



FCC DOC TEST REPORT

According to

47 CFR, Part 2, Part 15, CISPR PUB. 22

Applicant : Zhejiang Dahua Vision Technology Co., Ltd

Address : No.1199, Bin'an road, Binjiang District, Hangzhou, P.R.
China.

Equipment : 6 INCH IR SPEED DOME

Model No. : DH-SD6Cxyzuv-Hab; SD6Cxyzuv-Hab;
DH-SD64xyzuv-Hab; SD64xyzuv-Hab;
DH-SD6CAxyzuv-Hab; DH-SD6CAxyzuv-Hab-S2;
6Cxyzuab;
(x= 1-9 or blank; y= 0-9; z= 0-9; u= A-Z or blank;
v= N,P or blank; a= C,N,S or blank; b= I or blank;)

I HEREBY CERTIFY THAT :

The sample was received on Sep 27, 2013 and the testing was carried out on Sep 28, 2013 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Ray Chou
EMC/RF B.U. Assistant Manager



FCC TEST REPORT

Issued by:

Cerpass Technology Co.,Ltd

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The test record, data evaluation & Equipment. Under Test configurations represented herein are true and accurate accounts of the measurements of the samples EMC characteristics under the conditions specified in this report.

Laboratory Accreditation:

☒ Cerpass Technology Corporation Test Laboratory

NVLAP LAB Code:	200954-0
TAF LAB Code:	1439



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History of this test report

☐ ORIGINAL.

■ Additional attachment as following record:

Attachment No.	Date	Description
SEFD1309134	Nov 03, 2013	Original
SEFD1309134-A	Aug 26, 2014	First edition (Update the model name and equipment name)
SEFD1408104-A	Feb 24, 2016	Second edition (Add the model names)
SEFD1602099-A	Jun 23, 2016	Third edition(add the model name)
SEFD1606147-A	Dec 18,2016	Fourth edition(only add model names, no test)



1. Summary of Test Procedure and Test Result

Test Item	Normative References	Test Result
Conducted Emission	ANSI C63.4-2014 FCC Part 15 Subpart B	PASS
Radiated Emission	ANSI C63.4-2014 FCC Part 15 Subpart B	PASS



2. Test Configuration of Equipment under Test

2.1. Manufacturer and Factory

Zhejiang Dahua Vision Technology Co., Ltd.

No.1199, Bin'an road, Binjiang District, Hangzhou, P.R. China.

2.2. Feature of Equipment under Test

Fourth edition

6 INCH IR SPEED DOME	Model No.:	DH-SD6Cxyzuv-Hab; SD6Cxyzuv-Hab; DH-SD64xyzuv-Hab; SD64xyzuv-Hab; DH-SD6CAxyzuv-Hab; DH-SD6CAxyzuv-Hab-S2; 6Cxyzuab; (x= 1-9 or blank; y= 0-9; z= 0-9; u= A-Z or blank; v= N,P or blank; a= C,N,S or blank; b= I or blank;)
Remark	1) The add model name and the old model name are identical except the model name. 2) Add models are similar except for model name and sale regions.	

Third edition

6 INCH IR SPEED DOME	Model No.:	DH-SD6Cxyzuv-Hab, SD6Cxyzuv-Hab, DH-SD64xyzuv-Hab, SD64xyzuv-Hab DH-SD6CAxyzuv-Hab; DH-SD6CAxyzuv-Hab-S2; (x= 1-9 or blank; y= 0-9; z= 0-9; u= A-Z or blank; v= N,P or blank; a= C,N,S or blank; b= I or blank;)
Remark	The add model name and the original model name are identical except the model name.	

Second edition

6 INCH IR SPEED DOME	Model No.:	DH-SD6Cxyzuv-Hab, SD6Cxyzuv-Hab, DH-SD64xyzuv-Hab, SD64xyzuv-Hab (X=1-9 or blank; y=0-9; z=0-9; u=A-Z or blank; v= N,P or blank; a= C,N,S or blank;b=I or blank) DH-SD6CAxyzuv-Hab; (x= 1-9 or blank; y= 0-9; z= 0-9; u= A-Z or blank; v= N,P or blank; a= C,N,S or blank; b= I or blank;)
Remark	The add model name and the original model name are identical except the model name.	



First edition:

6 INCH IR SPEED DOME	Model No.:	DH-SD6Cxyzuv-Hab, SD6Cxyzuv-Hab, DH-SD64xyzuv-Hab, SD64xyzuv-Hab (X=1-9 or blank; y=0-9; z=0-9; u=A-Z or blank; v= N,P or blank; a= C,N,S or blank;b=l or blank)
Remark	1) DH-SD6C120S-HN was selected as the test model and its data have been recorded in this report. 2) The differences of the models are different sale regions.	
Adapter	Model No.:	A24-3A
	Input :	120V~ 60Hz 88W
	Output :	24VAC 3000mA

Original

1.3M FULL HD NETWORK SPEED DOME	Model No.:	DH-SD6C120S-HN, SD6C120S-HN, DH-SD6C120SN-HN, SD63120SN-HN
Remark	DH-SD6C120S-HN was selected as the test model and its data have been recorded in this report.	
Adapter	Model No.:	A24-3A
	Input :	120V~ 60Hz 88W
	Output :	24VAC 3000mA

Models' Differences:

Model No	DH-SD6C120S-HN, SD6C120S-HN, DH-SD6C120SN-HN, SD63120SN-HN
Differences	The difference between neutral and dahua is only the log's difference; The difference between with "N" and without "N" is equipment program's difference.



