EMC Test Report

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Applicant: Hangzhou Hikvision Digital Technology Co.,Ltd.

Product: Digital Video Recorder

Model: Refer to page 4

In accordance with EN 50130-4, EN 55032, EN 61000-3-2, EN 61000-3-3 and EN 55024

Prepared for: Hangzhou Hikvision Digital Technology Co.,Ltd
No.555 Qianmo Road Binjiang District 310052 Hangzhou, Zhejiang, PEOPLE'S REPUBLIC OF CHINA.

COMMERCIAL-IN-CONFIDENCE

Report Number: 4842019220300

RESPONSIBLE FOR	NAME	SIGNATURE	DATE
Approved By	Jun Bao	Jun Bao	2019.7.2
Prepared By	Peng Liu		02.07.2019

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD Product Service control rules.

EXECUTIVE SUMMARY
A sample of this product was tested and found to be compliant with EN 50130-4:2011/A1:2014, EN 50130-4:2011, EN 55032:2015, EN 55032:2012, EN 61000-3-2:2014, EN 61000-3-3:2013 and EN 55024:2010.

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Revision:01
Effective:2019-06-25

Contents

1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	01/07/2019

1.2 Introduction

The information contained in this report is intended to show verification of the EMC Qualification Approval Testing of the requirements of the standards for the tests listed in Section 1.3.

Applicant	Hangzhou Hikvision Digital Technology Co.,Ltd
address	No.555 Qianmo Road Binjiang District 310052 Hangzhou, Zhejiang, PEOPLE'S REPUBLIC OF CHINA
Manufacturer	Hangzhou Hikvision Digital Technology Co.,Ltd.
address	No.555 Qianmo Road Binjiang District 310052 Hangzhou, Zhejiang, PEOPLE'S REPUBLIC OF CHINA
Factory	Hangzhou Hikvision Electronics Co., Ltd. Hangzhou Hikvision Technology Co., Ltd. Chongqing Hikvision Technology CO., Ltd.
Model Number(s)	iDS-7208HQHI-M1/S, iDS-7208HQHI-M1/S/UHK, iDS-7208HQHI-M1/S/CKV, iDS-7208HQHI-M1/S/UVS, iDS-7208HQHI-M1/S/KVO, iDS-7208HQHI-M1/S/HUN, iDS-7208HQHI-M1/S/A, iDS-7208HQHI-K1/4S
Rated input voltage/ frequency	DC 12 V, with power adapter (AC 100-240V 50/60Hz)
Number of Samples Tested	1
Test Specification	EN 50130-4:2011/A1:2014, EN 50130-4:2011, EN 55032:2015, EN 55032:2012, EN 61000-3-2:2014, EN 61000-3-3:2013 and EN 55024:2010
Date of Receipt of EUT	09/06/2019
Start of Test	10/06/2019
Finish of Test	17/06/2019
Name of Engineer(s)	Peng Liu

1.3 Brief Summary of Results

A brief summary of the tests carried out in accordance with EN 50130-4, EN 55032, EN 61000-3-2, EN 61000-3-3 is shown below.

Section	Specification	Clause	Test Description	Result	Comments/Base Standard
AC Powered, Power on with adapter					
2.1	EN 55032:2015 &EN 55032:2012	Annex A.3	Conducted Emissions at Mains Power Ports	Pass	
2.2	EN 55032:2015 &EN 55032:2012	Annex A.3	Conducted Emissions at Communication Ports	Pass	
2.3	EN 55032:2015 &EN 55032:2012	Annex A.2	Radiated Emissions	Pass	
	EN 61000-3-2:2014	7	Harmonic current emission	N/A	
2.4	EN 61000-3-3:2013	6	Flicker	Pass	
2.5	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 3, 10& Table 1, 1.3	Enclosure Port - Electrostatic discharge	Pass	EN 61000-4-2
2.6	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 4, 10& Table 1, 1.2	Enclosure Port - Radio-frequency electromagnetic field Amplitude modulated	Pass	EN 61000-4-3
2.7	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 6, 10& Table 4, 4.5	AC Power Port - Electrical fast transient	Pass	EN 61000-4-4
2.8	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 7, 10& Table 4, 4.4	AC Power Port - Surges	Pass	EN 61000-4-5
2.9	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 5, 10& Table 4, 4.1	Radio-frequency continuous conducted	Pass	EN 61000-4-6
	EN 55024:2010	Table 1, 1.1	Enclosure Port - Power-frequency magnetic field	N/A	
2.10	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 2&10 Table 4, 4.2,4.3	AC Power port - Voltage dips, interruptions	Pass	EN 61000-4-11
2.11	EN 50130-4:2011/A1:2014	Table 1	Mains supply voltage variations	Pass	EN 50130-4
2.12	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 5,10& Table 2, 2.1	Signal Port - Radio-frequency continuous conducted	Pass	EN 61000-4-6
2.13	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 7,10& Table 2, 2.2	Signal Port - Surges	Pass	EN 61000-4-5
2.14	EN 50130-4:2011/A1:2014 & EN 55024:2010	Table 6,10& Table 2, 2.3	Signal Port - Electrical fast transient	Pass	EN 61000-4-4

Remarks:

1.There is no requirement to do Harmonic Current Emissions test for equipment with a rated power of 75 W or less according to the standard of EN 61000-3-2:2014.

2. There is no device sensitive to magnetic fields in the EUT, so it was not applicable for power frequency magnetic field.

1.4 Product Information

1.4.1 Technical Description

The Equipment Under Test (EUT) was Digital Video Recorder.Due to the fact that all models have the same electric construction. So only model iDS-7208HQHI-M1/S was tested.

1.4.2 EUT Port/Cable Identification

Port	Max Cable Length specified	Usage	Type	Screened
AC Powered, Power on with adapter				
AC Power Port	1.5m	Power line	3core	No
LAN Port	> 3m	Notebook	--	No
BNC Port	> 3m	Digital Camera	--	--
HDMI Port	2m	Monitor		--
VGA Port	2m	Monitor		--
Audio Port	2m	Audio		--
USB Port	2m	USB		--

1.4.3 Test Configuration

Configuration	Description
AC Powered (with power adapter)	Keep EUT monitoring and data running continual, recording video during the test.

1.4.4 Modes of Operation

Mode	Description
Mode a:	Typical configuration: Keep EUT monitoring and data running continual, recording video during the test. Powered by power MSA-C1500IC12.0-18P-DE
Mode b:	Typical configuration: Keep EUT monitoring and data running continual, recording video during the test. Powered by power ADS-26FSG-12 12018EPG.
Mode c:	Typical configuration: Keep EUT monitoring and data running continual, recording video during the test. Powered by power TS-A018-120015AD

1.4.5 Monitoring of Performance

The EUT works normally.

1.4.6 Performance Criteria

Performance criterion A: During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer, when the EUT is used as intended. The minimum performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonable expect from the EUT if used as intended.

Performance criterion B: After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance.
During the test, degradation of performance is allowed, however, no change of operating state or stored data is allowed to persist after test.
If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.

Performance criterion C: During and after testing, a temporary loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls or cycling of the power to the EUT by the user in accordance with the manufacturer's instruction.
Functions, and/or information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

1.5 Deviations from the Standard

No deviations from the applicable test standard were made during testing.

1.6 Test Location

Hangzhou Hikvision Digital Technology Co.,Ltd.

Address: No.555 Qianmo Road Binjiang District 310052 Hangzhou, Zhejiang,PEOPLE'S REPUBLIC OF CHINA

Test Name	Name of Engineer(s)
AC Powered, Power on with adapter	
Conducted Emissions at Mains Power Ports	Yanfei Wang
Conducted Emissions at Communication Ports	Yanfei Wang
Radiated Emissions	Yanfei Wang
Flicker	Yanfei Wang
Enclosure Port - Electrostatic discharge	Yanfei Wang
Enclosure Port - Radio-frequency electromagnetic field Amplitude modulated	Yanfei Wang
AC Power Port - Electrical fast transient	Yanfei Wang
AC Power Port - Surges	Yanfei Wang
AC Power Port - Radio-frequency continuous conducted	Yanfei Wang
AC Power port - Voltage dips, interruptions	Yanfei Wang
Mains supply voltage variations	Yanfei Wang
Signal Port - Radio-frequency continuous conducted	Yanfei Wang
Signal Port - Surges	Yanfei Wang
Signal Port - Electrical fast transient	Yanfei Wang

2 Test Details

2.1 Conducted Emissions at Mains Power Ports

2.1.1 Specification Reference

EN 55032:2015, Clause Annex A.3
EN 55032:2015, Clause Annex A.1

2.1.2 Equipment Under Test

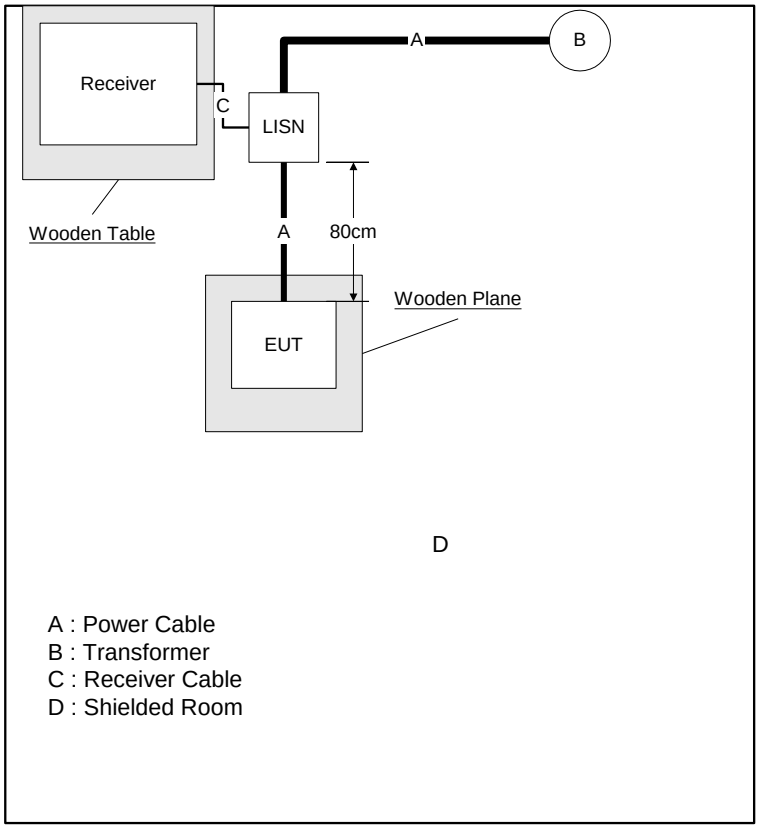
iDS-7208HQHI-M1/S

2.1.3 Date of Test

14/06/2019

2.1.4 Test Method

The EUT was placed on a non-conductive table 0.8 m above a reference ground plane and 0.4 m away from a vertical coupling plane.
All power was connected to the EUT through an Artificial Mains Network (AMN). Conducted disturbance voltage measurements on mains lines were made at the output of the AMN. The AMN was placed 0.8 m from the boundary of the EUT and bonded to the reference ground plane.



2.1.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	49.0 %
Atmospheric Pressure	1026.0 mbar

2.1.6 Specification Limits

Required Specification Limits (Class B)			
Line Under Test	Frequency Range (MHz)	Quasi-peak (dBµV)	Average (dBµV)
AC Power Port	0.15 to 0.5	66 to 56	56 to 46
	0.5 to 5	56	46
	5 to 30	60	50
Supplementary information: Note 1. EUT powered at one of the Nominal input voltages and frequencies			

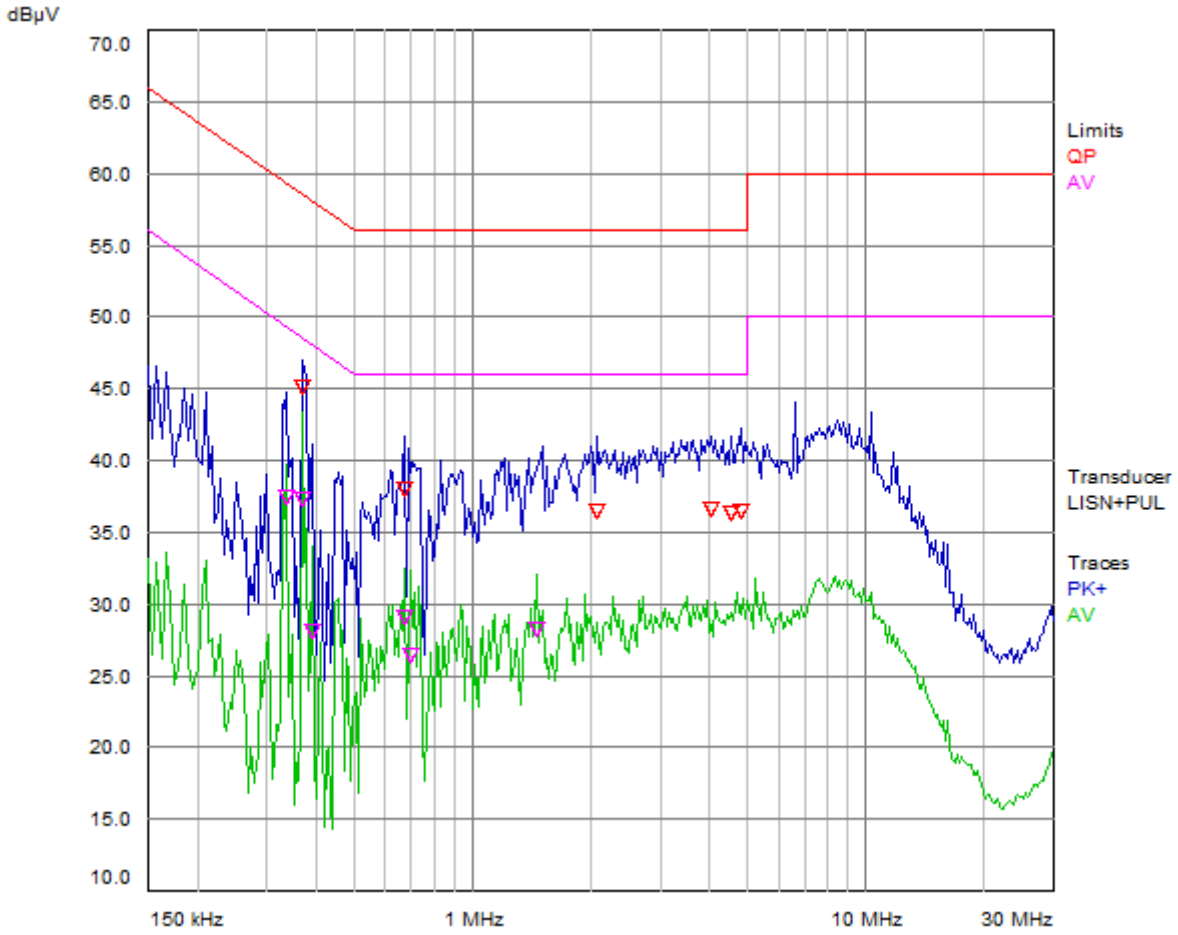
2.1.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with power adapter.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Line Under Test: Power Line L, Model: iDS-7208HQHI-M1/S; Mode a,100V/60Hz

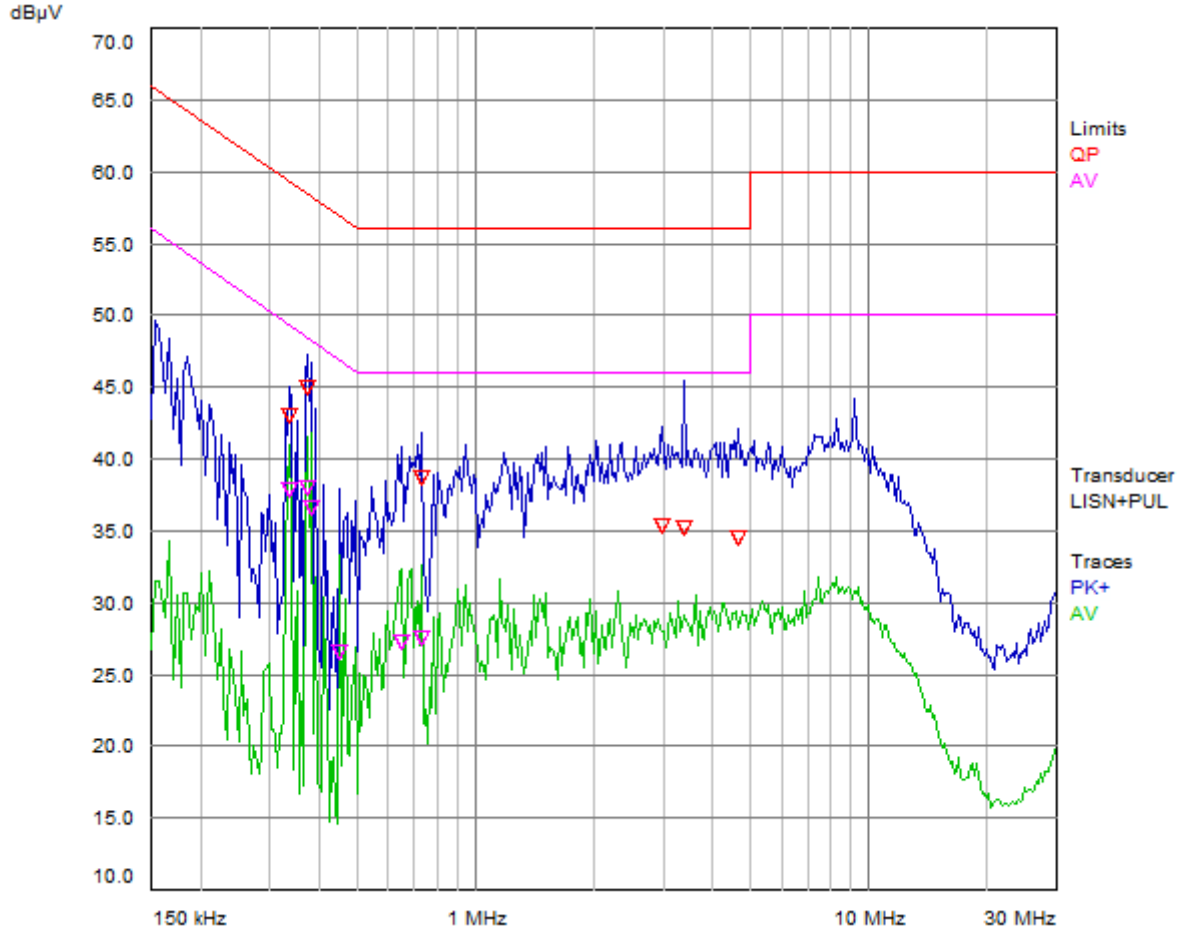


Graphical Results - Line L

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
2 CA	0.338	36.86	49.25	-12.39	L1 / on
1 QP	0.37	44.56	58.50	-13.94	L1 / on
2 CA	0.37	36.79	48.50	-11.71	L1 / on
2 CA	0.39	27.53	48.06	-20.53	L1 / on
1 QP	0.674	37.49	56.00	-18.51	L1 / on
2 CA	0.674	28.56	46.00	-17.44	L1 / on
2 CA	0.694	25.87	46.00	-20.13	L1 / on
2 CA	1.466	27.67	46.00	-18.33	L1 / on
1 QP	2.07	35.97	56.00	-20.03	L1 / on
1 QP	4.05	36.07	56.00	-19.93	L1 / on
1 QP	4.538	35.78	56.00	-20.22	L1 / on
1 QP	4.794	35.97	56.00	-20.03	L1 / on

Line Under Test: Power Line N, Model: iDS-7208HQHI-M1/S; Mode a,100V/60Hz

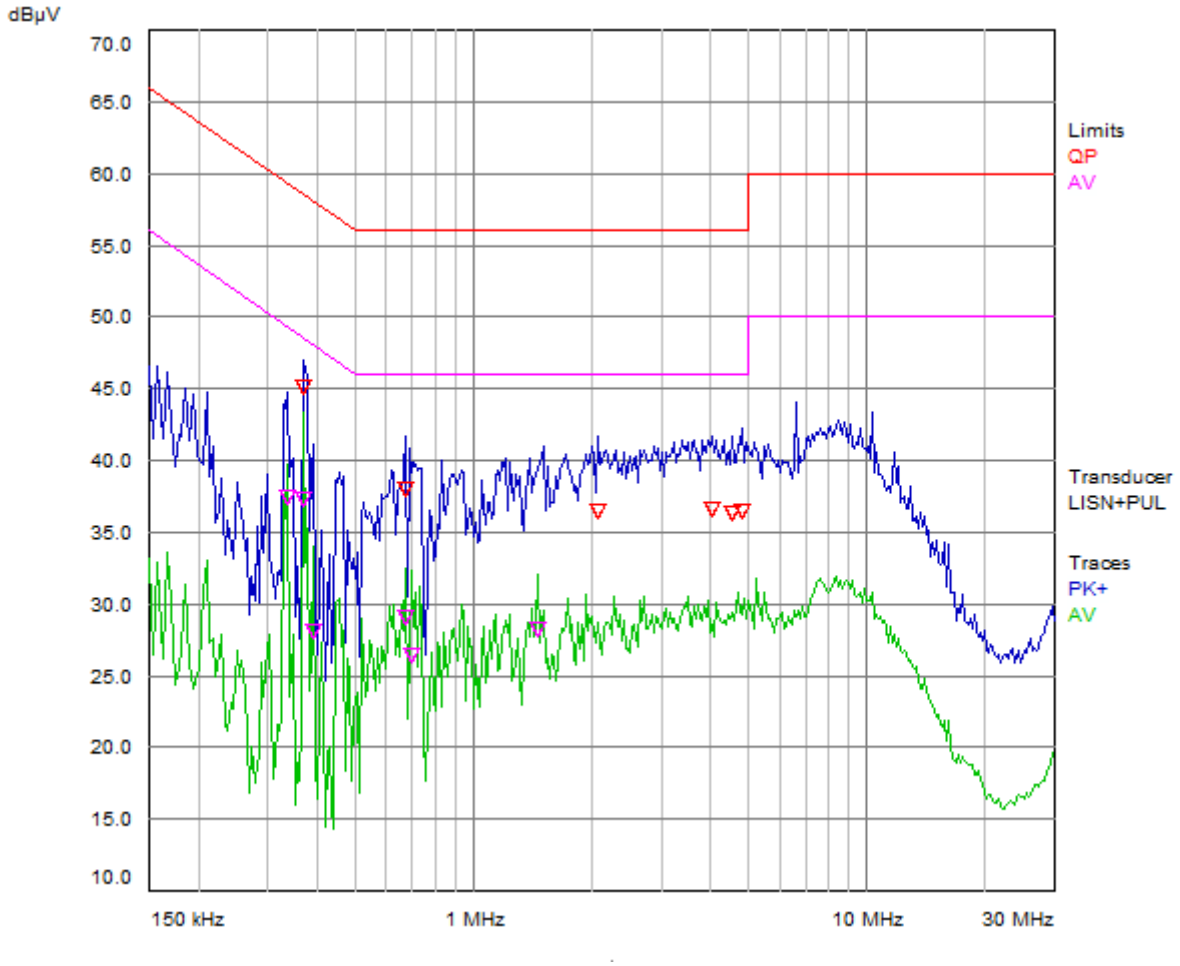


Graphical Results - Line N

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.338	42.50	59.25	-16.75	N / on
2 CA	0.338	37.33	49.25	-11.92	N / on
1 QP	0.374	44.51	58.41	-13.90	N / on
2 CA	0.374	37.46	48.41	-10.95	N / on
2 CA	0.382	36.14	48.24	-12.10	N / on
2 CA	0.45	26.06	46.88	-20.82	N / on
2 CA	0.646	26.72	46.00	-19.28	N / on
1 QP	0.726	38.25	56.00	-17.75	N / on
2 CA	0.73	27.09	46.00	-18.91	N / on
1 QP	2.982	34.88	56.00	-21.12	N / on
1 QP	3.386	34.65	56.00	-21.35	N / on
1 QP	4.678	34.06	56.00	-21.94	N / on

