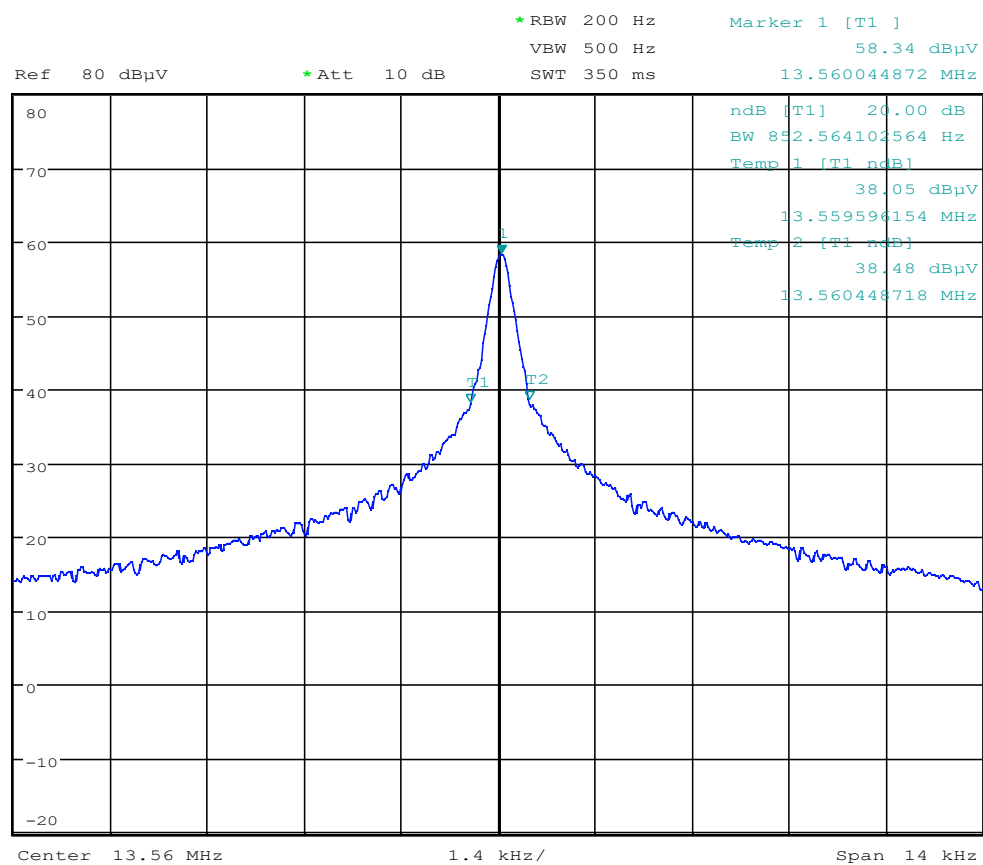


Figure 7.1.1 Mode 1 20dB Bandwidth

## 7.2. Frequency Stability

|                 |           |
|-----------------|-----------|
| Specifications: | 15.225(e) |
|-----------------|-----------|

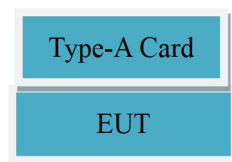
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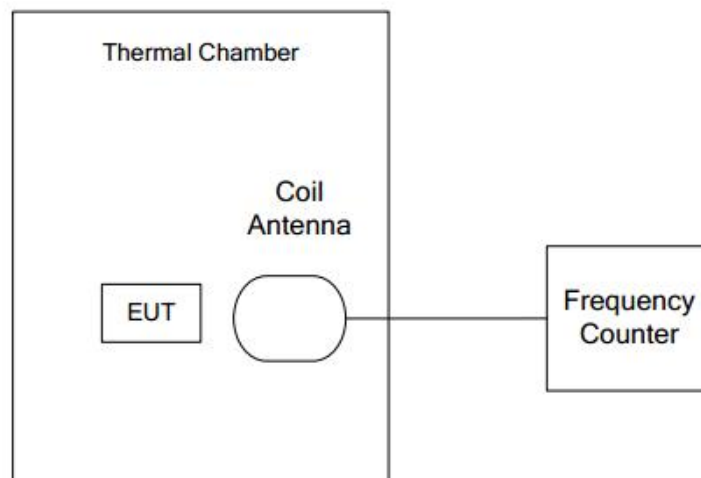
|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>DUT Serial Number:</b> | P359E53AJ0039                                              |
| <b>Date of Tests</b>      | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 1: TX mode+ AE1+ AE2+ B1                              |
| <b>Test Results:</b>      | Pass                                                       |

**Limit/Criterion:**

15.225(e): The frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency.

**EUT Setup:**


Mode 1

**EUT Connection Diagram of Test System**

**Test Method:**

The transmitter output signal was picked up by coil antenna connected to the frequency counter. The center frequency was measured with 30Hz RBW and 1kHz span.

During the test, the EUT was placed in a thermal chamber until thermal balance and lasting appropriate time.

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**Uncertainty Measurement:**

The measurement uncertainty  $U=2.12\text{Hz}(k=2)$ .

**Test Condition:**

The measurement of EUT is carried out under the transmit state of without modulation, EUT had been not connected to a travel adapter.

