NFC TEST REPORT

No.I23Z60212-IOT01

for

HMD Global Oy

Smart Phone

Model Name: TA-1573

FCC ID: 2AJOTTA-1573

with

Hardware Version: V1.0

Software Version: 04US_0_170

Issued Date: 2023-05-11

Note:

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The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I23Z60212-IOT01	Rev.0	1st edition	2023-04-18
I23Z60212-IOT01	Rev.1	2nd edition Modified the measurement result of Conducted Emission on Page 25	2023-05-10
I23Z60212-IOT01	Rev.2	3rd edition Modified the USB model of the device	2023-05-11

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

CONTENTS

1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (ISED#: 24849). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location 1: CTTL(huayuan North Road)

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

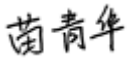
1.3. Testing Environment

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

1.4. Project data

Testing Start Date:	2023-03-29
Testing End Date:	2023-04-17

1.5. Signature

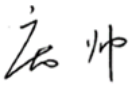


Miao Qinghua

(Prepared this test report)

Zhou Bin

(Reviewed this test report)



Pang Shuai

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Contact:	Reza Serafat
Telephone:	+491735287964
Email:	reza.serafat@hmdglobal.com

2.2. Manufacturer Information

Company Name:	HMD Global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Contact:	Reza Serafat
Telephone:	+491735287964
Email:	reza.serafat@hmdglobal.com

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

3.1. About EUT

Description	Smart Phone
Model Name	TA-1573
FCC ID	2AJOTTA-1573
GSM Frequency bands	900/1800/1900/850
UMTS Frequency bands	FDD I/II/IV/V
E-UTRA Frequency bands	FDD 1/2/3/4/5/7/8/12/13/17/20/25/26/66/71
	TDD 38/39/40/41
5G_NR Frequency bands	SA n25/n41/n66/n71/n77
	NSA n25/n41/n66/n71
Operating temperature	-10/+55℃
Extreme low voltage	3.6 V
Normal voltage	3.87 V
Extreme high voltage	4.45 V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version
UT89a	350547140019957	V1.0	04US_0_170
UT85a	350547140019874	V1.0	04US_0_170

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

3.3. Internal Identification of AE

AE ID*	Description	SN	Remarks
AE1	Battery	/	/
AE2	Charger	/	/
AE3	USB Cable	/	/

AE1

Model	HQ610
Manufacturer	Fenghua Lithium Battery Co., Ltd
Capacity	5000mAh
Nominal Voltage	

AE2

Model	AD-020U
Manufacturer	AOHAI
Length of cable	/

AE3

Model	SZN-A023A
Manufacturer	Saibao (Jiangxi) Industry Co.,Ltd.

Length of cable /

*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	UT85a + AE1 + AE2+ AE3 + NFC Card	Charge
Set.NFC02	UT85a + AE1 + NFC card	NFC
Set.NFC03	UT89a	---

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.

Reference	Title	Version
CFR 47 Part 2	Part 2 — Frequency Allocations and Radio Treaty Matters; General Rules and Regulations.	2019
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.	2019
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	B.2	P(Set. NFC01)
		CFR 47 § 15.225(d)	B.3	P(Set. NFC01)
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. NFC01)
The measurement is carried out according to ANSI C63.10. See **ANNEX B** for details.				

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	FSL 6	100869	Rohde & schwarz	2023-10-21	1 Year
2.	Climatic chamber	SH242	93008658	ESPEC	2025-04-02	2 Year
3.	Spectrum Analyzer	N9030A	MY49432143	Keysight Technologies	2023-12-17	1 Year
4.	Test Receiver	ESW44	103144	R&S	2023-10-25	1 Year
5.	H-field Antenna	HFH2-Z2	829324/007	R&S	2023-12-23	1 Year
6.	EMI Antenna	VULB 9163	01223	SCHWARZBECK	2023-07-25	1 Year
7.	Test Receiver	ESCI	100344	R&S	2024-02-21	1 Year
8.	LISN	ENV216	101200	R&S	2023-06-29	1 Year

7. Measurement Uncertainty

Item	Uncertainty
Frequency Tolerance	*U =73 Hz, k=2*
20dB Bandwidth	*U* =74 Hz, k=2
Radiated Emissions(9kHz-30MHz)	*U* =4.92 dB, k=2
Radiated Emissions (30MHz-1GHz)	*U* =5.15 dB, k=2
Radiated Emissions (>1GHz)	*U* =5.54 dB, k=2
Conducted emission	*U* = 3.08 dB, k=2

