



TEST REPORT

Report No.: DHQ-19AP3616VTSHPB-A1

Test Model: DH-IPC-HFW7442HN-Z

Received: Apr.29, 2019

ISSUED: Aug.14, 2019

Applicant: ZHEJIANG DAHUA VISION TECHNOLOGY CO., LTD.

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

Issued By: BUREAU VERITAS ADT (Shanghai) Corporation

Lab Location: No. 829, Xinzhuan Road, Shanghai, P.R.China (201612)

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1. TEST PROGRAM

PRODUCT: IP CAMERA

TEST MODEL: DH-IPC-HFW7442HN-Z

SERIES MODEL: Refer to model list

APPLICANT: ZHEJIANG DAHUA VISION TECHNOLOGY CO.,LTD.

TESTED: Apr.29 to May.27, 2019

STANDARDS: 47 CFR FCC Part15, Subpart B, Class B

ANSI C63.4:2014

We, BUREAU VERITAS ADT (Shanghai) Corporation, declare that the equipment above has been tested and found compliance with the requirement limits of applicable standards. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate under the standards herein specified.

PREPARED BY : , **DATE:** Aug.14, 2019

Leon Yun

Testing Engineer

APPROVED BY : , **DATE:** Aug.14, 2019

Daniel Sun

Testing Manager



2. Summary of Test Procedure and Test Results

EMISSION (47 CFR FCC Part15, Subpart B)		
Test Item	Normative References	Test Result
Conducted Emission	47 CFR FCC Part15, Subpart B 15.107	Meets the Class B requirements
Radiated Emission	47 CFR FCC Part15, Subpart B 15.109	Meets the Class B requirements

Special Comment: All tests were performed on 120Vac 60Hz.

3. Test Configuration of Equipment under Test

3.1. Manufacturer information

Manufacturer : ZHEJIANG DAHUA VISION TECHNOLOGY CO.,LTD.

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

3.2. Feature of Equipment under Test

Product Name:	IP CAMERA
Test Model:	DH-IPC-HFW7442HN-Z
Series Model:	Refer to model list
Model Discrepancy:	All models just have different model names.
EUT Power Rating:	12VDC/2A;24VAC; POE(802.3at);

Note: Please refer to user manual.

Special Comment: This report is updated report based on history report DHQ-19AP3616VTSHPB for adding model names. Compared with standards, no necessary test need. All test results can refer to history report DHQ-19AP3616VTSHPB.

3.3. Description of support units

NO.	PRODUCT	BRAND	MODEL NO.
1	PC	Lenovo	Thinkpad L470
2	AC adapter	HONOR	ADS-12AM-12 12012EPCU
3	AC adapter	Hon-Kwang	A24-3A
4	Network Cable	--	--
5	POE injector	TP-LINK	TL-POE150S



3.4. Model List

Test Model: DH-IPC-HFW7442HN-Z

Series Model: DH-IPC-HFW7442HP-Z; DH-IPC-HFW7442HN-Z; IPC-HFW7442HP-Z;
IPC-HFW7442HN-Z; DH-IPC-HFW7442H-Z; IPC-HFW7442H-Z;
IPC-HFW7442H-Z-2712F-DC12AC24V; IPC-HFW7442H-Z-2712-DC12AC24V;
DH-IPC-HFW7842HP-Z; DH-IPC-HFW7842HN-Z; IPC-HFW7842HP-Z; IPC-HFW7842HN-Z;
DH-IPC-HFW7842H-Z; IPC-HFW7842H-Z; IPC-HFW7842H-Z-2712F-DC12AC24V;
IPC-HFW7842H-Z-2712-DC12AC24V; DH-IPC-HFW7442HP-Z4; DH-IPC-HFW7442HN-Z4;
IPC-HFW7442HP-Z4; IPC-HFW7442HN-Z4; DH-IPC-HFW7442H-Z4; IPC-HFW7442H-Z4;
DH-IPC-HFW7442HN-ZFR; DH-IPC-HFW7442HP-ZFR; IPC-HFW7442HP-ZFR;
IPC-HFW7442HN-ZFR; DH-IPC-HFW7442H-ZFR; IPC-HFW7442H-ZFR;
DH-IPC-HFW7442HP-Z4FR; DH-IPC-HFW7442HN-Z4FR; IPC-HFW7442HN-Z4FR;
IPC-HFW7442HP-Z4FR; DH-IPC-HFW7442H-Z4FR; IPC-HFW7442H-Z4FR;
DH-IPC-HFW5842HP-ZHE; DH-IPC-HFW5842HN-ZHE; IPC-HFW5842HP-ZHE;
IPC-HFW5842HN-ZHE; DH-IPC-HFW5842H-ZHE; IPC-HFW5842H-ZHE; N85DU7Z;
IPC-HFW5842H-ZEH-2712F-DC12AC24V; IPC-HFW5842H-ZEH-2712-DC12AC24V;
IPC-HFW5842H-ZEH-2712

3.5. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

This listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement		Value
Conducted emissions		2.55 dB
Radiated emissions	30 MHz ~ 1GHz	3.22 dB
	Above 1GHz	2.89 dB

4. Test of Conducted Emission

4.1. Test Limit

TEST STANDARD:

CFR 47 FCC Part 15, Subpart B (Section: 15.107)

FREQUENCY (MHz)	Class A (dB μ V)		Class B (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

- NOTES:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.



4.4. Measurement Equipment

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	E1R1001	Mar.04, 2020
LISN ROHDE & SCHWARZ	ENV216	E1L1011	Jul.18, 2019
Software ADT	ADT_Cond_V7.3.0	N/A	N/A

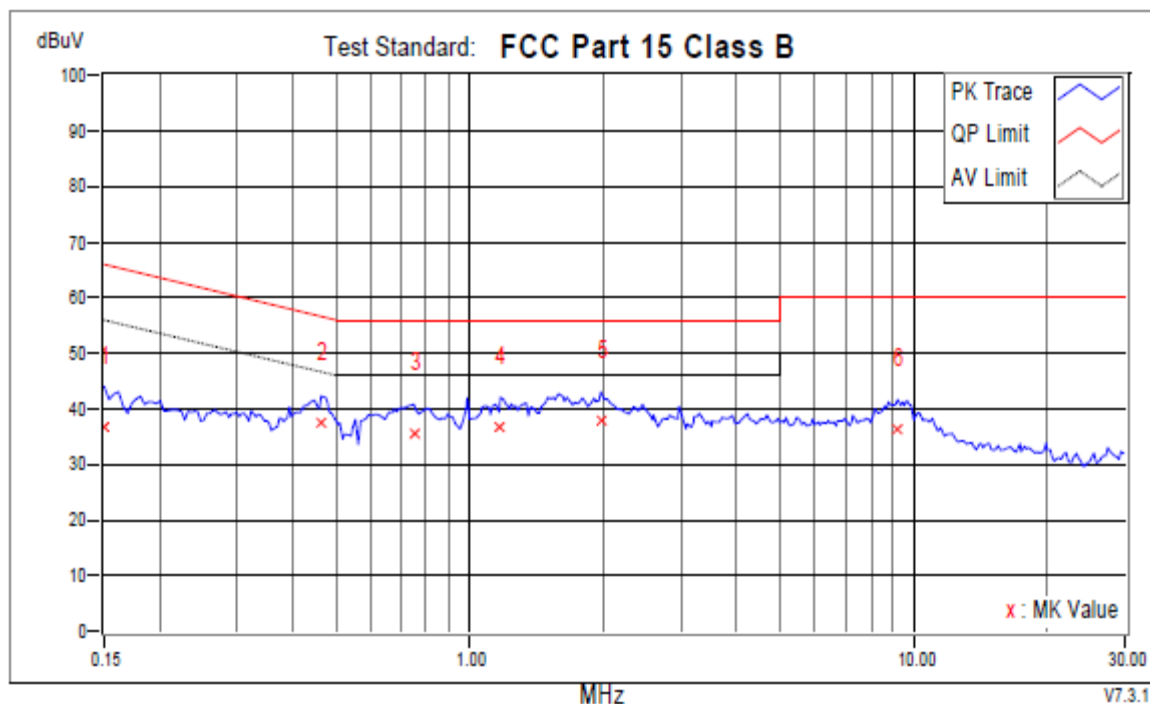
4.5. Test Result and Data

4.5.1 Conducted Emission Test Data

For DC12V port test on AC adapter

Phase : LINE

Location: Conduction 1 Date: 5/11/2019 Time: 2:24:14 PM Phase L1
 Temperatur (C): 22 Humidity (%): 48 Approved by:



No.	Frequency MHz	Corr. Factor dB	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	9.87	26.90	11.72	36.77	21.59	66.00	56.00	-29.23	-34.41	
+2	0.46280	9.75	27.94	20.29	37.69	30.04	56.64	46.64	-18.95	-16.60	
3	0.74823	9.63	26.04	17.02	35.67	26.65	56.00	46.00	-20.33	-19.35	
4	1.17204	9.65	27.08	17.79	36.73	27.44	56.00	46.00	-19.27	-18.56	
5	1.97359	9.80	27.90	17.51	37.70	27.31	56.00	46.00	-18.30	-18.69	
6	9.19145	10.37	25.96	19.57	36.33	29.94	60.00	50.00	-23.67	-20.06	

