

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.

Revision Version

Report Number	Revision	Date
25B02W000008-002	00	2025-06-10

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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

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 WCDMA Band I/II/IV/V/VI/VIII/XIX LTE Band 1/2/3/4/5/7/8/18/19/20/26/28/34/38/39/40/41 BT 5.0 BR/EDR/BLE WLAN 802.11b,g,n WLAN 802.11a,n,ac GPS/Galileo/GLONASS/BDS 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/ 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 INPUT: 100-240V ~ 50/60Hz 0.3A OUTPUT: 5.0V 2.0A

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A3	Adapter	Model: UC13US INPUT: 100-240V ~ 50/60Hz 0.35A OUTPUT: 5.0V 2.0A
A1	Adapter	Model: TPA-23A050200UU01 INPUT: 100-240V ~ 50/60Hz 0.3A OUTPUT: 5.0V 2.0A
C1	USB Cable	N/A
B2	Battery	Model: HPPA 7.7V, 2550mAh
B1	Battery	Model: FHPS 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.

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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; 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.

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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	VULB916 3	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 15.209	Radiated Emission	Pass
15.207	Conducted Emissions	Pass
2.1049	Occupied bandwidth	Pass
15.203	Antenna requirement	Pass ^{Note 2}

Note1:
The T6F10, manufactured by Shanghai Sunmi Technology Co.,Ltd. is a variant product for testing.
This project is a variant project based on the original project 24T04I300102 tested by 3in with below changes:
- Modify the NFC antenna.
- PCB changes.
- Add a small screen and Camera.
- Add secondary battery.
According to the product change description, we retested the NFC with secondary battery.

Note2:
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.

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7. Test Results

7.1. 20 dB bandwidth

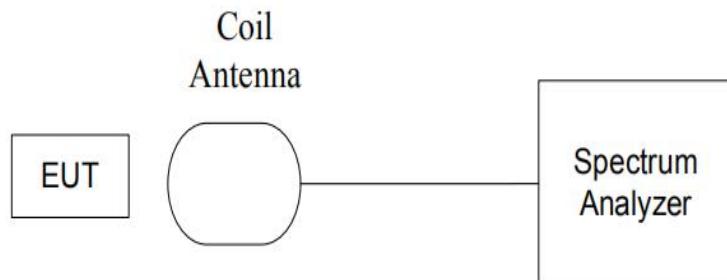
Specifications:	15.215(c)
DUT Serial Number:	25B02W000008#S1
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60%
Operation Mode	Mode 1: TX mode+ AE1+ AE2+ B1
Test Results:	Pass

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 (MHz)	20dB Bandwidth (kHz)	Test Results	Conclusion
13.56	0.852	See Figure 7.1.1	Pass