ANNEX A: EUT parameters

/

ANNEX B: Detailed Test Results

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

B.1.1. Reference

See CFR 47 Part 15 § 15.209
See CFR 47 Part 15 § 15.225
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:
E-field (dBμV/m) = Rx (dBμV) + Cable Loss (dB) + AF@3m (dB/m)

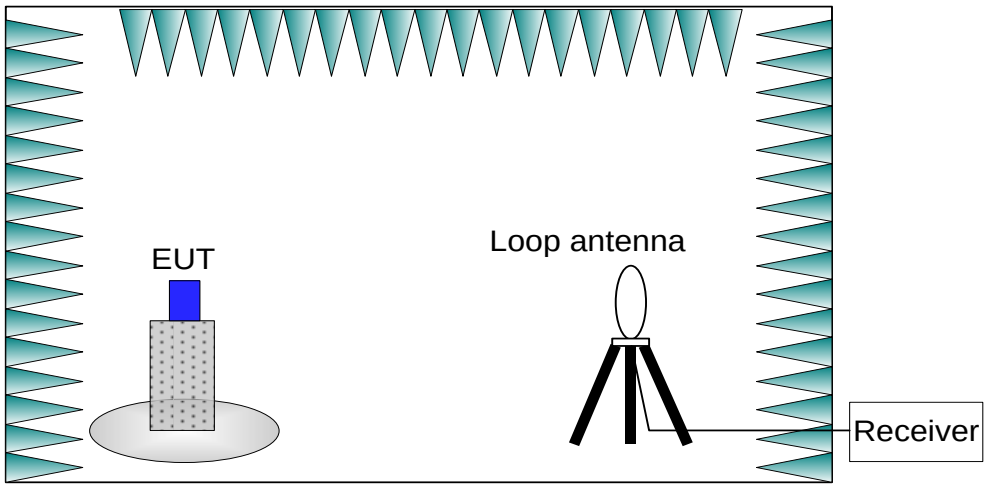


Figure B-1: Measurement Setup

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 ℃.

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

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**.

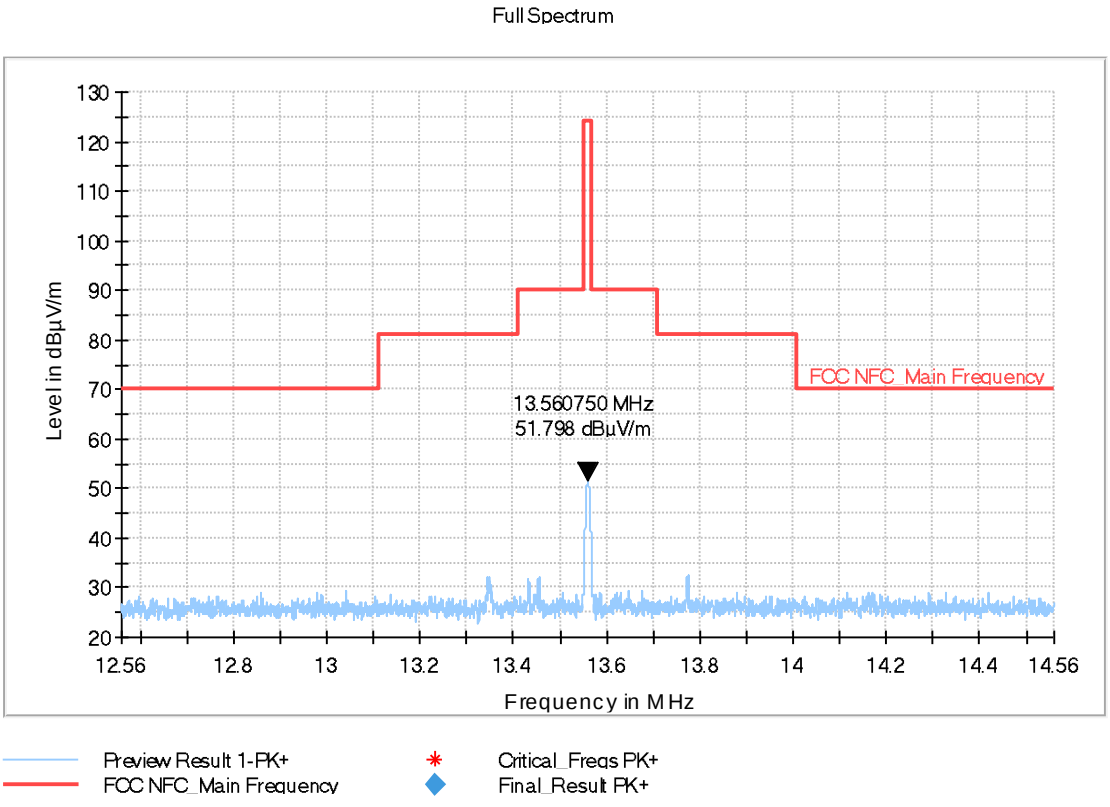


Figure B-2: Measurement results for Electric Field Strength of Fundamental and Outside the Allocated bands

