



# NFC TEST REPORT

No.24T04Z100644-011

for

**Shenzhen Tinno Mobile Technology Corp.**

**Smart Phone**

**U572AA, U572AC**

**FCC ID: XD6U572AA**

with

**Hardware Version: 1.0**

**Software Version: U572AAV01.04.10**

**Issued Date: 2024-05-29**

**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 CTTL.

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## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Description</b>	<b>Issue Date</b>
24T04Z100644-011	Rev.0	1 <sup>st</sup> edition	2024-05-29

Note: the latest revision of the test report supersedes all previous version.

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## **1. Test Laboratory**

### **1.1. Introduction & Accreditation**

**Telecommunication Technology Labs, CAICT** is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

### **1.2. Testing Location**

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,  
P. R. China 100191

Location 2: CTTL(Cui Hu)

Address: CuiHu Cloud Center No.1 Gaolizhang  
Road,Wenquan Town,Haidian District,Beijing,China

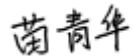
### 1.3. Testing Environment

Normal Temperature: 15-35°C  
Extreme Temperature: -20/+50°C  
Normal Relative Humidity: 20-75%  
Normal Air Pressure 86Kpa-106Kpa

### 1.4. Project data

Testing Start Date: 2024-05-13  
Testing End Date: 2024-05-24

### 1.5. Signature



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Miao Qinghua  
(Prepared this test report)



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Zhou Bin  
(Reviewed this test report)



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Pang Shuai  
(Approved this test report)



## **2. Client Information**

### **2.1. Applicant Information**

Company Name: Shenzhen Tinno Mobile Technology Corp.  
27-001, South Side of Tianlong Mobile Headquarters Building,  
Address: Tongfa South Road, Xili Community, Xili Street, Nanshan District, Shenzhen, PRC  
Contact: xiaoping.li  
Telephone: 0755-86095550  
Email: xiaoping.li@tinno.com

### **2.2. Manufacturer Information**

Company Name: Shenzhen Tinno Mobile Technology Corp.  
27-001, South Side of Tianlong Mobile Headquarters Building,  
Address: Tongfa South Road, Xili Community, Xili Street, Nanshan District, Shenzhen, PRC  
Contact: xiaoping.li  
Telephone: 0755-86095550  
Email: xiaoping.li@tinno.com

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

#### 3.1. About EUT

Description	Smart Phone
Model Name	U572AA, U572AC
FCC ID	XD6U572AA
UMTS Frequency bands	FDD I/II/IV/V/VIII
E-UTRA Frequency bands	FDD 2/3/4/5/7/12/14/20/29/30/66
Operating temperature	-10/+55°C
Extreme low voltage	3.5V
Normal voltage	3.85V
Extreme high voltage	4.4V

Note: The device model U572AC is a variant product of U572AA. The differences between U572AA and U572AC are the difference in UI and the different brands of silkscreen on the battery cover. In addition, U572AA supports ViLTE, while U572AC does not support ViLTE.

#### 3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version
UT13a	864975070007990	V1.0	U572AAV01.04.10
UT28a	864975070007933	V1.0	U572AAV01.04.10

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

#### 3.3. Internal Identification of AE

AE ID*	Description	Model	Manufacturer	Note
AE1	Battery	TLp058DA	TMB	---
AE2-1	Charger	TN-050200U3	Guangdong Beicom Eletronics Co., LTD	First source
AE2-2	Charger	LM-603U-05020 0U02UL	Chongqing Lianmo Eletronics Co., LTD	Second source
AE3-1	USB cable			First source
AE3-2	USB cable			Second source

\*AE ID: is used to identify the ancillary equipment in the lab internally.

#### 3.4. EUT Set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.NFC01-1	UT28a + AE1 + AE2-1 + AE3-1 + NFC Card	NFC Charger 1+USB 1
Set.NFC01-2	UT28a + AE1 + AE2-2 + AE3-2 + NFC Card	NFC Charger 2+USB 2
Set.NFC02	UT28a + NFC card	NFC
Set.NFC03	UT13a	---

The Transmit State of NFC: the NFC function is on. The EUT will transmit the NFC data and

command continuously during the test.

The Transmit state without modulation: The EUT will transmit the CW signal at the operating frequency.

#### **4. Reference Documents**

##### **4.1. Documents supplied by applicant**

EUT parameters, referring to Annex A for detailed information, are supplied by the client or manufacturer, which are the bases of testing.

##### **4.2. Reference Documents for testing**

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

<b>Reference</b>	<b>Title</b>	<b>Version</b>
CFR 47 Part 2	Part 2 — Frequency Allocations and Radio Treaty Matters; General Rules and Regulations.	2023
CFR 47 Part 15	Part 15 — Radio Frequency Devices. Subpart C — Intentional Radiators. § 15.35 Measurement detector functions and bandwidths. § 15.207 Conducted limits. § 15.209 Radiated emission limits, general requirements. § 15.215 Additional provisions to the general radiated emission limitations. § 15.225 Operation within the band 13.110–14.010 MHz.	2023
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013



## 5. Test Results

### 5.1. Summary of Test Results

No	Test Cases	Clause in Regulation	Section in This Report	Verdict
1	Electric Field Strength of Fundamental Emissions	CFR 47 § 15.225(a)	B.1	P(Set. NFC02)
2	Electric Field Strength of Outside the Allocated Bands	CFR 47 § 15.225(b) CFR 47 § 15.225(c)		P(Set. NFC02)
3	Electric Field Radiated Emissions	CFR 47 § 15.209 CFR 47 § 15.225(d)	B.2	P(Set. NFC01-1)
			B.3	P(Set. NFC1-1, Set. NFC1-2)
4	Frequency Tolerance	CFR 47 § 15.225(e)	B.4	P(Set. NFC03)
5	20dB Bandwidth	CFR 47 § 15.215(c)	B.5	P(Set. NFC03)
6	Conducted Emissions	CFR 47 § 15.207	B.6	P(Set. NFC1-1, Set. NFC1-2)
7	Antenna Requirement	CFR 47 § 15.203	B.7	P(Set. NFC03)
The measurement is carried out according to ANSI C63.10. See <b>ANNEX B</b> for details.				