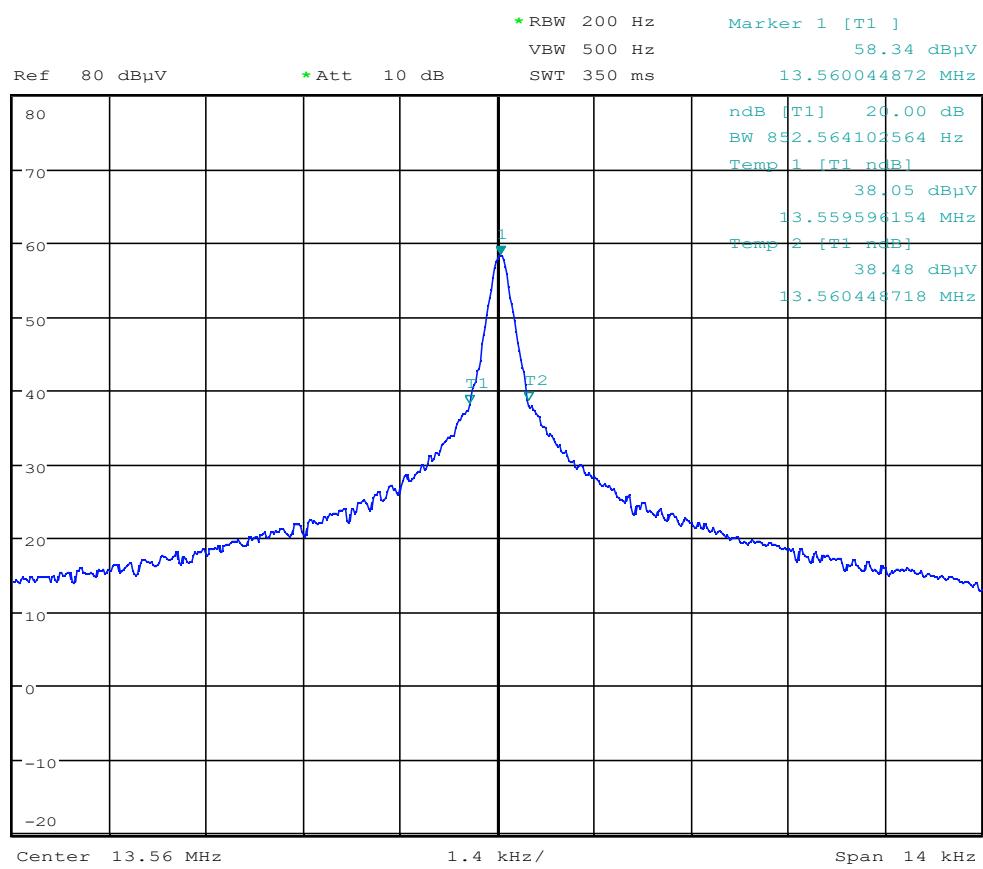


Figure 7.1.1 Mode 1 20dB Bandwidth

7.2. Frequency Stability

Specifications:	15.225(e)
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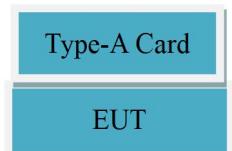
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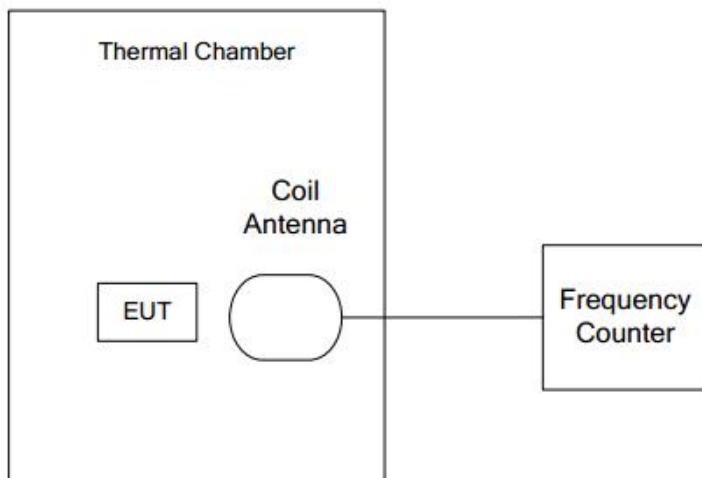
DUT Serial Number:	P359E53AJ0039
Date of Tests	25B02W000008#S1
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60%
Operation Mode	Mode 1: TX mode+ AE1+ AE2+ B1
Test Results:	Pass

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°C、-10°C、0°C、10°C、20°C、30°C、40°C、50°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°C	7.7V	13.560241	13.560559	13.560803	13.561132
-10°C		13.560297	13.560551	13.560834	13.561563
0°C		13.560161	13.560565	13.560927	13.561396
20°C		13.560256	13.560539	13.560831	13.561532
30°C		13.560519	13.560608	13.560841	13.561539
40°C		13.560230	13.560518	13.560899	13.561408
50°C		13.560297	13.560685	13.560865	13.561211
20°C	6.5V	13.560269	13.560551	13.560949	13.561125
20°C	8.8V	13.560306	13.560641	13.560929	13.561519
Temperature	Voltage	Frequency Error (%)			
-20°C	7.7V	0.000014	0.000038	0.000056	0.000080
-10°C		0.000019	0.000037	0.000058	0.000112
0°C		0.000009	0.000038	0.000065	0.000100
20°C		0.000016	0.000036	0.000058	0.000110
30°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