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

B.2.1. Reference

See CFR 47 Part 15 § 15.209
See Clause 6.4 of ANSI C63.10-2013 specifically.
See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

B.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:
E-field (dBμV/m) = Rx (dBμV) + Cable Loss (dB) + AF@3m (dB/m)

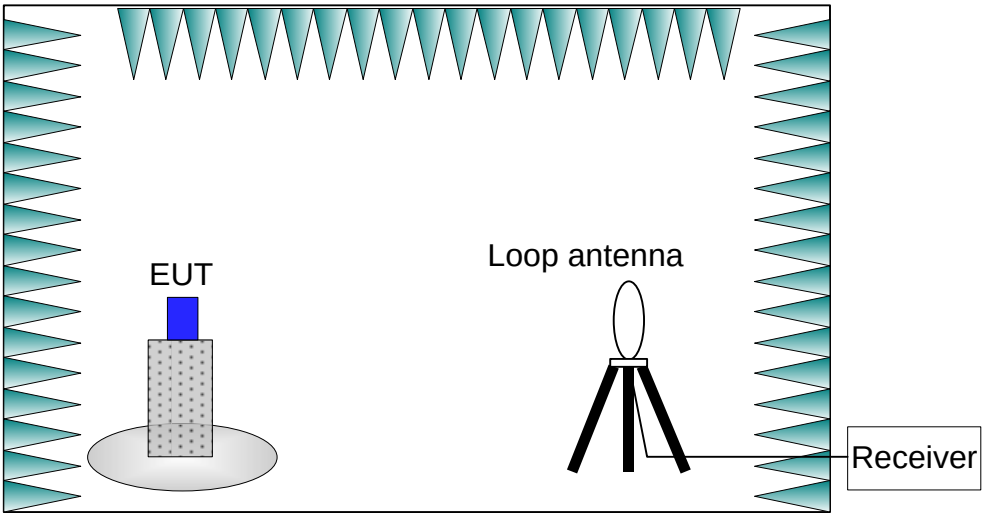


Figure B-3: Measurement Setup

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 ℃.

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: $Extrapolation(dB) = 40\log_{10}(Measurement\ \ Distance/Specification\ \ Distance)$		

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, **PASS**.