Operation Temperature:  $-20^{\circ}\text{C}$ 、 $-10^{\circ}\text{C}$ 、 $0^{\circ}\text{C}$ 、 $10^{\circ}\text{C}$ 、 $20^{\circ}\text{C}$ 、 $30^{\circ}\text{C}$ 、 $40^{\circ}\text{C}$ 、 $50^{\circ}\text{C}$

Operation Voltage:  $V_{\min}=6.5\text{V}$ ,  $V_{\max}=8.8\text{V}$ , and  $T_{\text{nom}}=7.7\text{V}$ .

**Test Result:**

| Temperature           | Voltage | Frequency Error (MHz) |            |            |             |
|-----------------------|---------|-----------------------|------------|------------|-------------|
|                       |         | Startup               | 2Min Later | 5Min Later | 10Min Later |
| $-20^{\circ}\text{C}$ | 7.7V    | 13.560241             | 13.560559  | 13.560803  | 13.561132   |
| $-10^{\circ}\text{C}$ |         | 13.560297             | 13.560551  | 13.560834  | 13.561563   |
| $0^{\circ}\text{C}$   |         | 13.560161             | 13.560565  | 13.560927  | 13.561396   |
| $20^{\circ}\text{C}$  |         | 13.560256             | 13.560539  | 13.560831  | 13.561532   |
| $30^{\circ}\text{C}$  |         | 13.560519             | 13.560608  | 13.560841  | 13.561539   |
| $40^{\circ}\text{C}$  |         | 13.560230             | 13.560518  | 13.560899  | 13.561408   |
| $50^{\circ}\text{C}$  |         | 13.560297             | 13.560685  | 13.560865  | 13.561211   |
| $20^{\circ}\text{C}$  | 6.5V    | 13.560269             | 13.560551  | 13.560949  | 13.561125   |
| $20^{\circ}\text{C}$  | 8.8V    | 13.560306             | 13.560641  | 13.560929  | 13.561519   |
| Temperature           | Voltage | Frequency Error (%)   |            |            |             |
| $-20^{\circ}\text{C}$ | 7.7V    | 0.000014              | 0.000038   | 0.000056   | 0.000080    |
| $-10^{\circ}\text{C}$ |         | 0.000019              | 0.000037   | 0.000058   | 0.000112    |
| $0^{\circ}\text{C}$   |         | 0.000009              | 0.000038   | 0.000065   | 0.000100    |
| $20^{\circ}\text{C}$  |         | 0.000016              | 0.000036   | 0.000058   | 0.000110    |
| $30^{\circ}\text{C}$  |         | 0.000035              | 0.000042   | 0.000059   | 0.000110    |

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|      |      |          |          |          |          |
|------|------|----------|----------|----------|----------|
| 40°C |      | 0.000014 | 0.000035 | 0.000063 | 0.000101 |
| 50°C |      | 0.000019 | 0.000047 | 0.000060 | 0.000086 |
| 20°C | 6.5V | 0.000017 | 0.000037 | 0.000067 | 0.000080 |
| 20°C | 8.8V | 0.000019 | 0.000044 | 0.000065 | 0.000109 |

### 7.3. Radiated Emission

#### 7.3.1 Electric Field Strength of Fundamental Emissions

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>Specifications:</b>    | 15.225 (a) (b) (c) (d) and 15.209                          |
| <b>DUT Serial Number:</b> | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 1: TX mode+ AE1+ AE2+ B1                              |
| <b>Test Results:</b>      | Pass                                                       |

#### Limit/Criterion:

Clause 15.225(a) the field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

Clause 15.225(b) within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

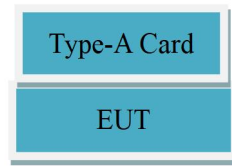
Clause 15.225(c) within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

| Frequency Range (MHz)                                                                                                                                                                                                                            | E-field Strength Limit @30m<br>(uV/m)                          | E-field Strength Limit @3m<br>(dBuV/m) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------|
| 13.560 ± 0.007                                                                                                                                                                                                                                   | 15848                                                          | 124                                    |
| 13.410 to 13.553<br>13.567 to 13.710                                                                                                                                                                                                             | 334                                                            | 90                                     |
| 13.110 to 13.410<br>13.710 to 14.010                                                                                                                                                                                                             | 106                                                            | 81                                     |
| Outside the band 13.110-14.010                                                                                                                                                                                                                   | Based on 15.225.d, the limit of this range see section 6.3.2.4 |                                        |
| Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula:<br>Extrapolation (dB) = 40log10 (Measurement Distance / Specification Distance) |                                                                |                                        |

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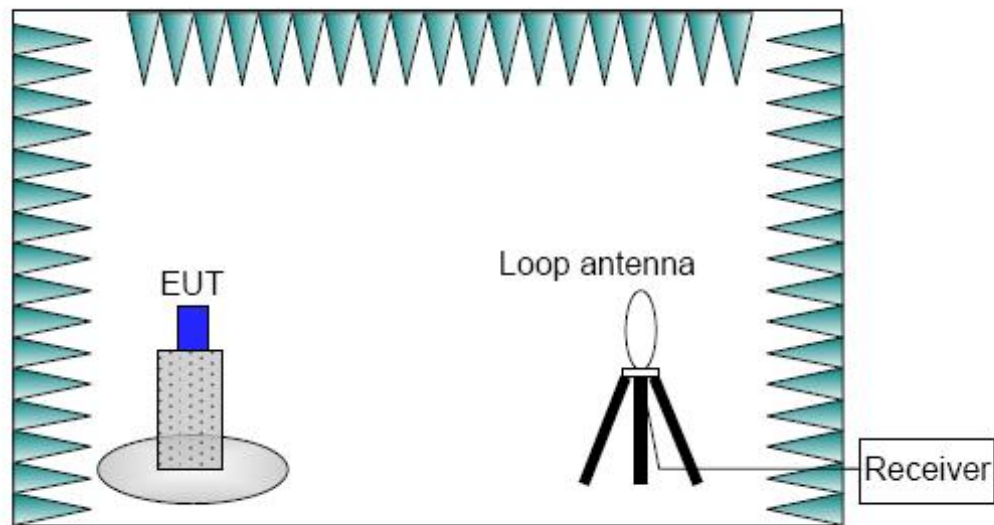
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### EUT Setup:



Mode 1

### EUT Connection Diagram of Test System



### Test Method:

- a. The test set-up was made in accordance to the general provisions of ANSI C63.10-2013. The transmitter carrier output levels (E-Field) from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving antenna is 1 meter above the ground. The E-field is measured with a shielded loop antenna connected to a measurement receiver. Detected E-field was maximized by rotating the EUT through 360° and adjusting the receiving antenna polarizations. The maximization processes were repeated with the EUT positioned respectively in its three orthogonal axes. The measurements were performed with the peak detector and if required, the quasi-peak detector.
- b. Loop Antenna was placed on the axis of X, Y and Z respectively for testing. Only the worst direction data is represented in the report.

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### Uncertainty Measurement:

The measurement uncertainty  $U=4.30\text{dB}(k=2)$ .

### Test Condition:

| Frequency Range (MHz) | RBW/VBW     | Sweep Time (s) |
|-----------------------|-------------|----------------|
| 13.11-14.01           | 10kHz/30kHz | AUTO           |

### Test Result:

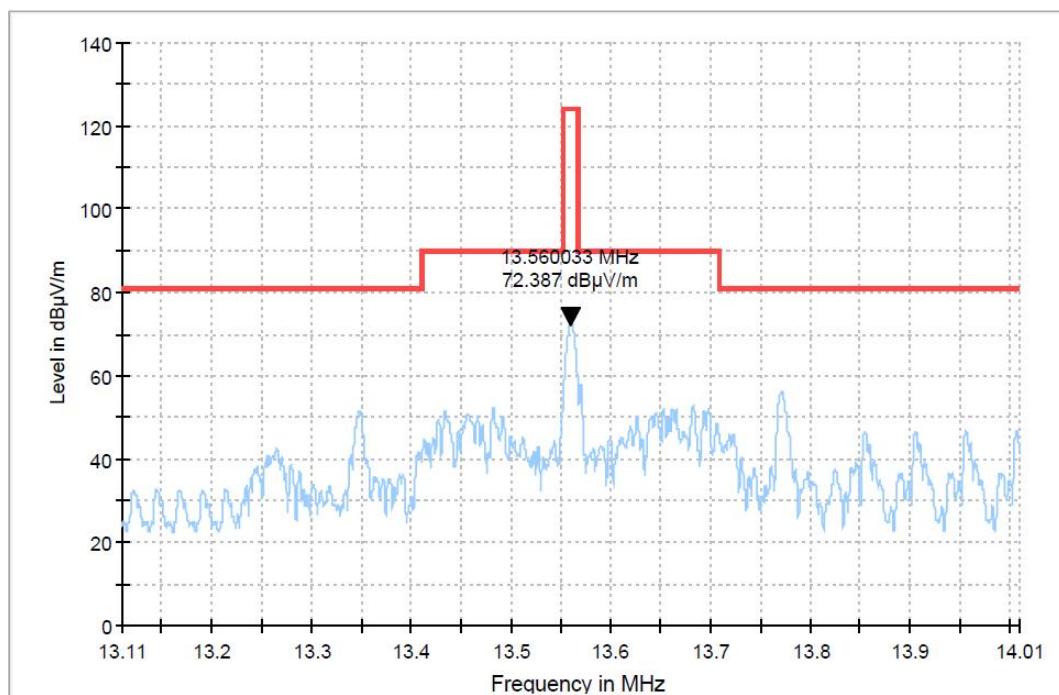


Figure 7.3.1-1 Mode 1 Electric Field Strength of Fundamental Emissions

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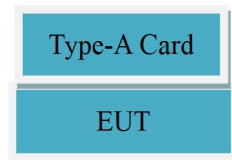
**7.3.2 Electric Field Radiated Emissions (Below 30MHz)**

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>Specifications:</b>    | 15.225 (a) (b) (c) (d) and 15.209                          |
| <b>DUT Serial Number:</b> | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 1: TX mode+ AE1+ AE2+ B1                              |
| <b>Test Results:</b>      | Pass                                                       |

**Limit/Criterion:**

| Frequency Range (MHz) | E-field Strength Limit<br>(Uv/m) | E-field Strength Limit @3m<br>(dBuV/m) |
|-----------------------|----------------------------------|----------------------------------------|
| 0.009-0490            | 2400/F (kHz) @300m               | 129-94                                 |
| 0.490-1.705           | 24000/F (kHz) @30m               | 74-63                                  |
| 1.705-30              | 30 @30m                          | 70                                     |