Line Under Test: Power Line L, Model: iDS-7208HQHI-M1/S; Mode a,230V/50Hz

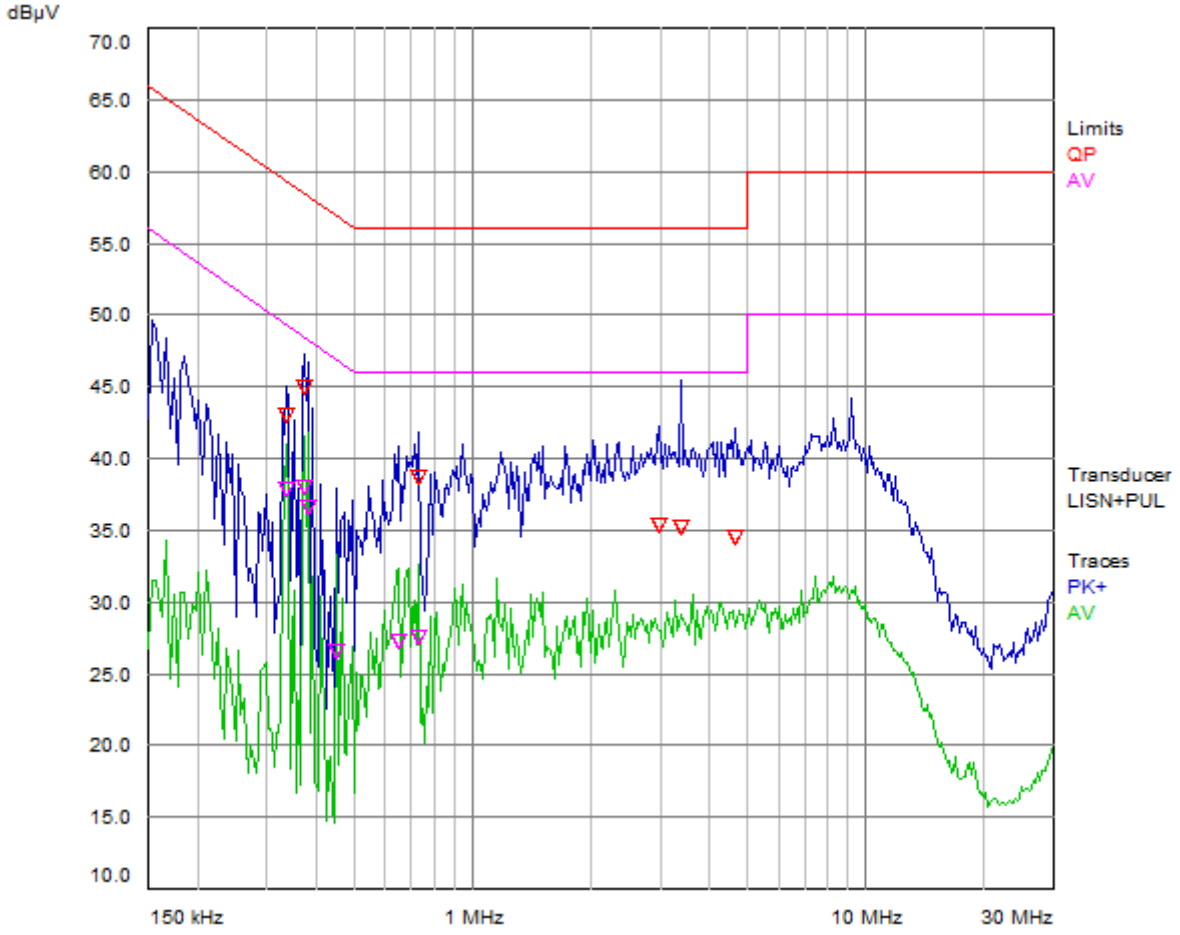


Graphical Results - Line L

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
2 CA	0.338	36.86	49.25	-12.39	L1 / on
1 QP	0.37	44.56	58.50	-13.94	L1 / on
2 CA	0.37	36.79	48.50	-11.71	L1 / on
2 CA	0.39	27.53	48.06	-20.53	L1 / on
1 QP	0.674	37.49	56.00	-18.51	L1 / on
2 CA	0.674	28.56	46.00	-17.44	L1 / on
2 CA	0.694	25.87	46.00	-20.13	L1 / on
2 CA	1.466	27.67	46.00	-18.33	L1 / on
1 QP	2.07	35.97	56.00	-20.03	L1 / on
1 QP	4.05	36.07	56.00	-19.93	L1 / on
1 QP	4.538	35.78	56.00	-20.22	L1 / on
1 QP	4.794	35.97	56.00	-20.03	L1 / on

Line Under Test: Power Line N, Model: iDS-7208HQHI-M1/S; Mode a,230V/50Hz

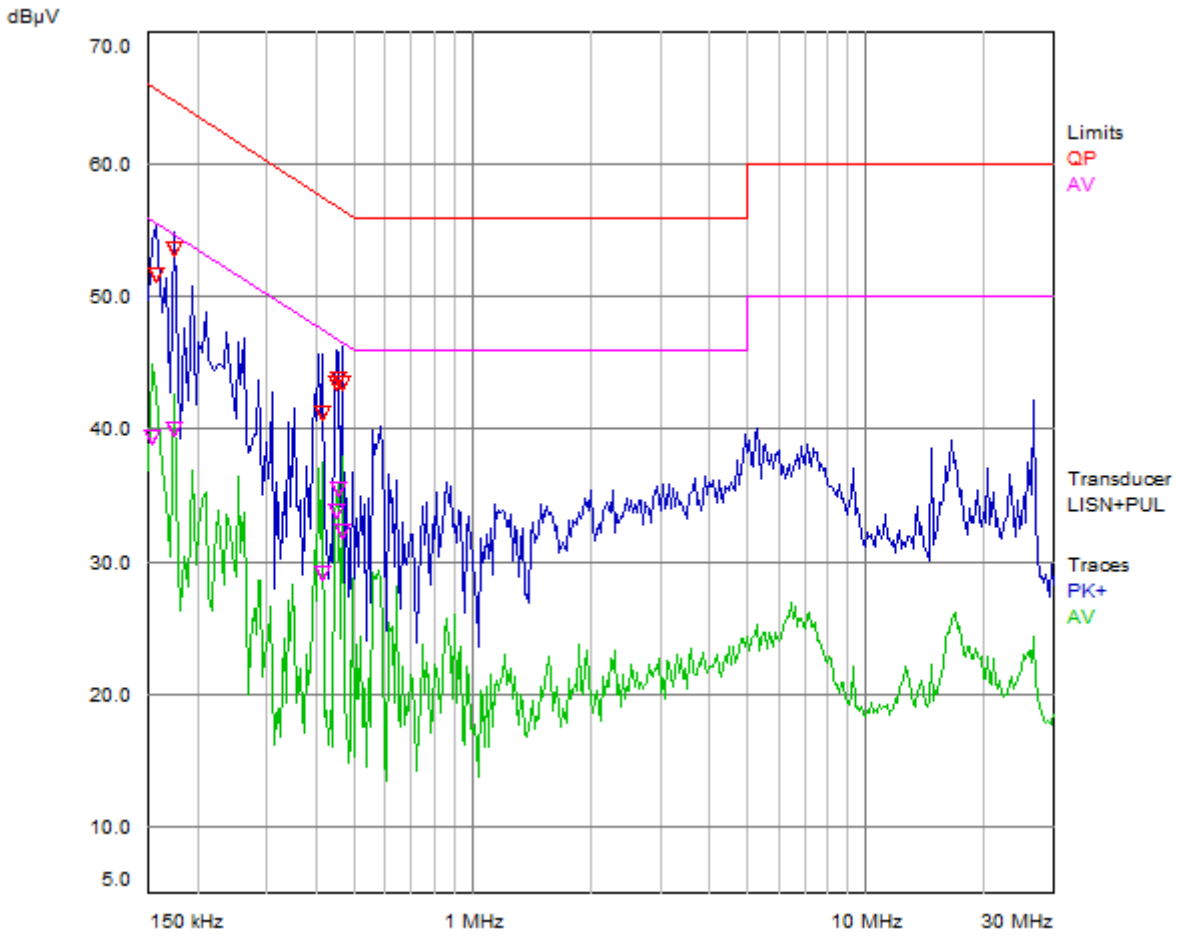


Graphical Results - Line N

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.338	42.50	59.25	-16.75	N / on
2 CA	0.338	37.33	49.25	-11.92	N / on
1 QP	0.374	44.51	58.41	-13.90	N / on
2 CA	0.374	37.46	48.41	-10.95	N / on
2 CA	0.382	36.14	48.24	-12.10	N / on
2 CA	0.45	26.06	46.88	-20.82	N / on
2 CA	0.646	26.72	46.00	-19.28	N / on
1 QP	0.726	38.25	56.00	-17.75	N / on
2 CA	0.73	27.09	46.00	-18.91	N / on
1 QP	2.982	34.88	56.00	-21.12	N / on
1 QP	3.386	34.65	56.00	-21.35	N / on
1 QP	4.678	34.06	56.00	-21.94	N / on

Line Under Test: Power Line L, Model: iDS-7208HQHI-M1/S; Mode b,100V/60Hz

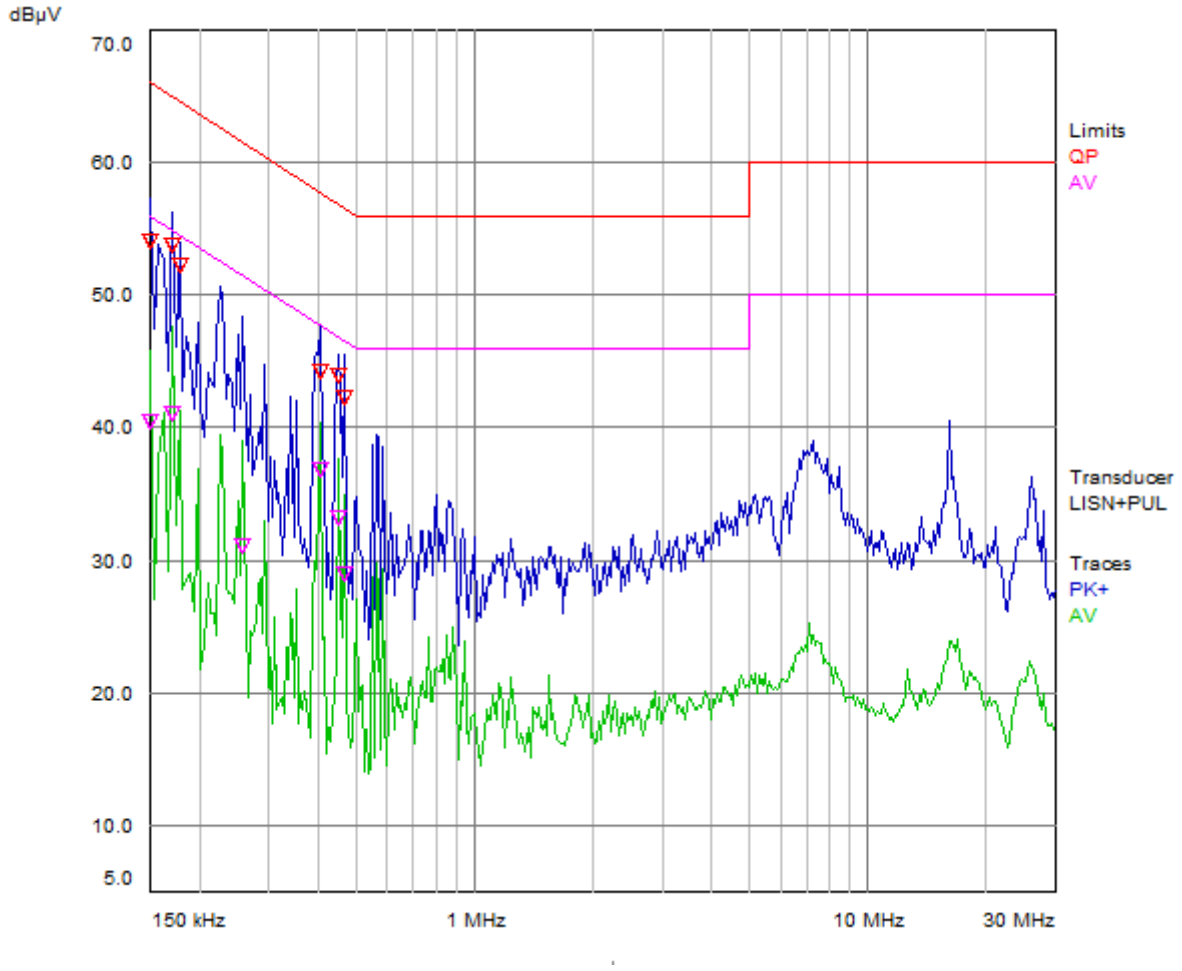


Graphical Results - Line L

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
2 CA	0.154	38.86	55.78	-16.92	L1 / on
1 QP	0.158	51.13	65.57	-14.44	L1 / on
1 QP	0.174	53.03	64.77	-11.74	L1 / on
2 CA	0.174	39.52	54.77	-15.25	L1 / on
1 QP	0.414	40.70	57.57	-16.87	L1 / on
2 CA	0.414	28.53	47.57	-19.04	L1 / on
1 QP	0.45	42.98	56.88	-13.90	L1 / on
2 CA	0.45	33.30	46.88	-13.58	L1 / on
1 QP	0.458	43.32	56.73	-13.41	L1 / on
2 CA	0.458	34.86	46.73	-11.87	L1 / on
1 QP	0.466	42.96	56.58	-13.62	L1 / on
2 CA	0.466	31.76	46.58	-14.82	L1 / on

Line Under Test: Power Line N, Model: iDS-7208HQHI-M1/S; Mode b,100V/60Hz

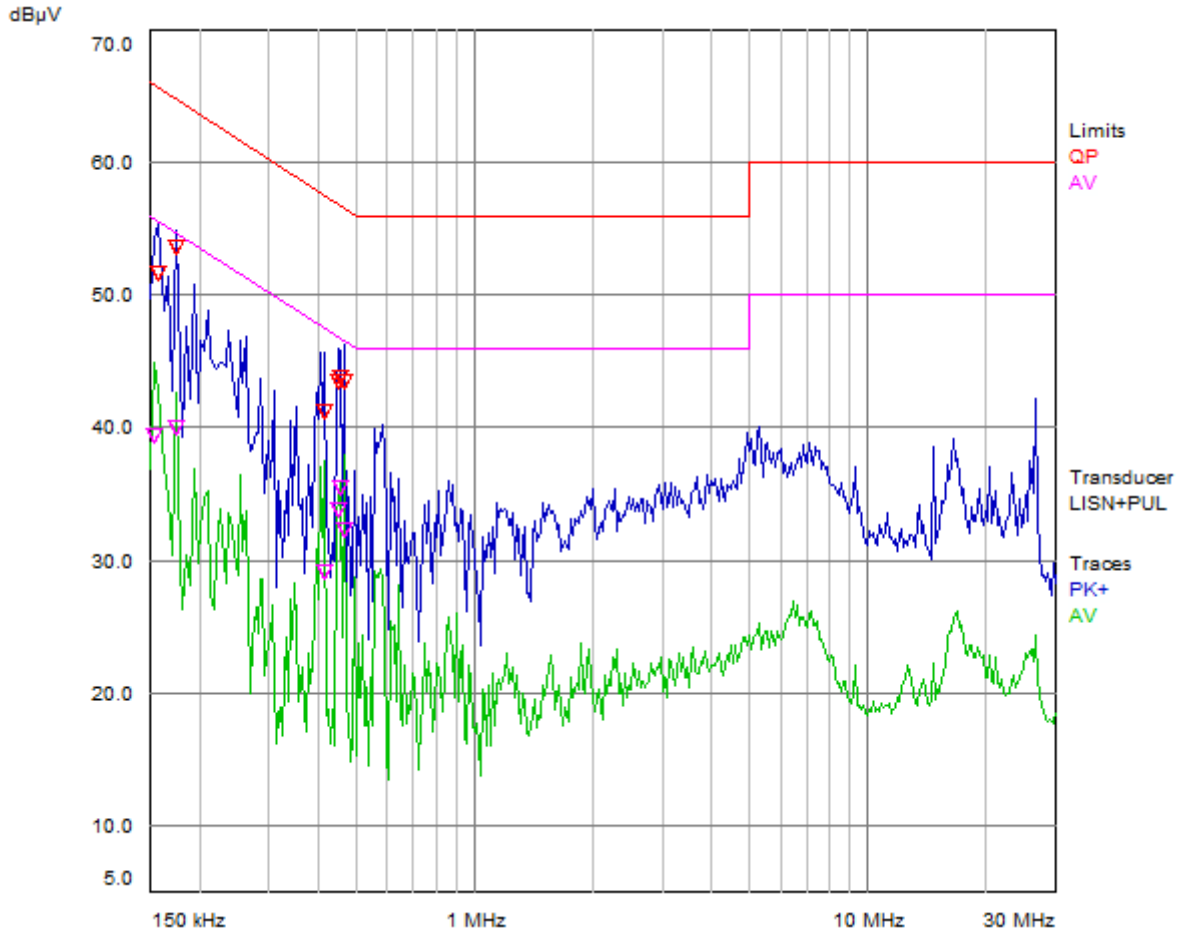


Graphical Results - Line N

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.15	53.47	66.00	-12.53	N / on
2 CA	0.15	39.91	56.00	-16.09	N / on
1 QP	0.17	53.26	64.96	-11.70	N / on
2 CA	0.17	40.59	54.96	-14.37	N / on
1 QP	0.178	51.75	64.58	-12.83	N / on
2 CA	0.258	30.60	51.50	-20.90	N / on
1 QP	0.406	43.74	57.73	-13.99	N / on
2 CA	0.406	36.30	47.73	-11.43	N / on
1 QP	0.45	43.42	56.88	-13.46	N / on
2 CA	0.45	32.63	46.88	-14.25	N / on
1 QP	0.47	41.76	56.51	-14.75	N / on
2 CA	0.47	28.39	46.51	-18.12	N / on

Line Under Test: Power Line L, Model: iDS-7208HQHI-M1/S; Mode b,230V/50Hz

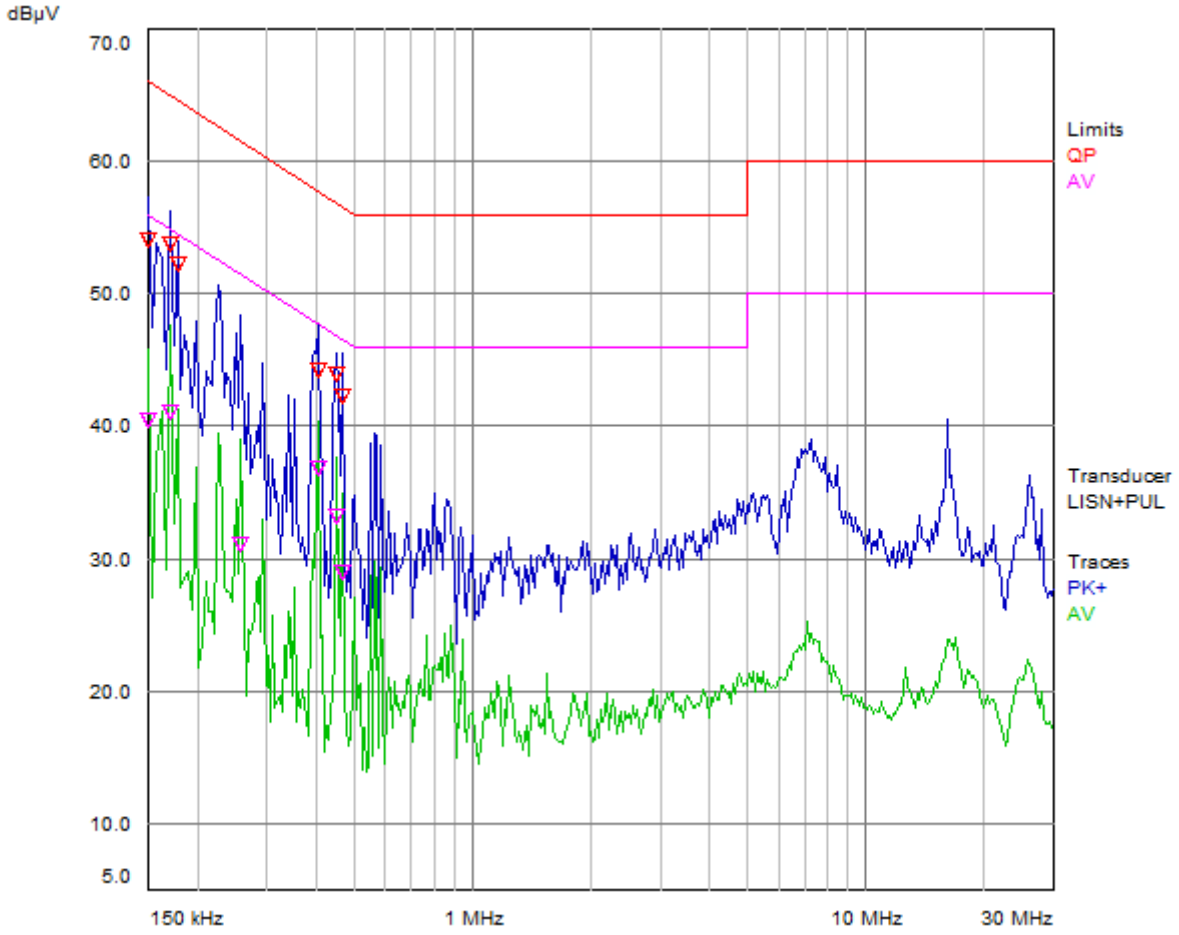


Graphical Results - Line L

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
2 CA	0.154	38.86	55.78	-16.92	L1 / on
1 QP	0.158	51.13	65.57	-14.44	L1 / on
1 QP	0.174	53.03	64.77	-11.74	L1 / on
2 CA	0.174	39.52	54.77	-15.25	L1 / on
1 QP	0.414	40.70	57.57	-16.87	L1 / on
2 CA	0.414	28.53	47.57	-19.04	L1 / on
1 QP	0.45	42.98	56.88	-13.90	L1 / on
2 CA	0.45	33.30	46.88	-13.58	L1 / on
1 QP	0.458	43.32	56.73	-13.41	L1 / on
2 CA	0.458	34.86	46.73	-11.87	L1 / on
1 QP	0.466	42.96	56.58	-13.62	L1 / on
2 CA	0.466	31.76	46.58	-14.82	L1 / on

Line Under Test: Power Line N, Model: iDS-7208HQHI-M1/S; Mode b,230V/50Hz

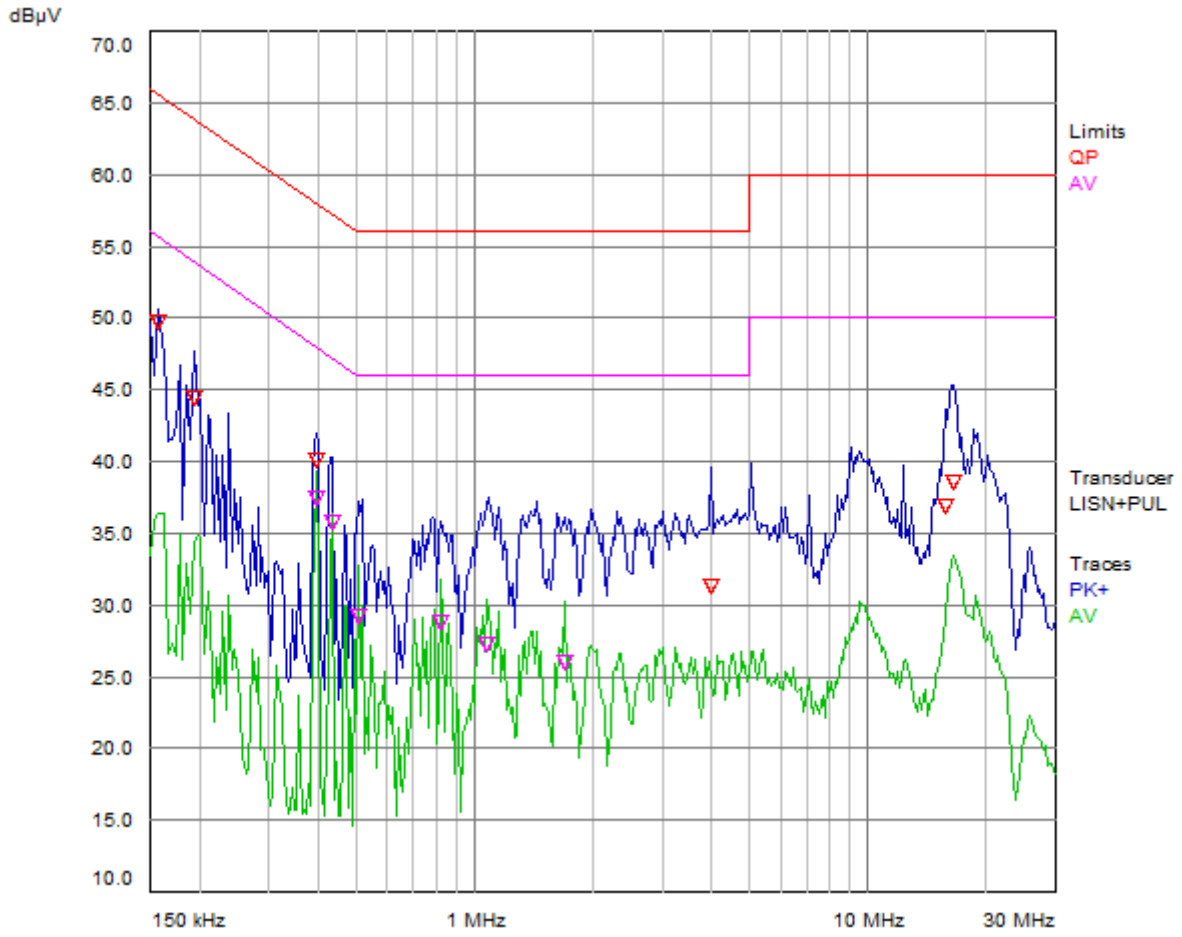


Graphical Results - Line N

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.15	53.47	66.00	-12.53	N / on
2 CA	0.15	39.91	56.00	-16.09	N / on
1 QP	0.17	53.26	64.96	-11.70	N / on
2 CA	0.17	40.59	54.96	-14.37	N / on
1 QP	0.178	51.75	64.58	-12.83	N / on
2 CA	0.258	30.60	51.50	-20.90	N / on
1 QP	0.406	43.74	57.73	-13.99	N / on
2 CA	0.406	36.30	47.73	-11.43	N / on
1 QP	0.45	43.42	56.88	-13.46	N / on
2 CA	0.45	32.63	46.88	-14.25	N / on
1 QP	0.47	41.76	56.51	-14.75	N / on
2 CA	0.47	28.39	46.51	-18.12	N / on