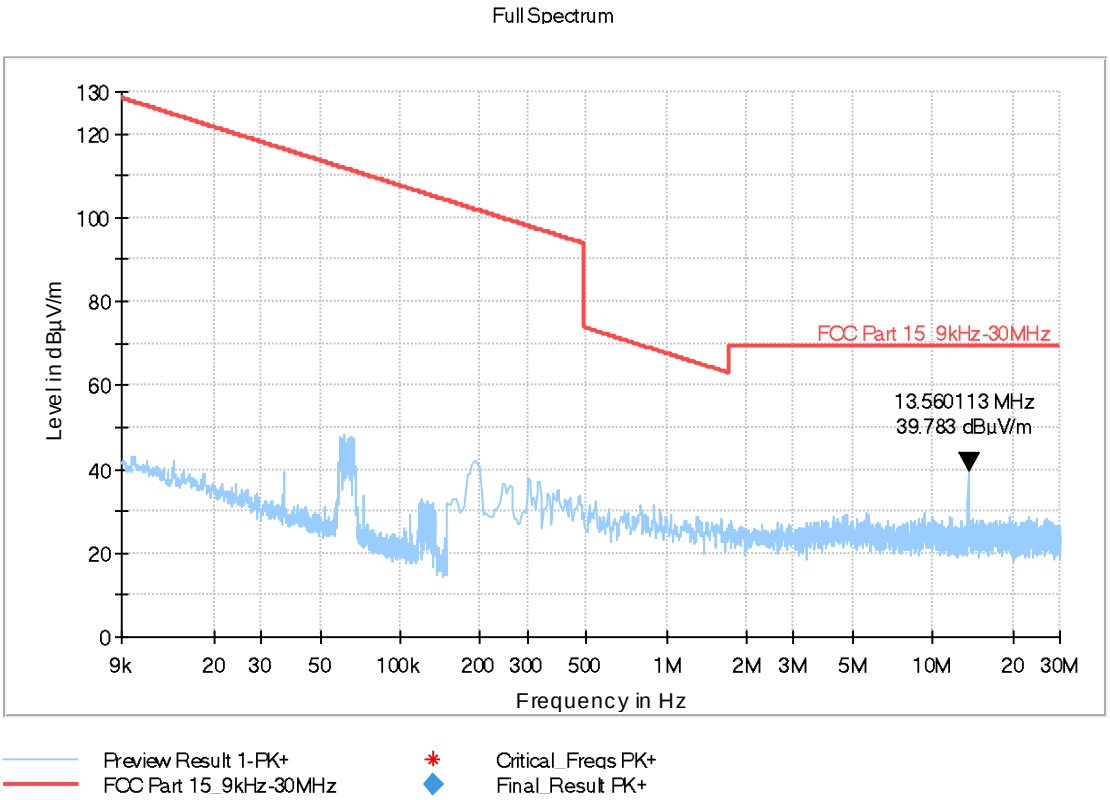


Figure B-4: Measurement results for Electric Field Radiated Emissions (< 30MHz)

B.3. Electric Field Radiated Emissions (≥30MHz)

B.3.1. Reference

See CFR 47 Part 15 § 15.209

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° 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

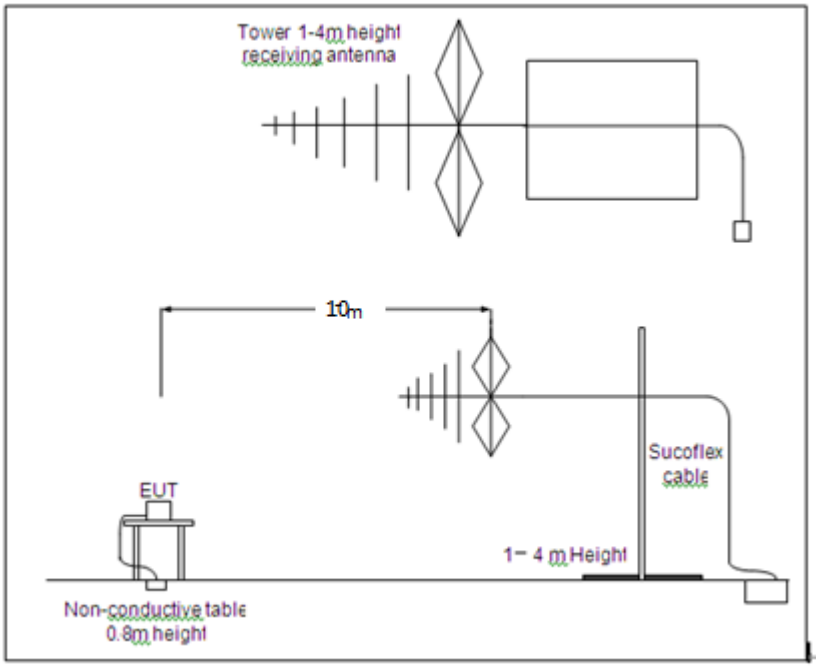


Figure B-5: Measurement Setup

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 ℃.

B.3.4. Limits

Frequency Range (MHz)	E-field Strength Limit @ 3m (mV/m)	E-field Strength Limit @ 3m (dBμV/m)	E-field Strength Limit @ 10m (dBμV/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 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

