



TEST REPORT

Report No.: DHQ-19MA1093VTSHPB
Test Model: DH-IPC-HDW5241HP-AS-PV ;
DH-IPC-HDW5541HP-AS-PV
Received: Mar.13, 2019
ISSUED: Mar.29, 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-HDW5241HP-AS-PV ; DH-IPC-HDW5541HP-AS-PV

SERIES MODEL: Refer to model list

APPLICANT: ZHEJIANG DAHUA VISION TECHNOLOGY CO.,LTD.

TESTED: Mar.13 to Mar.29, 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:** Apr.26, 2019
Leon Yun
Testing Engineer

APPROVED BY :  , **DATE:** Apr.26, 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-HDW5241HP-AS-PV ;DH-IPC-HDW5541HP-AS-PV
Series Model:	Refer to model list
Model Discrepancy:	Refer to model list
EUT Power Rating:	12VDC/1A; POE(802.3af)

Note: Please refer to user manual.

3.3. Description of support units

NO.	PRODUCT	BRAND	MODEL NO.
1	PC	Lenovo	Thinkpad L470
2	AC adapter	HONOR	ADS-12AM-12 12012EPCN
3	Cable	--	--
4	POE injector	TP-LINK	TL-POE150S



3.4. Model List

Test Model: DH-IPC-HDW5241HP-AS-PV

Series Model : DH-IPC-HDW5241HN-AS-PV; DH-IPC-HDW5241HP-AS-PV;
IPC-HDW5241HN-AS-PV; IPC-HDW5241HP-AS-PV; DH-IPC-HDW5241H-AS-PV;
IPC-HDW5241H-AS-PV; IPC-HDW4243H-SA-PV; IPC-HDW4243H-AS-PV;
DH-IPC-HDW4243H-SA-PV; DH-IPC-HDW4243H-AS-PV; IPC-HDW4243DH-SA-PV;
IPC-HDW4243DH-AS-PV; DH-IPC-HDW4243DH-SA-PV; DH-IPC-HDW4243DH-AS-PV;
DH-IPC-HDW5243DH-SA-PV; DH-IPC-HDW5243DH-AS-PV; IPC-HDW5243DH-SA-PV;
IPC-HDW5243DH-AS-PV; DH-IPC-HDW5243H-SA-PV; DH-IPC-HDW5243H-AS-PV;
IPC-HDW5243H-AS-PV; IPC-HDW5243H-SA-PV; IPC-HDW5241H-AS-PV-0280B;
IPC-HDW5241H-AS-PV-0360B; IPC-HDW5241H-AS-PV-0600B;

Test Model: DH-IPC-HDW5541HP-AS-PV

Series Model: DH-IPC-HDW5541HP-AS-PV; IPC-HDW5541HP-AS-PV;
DH-IPC-HDW5541HN-AS-PV; IPC-HDW5541HN-AS-PV; IPC-HDW5541H-AS-PV;
DH-IPC-HDW5541H-AS-PV; IPC-HDW4443H-AS-PV; IPC-HDW4443H-SA-PV;
DH-IPC-HDW4443H-SA-PV; DH-IPC-HDW4443H-AS-PV; IPC-HDW4443DH-AS-PV;
IPC-HDW4443DH-SA-PV; DH-IPC-HDW4443DH-SA-PV; DH-IPC-HDW4443DH-AS-PV;
DH-IPC-HDW5443H-SA-PV; DH-IPC-HDW5443H-AS-PV; IPC-HDW5443H-SA-PV;
IPC-HDW5443H-AS-PV; DH-IPC-HDW5443DH-SA-PV; DH-IPC-HDW5443DH-AS-PV;
IPC-HDW5443DH-SA-PV; IPC-HDW5443DH-AS-PV; IPC-HDW5541H-AS-PV-0280B;
IPC-HDW5541H-AS-PV-0360B; IPC-HDW5541H-AS-PV-0600B; N55DP82;

Note: The difference between the two series models is the motherboard.