Line Under Test: Power Line L, Model: iDS-7208HQHI-M1/S; Mode c,100V/60Hz

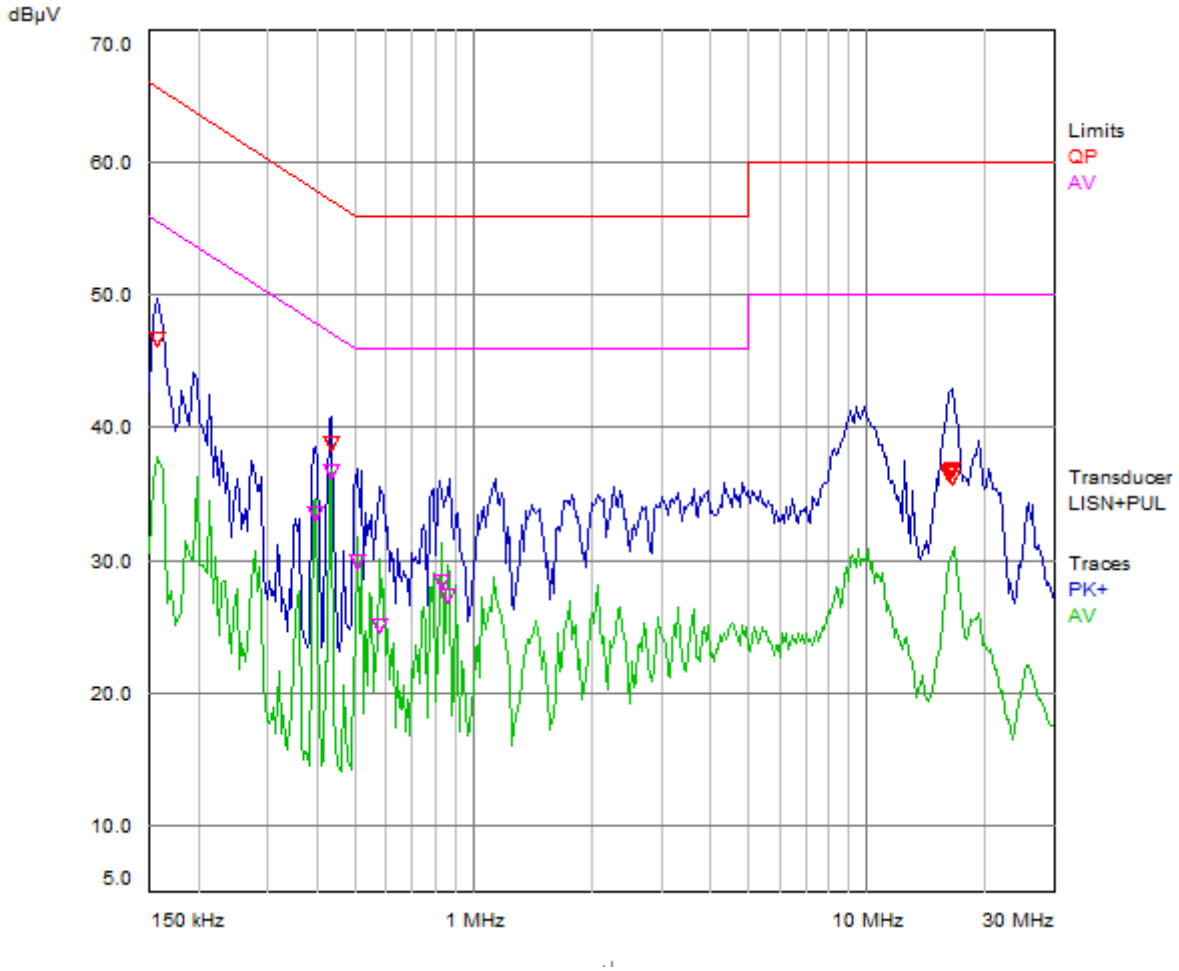


Graphical Results - Line L

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.158	49.16	65.57	-16.41	L1 / on
1 QP	0.194	43.88	63.86	-19.98	L1 / on
1 QP	0.398	39.52	57.90	-18.38	L1 / on
2 CA	0.398	36.99	47.90	-10.91	L1 / on
2 CA	0.434	35.21	47.18	-11.97	L1 / on
2 CA	0.506	28.70	46.00	-17.30	L1 / on
2 CA	0.822	28.27	46.00	-17.73	L1 / on
2 CA	1.078	26.78	46.00	-19.22	L1 / on
2 CA	1.698	25.44	46.00	-20.56	L1 / on
1 QP	3.982	30.73	56.00	-25.27	L1 / on
1 QP	15.818	36.39	60.00	-23.61	L1 / on
1 QP	16.462	38.04	60.00	-21.96	L1 / on

Line Under Test: Power Line N, Model: iDS-7208HQHI-M1/S; Mode c,100V/60Hz

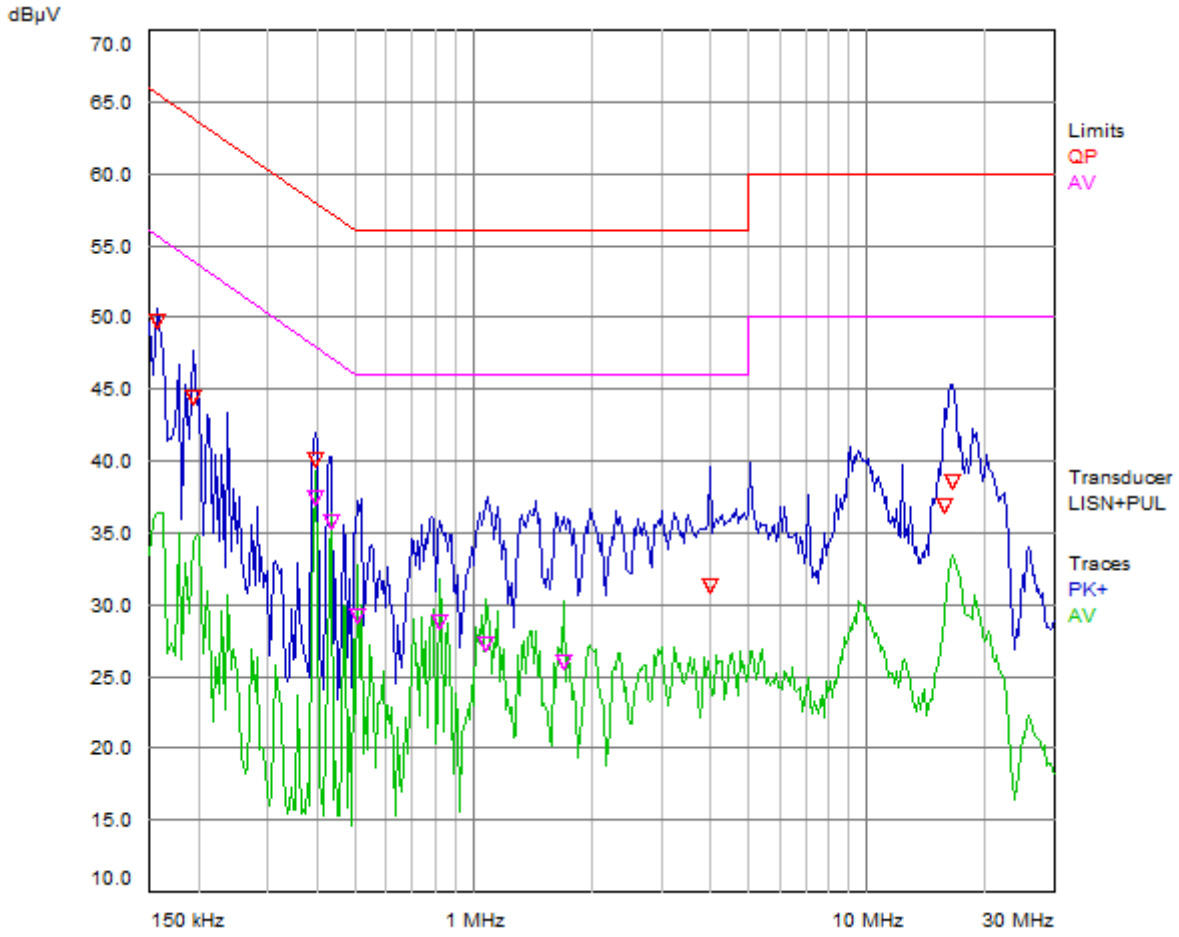


Graphical Results - Line N

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.158	46.19	65.57	-19.38	N / on
2 CA	0.398	33.02	47.90	-14.88	N / on
2 CA	0.434	36.07	47.18	-11.11	N / on
1 QP	0.438	38.22	57.10	-18.88	N / on
2 CA	0.506	29.30	46.00	-16.70	N / on
2 CA	0.578	24.56	46.00	-21.44	N / on
2 CA	0.83	27.79	46.00	-18.21	N / on
2 CA	0.862	26.78	46.00	-19.22	N / on
1 QP	16.166	36.04	60.00	-23.96	N / on
1 QP	16.302	36.08	60.00	-23.92	N / on
1 QP	16.474	36.22	60.00	-23.78	N / on
1 QP	16.582	35.61	60.00	-24.39	N / on

Line Under Test: Power Line L, Model: iDS-7208HQHI-M1/S; Mode c,230V/50Hz

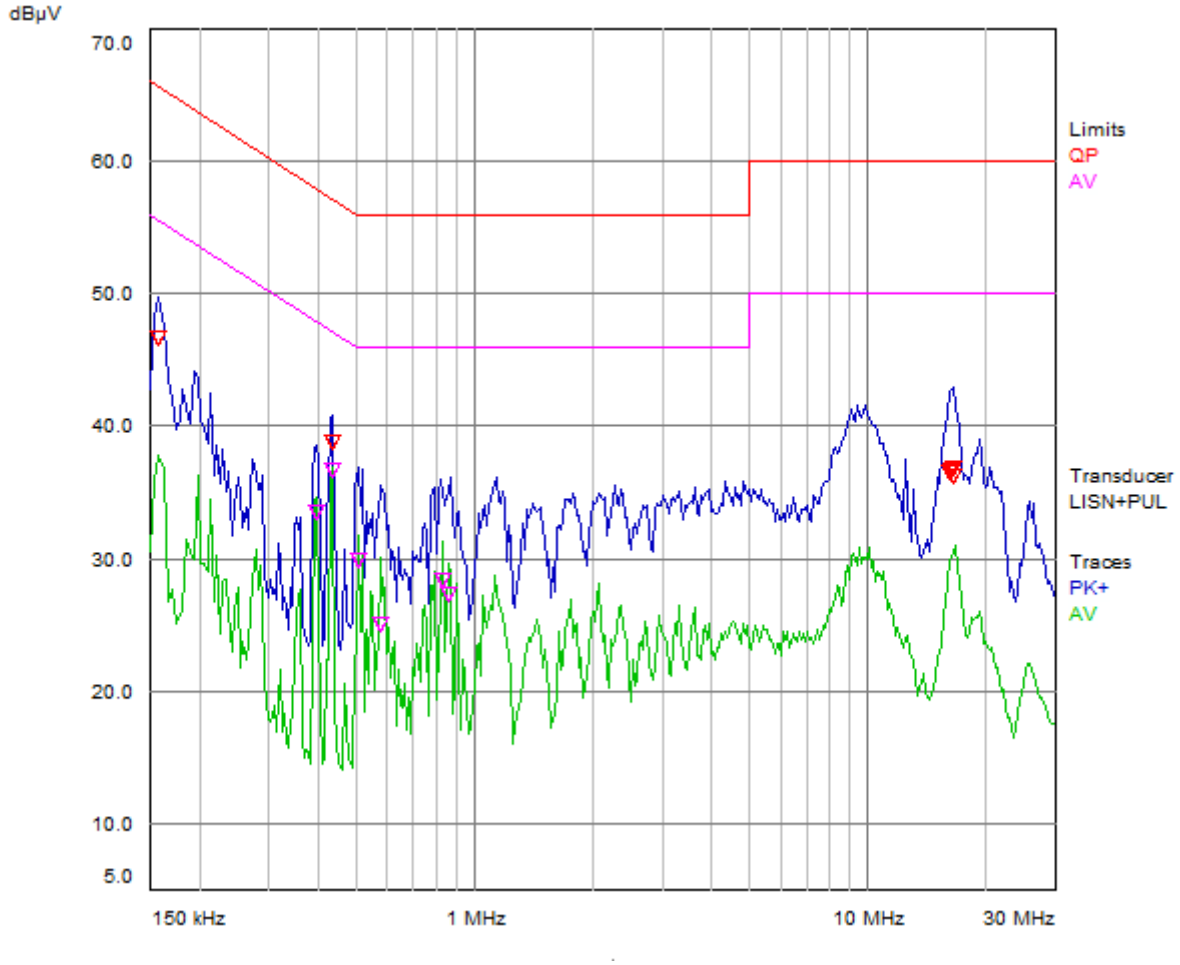


Graphical Results - Line L

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.158	49.16	65.57	-16.41	L1 / on
1 QP	0.194	43.88	63.86	-19.98	L1 / on
1 QP	0.398	39.52	57.90	-18.38	L1 / on
2 CA	0.398	36.99	47.90	-10.91	L1 / on
2 CA	0.434	35.21	47.18	-11.97	L1 / on
2 CA	0.506	28.70	46.00	-17.30	L1 / on
2 CA	0.822	28.27	46.00	-17.73	L1 / on
2 CA	1.078	26.78	46.00	-19.22	L1 / on
2 CA	1.698	25.44	46.00	-20.56	L1 / on
1 QP	3.982	30.73	56.00	-25.27	L1 / on
1 QP	15.818	36.39	60.00	-23.61	L1 / on
1 QP	16.462	38.04	60.00	-21.96	L1 / on

Line Under Test: Power Line N, Model: iDS-7208HQHI-M1/S; Mode c,230V/50Hz



Graphical Results - Line N

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)	Comment
1 QP	0.158	46.19	65.57	-19.38	N / on
2 CA	0.398	33.02	47.90	-14.88	N / on
2 CA	0.434	36.07	47.18	-11.11	N / on
1 QP	0.438	38.22	57.10	-18.88	N / on
2 CA	0.506	29.30	46.00	-16.70	N / on
2 CA	0.578	24.56	46.00	-21.44	N / on
2 CA	0.83	27.79	46.00	-18.21	N / on
2 CA	0.862	26.78	46.00	-19.22	N / on
1 QP	16.166	36.04	60.00	-23.96	N / on
1 QP	16.302	36.08	60.00	-23.92	N / on
1 QP	16.474	36.22	60.00	-23.78	N / on
1 QP	16.582	35.61	60.00	-24.39	N / on

Test Setup

2.1.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.2 Conducted Emissions at Communication Ports

2.2.1 Specification Reference

EN 55032:2015, Clause Annex A.3
EN 55032:2012, Clause Annex A.1

2.2.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.2.3 Date of Test

14/06/2019

2.2.4 Test Method

The EUT was placed on a non-conductive table 0.8 m above a reference ground plane.
All power was connected to the EUT through an Artificial Mains Network (AMN).
Conducted common mode disturbance voltage measurements on signal ports were made at the output of the Impedance Stabilization Network (ISN) in accordance with Annex C 4.1.6.2. The ISN was placed 0.8m from the boundary of the EUT and bonded to a reference ground plane.

2.2.5 Environmental Conditions

Ambient Temperature	21.0 °C
Relative Humidity	46.0 %
Atmospheric Pressure	1016.0 mbar

2.2.6 Specification Limits

For Asymmetric Artificial Network (AAN)

Required Specification Limits (Class B)			
Line Under Test	Frequency Range (MHz)	Voltage Limits	
		Quasi-peak (dBµV)	Average (dBµV)
Communication Port	0.15 to 0.5	84 to 74	74 to 64
	0.5 to 30	74	64

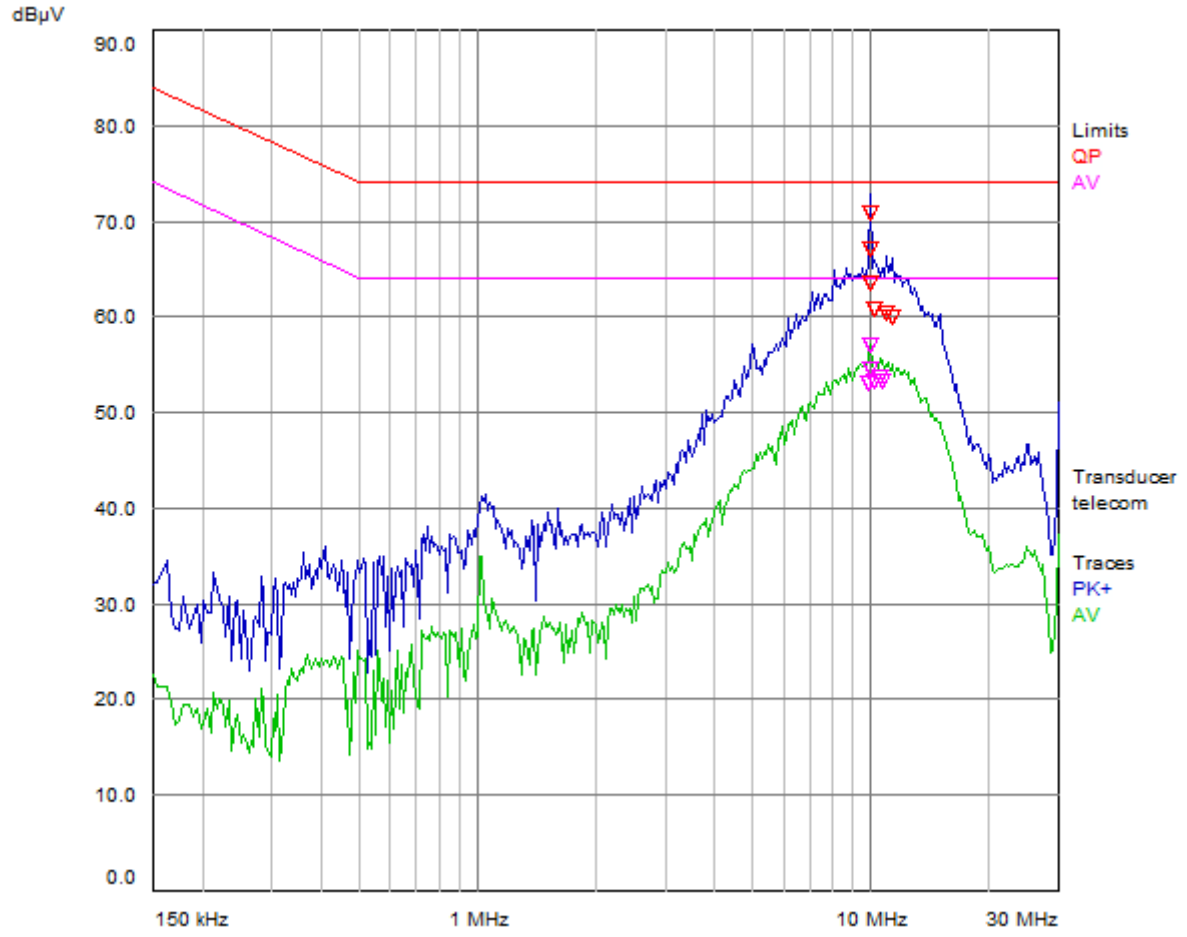
2.2.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Line Under Test: network line-LAN (unshielded), Model: iDS-7208HQHI-M1/S, Mode a 10M, 230V/50Hz

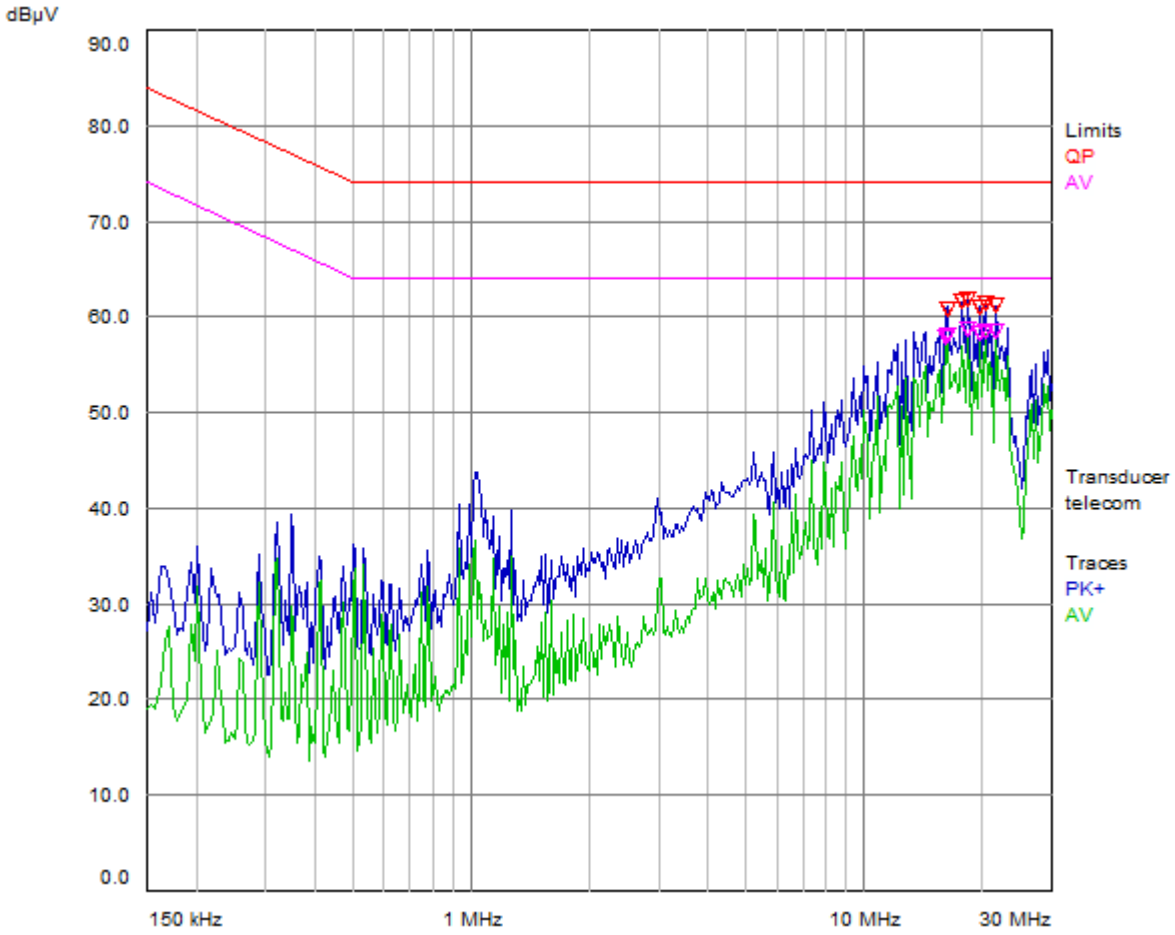


Graphical Results - network line(unshielded)

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)
2 CA	9.802	52.33	64.00	-11.67
1 QP	9.966	62.71	74.00	-11.29
2 CA	9.966	53.74	64.00	-10.26
1 QP	9.998	70.13	74.00	-3.87
2 CA	10.006	56.33	64.00	-7.67
1 QP	10.01	66.39	74.00	-7.61
2 CA	10.206	52.58	64.00	-11.42
1 QP	10.238	60.03	74.00	-13.97
2 CA	10.55	52.94	64.00	-11.06
2 CA	10.706	52.57	64.00	-11.43
1 QP	10.914	59.62	74.00	-14.38
1 QP	11.362	59.29	74.00	-14.71

Line Under Test: network line-LAN (unshielded), Model: iDS-7208HQHI-M1/S, Mode a 100M, 230V/50Hz

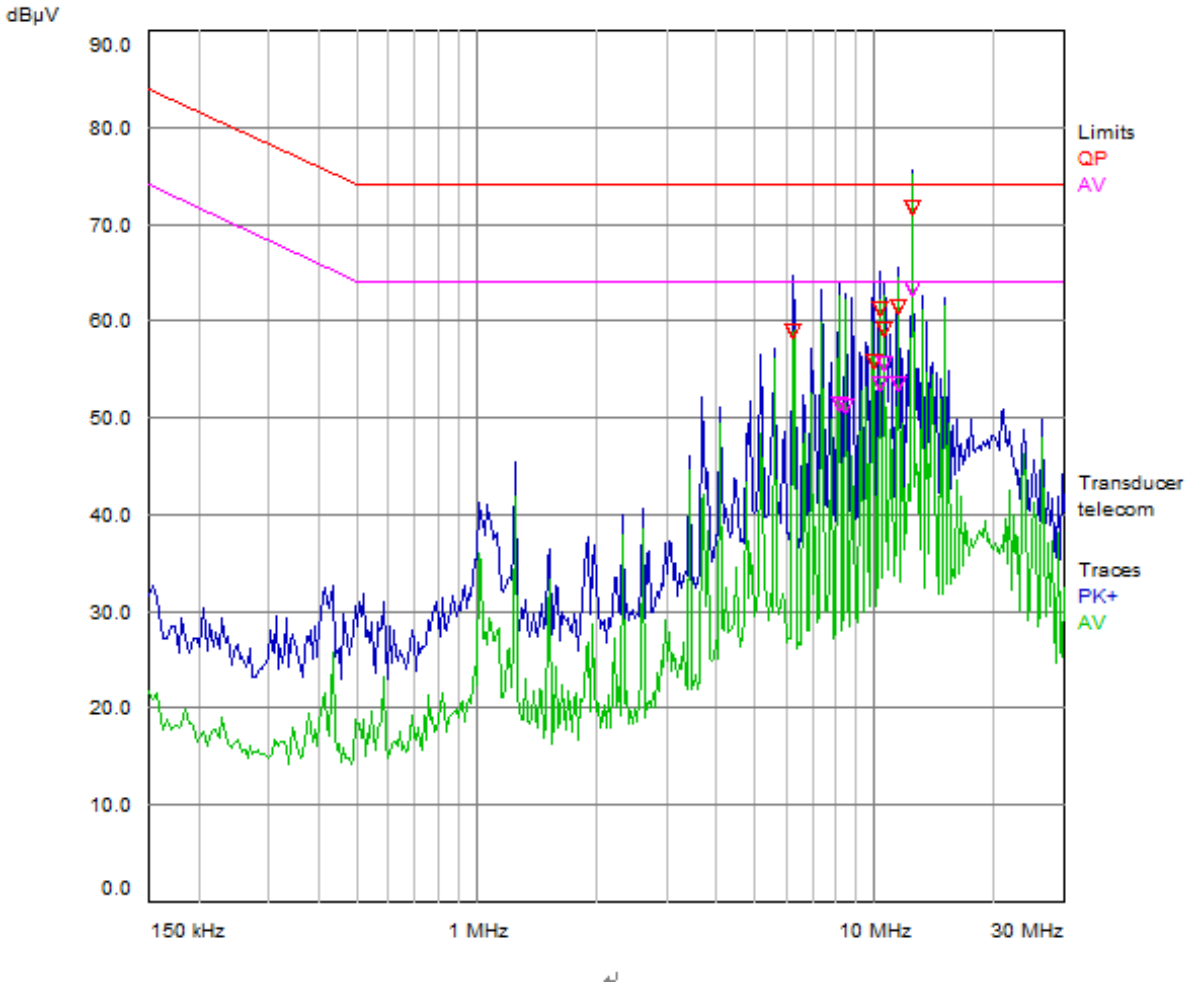


Graphical Results - network line(unshielded)