#### Note:

The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

#### Test Conditions:

For this report, all the test cases listed above were tested under normal Temperature, Voltage, humidity and Air Pressure except the Frequency Tolerance test case. The specific conditions of Frequency Tolerance test case are listed in section B.4.3

See **Table 3** for terms for result verdict:

**Table 1 Terms for result verdict**

P	Pass, The EUT complies with the essential requirements in the standard.
NP	Not Perform, The test was not performed by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

### 5.2. Statements

The test cases listed in Section 5.1 of this report for the EUT specified in Section 3 were performed by CTTL according to the reference documents in Section 4.

The EUT meets all applicable requirements of the regulations and standards in Section 4.2.



## 6. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL. DUE DATE	CAL. INTERVAL
1.	Spectrum Analyzer	N9030A	MY49432143	Keysight Technologies	2024-12-16	1 Year
2.	Climatic chamber	WK3-340/70	58226117510010	WEISS	2024-08-08	1 Year
3.	Test Receiver	ESW44	103144	R&S	2024-11-26	1 year
4.	H-field Antenna	HFH2-Z2	829324/007	R&S	2025-01-04	1 Years
5.	EMI Antenna	VULB 9163	01222	SCHWARZBEC K	2025-01-28	2 years
6.	Test Receiver	ESCI	100344	R&S	2025-04-01	1 year
7.	LISN	ENV216	101200	R&S	2025-05-16	1 year

**Note:** The test cases for conducted emission and radiated emission utilize the EMC32 software from the R&S manufacturer, specifically version V8.53.0 for conducted emissions and version V11.50.00 for radiated emissions.

## 7. Measurement Uncertainty

Item	Uncertainty
Frequency Tolerance	$U = 74 \text{ Hz}, k=2$
20dB Bandwidth	$U = 74 \text{ Hz}, k=2$
Radiated Emissions(9kHz-30MHz)	$U = 4.92 \text{ dB}, k=2$
Radiated Emissions (30MHz-1GHz)	$U = 4.72 \text{ dB}, k=2$
Radiated Emissions (>1GHz)	$U = 4.84 \text{ dB}, k=2$
Conducted emission	$U = 3.08 \text{ dB}, k=2$



## **ANNEX A: EUT parameters**

Disclaimer: The antenna gain provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

## ANNEX B: Detailed Test Results

### B.1. Electric Field Strength of Fundamental and Outside the Allocated bands

#### B.1.1. Reference

See Clause 4, Clause 5 of ANSI C63.10-2013 generally.

#### B.1.2. Measurement Methods

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 loop antenna is 1.0 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.

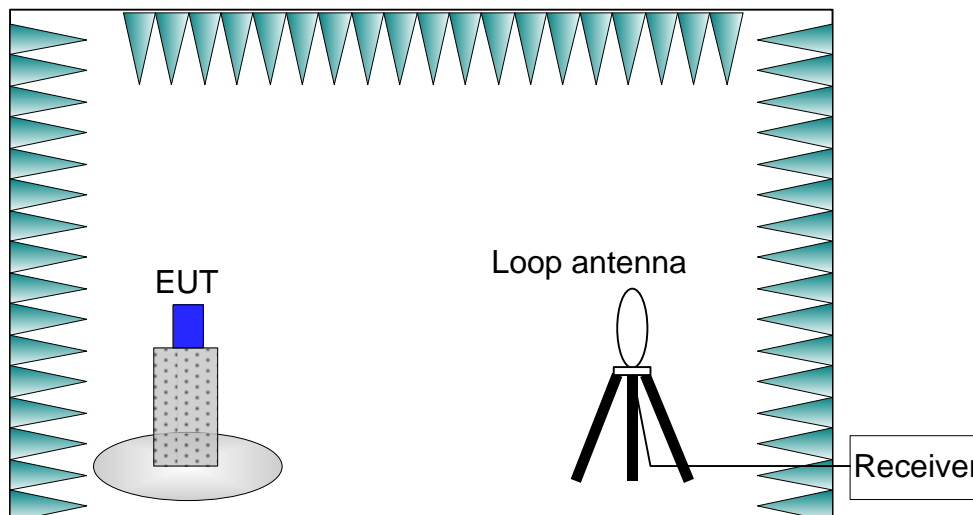
The measurement bandwidth is:

**Table B-1: Measurement bandwidth**

Frequency of Emission (MHz)	RBW/VBW
12.56-14.56	10/30 kHz

The E-field measured at 3m is calculated as:

$$\text{E-field (dB}\mu\text{V/m)} = \text{Rx (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{AF@3m (dB/m)}$$



**Figure B-1: Measurement Setup**

#### B.1.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC(See 3.4).

The EUT is powered by a travel adapter.

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

**B.1.4. Limits**

**Table B-2: Limits**

Frequency Range (MHz)	E-field Strength Limit @ 30 m (μV/m)	E-field Strength Limit @ 3 m (dBμV/m)
13.560 ± 0.007	+15,848	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