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 DH-IPC-HDW5241HP-AS-PV

For DC12V port test on AC adapter

Phase : LINE

Location: Conduction 1

Date: 3/23/2019

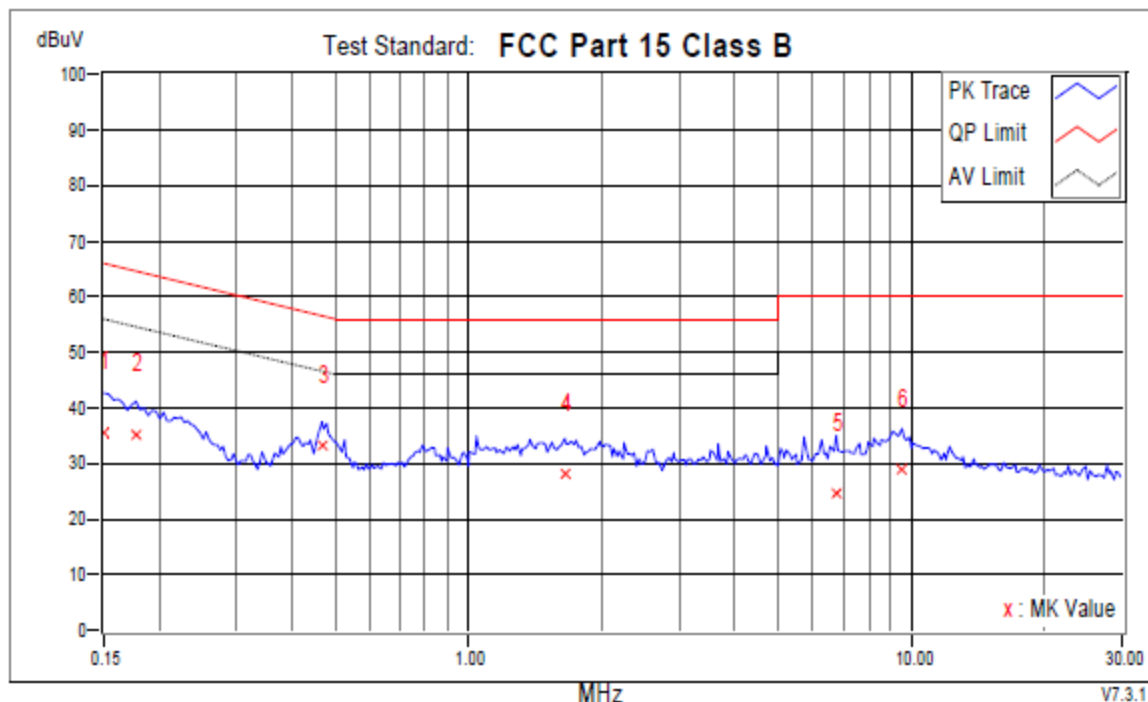
Time: 9:15:52 AM

Phase L1

Temperatuer (C): 22

Humidity (%): 52

Approved by:



	Frequency	Corr. Factor	Reading dBuV	Emission dBuV	Limit dBuV	Margins dB	Notes
No.	MHz	dB	QP	AV	QP	AV	
1	0.15000	9.86	25.68	8.19	35.54	18.05	66.00 56.00 -30.46 -37.95
2	0.17737	9.87	25.34	9.34	35.21	19.21	64.61 54.61 -29.40 -35.40
+3	0.46671	9.74	23.40	16.23	33.14	25.97	56.57 46.57 -23.44 -20.61
4	1.64906	9.72	18.28	9.26	28.00	18.98	56.00 46.00 -28.00 -27.02
5	6.76334	9.91	14.80	4.61	24.71	14.52	60.00 50.00 -35.29 -35.48
6	9.52771	10.17	18.84	13.17	29.01	23.34	60.00 50.00 -30.99 -26.66

