FCC DOC TEST REPORT

According to

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

Applicant	:	Zhejiang Dahua Vision Technology Co., Ltd.
Address	:	The 1st floor, building F, No.1199 Bin'an road, Changhe Street, Binjiang District, Hangzhou, P.R. China.
Equipment	:	NETWORK VIDEO RECORDER
Model No.	:	NVR7464-16P, NVR7432-16P, NVR7416-16P, NVR7408-8P, NVR7464, NVR7432, NVR7416, NVR7408, HI-NVR7464-16P, DHI-NVR7432-16P, DHI-NVR7416-16P, DHI-NVR7408-8P, DHI-NVR7464, DHI-NVR7432, DHI-NVR7416, DHI-NVR7408

Contents

History of this test report

■ ORIGINAL.

☐ Additional attachment as following record:

Attachment No.	Date	Description

FCC DOC TEST REPORT

Declaration **o**f **C**onformity

According to

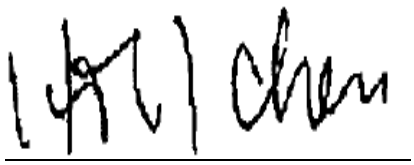
47 CFR, Part 2, Part 15, CISPR PUB. 22

Applicant	:	Zhejiang Dahua Vision Technology Co., Ltd.
Address	:	The 1st floor, building F, No.1199 Bin'an road, Changhe Street, Binjiang District, Hangzhou, P.R. China.
Equipment	:	NETWORK VIDEO RECORDER
Model No.	:	NVR7464-16P, NVR7432-16P, NVR7416-16P, NVR7408-8P, NVR7464, NVR7432, NVR7416, NVR7408, HI-NVR7464-16P, DHI-NVR7432-16P, DHI-NVR7416-16P, DHI-NVR7408-8P, DHI-NVR7464, DHI-NVR7432, DHI-NVR7416, DHI-NVR7408

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 – 2009** and the energy emitted by this equipment was ***passed*** **CISPR PUB. 22, FCC Part 15 in** both radiated and conducted emission class B limits. Testing was carried out on Dec 28, 2013 at Cerpass Technology Corp.

Signature



Hill Chen

EMC/RF B.U. Assistant Manager

1. Summary of Test Procedure and Test Result

Test Item	Normative References	Test Result
Conducted Emission	ANSI C63.4-2009 FCC Part 15 Subpart B	PASS
Radiated Emission	ANSI C63.4-2009 FCC Part 15 Subpart B	PASS

2. Test Configuration of Equipment under Test

2.1. Manufacturer

Zhejiang Dahua Vision Technology Co., Ltd.

The 1st floor, building F, No.1199 Bin'an road, Changhe Street, Binjiang District, Hangzhou, P.R. China.

2.2. Feature of Equipment under Test

NETWORK VIDEO RECORDER	Model No.:	NVR7464-16P, NVR7432-16P, NVR7416-16P, NVR7408-8P, NVR7464, NVR7432, NVR7416, NVR7408, DHI-NVR7464-16P, DHI-NVR7432-16P, DHI-NVR7416-16P, DHI-NVR7408-8P, DHI-NVR7464, DHI-NVR7432, DHI-NVR7416, DHI-NVR7408
Remark	They in addition to the model name, decoding way with POE number is different, the other is the same. **NVR7464-16P** was selected as the test model and its data have been recorded in this report.	

2.3. Test Manner

Test Manner

a During testing, the interface cables and equipment positions were varied according to ANSI C63.4-2009

b Turn on the power of all equipment.

c The complete test system included LCD Monitor, DVD, HDD, Monitor, iPod, Mouse, Notebook PC, PC and EUT for EMC 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	LCD Monitor	DELL	U2713HMt	N/A
2	LCD Monitor	DELL	SE198WFPf	N/A
3	DVD	Pioneer	DV-600AV-S	N/A
4	HDD	WD	3409A	N/A
5	Monitor	PTS	PTS-1401C	N/A
6	iPod	Apple	N/A	N/A
7	iPod	Apple	N/A	N/A
8	Mouse	DAHUA	N/A	N/A
9	Notebook	SONY	PCG-71811P	N/A
10	PC	HP	8300 MT	N/A
11	Notebook	DELL	Vostro 3560	N/A
12	Remote control	DAHUA	N/A	N/A

No	Cable	Quantity	Description
A	VGA Cable	1	Shielded, 1.8m, with two ferrites core bonded
B	HDMI Cable	1	Shielded, 1.8m, with two ferrites core bonded
C	Audio Cable	1	Non-Shielded, 1.8m
D	e-SATA Cable	1	Non-Shielded,0.6m
E	BNC	2	Shielded, >3.0m
F	USB Cable	1	Shielded, 1.2m
G	USB Cable	1	Shielded, 1.2m
H	USB Cable	1	Shielded, 1.2m
I	LAN Cable	1	Non-Shielded,>3.0m
J	LAN Cable	7	Non-Shielded,3.0m
K	RS232 Cable	1	Non-Shielded,1.5m
L	LAN Cable	1	Non-Shielded,>3.0m
M	LAN Cable	1	Non-Shielded,>3.0m

2.5. General Information of Test

Test Site :	Cerpass Technology Corp. 2F-11, No. 3, Yuan Qu St., (Nankang Software Park), Taipei, Taiwan 115, R.O.C.
Test Site Location (OATS2-SD) :	No.68-1, Shihbachongsi, Shihding Township, Taipei City 223, Taiwan, R.O.C.
FCC Registration Number :	TW1049, TW1061, 488071, 390316
IC Registration Number :	4934B-1, 4934D-1
VCCI Registration Number :	T-1173 for Telecommunication Test C-4139 for Conducted emission test R-3428 for Radiated emission test G-97 for radiated disturbance above 1GHz
Frequency Range Investigated :	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 1,000 MHz Radiation: from 1,000 MHz to 18,000 MHz
Test Distance :	The test distance of radiated emission below 1GHz from antenna to EUT is 3 M. The test distance of radiated emission above 1GHz from antenna to EUT is 3 M.