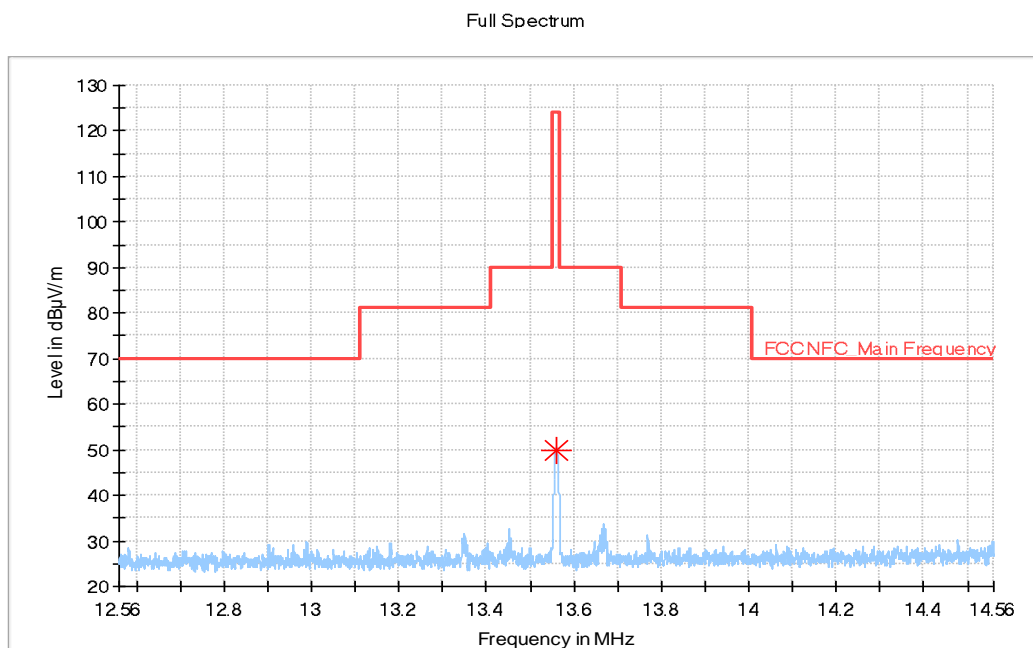
Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula:  

$$\text{Extrapolation (dB)} = 40 \log_{10} \left( \frac{\text{Measurement Distance}}{\text{Specification Distance}} \right)$$

**B.1.5. Measurement Results**

Measurement results of normal conditions see Figure B-2 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

**Conclusions:** Set.NFC02, **PASS.**



**Figure B-2: Measurement results for Electric Field Strength of Fundamental and Outside the Allocated bands**

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
13.558500	49.84	124.00	74.16	V	177.0	18.0

## **B.2. Electric Field Radiated Emissions (< 30MHz)**

### **B.2.1. Reference**

See Clause 6.4 of ANSI C63.10-2013 specifically.

See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

### **C.2.2. Measurement Methods**

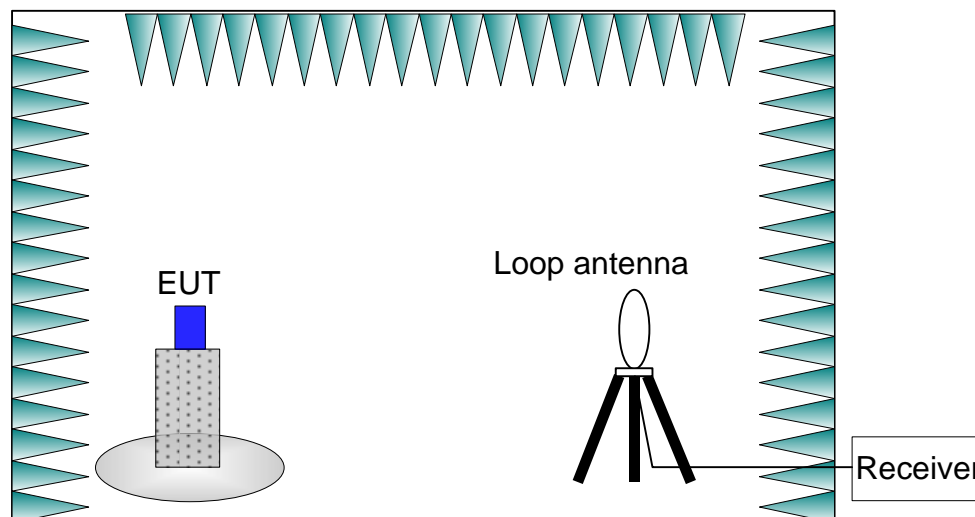
The transmitter carrier output levels (E-Field) from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The E-field 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.

The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/VBW
0.009-0.15	100/300 Hz
0.15-30	10/30 kHz

The E-field measured at 3m is calculated as:

$$\text{E-field (dB}\mu\text{V/m)} = \text{Rx (dB}\mu\text{V)} + \text{Cable Loss (dB)} + \text{AF@3m (dB/m)}$$



**Figure B-3: Measurement Setup**

### **B.2.3. EUT Operating Mode and Test Conditions**

The measurement of EUT is carried out under the transmit state of NFC(See 3.4).

The EUT is powered by a travel adapter.

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

#### B.2.4. Limits

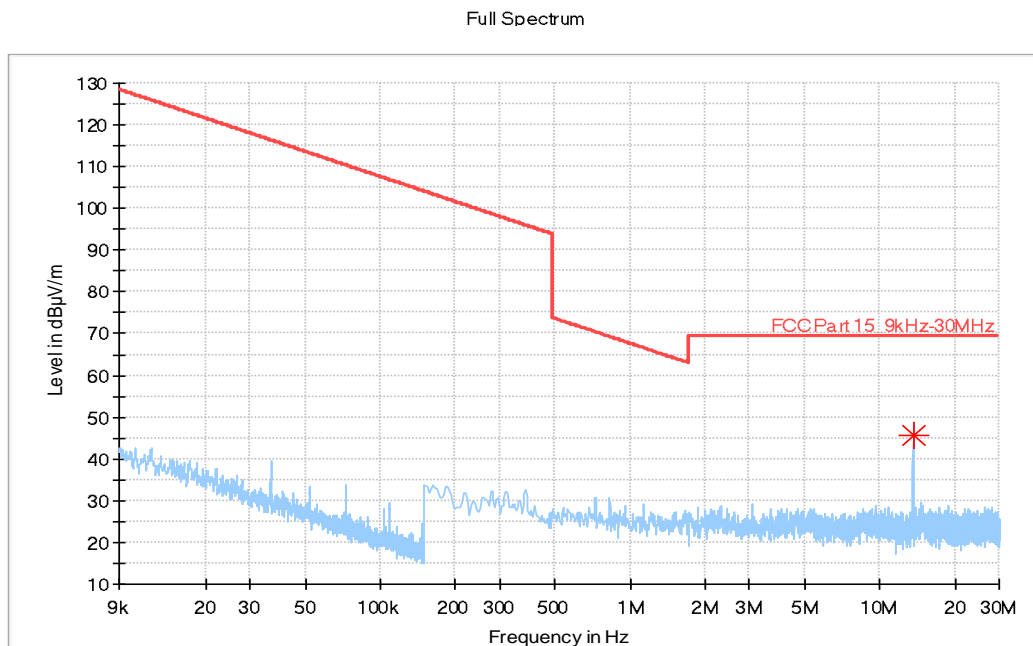
Frequency Range (MHz)	E-field Strength Limit @ 30m (mV/m)	E-field Strength Limit @ 3m (dBµV/m)
0.009-0.490	2400/F(kHz)	129-94
0.490-1.705	24000/F(kHz)	74-63
1.705-30	30	70