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: 3/23/2019

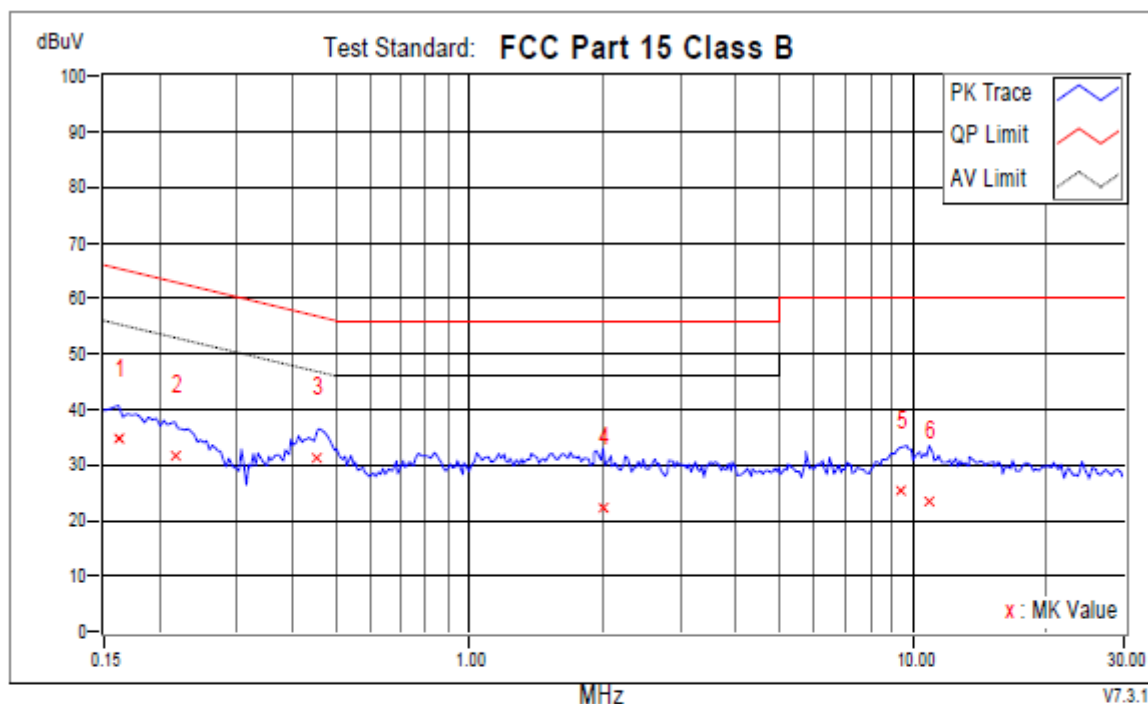
Time: 9:20:49 AM

Phase N

Temperature (C): 22

Humidity (%): 52

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	24.90	7.60	34.76	17.46	65.37	55.37	-30.62	-37.92	
2	0.21647	9.83	21.62	7.84	31.45	17.67	62.95	52.95	-31.50	-35.28	
+3	0.45498	9.87	21.20	14.54	31.07	24.41	56.78	46.78	-25.72	-22.38	
4	2.00096	9.94	12.46	4.54	22.40	14.48	56.00	46.00	-33.60	-31.52	
5	9.44169	10.17	15.14	9.19	25.31	19.36	60.00	50.00	-34.69	-30.64	
6	10.87584	10.29	13.16	7.27	23.45	17.56	60.00	50.00	-36.55	-32.44	