Testing Laboratory 1439

NVLAP LAB CODE: 200954-0

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

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 C63.4-2009 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 2.2. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

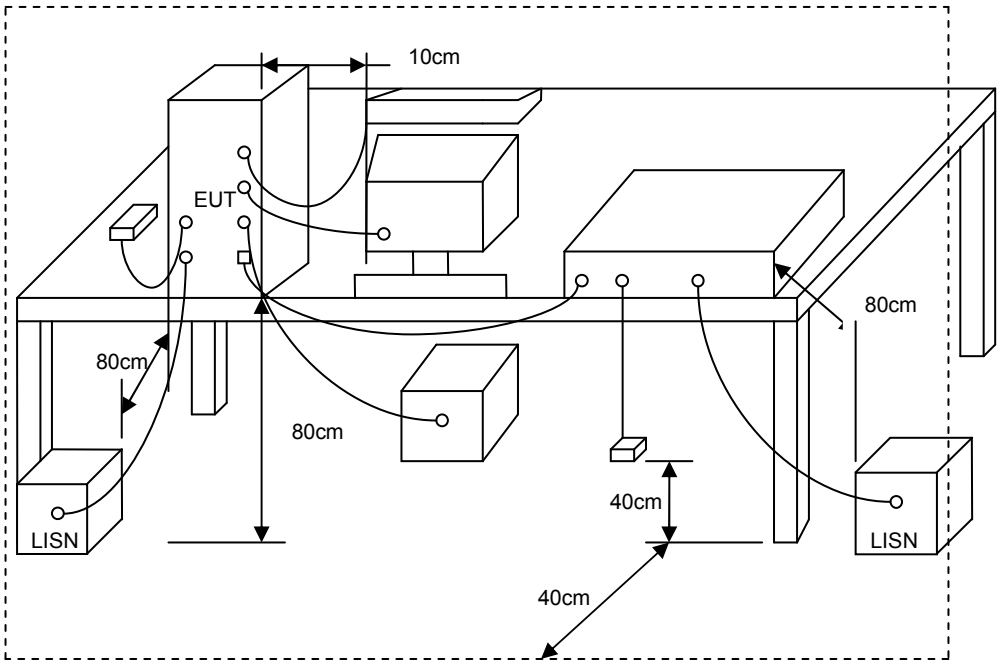
Conducted Emission Limits:

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

3.2. Test Procedures

a. 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.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

3.3. Typical test Setup

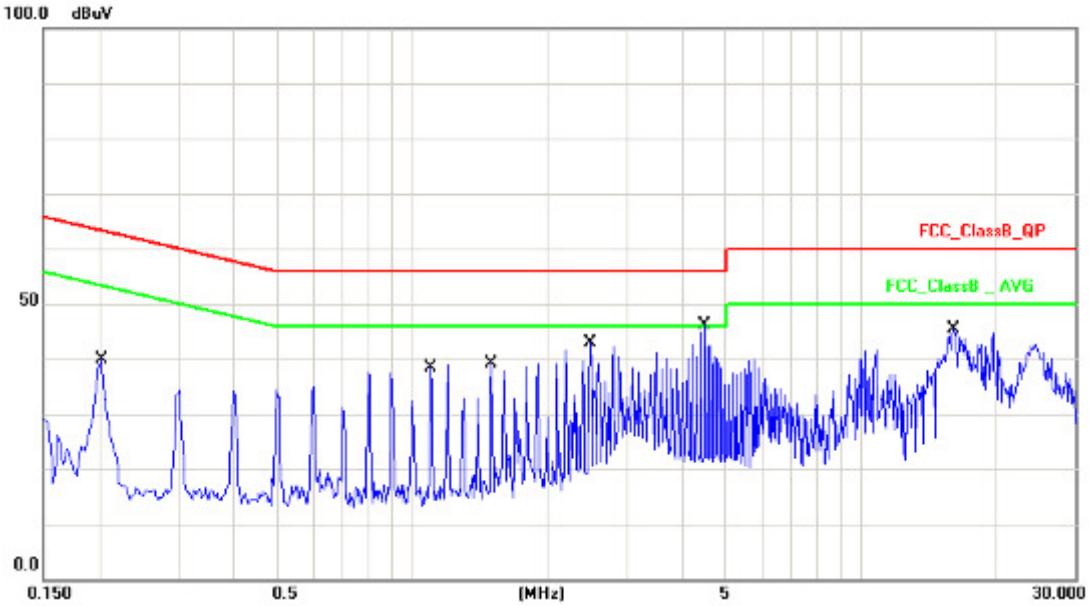


3.4. Measurement equipment

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

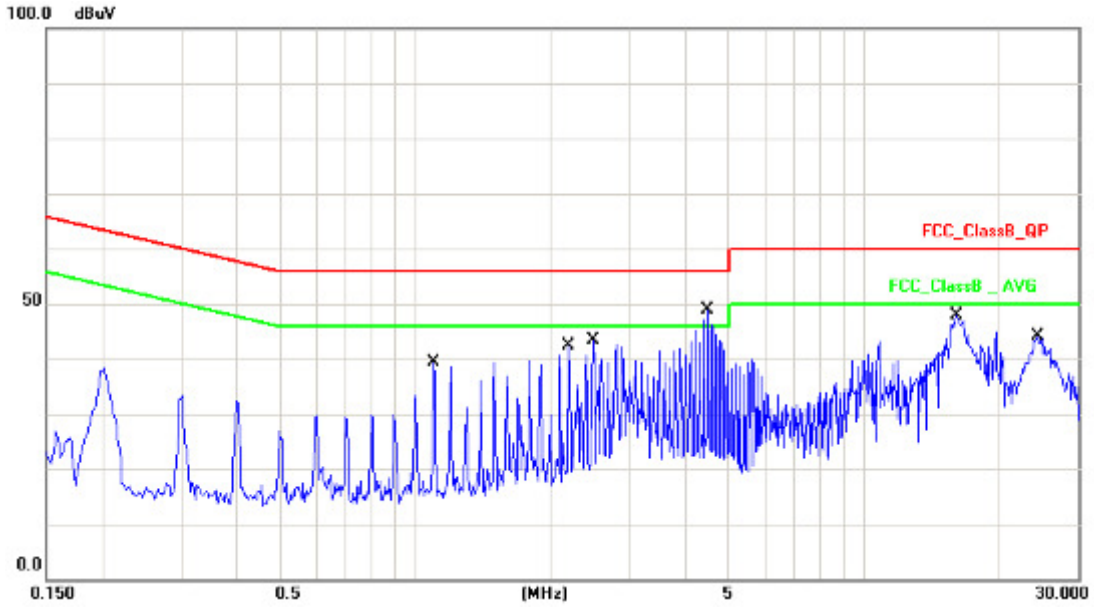
Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Phase :	LINE
Equipment :	NETWORK VIDEO RECORDER	Model No :	NVR7464-16P
Temperature :	26℃	Humidity :	60%
Pressure(mbar) :	1002	Date :	2013/12/28