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) =  $40 \log_{10}(\text{Measurement Distance} / \text{Specification Distance})$

#### B.2.5. Measurement Results

Measurement results of normal conditions see Figure B-4 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

**Conclusions:** Set.NFC01-1, **PASS.**



**Figure B-4: Measurement results for Electric Field Radiated Emissions (< 30MHz)**

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Azimuth (deg)	Corr. (dB/m)
13.560113	45.66	69.50	23.84	V	0.0	18.0



### **B.3. Electric Field Radiated Emissions ( $\geq 30\text{MHz}$ )**

#### **B.3.1. Reference**

See Clause 6.5 of ANSI C63.10-2013 specifically.

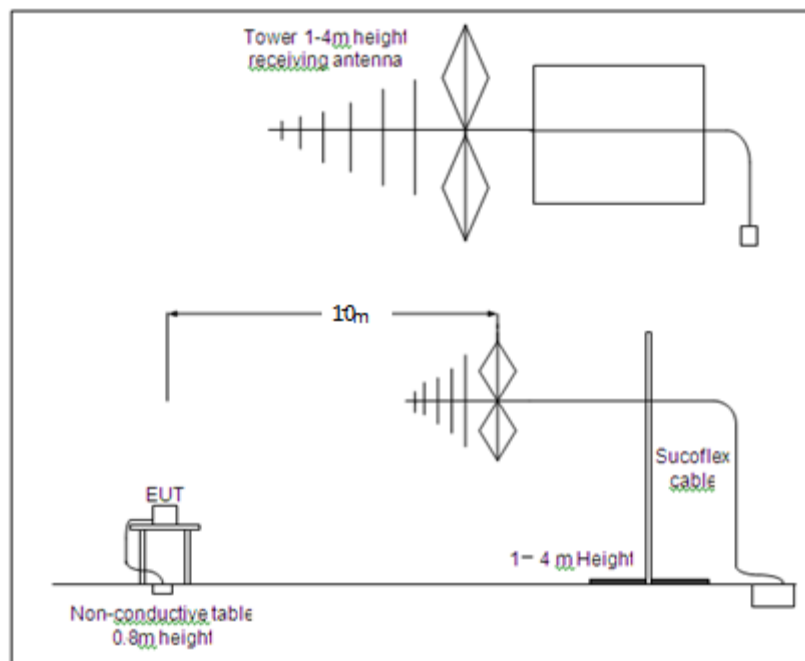
See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

#### **B.3.2. Measurement Methods**

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 10m from the receiving antenna. The receiving antennas connected to a measurement receiver. In order to search for maximum field strength emitted from the EUT, the receiving antenna can be moved between the height of 1.0 m to 4.0 m. Detected E-field was maximized at each frequency by rotating the EUT through  $360^\circ$  and adjusting the receiving antenna positions for both vertical and horizontal 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.

The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/VBW
30-1000	120kHz



**Figure B-5: Measurement Setup**

#### **B.3.3. EUT Operating Mode and Test Conditions**

The measurement of EUT is carried out under the transmit state of NFC(See 3.4).

The EUT had been connected to a travel adapter.

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

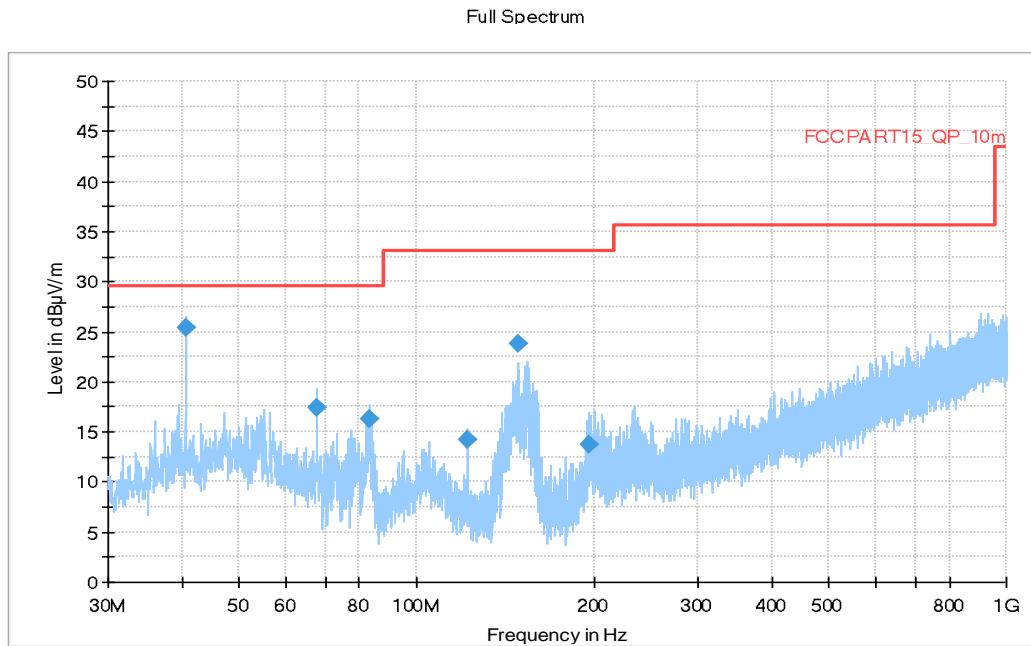
### B.3.4. Limits

Frequency Range (MHz)	E-field Strength Limit @ 3m (mV/m)	E-field Strength Limit @ 3m (dB $\mu$ V/m)	E-field Strength Limit @ 10m (dB $\mu$ V/m)
30-88	100	40	30
88-216	150	43.5	33.5
216-960	200	46	36
960-1000	500	54	44