2.3. Test Manner

Test Manner

- a During testing, the interface cables and equipment positions were varied according to ANSIC63.4-2014
- b The complete test system included the Notebook PC, Monitor and EUT for for EMI test

The pre-test modes

Test Mode 1: Normal Operation

Select the worst case of the pre-test modes as the final test mode

Test Mode 1: Normal Operation



2.4. Description of Test System

No.	Device	Manufacturer	Model No.	Description
1	Monitor	PINEER-TIMES	PNT-14A	N/A
2	Notebook PC	SONY	PCG-71811P	N/A

Item	Cable	Quantity	Description
A	BNC Cable	1	Shielded, 3.0M
B	LAN Cable	1	Non-Shielded,>3.0m
C	Audio Cable	1	Non-Shielded, 1.8m



2.5. General Information of Test

Test Site :	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582
FCC Registration Number :	TW1079, TW1061,390316, 228391, 641184
IC Registration Number :	4934B-1, 4934E-1, 4934E-2
VCCI	T-2205 for Telecommunication Test C-4463 for Conducted emission test R-3428, R-4128 for Radiated emission test G-812, G-813 for radiated disturbance above 1GHz
Frequency Range Investigated :	Conducted Emission Test: from 150 kHz to 30 MHz Radiated Emission Test: from 30 MHz to 6,000 MHz
Test Distance :	The test distance of radiated emission below 1GHz from antenna to EUT is 10 M. The test distance of radiated emission above 1GHz from antenna to EUT is 3 M.

2.6. Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE / NEUTRAL	3.25 dB
Radiated Emission	30 MHz ~ 1,000 MHz	Vertical / Horizontal	3.93 dB
	1,000 MHz ~ 18,000 MHz	Vertical / Horizontal	5.18 dB

The measurement uncertainty will be considered, when test result margin to the limit.



3. Test of Conducted Emission

3.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz on the 120 VAC power and return leads of the EUT according to the methods defined in ANSI C63.4 Section 3.1. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane as shown in section 1.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

For a Class A digital device that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms LISN. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Conducted Emission Limits:

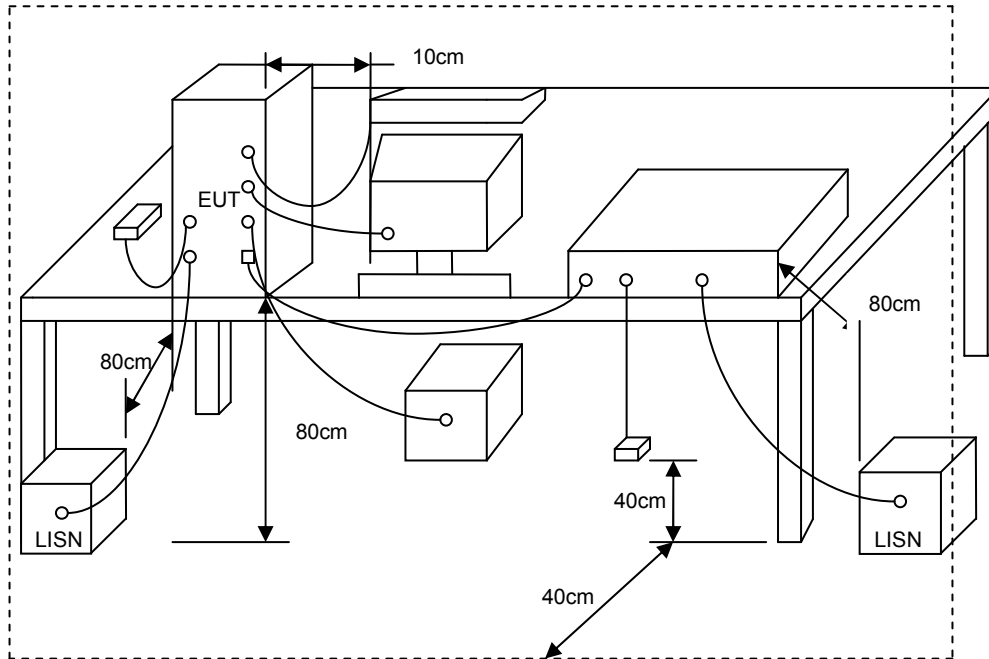
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	79	66
0.5 – 30.0	73	60

3.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



3.3. Typical test Setup



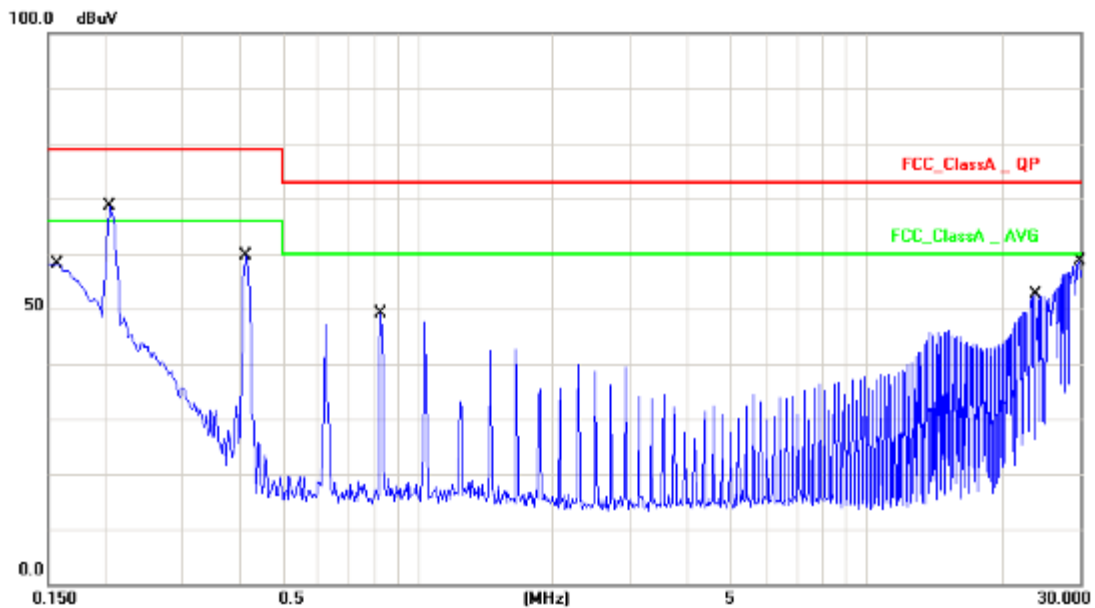
3.4. Measurement equipment

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100565	2013.03.10	2014.03.09
AMN	R&S	ESH2-Z5	100182	2013.09.11	2014.09.10
Two-Line V-Network	R&S	ENV216	100325	2013.03.10	2014.03.09
ISN	FCC	FCC-TLISN-T2-02	20379	2013.06.25	2014.06.24
ISN	FCC	FCC-TLISN-T4-02	20380	2013.06.25	2014.06.24
ISN	FCC	FCC-TLISN-T8-02	20381	2013.07.09	2014.07.08
ISN	TESEQ	ISN ST08	30175	2013.09.11	2014.09.10
Current Probe	R&S	EZ-17	100303	2013.03.10	2014.03.09
Passive Voltage Probe	R&S	ESH2-Z3	100026	2013.03.10	2014.03.09
Pulse Limiter	R&S	ESH3-Z2	100529	2013.03.10	2014.03.09
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-004	2013.03.10	2014.03.09