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

Phase : NEUTRAL

Location: Conduction 1

Date: 5/11/2019

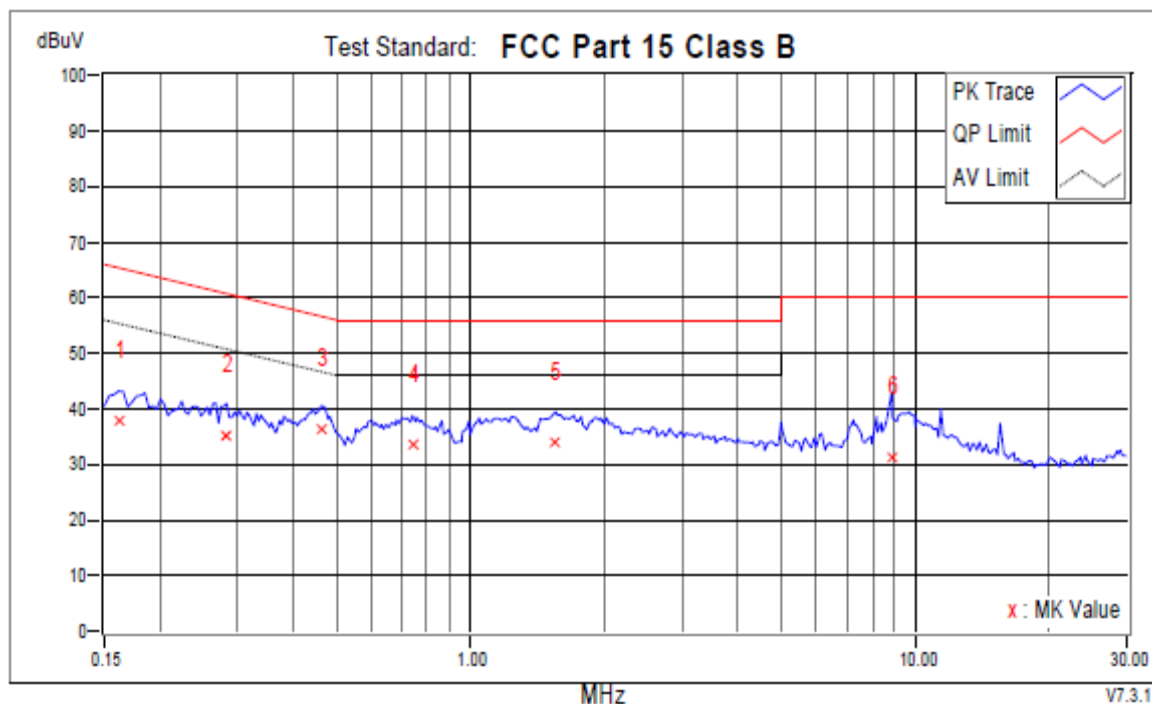
Time: 2:23:25 PM

Phase N

Temperatuer (C): 22

Humidity (%): 48

Approved by:



No.	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	
1	0.16173	9.86	28.14	13.92	38.00	23.78	65.37	55.37	-27.38	-31.60	
2	0.28294	9.88	25.38	16.71	35.26	26.59	60.73	50.73	-25.47	-24.14	
+3	0.46280	9.87	26.38	20.49	36.25	30.36	56.64	46.64	-20.40	-16.29	
4	0.74041	9.86	23.58	16.97	33.44	26.83	56.00	46.00	-22.56	-19.17	
5	1.55522	9.93	23.98	17.02	33.91	26.95	56.00	46.00	-22.09	-19.05	
6	8.85128	10.07	21.32	15.06	31.39	25.13	60.00	50.00	-28.61	-24.87	

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

For POE port test on POE adapter

Phase : LINE

Location: Conduction 1

Date: 5/11/2019

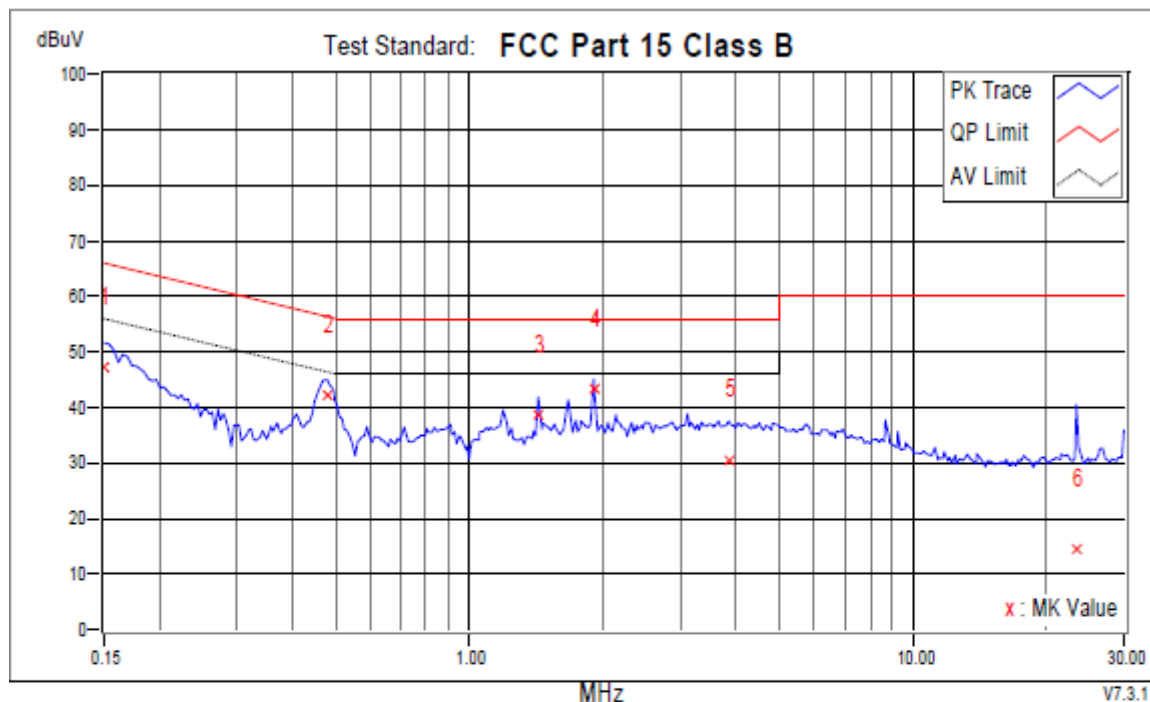
Time: 2:46:19 PM

Phase L1

Temperature (C): 22

Humidity (%): 48

Approved by:



No.	Frequency MHz	Corr. Factor dB	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	9.87	37.58	18.86	47.45	28.73	66.00	56.00	-18.55	-27.27	
2	0.47844	9.75	32.58	25.66	42.33	35.41	56.37	46.37	-14.04	-10.96	
3	1.43010	9.70	29.04	23.29	38.74	32.99	56.00	46.00	-17.26	-13.01	
+4	1.90712	9.79	33.52	29.45	43.31	39.24	56.00	46.00	-12.69	-6.76	
5	3.83866	9.97	20.32	12.43	30.29	22.40	56.00	46.00	-25.71	-23.60	
6	23.38002	10.13	4.24	-1.09	14.37	9.04	60.00	50.00	-45.63	-40.96	

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

Phase : NEUTRAL

Location: Conduction 1

Date: 5/11/2019

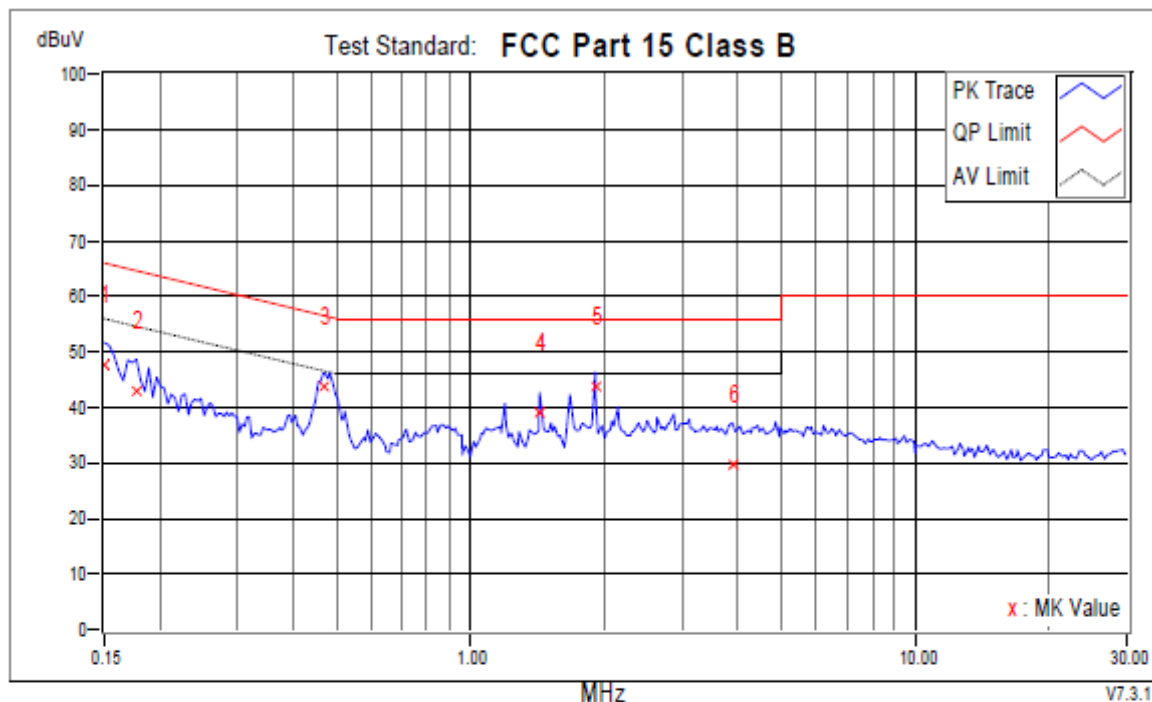
Time: 2:50:23 PM

Phase N

Temperatuer (C): 22

Humidity (%): 48

Approved by:



No.	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	9.88	37.72	19.60	47.60	29.48	66.00	56.00	-18.40	-26.52	
2	0.17737	9.85	33.26	16.61	43.11	26.46	64.61	54.61	-21.50	-28.15	
3	0.47062	9.88	33.98	26.51	43.86	36.39	56.50	46.50	-12.65	-10.12	
4	1.43010	9.94	29.24	23.48	39.18	33.42	56.00	46.00	-16.82	-12.58	
+5	1.90712	9.96	33.74	29.78	43.70	39.74	56.00	46.00	-12.30	-6.26	
6	3.88167	9.92	19.76	11.25	29.68	21.17	56.00	46.00	-26.32	-24.83	