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2020	10.12	26.19	36.31	63.52	-27.21	QP
2	0.2020	10.12	25.09	35.21	53.52	-18.31	AVG
3	1.0980	10.16	26.23	36.39	56.00	-19.61	QP
4	1.0980	10.16	24.72	34.88	46.00	-11.12	AVG
5	1.4980	10.16	27.53	37.69	56.00	-18.31	QP
6	1.4980	10.16	26.93	37.09	46.00	-8.91	AVG
7	2.4980	10.18	31.55	41.73	56.00	-14.27	QP
8	2.4980	10.18	31.26	41.44	46.00	-4.56	AVG
9	4.4940	10.22	38.78	49.00	56.00	-7.00	QP
10	4.4940	10.22	32.16	42.38	46.00	-3.62	AVG
11	16.0860	10.48	31.69	42.17	60.00	-17.83	QP
12	16.0860	10.48	24.83	35.31	50.00	-14.69	AVG

Note: Measurement Level = Reading Level + Correct Factor

Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Phase :	NEUTRAL
Equipment :	NETWORK VIDEO RECORDER	Model No :	NVR7464-16P
Temperature :	26℃	Humidity :	60%
Pressure(mbar) :	1002	Date :	2013/12/28



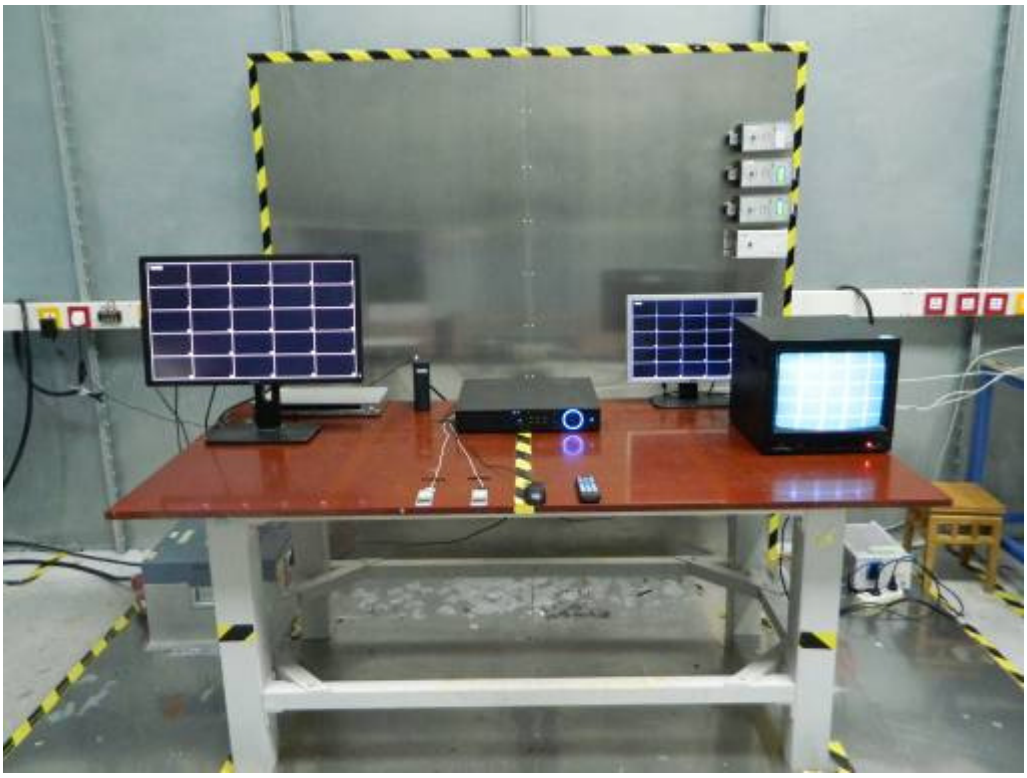
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	1.0980	10.18	27.91	38.09	56.00	-17.91	QP
2	1.0980	10.18	26.36	36.54	46.00	-9.46	AVG
3	2.1980	10.18	30.54	40.72	56.00	-15.28	QP
4	2.1980	10.18	30.22	40.40	46.00	-5.60	AVG
5	2.4980	10.19	32.05	42.24	56.00	-13.76	QP
6	2.4980	10.19	32.09	42.28	46.00	-3.72	AVG
7	4.4940	10.24	39.60	49.84	56.00	-6.16	QP
8	4.4940	10.24	32.61	42.85	46.00	-3.15	AVG
9	16.0860	10.51	32.36	42.87	60.00	-17.13	QP
10	16.0860	10.51	23.47	33.98	50.00	-16.02	AVG
11	24.3740	10.35	30.81	41.16	60.00	-18.84	QP
12	24.3740	10.35	23.20	33.55	50.00	-16.45	AVG

Note: Measurement Level = Reading Level + Correct Factor

Test engineer: Dian

3.6. Test Photographs

Front View



Rear View

4. Test of Radiated Emission

4.1. Test Limit

Radiated emissions were measured with a bandwidth according to the methods defines in ANSI C63.4-2009. The EUT was placed on a nonmetallic stand in the open-field site, 0.8 meter above the ground plane, as shown in section 3.2. 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(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance Meters	Radiated (μ V / M)	Radiated (dB μ V/ M)
30-88	3	100	40.0
88-216	3	150	43.5
216-960	3	200	46.0
Above 960	3	500	54.0

For unintentional device, according to CISPR PUB.22, for Class B 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.

