

1 Cover Page

RF Exposure Evaluation Report

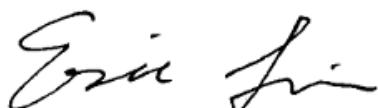
Application No.: KSCR2112000309AT
FCC ID: 2ADTD-M040316312
Applicant: Hangzhou Hikvision Digital Technology Co.,Ltd.
Address of Applicant: No. 555, Qianmo Road, Binjiang District, Hangzhou
Manufacturer: Hangzhou Hikvision Digital Technology Co.,Ltd.
Address of Manufacturer: No. 555, Qianmo Road, Binjiang District, Hangzhou
Factory: 1.Hangzhou Hikvision Electronics Co., Ltd.
 2.Hangzhou Hikvision Technology Co., Ltd.
 3.CHONGQING HIKVISION TECHNOLOGY CO.,LTD.
Address of Factory: 1.No.299, Qiushi Road, Tonglu Economic Development Zone, Tonglu County, Hangzhou, Zhejiang
 2.No.700 Dongliu Road, Binjiang District, Hangzhou 310052, China
 3.No. 118, Haikang Road, Area C, Jianqiao Industrial Park, Dadukou District, Chongqing, 401325, China

Equipment Under Test (EUT):

EUT Name: Multi IO Transmitter
Model No.: DS-PM1-I16O2-WA,DS-PM1-I16O2-WAUHK,DS-PM1-I16O2-WACKV,
 DS-PM1-I16O2-WAUVS,DS-PM1-I16O2-WAKVO,DS-PM1-I16O2-
 WAHUN
Trade mark: HIKVISION
Standard(s) : FCC Rules 47 CFR §2.1091
Date of Receipt: 2021-12-13
Date of Test: 2021-12-13 to 2021-12-24
Date of Issue: 2021-12-31

Test Result:	Pass*
---------------------	--------------

* In the configuration tested, the EUT complied with the standards specified above.



Eric Lin
Laboratory Manager



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

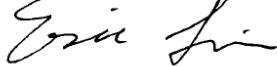
No.10, Weiyi Road, Innovation Park, Kunshan, Jiangsu, China 215300

中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

t(86-512)57355888 f(86-512)57370818 www.sgsgroup.com.cn

t(86-512)57355888 f(86-512)57370818 sgs.china@sgs.com

Revision Record			
Version	Description	Date	Remark
00	Original	2021-12-31	/

Authorized for issue by:				
		Damon Zhou		
		Damon Zhou / Project Engineer		
				
		Eric Lin / Reviewer		

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com



No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300
中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

|(86-512)57355888 f|(86-512)57370818 www.sgsgroup.com.cn
|(86-512)57355888 f|(86-512)57370818 sgs.china@sgs.com

2 Contents

	Page
1 COVER PAGE	1
2 CONTENTS	3
3 GENERAL INFORMATION	4
3.1 GENERAL DESCRIPTION OF E.U.T.	4
3.2 TECHNICAL SPECIFICATIONS	4
3.3 TEST LOCATION	5
3.4 TEST FACILITY	5
4 TEST STANDARDS AND LIMITS	6
4.1 FCC RADIOFREQUENCY RADIATION EXPOSURE LIMITS:	6
5 MEASUREMENT AND CALCULATION	7
5.1 MAXIMUM TRANSMIT POWER	7
5.2 MPE CALCULATION	7



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed or made available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Trans-Doc.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com

No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300
中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

+(86-512)57355888 +(86-512)57370818 www.sgsgroup.com.cn
+(86-512)57355888 +(86-512)57370818 sgs.china@sgs.com

3 General Information

3.1 General Description of E.U.T.

Power supply:	100-240V ~ 50/60Hz
---------------	--------------------

3.2 Technical Specifications

915MHz

Operation Frequency:	912.5MHz ~ 917.4MHz
Number of Channels:	50
Channel Spacing:	100kHz
Modulation Type:	FSK
Spectrum Spread:	Frequency Hopping Spread Spectrum (FHSS)
Antenna Gain:	2.45dBi (Provided by manufacturer)
Antenna Type:	PCB Antenna

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed on demand, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Trans-Doc.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com



No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300
中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

|(86-512)57355888 |(86-512)57370818 |www.sgsgroup.com.cn
|(86-512)57355888 |(86-512)57370818 |sgs.china@sgs.com

3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L4354)**

CNAS has accredited Compliance Certification Services (Kunshan) Inc. to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC (Designation Number: CN1172)**

Compliance Certification Services Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED (CAB identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

- **VCCI (Member No.: 1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600,C-11707, T-11499, G-10216 respectively.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed on demand, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [http://www.sgs.com/en/Terms-and-Conditions.aspx](http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions.aspx). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com

No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300
中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

+(86-512)57355888 +(86-512)57370818 www.sgsgroup.com.cn
+(86-512)57355888 +(86-512)57370818 sgs.china@sgs.com

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed or made available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Trans-Doc-01.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com



No.10, Weiye Road, Innovation Park, Kunshan, Jiangsu, China 215300
中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

(86-512)57355888 (86-512)57370818 www.sgsgroup.com.cn
(86-512)57355888 (86-512)57370818 sgs.china@sgs.com

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR211200030901

Test Mode	Channel	Antenna Power[dBm]	Antenna Power[mW]
FSK	912.5	6.95	4.95
	917.4	6.60	4.57

5.2 MPE Calculation

According to the formula $S=P/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) R = distance to the center of radiation of antenna (in meter) = 20cm
- 3) For 912.5MHz ~ 917.4MHz, MPE limit: $912.5\text{MHz} / 1500 = 0.608\text{mW/cm}^2$

The max. antenna gain is		2.45	dBi		
Max. Conducted Power P(mW)	Gain in Linear Scale G	Operation Distance R(cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Result
4.95	1.758	20	0.00173	0.608	Pass

According to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

--End of the Report--



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed on demand, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-Documents.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdictional issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com

No.10, Weiyi Road, Innovation Park, Kunshan, Jiangsu, China 215300
中国·江苏·昆山市留学生创业园伟业路10号 邮编 215300

+(86-512)57355888 +(86-512)57370818 www.sgsgroup.com.cn
+(86-512)57355888 +(86-512)57370818 sgs.china@sgs.com