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)
2 CA	16.166	57.08	64.00	-6.92
1 QP	16.226	60.13	74.00	-13.87
2 CA	16.226	57.39	64.00	-6.61
1 QP	17.694	60.90	74.00	-13.10
1 QP	18.242	61.12	74.00	-12.88
2 CA	18.242	58.04	64.00	-5.96
1 QP	19.71	60.33	74.00	-13.67
2 CA	19.71	57.54	64.00	-6.46
1 QP	20.258	60.63	74.00	-13.37
2 CA	20.258	57.84	64.00	-6.16
1 QP	21.662	60.43	74.00	-13.57
2 CA	21.662	57.83	64.00	-6.17

Line Under Test: network line-LAN (unshielded), Model: iDS-7208HQHI-M1/S, Mode b 10M, 230V/50Hz

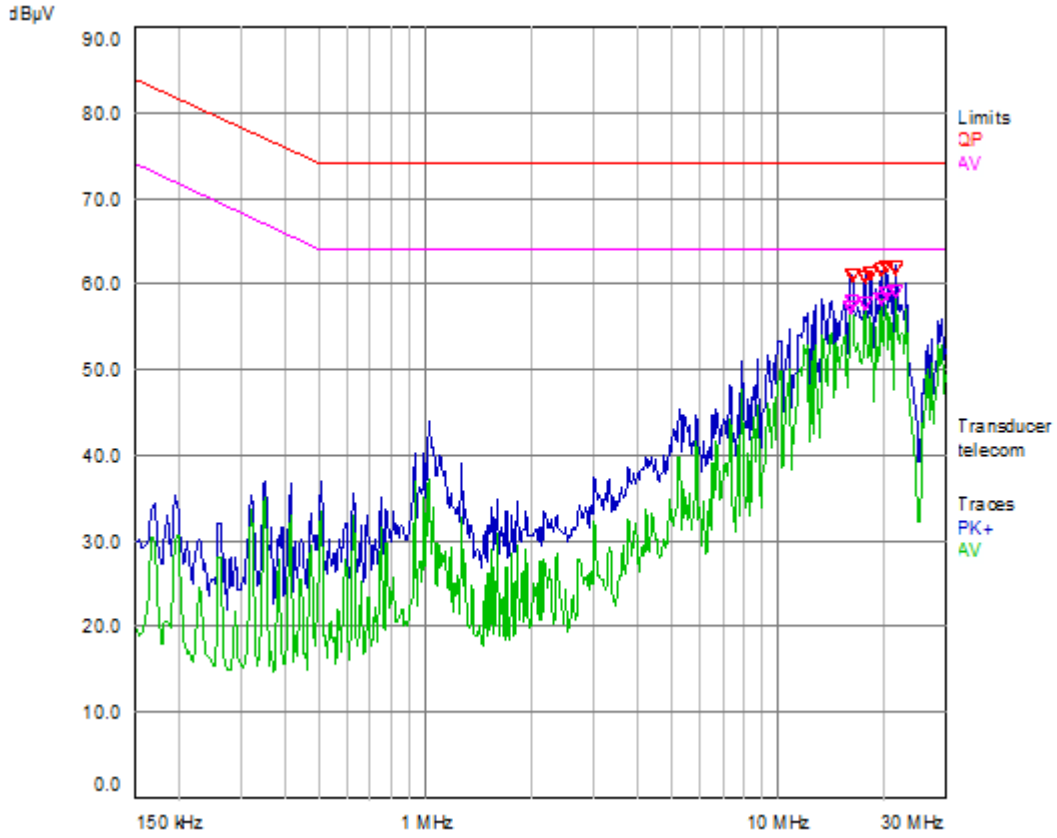


Graphical Results - network line(unshielded)

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)
1 QP	6.246	58.13	74.00	-15.87
2 CA	8.15	50.63	64.00	-13.37
2 CA	8.426	50.50	64.00	-13.50
1 QP	9.974	55.09	74.00	-18.91
1 QP	10.326	60.44	74.00	-13.56
2 CA	10.326	52.66	64.00	-11.34
2 CA	10.598	54.80	64.00	-9.20
1 QP	10.602	58.33	74.00	-15.67
1 QP	11.414	60.67	74.00	-13.33
2 CA	11.414	52.73	64.00	-11.27
1 QP	12.502	70.92	74.00	-3.08
2 CA	12.502	62.60	64.00	-1.40

Line Under Test: network line-LAN (unshielded), Model: iDS-7208HQHI-M1/S, Mode b 100M, 230V/50Hz

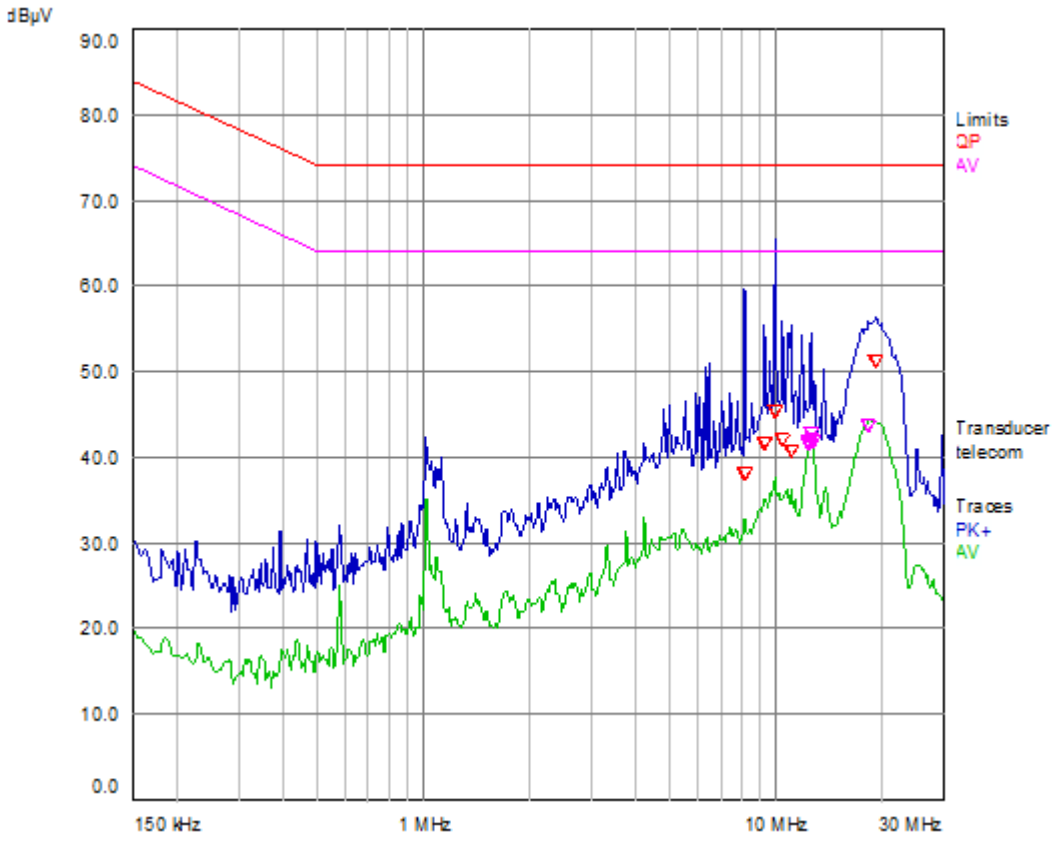


Graphical Results - network line(unshielded)

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)
2 CA	16.166	56.59	64.00	-7.41
1 QP	16.23	60.29	74.00	-13.71
2 CA	16.23	57.24	64.00	-6.76
1 QP	17.694	60.08	74.00	-13.92
2 CA	17.694	56.85	64.00	-7.15
1 QP	18.242	60.54	74.00	-13.46
1 QP	19.71	60.87	74.00	-13.13
2 CA	19.71	57.61	64.00	-6.39
1 QP	20.258	61.34	74.00	-12.66
2 CA	20.258	58.21	64.00	-5.79
1 QP	21.662	61.17	74.00	-12.83
2 CA	21.662	58.35	64.00	-5.65

Line Under Test: network line-LAN (unshielded), Model: iDS-7208HQHI-M1/S, Mode c 10M, 230V/50Hz

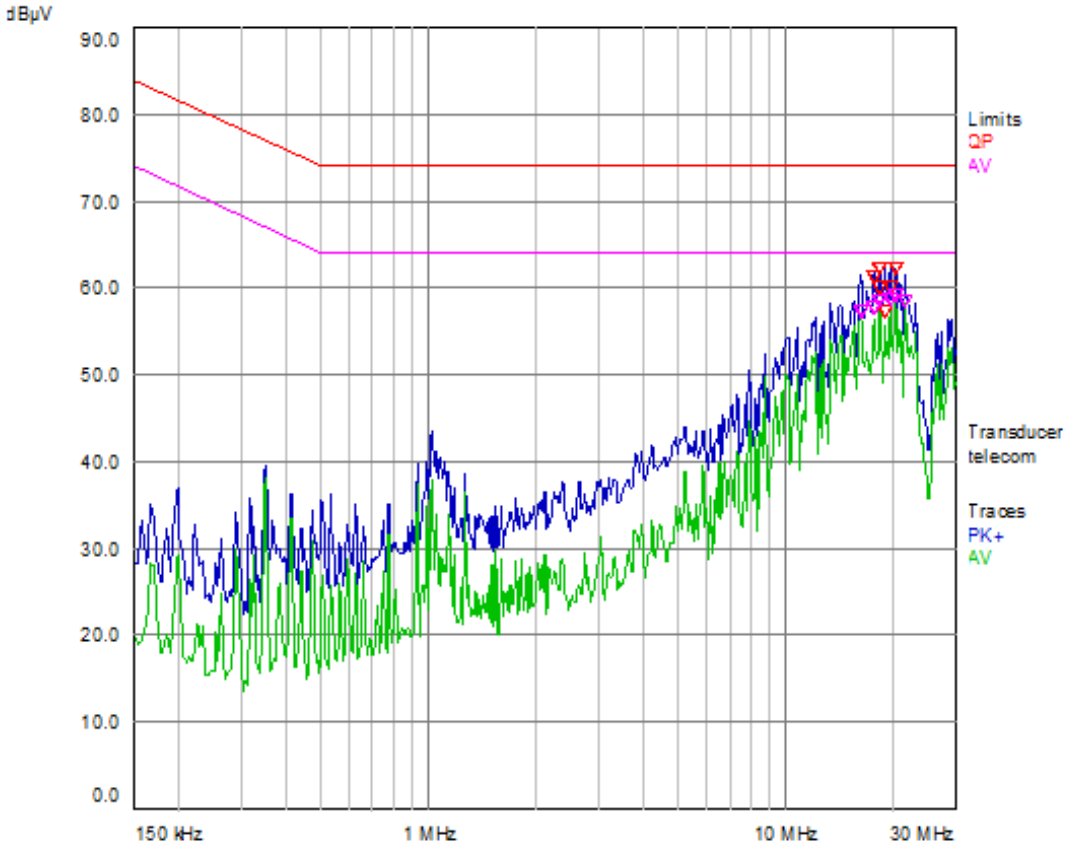


Graphical Results - network line(unshielded)

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)
1 QP	8.166	37.33	74.00	-36.67
1 QP	9.278	40.76	74.00	-33.24
1 QP	10.022	44.56	74.00	-29.44
1 QP	10.39	41.20	74.00	-32.80
1 QP	11.126	39.95	74.00	-34.05
2 CA	12.342	40.93	64.00	-23.07
2 CA	12.442	40.77	64.00	-23.23
2 CA	12.546	41.97	64.00	-22.03
2 CA	12.646	41.19	64.00	-22.81
2 CA	12.75	40.96	64.00	-23.04
2 CA	18.33	42.90	64.00	-21.10
1 QP	19.278	50.45	74.00	-23.55

Line Under Test: network line-LAN (unshielded), Model: iDS-7208HQHI-M1/S, Mode c 100M, 230V/50Hz



Graphical Results - network line(unshielded)

Final Measurement Results

Trace	Frequency (MHz)	Level (dBµV)	Limit (dBµV)	Delta Limit (dB)
2 CA	16.226	56.48	64.00	-7.52
1 QP	17.694	60.52	74.00	-13.48
2 CA	17.694	56.98	64.00	-7.02
1 QP	18.242	61.45	74.00	-12.55
2 CA	18.242	57.83	64.00	-6.17
1 QP	18.302	59.19	74.00	-14.81
1 QP	19.098	56.49	74.00	-17.51
1 QP	19.706	59.29	74.00	-14.71
2 CA	19.71	58.05	64.00	-5.95
1 QP	20.258	61.55	74.00	-12.45
2 CA	20.258	58.41	64.00	-5.59
2 CA	21.662	57.87	64.00	-6.13

Test Setup

2.2.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.3 Radiated Emissions

2.3.1 Specification Reference

EN 55032:2015, Clause Annex A.2
EN 55032:2012, Clause Annex A.2

2.3.2 Equipment Under Test

iDS-7208HQHI-M1/S

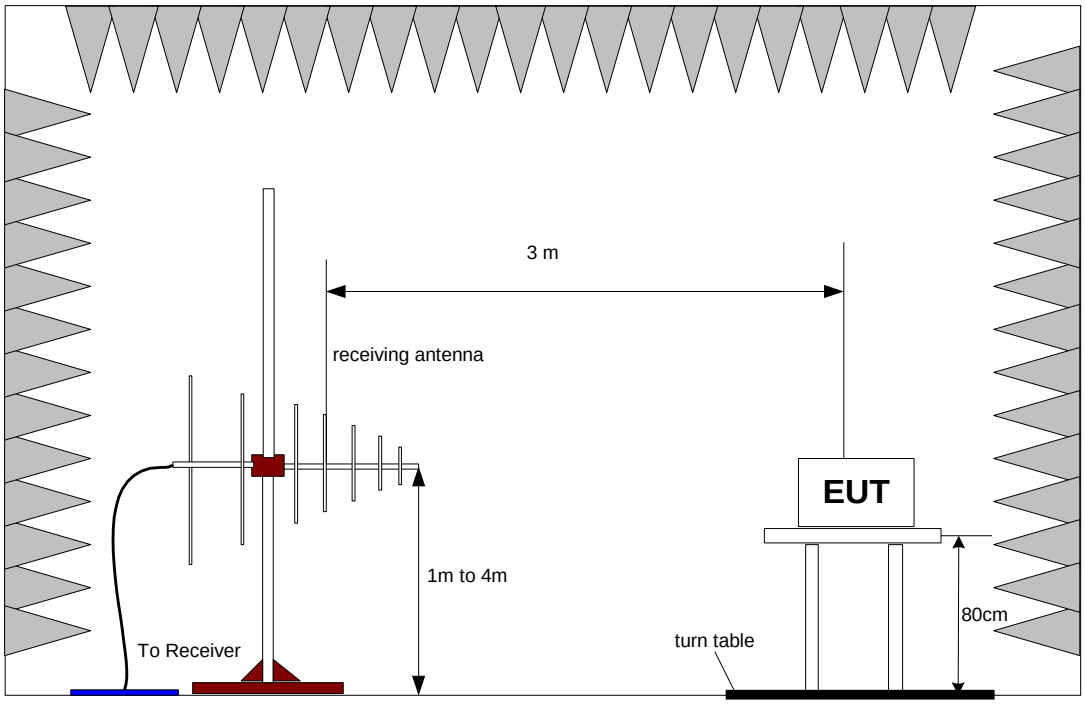
2.3.3 Date of Test

14/06/2019

2.3.4 Test Method

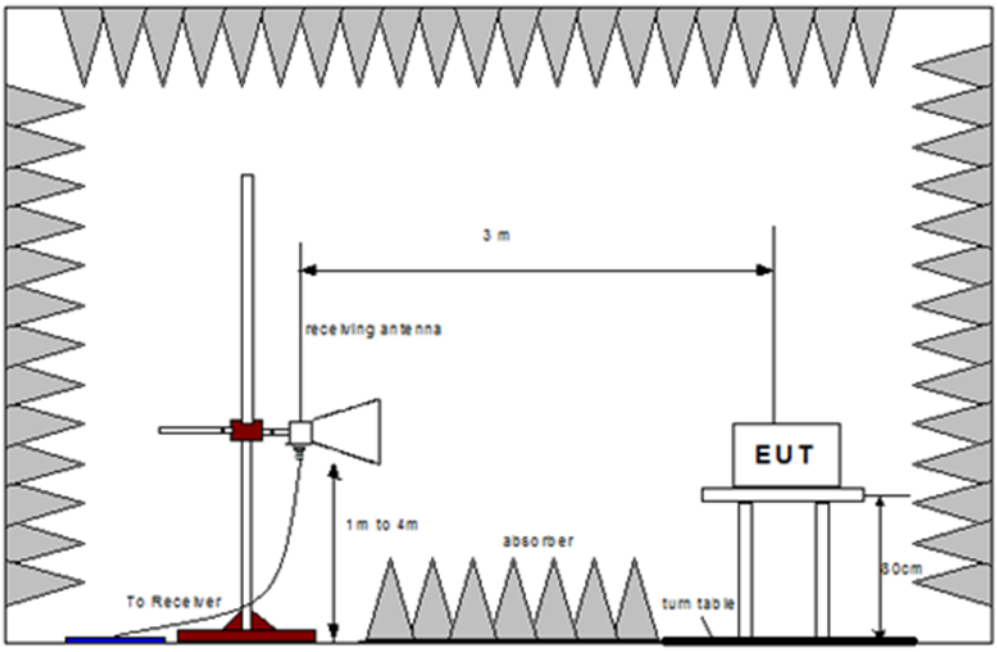
Below 1 GHz

The EUT was set up in a semi-anechoic chamber on a remotely controlled turntable and placed on a non-conductive table 0.8 m above a reference ground plane.
A prescan of the EUT emissions profile was made while varying the antennae-to-EUT azimuth and antenna-to-EUT polarization using a peak detector; measurements were taken at a 3m distance. Using the prescan list of the highest emissions detected, their bearing and associated antenna polarization, the EUT was then formally measured using Quasi-Peak and Average detectors, as appropriate. The readings were maximized by adjusting the antenna height, polarization and turntable azimuth, in accordance with the specification.



Above 1 GHz

The EUT was set up in a fully-anechoic chamber on a remotely controlled turntable and placed on a non-conductive table 0.8 m above a reference ground plane.
A prescan of the EUT emissions profile was made while varying the antennae-to-EUT azimuth and antenna-to-EUT polarization using a peak detector; measurements were taken at a 3m distance. Using the prescan list of the highest emissions detected, their bearing and associated antenna polarization, the EUT was then formally measured using Peak and Average detectors, as appropriate. The readings were maximized by adjusting the antenna height, polarization and turntable azimuth, in accordance with the specification.



2.3.5 Environmental Conditions

Ambient Temperature	22.6 °C
Relative Humidity	43.0 %
Atmospheric Pressure	1016.0 mbar

2.3.6 Specification Limit

Below 1 GHz

Required Specification Limits (Class B @ 3m)	
Frequency Range (MHz)	Quasi-peak (dBµV/m)
30 to 230	40
230 to 1000	47

Above 1 GHz

Required Specification Limits (Class B @ 3m)		
Frequency Range (MHz)	Average (dBµV/m)	Peak (dBµV/m)
1000 to 3000	50	70
3000 to 6000	54	74

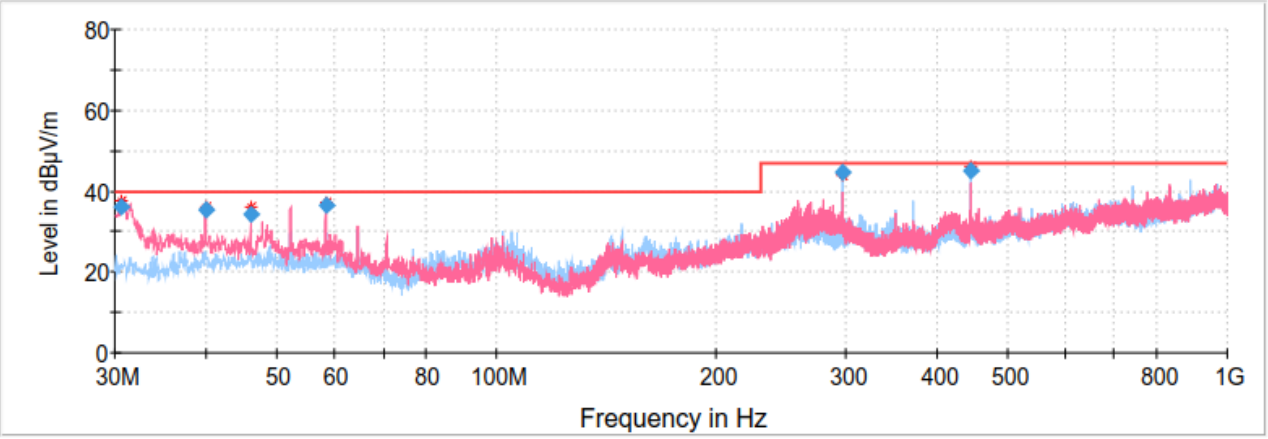
2.3.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Frequency Range of Test: 30 MHz to 1 GHz, Model: iDS-7208HQHI-M1/S, Mode a, 100V/60Hz

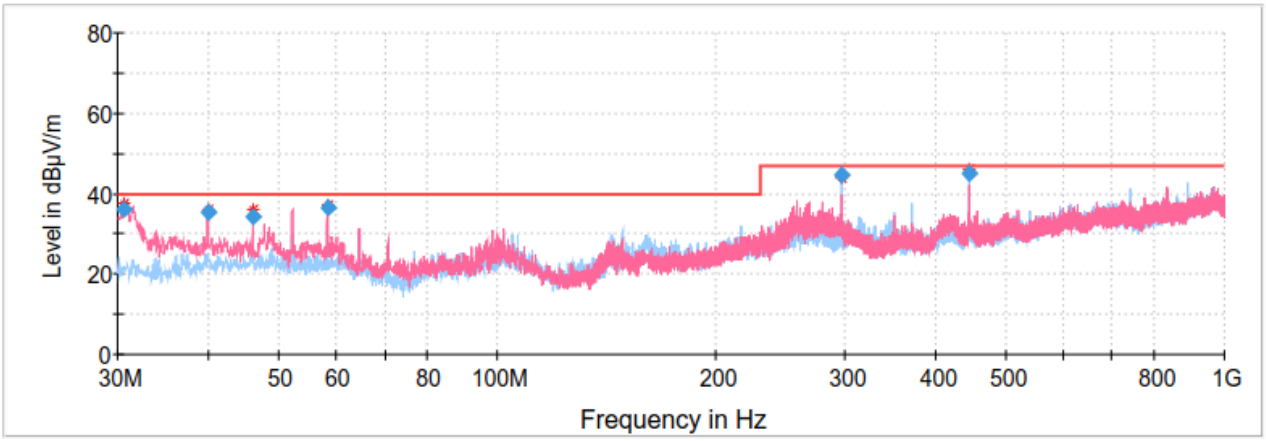


Graphical Results – Horizontal& Vertical

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.550000	35.81	40.00	4.19	1000.0	120.000	100.0	V	152.0	11.1
39.900000	35.16	40.00	4.84	1000.0	120.000	107.0	V	86.0	12.7
46.143500	34.07	40.00	5.93	1000.0	120.000	100.0	V	118.0	13.6
58.270500	36.37	40.00	3.63	1000.0	120.000	107.0	V	69.0	12.8
296.852500	44.48	47.00	2.52	1000.0	120.000	107.0	H	221.0	14.9
445.050000	44.87	47.00	2.13	1000.0	120.000	107.0	H	314.0	18.0

Frequency Range of Test: 30 MHz to 1 GHz, Model: iDS-7208HQHI-M1/S, Mode a, 230V/50Hz

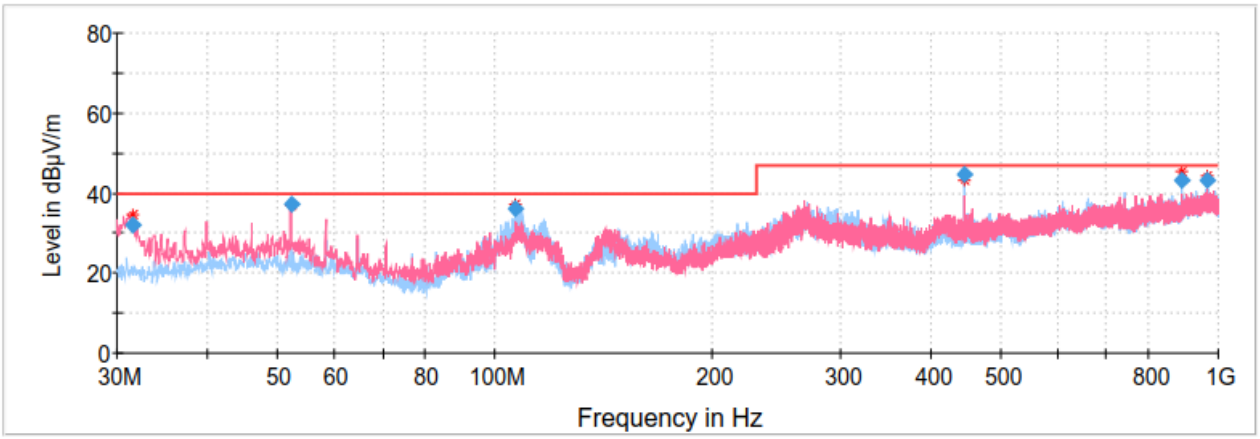


Graphical Results – Horizontal& Vertical

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.650000	35.91	40.00	4.09	1000.0	120.000	100.0	V	152.0	11.0
39.942500	35.28	40.00	4.72	1000.0	120.000	107.0	V	86.0	12.9
46.093500	34.15	40.00	5.85	1000.0	120.000	100.0	V	118.0	13.8
58.372500	36.43	40.00	3.57	1000.0	120.000	107.0	V	69.0	12.6
296.992500	44.53	47.00	2.47	1000.0	120.000	107.0	H	221.0	14.8
445.459500	44.99	47.00	2.01	1000.0	120.000	107.0	H	314.0	18.2