3.5. Test Result and Data

Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Phase :	LINE
Equipment :	1.3M FULL HD NETWORK SPEED DOME	Model No :	DH-SD6C120S-HN
Temperature :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/09/27

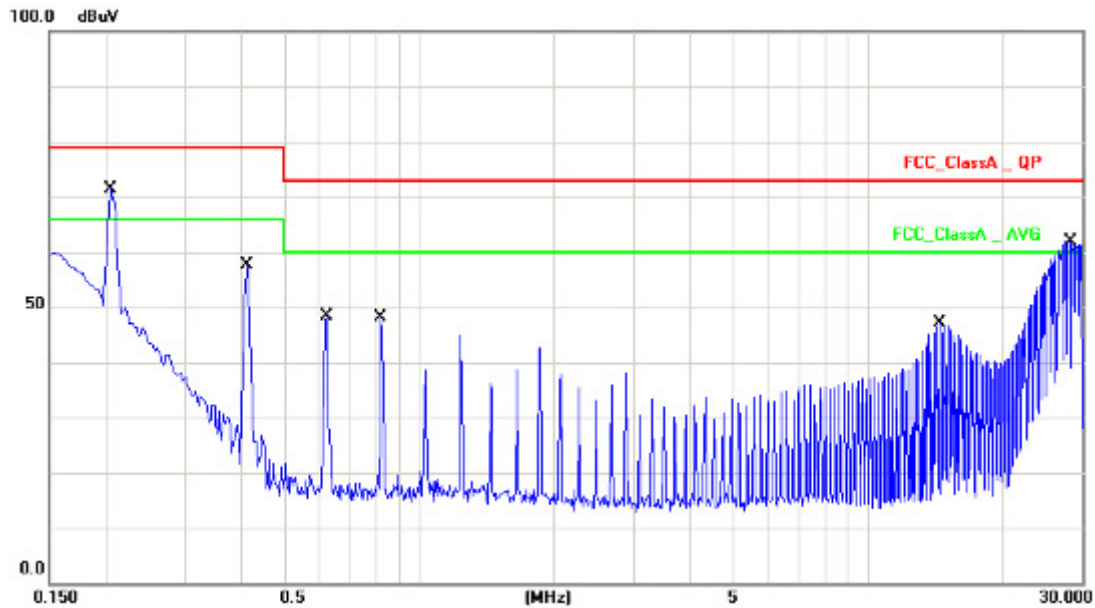


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	10.13	42.76	52.89	79.00	-26.11	QP
2	0.1580	10.13	13.17	23.30	66.00	-42.70	AVG
3	0.2060	10.12	59.17	69.29	79.00	-9.71	QP
4	0.2060	10.12	49.13	59.25	66.00	-6.75	AVG
5	0.4140	10.15	46.70	56.85	79.00	-22.15	QP
6	0.4140	10.15	38.02	48.17	66.00	-17.83	AVG
7	0.8300	10.15	35.26	45.41	73.00	-27.59	QP
8	0.8300	10.15	25.19	35.34	60.00	-24.66	AVG
9	23.8020	10.41	12.11	22.52	73.00	-50.48	QP
10	23.8020	10.41	5.35	15.76	60.00	-44.24	AVG
11	29.9980	10.44	24.27	34.71	73.00	-38.29	QP
12	29.9980	10.44	15.30	25.74	60.00	-34.26	AVG

Note: Measurement Level = Reading Level + Correct Factor



Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Phase :	NEUTRAL
	1.3M FULL HD		DH-SD6C120S-HN
Equipment :	NETWORK SPEED	Model No :	
	DOME		
Temperature :	23°C	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/09/27



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2060	10.13	57.88	68.01	79.00	-10.99	QP
2	0.2060	10.13	47.76	57.89	66.00	-8.11	AVG
3	0.4140	10.15	46.81	56.96	79.00	-22.04	QP
4	0.4140	10.15	39.36	49.51	66.00	-16.49	AVG
5	0.6220	10.16	27.06	37.22	73.00	-35.78	QP
6	0.6220	10.16	19.79	29.95	60.00	-30.05	AVG
7	0.8260	10.16	37.20	47.36	73.00	-25.64	QP
8	0.8260	10.16	28.10	38.26	60.00	-21.74	AVG
9	14.4500	10.50	26.51	37.01	73.00	-35.99	QP
10	14.4500	10.50	19.82	30.32	60.00	-29.68	AVG
11	28.2820	10.30	27.23	37.53	73.00	-35.47	QP
12	28.2820	10.30	18.97	29.27	60.00	-30.73	AVG

Note: Measurement Level = Reading Level + Correct Factor

Test engineer: Cerpass



3.6. Test Photographs

Front View



Rear View





4. Test of Radiated Emission

4.1. Test Limit

The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in section 2.2. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

For unintentional device, according to § 15.109(b), for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 10 meters shall not exceed the following values:

Frequency (MHz)	Distance Meters	Radiated ($\mu\text{V} / \text{M}$)	Radiated (dB $\mu\text{V} / \text{M}$)
30-88	10	90	39.0
88-216	10	150	43.5
216-960	10	210	46.4
Above 960	10	300	49.5

For unintentional device, according to CISPR PUB.22, for Class A digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the below table.