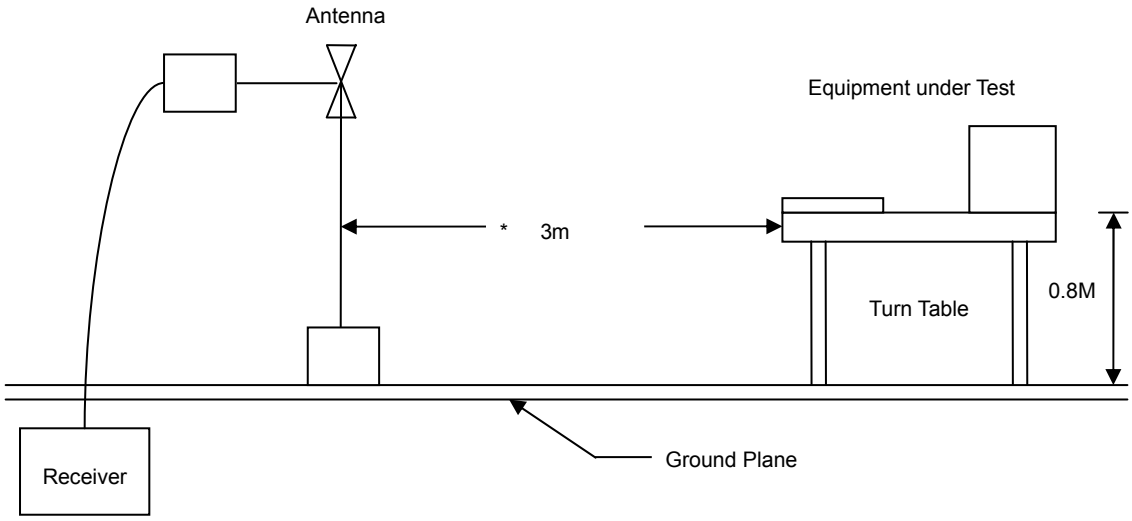
Frequency (MHz)	Distance Meters	Radiated (dB μ V/ M)
30-230	10	30
230-1000	10	37

4.2. Test Procedures

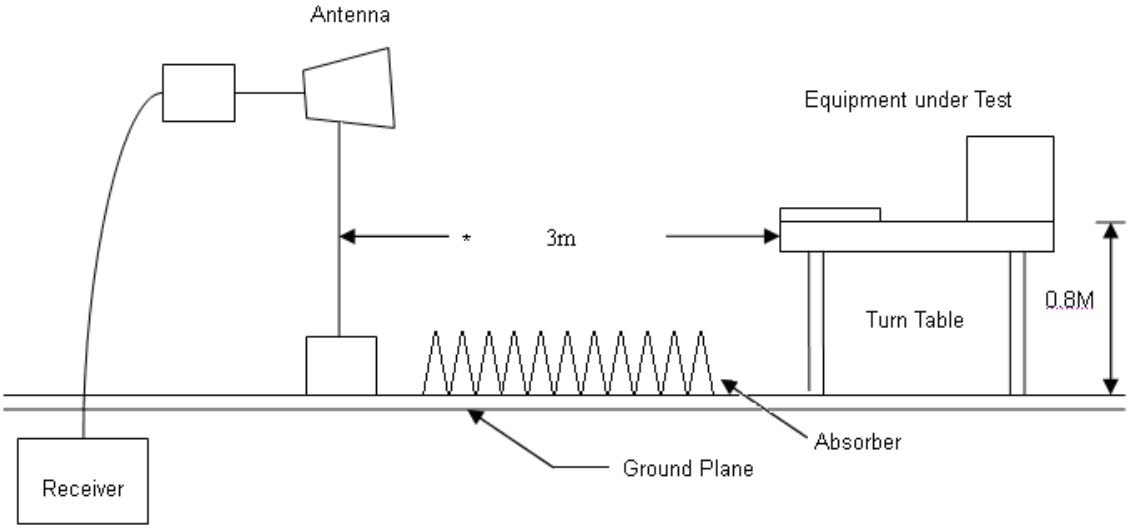
a. The EUT was placed on a Rota table top 0.8 meter above ground.
b. The EUT was set 3/10 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna 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.
e. 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.
f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. 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

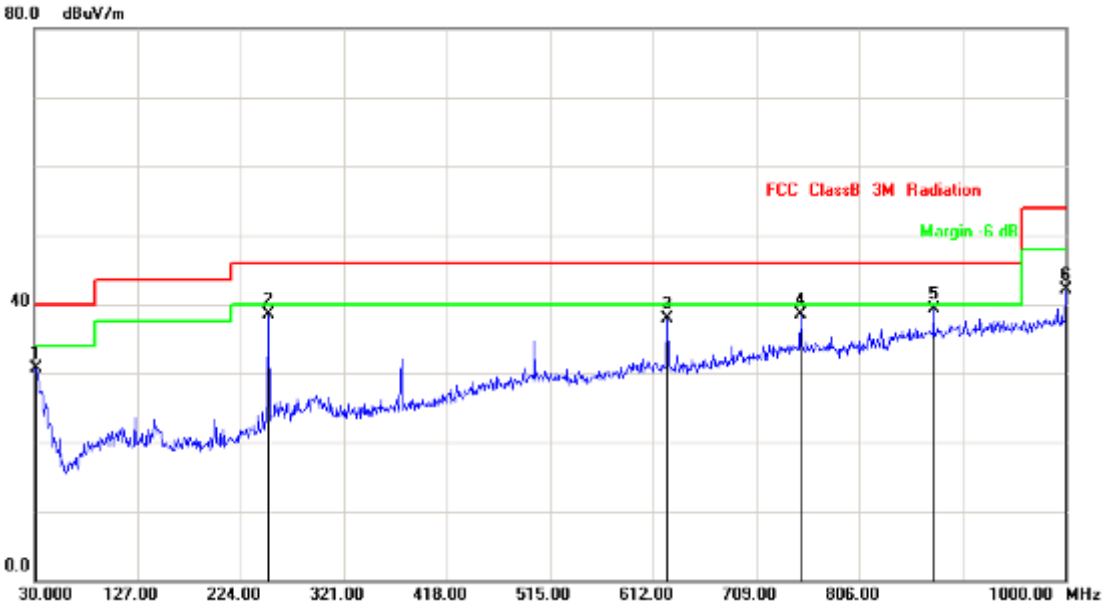


4.4. Measurement equipment

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)