Frequency Range of Test: 30 MHz to 1 GHz, Model: iDS-7208HQHI-M1/S, Mode b, 100V/60Hz

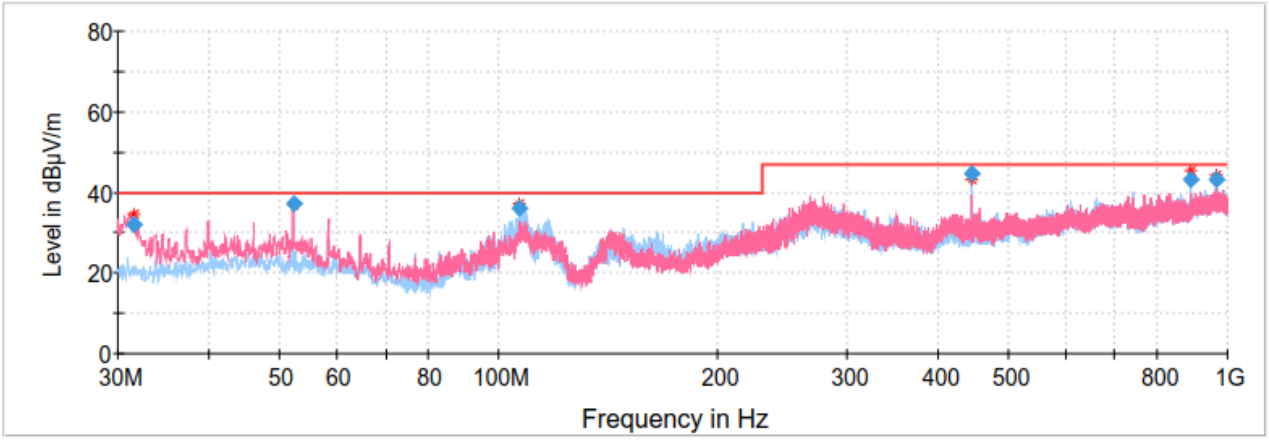


Graphical Results – Horizontal& Vertical

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.512400	32.07	40.00	7.93	1000.0	120.000	111.0	V	249.0	11.0
52.198700	37.20	40.00	2.80	1000.0	120.000	107.0	V	102.0	13.4
106.597400	36.17	40.00	3.83	1000.0	120.000	250.0	H	185.0	11.8
445.500400	44.79	47.00	2.21	1000.0	120.000	193.0	H	313.0	18.0
890.730100	43.23	47.00	3.77	1000.0	120.000	100.0	H	301.0	25.2
965.189000	43.17	47.00	3.83	1000.0	120.000	120.0	V	134.0	25.4

Frequency Range of Test: 30 MHz to 1 GHz, Model: iDS-7208HQHI-M1/S, Mode b, 230V/50Hz

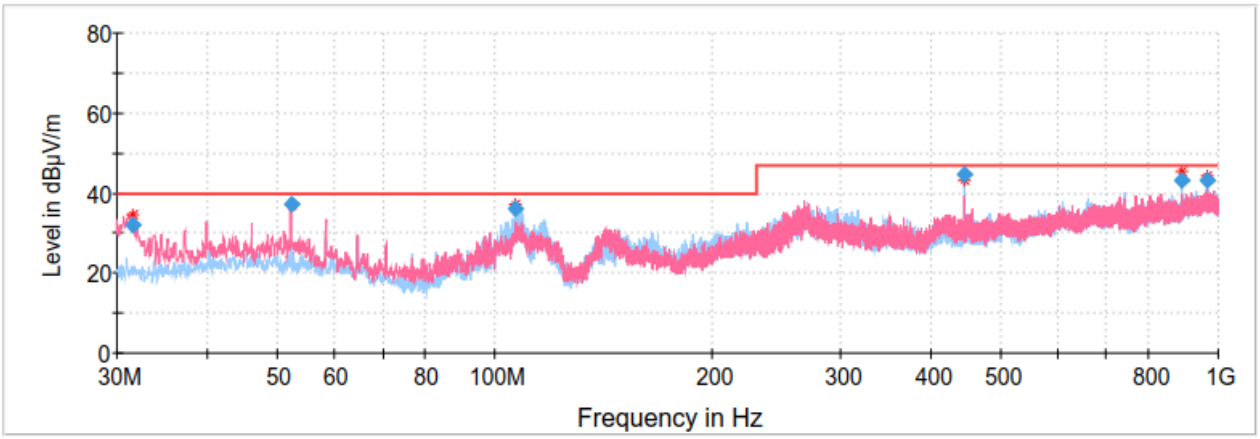


Graphical Results – Horizontal& Vertical

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
31.475500	32.07	40.00	7.93	1000.0	120.000	111.0	V	249.0	11.1
52.204500	37.12	40.00	2.88	1000.0	120.000	107.0	V	102.0	13.5
106.687000	36.21	40.00	3.79	1000.0	120.000	250.0	H	185.0	11.9
445.499500	44.78	47.00	2.22	1000.0	120.000	193.0	H	313.0	18.2
890.980500	43.02	47.00	3.98	1000.0	120.000	100.0	H	301.0	25.0
965.211000	43.13	47.00	3.87	1000.0	120.000	120.0	V	134.0	25.6

Frequency Range of Test: 30 MHz to 1 GHz, Model: iDS-7208HQHI-M1/S, Mode c, 100V/60Hz

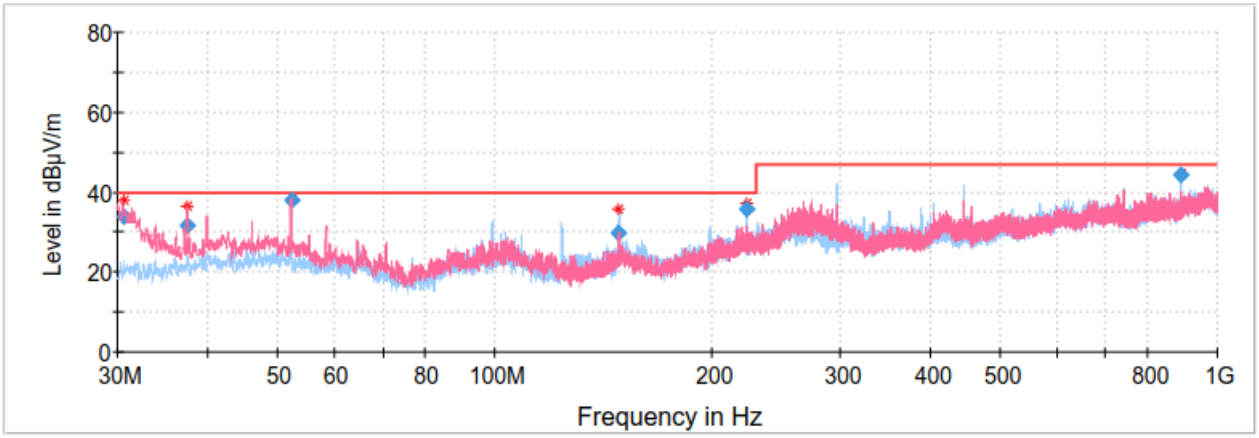


Graphical Results – Horizontal& Vertical

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.588000	33.79	40.00	6.21	1000.0	120.000	107.0	V	159.0	11.1
37.490000	31.70	40.00	8.30	1000.0	120.000	119.0	V	239.0	12.3
52.103000	37.75	40.00	2.25	1000.0	120.000	107.0	V	98.0	13.2
148.131000	29.08	40.00	10.92	1000.0	120.000	170.0	H	166.0	8.5
222.684500	35.56	40.00	4.44	1000.0	120.000	150.0	H	325.0	12.8
891.080000	44.18	47.00	2.82	1000.0	120.000	100.0	H	332.0	25.1

Frequency Range of Test: 30 MHz to 1 GHz, Model: iDS-7208HQHI-M1/S, Mode c, 230V/50Hz

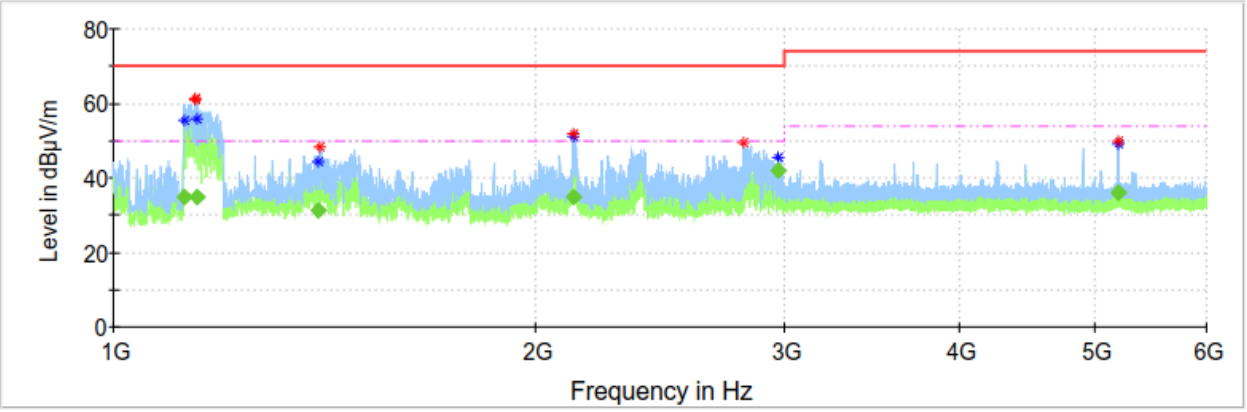


Graphical Results – Horizontal& Vertical

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.600000	33.85	40.00	6.15	1000.0	120.000	107.0	V	159.0	11.0
37.509000	31.79	40.00	8.21	1000.0	120.000	119.0	V	239.0	12.1
52.213000	37.85	40.00	2.15	1000.0	120.000	107.0	V	98.0	13.4
148.271000	29.68	40.00	10.32	1000.0	120.000	170.0	H	166.0	8.6
222.724500	35.61	40.00	4.39	1000.0	120.000	150.0	H	325.0	12.9
890.980500	44.19	47.00	2.81	1000.0	120.000	100.0	H	332.0	25.0

Frequency Range of Test: 1GHz to 6GHz, Model: iDS-7208HQHI-M1/S, Mode a, 100V/60Hz



Graphical Results – Horizontal& Vertical

Final_Result

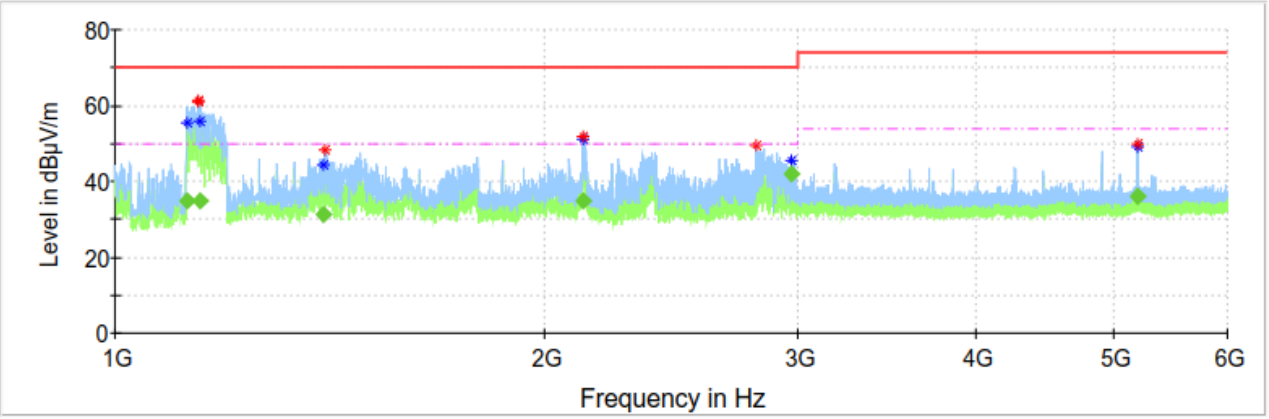
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1123.260000	---	34.66	50.00	15.34	1000.0	1000.000	157.0	V	338.0	-18.7
1145.460000	---	34.76	50.00	15.24	1000.0	1000.000	107.0	H	304.0	-18.7
1399.370000	---	31.19	50.00	18.81	1000.0	1000.000	107.0	V	6.0	-15.2
2126.670000	---	35.13	50.00	14.87	1000.0	1000.000	107.0	V	3.0	-14.3
2970.460000	---	42.15	50.00	7.85	1000.0	1000.000	107.0	H	4.0	-10.6
5197.360000	---	36.13	54.00	17.87	1000.0	1000.000	100.0	V	323.0	-5.3

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1123.260000	---	55.60	50.00	-5.60	---	---	157.0	V	338.0	-18.7
1144.000000	61.14	---	70.00	8.86	---	---	100.0	H	303.0	-18.7
1144.500000	61.25	---	70.00	8.75	---	---	100.0	H	303.0	-18.7
1145.460000	---	55.78	50.00	-5.78	---	---	107.0	H	304.0	-18.7

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1399.370000	---	44.25	50.00	5.75	---	---	107.0	V	6.0	-15.2
1401.500000	48.13	---	70.00	21.87	---	---	100.0	V	356.0	-15.2
2123.500000	51.89	---	70.00	18.11	---	---	100.0	V	356.0	-14.3
2126.670000	---	51.12	50.00	-1.12	---	---	107.0	V	3.0	-14.3
2808.000000	49.46	---	70.00	20.54	---	---	100.0	H	1.0	-12.2
2970.460000	---	45.44	50.00	4.56	---	---	107.0	H	4.0	-10.6
5197.500000	50.01	---	74.00	23.99	---	---	100.0	V	317.0	-5.3
5197.360000	---	49.20	54.00	4.80	---	---	100.0	V	323.0	-5.3

Frequency Range of Test: 1GHz to 6GHz, Model: iDS-7208HQHI-M1/S, Mode a, 230V/50Hz



Graphical Results – Horizontal& Vertical

Final_Result

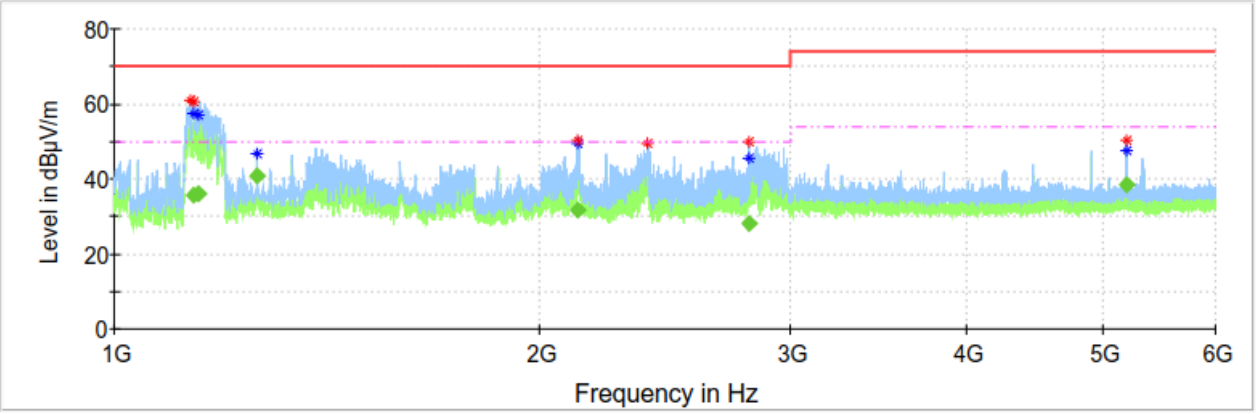
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1123.300000	---	34.86	50.00	15.14	1000.0	1000.000	157.0	V	338.0	-18.7
1145.400000	---	34.86	50.00	15.14	1000.0	1000.000	107.0	H	304.0	-18.7
1399.300000	---	31.11	50.00	18.89	1000.0	1000.000	107.0	V	6.0	-15.2
2126.500000	---	35.02	50.00	14.98	1000.0	1000.000	107.0	V	3.0	-14.3
2970.200000	---	42.09	50.00	7.91	1000.0	1000.000	107.0	H	4.0	-10.6
5197.700000	---	36.02	54.00	17.98	1000.0	1000.000	100.0	V	323.0	-5.3

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1123.300000	---	55.60	50.00	-5.60	---	---	157.0	V	338.0	-18.7
1144.000000	61.14	---	70.00	8.86	---	---	100.0	H	303.0	-18.7
1144.500000	61.25	---	70.00	8.75	---	---	100.0	H	303.0	-18.7
1145.400000	---	55.78	50.00	-5.78	---	---	107.0	H	304.0	-18.7

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1399.300000	---	44.25	50.00	5.75	---	---	107.0	V	6.0	-15.2
1401.500000	48.13	---	70.00	21.87	---	---	100.0	V	356.0	-15.2
2123.500000	51.89	---	70.00	18.11	---	---	100.0	V	356.0	-14.3
2126.500000	---	51.12	50.00	-1.12	---	---	107.0	V	3.0	-14.3
2808.000000	49.46	---	70.00	20.54	---	---	100.0	H	1.0	-12.2
2970.200000	---	45.44	50.00	4.56	---	---	107.0	H	4.0	-10.6
5197.500000	50.01	---	74.00	23.99	---	---	100.0	V	317.0	-5.3
5197.700000	---	49.20	54.00	4.80	---	---	100.0	V	323.0	-5.3

Frequency Range of Test: 1GHz to 6GHz, Model: iDS-7208HQHI-M1/S, Mode b, 100V/60Hz



Graphical Results – Horizontal& Vertical

Final_Result

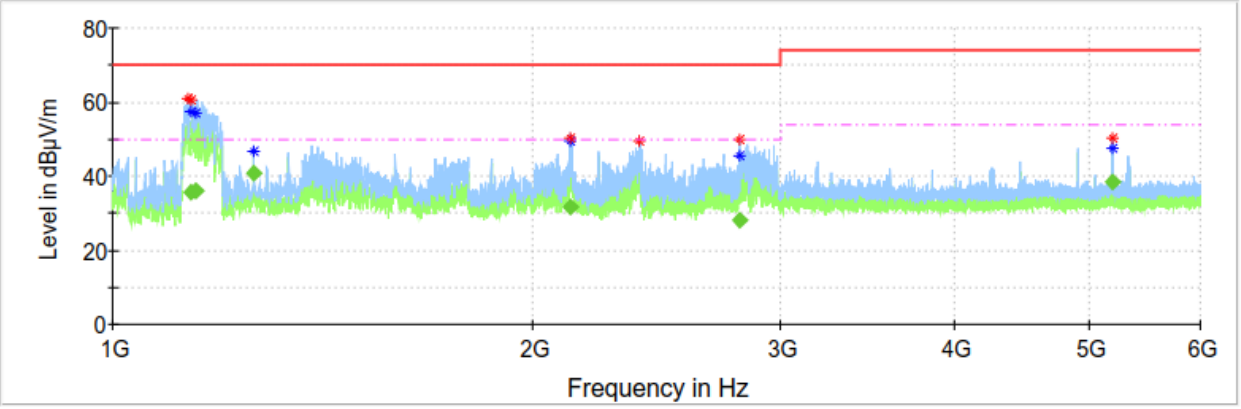
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1138.350000	---	35.95	50.00	14.05	1000.0	1000.000	107.0	H	304.0	-18.6
1145.400000	---	36.03	50.00	13.97	1000.0	1000.000	100.0	H	303.0	-18.7
1262.270000	---	40.80	50.00	9.20	1000.0	1000.000	202.0	H	253.0	-17.5
2127.330000	---	31.57	50.00	18.43	1000.0	1000.000	202.0	V	192.0	-14.3
2812.580000	---	28.18	50.00	21.82	1000.0	1000.000	113.0	V	334.0	-12.2
5197.840000	---	38.30	54.00	11.70	1000.0	1000.000	107.0	V	6.0	-5.3

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1132.500000	60.95	---	70.00	9.05	---	---	100.0	H	293.0	-18.7
1138.350000	---	57.26	50.00	-7.26	---	---	107.0	H	304.0	-18.7
1139.000000	60.76	---	70.00	9.24	---	---	100.0	V	337.0	-18.6
1145.400000	---	56.88	50.00	-6.88	---	---	100.0	H	303.0	-18.7

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1262.270000	---	46.81	50.00	3.19	---	---	202.0	H	253.0	-17.5
2125.350000	---	49.58	50.00	0.42	---	---	199.0	V	192.0	-14.3
2127.330000	50.43	---	70.00	19.57	---	---	200.0	V	176.0	-14.3
2378.520000	49.40	---	70.00	20.61	---	---	100.0	V	12.0	-13.6
2807.740000	49.94	---	70.00	20.06	---	---	100.0	V	337.0	-12.2
2812.580000	---	45.50	50.00	4.50	---	---	113.0	V	334.0	-12.2
5197.580000	50.20	---	74.00	23.80	---	---	200.0	V	0.0	-5.3
5197.840000	---	47.45	54.00	6.55	---	---	107.0	V	6.0	-5.3

Frequency Range of Test: 1GHz to 6GHz, Model: iDS-7208HQHI-M1/S, Mode b, 230V/50Hz



Graphical Results – Horizontal& Vertical

Final_Result

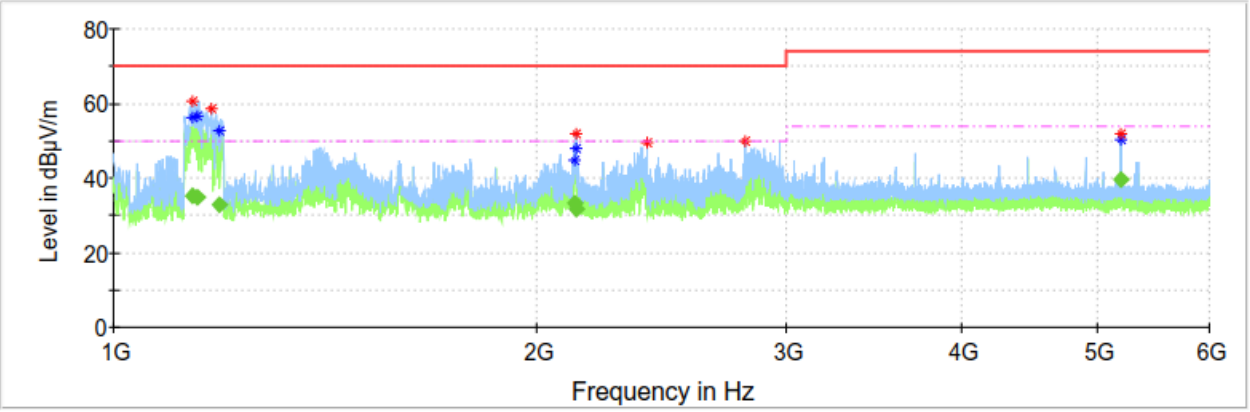
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1137.500000	---	35.45	50.00	14.55	1000.0	1000.000	107.0	H	304.0	-18.6
1145.300000	---	36.03	50.00	13.97	1000.0	1000.000	100.0	H	303.0	-18.7
1262.200000	---	40.89	50.00	9.11	1000.0	1000.000	202.0	H	253.0	-17.5
2125.300000	---	31.77	50.00	18.23	1000.0	1000.000	202.0	V	192.0	-14.3
2812.000000	---	28.18	50.00	21.82	1000.0	1000.000	113.0	V	334.0	-12.2
5197.800000	---	38.27	54.00	11.73	1000.0	1000.000	107.0	V	6.0	-5.3

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1132.500000	60.95	---	70.00	9.05	---	---	100.0	H	293.0	-18.7
1137.500000	---	57.26	50.00	-7.26	---	---	107.0	H	304.0	-18.7
1139.000000	60.76	---	70.00	9.24	---	---	100.0	V	337.0	-18.6
1145.300000	---	56.88	50.00	-6.88	---	---	100.0	H	303.0	-18.7

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1262.200000	---	46.81	50.00	3.19	---	---	202.0	H	253.0	-17.5
2125.300000	---	49.58	50.00	0.42	---	---	199.0	V	192.0	-14.3
2127.500000	50.43	---	70.00	19.57	---	---	200.0	V	176.0	-14.3
2378.500000	49.40	---	70.00	20.61	---	---	100.0	V	12.0	-13.6
2807.000000	49.94	---	70.00	20.06	---	---	100.0	V	337.0	-12.2
2812.000000	---	45.50	50.00	4.50	---	---	113.0	V	334.0	-12.2
5197.500000	50.20	---	74.00	23.80	---	---	200.0	V	0.0	-5.3
5197.800000	---	47.45	54.00	6.55	---	---	107.0	V	6.0	-5.3

Frequency Range of Test: 1GHz to 6GHz, Model: iDS-7208HQHI-M1/S, Mode c, 100V/60Hz