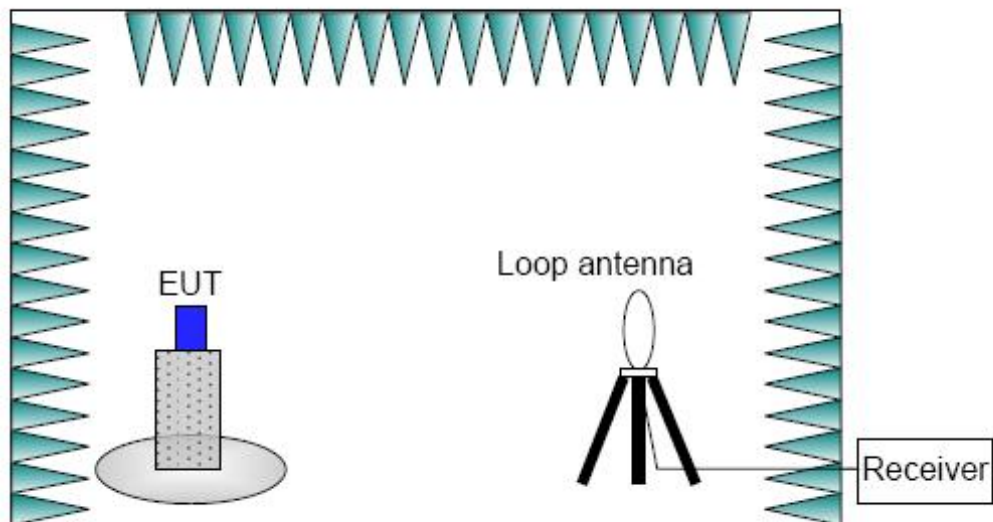
Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula:  
 Extrapolation (dB) = 40log10(Measurement Distance / Specification Distance)  
 dBuA/m=dBuV/m / 120π

**EUT Setup:**


Mode 1

**EUT Connection Diagram of Test System**
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#### Test Method:

- a. The electric field radiated emissions from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving antenna is 1 meter above the ground. The E-field is measured with a shielded loop antenna connected to a measurement receiver. Detected E-field was maximized by rotating the EUT through 360° and adjusting the receiving antenna polarizations. The measurements were performed with the peak detector and if required, the quasi-peak detector.
- b. Loop Antenna was placed on the axis of X, Y and Z respectively for testing. Only the worst direction data is represented in the report.

#### Uncertainty Measurement:

The measurement uncertainty  $U=4.30\text{dB}(k=2)$ .

#### Test Condition:

| Frequency Range (MHz) | RBW/VBW     | Sweep Time (s) |
|-----------------------|-------------|----------------|
| 0.009-30              | 10kHz/30kHz | AUTO           |

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**Test Result:**

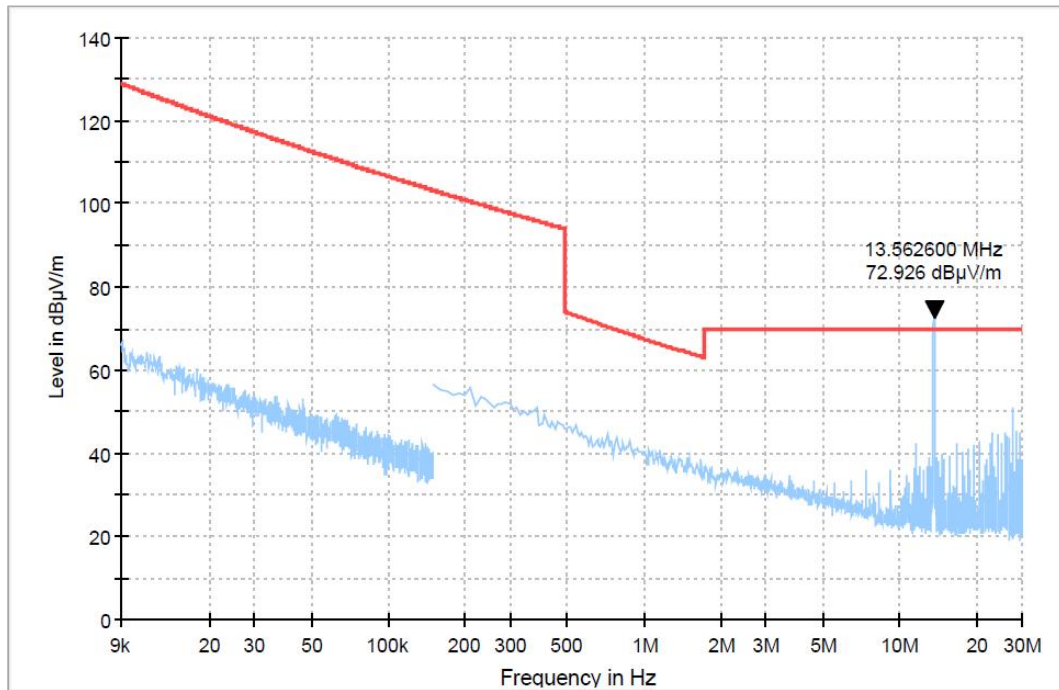


Figure 7.3.2-1 Mode 1 Electric Field Radiated Emissions (Below 30MHz)

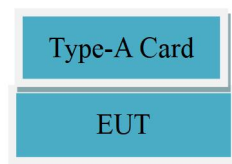
Note: The signal that over the limit value is the main frequency signal generated by the NFC operation of the EUT.