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7.3. Radiated Emission

7.3.1 Electric Field Strength of Fundamental Emissions

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

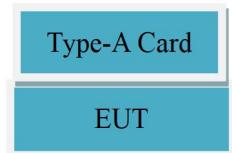
Clause 15.225(c) within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

Frequency Range (MHz)	E-field Strength Limit @30m (uV/m)	E-field Strength Limit @3m (dBuV/m)
13.560 ± 0.007	15848	124
13.410 to 13.553 13.567 to 13.710	334	90
13.110 to 13.410 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	

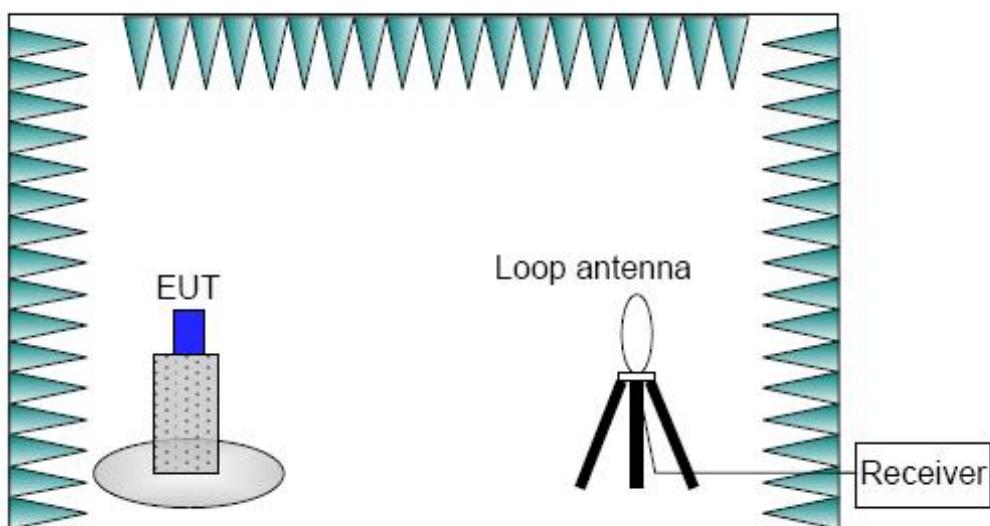
Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula:
Extrapolation (dB) = $40\log_{10}(\text{Measurement Distance} / \text{Specification Distance})$

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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

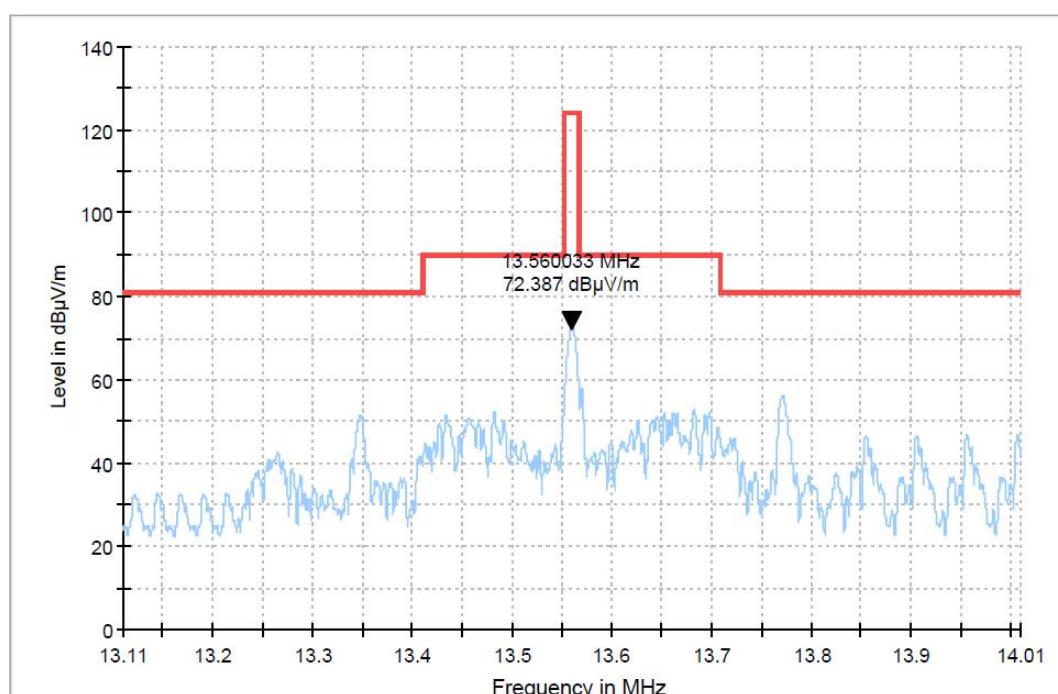
Test Result:

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

7.3.2 Electric Field Radiated Emissions (Below 30MHz)

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

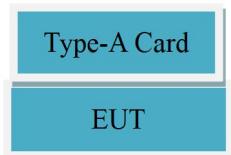
Limit/Criterion:

Frequency Range (MHz)	E-field Strength Limit (Uv/m)	E-field Strength Limit @3m (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)

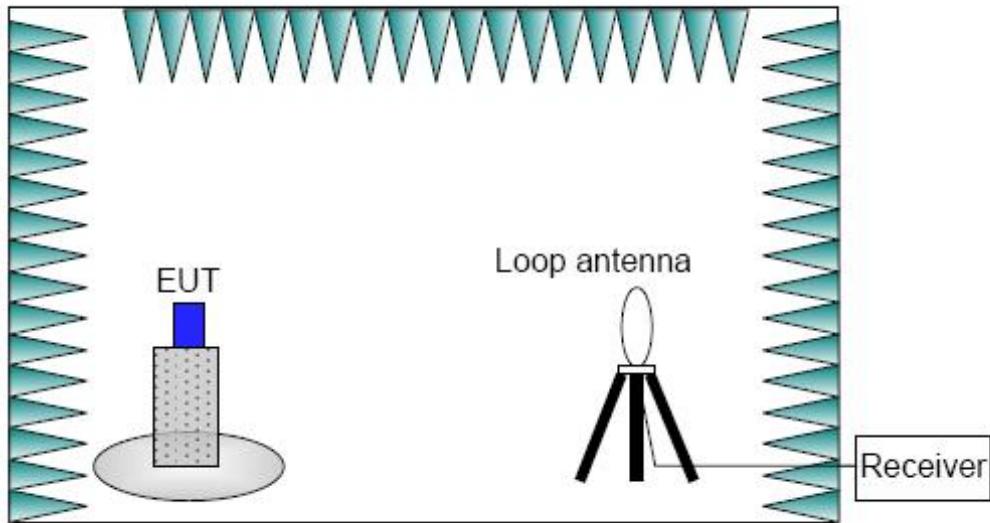
$\text{dBuA/m} = \text{dBuV/m} / 120\pi$

EUT Setup:

Mode 1

EUT Connection Diagram of Test System**Chongqing Academy of Information and Communication Technology**

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**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. The measurements were performed with the peak detector and if required, the quasi-peak detector.
- 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:

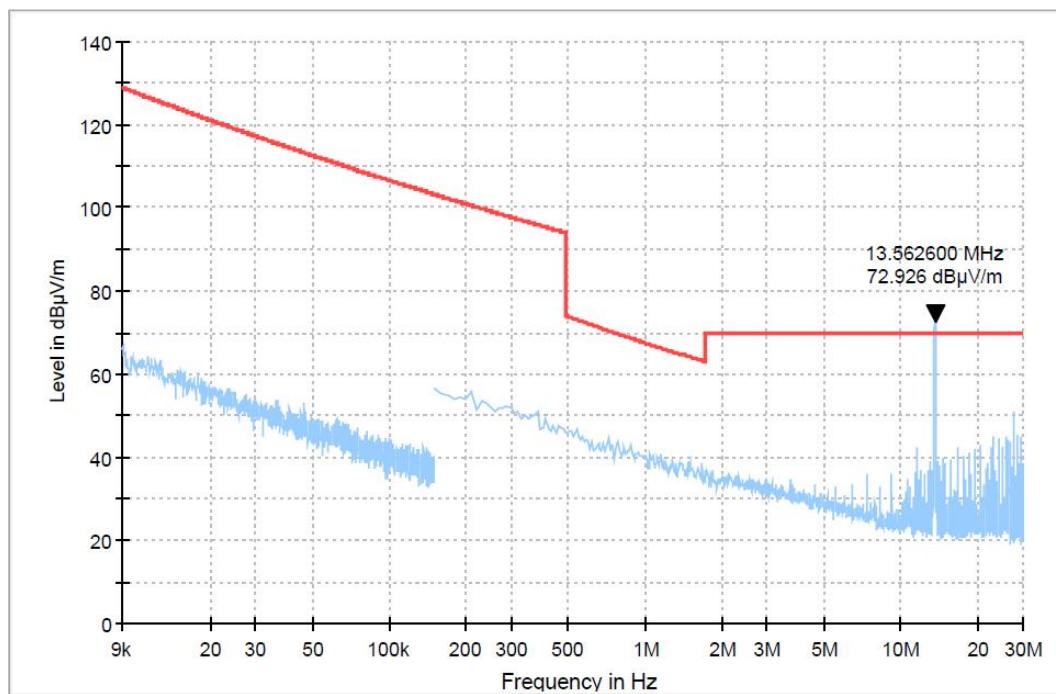
The measurement uncertainty $U=4.30\text{dB}(k=2)$.