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

For AC24V

Phase : LINE

Location: Conduction 1

Date: 5/24/2019

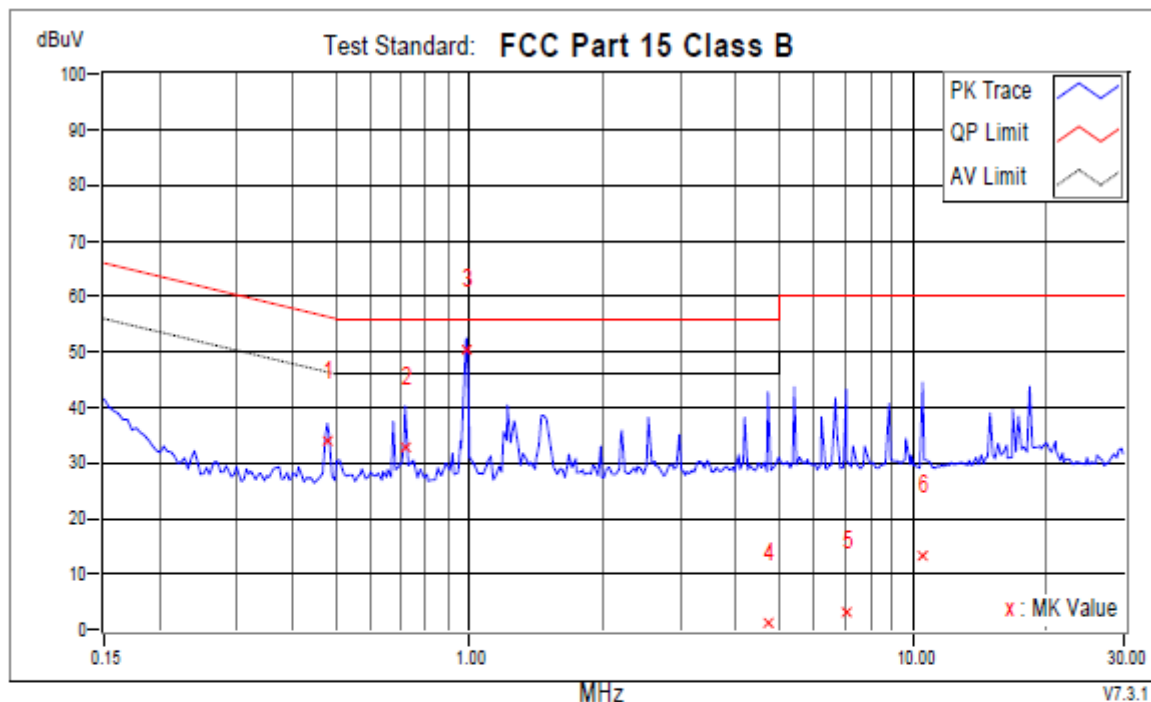
Time: 11:33:43 AM

Phase L1

Temperature (C): 22

Humidity (%): 48

Approved by:



No.	Frequency MHz	Corr. Factor dB	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
			QP	AV	QP	AV	QP	AV	QP	AV	
1	0.47844	9.75	24.36	23.58	34.11	33.33	56.37	46.37	-22.26	-13.04	
2	0.71695	9.63	23.36	22.58	32.99	32.21	56.00	46.00	-23.01	-13.79	
+3	0.98283	9.62	40.84	35.18	50.46	44.80	56.00	46.00	-5.54	-1.20	
4	4.71059	10.05	-8.88	-13.45	1.17	-3.40	56.00	46.00	-54.83	-49.40	
5	7.07223	10.22	-7.20	-12.05	3.02	-1.83	60.00	50.00	-56.98	-51.83	
6	10.52394	10.42	2.82	-5.02	13.24	5.40	60.00	50.00	-46.76	-44.60	

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

Phase : NEUTRAL

Location: Conduction 1

Date: 5/24/2019

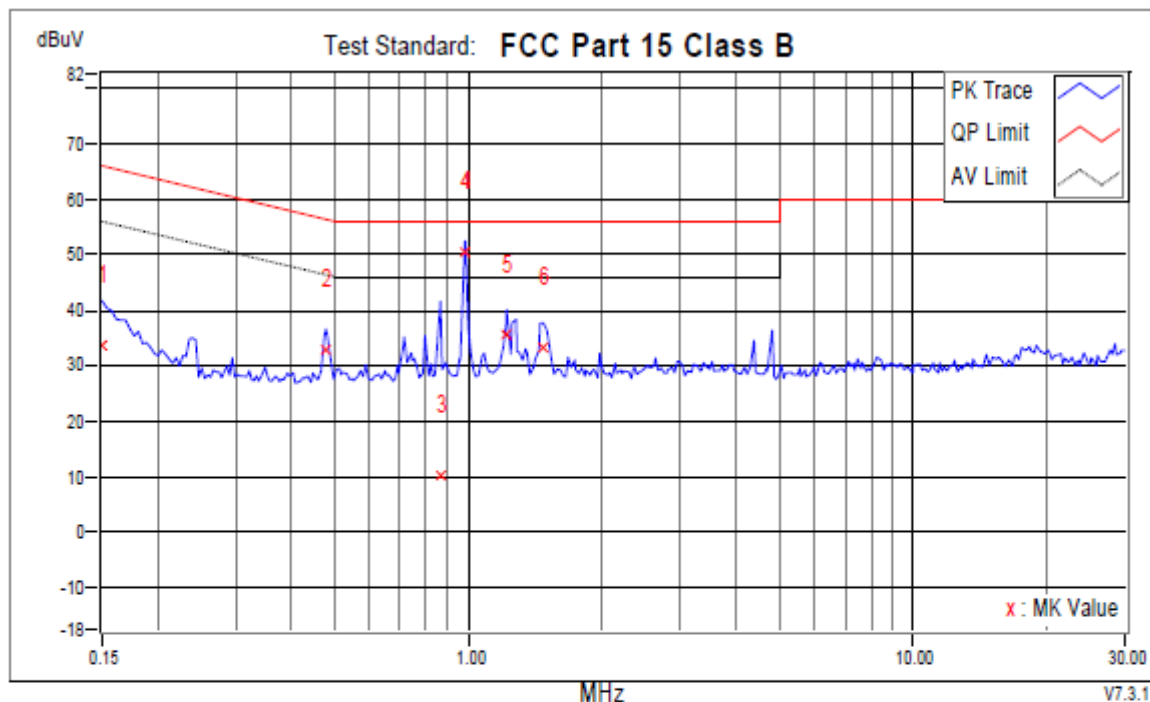
Time: 11:27:49 AM

Phase N

Temperatuer (C): 22

Humidity (%): 48

Approved by:



No.	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	9.88	23.60	-3.85	33.48	6.03	66.00	56.00	-32.52	-49.97	
2	0.47844	9.88	22.82	22.03	32.70	31.91	56.37	46.37	-23.67	-14.46	
3	0.86553	9.92	0.28	-7.57	10.20	2.35	56.00	46.00	-45.80	-43.65	
+4	0.98283	9.92	40.54	34.98	50.46	44.90	56.00	46.00	-5.54	-1.10	
5	1.21896	9.93	25.56	15.06	35.49	24.99	56.00	46.00	-20.51	-21.01	
6	1.47311	9.94	23.18	14.13	33.12	24.07	56.00	46.00	-22.88	-21.93	

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

4.6. Test Photographs





5. Test of Radiated Emission

5.1. Test Limit

TEST STANDARD:

CFR 47 FCC Part 15, Subpart B (Section: 15.109)

FOR FREQUENCY BELOW 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$	$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 – 88	90	39.1	100	40.0
88 – 216	150	43.5	150	43.5
216 – 960	210	46.4	200	46.0
960 – 1000	300	49.5	500	54.0

FOR FREQUENCY ABOVE 1000 MHz

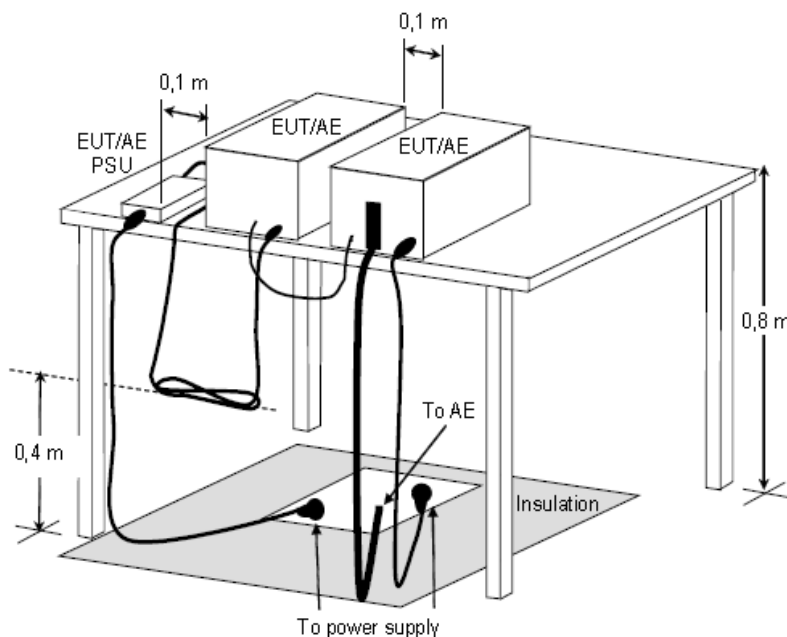
FREQUENCY (MHz)	Class A ($\text{dB}\mu\text{V/m}$) (at 3m)		Class B ($\text{dB}\mu\text{V/m}$) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

- Note:** (1) The lower limit shall apply at the transition frequencies.
 (2) Emission level ($\text{dB}\mu\text{V/m}$) = $20 \log$ Emission level ($\mu\text{V/m}$).
 (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

5.2. Test Procedures

- The EUT was placed on a rotatable 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 3 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 3 dB margin will be repeated one by one using the quasi-peak method and reported.