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: 3/23/2019

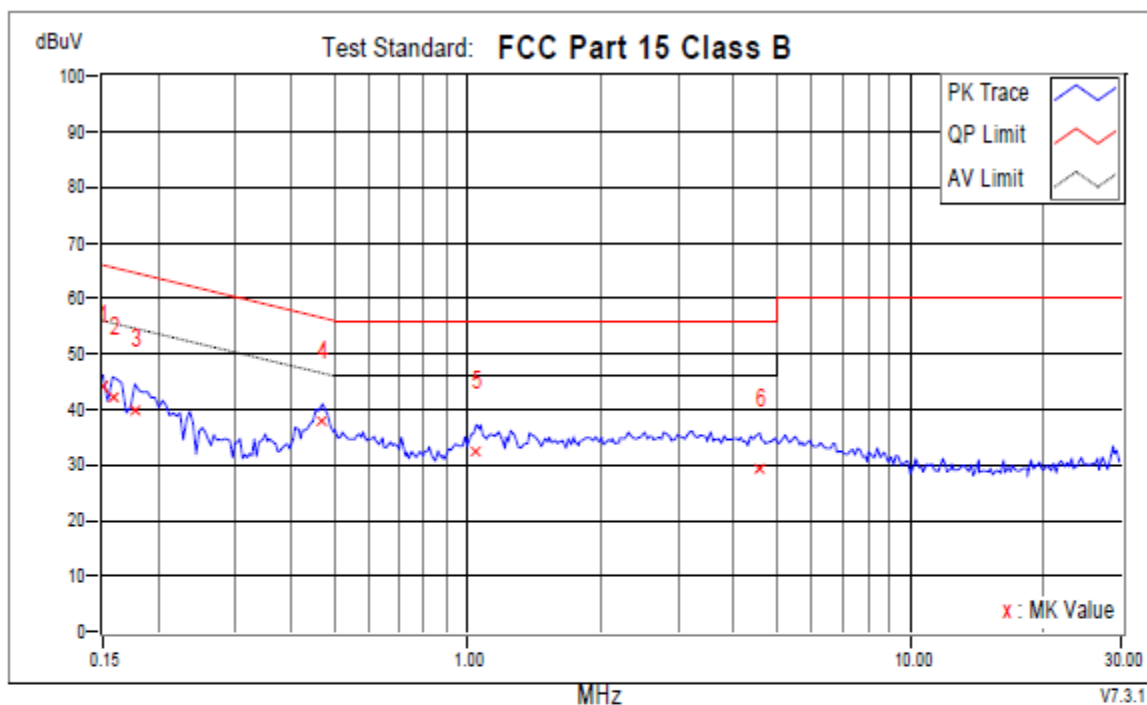
Time: 10:09:18 AM

Phase L1

Temperature (C): 22

Humidity (%): 52

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	9.86	34.46	16.58	44.32	26.44	66.00	56.00	-21.68	-29.56	
2	0.15782	9.86	32.48	17.41	42.34	27.27	65.58	55.58	-23.23	-28.30	
3	0.17737	9.87	29.84	14.67	39.71	24.54	64.61	54.61	-24.90	-30.07	
+4	0.47062	9.74	28.22	20.89	37.96	30.63	56.50	46.50	-18.55	-15.88	
5	1.04692	9.63	22.64	15.72	32.27	25.35	56.00	46.00	-23.73	-20.65	
6	4.56983	9.85	19.54	11.44	29.39	21.29	56.00	46.00	-26.61	-24.71	

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: 3/23/2019

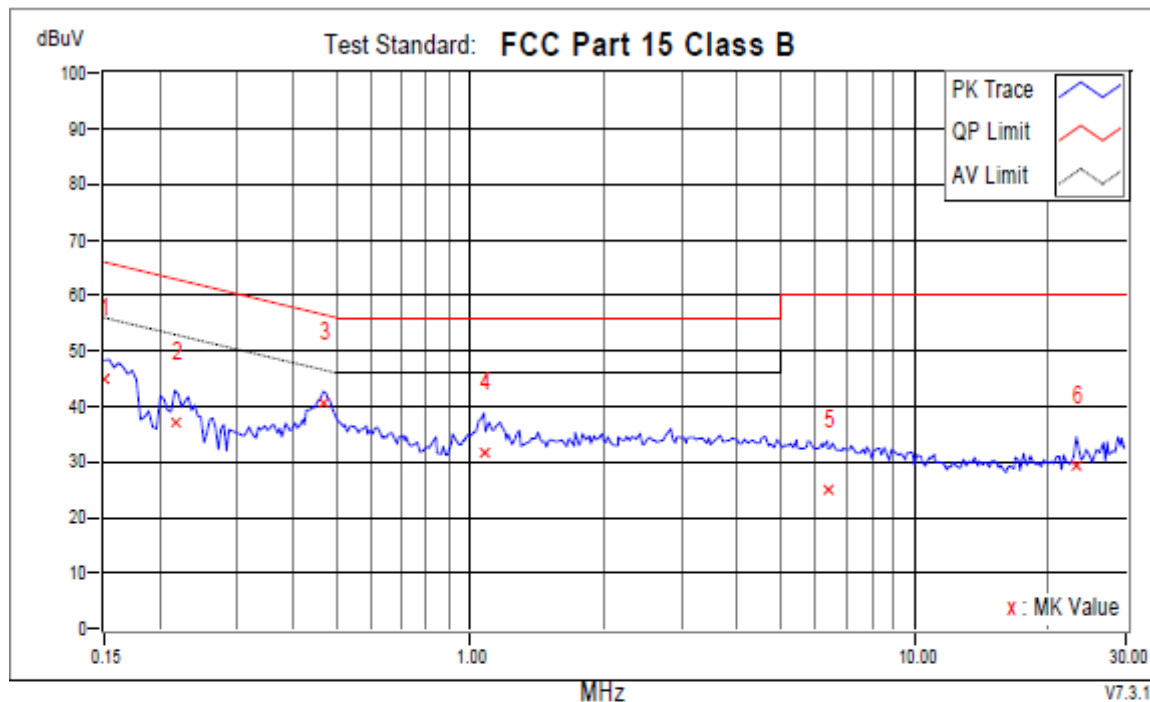
Time: 10:14:35 AM

Phase N

Temperature (C): 22

Humidity (%): 52

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	9.87	35.04	18.86	44.91	28.73	66.00	56.00	-21.09	-27.27	
2	0.21647	9.83	27.34	15.78	37.17	25.61	62.95	52.95	-25.78	-27.34	
+3	0.46671	9.86	30.58	23.39	40.44	33.25	56.57	46.57	-16.13	-13.32	
4	1.07429	9.92	21.70	14.93	31.62	24.85	56.00	46.00	-24.38	-21.15	
5	6.36843	9.79	15.20	7.02	24.99	16.81	60.00	50.00	-35.01	-33.19	
6	23.12978	10.25	19.22	15.90	29.47	26.15	60.00	50.00	-30.53	-23.85	