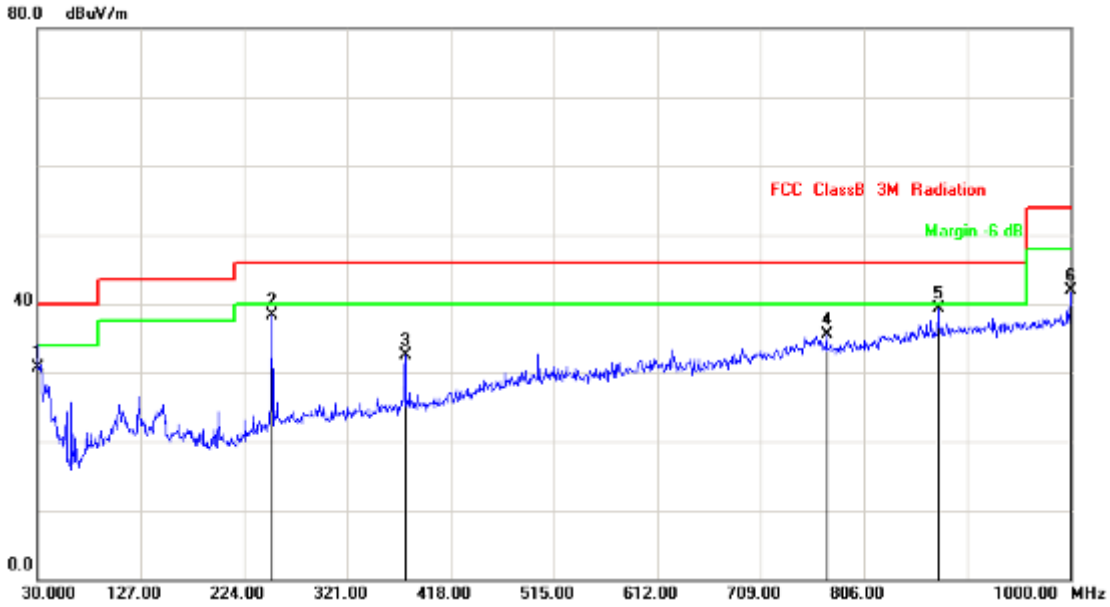
Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Horizontal
Equipment :	NETWORK VIDEO RECORDER	Model No :	NVR7464-16P
Temp :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/12/12



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	31.9400	4.42	26.24	30.66	40.00	-9.34	QP	151	360
2	250.1900	-2.82	41.28	38.46	46.00	-7.54	QP	400	1
3	625.5800	6.36	31.58	37.94	46.00	-8.06	QP	100	219
4	750.7100	9.14	29.29	38.43	46.00	-7.57	QP	100	125
5	875.8400	11.11	28.23	39.34	46.00	-6.66	QP	100	73
6	1000.0000	12.79	29.33	42.12	54.00	-11.88	QP	100	271

Note: Measurement Level = Reading Level + Correct Factor

Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Vertical
Equipment :	NETWORK VIDEO RECORDER	Model No :	NVR7464-16P
Temp :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/12/12

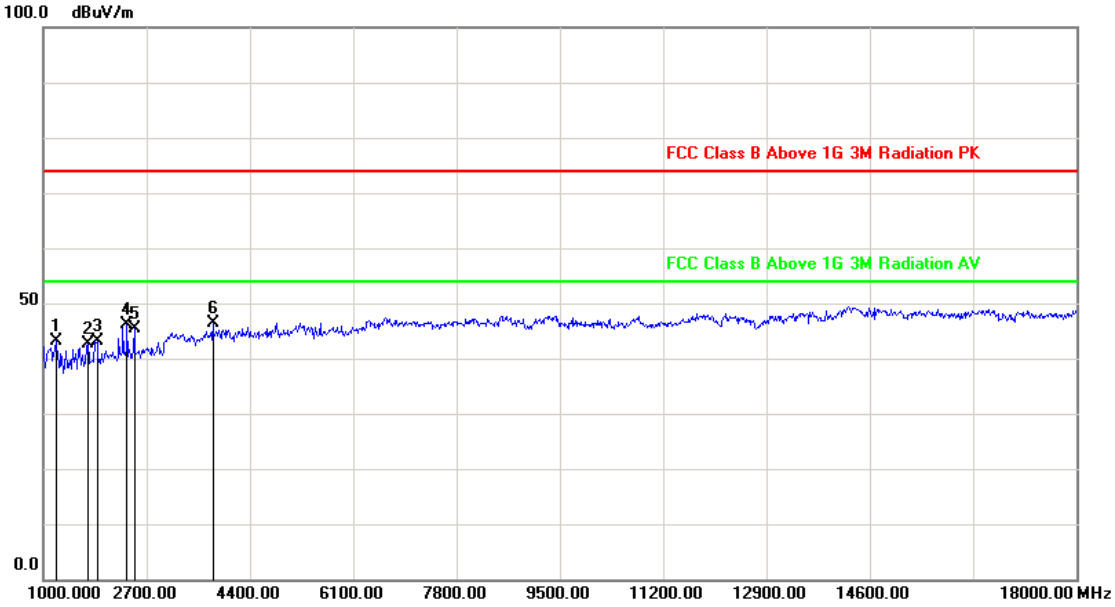


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	30.0000	5.56	25.24	30.80	40.00	-9.20	QP	123	360
2	250.1900	-2.82	41.21	38.39	46.00	-7.61	QP	100	122
3	375.3200	0.84	31.75	32.59	46.00	-13.41	QP	100	359
4	771.0800	9.10	26.50	35.60	46.00	-10.40	QP	100	187
5	875.8400	11.11	28.21	39.32	46.00	-6.68	QP	400	223
6	1000.0000	12.79	29.05	41.84	54.00	-12.16	QP	400	354