Frequency (MHz)	Distance Meters	Radiated (dB $\mu\text{V} / \text{M}$)
30-230	10	40
230-1000	10	47

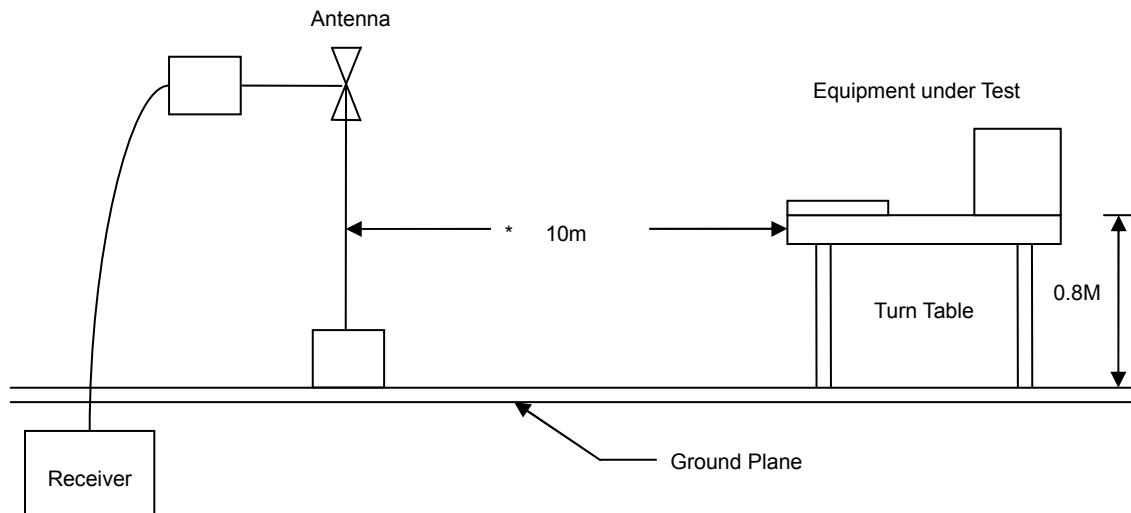
4.2. Test Procedures

- The EUT was placed on a Rota table top 0.8 meter above ground.
- The EUT was set 3/10 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 6 dB margin will be repeated one by one using the quasi-peak method and reported.

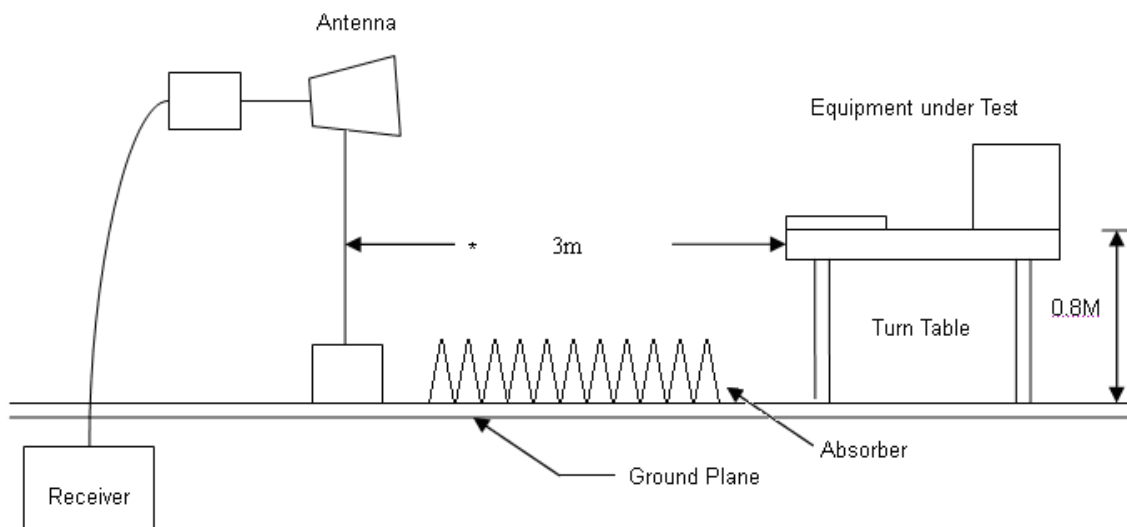


4.3. Typical test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



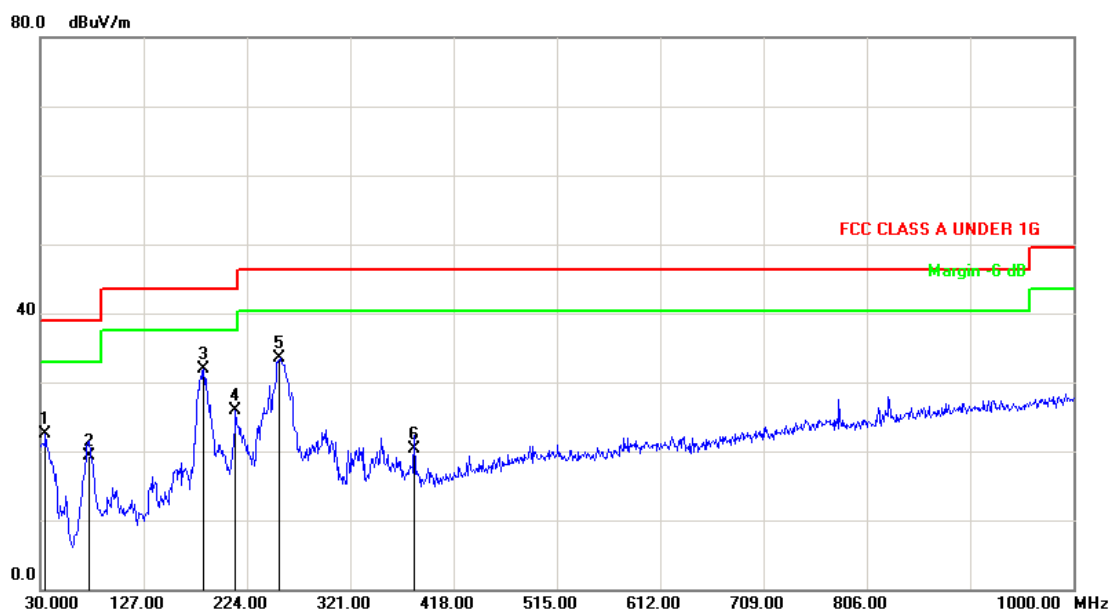
**4.4. Measurement equipment**

Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
EMI Test Receiver	R&S	ESCI	101183	2013.03.10	2014.03.09
Preamplifier	Agilent	87405B	My39500554	2013.03.10	2014.03.09
Preamplifier	Agilent	8449B	3008A02342	2013.03.10	2014.03.09
Ultra Broadband Antenna	R&S	HL562	100363	2013.05.02	2014.05.01
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-618	2013.05.02	2014.05.01
Spectrum Analyzer	R&S	FSP40	100324	2013.03.10	2014.03.09
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-001	2013.03.10	2014.03.09