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 DH-IPC-HDW5541HP-AS-PV

For DC12V port test on AC adapter

Phase : LINE

Location: Conduction 1

Date: 3/23/2019

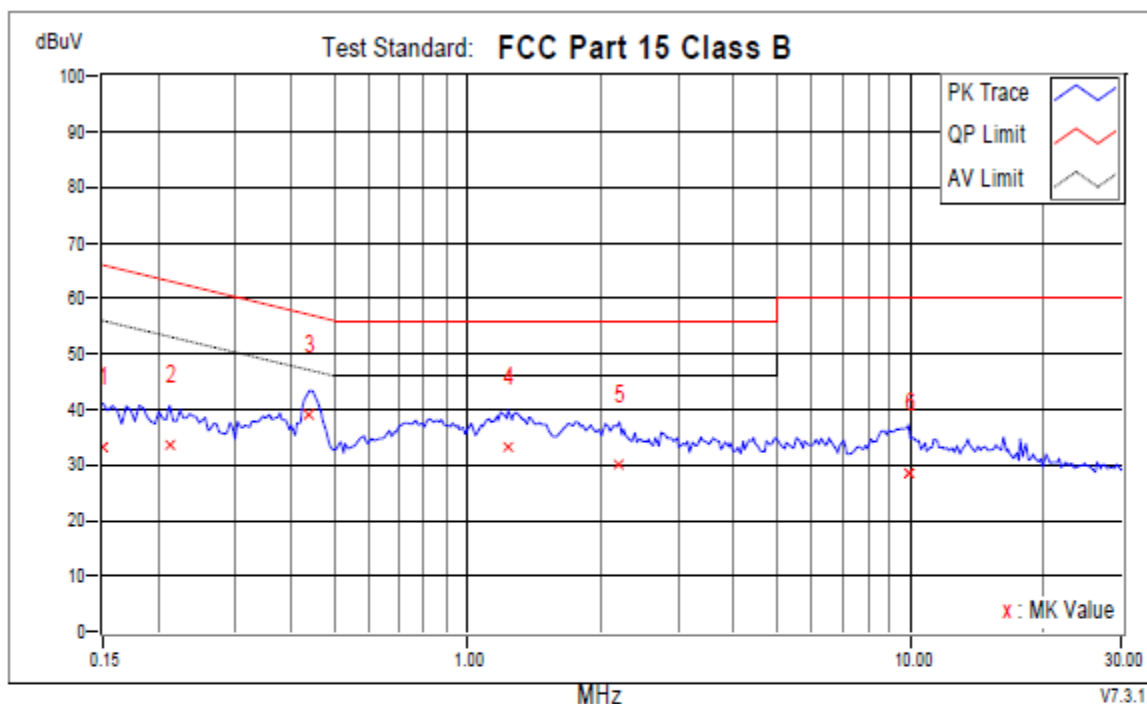
Time: 4:19:41 PM

Phase L1

Temperatuer (C): 22

Humidity (%): 52

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	9.87	23.24	9.03	33.11	18.90	66.00	56.00	-32.89	-37.10	
2	0.21256	9.87	23.70	13.24	33.57	23.11	63.10	53.10	-29.53	-29.99	
+3	0.43934	9.75	29.48	19.72	39.23	29.47	57.07	47.07	-17.84	-17.60	
4	1.23460	9.66	23.40	14.06	33.06	23.72	56.00	46.00	-22.94	-22.28	
5	2.20428	9.82	20.32	8.45	30.14	18.27	56.00	46.00	-25.86	-27.73	
6	9.89916	10.43	18.06	11.49	28.49	21.92	60.00	50.00	-31.51	-28.08	