5.3. Typical Test Setup



**Figure D.8 – Example measurement arrangement for table-top EUT
(Radiated emission measurement)**



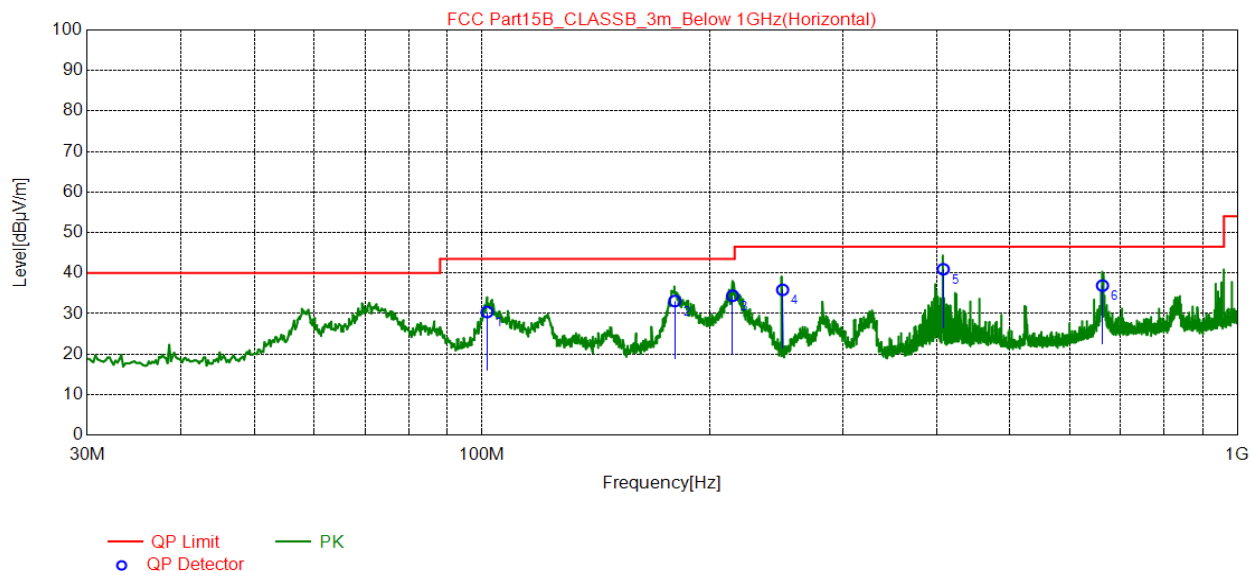
5.4. Measurement Equipment

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
EMI Test Spectrum ROHDE & SCHWARZ	ESR7	E1R1005	Dec.03, 2019
Spectrum Analyzer Keysight	N9030B	E1S1003	Jun.23, 2019
Broad-Band Antenna Schwarzbeck	VULB9168	E1A1012	Aug.26, 2020
Double Riaged Vroadband Horn Antenna Schwarzbeck	BBHA9120D	E1A1017	Jan.26, 2020
Preamplifier Agilent	8447D	E1A2001	Oct.14, 2019
Preamplifier Agilent	EMC051845SE	E1A2009	Jun.19, 2019

5.5. Test Result and Data (30MHz ~ 1GHz)

For DC12V port test on AC adapter

Position: Horizontal

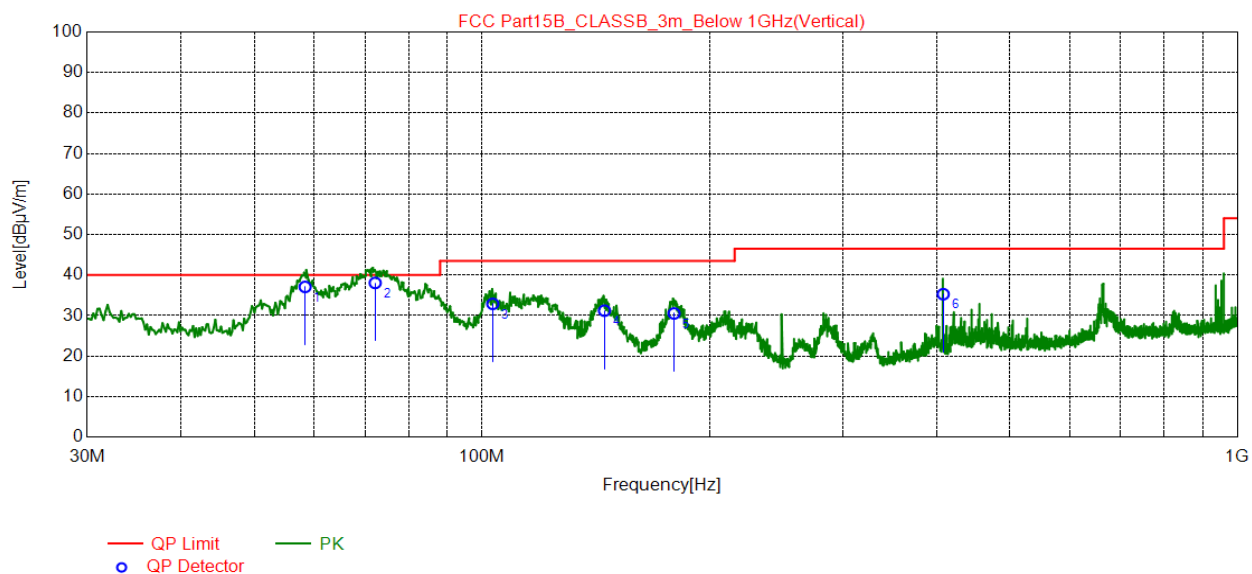


NO.	Freq. [MHz]	QP Reading [dB μ V/m]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	101.58	43.63	-13.24	30.39	43.50	13.11	200	272	Horizontal
2	179.96	44.59	-11.49	33.10	43.50	10.40	200	306	Horizontal
3	214.68	46.1	-11.70	34.40	43.50	9.10	100	99	Horizontal
4	249.99	46.28	-10.43	35.85	46.50	10.65	100	107	Horizontal
5	407.91	48.62	-7.68	40.94	46.50	5.56	100	233	Horizontal
6	662.82	40.14	-3.23	36.91	46.50	9.59	100	259	Horizontal

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

Position: Vertical



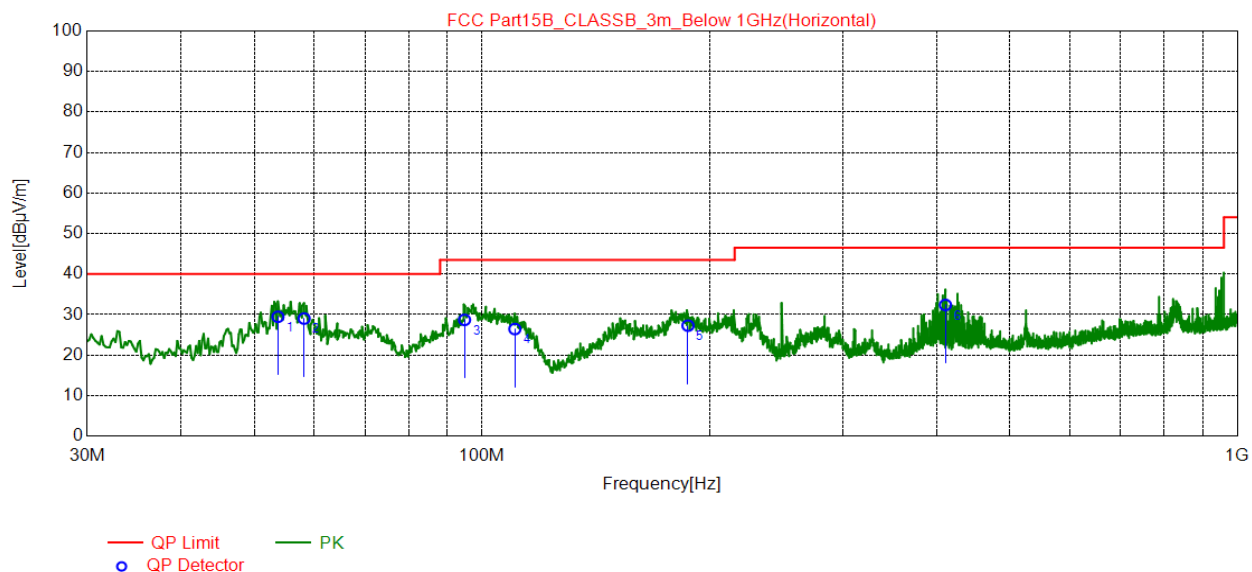
NO.	Freq. [MHz]	QP Reading [dB μ V/m]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	58.31	47.49	-10.41	37.08	40.00	2.92	101.6	301.3	Vertical
2	72.19	50.54	-12.47	38.07	40.00	1.93	107.9	223.7	Vertical
3	103.3	45.89	-13.00	32.89	43.50	10.61	100	262	Vertical
4	145.2	40.94	-9.72	31.22	43.50	12.28	100	196	Vertical
5	179.5	41.94	-11.41	30.53	43.50	12.97	100	225	Vertical
6	407.9	42.97	-7.68	35.29	46.50	11.21	100	258	Vertical