4.5. Test Result and Data (30MHz ~ 1000MHz)

Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Horizontal
Equipment :	1.3M FULL HD NETWORK SPEED DOME	Model No :	DH-SD6C120S-HN
Temp :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/09/28

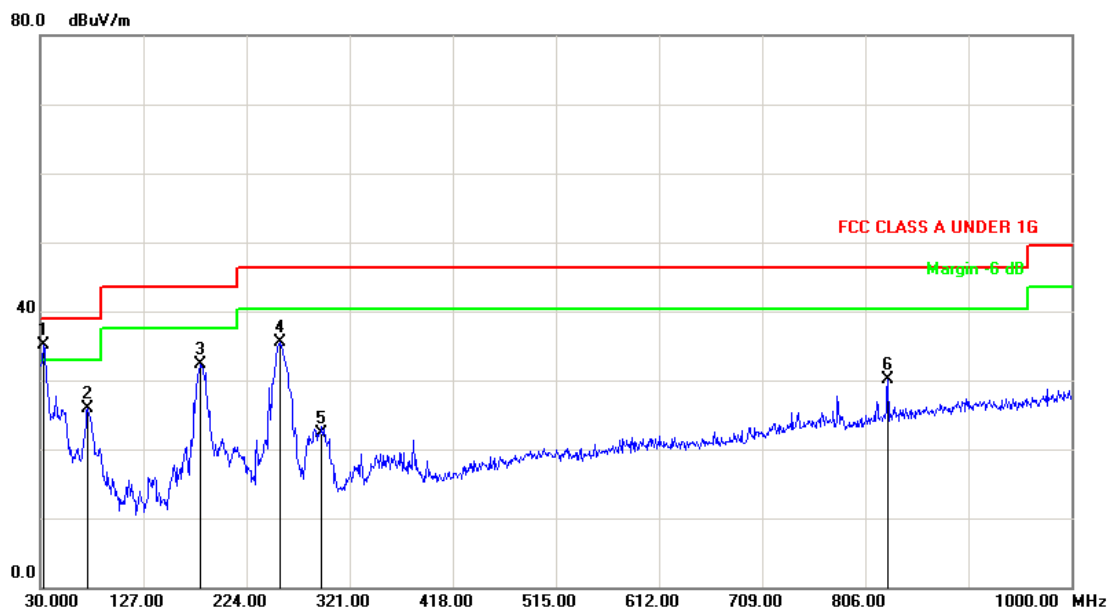


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	34.8500	-7.87	30.43	22.56	39.00	-16.44	QP	400	262
2	75.5900	-16.56	35.92	19.36	39.00	-19.64	QP	400	318
3	183.2599	-15.46	47.33	31.87	43.50	-11.63	QP	400	81
4	213.3300	-14.84	40.84	26.00	43.50	-17.50	QP	400	104
5	255.0399	-12.66	46.12	33.46	46.40	-12.94	QP	300	110
6	381.1399	-9.04	29.40	20.36	46.40	-26.04	QP	200	316

Note: Measurement Level = Reading Level + Correct Factor



Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Vertical
Equipment :	1.3M FULL HD NETWORK SPEED DOME	Model No :	DH-SD6C120S-HN
Temp :	23°C	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/09/28

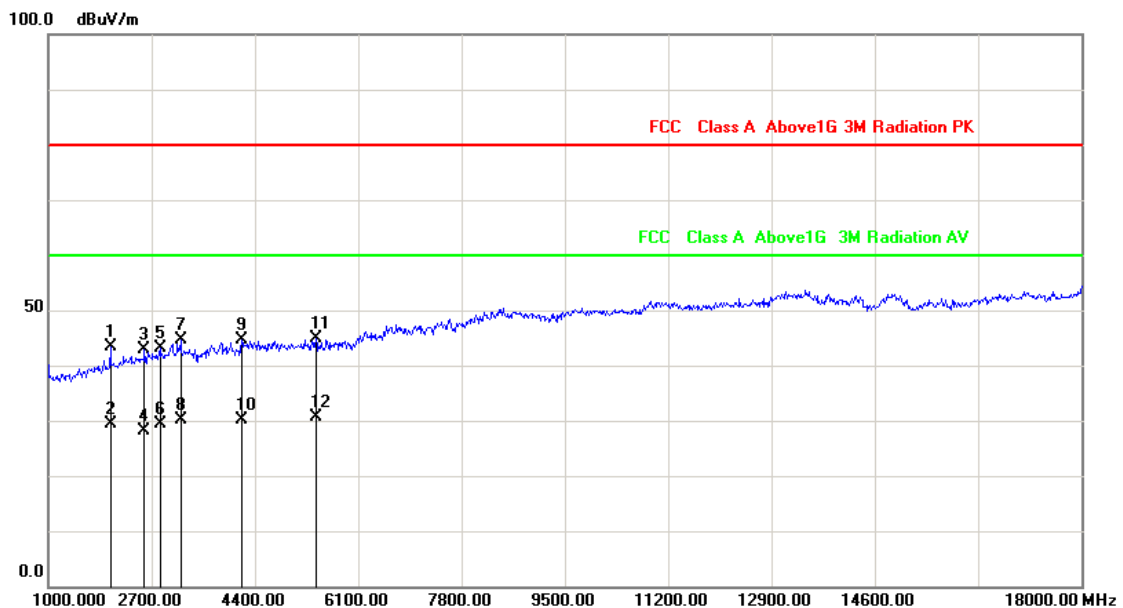


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	32.9100	-6.95	42.06	35.11	39.00	-3.89	QP	100	313
2	74.6200	-16.80	42.62	25.82	39.00	-13.18	QP	300	350
3	180.3500	-15.44	47.77	32.33	43.50	-11.17	QP	100	344
4	256.0100	-12.63	48.19	35.56	46.40	-10.84	QP	100	0
5	294.8100	-11.32	33.68	22.36	46.40	-24.04	QP	100	360
6	827.3400	-0.05	30.20	30.15	46.40	-16.25	QP	100	72