Graphical Results – Horizontal& Vertical

Final_Result

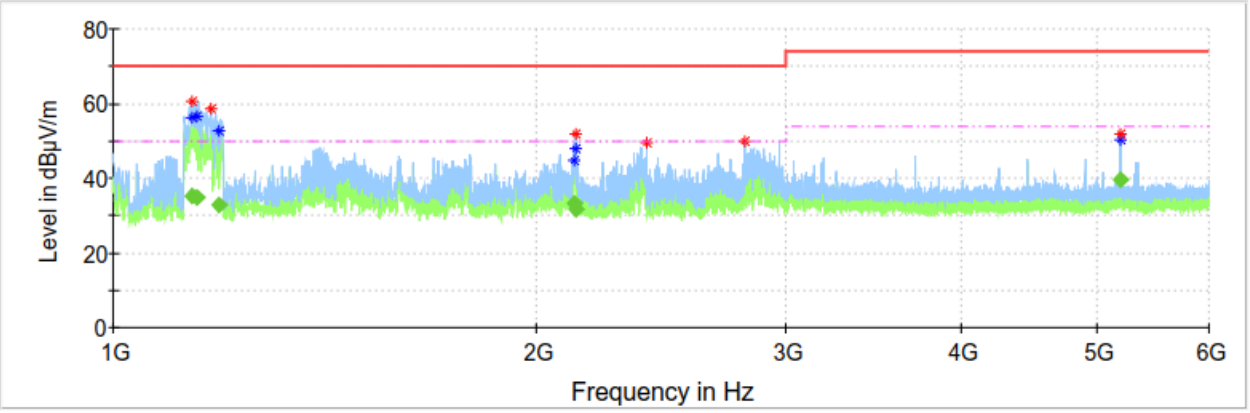
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1137.280000	---	35.27	50.00	14.73	1000.0	1000.000	107.0	H	305.0	-18.6
1144.520000	---	34.71	50.00	15.29	1000.0	1000.000	107.0	H	304.0	-18.7
1190.150000	---	32.87	50.00	17.13	1000.0	1000.000	150.0	V	11.0	-18.5
2127.792000	---	33.17	50.00	16.83	1000.0	1000.000	100.0	V	219.0	-14.3
2130.935000	---	31.72	50.00	18.28	1000.0	1000.000	107.0	V	219.0	-14.3
5197.304000	---	39.48	54.00	14.52	1000.0	1000.000	100.0	V	-4.0	-5.4

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1137.280000	---	56.10	50.00	-6.10	---	---	107.0	H	305.0	-18.6
1138.500000	60.66	---	70.00	9.34	---	---	100.0	H	293.0	-18.6
1144.520000	---	56.47	50.00	-6.47	---	---	107.0	H	304.0	-18.7
1174.000000	58.76	---	70.00	11.24	---	---	200.0	V	0.0	-18.6

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1190.150000	---	52.55	50.00	-2.55	---	---	149.0	V	11.0	-18.5
2127.792000	---	44.66	50.00	4.34	---	---	100.0	V	183.0	-14.3
2128.500000	51.86	---	70.00	18.14	---	---	100.0	V	227.0	-14.3
2130.935000	---	48.00	50.00	2.00	---	---	107.0	V	219.0	-14.3
2393.500000	49.49	---	70.00	20.51	---	---	200.0	H	23.0	-13.6
2806.500000	50.07	---	70.00	19.93	---	---	100.0	H	359.0	-12.2
5197.304000	---	50.30	54.00	3.70	---	---	100.0	V	-4.0	-5.4
5198.000000	52.03	---	74.00	21.97	---	---	100.0	V	4.0	-5.2

Frequency Range of Test: 1GHz to 6GHz, Model: iDS-7208HQHI-M1/S, Mode c, 230V/50Hz



Graphical Results – Horizontal& Vertical

Final_Result

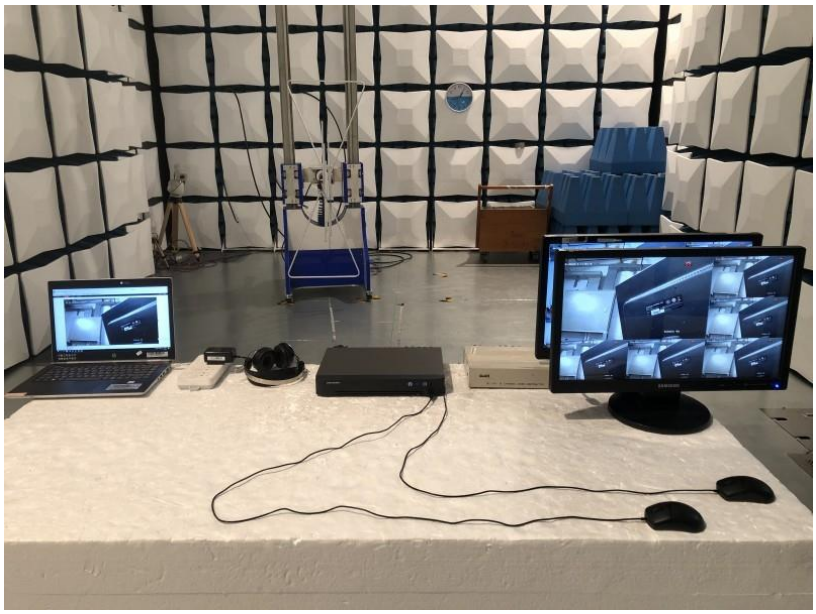
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1138.300000	---	35.36	50.00	14.64	1000.0	1000.000	107.0	H	305.0	-18.6
1145.400000	---	34.84	50.00	15.16	1000.0	1000.000	107.0	H	304.0	-18.7
1189.500000	---	32.94	50.00	17.06	1000.0	1000.000	150.0	V	11.0	-18.5
2127.500000	---	33.39	50.00	16.61	1000.0	1000.000	100.0	V	219.0	-14.3
2131.100000	---	31.84	50.00	18.16	1000.0	1000.000	107.0	V	219.0	-14.3
5197.800000	---	39.59	54.00	14.41	1000.0	1000.000	100.0	V	-4.0	-5.3

Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1138.300000	---	56.10	50.00	-6.10	---	---	107.0	H	305.0	-18.6
1138.500000	60.66	---	70.00	9.34	---	---	100.0	H	293.0	-18.6
1145.400000	---	56.47	50.00	-6.47	---	---	107.0	H	304.0	-18.7
1174.000000	58.76	---	70.00	11.24	---	---	200.0	V	0.0	-18.6

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1189.500000	---	52.55	50.00	-2.55	---	---	149.0	V	11.0	-18.5
2127.000000	---	44.66	50.00	4.34	---	---	100.0	V	183.0	-14.3
2128.500000	51.86	---	70.00	18.14	---	---	100.0	V	227.0	-14.3
2131.100000	---	48.00	50.00	2.00	---	---	107.0	V	219.0	-14.3
2393.500000	49.49	---	70.00	20.51	---	---	200.0	H	23.0	-13.6
2806.500000	50.07	---	70.00	19.93	---	---	100.0	H	359.0	-12.2
5197.800000	---	50.30	54.00	3.70	---	---	100.0	V	-4.0	-5.3
5198.000000	52.03	---	74.00	21.97	---	---	100.0	V	4.0	-5.3

30 MHz to 1 GHz



1 GHz to 6 GHz

Test Setup

2.3.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.4 Flicker

2.4.1 Specification Reference

EN 61000-3-3:2013, Clause 6

2.4.2 Equipment Under Test

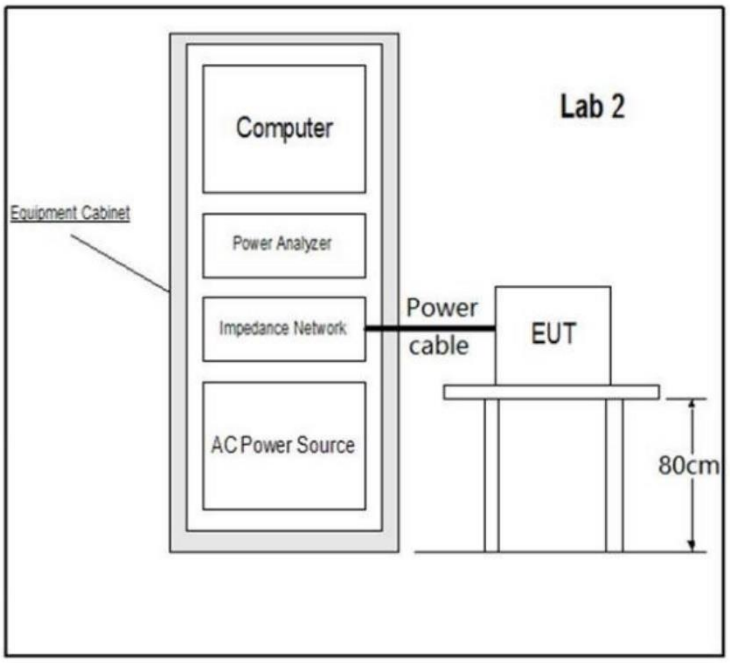
iDS-7208HQHI-M1/S

2.4.3 Date of Test

14/06/2019

2.4.4 Test Method

For equipment not mentioned in annex A, controls or automatic programs should be set to produce the most unfavorable sequence of voltage change, using only those combinations of controls and programmes which are mentioned by the manufacturer in the instruction manual, or are otherwise likely to be used



2.4.5 Environmental Conditions

Ambient Temperature	20.0 °C
Relative Humidity	44.0 %
Atmospheric Pressure	1017.0 mbar

2.4.6 Specification Limits

The value of *P*st shall not be greater than 1.0
The value of *P*lt shall not be greater than 0.65
*T*max, the accumulated time value of *d*(t) with a deviation exceeding 3.3% during a single voltage change at the EUT terminals, shall not exceed 500ms
The maximum relative steady-state voltage change, *d*c, shall not exceed 3.3%
The maximum relative voltage change *d*max, shall not exceed
4% without additional conditions
6% for equipment which is:
Switched manually, or
Switched automatically more frequently than twice per day, and also has either a delayed start, or manual restart, after a power supply interruption
7% for equipment which is:
Attended whilst in use, or
Switched on automatically, or is intended to be switched on manually, no more than Twice per day, and also has either a delayed restart or manual restart, after a power supply interruption

2.4.7 Test Results

Results for Configuration and Mode: AC Powered / Power on/off.

Performance assessment of the EUT made during this test: *Pass*.

Detailed results are shown below.

Model: iDS-7208HQHI-M1/S, Mode a

Parameter values recorded during the test:

Vrms at the end of test (Volt):	**230.01**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**-0.04**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.271**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.119**	**Test limit:**	**0.650**	**Pass**

Model: iDS-7208HQHI-M1/S, Mode b

Parameter values recorded during the test:

Vrms at the end of test (Volt):	**230.00**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**-0.04**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.273**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.119**	**Test limit:**	**0.650**	**Pass**

Model: iDS-7208HQHI-M1/S, Mode c

Parameter values recorded during the test:

Vrms at the end of test (Volt):	**229.98**			
Highest dt (%):	**0.00**	**Test limit (%):**	**N/A**	**N/A**
T-max (mS):	**0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.03**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.273**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.119**	**Test limit:**	**0.650**	**Pass**

Test setup

2.4.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.5 Enclosure Port - Electrostatic discharge

2.5.1 Specification Reference

EN 55024:2010, Clause 10 Table 1, 1.3
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.5.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.5.3 Date of Test

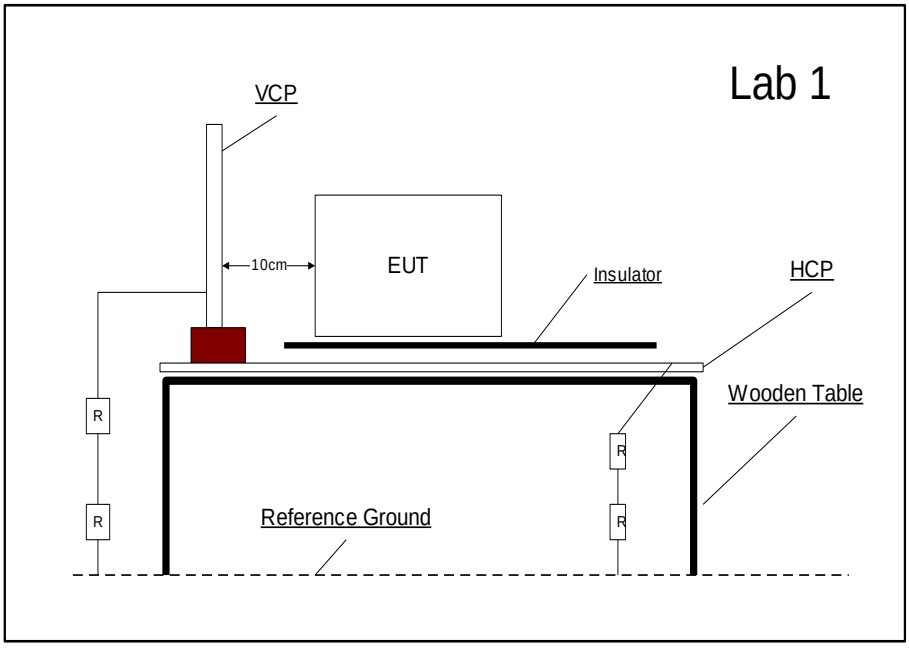
12/06/2019

2.5.4 Test Method

The equipment under test including associated cabling was configured on but insulted from, using a 0.5mm isolator, a horizontal coupling plane fitted to the top of a 0.8 m non-conductive table for table-top equipment; and on a 0.1 m insulated support for floor standing equipment; above a ground reference plane all within a test laboratory.

Using the air discharge method for non-metallic parts, contact discharge method for metallic parts with both vertical and horizontal couple plane discharge methods for the sides of the equipment under test, the required electrostatic discharge voltage levels in both voltage polarities were applied at the detailed pulse repartition rate.

During this testing any anomalies in the equipment under tests performance was recorded.



2.5.5 Environmental Conditions

Ambient Temperature	22.6 °C
Relative Humidity	43.0 %
Atmospheric Pressure	1016.0 mbar

2.5.6 Specification Limits

Required Test Levels				Performance Criteria
Discharge type	Discharge Level (kV)		Number of discharges per location (each polarity)	
	Positive	Negative		
Air – Direct	2, 4 and 8	2, 4 and 8	see note 1	B
Contact – Direct	4	4	see note 1	B
Contact – Indirect	4	4	see note 1	B
Supplementary information: Note 1. The EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points. For table-top equipment one of the test points shall be the centre front edge of the horizontal coupling plane, which shall be subjected to at least 50 indirect discharges (25 of each polarity).				

Test voltages [a]: Air discharges Contact discharges	2 kV; 4 kV & 8 kV 6 kV
Polarity	+ & -
Number of discharges per point for each voltage and polarity	10
Interval between discharges	≥ 1 s
[a] The test voltages specified are the open-circuit voltages. Where the test voltages for the lower severity levels are included, they shall also be satisfied.	

2.5.7 Test Results

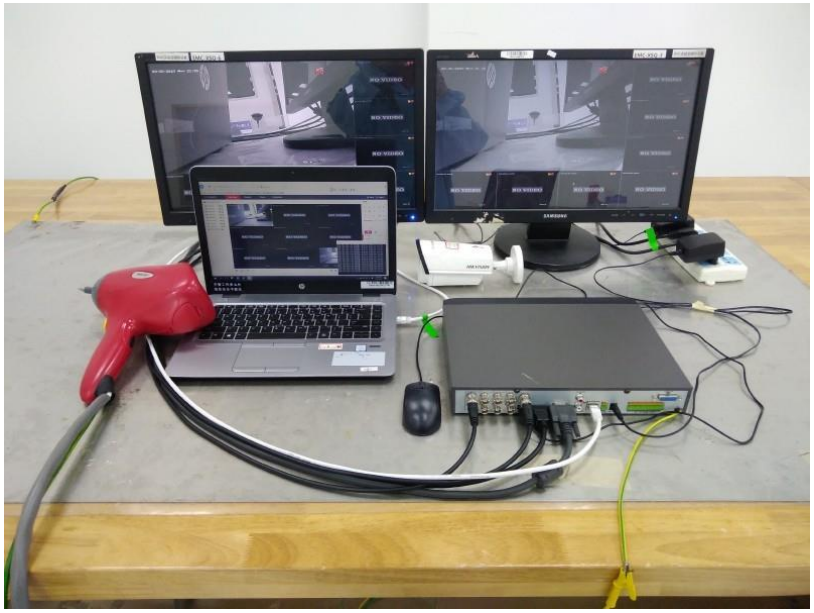
Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

ID	Test Point	Discharge	Results: Pass									
			2kV		4kV		6kV		8kV		15kV	
			+	-	+	-	+	-	+	-	+	-
✓	Metal Enclosure, Metal screws, Ports	Contact					✓	✓				
✓	Gap seam, Button, Ports cables	Air	✓	✓	✓	✓			✓	✓		

Key to Results	
✓	The EUT's performance was not impaired at this test point when the ESD pulse was applied.
✓*	No discharge occurred at this point when the ESD pulse was applied.
N/A	Not Applicable.



Test Setup

2.5.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.6 Enclosure Port - Radio-frequency electromagnetic field Amplitude modulated

2.6.1 Specification Reference

EN 55024:2010, Clause 10 Table 1, 1.2
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.6.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.6.3 Date of Test

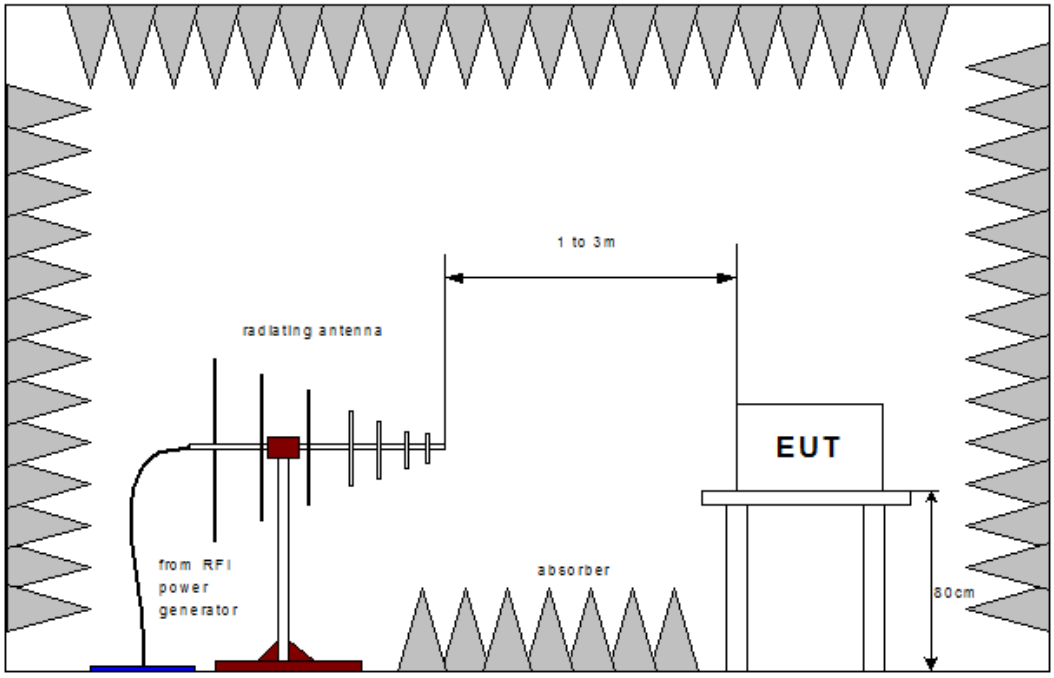
12/06/2019

2.6.4 Test Method

The equipment under test including associated cabling was configured, on a 0.8 m non-conductive table for table-top equipment and on a 0.1 m insulated support for floor standing equipment; with a pre-calibrated semi anechoic chamber.

All four sides of the equipment under test were subjected to the required RF field strength, modulated as described, swept over the frequency range of test with the antenna positioned in both horizontal and vertical polarizations.

During this testing any anomalies in the equipment under tests performance was recorded.



2.6.5 Environmental Conditions

Ambient Temperature	22.4 °C
Relative Humidity	41.0 %
Atmospheric Pressure	1017.0 mbar

2.6.6 Specification Limits

Required Test Levels					Performance Criteria
Frequency Range (MHz)	Level (V/m)	Modulation	Step Size (%)	Dwell (s)	
80 to 1000	3	AM (80 %,1 kHz, sine wave)	1	>1	A
Supplementary information: Note 1. EUT powered at one of the Nominal input voltages and frequencies					

Frequency range		80 MHz to 2 700 MHz
Field strength [a]		10 V/m
Modulation:	Amplitude modulation [b] Pulse modulation [b c]	80 %, 1 kHz, sinusoidal 1 Hz (0,5 s ON : 0,5 s OFF)
NOTE The upper frequency limit will be reviewed again at the next maintenance cycle due to the development and expected proliferation of higher frequency transmitters. Frequencies up to 6 GHz may be considered.		
[a] The field strength quoted is the r.m.s. value for the continuous wave, before modulation. [b] See Figure 1. [c] For devices defined in 10.2 only.		

2.6.7 Test Results

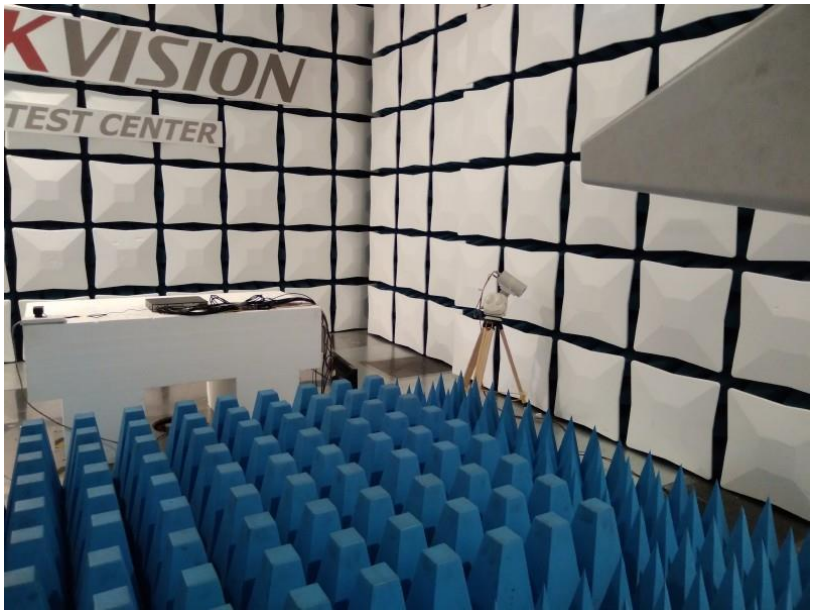
Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tested with unshielded network line.

Tabulated Results for RF Electromagnetic Field 80 - 2700 MHz				
Side of the equipment under test	Antenna polarization	Test Level	Modulation	Result
Front	Horizontal, Vertical	10 V/m	80%,1kHz, sinusoidal 1Hz (0.5s ON;0.5s OFF)	Pass
Back	Horizontal, Vertical	10 V/m	80%,1kHz, sinusoidal 1Hz (0.5s ON;0.5s OFF)	Pass
Left	Horizontal, Vertical	10 V/m	80%,1kHz, sinusoidal 1Hz (0.5s ON;0.5s OFF)	Pass
Right	Horizontal, Vertical	10 V/m	80%,1kHz, sinusoidal 1Hz (0.5s ON;0.5s OFF)	Pass



Test Setup

2.6.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.7 AC Power Port - Electrical fast transient

2.7.1 Specification Reference

EN 55024:2010, Clause 10 Table 4, 4.5
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.7.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.7.3 Date of Test

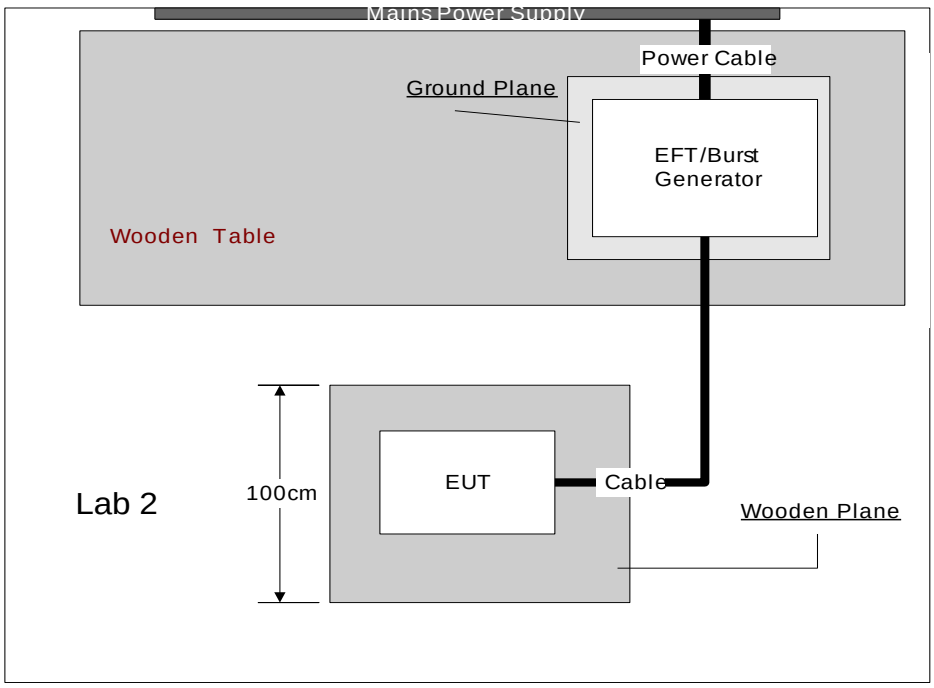
12/06/2019

2.7.4 Test Method

The equipment under test including associated cabling was configured on but insulted from, using a 0.1m isolator, a horizontal coupling plane fitted to the top of a 0.8 m non-conductive table for table-top equipment; and on a 0.1 m insulated support for floor standing equipment; above a ground reference plane all within a test laboratory.

Using a CDN for power ports, capacitive coupling clamp for signal and control ports and a 33 nF coupling capacitor for earth ports, the required fast transient burst voltage levels in both voltage polarities were applied at the detailed pulse repartition rate and duration of test.

During this testing any anomalies in the equipment under tests performance was recorded.