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: 3/23/2019

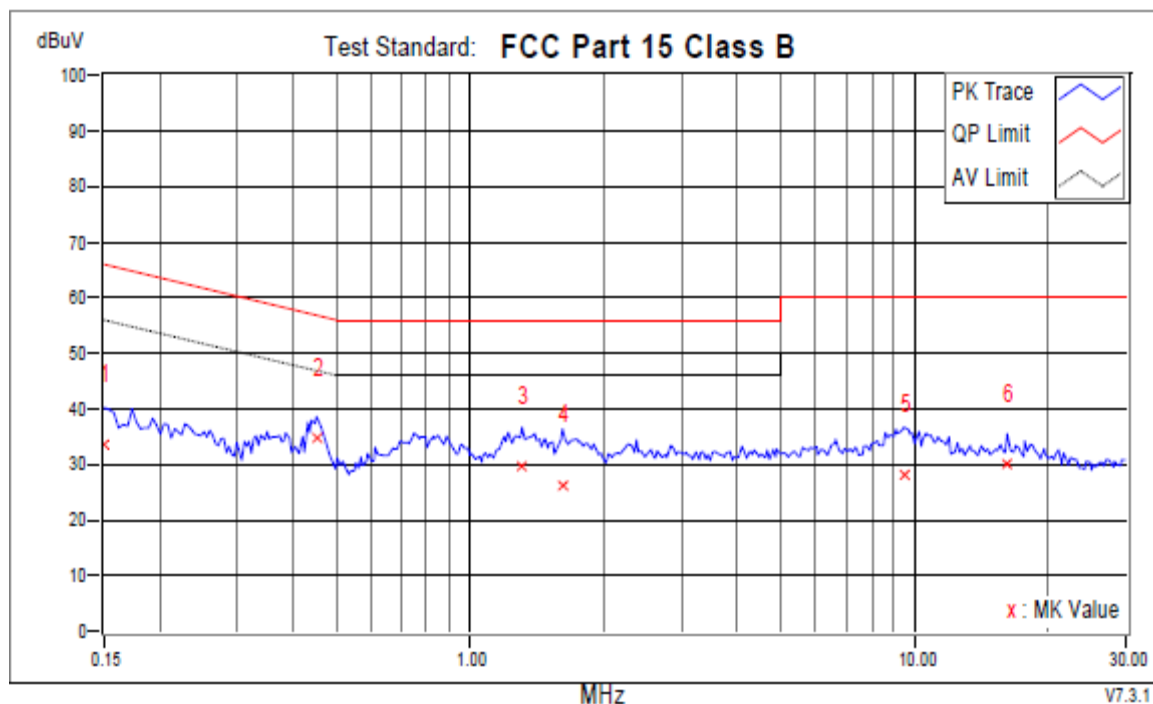
Time: 4:23:11 PM

Phase N

Temperature (C): 22

Humidity (%): 52

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	23.64	6.77	33.52	16.65	66.00	56.00	-32.48	-39.35	
+2	0.45107	9.88	24.78	18.45	34.66	28.33	56.86	46.86	-22.19	-18.52	
3	1.30889	9.93	19.66	12.60	29.59	22.53	56.00	46.00	-26.41	-23.47	
4	1.61387	9.95	16.16	6.01	26.11	15.96	56.00	46.00	-29.89	-30.04	
5	9.46515	10.40	17.88	6.82	28.28	17.22	60.00	50.00	-31.72	-32.78	
6	16.16607	10.37	19.58	15.37	29.95	25.74	60.00	50.00	-30.05	-24.26	

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: 3/23/2019

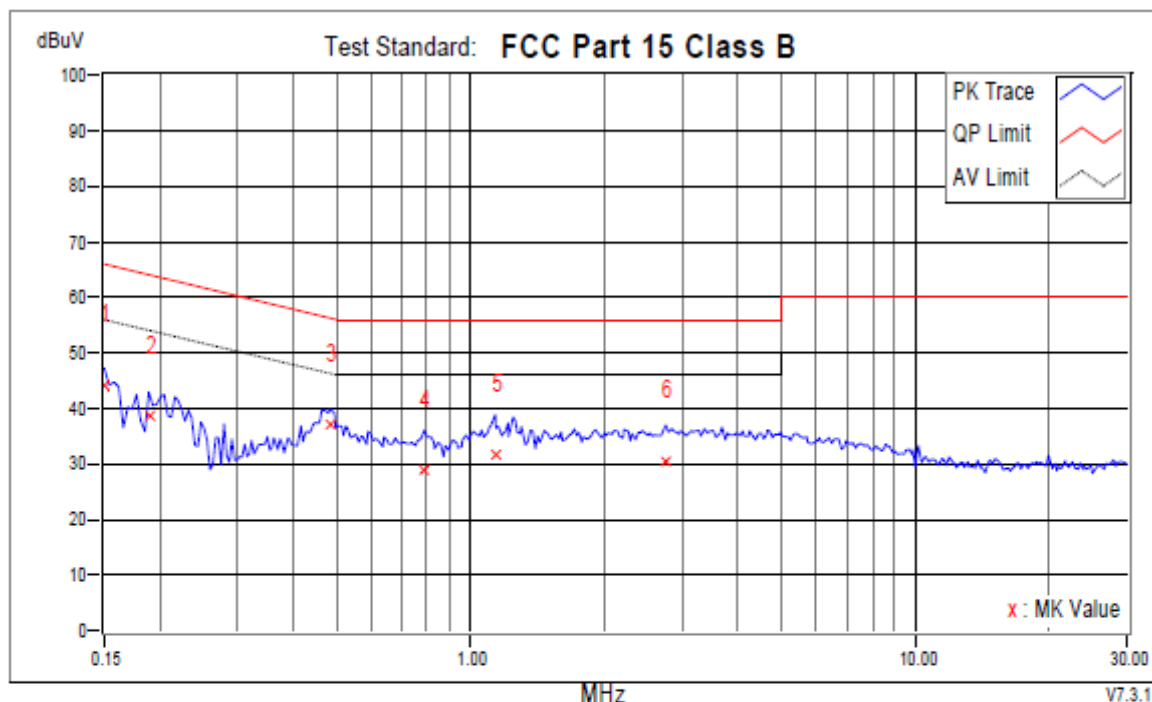
Time: 3:45:36 PM

Phase L1

Temperatuer (C): 22

Humidity (%): 52

Approved by:



	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
No.	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	
1	0.15000	9.87	34.22	15.13	44.09	25.00	66.00	56.00	-21.91	-31.00	
2	0.18910	9.89	28.72	12.77	38.61	22.66	64.08	54.08	-25.47	-31.42	
+3	0.48235	9.75	27.54	19.86	37.29	29.61	56.30	46.30	-19.01	-16.69	
4	0.78733	9.62	19.10	11.00	28.72	20.62	56.00	46.00	-27.28	-25.38	
5	1.13685	9.64	22.18	15.18	31.82	24.82	56.00	46.00	-24.18	-21.18	
6	2.74777	9.87	20.60	11.72	30.47	21.59	56.00	46.00	-25.53	-24.41	

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: 3/23/2019

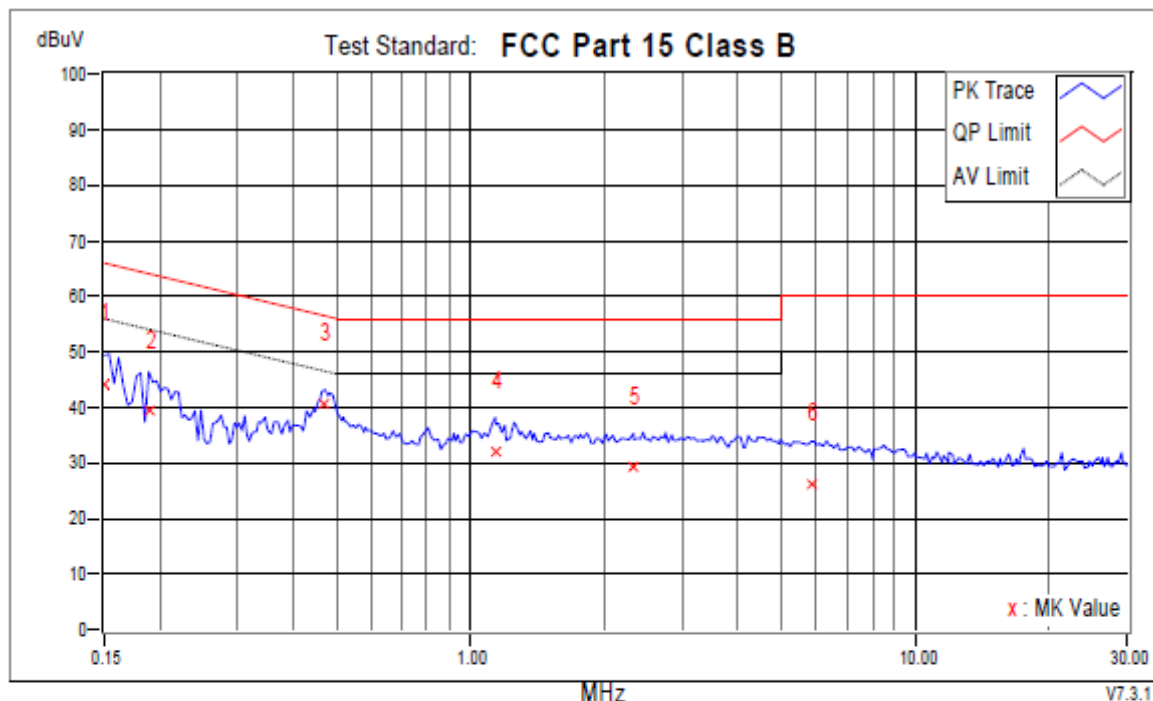
Time: 3:41:45 PM

Phase N

Temperature (C): 22

Humidity (%): 52

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	9.88	34.22	17.94	44.10	27.82	66.00	56.00	-21.90	-28.18	
2	0.18910	9.84	29.60	17.07	39.44	26.91	64.08	54.08	-24.64	-27.17	
+3	0.47062	9.88	30.78	23.53	40.66	33.41	56.50	46.50	-15.85	-13.10	
4	1.13685	9.93	21.98	15.37	31.91	25.30	56.00	46.00	-24.09	-20.70	
5	2.32549	10.00	19.46	11.00	29.46	21.00	56.00	46.00	-26.54	-25.00	
6	5.83276	9.94	16.40	7.22	26.34	17.16	60.00	50.00	-33.66	-32.84	