### B.3.5. Measurement Results

Measurement results of normal conditions see Figure B-6 and Figure B-7 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

**Conclusions:** Set.NFC01-1 and Set.NFC01-2, **PASS**.

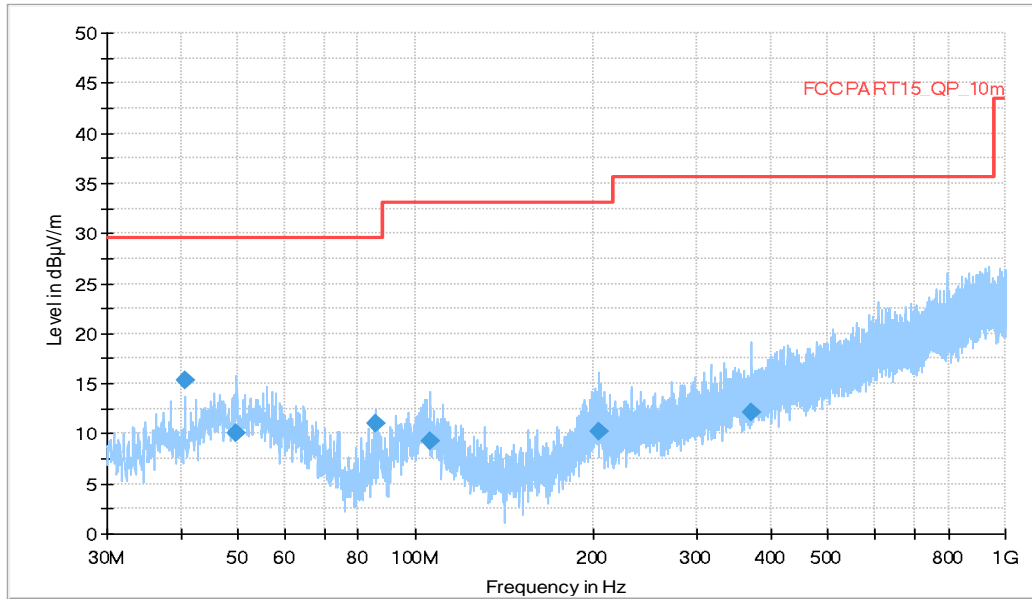


**Figure B-6: Measurement results for Electric Field Radiated Emissions ( $\geq 30$ MHz) (Set.NFC01-1)**

### Final\_Result

Frequency (MHz)	QuasiPeak (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
40.670000	25.38	29.54	4.16	120.000	191.0	V	61.0	-11.8
67.781500	17.45	29.54	12.09	120.000	125.0	V	31.0	-14.3
83.495500	16.33	29.54	13.21	120.000	121.0	V	279.0	-16.7
122.004500	14.23	33.06	18.83	120.000	175.0	V	-45.0	-14.5
149.164500	23.73	33.06	9.33	120.000	284.0	V	-14.0	-15.6
195.579000	13.80	33.06	19.26	120.000	101.0	V	54.0	-11.5

Full Spectrum



**Figure B-7: Measurement results for Electric Field Radiated Emissions ( $\geq 30\text{MHz}$ ) (Set.NFC01-2)**

**Final\_Result**

Frequency (MHz)	QuasiPeak (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
40.670000	15.28	29.54	14.26	120.000	199.0	V	121.0	-11.8
49.739500	10.07	29.54	19.47	120.000	215.0	H	-8.0	-10.7
85.581000	11.09	29.54	18.45	120.000	115.0	V	302.0	-16.1
105.757000	9.24	33.06	23.82	120.000	279.0	V	183.0	-12.3
204.115000	10.16	33.06	22.90	120.000	225.0	V	136.0	-12.2
370.955000	12.09	35.56	23.47	120.000	284.0	H	249.0	-6.6

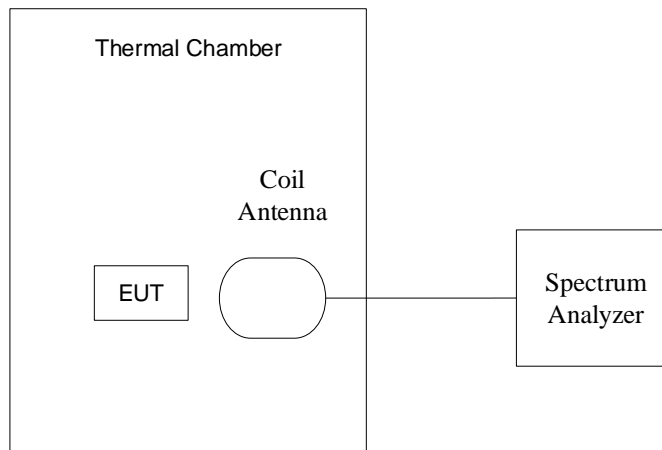
## **B.4. Frequency Tolerance**

### **B.4.1. Reference**

See Clause 6.8 of ANSI C63.10-2013 specifically.

See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

### **B.4.2. Measurement Methods**



**Figure B-8: Measurement Setup**

The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer. 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.

### **B.4.3. EUT Operating Mode and Test Conditions**

The measurement of EUT was carried out under the transmit state of without modulation(See 3.4). EUT had not been connected to a travel adapter. The frequency stability was measured with the different voltage and temperature combinations:

- a) The nominal voltage 3.85V(See 3.1)was used and the temperature was varied from -20°C to +50°C in 10°C increments using an environmental chamber.
- b) The 20°C was used and the voltages were 3.5V, 3.85V and 4.4V (The extreme low voltage ,the normal voltage and the extreme high voltage ).

The details were as following:

**Table B-3: Combinations of Voltage andTemperature**

Test items	Voltage	Temperature
Frequency stability with respect to ambient temperature	3.85V	-20°C
		-10°C
		0°C
		10°C
		20°C

		30°C
		40°C
		50°C
Frequency stability when varying supply voltage	3.5V	20°C
	3.85V	
	4.4V	

#### B.4.4. Test Layouts

See C.4.2.