2.7.5 Environmental Conditions

Ambient Temperature	22.3 °C
Relative Humidity	44.0 %

Atmospheric Pressure 1015.0 mbar

2.7.6 Specification Limit

Required Test Levels					
Line Under Test	Level (kV)	Repetition Rate (kHz)	Test Duration	Coupling Method	Performance Criteria
AC Power Port	± 1	5	1 min per polarity	Direct	B
Supplementary information: Note 1. EUT powered at one of the Nominal input voltages and frequencies					

Test voltages: [a]	
AC mains supply lines [b]	2 kV
Other supply [c] / signal lines [d]	1 kV
Repetition rate	100 KHz
Polarity	+ and -
Number of applications for each polarity	1
Duration per application	$1\ ^{+0,2}_{-0}$ min

[a] The test voltages specified are the open-circuit voltages.

[b] Applied by a CDN.

[c] Applied by a CDN. DC ports, which are not intended to be connected to a DC distribution network, e.g. outputs for Sounders, are treated as signal ports.

[d] Applied by the capacitive clamp injection method, no test is required where the manufacturer s specification indicates that it is not permitted to connect cables > 3 m long.

2.7.7 Test Results

Results for Configuration and Mode: AC Powered / Power on.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tabulated Results for Fast Transient Burst Immunity					
Line under test	Test Level (V/m)	Repetition Rate	Test Duration	Coupling Method	Result
AC power line	±1.0 kV,±2.0 kV	5,100 kHz	1 min	Direct	Pass

Test setup

2.7.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.8 AC Power Port - Surges

2.8.1 Specification Reference

EN 55024:2010, Clause 10 Table 4, 4.4
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.8.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.8.3 Date of Test

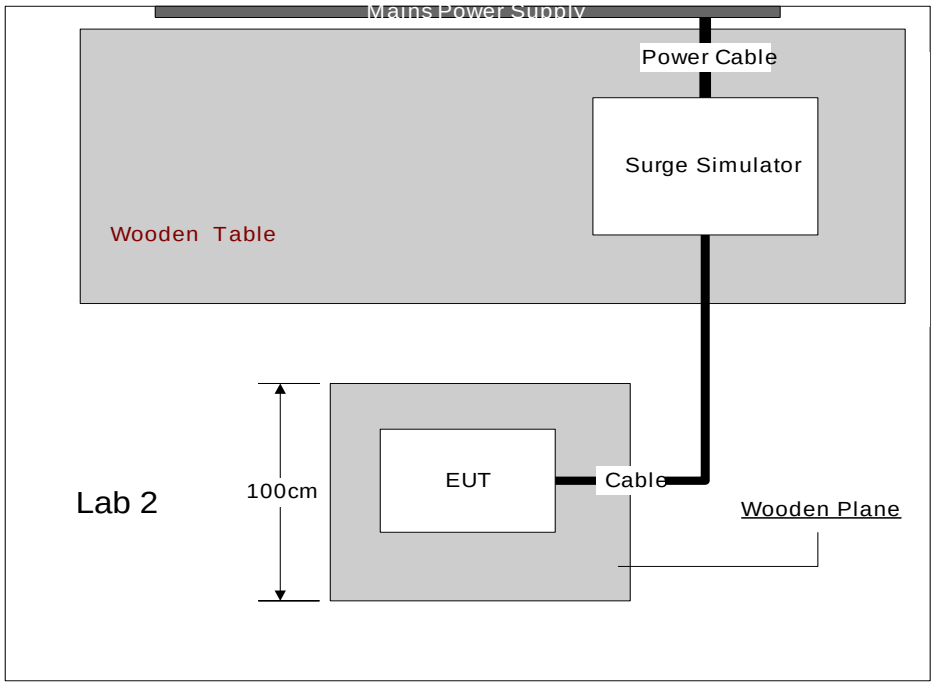
12/06/2019

2.8.4 Test Method

The equipment under test including associated cabling was configured, on a 0.8 m non-conductive table for table-top equipment and on a 0.1 m insulated support for floor standing equipment above a ground reference plane all within a test laboratory.

Using CDNs for power ports and appropriate coupling methods for applicable signal and control ports, the required number of surges was applied for each surge voltage level using both positive and negative surge voltage polarities. Surges were applied at the power line frequency phase angles and repartition rates detailed.

During this testing any anomalies in the equipment under tests performance was recorded.



2.8.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	43.0 %

Atmospheric Pressure 1019.0 mbar

2.8.6 Specification Limits

Required Test Levels					Performance Criteria
Line Under Test	Level (kV)	Surge Waveform	Phase Angles (°)	No of Pulse	
AC Power Port	± 1 (Line to Line) ± 2 (Line to Earth)	1.2/50 (8/20)	0, 90, 180 & 270	5 per polarity	B
Supplementary information: Note 1. EUT powered at one of the Nominal input voltages and frequencies					

Test voltages [a]: AC mains supply lines: - line-to-line - line-to-ground [b] Other supply/signal lines [c] - line-to-ground [d]	 0,5 kV & 1 kV 0,5 kV; 1 kV & 2 kV 0,5 kV & 1 kV
Polarity	+ & –
Minimum number of surges at each polarity, voltage, coupling mode and line: AC mains supply lines Other supply/signal lines	 20 [e] 5
NOTE Attention is drawn to the requirement in EN 61000-4-5:2006, 8.2 to consider the non-linear current-voltage characteristics of the equipment under test.	
[a] The test voltages specified are the open-circuit voltages. The test voltages for the lower severity levels are included because all the lower severity levels also have to be satisfied. [b] Via a 10 Ω series resistor. [c] No test is required where the manufacturer s specification indicates that it is not permitted to connect cables > 30 m long. [d] Via a 40 Ω series resistor. [e] 5 at each zero-crossing point and at the maximum and minimum points on the mains voltage wave.	

2.8.7 Test Results

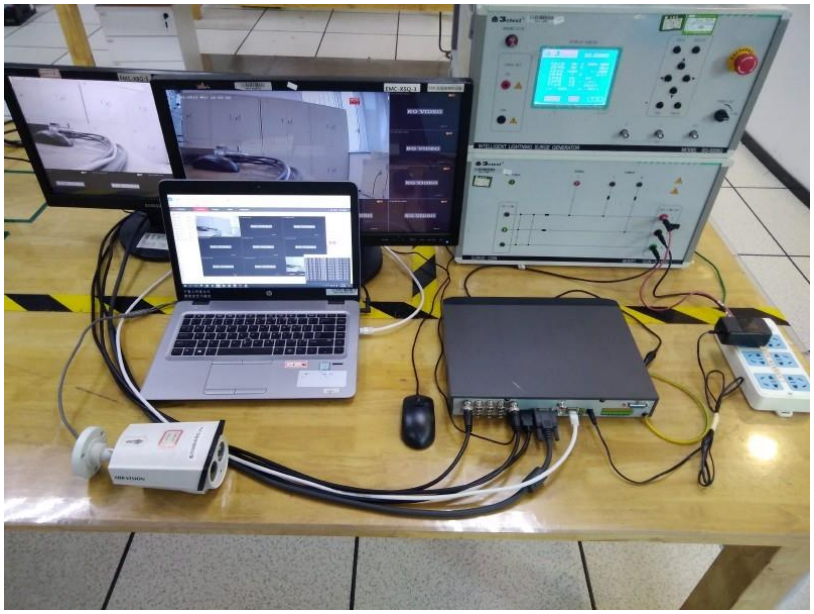
Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tabulated Results for Surge Immunity (Power Ports)							
Line under test	Coupling	Level	Polarity	Phase Angle	No of Pulses	Repetition Rate	Result
AC power line	Live to Neutral	1.0kV	+	0,90,180,270 deg	20	60 sec	Pass
AC power line	Live to Neutral	1.0kV	-	0,90,180,270 deg	20	60 sec	Pass
AC power line	Live to Earth	2.0kV	+	0,90,180,270	20	60 sec	Pass

Tabulated Results for Surge Immunity (Power Ports)							
				0 deg			
AC power line	Live to Earth	2.0kV	-	0,90,180,270 deg	20	60 sec	Pass
AC power line	Neutral to Earth	2.0kV	+	0,90,180,270 deg	20	60 sec	Pass
AC power line	Neutral to Earth	2.0kV	-	0,90,180,270 deg	20	60 sec	Pass



Test setup

2.8.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.9 AC Power Port - Radio-frequency continuous conducted

2.9.1 Specification Reference

EN 55024:2010, Clause 10 Table 4, 4.1
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.9.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.9.3 Date of Test

13/06/2019

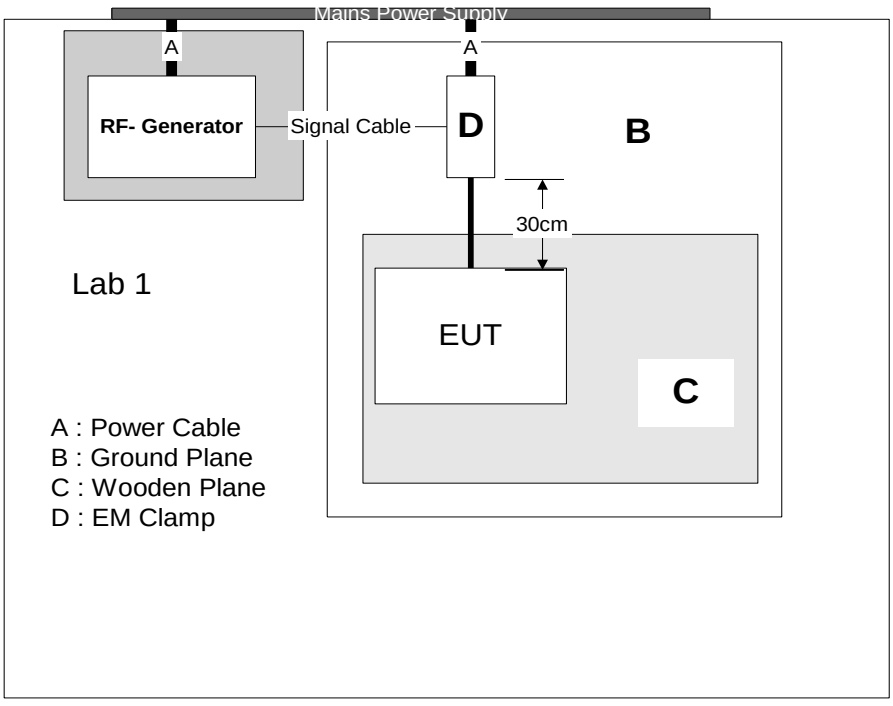
2.9.4 Test Method

The equipment under test was configured, on but insulted from, using a 0.1 m isolator, a horizontal coupling plane fitted to the top of a 0.8 m non-conductive table for table-top equipment; and on a 0.1 m insulated support for floor standing equipment; above a ground reference plane all within a test laboratory.

All associated cabling was configured, on but insulted from, using a 50 mm isolator, the same horizontal coupling plane as the equipment under test.

Using CDNs, EM Clamps or current clamps as appropriate, the power ports and applicable signal and control ports were subjected to required, pre calibrated RF injected signal strength, modulated as described, swept over the frequency range of test.

During this testing any anomalies in the equipment under tests performance was recorded.



2.9.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	43.0 %
Atmospheric Pressure	1015.0 mbar

2.9.6 Specification Limits

Required Test Levels						Performance Criteria
Line Under Test	Frequency Range (MHz)	Level (V)	Modulation	Step Size (%)	Dwell (s)	
AC Power Port	0.15 to 80	3	AM (80 %,1 kHz, sine wave)	1	>1	A
Supplementary information: Note 1. EUT powered at one of the Nominal input voltages and frequencies						

Frequency range	0,15 MHz to 100 MHz
Voltage level (emf)[a] U_0	140 dBµV 10 V
Modulation: Amplitude modulation[b] Pulse modulation[b c]	80 %, 1 kHz, sinusoidal 1 Hz (0,5 s ON : 0,5 s OFF)
[a] The voltage level quoted is the open-circuit r.m.s. value for the continuous wave, before modulation. [b] See Figure 1. [c] For EUTs as defined in 11.2 only.	

2.9.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tabulated Results for Conducted Radio Frequency Interference					
Modulation = 80 % AM (1 kHz)				1Hz 0.5s ON;0.5s OFF	
Line Under Test	Frequency Range	Test Level	Coupling Method	Interference Return Path	Result
power line	150kHz to 100MHz	3, 10 V	CDN	CDN	Pass

Test Setup

2.9.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.10 AC Power port - Voltage dips, interruptions

2.10.1 Specification Reference

EN 55024:2010, Clause 10 Table 4, 4.2
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.10.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.10.3 Date of Test

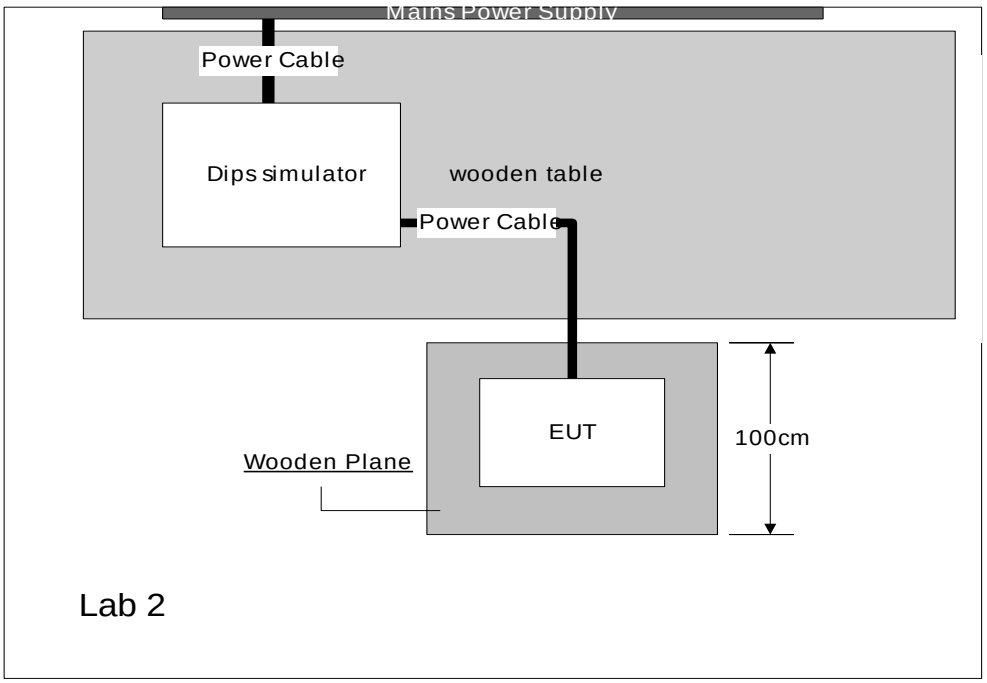
13/06/2019

2.10.4 Test Method

The equipment under test including associated cabling was configured, on a 0.8 m non-conductive table for table-top equipment and on a 0.1 m insulated support for floor standing equipment above a ground reference plane all within a test laboratory.

Using a programmable power supply the equipment under test was subjected to the detailed supply voltage dips and interruptions. The required supply phase synchronization and test repetition rate, detailed, was controlled by the programmable power supply.

During this testing any anomalies in the equipment under tests performance was recorded.



2.10.5 Environmental Conditions

Ambient Temperature	24.2 °C
Relative Humidity	43.0 %

Atmospheric Pressure 1015.0 mbar

2.10.6 Specification Limits

Required Test Levels			Performance Criteria
Test	Test Level	Duration	
Voltage Dip	0 % of Vnom	½ cycle	B
Voltage Dip	70 % of Vnom	25 cycles (50Hz)	C
Supplementary information: Note 1. EUT powered at one of the Nominal input voltages and frequencies			

Table 2 – Mains supply voltage reductions – Conditioning

Voltage reduction	20 %	30 %	60 %	100 %
Duration of reduction (No. of periods) (i.e. cycles of the voltage wave)	250	25	10	250
Number of reductions at each duration	3	3	3	3
Interval between reductions	≥ 10 s	≥ 10 s	≥ 10 s	≥ 10 s

2.10.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tabulated Results for Voltage Dip and Short Interruption					
Line under test	Vnom	Operating Frequency	Test Level	Duration	Result
AC power line	230 Vac	50 Hz	0% of Vnom	250 cycles	Pass
AC power line	230 Vac	50 Hz	70% of Vnom	25 cycles	Pass
AC power line	230 Vac	50 Hz	40% of Vnom	10 cycles	Pass
AC power line	230 Vac	50 Hz	80% of Vnom	250 cycles	Pass
AC power line	230 Vac	50 Hz	0% of Vnom	0.5 cycles	Pass
AC power line	230 Vac	50 Hz	70% of Vnom	25 cycles	Pass
AC power line	230 Vac	50 Hz	0% of Vnom	250 cycles (50Hz)	Pass

Test Setup

2.10.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.11 AC Power port - Mains supply voltage variations

2.11.1 Specification Reference

EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.11.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.11.3 Date of Test

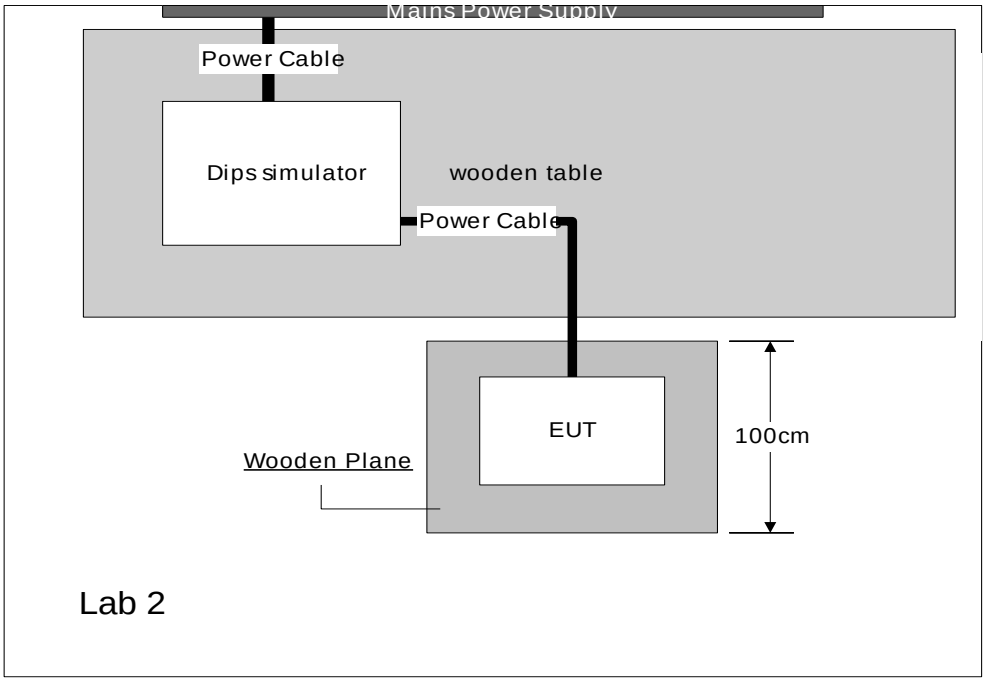
13/06/2019

2.11.4 Test Method

The equipment under test including associated cabling was configured, on a 0.8 m non-conductive table for table-top equipment and on a 0.1 m insulated support for floor standing equipment above a ground reference plane all within a test laboratory.

Using a programmable power supply the equipment under test was subjected to the detailed supply voltage dips and interruptions. The required supply phase synchronization and test repetition rate, detailed, was controlled by the programmable power supply.

During this testing any anomalies in the equipment under tests performance was recorded.



2.11.5 Environmental Conditions

Ambient Temperature	25.4 °C
Relative Humidity	53.0 %
Atmospheric Pressure	1012.0 mbar

2.11.6 Specification Limit

Table 1 Mains supply voltage variations Conditioning

Supply voltage max (U_{max})	U_{nom} [a] + 10 %
Supply voltage min (U_{min})	U_{nom} [a] - 15 %

[a] U_{nom} = Nominal mains voltage. Where provision is made to adapt the equipment to suit a number of nominal supply voltages (e.g. by transformer tap changing), the above conditioning severity shall be applied for each nominal voltage, with the equipment suitably adapted. For equipment which is claimed to be suitable for a range of nominal mains voltages (e.g. 220/240 V) without adaptation, U_{max} = (Maximum U_{nom}) + 10 %, and U_{min} = (Minimum U_{nom}) 15 %. In any case the range of U_{nom} shall include the European nominal mains voltage of 230 V.

2.11.7 Test Results

Results for Configuration and Mode: AC Powered / Power on.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tabulated Results for Mains supply voltage variations			
Line under test	Vnom	Operating Frequency	Result: pass
power line	AC264V	50 Hz	1.The EUT working normal, before the conditioning 2.Monitor the EUT during the conditioning period there was no status change has occurred, during the conditioning 3.No degradation in the performance of the EUT was observed, after the conditioning
power line	AC85V	50 Hz	

Test Setup

2.11.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.12 Signal Port - Radio-frequency continuous conducted

2.12.1 Specification Reference

EN 55024:2010, Clause 10 Table 2, 2.1
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.12.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.12.3 Date of Test

12/06/2019

2.12.4 Test Method

The equipment under test was configured, on but insulted from, using a 0.1 m isolator, a horizontal coupling plane fitted to the top of a 0.8 m non-conductive table for table-top equipment; and on a 0.1 m insulated support for floor standing equipment; above a ground reference plane all within a test laboratory.

All associated cabling was configured, on but insulted from, using a 50 mm isolator, the same horizontal coupling plane as the equipment under test.

Using CDNs, EM Clamps or current clamps as appropriate, the power ports and applicable signal and control ports were subjected to the required, pre calibrated RF injected signal strength, modulated as described, swept over the frequency range of test.

During this testing any anomalies in the equipment under tests performance was recorded.

2.12.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	43.0 %
Atmospheric Pressure	1015.0 mbar

2.12.6 Specification Limits

Required Test Levels						Performance Criteria
Line Under Test	Frequency Range (MHz)	Level (V)	Modulation	Step Size (%)	Dwell (s)	
Signal and telecommunication ports	0.15 to 80	3	AM (80 %,1 kHz, sine wave)	1	3	A
Supplementary information: Note 1. Only required in the case of lines > 3m						

Frequency range	0,15 MHz to 100 MHz
Voltage level (emf)[a] U_0	140 dBµV 10 V
Modulation: Amplitude modulation[b] Pulse modulation[b c]	80 %, 1 kHz, sinusoidal 1 Hz (0,5 s ON : 0,5 s OFF)

[a] The voltage level quoted is the open-circuit r.m.s. value for the continuous wave, before modulation.

[b] See Figure 1.

[c] For EUTs as defined in 11.2 only.

2.12.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: *Pass.*

Detailed results are shown below.

Tabulated Results for Conducted Radio Frequency Interference					
Modulation = 80 % AM (1 kHz)				1Hz 0.5s On;0.5 Off	
Line Under Test	Frequency Range	Test Level	Coupling Method	Current Clamp	Result
LAN	150kHz to 100MHz	3,10V	EM Clamp	EM Clamp	Pass
Alarm	150kHz to 100MHz	3,10V	EM Clamp	EM Clamp	Pass
RS485	150kHz to 100MHz	3,10V	EM Clamp	EM Clamp	Pass
Video in	150kHz to 100MHz	3,10V	CDN	CDN	Pass
Video out	150kHz to 100MHz	3,10V	CDN	CDN	Pass

Test Setup

2.12.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.13 Signal Port - Surges

2.13.1 Specification Reference

EN 55024:2010, Clause 10 Table 2, 2.2
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.13.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.13.3 Date of Test

13/06/2019

2.13.4 Test Method

The equipment under test including associated cabling was configured, on a 0.8 m non-conductive table for table-top equipment and on a 0.1 m insulated support for floor standing equipment above a ground reference plane all within a test laboratory.

Using CDNs for power ports and appropriate coupling methods for applicable signal and control ports, the required number of surges was applied for each surge voltage level using both positive and negative surge voltage polarities. Surges were applied at the power line frequency phase angles and repartition rates detailed.

During this testing any anomalies in the equipment under tests performance was recorded.

2.13.5 Environmental Conditions

Ambient Temperature	22.7 °C
Relative Humidity	43.0 %
Atmospheric Pressure	1019.0 mbar

2.13.6 Specification Limits

Required Test Levels				Performance Criteria
Line Under Test	Level (kV)	Surge Waveform	No of Pulse	
Signal and telecommunication ports(1)	± 1 (Lines to Earth)	10/700	5 per polarity	B

Supplementary information:

Note 1. Only required for cables connecting directly with outdoor cables

Note 2. For ports where primary protection is intended, surges are applied at voltages up to 4 kV with the primary protectors fitted.

Test voltages [a]: AC mains supply lines: - line-to-line - line-to-ground [b] Other supply/signal lines [c] - line-to-ground [d]	 0,5 kV & 1 kV 0,5 kV; 1 kV & 2 kV 0,5 kV & 1 kV
Polarity	+ & –
Minimum number of surges at each polarity, voltage, coupling mode and line: AC mains supply lines Other supply/signal lines	 20 [e] 5
NOTE Attention is drawn to the requirement in EN 61000-4-5:2006, 8.2 to consider the non-linear current-voltage characteristics of the equipment under test.	
[a] The test voltages specified are the open-circuit voltages. The test voltages for the lower severity levels are included because all the lower severity levels also have to be satisfied. [b] Via a 10 Ω series resistor. [c] No test is required where the manufacturer s specification indicates that it is not permitted to connect cables > 30 m long. [d] Via a 40 Ω series resistor. [e] 5 at each zero-crossing point and at the maximum and minimum points on the mains voltage wave.	