Note: Measurement Level = Reading Level + Correct Factor

**4.6. Test Result and Data (1000MHz ~ 18000MHz)**

Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Horizontal
Equipment :	1.3M FULL HD NETWORK SPEED DOME	Model No :	DH-SD6C120S-HN
Temp :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/10/24

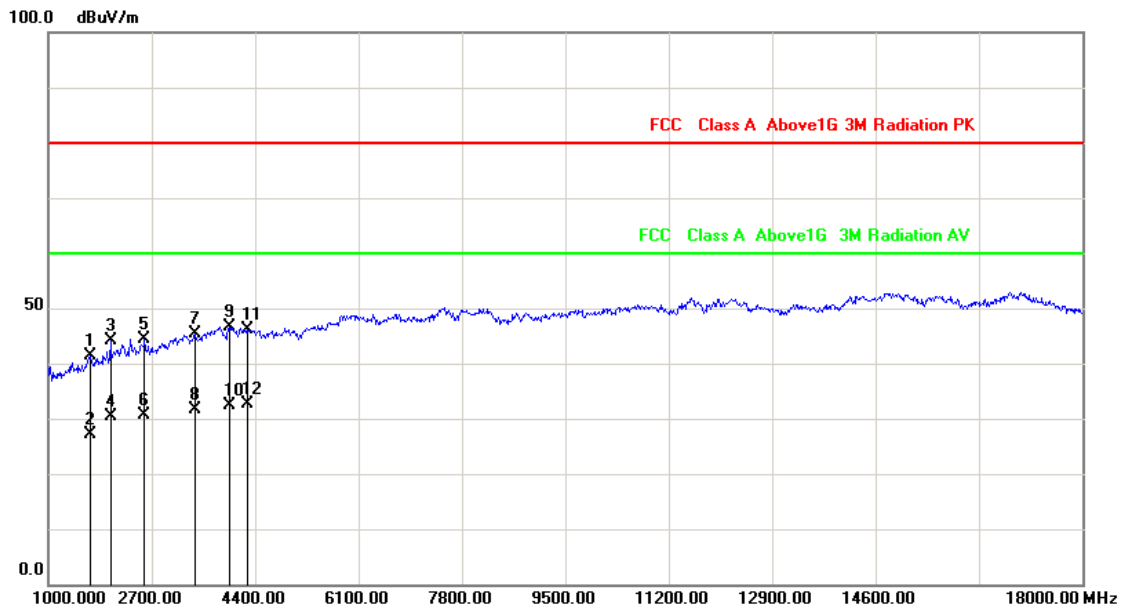


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	2020.000	-2.63	45.97	43.34	80.00	-36.66	peak	200	126
2	2020.000	-2.63	31.99	29.36	60.00	-30.64	AVG	200	126
3	2581.000	-0.75	43.55	42.80	80.00	-37.20	peak	100	63
4	2581.000	-0.75	28.79	28.04	60.00	-31.96	AVG	100	63
5	2836.000	0.10	42.99	43.09	80.00	-36.91	peak	100	259
6	2836.000	0.10	29.21	29.31	60.00	-30.69	AVG	100	259
7	3176.000	1.30	43.24	44.54	80.00	-35.46	peak	100	97
8	3176.000	1.30	28.94	30.24	60.00	-29.76	AVG	100	97
9	4179.000	4.81	39.78	44.59	80.00	-35.41	peak	200	334
10	4179.000	4.81	25.34	30.15	60.00	-29.85	AVG	200	334
11	5403.000	7.53	37.42	44.95	80.00	-35.05	peak	100	20
12	5403.000	7.53	23.03	30.56	60.00	-29.44	AVG	100	20

Note: Measurement Level = Reading Level + Correct Factor



Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Vertical
Equipment :	1.3M FULL HD NETWORK SPEED DOME	Model No :	DH-SD6C120S-HN
Temp :	23°C	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/10/24



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	1680.000	-4.03	45.53	41.50	80.00	-38.50	peak	100	87
2	1680.000	-4.03	31.19	27.16	60.00	-32.84	AVG	100	87
3	2020.000	-2.63	46.70	44.07	80.00	-35.93	peak	100	162
4	2020.000	-2.63	32.89	30.26	60.00	-29.74	AVG	100	162
5	2581.000	-0.75	45.09	44.34	80.00	-35.66	peak	100	261
6	2581.000	-0.75	31.31	30.56	60.00	-29.44	AVG	100	261
7	3414.000	2.19	43.24	45.43	80.00	-34.57	peak	100	360
8	3414.000	2.19	29.37	31.56	60.00	-28.44	AVG	100	360
9	3975.000	4.27	42.30	46.57	80.00	-33.43	peak	200	258
10	3975.000	4.27	28.17	32.44	60.00	-27.56	AVG	200	258
11	4264.000	5.02	41.17	46.19	80.00	-33.81	peak	100	89
12	4264.000	5.02	27.66	32.68	60.00	-27.32	AVG	100	89