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

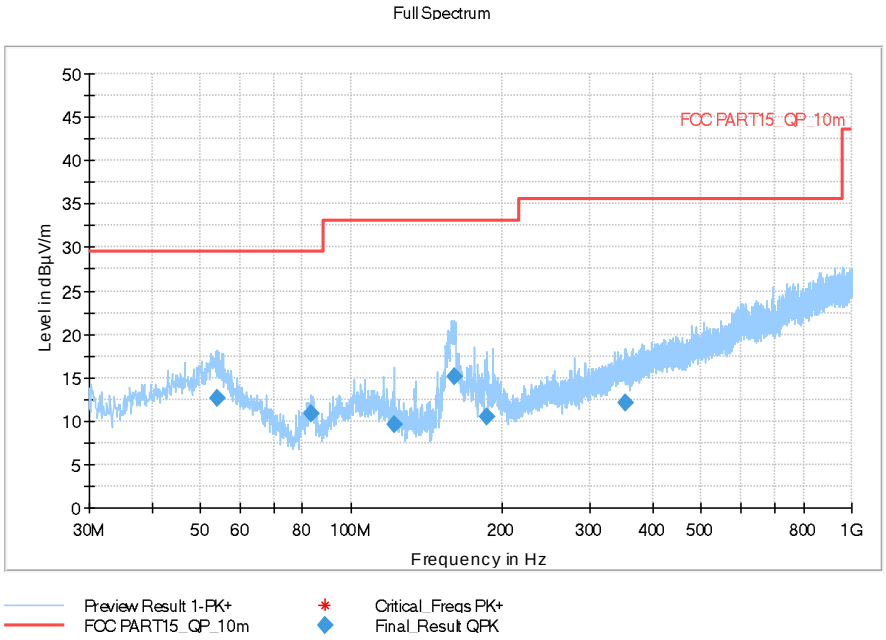


Figure B-6: Measurement results for Electric Field Radiated Emissions (≥30MHz)

Final_Result

Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
53.862000	12.60	29.54	16.94	100.0	V	266.0
83.253000	10.91	29.54	18.63	325.0	V	22.0
121.956000	9.58	33.06	23.48	125.0	V	-31.0
160.465000	15.13	33.06	17.93	222.0	V	151.0
186.364000	10.56	33.06	22.51	107.0	V	253.0
352.719000	12.07	35.56	23.49	202.0	V	293.0

B.4. Frequency Tolerance

B.4.1. Reference

See CFR 47 Part 15 § 15.225(e)

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

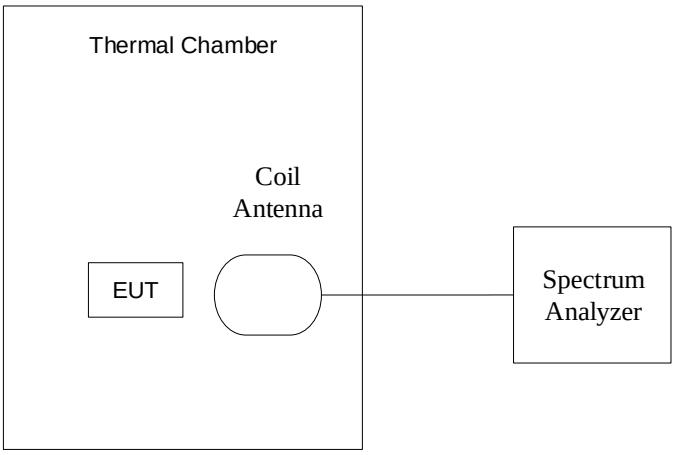


Figure B-7: Measurement Setup

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 3.87V(See 3.1)was used and the temperature was varied from -20℃ to +50℃ in 10℃ increments using an environmental chamber.

b) The 20℃ was used and the voltages were 3.6V, 3.87V and 4.45V (The extreme low voltage ,the normal voltage and the normal voltage defined in section 3.1).

The details were as following:

Table B-3: Combinations of Voltage andTemperature

Test items	Voltage	Temperature
Frequency stability with respect to ambient temperature	3.87 V	-20℃
		-10℃
		0℃
		10℃
		20℃
		30℃

		40℃
		50℃
Frequency stability when varying supply voltage	3.6 V	20℃
	3.87V	
	4.45V	

B.4.4. Test Layouts

See B.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 B-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℃	3.87V	13.560080000	13.560096000	13.560098000	13.560098000
-10℃	3.87V	13.560072000	13.560084000	13.560084000	13.560090000
0℃	3.87V	13.560054000	13.560054000	13.560064000	13.560064000
10℃	3.87V	13.560018000	13.560018000	13.560036000	13.560036000
20℃	3.87V	13.560036000	13.560032000	13.560016000	13.560016000
30℃	3.87V	13.559982000	13.559964000	13.559964000	13.559964000
40℃	3.87V	13.559956000	13.559946000	13.559946000	13.559940000
50℃	3.87V	13.559928000	13.559936000	13.559936000	13.559940000
20℃	3.6V	13.559952000	13.559968000	13.559982000	13.559982000
20℃	4.45V	13.559982000	13.559984000	13.559986000	13.559992000

Temperature	Voltage	Frequency Error (%)			
		Startup	2 Min Later	5 Min Later	10 Min Later
-20℃	3.87V	0.001	0.001	0.001	0.001
-10℃	3.87V	0.001	0.001	0.001	0.001
0℃	3.87V	0.000	0.000	0.000	0.000
10℃	3.87V	0.000	0.000	0.000	0.000
20℃	3.87V	0.000	0.000	0.000	0.000
30℃	3.87V	0.000	0.000	0.000	0.000
40℃	3.87V	0.000	0.000	0.000	0.000
50℃	3.87V	-0.001	0.000	0.000	0.000
20℃	3.6V	0.000	0.000	0.000	0.000
20℃	4.45V	0.000	0.000	0.000	0.000

B.4.7. Measurement Uncertainty

Measurement uncertainty: *U =73 Hz, k=2*

B.5. 20dB Bandwidth

B.5.1. Reference

See CFR 47 Part 15 § 15.215(c)
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 100Hz RBW, 300Hz VBW and 10kHz span.