Note: Measurement Level = Reading Level + Correct Factor

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

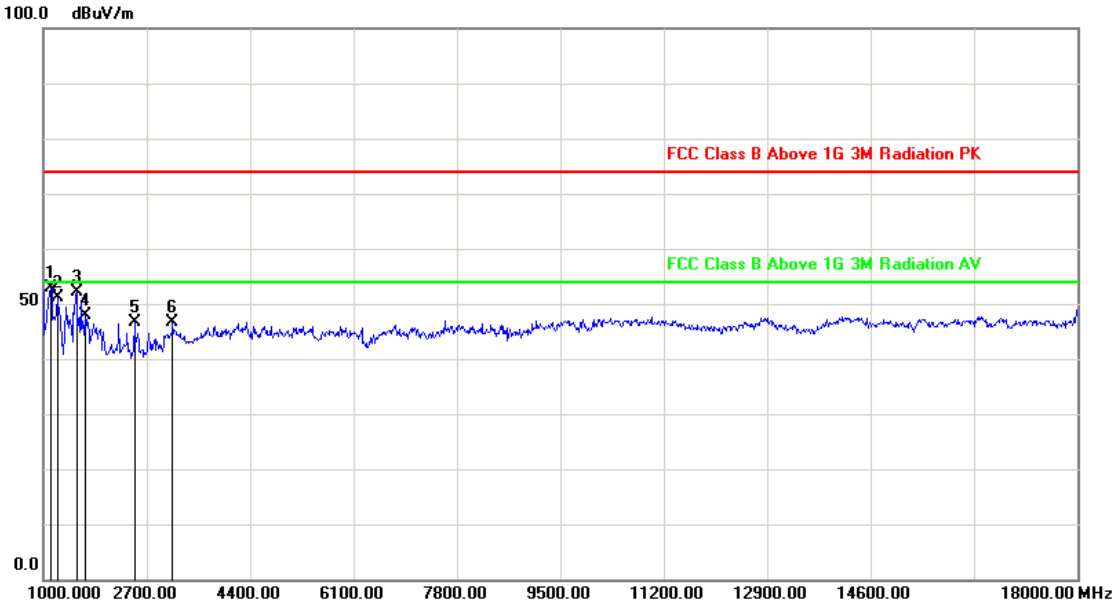
Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Horizontal
Equipment :	NETWORK VIDEO RECORDER	Model No :	NVR7464-16P
Temp :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/12/30



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	1204.000	-6.02	49.20	43.18	74.00	-30.82	peak	100	148
2	1731.000	-3.82	46.35	42.53	74.00	-31.47	peak	100	261
3	1884.000	-3.18	46.40	43.22	74.00	-30.78	peak	100	148
4	2377.000	-1.44	47.67	46.23	74.00	-27.77	peak	100	148
5	2496.000	-1.04	46.53	45.49	74.00	-28.51	peak	100	229
6	3788.000	3.57	42.83	46.40	74.00	-27.60	peak	200	359

Note: Measurement Level = Reading Level + Correct Factor

Test Mode :	Mode 1: Normal Operation		
AC Power :	AC 120V/60Hz	Ant. Polarization:	Vertical
Equipment :	NETWORK VIDEO RECORDER	Model No :	NVR7464-16P
Temp :	23℃	Humidity :	52%
Pressure(mbar) :	1002	Date :	2013/12/30



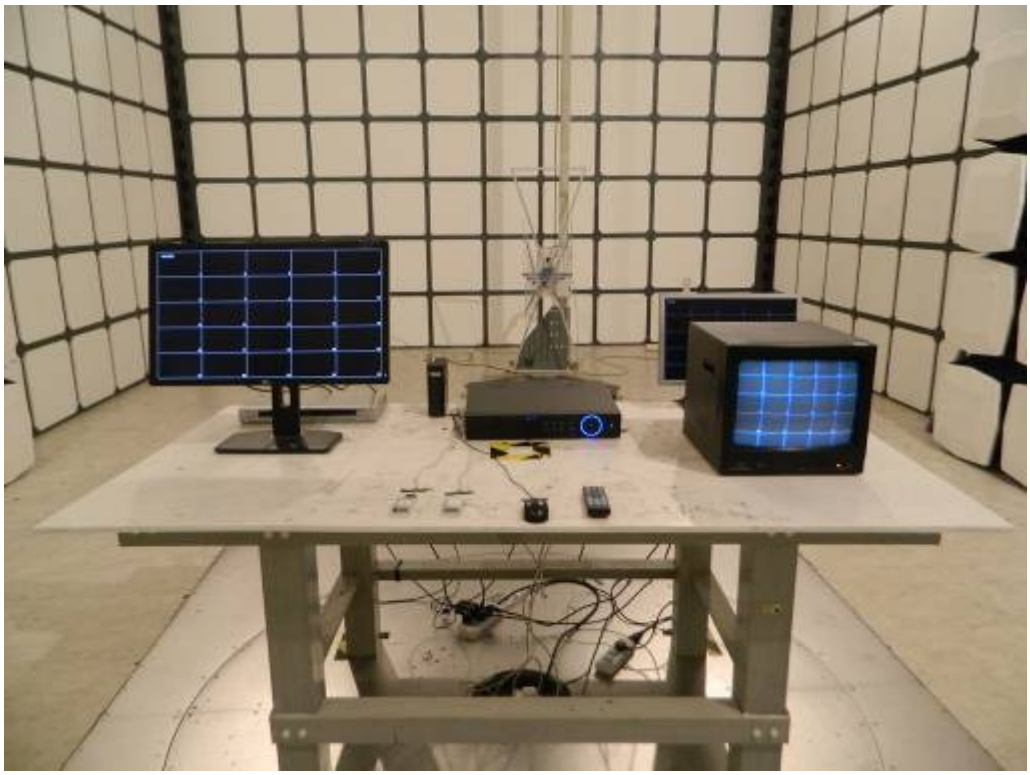
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (deg)
1	1119.000	-6.37	59.31	52.94	74.00	-21.06	peak	100	213
2	1238.000	-5.88	56.89	51.01	74.00	-22.99	peak	100	182
3	1544.000	-4.60	56.71	52.11	74.00	-21.89	peak	100	194
4	1680.000	-4.03	52.01	47.98	74.00	-26.02	peak	100	182
5	2496.000	-1.04	47.64	46.60	74.00	-27.40	peak	100	153
6	3125.000	1.11	45.62	46.73	74.00	-27.27	peak	200	202