#### B.4.5. Limits

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency.

#### B.4.6. Measurement Results

Measurement results see Table C-4 for different test conditions.

**Conclusions:** Set.NFC03, **PASS**.

**Table B-4: Measurement results for Frequency Tolerance**

Temperature	Voltage	Frequency (MHz)			
		Startup	2 Min Later	5 Min Later	10 Min Later
-20°C	3.85V	13.560561000	13.560558000	13.560558000	13.560522000
-10°C	3.85V	13.560549000	13.560549000	13.560558000	13.560558000
0°C	3.85V	13.560531000	13.560531000	13.560540000	13.560558000
10°C	3.85V	13.560486000	13.560495000	13.560504000	13.560513000
20°C	3.85V	13.560468000	13.560477000	13.560477000	13.560495000
30°C	3.85V	13.559613000	13.559613000	13.559604000	13.559595000
40°C	3.85V	13.559595000	13.559577000	13.559577000	13.559577000
50°C	3.85V	13.559568000	13.559559000	13.559559000	13.559559000
20°C	3.50V	13.559577000	13.559586000	13.559613000	13.559613000
20°C	4.40V	13.559613000	13.559613000	13.559616000	13.559608000

Temperature	Voltage	Frequency Error (%)			
		Startup	2 Min Later	5 Min Later	10 Min Later
-20°C	3.85V	0.004	0.004	0.004	0.004
-10°C	3.85V	0.004	0.004	0.004	0.004
0°C	3.85V	0.004	0.004	0.004	0.004
10°C	3.85V	0.004	0.004	0.004	0.004
20°C	3.85V	0.003	0.004	0.004	0.004
30°C	3.85V	-0.003	-0.003	-0.003	-0.003
40°C	3.85V	-0.003	-0.003	-0.003	-0.003
50°C	3.85V	-0.003	-0.003	-0.003	-0.003

20°C	3.50V	-0.003	-0.003	-0.003	-0.003
20°C	4.40V	-0.003	-0.003	-0.003	-0.003

#### B.4.7. Measurement Uncertainty

Measurement uncertainty:  $U = 74 \text{ Hz}$ ,  $k=2$

### B.5. 20dB Bandwidth

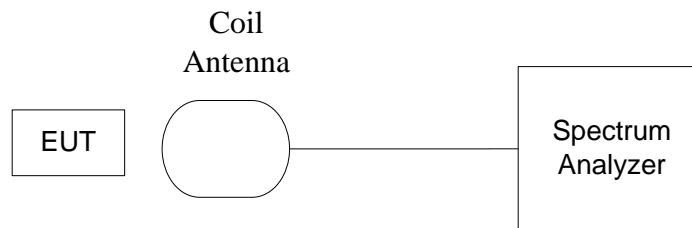
#### B.5.1. Reference

See Clause 6.9 of ANSI C63.10-2013 specifically.

See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

#### B.5.2. Measurement Methods

The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer. The bandwidth of the center frequency was measured with 300Hz RBW, 1kHz VBW and 10kHz span.



**Figure B-9: Measurement Setup**

#### B.5.3. EUT Operating Mode and Test Conditions

The measurement of EUT was carried out under the transmit state of NFC (See 3.4). EUT had not been connected to a travel adapter.

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

#### B.5.4. Test Layouts

See C.5.2.

#### B.5.5. Limits

The 20dB bandwidth shall be less than 80% of the permitted frequency band. For 13.56 MHz NFC, the permitted frequency band is 14kHz, so the limit is 11.2 kHz.

#### B.5.6. Measurement Results

Measurement results see Figure B-10.