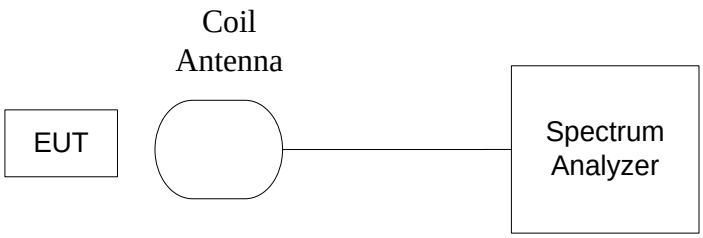


Figure B-8: Measurement Setup

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 ℃.

B.5.4. Test Layouts

See B.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-9.
Conclusions: Set.NFC03, **PASS**.

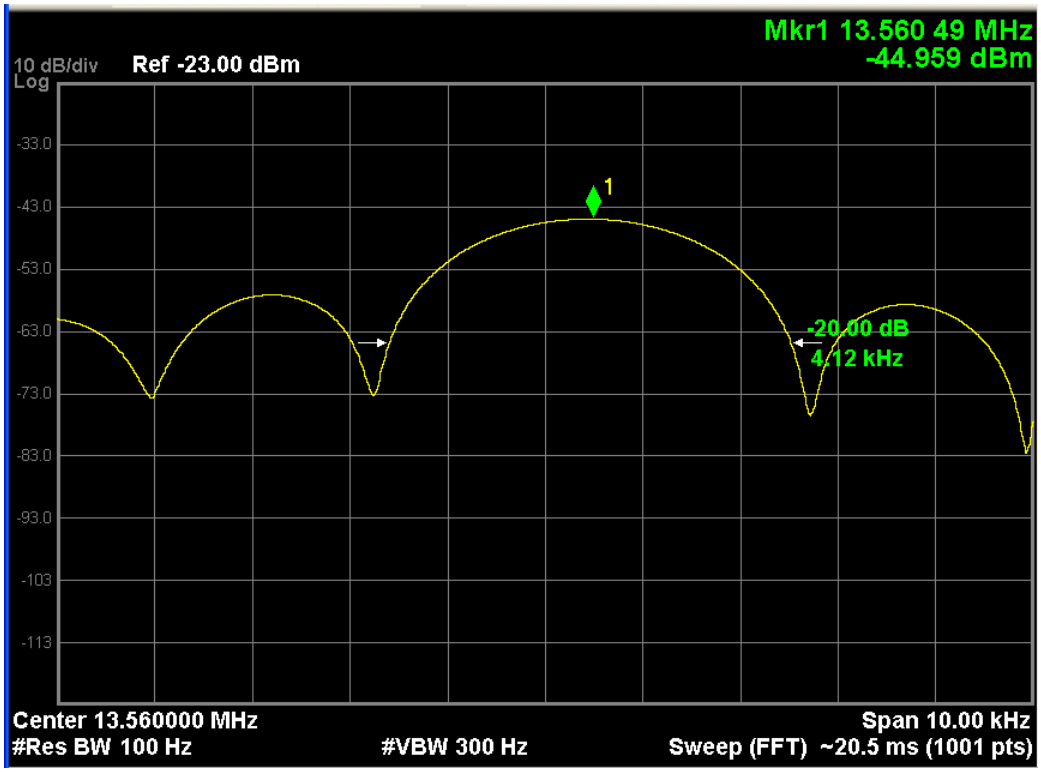


Figure B-9: Measurement results for 20dB Bandwidth

B.5.7. Measurement Uncertainty

Measurement uncertainty: *U* =74 Hz, k=2

B.6. Conducted emission

B.6.1. Reference

See CFR 47 Part 15 § 15.207

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

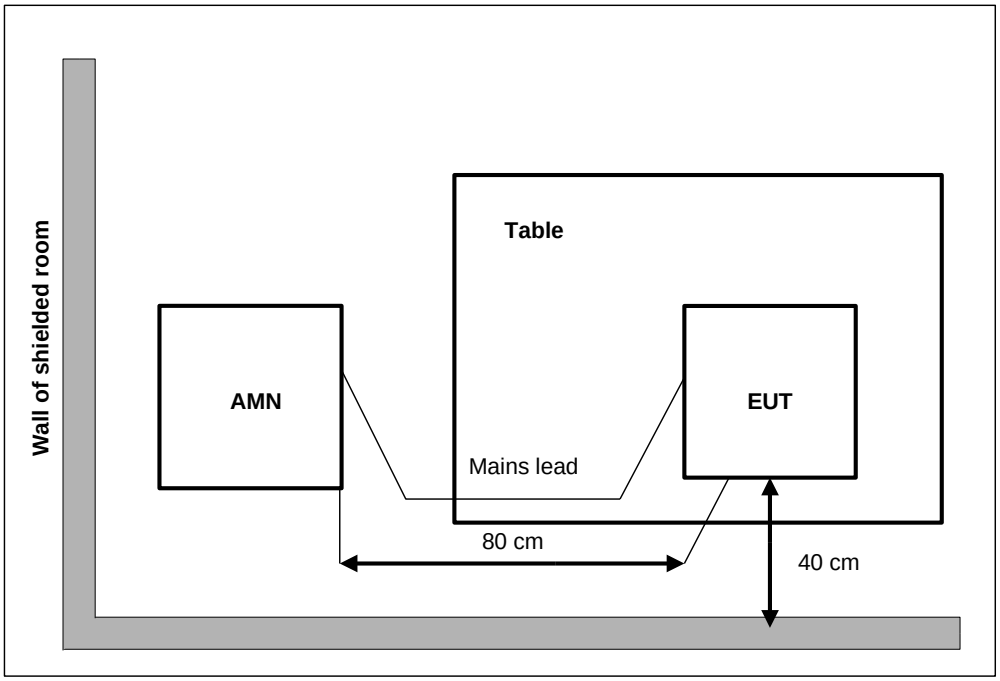


Figure B-10: Measurement Setup

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 ℃.