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

For POE port test on POE adapter

Position: Horizontal

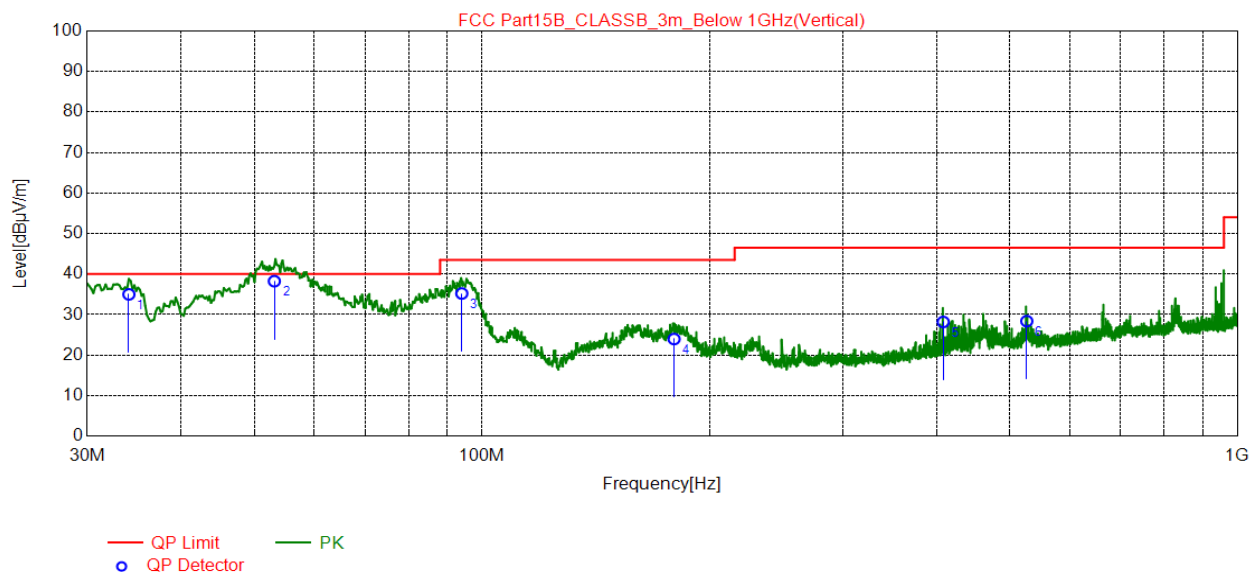


NO.	Freq. [MHz]	QP Reading [dB μ V/m]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	53.668	39.47	-10.01	29.46	40.00	10.54	100	340	Horizontal
2	58.130	39.42	-10.39	29.03	40.00	10.97	100	340	Horizontal
3	94.796	42.7	-14.01	28.69	43.50	14.81	200	112	Horizontal
4	110.51	38.51	-12.07	26.44	43.50	17.06	200	212	Horizontal
5	187.33	39.09	-11.81	27.28	43.50	16.22	100	181	Horizontal
6	410.62	40	-7.63	32.37	46.50	14.13	200	201	Horizontal

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

Position: Vertical



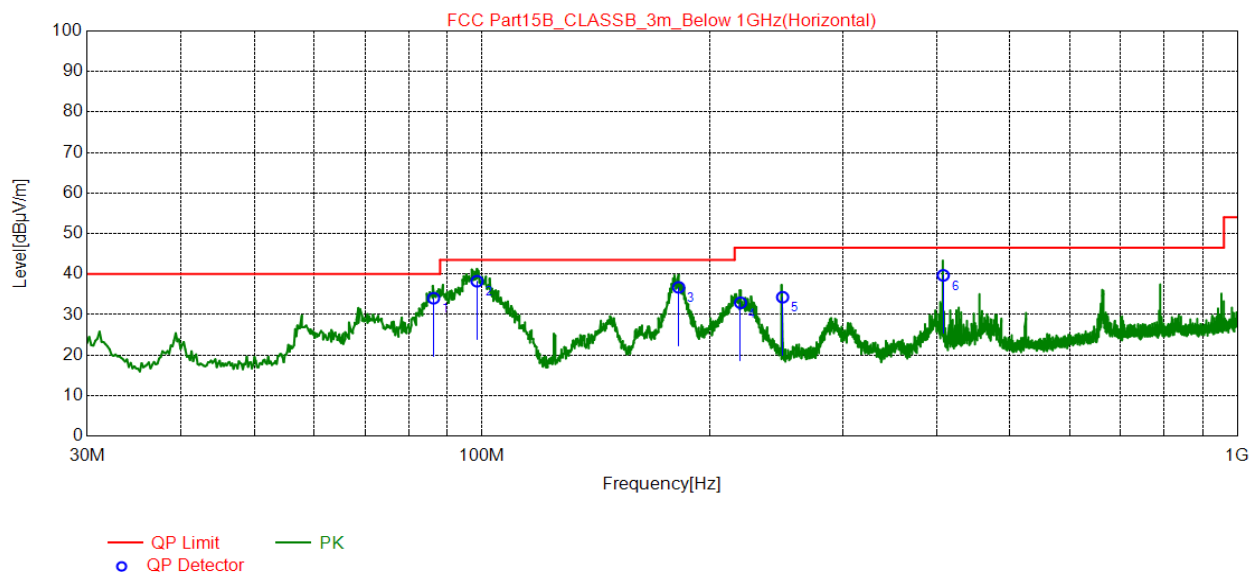
NO.	Freq. [MHz]	QP Reading [dB μ V/m]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	34.074	45.19	-10.20	34.99	40.00	5.01	100	80	Vertical
2	53.089	48.21	-9.96	38.25	40.00	1.75	101.6	225.7	Vertical
3	94.020	49.29	-14.09	35.20	43.50	8.30	100	232	Vertical
4	179.57	35.38	-11.41	23.97	43.50	19.53	200	268	Vertical
5	407.91	35.87	-7.68	28.19	46.50	18.31	200	84	Vertical
6	526.25	33.74	-5.35	28.39	46.50	18.11	100	0	Vertical

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

For AC24V

Position: Horizontal

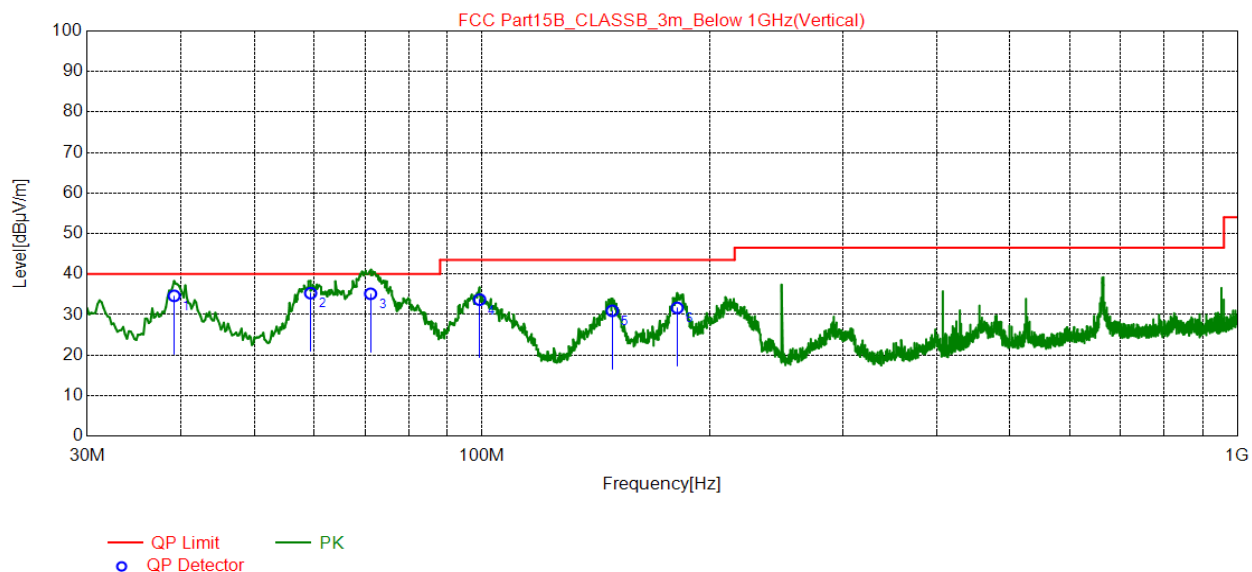


NO.	Freq. [MHz]	QP Reading [dB μ V/m]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	86.260	48.28	-14.23	34.05	40.00	5.95	200	160	Horizontal
2	98.482	51.87	-13.62	38.25	43.50	5.25	200	142	Horizontal
3	182.09	48.31	-11.59	36.72	43.50	6.78	200	145	Horizontal
4	219.92	44.39	-11.47	32.92	46.50	13.58	200	176	Horizontal
5	249.99	44.72	-10.43	34.29	46.50	12.21	200	264	Horizontal
6	407.91	47.36	-7.68	39.68	46.50	6.82	200	164	Horizontal

REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

Position: Vertical



NO.	Freq. [MHz]	QP Reading [dB μ V/m]	Factor [dB]	QP Value [dB μ V/m]	QP Limit [dB μ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	39.118	44.2	-9.57	34.63	40.00	5.37	100	196	Vertical
2	59.294	45.78	-10.49	35.29	40.00	4.71	100	334	Vertical
3	71.194	47.44	-12.30	35.14	40.00	4.86	196.8	168.1	Vertical
4	99.258	47.23	-13.54	33.69	43.50	9.81	100	271	Vertical
5	148.72	40.35	-9.41	30.94	43.50	12.56	100	124	Vertical
6	181.32	43.21	-11.55	31.66	43.50	11.84	100	115	Vertical

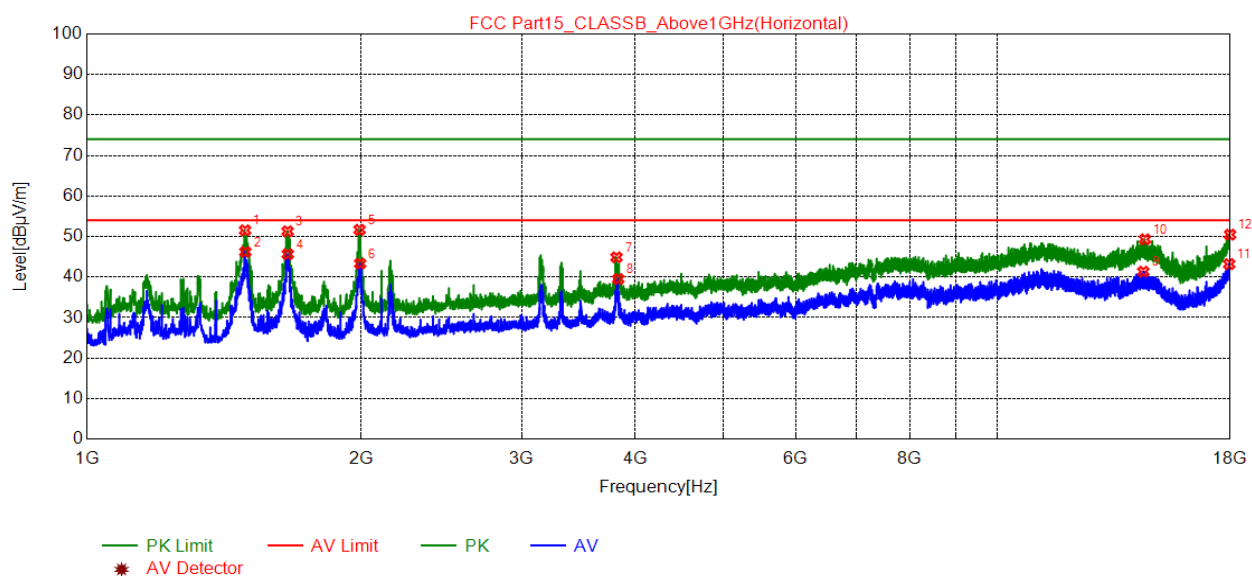
REMARKS:

1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

5.6. Test Result and Data (1GHz ~ 18GHz)

For DC12V port test on AC adapter

Position: Horizontal

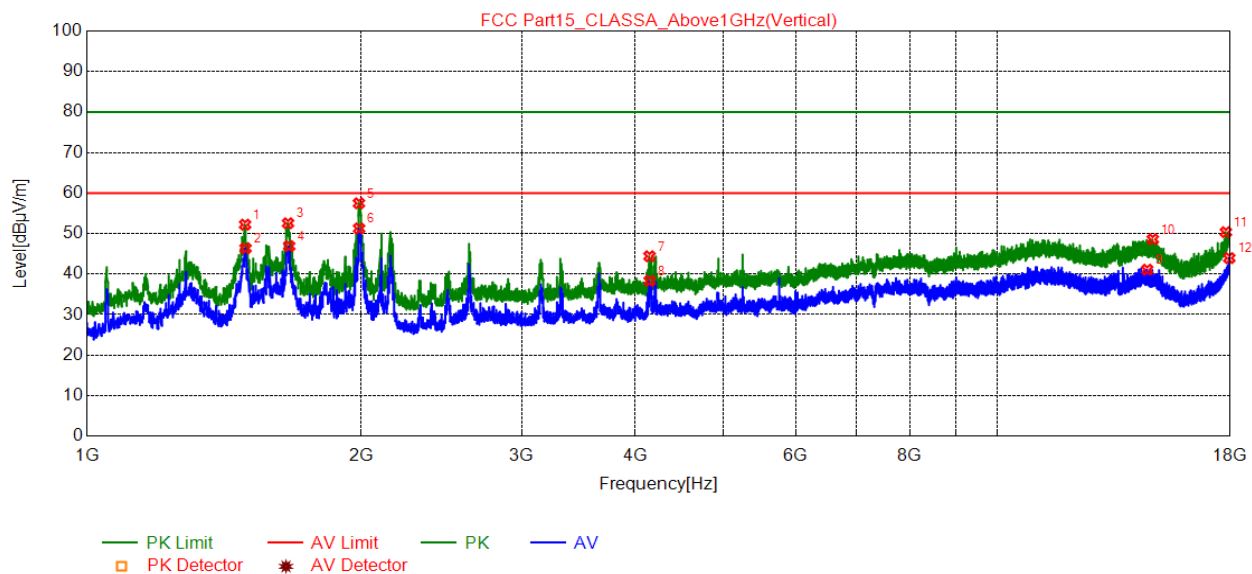


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1491.3000	69.48	51.54	74.00	22.46	100	218	Horizontal	PK
2	1492.1500	64.15	46.21	54.00	7.79	100	249	Horizontal	AV
3	1660.4500	68.81	51.29	74.00	22.71	100	249	Horizontal	PK
4	1661.3000	63.17	45.65	54.00	8.35	100	249	Horizontal	AV
5	1991.9500	68.48	51.67	74.00	22.33	100	186	Horizontal	PK
6	1994.5000	60.13	43.33	54.00	10.67	100	218	Horizontal	AV
7	3813.5000	56.87	44.88	74.00	29.12	100	312	Horizontal	PK
8	3831.3500	51.46	39.52	54.00	14.48	100	343	Horizontal	AV
9	14447.8500	37.61	41.34	54.00	12.66	100	343	Horizontal	AV
10	14507.3500	45.51	49.32	74.00	24.68	100	343	Horizontal	PK
11	17949.8500	31.68	43.20	54.00	10.80	100	218	Horizontal	AV
12	17988.9500	38.62	50.47	74.00	23.53	100	155	Horizontal	PK

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Margin = Limit –Level

Position: Vertical



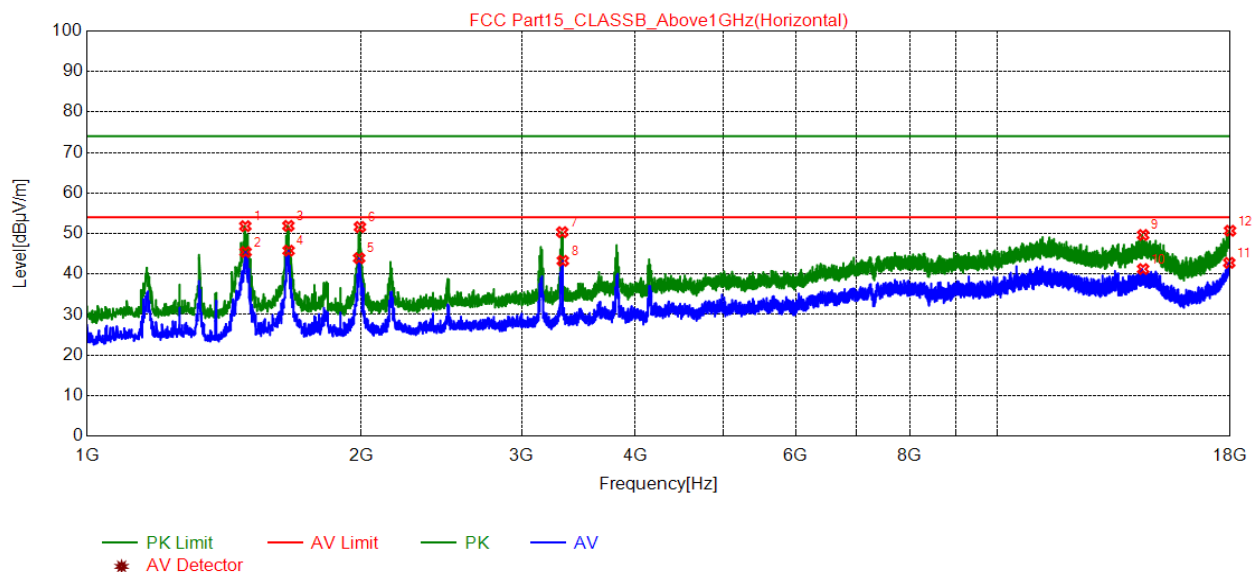
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1491.3000	70.14	52.20	80.00	27.80	100	154	Vertical	PK
2	1493.0000	64.28	46.35	60.00	13.65	100	199	Vertical	AV
3	1662.1500	70.06	52.54	80.00	27.46	100	154	Vertical	PK
4	1667.2500	64.40	46.89	60.00	13.11	100	199	Vertical	AV
5	1988.5500	74.28	57.47	80.00	22.53	100	17	Vertical	PK
6	1989.4000	68.06	51.25	60.00	8.75	100	17	Vertical	AV
7	4145.8500	55.62	44.40	80.00	35.60	100	17	Vertical	PK
8	4146.7000	49.54	38.32	60.00	21.68	100	17	Vertical	AV
9	14590.6500	37.48	41.09	60.00	18.91	100	199	Vertical	AV
10	14798.0500	45.44	48.57	80.00	31.43	100	62	Vertical	PK
11	17801.9500	40.13	50.34	80.00	29.66	100	108	Vertical	PK
12	17956.6500	32.36	43.94	60.00	16.06	100	108	Vertical	AV