**7.3.3 Electric Field Radiated Emissions (Above 30MHz)**

|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>Specifications:</b>    | 15.225 (a) (b) (c) (d) and 15.209                          |
| <b>DUT Serial Number:</b> | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 1: TX mode+ AE1+ AE2+ B1                              |
| <b>Test Results:</b>      | Pass                                                       |

**Limit/Criterion:**

| Frequency Range (MHz) | Quasi-Peak (dBμV/m) | Peak (dBμV/m) | Average (dBμV/m) |
|-----------------------|---------------------|---------------|------------------|
| 30-88                 | 40                  | N/A           | N/A              |
| 88-216                | 43.5                | N/A           | N/A              |
| 216-960               | 46                  | N/A           | N/A              |
| Above 960             | 54                  | N/A           | N/A              |
| Above 1000            | N/A                 | 74            | 54               |

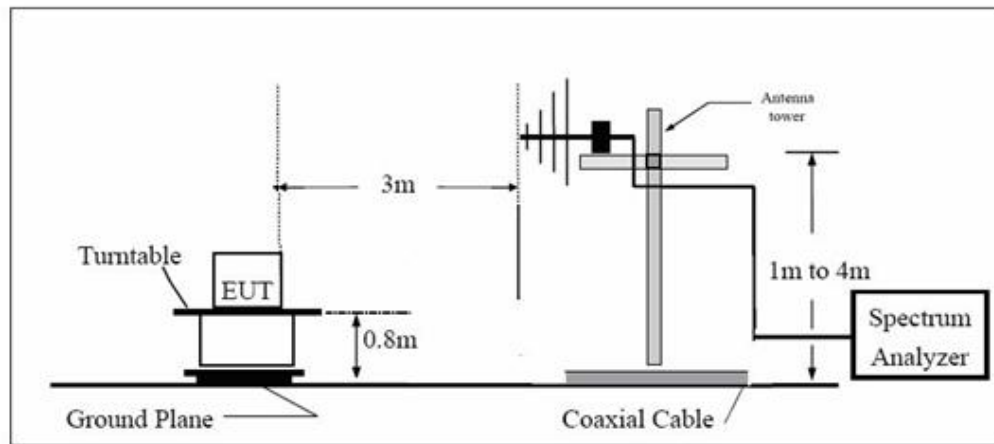
**EUT Setup:**


Mode 1

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### EUT Connection Diagram of Test System



### Test Method:

- The electric field radiated emissions from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving antenna is 1 meter above the ground. The E-field is measured with a shielded loop antenna connected to a measurement receiver. Detected E-field was maximized by rotating the EUT through 360° and adjusting the receiving antenna polarizations. Both horizontal and vertical polarizations of the antenna were set during the measurement. The maximization processes were repeated with the EUT positioned respectively in its three orthogonal axes. The measurements were performed with the peak detector and if required, the quasi-peak detector.
- The EUT was placed on the axis of X, Y and Z respectively for testing. Only the worst direction data is represented in the report.

### Uncertainty Measurement:

The measurement uncertainty  $U=3.79\text{dB}(k=2)$ .

### Test Condition:

| Frequency Range (MHz) | RBW/VBW          | Sweep Time (s) |
|-----------------------|------------------|----------------|
| 30-1000               | 120 kHz / 300kHz | AUTO           |

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### Test Result:

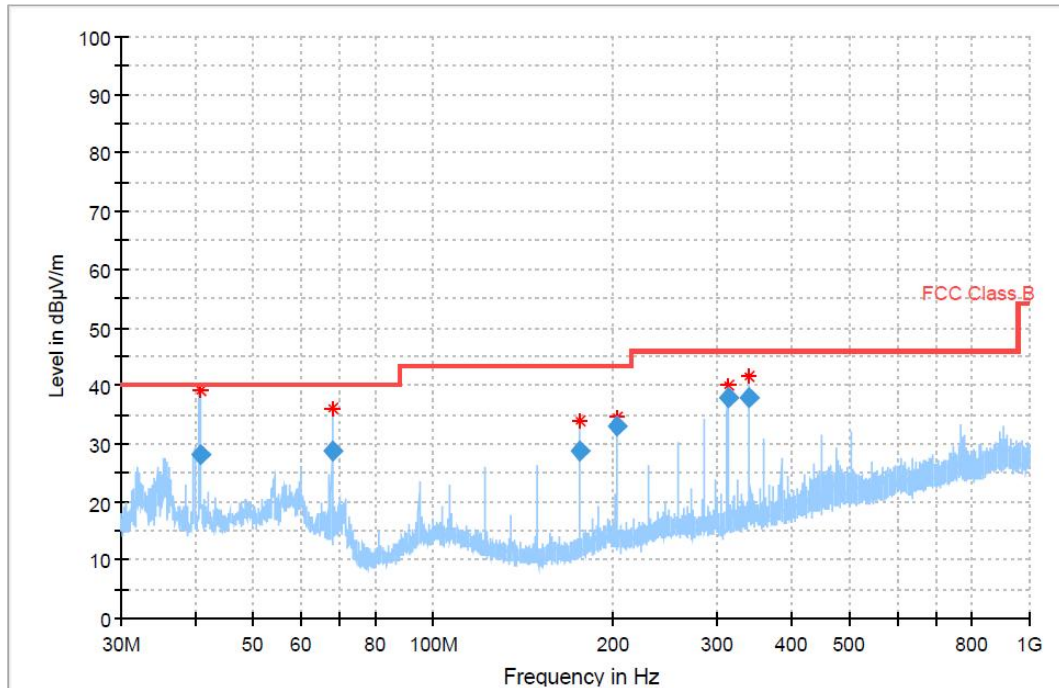


Figure 7.3.3-1 Mode 1 Electric Field Radiated Emissions (Above 30MHz)