B.6.4. Limits

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50

B.6.5. Measurement Results

Measurement results see Figure B-11.

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

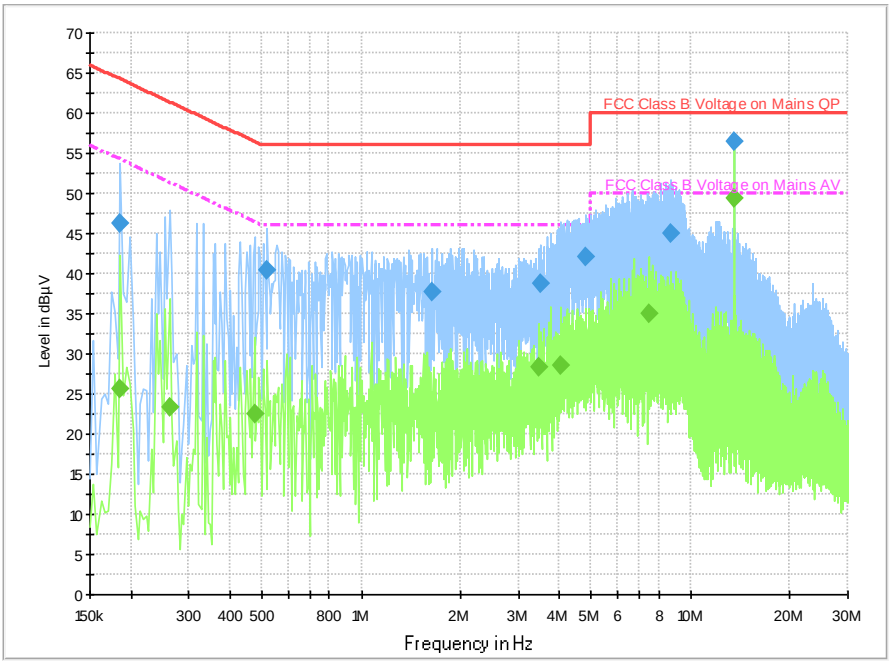


Figure B-11: Measurement results for Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	46.2	2000.0	9.000	On	N	19.7	18.0	64.2
0.518000	40.4	2000.0	9.000	On	N	19.7	15.6	56.0
1.638000	37.6	2000.0	9.000	On	L1	19.6	18.4	56.0
3.506000	38.8	2000.0	9.000	On	L1	19.6	17.2	56.0
4.810000	42.2	2000.0	9.000	On	L1	19.6	13.8	56.0
8.694000	44.9	2000.0	9.000	On	L1	19.7	15.1	60.0
13.558000	56.5	2000.0	9.000	On	L1	19.7	3.5	60.0

