TEST REPORT

No. I22Z60151-EMC08

for

Honor Device Co., Ltd.

Smart Phone

Model Name: LGE-NX9

FCC ID: 2AYGCLGE-NX9

with

Hardware Version: HN1LGEHM

Software Version: 6.0.0.108(C900E103R1P3)

Issued Date: 2022-04-20

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.

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
I22Z60151-EMC08	Rev.0	1st edition	2022-04-15
I22Z60151-EMC08	Rev.0	2nd edition	2022-04-20

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 (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

CTTL (BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology Development Area, Beijing, P. R. China 100176

1.3. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.4. Project Data

Testing Start Date: 2022-02-01

Testing End Date: 2022-03-25

1.5. Signature

An Hui

(Prepared this test report)

Zhang Ying

(Reviewed this test report)

Zhang Xia

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Honor Device Co., Ltd.
Address /Post:	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Contact:	/
Email:	/
Telephone:	/

2.2. Manufacturer Information

Company Name:	Honor Device Co., Ltd.
Address /Post:	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Contact:	/
Email:	/
Telephone:	/

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

3.1. About EUT

Description	Smart Phone
Model Name	LGE-NX9
FCC ID	2AYGCLGE-NX9

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version
EUT1	867843050023477/867843050024970	HN1LGEHM	6.0.0.108(C900E103R1P3)
EUT2	867843050056592/867843050057699	HN1LGEHM	6.0.0.108(C900E103R1P3)

*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
AE1-1	Adapter	HN-200500E01
AE1-2	Adapter	HN-200500B01
AE1-3	Adapter	HN-200500U01
AE2-1	USB Cable	L125UC008-CS-H
AE2-2	USB Cable	AU2-CRO015HF
AE2-3	USB Cable	RY0001
AE3-1	Headset	1331-3301-6001-TC-347
AE4-1	Battery	HB586680EFW
AE4-2	Battery	HB586680EFW
AE5-1	Wireless Charging	Power-W06

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

3.4. EUT set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.2-1	EUT1 + AE1-3 + AE2-1	EUT1+Charger
Set.2-2	EUT2 + AE1-3 + AE2-2/AE2-3	EUT2+Charger
Set.3-1	EUT1 + AE3-1	EUTX+Headset(QC)
Set.4-1	EUT1 + AE1-3 + AE2-1+ AE5-1	EUT1+Wireless Charging

4. Reference Documents

4.1. Documents supplied by applicant

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

4.2. Reference Documents for testing

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

Reference	Title	Version
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-20 Edition
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-20 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01

5. Laboratory Environment

Semi-anechoic chamber (22.6 meters ✕ 13.6 meters ✕ 11.0 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C, Max. = 35 ˚C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 M
Ground system resistance	< 4 Ω
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 4000 MHz

6. Summary Of Test Result

GSM850

Items	List	Clause in FCC rules	Verdict
1	Emission Limit	2.1051/22.917	P

EDGE 850

Items	List	Clause in FCC rules	Verdict
1	Emission Limit	2.1051/22.917	P

PCS1900

Items	List	Clause in FCC rules	Verdict
1	Emission Limit	2.1051/24.238	P

EDGE 1900

Items	List	Clause in FCC rules	Verdict
1	Emission Limit	2.1051/24.238	P

Terms used in Verdict column

P	Pass. The EUT complies with the essential requirements in the standard.
NP	Not Performed. The test was not performed by CTTL.
NA	Not Applicable. The test was not applicable.
BR	Re-use test data from basic model report.
F	Fail. The EUT does not comply with the essential requirements in the standard.

7. Measurement Uncertainty

Emission Limit

(k=2)

Frequency Range	Uncertainty(dB)
9kHz-30MHz	/
30MHz ≤ f ≤ 1GHz	5.76
1GHz ≤ f ≤18GHz	4.69
18GHz ≤ f ≤40GHz	3.78

8. Test Equipments Utilized

Description	Type	Series Number	Manufacture	Cal Due Date	Calibration Interval
Universal Radio Communication Tester	CMW500	143008	R&S	2022-12-01	1 year
Spectrum Analyzer	FSV30	101525	R&S	2022-06-02	1 year
Semi-anechoic chamber	FACT10-3.0	/	ETS	2024-03-25	3 years
EMI Antenna	VULB9163	9163-235	Schwarzbeck	2022-04-07	1 year
EMI Antenna	3115	6914	ETS-Lindgren	2023-01-19	1 year
EMI Antenna	3117	00058889	ETS-Lindgren	2022-11-07	1 year
H-field Antenna	HFH2-Z2	829324/007	R&S	2022-12-23	1 year
Signal Generator	N5183A	MY49060052	Agilent	2022-07-11	1 year