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-------------|-----|---------------|--------------|
| 40.694520       | 28.04              | 40.00          | 11.96       | 225.0       | V   | -30.0         | -13          |
| 67.819117       | 28.79              | 40.00          | 11.21       | 100.0       | V   | -15.0         | -15          |
| 176.321720      | 28.79              | 43.50          | 14.71       | 174.0       | H   | 190.0         | -15          |
| 203.406045      | 33.09              | 43.50          | 10.41       | 100.0       | H   | 187.0         | -13          |
| 311.898552      | 38.05              | 46.00          | 7.95        | 100.0       | H   | 199.0         | -10          |
| 339.001267      | 37.90              | 46.00          | 8.10        | 100.0       | H   | 198.0         | -9           |

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#### 7.4. Conducted Emission

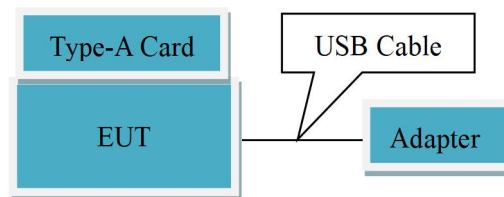
|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>Specifications:</b>    | 15.207                                                     |
| <b>DUT Serial Number:</b> | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 2: TX mode+A1+C1+ AE1+ AE2+ B1                        |
| <b>Test Results:</b>      | Pass                                                       |

#### Limit Level Construction:

| Frequency Range (MHz) | Conducted Limit (dBuV) |           |
|-----------------------|------------------------|-----------|
|                       | Quasi-peak             | Average   |
| 0.15-0.5              | 66 to 56*              | 56 to 46* |
| 0.5-5                 | 56                     | 46        |
| 5-30                  | 60                     | 50        |

\*Decreases with the logarithm of the frequency

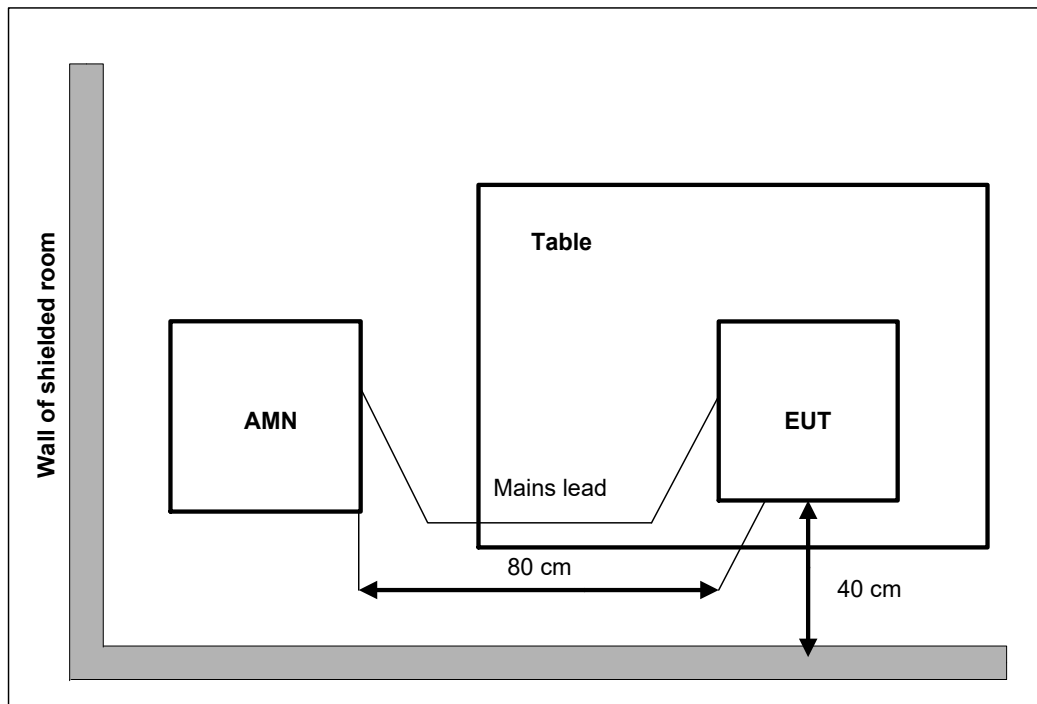
#### EUT Setup:



Mode 2

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#### Test Method:

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector. Tested in accordance with the procedures of ANSI C63.10-2013 / RSS-Gen Issue 5.