Note: Measurement Level = Reading Level + Correct Factor

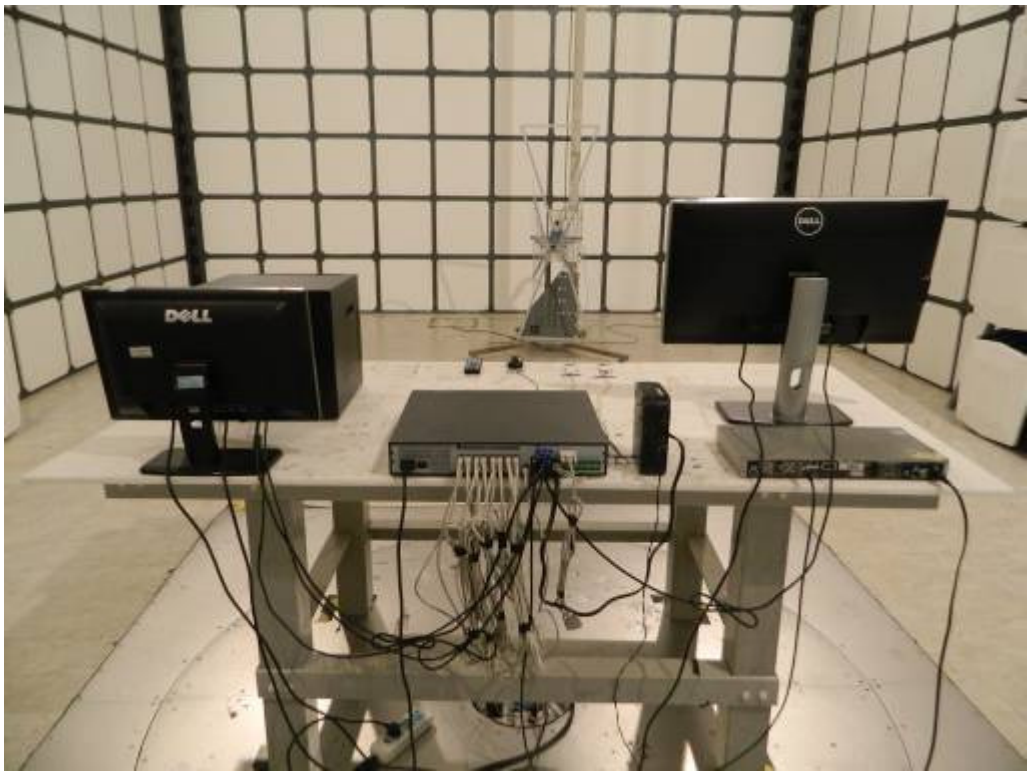
Test engineer:_____

4.7. Test Photographs (30MHz ~ 1000MHz)

Front View

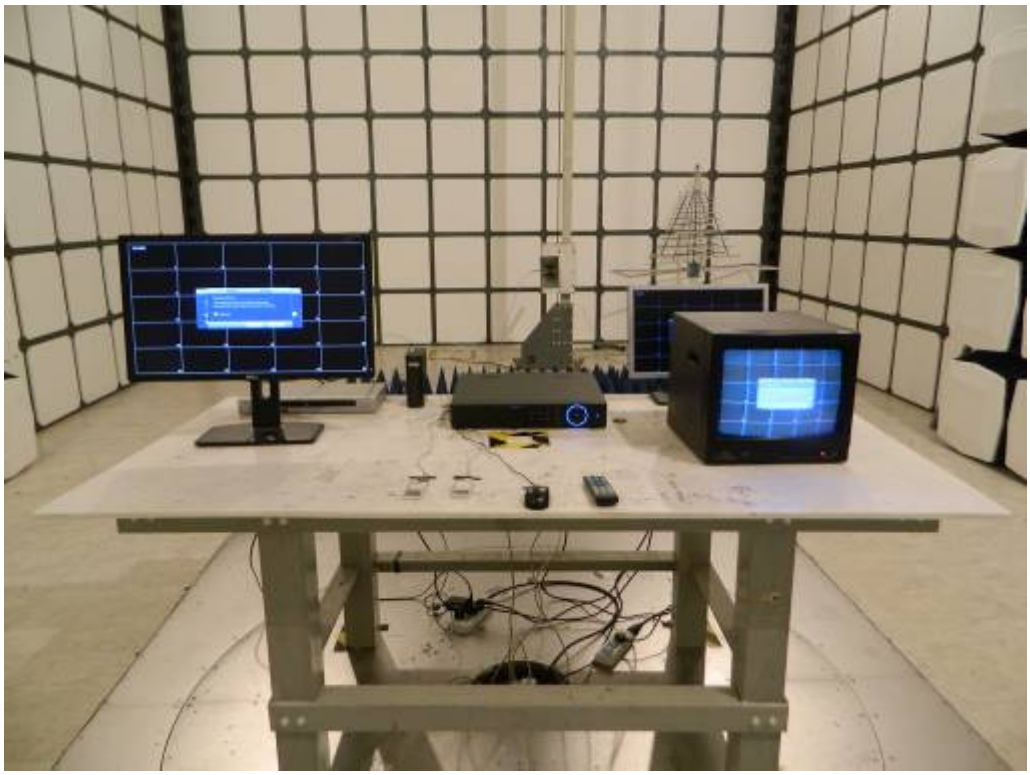


Rear View

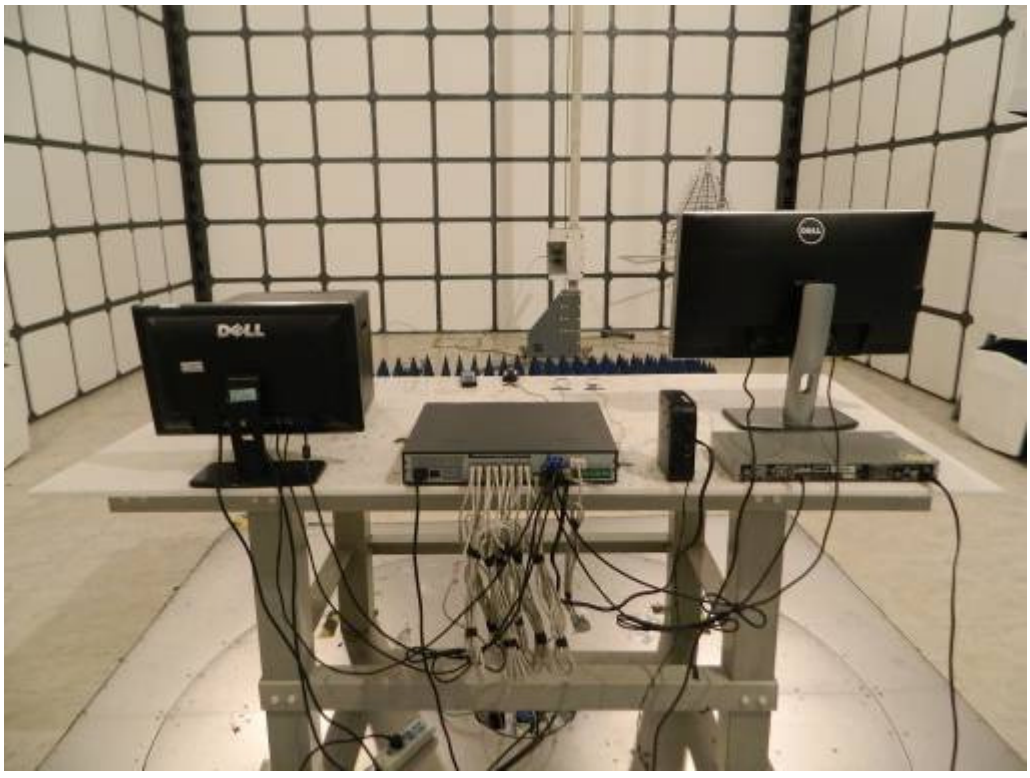


4.8. Test Photographs (1000MHz ~ 18000MHz)