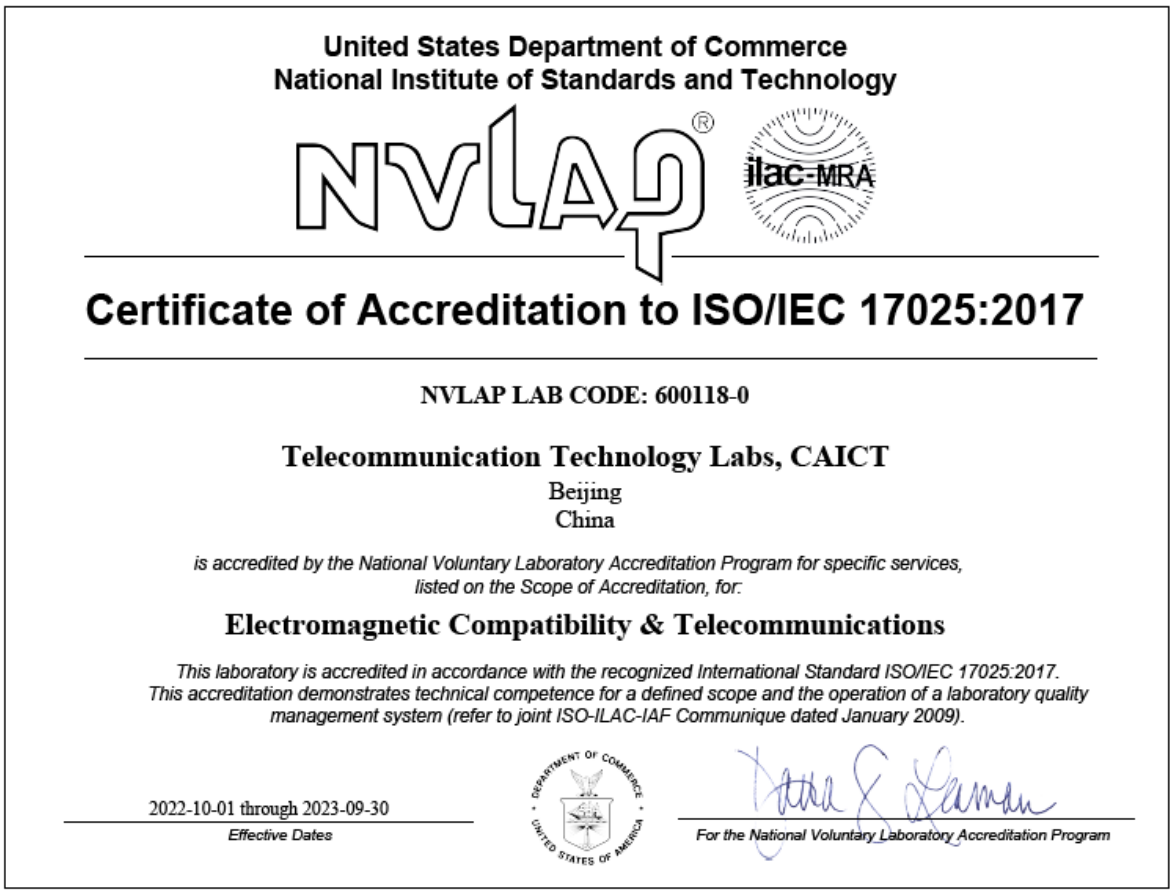
Final Result 2

Frequency (MHz)	CAverage (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	25.6	2000.0	9.000	On	N	19.7	28.7	54.2
0.262000	23.3	2000.0	9.000	On	L1	19.7	28.0	51.4
0.474000	22.5	2000.0	9.000	On	L1	19.7	24.0	46.4
3.478000	28.3	2000.0	9.000	On	L1	19.6	17.7	46.0
4.054000	28.6	2000.0	9.000	On	L1	19.6	17.4	46.0
7.462000	34.9	2000.0	9.000	On	L1	19.6	15.1	50.0
13.562000	49.3	2000.0	9.000	On	L1	19.7	0.7	50.0

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
Electric Field Radiated Emissions (< 30MHz)	Ding Zai
Electric Field Radiated Emissions (≥30MHz)	Zhang Tianli
Conducted Emissions	Li Pengfei

ANNEX D: Accreditation Certificate



United States Department of Commerce
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NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
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China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2022-10-01 through 2023-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

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