Annex A: Measurement Results-Emission Limit

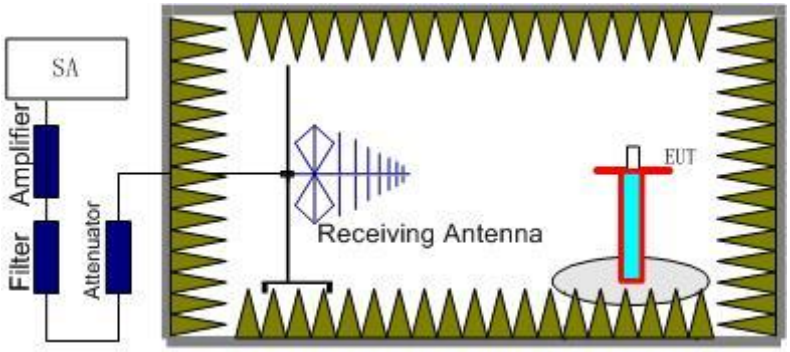
A.1 Measurement Method

The measurement procedures in TIA-603E-2016 are used.

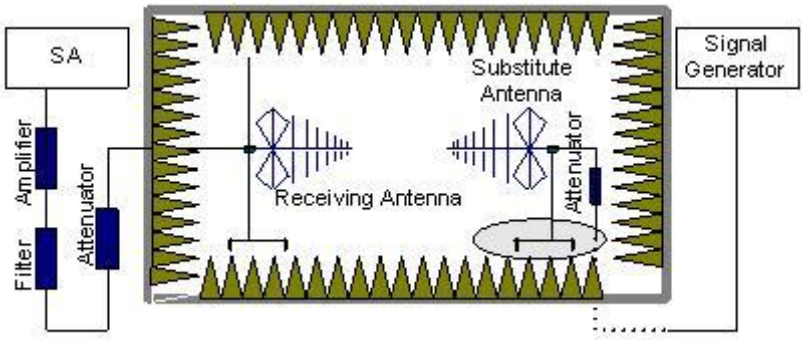
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set as outlined in Part 24.238 and Part 22.917. The spectrum is scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of PCS1900 and GSM850.

The procedure of radiated spurious emissions is as follows:

1. EUT was placed on a 1.5-meter-high non-conductive stand at a 3-meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the

substitution antenna and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss (P_{pl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test.
   A amplifier should be connected in for the test.
   The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.
   The measurement results are obtained as described below:
   Power (EIRP) = P_{Mea} - P_{pl} + G_a
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

A.2 Measurement Limit

Part 22.917 and Part 24.238 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

A.3 Sweep Table

Working Frequency	Subrange (GHz)	RBW	VBW
850MHz	0.03~1	100KHz	300KHz
	1-2	1 MHz	3 MHz
	2~5	1 MHz	3 MHz
	5~8	1 MHz	3 MHz
	8~10	1 MHz	3 MHz
1900MHz	0.03~1	100KHz	300KHz
	1-2	1 MHz	3 MHz
	2~5	1 MHz	3 MHz
	5~8	1 MHz	3 MHz
	8~11	1 MHz	3 MHz
	11~14	1 MHz	3 MHz
	14~18	1 MHz	3 MHz
	18~20	1 MHz	3 MHz

A.4 Measurement Results Table

Explanation of worst-case configuration

The worst-case scenario for all measurements is based on the conducted output power measurement investigation results unless otherwise stated. The test results shown in the following sections represent the worst case emission.

