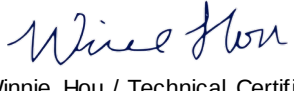


Prüfbericht-Nr.: <i>Test report No.:</i>	60381593 002	Auftrags-Nr.: <i>Order No.:</i>	168266209	Seite 1 von 14 <i>Page 1 of 14</i>
Kunden-Referenz-Nr.: <i>Client reference No.:</i>	N/A	Auftragsdatum: <i>Order date.:</i>	22.05.2020	
Auftraggeber: <i>Client:</i>	Hangzhou Hikvision Digital Technology Co., Ltd. No. 555 Qianmo Road, Binjiang District, Hangzhou, 310052 Zhejiang, P.R. China			
Prüfgegenstand: <i>Test item:</i>	Fingerprint Access Control Terminal			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	DS-K1T201AMF, DS-K1T201AMFUHK, DS-K1T201AMFCKV, DS-K1T201AMFUVS, DS-K1T201AMFKVO, DS-K1T201AMFHUN (Trademark: HIKVISION)			
Auftrags-Inhalt: <i>Order content:</i>	FCC approval			
Prüfgrundlage: <i>Test specification:</i>	CFR47 FCC Part 15: Subpart C Section 15.225			
Wareneingangsdatum: <i>Date of receipt:</i>	27.05.2020	Please refer to photo documents		
Prüfmuster-Nr.: <i>Test sample No.:</i>	A002831817-002			
Prüfzeitraum: <i>Testing period:</i>	27.05.2020 - 10.06.2020			
Ort der Prüfung: <i>Place of testing:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
 15.06.2020 Ryan Yang / Assistant Project Manager		 15.06.2020 Winnie Hou / Technical Certifier		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>
Sonstiges / Other:				
This report is for FCC Part 15C(Conducted) of RFID requirements only.				
Refer to STS report STS2005284W04 for details of FCC Part 15C(Radiated) of RFID requirements.				
FCC ID: 2ADTD-K1T201AMF				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged:</i>		
* Legende: 1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar	5 = mangelhaft N/T = nicht getestet
Legend: 1 = very good P(ass) = passed a.m. test specifications(s)	2 = good F(ail) = failed a.m. test specifications(s)	3 = satisfactory F(ail) = failed a.m. test specifications(s)	4 = sufficient N/A = not applicable	5 = poor N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.				
<i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

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Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 20dB BANDWIDTH

RESULT: Pass

5.1.3 FREQUENCY TOLERANCE

RESULT: Pass

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:
None.

2 Test Sites

2.1 Test Facilities

TÜV Rheinland (Shenzhen) Co., Ltd.

362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China

FCC Accreditation Designation No.: CN1260

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

TÜV Rheinland (Shenzhen) Co., Ltd.

Radio Spectrum Testing (TS8997)				
Equipment	Manufacturer	Model No.	Serial No.	Cal. Until
Signal Analyzer	R&S	FSV 40	101441	20.08.2020

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

Parameter	Uncertainty
Radio Frequency	$\pm 1 \times 10^{-7}$
Temperature	$\pm 1^\circ\text{C}$
Humidity	$\pm 5\%$
Voltage (DC)	$\pm 1\%$
Voltage (AC, <10kHz)	$\pm 2\%$

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) Co., Ltd. file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at 362 Huanguan Road Middle Longhua District, Shenzhen 518110 People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3 General Product Information

3.1 Product Function and Intended Use

The EUT is an optical fingerprint access control terminal with multiple advanced technologies including fingerprint recognition, Wi-Fi 802.11 b/g/n, card recognition(RFID), 2.8-inch LCD display screen. It is equipped with optical fingerprint recognition module, and supports offline operation.

According to the declaration of the applicant, the electrical circuit design, PCB layout and components used are identical for all models, only the model number is different.

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment	Fingerprint Access Control Terminal
Type Designation	DS-K1T201AMF, DS-K1T201AMFUHK, DS-K1T201AMFCKV, DS-K1T201AMFUVS, DS-K1T201AMFKVO, DS-K1T201AMFHUN
Trademark	HIKVISION
FCC ID	2ADTD-K1T201AMF
Operating Voltage	DC 12.0V@1.5A input via AC/DC adapter
Testing Voltage	AC 120V@60Hz
Technical Specification of RFID	
Operating Frequency	13.56 MHz
Type of Modulation	ASK
Channel Number	1 channel
Antenna Type	Loop antenna
Antenna Gain	0 dBi

3.3 Independent Operation Modes

The basic operation modes are:

- A. On, RFID wireless transmitting mode
- B. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- FCC/IC Label and Location Info

- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All tests were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model *DS-K1T201AMF* in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 3: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Rating
Adapter	HOIOTO	ADS-26FSG-12 12018EPG	1.5m	Input: 100-240V ~ 50/60Hz 0.7A Output: 12V/1.5A