Test Condition:

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

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Test Result:

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

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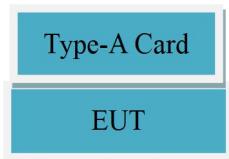
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7.3.3 Electric Field Radiated Emissions (Above 30MHz)

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

Limit/Criterion:

Frequency Range (MHz)	Quasi-Peak (dB μ V/m)	Peak (dB μ V/m)	Average (dB μ V/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

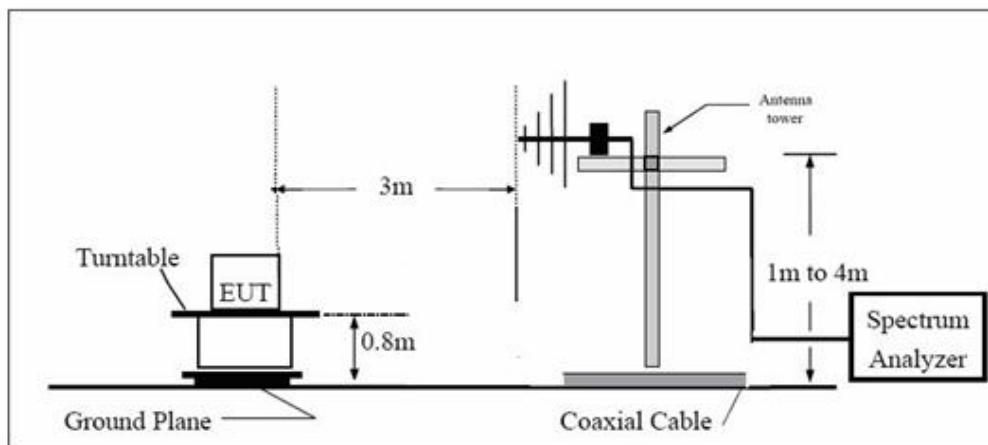
EUT Setup:

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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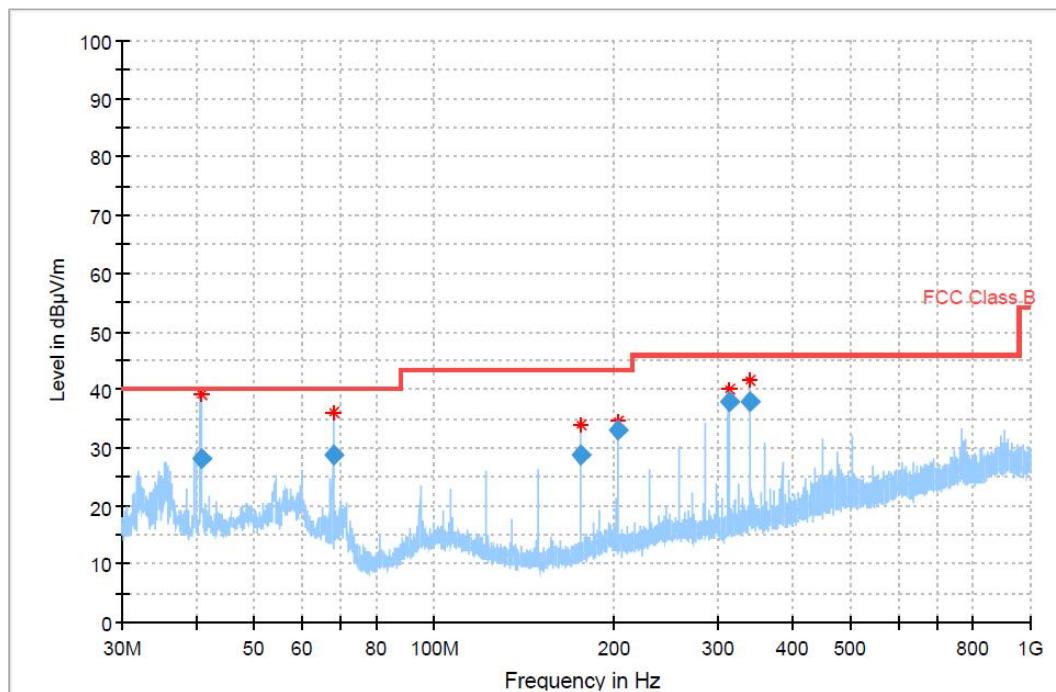
Test Result:

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

Frequency (MHz)	QuasiPeak (dB μ V/m)	Limit (dB μ V/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

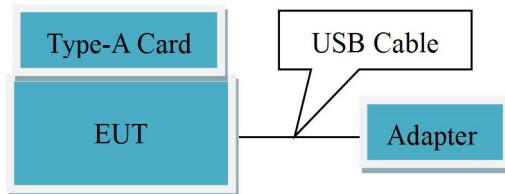
Specifications:	15.207
DUT Serial Number:	25B02W000008#S1
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60%
Operation Mode	Mode 2: TX mode+A1+C1+ AE1+ AE2+ B1
Test Results:	Pass

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

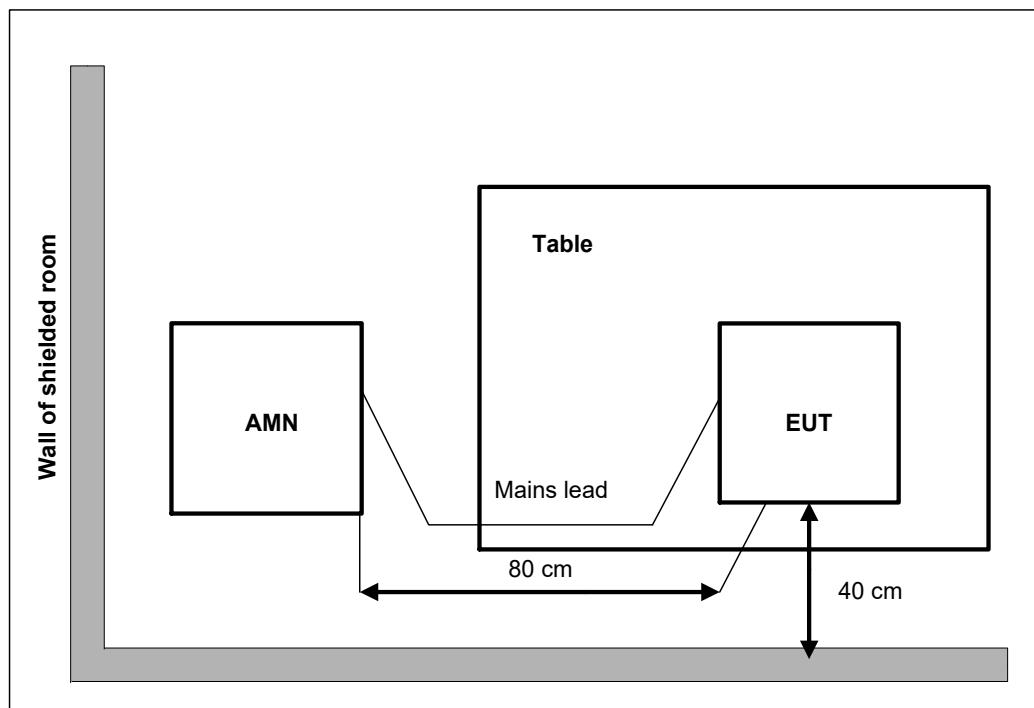
EUT Setup:



Mode 2

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**Test Method:**

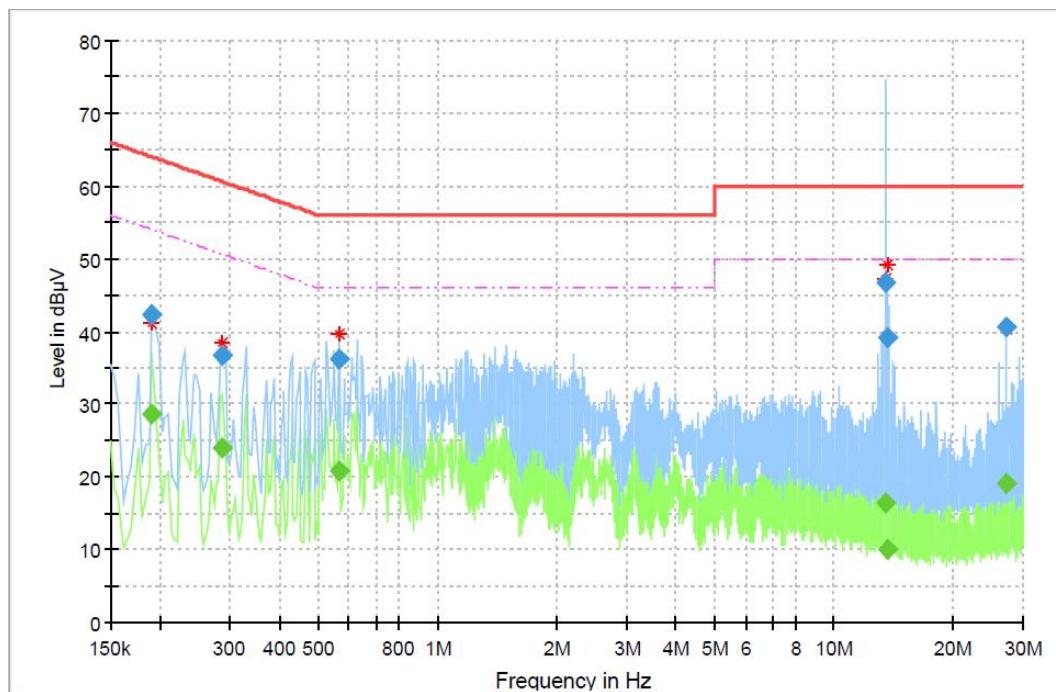
The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector. 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:**Chongqing Academy of Information and Communication Technology**

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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) (dB μ V) = Raw value by receiver(dB μ V) + 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 (dB μ V) – emission level (dB μ V).

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

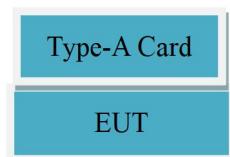
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7.5. Occupied bandwidth

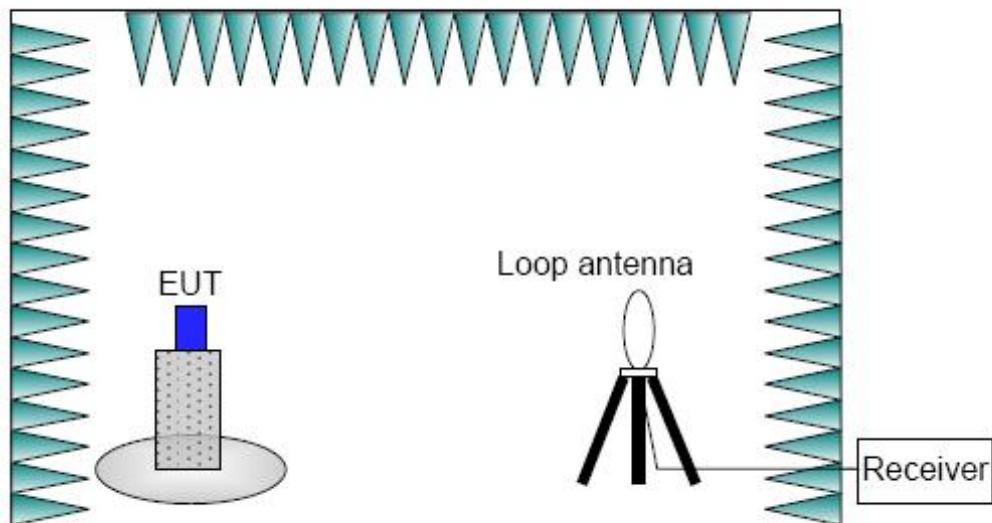
Specifications:	2.1049
DUT Serial Number:	25B02W000008#S1
Test conditions:	Ambient Temperature:15°C-35°C Relative Humidity:30%-60%
Operation Mode	Mode 1: TX mode+ AE1+ AE2+ B1
Test Results:	Pass