Measurement Results Table

Frequency	Antenna NO.	Set-up NO.	Channel	Frequency Range	Result
GSM 850MHz	ANT0	Set.2-1, Set.2-2, Set.3-1, Set.4-1	Low	30MHz-10GHz	Pass
			Middle	30MHz-10GHz	Pass
			High	30MHz-10GHz	Pass
	ANT2	Set.2-1	Low	30MHz-10GHz	Pass
		Set.2-1	Middle	30MHz-10GHz	Pass
		Set.2-1	High	30MHz-10GHz	Pass
EDGE 850MHz	ANT0	Set.2-1	Low	30MHz-10GHz	Pass
		Set.2-1	Middle	30MHz-10GHz	Pass
		Set.2-1	High	30MHz-10GHz	Pass
	ANT2	Set.2-1	Low	30MHz-10GHz	Pass
		Set.2-1	Middle	30MHz-10GHz	Pass
		Set.2-1	High	30MHz-10GHz	Pass
GSM 1900MHz	ANT1	Set.2-1, Set.2-2, Set.3-1, Set.4-1	Low	30MHz-20GHz	Pass
			Middle	30MHz-20GHz	Pass
			High	30MHz-20GHz	Pass
	ANT3	Set.2-1	Low	30MHz-20GHz	Pass
		Set.2-1	Middle	30MHz-20GHz	Pass
		Set.2-1	High	30MHz-20GHz	Pass
EDGE 1900MHz	ANT1	Set.2-1	Low	30MHz-20GHz	Pass
		Set.2-1	Middle	30MHz-20GHz	Pass
		Set.2-1	High	30MHz-20GHz	Pass
	ANT3	Set.2-1	Low	30MHz-20GHz	Pass
		Set.2-1	Middle	30MHz-20GHz	Pass
		Set.2-1	High	30MHz-20GHz	Pass

Note: All accessory combinations and all antennas were tested，and only the worst results are shown in this report.

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the PCS1900 band (1850.2 MHz, 1880 MHz and 1909.8 MHz) and GSM850 band (824.2MHz, 836.6MHz, 848.8MHz). It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the PCS1900 ,GSM850 into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.
The range of evaluated frequency is from 9 kHz to the tenth harmonic of the highest fundamental frequency. Measurement value show only up to 6 maximum emissions noted.

Set.2-2, Ant 0

GSM Mode Channel 128/824.2MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1638.01	-51.24	3.56	5.25	2.15	-51.70	-13.00	38.70	H
2486.00	-45.40	4.61	6.06	2.15	-46.10	-13.00	33.10	H
3309.02	-58.27	5.29	7.74	2.15	-57.97	-13.00	45.00	H
4118.02	-54.58	6.04	9.02	2.15	-53.75	-13.00	40.70	V
4947.01	-54.17	6.69	9.85	2.15	-53.16	-13.00	40.20	H
5760.01	-52.99	7.25	10.55	2.15	-51.84	-13.00	38.80	H

GSM Mode Channel 190/836.6MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1654.01	-52.50	3.57	5.22	2.15	-53.00	-13.00	40.00	H
2524.00	-43.19	4.65	6.14	2.15	-43.85	-13.00	30.90	H
3357.02	-56.76	5.32	7.86	2.15	-56.37	-13.00	43.40	V
4174.02	-55.54	6.15	9.07	2.15	-54.77	-13.00	41.80	V
5032.01	-54.02	6.58	9.94	2.15	-52.81	-13.00	39.80	V
5875.01	-52.64	7.31	10.52	2.15	-51.58	-13.00	38.60	V

GSM Mode Channel 251/848.8MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1686.01	-52.79	3.59	5.17	2.15	-53.36	-13.00	40.40	H
2548.00	-43.07	4.67	6.19	2.15	-43.70	-13.00	30.70	H
3406.02	-57.89	5.37	7.97	2.15	-57.44	-13.00	44.40	V
4228.02	-55.19	6.26	9.13	2.15	-54.47	-13.00	41.50	V
5074.01	-53.72	6.70	10.00	2.15	-52.57	-13.00	39.60	H
5961.01	-52.06	7.47	10.51	2.15	-51.17	-13.00	38.20	V

Note: The measurement results showed here are worst cases.

Set.2-1, Ant 2

EDGE Mode Channel 128/824.2MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1638.01	-51.78	3.56	5.25	2.15	-52.24	-13.00	39.20	H
2478.00	-45.30	4.60	6.03	2.15	-46.02	-13.00	33.00	H
3291.02	-58.28	5.29	7.70	2.15	-58.02	-13.00	45.00	V
4112.02	-55.49	6.04	9.01	2.15	-54.67	-13.00	41.70	V
4958.01	-53.32	6.68	9.86	2.15	-52.29	-13.00	39.30	H
5764.01	-52.99	7.24	10.55	2.15	-51.83	-13.00	38.80	H

EDGE Mode Channel 190/836.6MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1654.01	-52.50	3.57	5.22	2.15	-53.00	-13.00	40.00	H
2524.00	-43.19	4.65	6.14	2.15	-43.85	-13.00	30.90	H
3357.02	-56.76	5.32	7.86	2.15	-56.37	-13.00	43.40	V
4174.02	-55.54	6.15	9.07	2.15	-54.77	-13.00	41.80	V
5032.01	-54.02	6.58	9.94	2.15	-52.81	-13.00	39.80	V
5875.01	-52.64	7.31	10.52	2.15	-51.58	-13.00	38.60	V