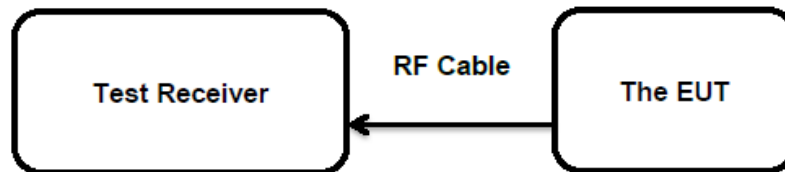
4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Conducted Transmitter Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:**Pass****Test Specification**

Test standard : FCC Part 15.203

According to the manufacturer declared, the EUT has an air coil antenna , the directional gain of antenna of RFID is 0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 20dB Bandwidth

RESULT:
Pass

Test Specification

Test standard : FCC Part 15.215 (c)
 Basic standard : ANSI C63.10: 2013
 Limits : N/A
 Kind of test site : Shielded Room

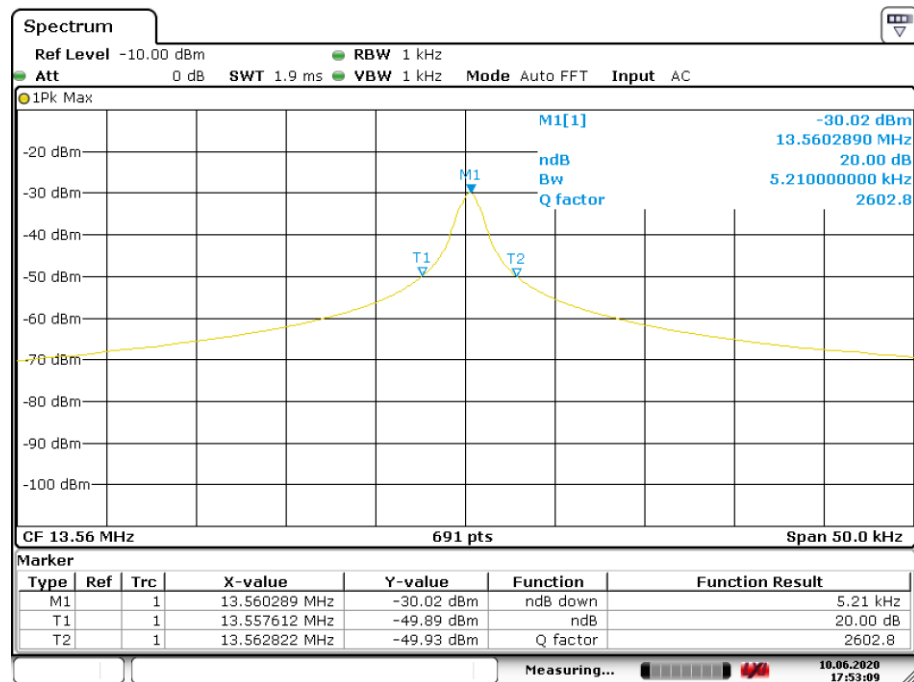
Test Setup

Date of testing : 10.06.2020
 Input voltage : AC 120V@60Hz
 Operation mode : A
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

For details refer to following test result.

Table 4: Test Result of 20dB Bandwidth

Test Frequency (MHz)	20dB Bandwidth (KHz)	F _L (MHz)	F _H (MHz)	Limit (MHz)	Result
13.56	5.21	13.557612	13.562822	13.553-13.567	Pass



Date: 10.JUN.2020 17:53:09

5.1.3 Frequency Tolerance

RESULT:
Pass
Test Specification

Test standard : FCC Part 15.225 (e)
 Basic standard : ANSI C63.10: 2013
 Limits : 1.356 KHz
 Kind of test site : Shielded Room

Test Setup

Date of testing : 05.06.2020
 Input voltage : AC 120V@60Hz
 Operation mode : A
 Ambient temperature : 25 °C
 Relative humidity : 56 %
 Atmospheric pressure : 101 kPa

For details refer to following test result.

Table 5: Test Result of Frequency Tolerance

Test Frequency (MHz)	Test Conditions		Test Results (KHz)	Deviation (KHz)	Limit (KHz)	Result
	Temp(°C)	Volt(V AC)				
13.56	-20	120	13560753	0.00554	±0.01% (1.356 KHz)	Pass
	-10	120	13560753	0.00555		Pass
	0	120	13560753	0.00555		Pass
	10	120	13560754	0.00555		Pass
	20	120	13560751	0.00556		Pass
	30	120	13560754	0.00554		Pass
	40	120	13560753	0.00556		Pass
	50	120	13560752	0.00555		Pass
	20	102	13560750	0.00553		Pass
		138	13560751	0.00554		Pass

Note: Deviation (kHz) = (Test Result-13.56MHz)*1000

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