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Margin = Limit –Level

For POE port test on POE adapter

Position: Horizontal

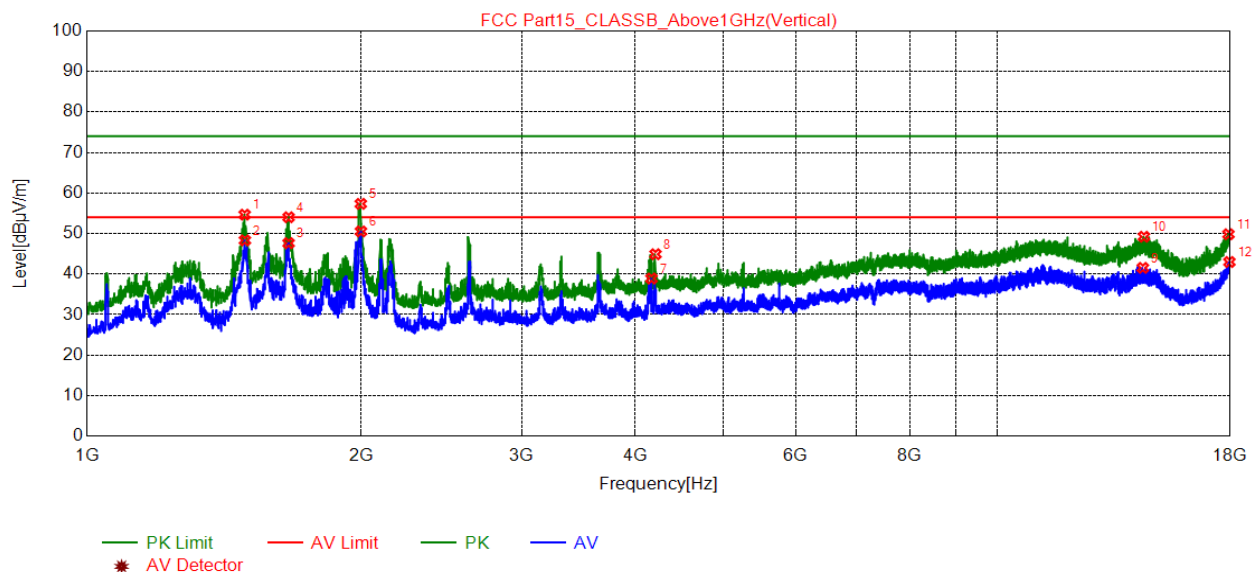


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1492.1500	69.76	51.82	74.00	22.18	100	271	Horizontal	PK
2	1493.0000	63.36	45.43	54.00	8.57	100	211	Horizontal	AV
3	1663.8500	69.41	51.89	74.00	22.11	100	151	Horizontal	PK
4	1664.7000	63.28	45.77	54.00	8.23	100	151	Horizontal	AV
5	1989.4000	60.73	43.92	54.00	10.08	100	211	Horizontal	AV
6	1993.6500	68.41	51.61	74.00	22.39	100	211	Horizontal	PK
7	3324.7500	63.69	50.34	74.00	23.66	100	151	Horizontal	PK
8	3329.8500	56.61	43.27	54.00	10.73	100	151	Horizontal	AV
9	14439.3500	45.93	49.65	74.00	24.35	100	90	Horizontal	PK
10	14440.2000	37.52	41.24	54.00	12.76	100	30	Horizontal	AV
11	17954.1000	31.21	42.77	54.00	11.23	100	211	Horizontal	AV
12	17989.8000	38.82	50.68	74.00	23.32	100	271	Horizontal	PK

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Margin = Limit –Level

Position: Vertical



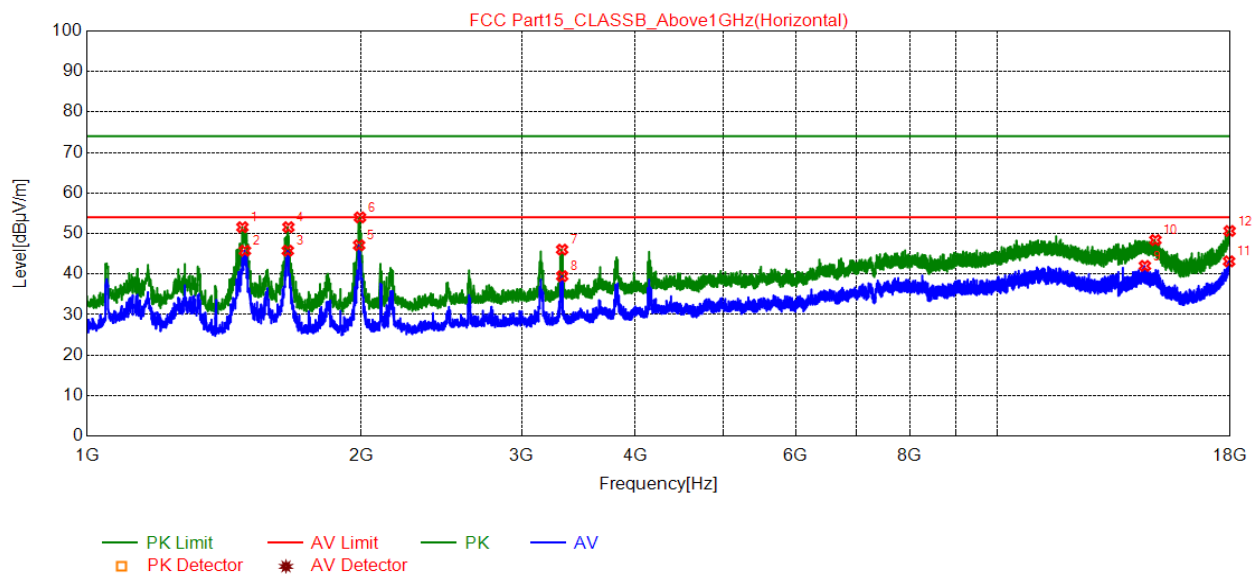
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1489.6000	72.60	54.66	74.00	19.34	100	17	Vertical	PK
2	1490.4500	66.26	48.32	54.00	5.68	100	17	Vertical	AV
3	1664.7000	65.13	47.62	54.00	6.38	100	331	Vertical	AV
4	1664.7000	71.53	54.02	74.00	19.98	100	205	Vertical	PK
5	1997.9000	74.12	57.33	74.00	16.67	100	299	Vertical	PK
6	1998.7500	67.31	50.52	54.00	3.48	100	268	Vertical	AV
7	4166.2500	50.08	38.90	54.00	15.10	100	48	Vertical	AV
8	4208.7500	55.98	44.90	74.00	29.10	100	299	Vertical	PK
9	14430.8500	37.83	41.53	54.00	12.47	100	142	Vertical	AV
10	14471.6500	45.44	49.22	74.00	24.78	100	236	Vertical	PK
11	17919.2500	38.57	49.83	74.00	24.17	100	299	Vertical	PK
12	17960.9000	31.37	42.98	54.00	11.02	100	236	Vertical	AV

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Margin = Limit –Level

For AC24V

Position: Horizontal

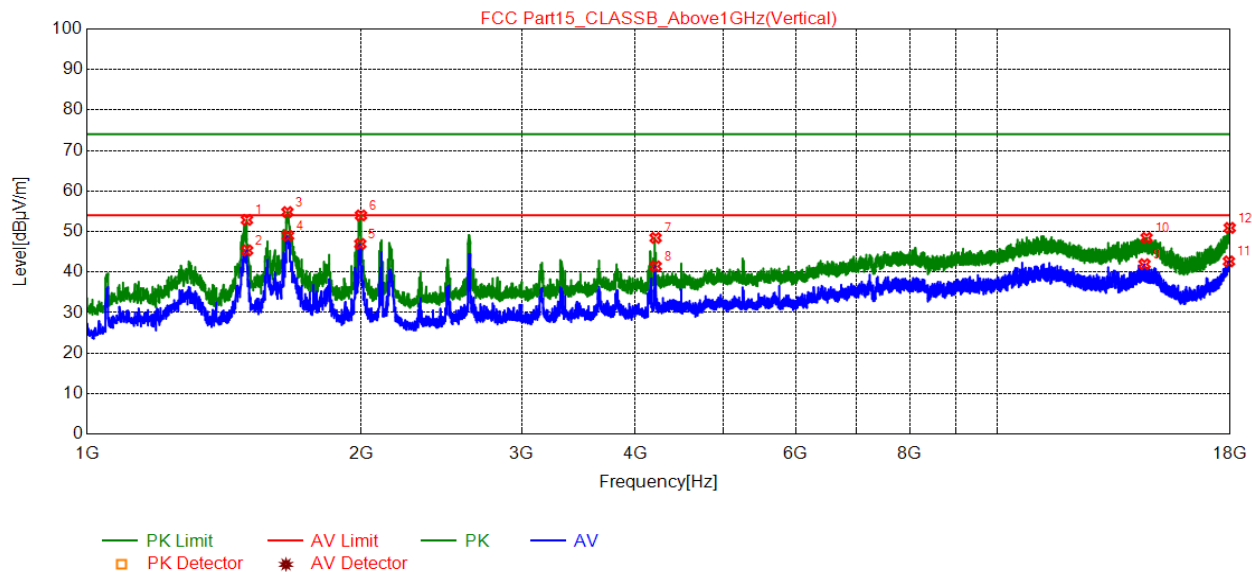


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1481.1000	69.54	51.57	74.00	22.43	100	92	Horizontal	PK
2	1490.4500	63.70	45.76	54.00	8.24	100	249	Horizontal	AV
3	1661.3000	63.28	45.76	54.00	8.24	100	92	Horizontal	AV
4	1663.8500	69.09	51.57	74.00	22.43	100	217	Horizontal	PK
5	1989.4000	63.92	47.11	54.00	6.89	100	154	Horizontal	AV
6	1993.6500	70.79	53.99	74.00	20.01	100	154	Horizontal	PK
7	3323.9000	59.39	46.03	74.00	27.97	100	123	Horizontal	PK
8	3324.7500	52.83	39.48	54.00	14.52	100	123	Horizontal	AV
9	14504.8000	38.21	42.02	54.00	11.98	100	312	Horizontal	AV
10	14896.6500	45.42	48.39	74.00	25.61	100	280	Horizontal	PK
11	17945.6000	31.66	43.14	54.00	10.86	100	280	Horizontal	AV
12	17970.2500	38.94	50.63	74.00	23.37	100	217	Horizontal	PK