EDGE Mode Channel 251/848.8MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1704.01	-52.91	3.60	5.13	2.15	-53.53	-13.00	40.50	H
2556.00	-43.64	4.67	6.20	2.15	-44.26	-13.00	31.30	H
3406.02	-58.12	5.37	7.97	2.15	-57.67	-13.00	44.70	H
4239.02	-55.40	6.25	9.14	2.15	-54.66	-13.00	41.70	H
5084.01	-53.54	6.73	10.02	2.15	-52.40	-13.00	39.40	V
5948.01	-51.93	7.47	10.51	2.15	-51.04	-13.00	38.00	H

Note: The measurement results showed here are worst cases.

Set.2-1, Ant 1

GSM Mode Channel 512/1850.2MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3705.02	-56.89	6.42	8.49	-54.82	-13.00	41.82	H
5544.02	-55.92	7.18	10.59	-52.51	-13.00	39.51	V
7405.01	-52.82	8.13	12.09	-48.86	-13.00	35.86	H
9259.01	-51.33	9.06	13.26	-47.13	-13.00	34.13	V
11096.01	-48.60	9.84	13.18	-45.26	-13.00	32.26	V
12960.01	-47.80	10.48	13.48	-44.80	-13.00	31.80	H

GSM Mode Channel 661/1880.0MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3750.02	-56.98	6.29	8.55	-54.72	-13.00	41.72	V
5646.02	-54.66	7.27	10.57	-51.36	-13.00	38.36	V
7518.01	-50.77	8.32	12.21	-46.88	-13.00	33.88	H
9410.01	-51.70	9.09	13.35	-47.44	-13.00	34.44	H
11266.01	-47.76	9.79	13.15	-44.40	-13.00	31.40	H
13156.01	-45.11	10.69	13.72	-42.08	-13.00	29.08	H

GSM Mode Channel 810/1909.8MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3821.02	-58.74	6.07	8.65	-56.16	-13.00	43.16	H
5726.02	-55.33	7.30	10.55	-52.08	-13.00	39.08	H
7630.01	-53.77	8.11	12.30	-49.58	-13.00	36.58	V
9539.01	-52.51	9.40	13.36	-48.55	-13.00	35.55	V
11467.01	-48.38	9.90	13.11	-45.17	-13.00	32.17	V
13361.01	-44.69	10.57	14.01	-41.25	-13.00	28.25	V

Note: The measurement results showed here are worst cases.

Set.2-1, Ant 3

EDGE Mode Channel 512/1850.2MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3697.02	-58.12	6.43	8.48	-56.07	-13.00	43.07	V
5550.02	-55.83	7.18	10.59	-52.42	-13.00	39.42	H
7397.01	-52.77	8.12	12.08	-48.81	-13.00	35.81	V
9250.01	-51.41	9.04	13.25	-47.20	-13.00	34.20	V
11101.01	-48.24	9.83	13.18	-44.89	-13.00	31.89	V
12945.01	-47.24	10.49	13.47	-44.26	-13.00	31.26	V

EDGE Mode Channel 661/1880.0MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3750.02	-57.75	6.29	8.55	-55.49	-13.00	42.49	V
5645.02	-55.45	7.27	10.57	-52.15	-13.00	39.15	V
7508.01	-52.51	8.36	12.21	-48.66	-13.00	35.66	V
9391.01	-51.40	9.05	13.33	-47.12	-13.00	34.12	H
11287.01	-47.33	9.92	13.14	-44.11	-13.00	31.11	V
13155.01	-45.61	10.69	13.72	-42.58	-13.00	29.58	V

EDGE Mode Channel 810/1909.8MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3815.02	-58.99	6.09	8.64	-56.44	-13.00	43.44	H
5722.02	-55.14	7.30	10.56	-51.88	-13.00	38.88	H
7649.01	-54.31	8.20	12.32	-50.19	-13.00	37.19	H
9546.01	-52.43	9.38	13.35	-48.46	-13.00	35.46	H
11457.01	-48.73	9.92	13.11	-45.54	-13.00	32.54	V
13365.01	-44.42	10.57	14.01	-40.98	-13.00	27.98	H

Note: The measurement results showed here are worst cases.

Annex B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP® ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
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).

2020-09-29 through 2021-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

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