**Conclusions: Set.NFC03, PASS.**

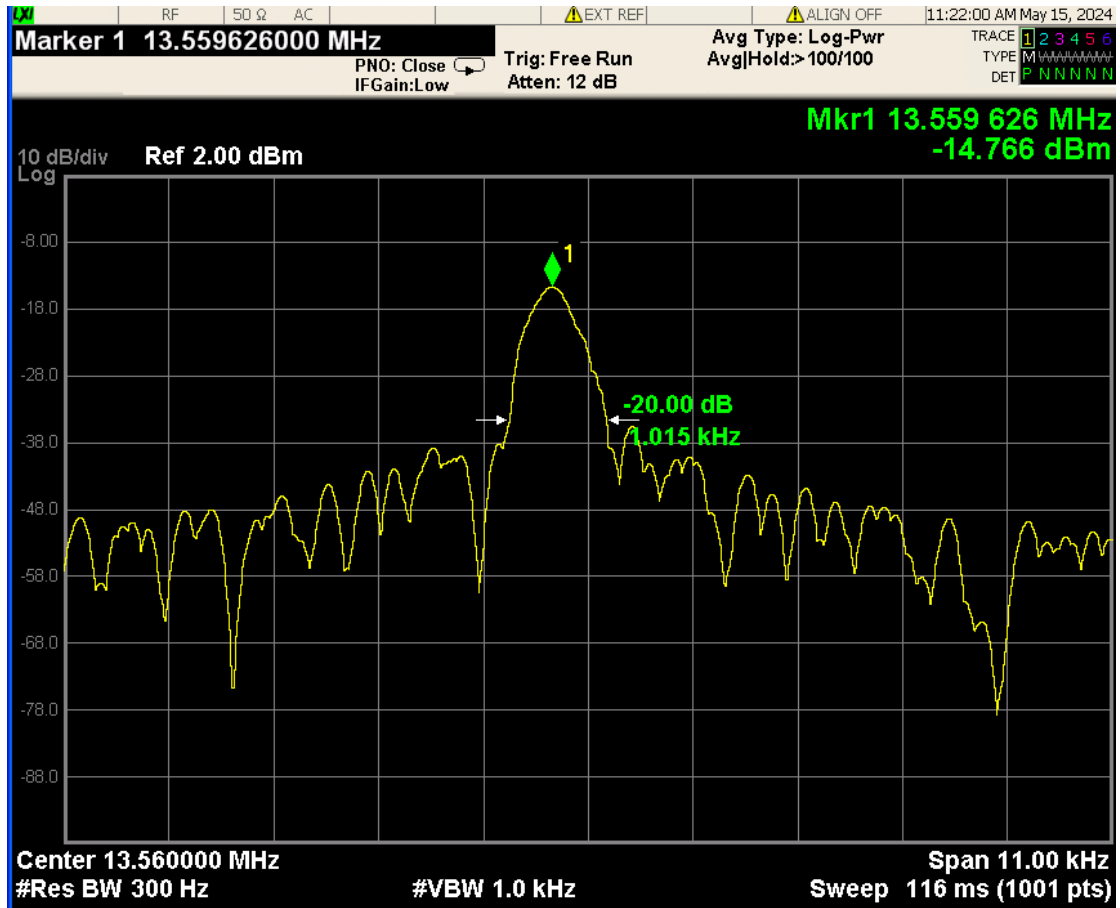


Figure B-10: Measurement results for 20dB Bandwidth

### B.5.7. Measurement Uncertainty

Measurement uncertainty:  $U = 74 \text{ Hz}$ ,  $k=2$

## **B.6. Conducted emission**

### **B.6.1. Reference**

See Clause 6.2 of ANSI C63.10-2013 specifically.

See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

### **B.6.2. Measurement Methods**

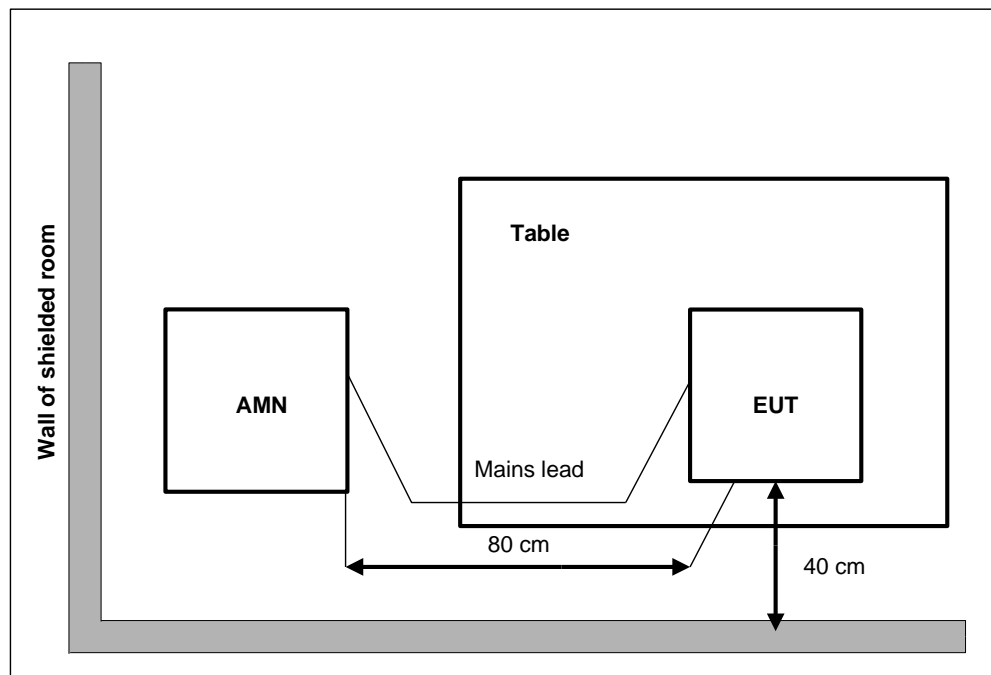
The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

The measurement bandwidth is:

**Table B-5: Measurement Bandwidth**

Frequency of Emission (MHz)	RBW/VBW
0.15-30	9kHz



**Figure B-11: Measurement Setup**

### **B.6.3. EUT Operating Mode and Test Conditions**

The measurement of EUT is carried out under the transmit state of NFC(See 3.4).

The EUT is powered by a travel adapter.

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

### **B.6.4. Limits**

Frequency range (MHz)	Quasi-peak Limit (dB $\mu$ V)	Average Limit (dB $\mu$ V)
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46

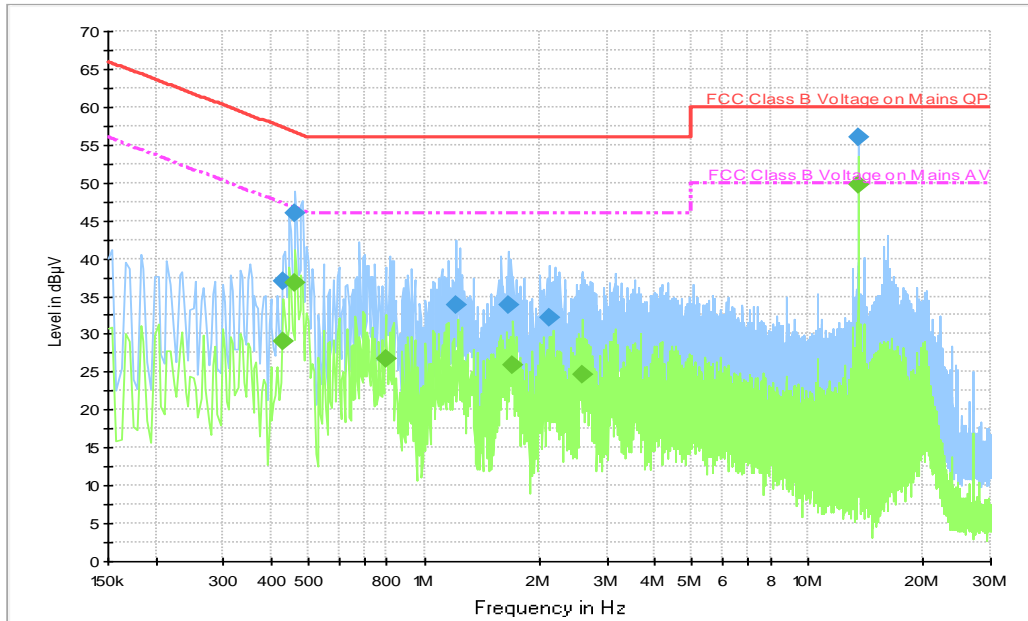


5 to 30	60	50
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### B.6.5. Measurement Results

Measurement results see Figure B-12 and Figure B-13.