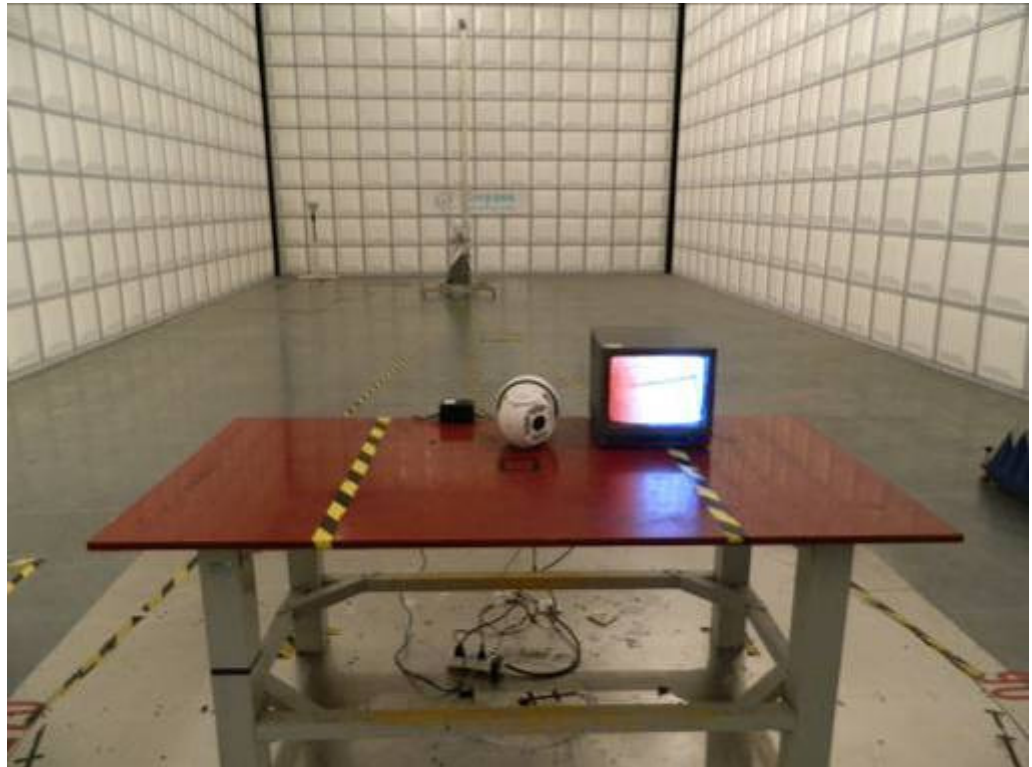
Note: Measurement Level = Reading Level + Correct Factor

Test engineer: 