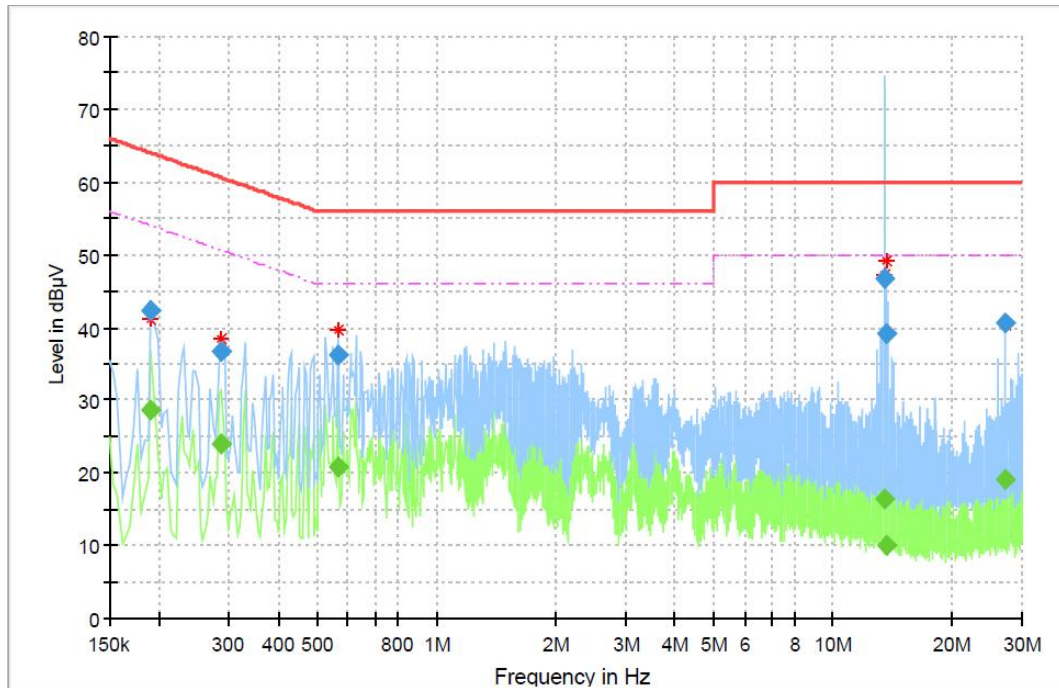
#### Uncertainty Measurement:

The measurement uncertainty (150kHz-30MHz) is 1.97 dB (k=2).

#### Test Result:

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CE 150kHz-30MHz Mode 2

#### Final Result

| Frequency (MHz) | QuasiPeak (dB μ V) | Average (dB μ V) | Meas. Time (ms) | Bandwidth (kHz) | Line | Filter | Corr. (dB) | Margin (dB) | Limit (dB μ V) |
|-----------------|--------------------|------------------|-----------------|-----------------|------|--------|------------|-------------|----------------|
| 0.191044        | 42.42              | ---              | 15000           | 9.000           | N    | ON     | 10.1       | 21.57       | 63.99          |
| 0.191044        | ---                | 28.66            | 15000           | 9.000           | N    | ON     | 10.1       | 25.33       | 53.99          |
| 0.288056        | 36.70              | ---              | 15000           | 9.000           | N    | ON     | 10.3       | 23.88       | 60.58          |
| 0.288056        | ---                | 24.05            | 15000           | 9.000           | N    | ON     | 10.3       | 26.53       | 50.58          |
| 0.567900        | ---                | 20.75            | 15000           | 9.000           | N    | ON     | 10.0       | 25.25       | 46.00          |
| 0.567900        | 36.16              | ---              | 15000           | 9.000           | N    | ON     | 10.0       | 19.84       | 56.00          |
| 13.515338       | ---                | 16.32            | 15000           | 9.000           | L1   | ON     | 9.5        | 33.68       | 50.00          |
| 13.515338       | 46.84              | ---              | 15000           | 9.000           | L1   | ON     | 9.5        | 13.16       | 60.00          |
| 13.675781       | ---                | 10.07            | 15000           | 9.000           | N    | ON     | 9.9        | 39.93       | 50.00          |
| 13.675781       | 39.09              | ---              | 15000           | 9.000           | N    | ON     | 9.9        | 20.91       | 60.00          |
| 27.115744       | ---                | 18.99            | 15000           | 9.000           | L1   | ON     | 9.5        | 31.01       | 50.00          |
| 27.115744       | 40.73              | ---              | 15000           | 9.000           | L1   | ON     | 9.5        | 19.27       | 60.00          |

L1 and N is all have been tested, the result of them is synthesized in the above data diagram.

Emission level (quasi-peak or Average peak) (dBμV) = Raw value by receiver(dBμV) + Corr (Insertion loss+ cable loss) (dB)

The raw value is used to calculate by software which is not shown in the sheet.

Margin (dB) = limit value (dBμV) – emission level (dBμV).

The signal that over the limit value is the main frequency signal generated by the NFC operation of the EUT.

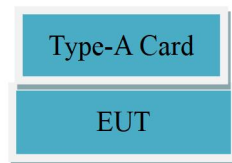
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## 7.5. Occupied bandwidth

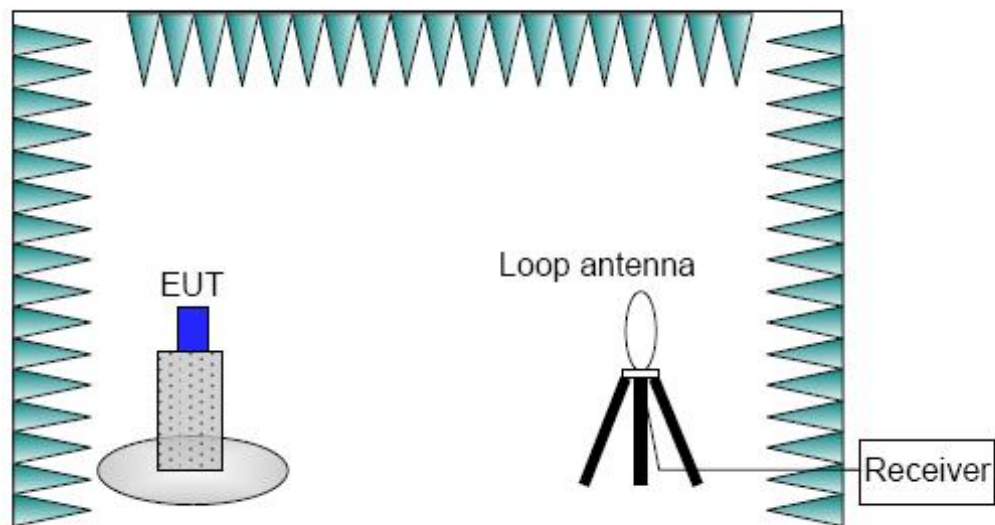
|                           |                                                            |
|---------------------------|------------------------------------------------------------|
| <b>Specifications:</b>    | 2.1049                                                     |
| <b>DUT Serial Number:</b> | 25B02W000008#S1                                            |
| <b>Test conditions:</b>   | Ambient Temperature:15°C-35°C<br>Relative Humidity:30%-60% |
| <b>Operation Mode</b>     | Mode 1: TX mode+ AE1+ AE2+ B1                              |
| <b>Test Results:</b>      | Pass                                                       |