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Margin = Limit –Level

Position: Vertical

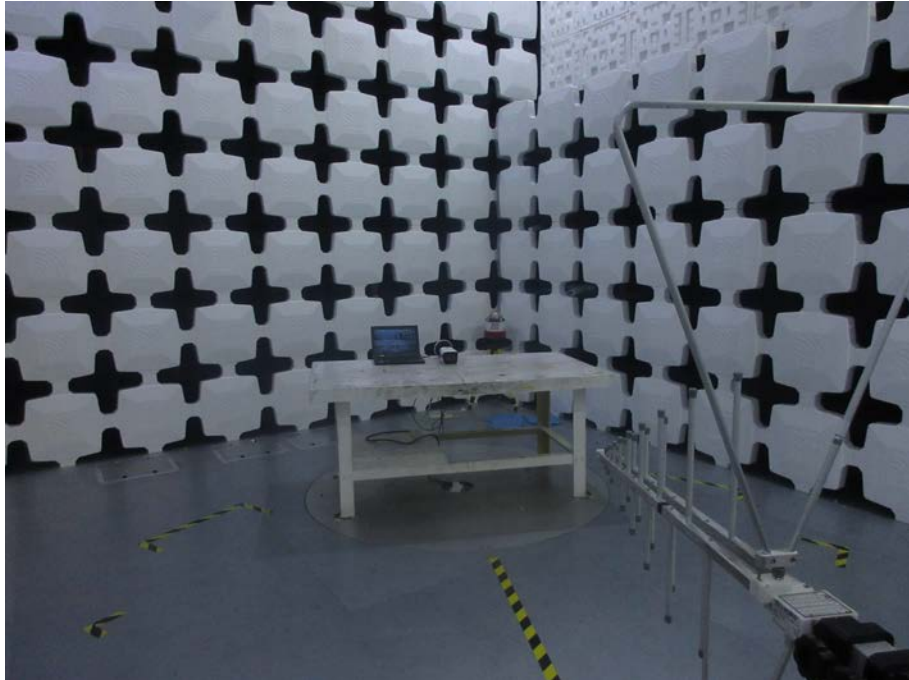
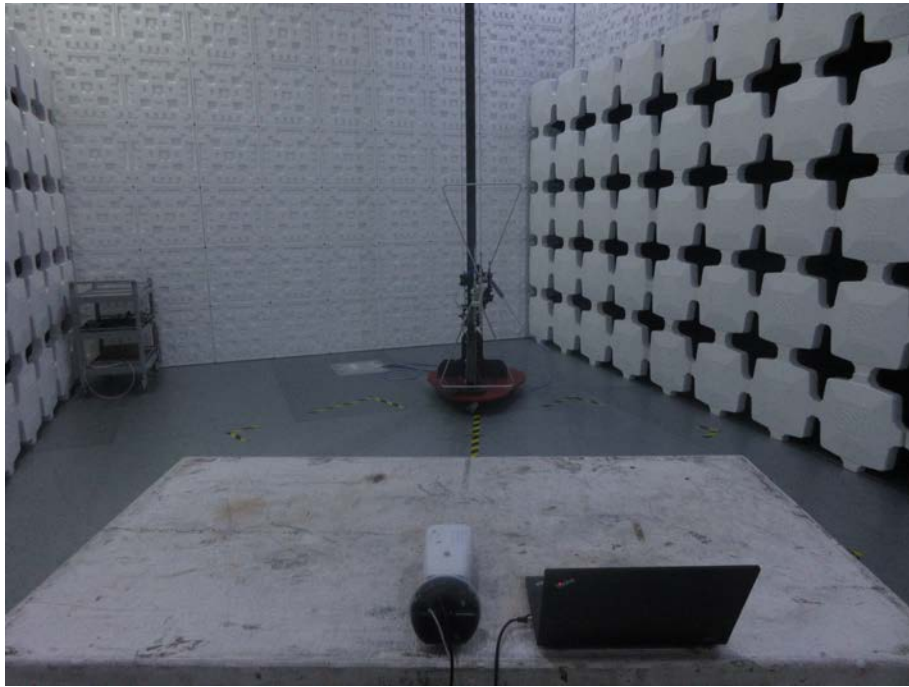


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1498.1000	70.79	52.87	74.00	21.13	100	237	Vertical	PK
2	1498.9500	63.24	45.33	54.00	8.67	100	205	Vertical	AV
3	1659.6000	72.35	54.82	74.00	19.18	100	48	Vertical	PK
4	1662.1500	66.48	48.96	54.00	5.04	100	48	Vertical	AV
5	1995.3500	63.73	46.93	54.00	7.07	100	48	Vertical	AV
6	1998.7500	70.77	53.98	74.00	20.02	100	48	Vertical	PK
7	4210.4500	59.50	48.42	74.00	25.58	100	299	Vertical	PK
8	4211.3000	52.50	41.42	54.00	12.58	100	268	Vertical	AV
9	14490.3500	38.14	41.95	54.00	12.05	100	80	Vertical	AV
10	14567.7000	44.77	48.44	74.00	25.56	100	174	Vertical	PK
11	17937.9500	31.22	42.64	54.00	11.36	100	111	Vertical	AV
12	17972.8000	39.18	50.90	74.00	23.10	100	205	Vertical	PK

REMARKS:

1. The emission levels of other frequencies were very low against the limit.
2. Margin = Limit –Level

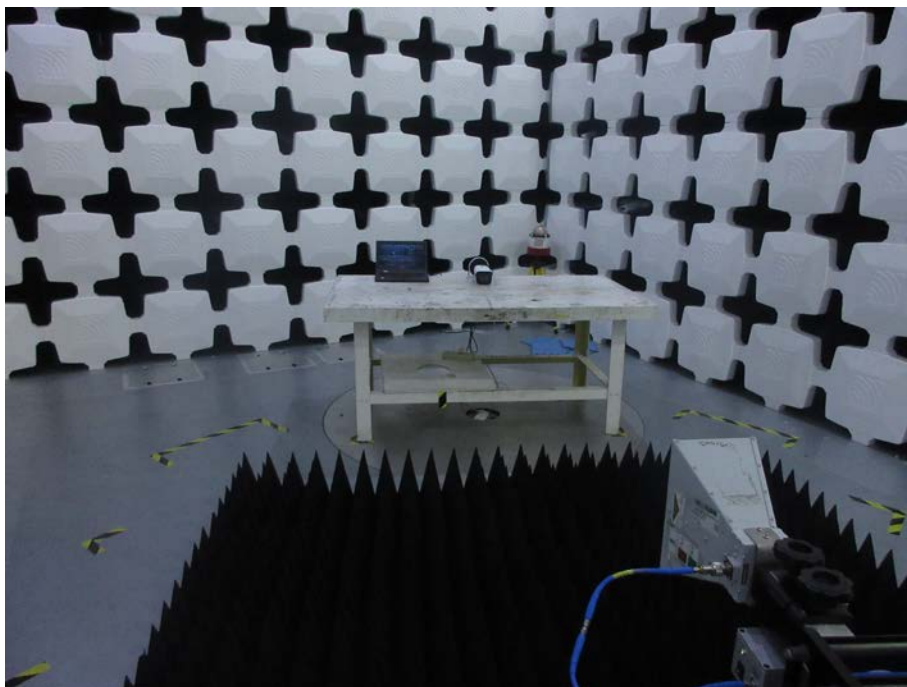
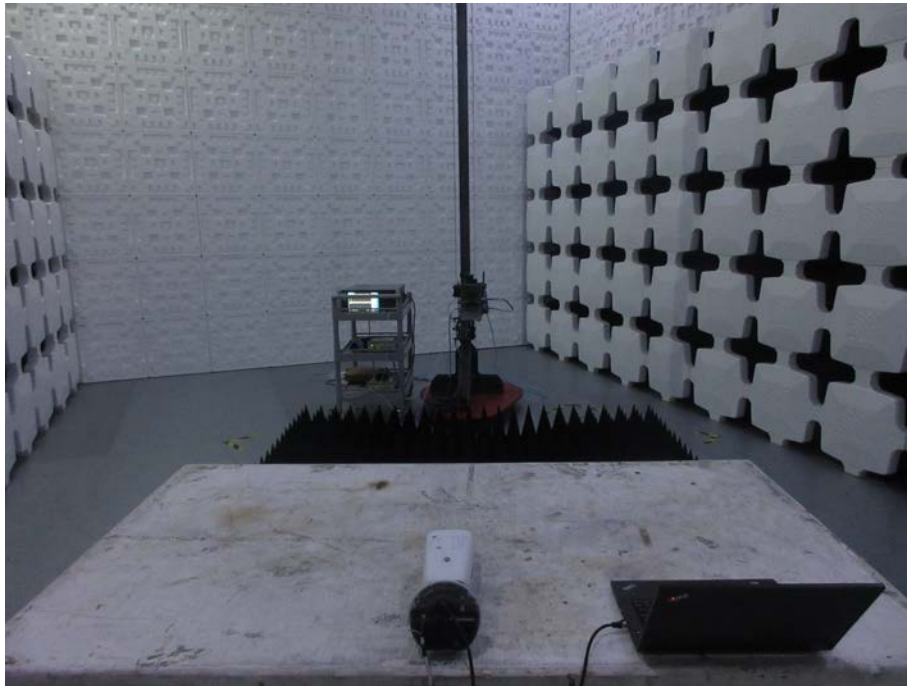
5.7. Test Photographs (30MHz ~ 1000MHz)





**BUREAU
VERITAS**

5.8. Test Photographs (1000MHz ~ 18000MHz)

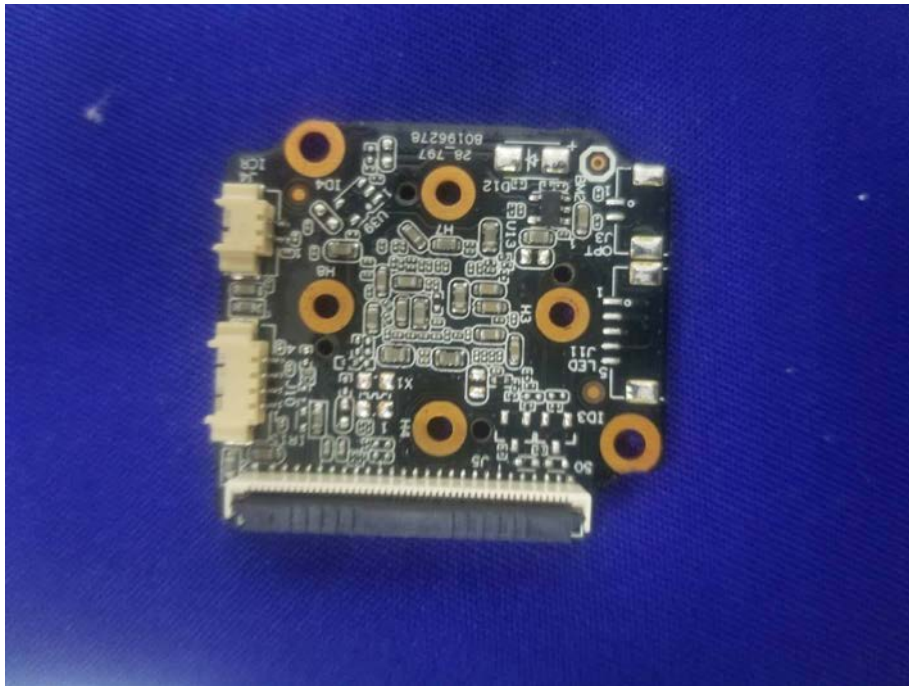


6. Photographs of EUT













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