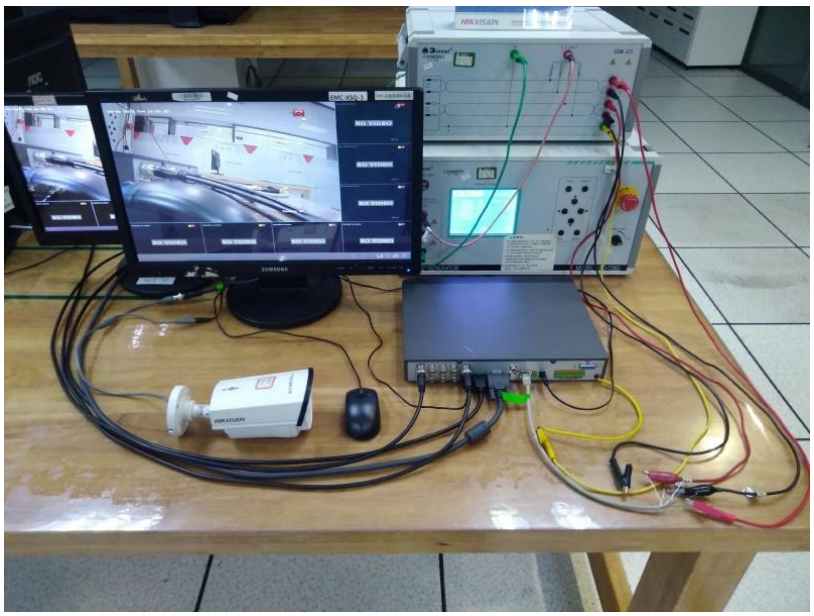
2.13.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Tabulated Results for Surge Immunity (Signal Ports) 1.2/50; 10/700						
Line under test	Coupling	Level	Polarity	No of Pulses	Repetition Rate	Result
LAN	Line to Earth	0.5,1.0kV	±	5	60 sec	Pass
Alarm	Line to Earth	0.5,1.0kV	±	5	60 sec	Pass
RS485	Line to Earth	0.5,1.0kV	±	5	60 sec	Pass
Video in	Line to Earth	0.5,1.0kV	±	5	60 sec	Pass
Video out	Line to Earth	0.5,1.0kV	±	5	60 sec	Pass



Test Setup

2.13.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

2.14 Signal Port - Electrical fast transient

2.14.1 Specification Reference

EN 55024:2010, Clause 10 Table 2, 2.3
EN 50130-4:2011/A1:2014
EN 50130-4:2011

2.14.2 Equipment Under Test

iDS-7208HQHI-M1/S

2.14.3 Date of Test

12/06/2019

2.14.4 Test Method

The equipment under test including associated cabling was configured on but insulted from, using a 0.1m isolator, a horizontal coupling plane fitted to the top of a 0.8 m non-conductive table for table-top equipment; and on a 0.1 m insulated support for floor standing equipment; above a ground reference plane all within a test laboratory.

Using a CDN for power ports, capacitive coupling clamp for signal and control ports and a 33nF coupling capacitor for earth ports, the required fast transient burst voltage levels in both voltage polarities were applied at the detailed pulse repartition rate and duration of test.

During this testing any anomalies in the equipment under tests performance was recorded.

2.14.5 Environmental Conditions

Ambient Temperature	21.0 °C
Relative Humidity	50.0 %
Atmospheric Pressure	1019.0 mbar

2.14.6 Specification Limits

Required Test Levels					Performance Criteria
Line Under Test	Level (kV)	Repetition Rate (kHz)	Test Duration	Coupling Method	
Signal and telecommunication ports(1)	± 0.5	5	1 min per polarity	Capacitive Clamp	B
Supplementary information: Note 1. Only required in the case of lines > 3m					

Test voltages: [a] AC mains supply lines [b] Other supply [c] / signal lines [d]	 2 kV 1 kV
Repetition rate	100 KHz
Polarity	+ and -
Number of applications for each polarity	1
Duration per application	$1\ ^{+0,2}_{-0}$ min

[a] The test voltages specified are the open-circuit voltages.

[b] Applied by a CDN.

[c] Applied by a CDN. DC ports, which are not intended to be connected to a DC distribution network, e.g. outputs for Sounders, are treated as signal ports.

[d] Applied by the capacitive clamp injection method, no test is required where the manufacturer s specification indicates that it is not permitted to connect cables > 3 m long.

2.14.7 Test Results

Results for Configuration and Mode: AC Powered / Power on with adapter.

Performance assessment of the EUT made during this test: Pass.

Detailed results are shown below.

Tabulated Results for Fast Transient Burst Immunity					
Line under test	Test Level (V/m)	Repetition Rate	Test Duration	Coupling Method	Result
LAN	± 0.5, ±1kV	5,100 kHz	1 min	Capacitive Clamp	Pass
Alarm	± 0.5, ±1kV	5,100 kHz	1 min	Capacitive Clamp	Pass
RS485	± 0.5, ±1kV	5,100 kHz	1 min	Capacitive Clamp	Pass
Video in	± 0.5, ±1kV	5,100 kHz	1 min	Capacitive Clamp	Pass
Video out	± 0.5, ±1kV	5,100 kHz	1 min	Capacitive Clamp	Pass

Test Setup

2.14.8 Test Location

This test was carried out in Hangzhou Hikvision Digital Technology Co.,Ltd.

3 Test Equipment Information

3.1 General Test Equipment Used

Conducted Emissions at Mains Terminals					
Equipment	Manufacturer	Model NO	Serial NO.	Cal Date	Cal Due Date
EMI test Receiver	R&S	ESR3	101831	2019/5/6	2020/5/5
Line impedance stabilization network	R&S	ENV216	10107	2019/5/6	2020/5/5
ISN	R&S	ENY81	100311	2018/8/1	2019/7/31
Radiated Emission					
Equipment	Manufacturer	Model NO	Serial NO.	Cal Date	Cal Due Date
EMI test Receiver	R&S	ESU26	100499	2018/12/12	2019/12/11
PRE-Amplifier	CERNEX	CBL18404035	24496	2017/6/02	2019/6/01
TRLIOG Broad Band Antenna	Schwarzbeck	VULB 9168	796	2017/7/10	2019/7/09
Horn antenna	Schwarzbeck	BBHA 9120D	7794	2017/8/19	2019/8/18
Voltage Fluctuations and Flicker					
Equipment	Manufacturer	Model NO	Serial NO.	Cal Date	Cal Due Date
Harmonic &Flicker analyzer	TESEQ	NSG1007	1438A04118-1	2019/5/6	2020/5/5
AC power source	TESEQ	CCN1000-1	1438A04118-1	2019/5/6	2020/5/5
Electrostatic Discharge					
Equipment	Manufacturer	Model NO	Serial NO.	Cal Date	Cal Due Date
Electrostatic Discharge Simulator	TESEQ	NSG 437	1254	2018/7/4	2019/7/3
EFT					
Equipment	Manufacturer	Model NO	Serial NO.	Cal Date	Cal Due Date
Immunity Test system	TESEQ	NSG3040	2173	2019/5/6	2020/5/5
Capacitive coupling clamp	TESEQ	CDN 3425	1928	2019/5/6	2020/5/5
Surge					
Immunity Test system	TESEQ	NSG3060	1716	2019/5/6	2020/5/5
Data coupling network	TESEQ	CDN 117M	38777	2019/5/6	2020/5/5
Power coupling network	TESEQ	CDN 3061-S16	1513	2019/5/6	2020/5/5
Immunity Test system	3C test	SGN-C2	EC5620903	2019/5/6	2020/5/5
Immunity Test system	3C test	SG-5006G	EC5580932	2019/3/5	2020/3/4
CS					
Immunity Test system	TESEQ	NSG 4070C-0	47944	2019/4/3	2020/4/2
CDN	TESEQ	CDN M016	50365	2019/4/3	2020/4/2

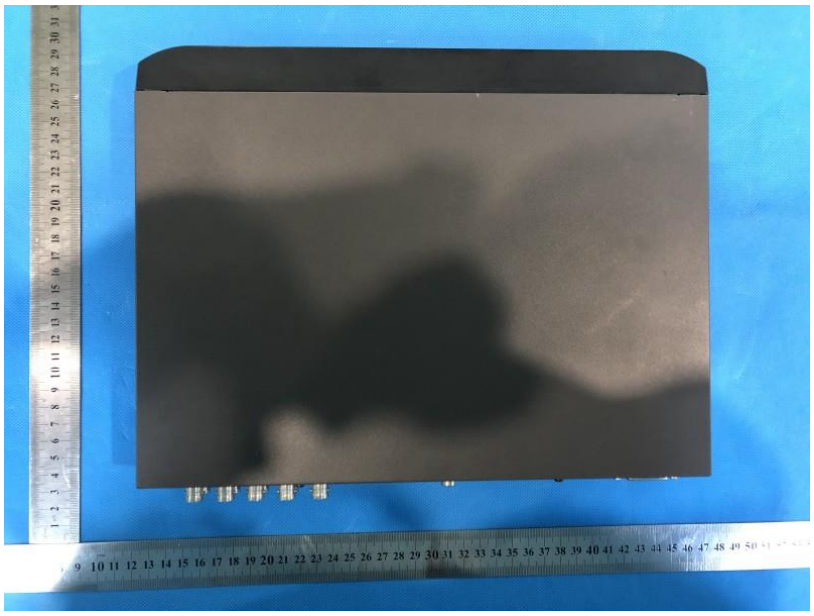
Coupling clamp	TESEQ	KEMZ 801A	50113	2019/4/3	2020/4/2
RS					
Signal generator	keysight	N5181A	MY50146343	2018/11/9	2019/11/8
Power meter	keysight	N1914A	MY55336002	2018/11/9	2019/11/8
Amplifier	milmege	80RF1000-500	1069892	2018/11/9	2019/11/8
Amplifier	milmege	AS0827-230	1069893	2018/12/4	2019/12/3
Antenna	Schwarzbeck	STLP9128E	9128E7#3009	/	/
Antenna	Schwarzbeck	STLP 9149	9149-349	/	/
DIP & Mains Supply Voltage Variations -conditioning					
Immunity Test system	TESEQ	NSG3040	2173	2019/5/6	2020/5/5
	TESEQ	VAR 3005-D16	2018	2019/5/6	2020/5/5
Other					
Equipment	Manufacturer	Model NO	Serial NO.	Cal Date	Cal Due Date
Temperature&humidity recorder	PINYI	HTC-1	/	2018/7/19	2019/7/18
Pressure meter	YIOU	BY-2003P	E01406062	2018/11/27	2019/11/26

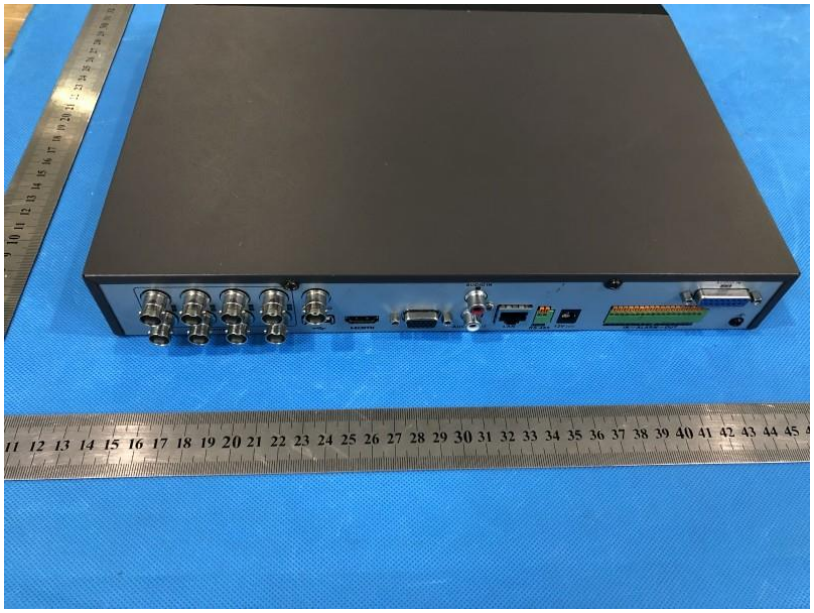
4 Measurement Uncertainty

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Name	Measurement Uncertainty
Conducted Emissions	150 kHz to 30 MHz, LISN, ±3.1 dB, ISN ±2.2 dB
Radiated Emissions	30 MHz to 1 GHz, ±4.95 dB 1 GHz to 18 GHz, ±4.6 dB
Flicker	The test was applied using proprietary equipment that meets the requirements of EN 61000-3-3
Enclosure Port - Electrostatic discharge	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-2
Enclosure Port - Radio-frequency electromagnetic field Amplitude modulated	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-3
AC Power Port - Electrical fast transient	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-4
AC Power Port - Surges	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-5
AC Power Port - Radio-frequency continuous conducted	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-6
AC Power port - Voltage dips, interruptions	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-11
AC Power port - Mains supply voltage variations	The test was applied using proprietary equipment that meets the requirements of EN 50130-4
Signal Port - Radio-frequency continuous conducted	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-6
Signal Port - Surges	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-5
Signal Port - Electrical fast transient	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-4

5 Photographs






HIKVISION
Digital Video Recorder

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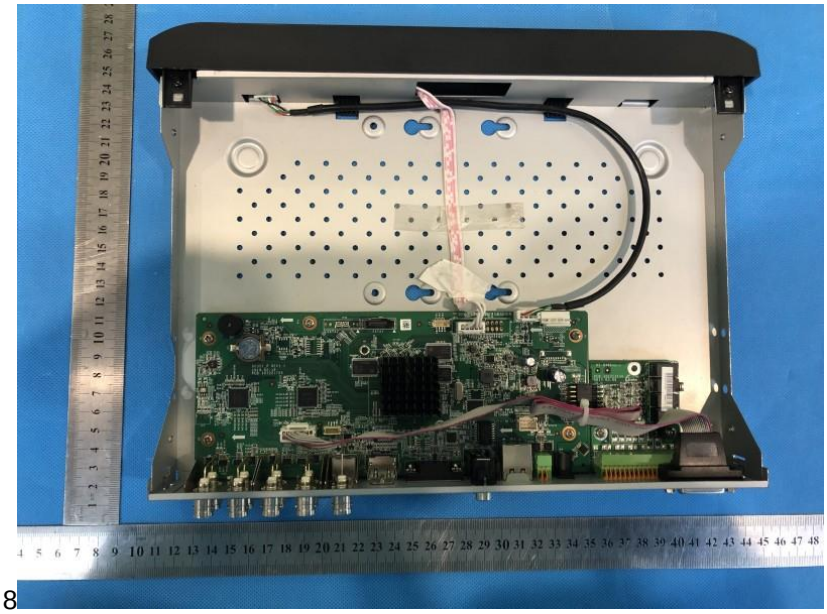

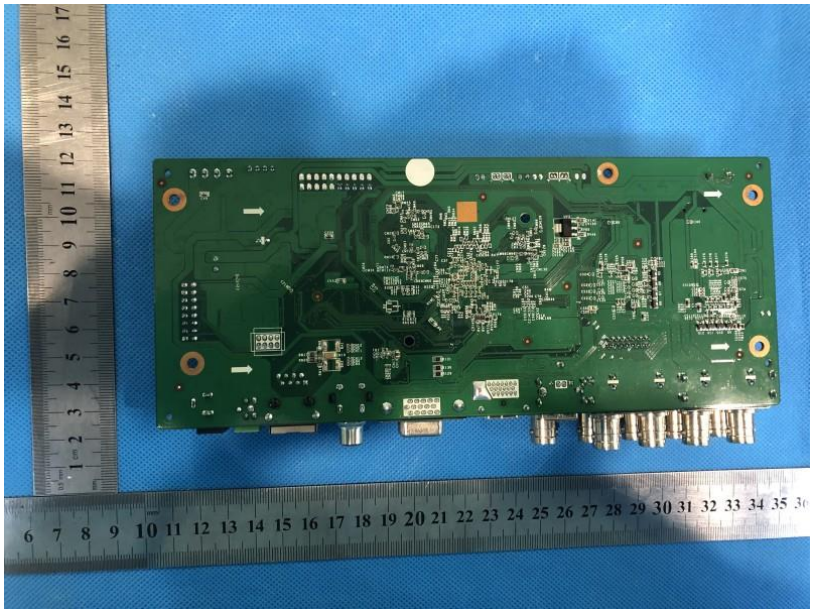

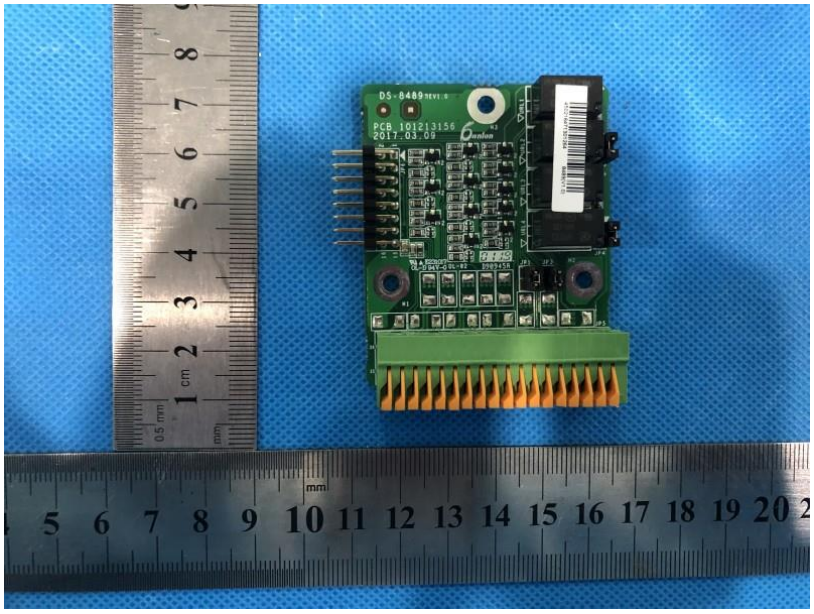
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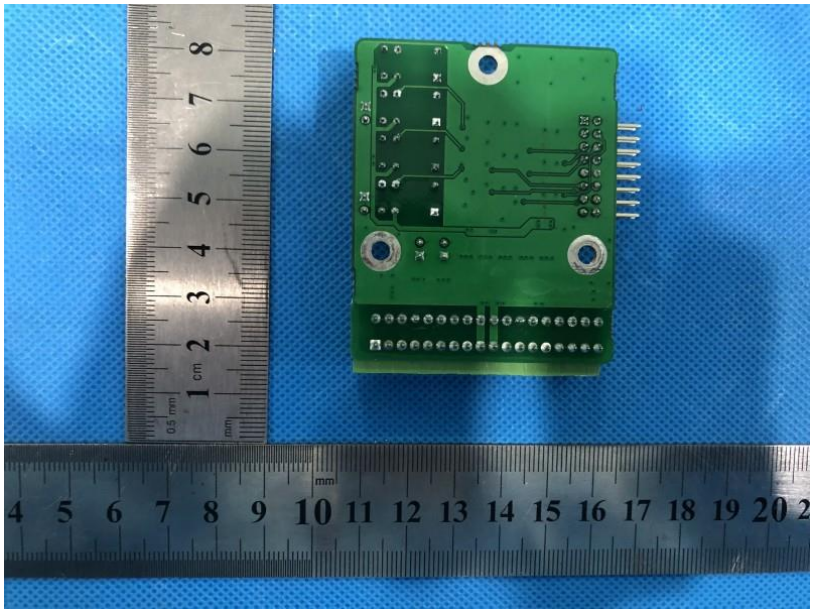

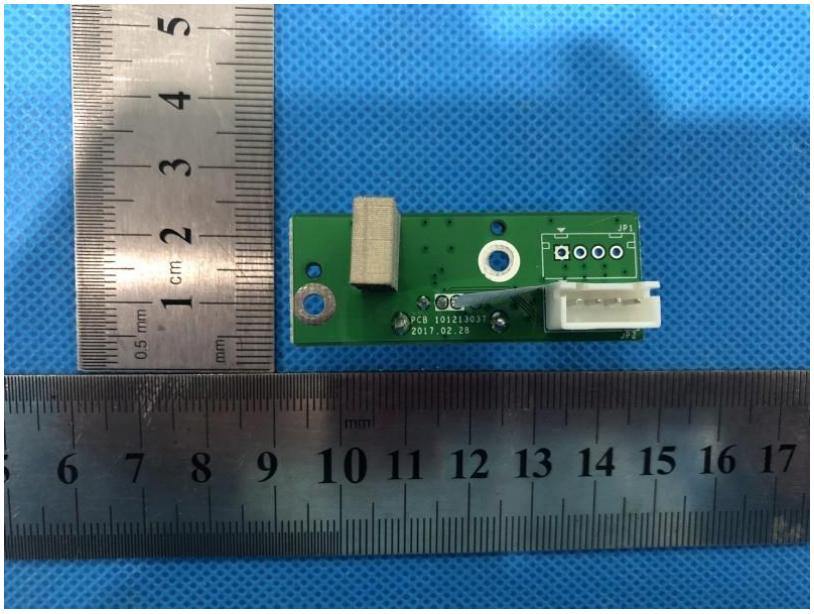

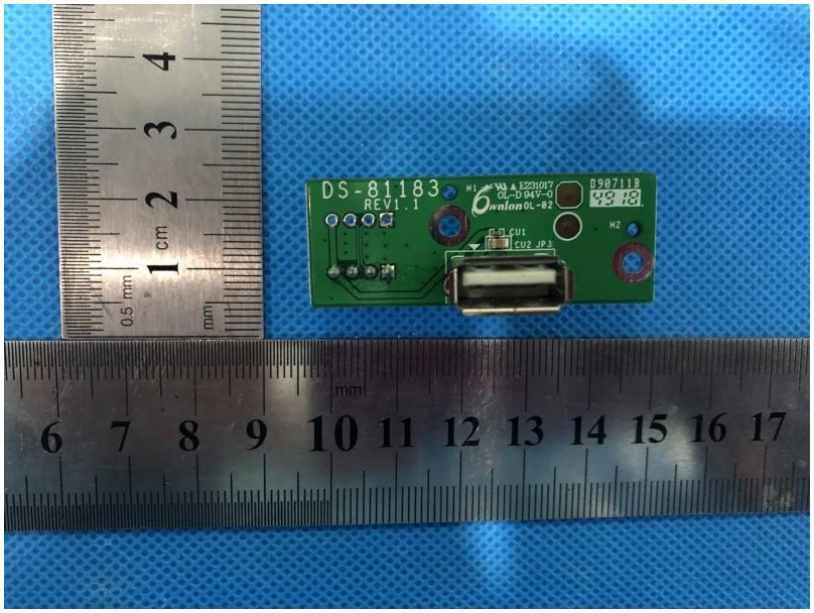
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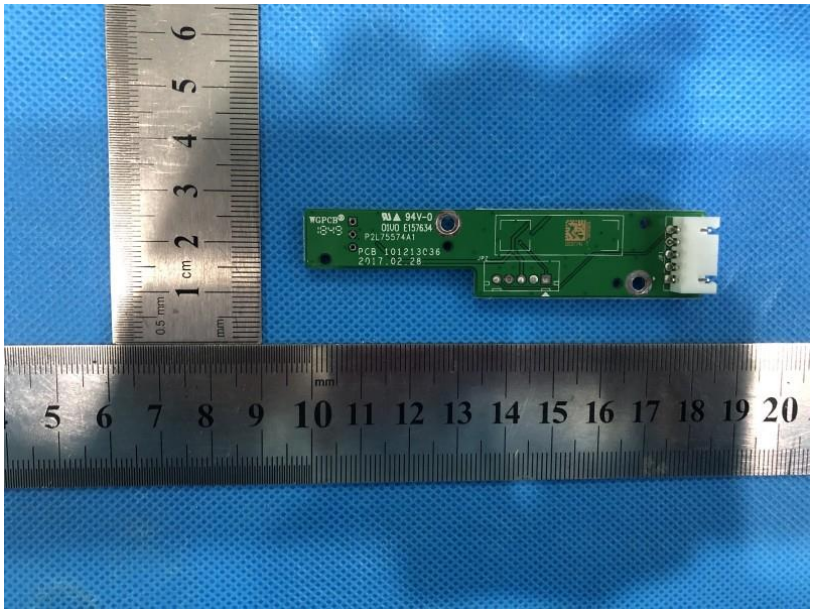
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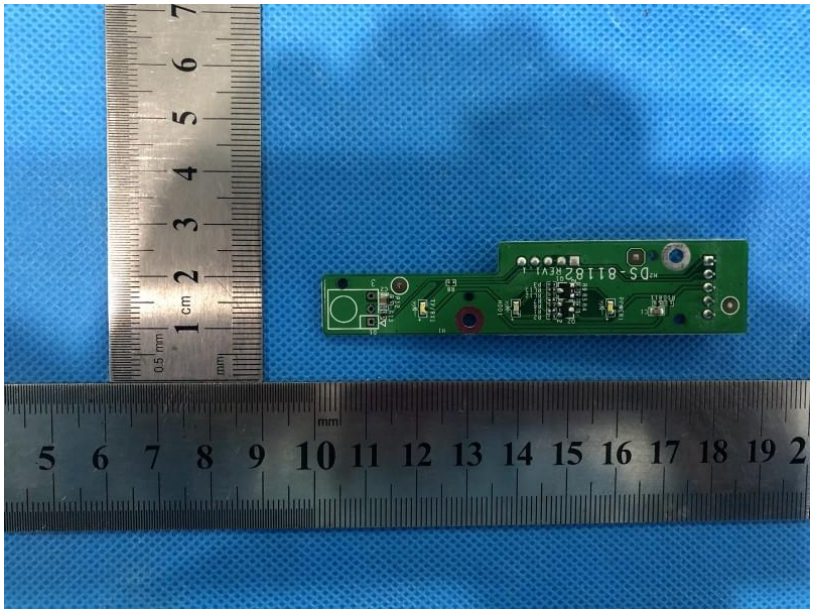


MOSO AC/DC ADAPTOR
Model:MSA-C1500IC12.0-18P-DE
Input:100-240V~ 50/60Hz 0.7A max.
Output:12. 0V⎓ 1.5A
EFFICIENCY LEVEL-VI
MADE IN CHINA


欣陆通
HONOTO
SWITCHING ADAPTER
MODEL: ADS-26FSG-12 12018EPG
INPUT: 100-240V~ 50/60Hz
Max. 0.7A
OUTPUT: 12V 1.5A
EFFICIENCY LEVEL VI
MADE IN CHINA
SHENZHEN HONOR ELECTRONIC CO., LTD.