**Conclusions:** Set.NFC01-1 and Set.NFC01-2, **PASS.**



**Figure B-12: Measurement results for Conducted Emission(Set.NFC1-1)**

#### Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.430000	37.0	2000.0	9.000	On	N	19.8	20.3	57.3
0.462000	46.0	2000.0	9.000	On	L1	19.8	10.6	56.7
1.210000	33.9	2000.0	9.000	On	N	19.6	22.1	56.0
1.654000	33.9	2000.0	9.000	On	N	19.6	22.1	56.0
2.126000	32.2	2000.0	9.000	On	N	19.6	23.8	56.0
13.562000	56.0	2000.0	9.000	On	L1	19.8	4.0	60.0

#### Final Result 2

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.430000	29.0	2000.0	9.000	On	L1	19.8	18.3	47.3
0.462000	36.7	2000.0	9.000	On	L1	19.8	9.9	46.7
0.794000	26.7	2000.0	9.000	On	L1	19.7	19.3	46.0
1.706000	25.9	2000.0	9.000	On	L1	19.6	20.1	46.0
2.582000	24.6	2000.0	9.000	On	L1	19.6	21.4	46.0
13.562000	49.7	2000.0	9.000	On	L1	19.8	0.3	50.0

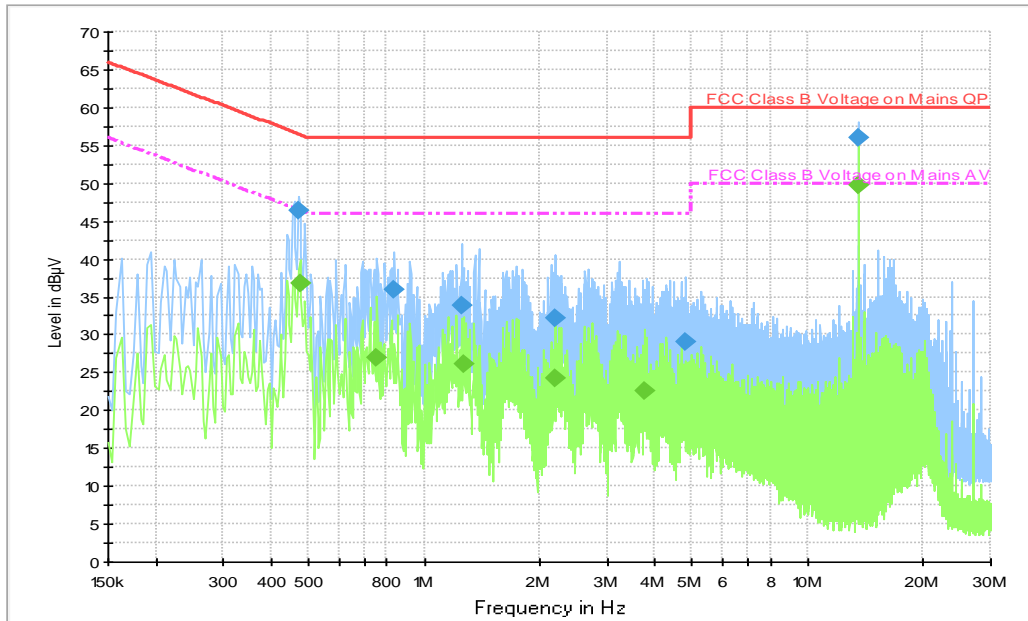


Figure B-13: Measurement results for Conducted Emission(Set.NFC02-2)

**Final Result 1**

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.470000	46.3	2000.0	9.000	On	L1	19.8	10.2	56.5
0.838000	36.0	2000.0	9.000	On	N	19.7	20.0	56.0
1.254000	33.9	2000.0	9.000	On	N	19.6	22.1	56.0
2.194000	32.1	2000.0	9.000	On	N	19.6	23.9	56.0
4.782000	29.1	2000.0	9.000	On	N	19.6	26.9	56.0
13.562000	55.9	2000.0	9.000	On	L1	19.8	4.1	60.0

**Final Result 2**

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.474000	36.9	2000.0	9.000	On	L1	19.8	9.6	46.4
0.754000	27.0	2000.0	9.000	On	L1	19.7	19.0	46.0
1.266000	26.2	2000.0	9.000	On	L1	19.6	19.8	46.0
2.194000	24.2	2000.0	9.000	On	L1	19.6	21.8	46.0
3.762000	22.7	2000.0	9.000	On	L1	19.6	23.3	46.0
13.562000	49.8	2000.0	9.000	On	L1	19.8	0.2	50.0



## **B.7. Antenna Requirement**

### **B.7.1 Reference**

See CFR 47 Part 15 § 15.203

### **B.7.2. Excerpt from §15.203 of the FCC Rules/Regulations**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

The antenna of the device is permanently attached.

There are no provisions for connection to an external antenna.

### **B.7.3. Results**

The unit complies with the requirement of FCC Part 15.203.

**Conclusions:** Set.NFC03, **PASS.**

**ANNEX C: Persons involved in this testing**

Test Item	Tester
20dB Bandwidth	Miao Qinghua
Frequency Tolerance	Miao Qinghua
Electric Field Strength of Fundamental and Outside the Allocated bands	Ding Zai & Zhang Tianli
Electric Field Radiated Emissions (< 30MHz)	Ding Zai & Zhang Tianli
Electric Field Radiated Emissions ( $\geq$ 30MHz)	Ding Zai & Zhang Tianli
Conducted Emissions	Yan Hanchen
Antenna Requirement	Miao Qinghua

## ANNEX D: Accreditation Certificate



### Accredited Laboratory

A2LA has accredited

#### TELECOMMUNICATION TECHNOLOGY LABS, CAICT

Beijing, People's Republic of China

for technical competence in the field of

#### Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 26<sup>th</sup> day of June 2023.



Mr. Trace McInturf, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 7049.01  
Valid to July 31, 2024

*For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.*

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