### EUT Setup:



Mode 1

### EUT Connection Diagram of Test System



### Test Method:

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained.

The following conditions shall be observed for measuring the occupied bandwidth:

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- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to “Sample”. However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or “Max Hold”) may be necessary to determine the occupied / x Db bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x Db bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement. The EUT was placed on the axis of X, Y and Z respectively for testing. Only the worst direction data is represented in the report.

**Uncertainty Measurement:**

The measurement uncertainty is 70.06Hz (k=2)

**Test Result**

| Center Freq. (MHz) | $f_L$ (MHz) | $f_H$ (MHz) | OBW (kHz) |
|--------------------|-------------|-------------|-----------|
| 13.560045          | 13.558990   | 13.561077   | 2.086538  |

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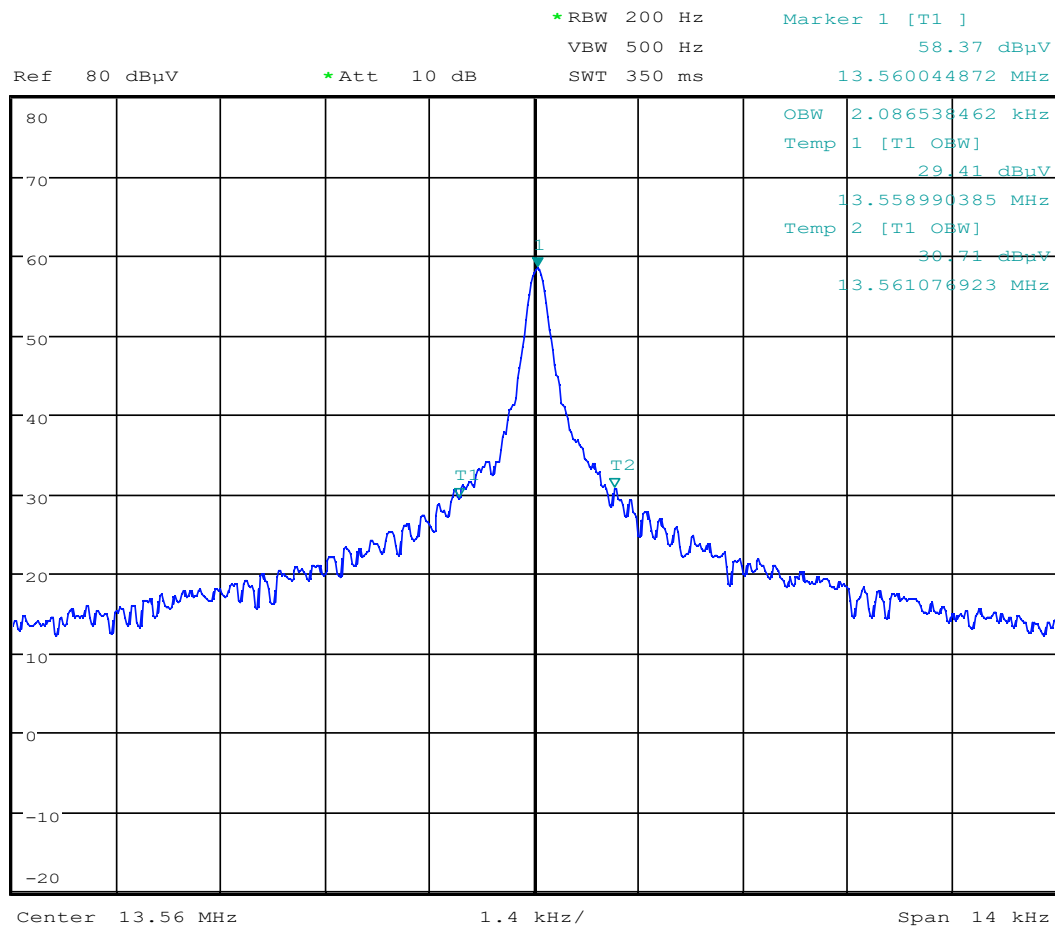


Figure 7.5.1 Mode 1 Occupied bandwidth



**Report No.: 25B02W000008-002**

## **Annex A EUT Photos**

See the document "25B02W000008-External Photos".

See the document "25B02W000008-Internal Photos".

Test photo See the document "25B02W000008\_NFC Test Setup Photos".

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## **Annex B Deviations from Prescribed Test Methods**

No deviation from Prescribed Test Methods.

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