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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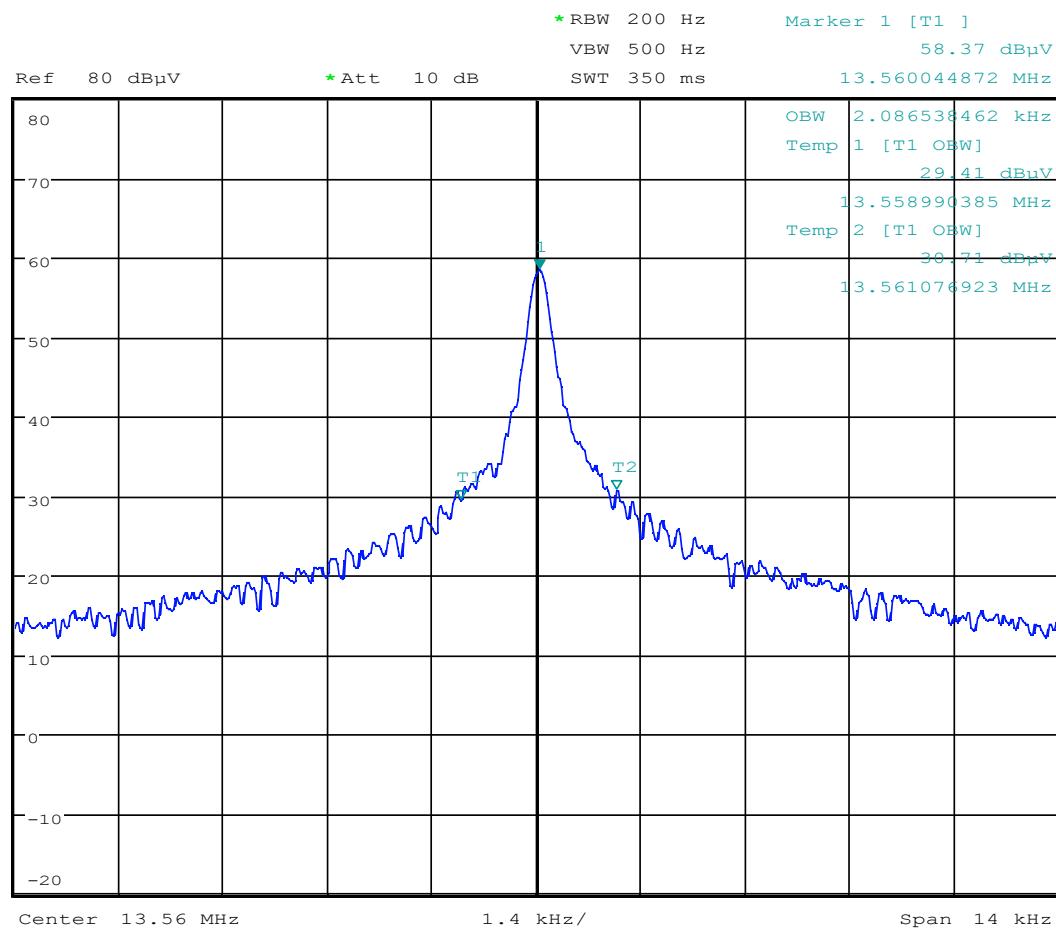


Figure 7.5.1 Mode 1 Occupied bandwidth

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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

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