Front View



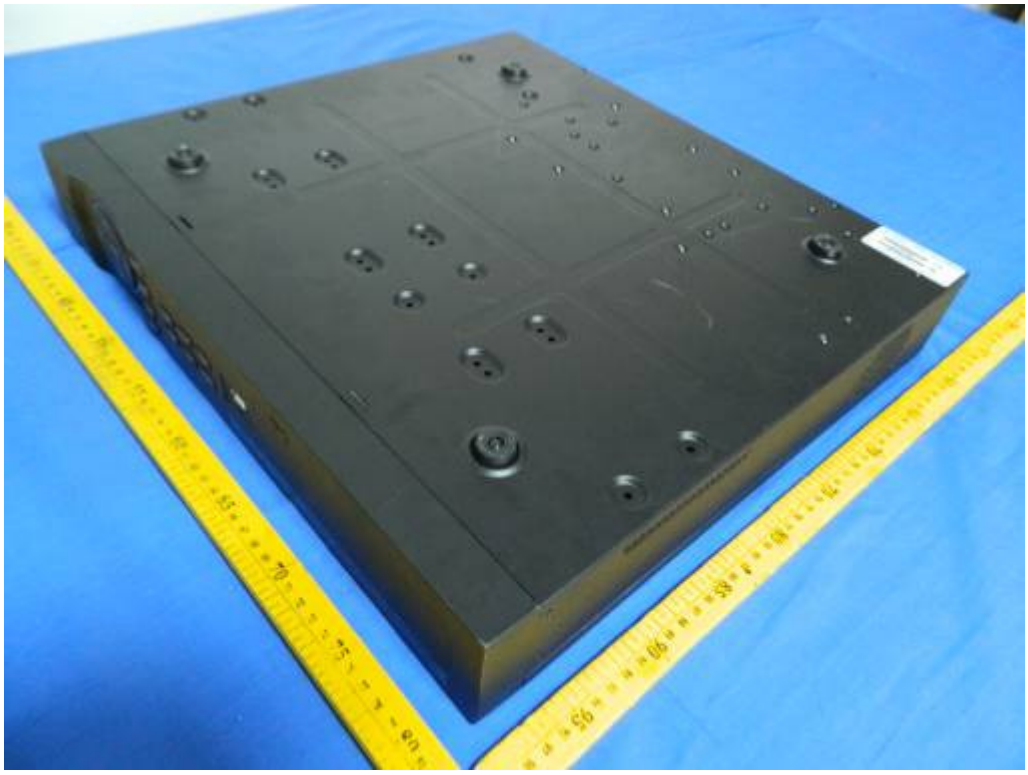
Rear View



5. Photographs of EUT

1) EUT Photo

2) EUT Photo



3) EUT Photo

4) EUT Photo

5) EUT Photo


NETWORK VIDEO RECORDER
MODEL: NVR7464-16P
P/N:
1.0.01.23.0084
S/N:
YZA3LZ058D00001
INPUT : 100-240V~ ,50-60Hz,4.5-1.9A
MADE IN CHINA