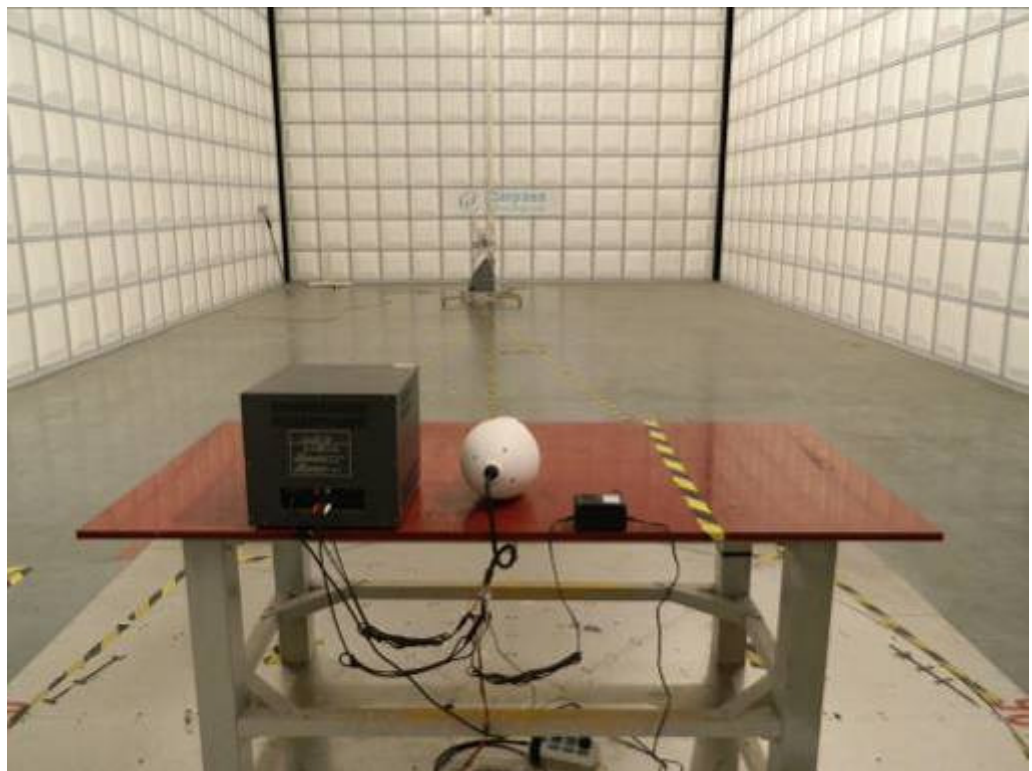


4.7. Test Photographs (30MHz ~ 1000MHz)

Front View



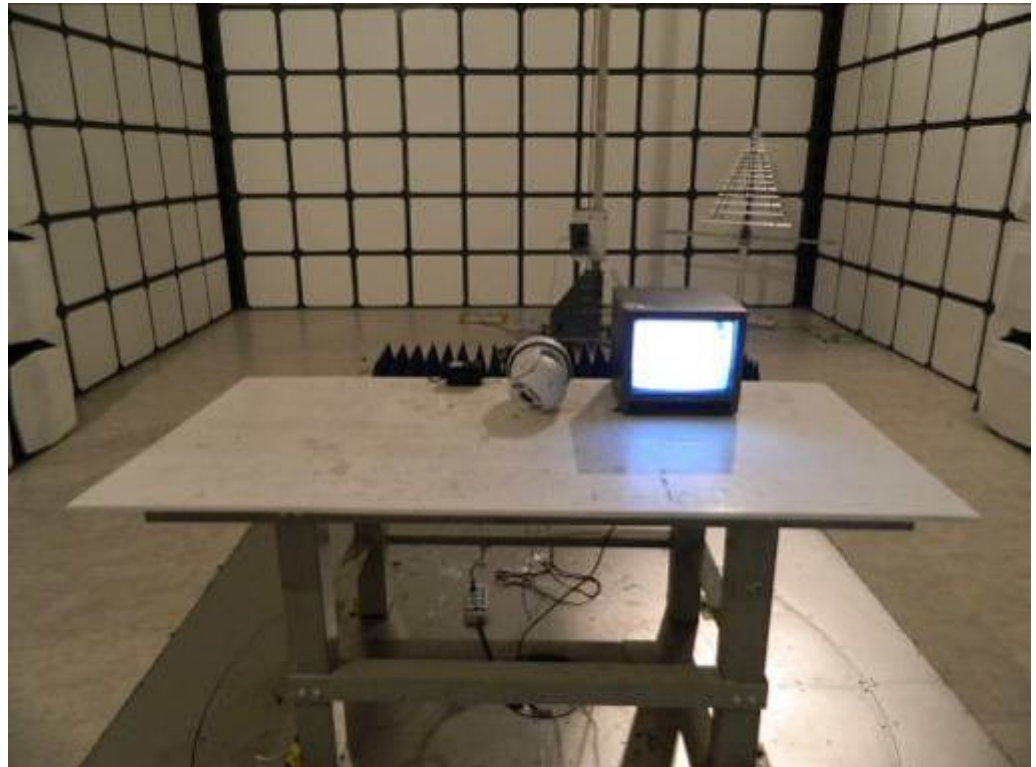
Rear View



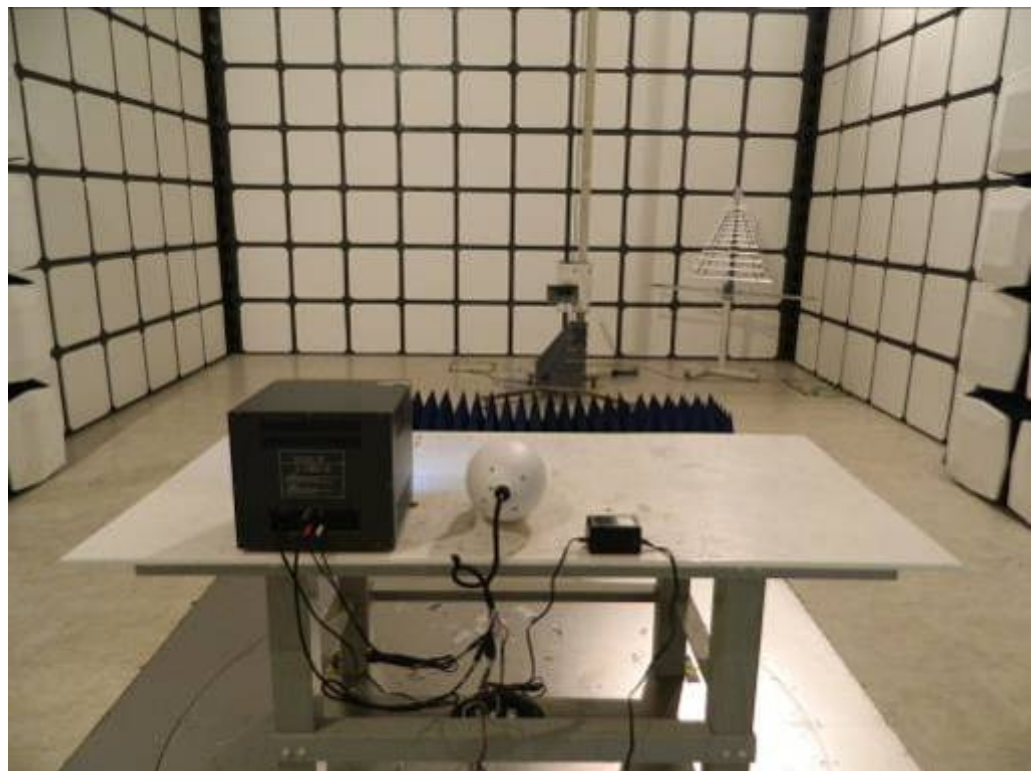


4.8. Test Photographs (1000MHz ~ 18000MHz)

Front View



Rear View





5. Photographs of EUT

1) EUT Photo

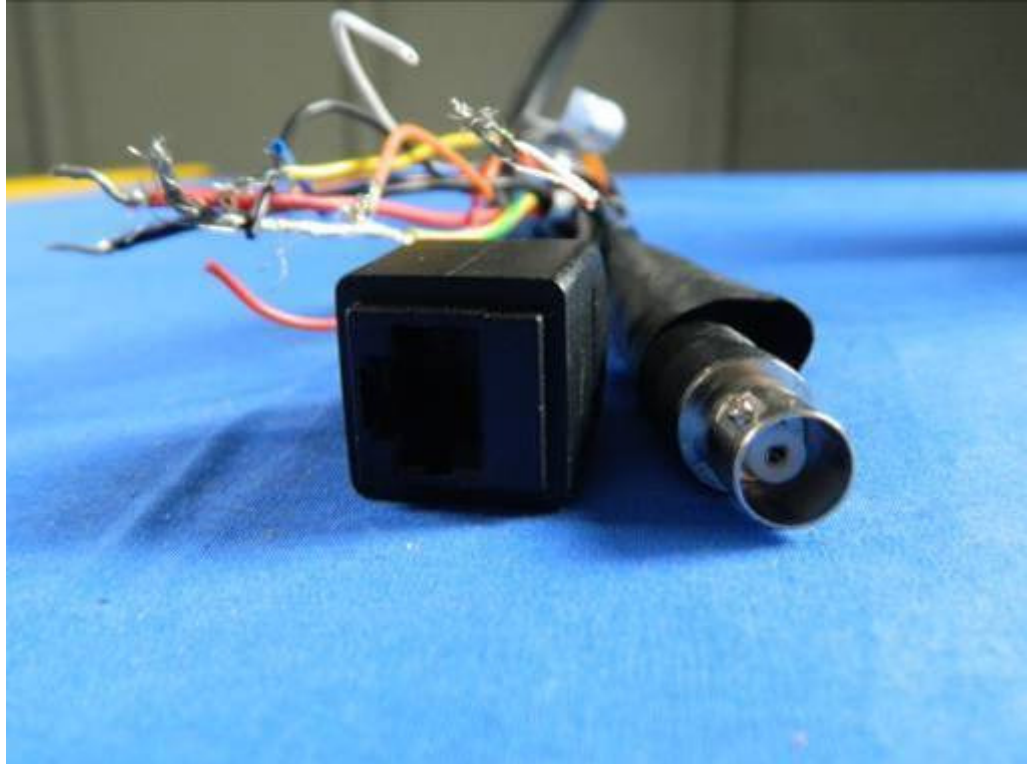


2) EUT Photo





3) EUT Photo



4) EUT Photo(Adapter)





5) EUT Photo(Adapter)



6) EUT Photo(Adapter)