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

AC adapter
DH-IPC-HDW5241HP-AS-PV



DH-IPC-HDW5541HP-AS-PV





**BUREAU
VERITAS**

POE adapter

DH-IPC-HDW5241HP-AS-PV



DH-IPC-HDW5541HP-AS-PV





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

LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

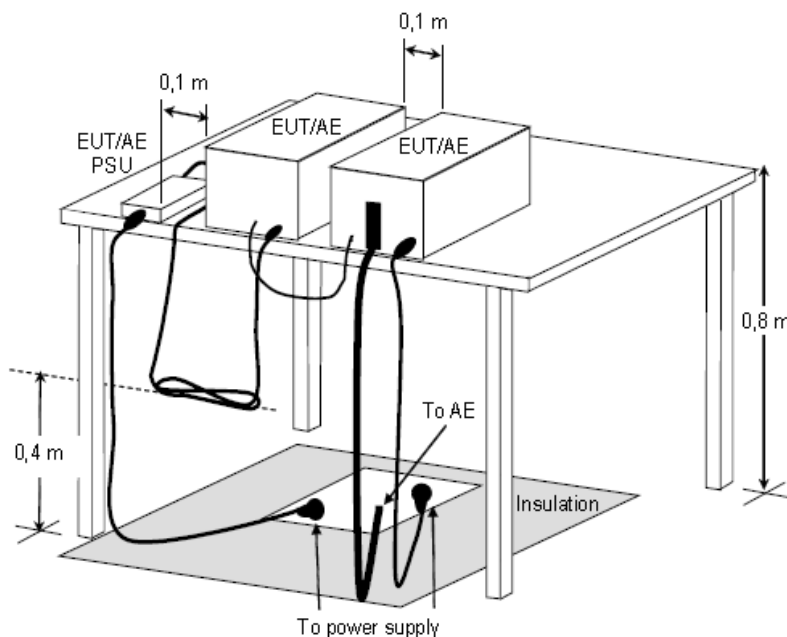
FREQUENCY (MHz)	Class A ($\text{dB}\mu\text{V/m}$) (at 3m)		Class B ($\text{dB}\mu\text{V/m}$) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80.0	60.0	74.0	54.0

- 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
Broad-Band Antenna Schwarzbeck	VULB9168	E1A1001	Feb.27, 2020
Double Riaged Vroadband Horn Antenna Schwarzbeck	BBHA9120D	E1A1017	Aug.26, 2019
Preamplifier Agilent	8447D	E1A2001	Oct.17, 2019
Preamplifier Agilent	8449B	E1A2002	Mar.26, 2019

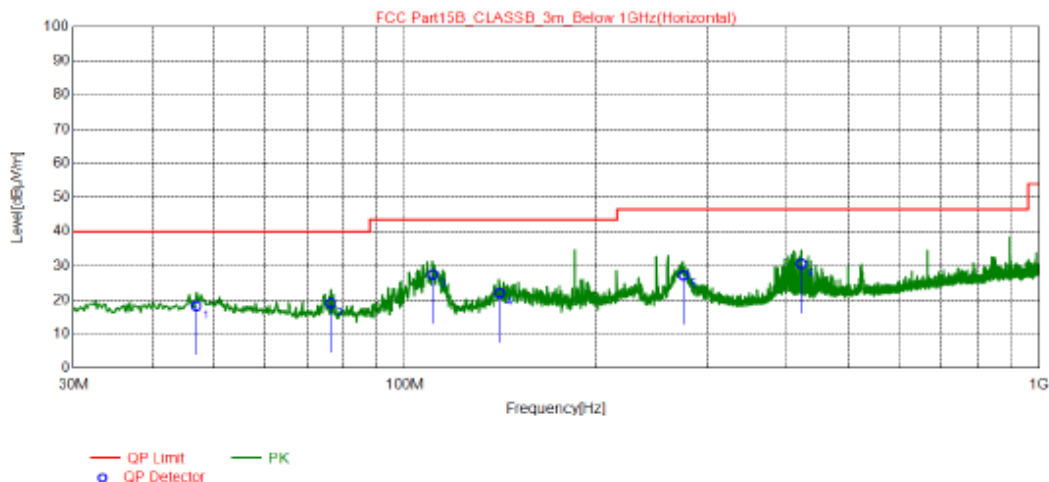
5.5. Test Result and Data (30MHz ~ 1GHz)

For DH-IPC-HDW5241HP-AS-PV

For DC12V port test on AC adapter

Position: Horizontal

Test Graph



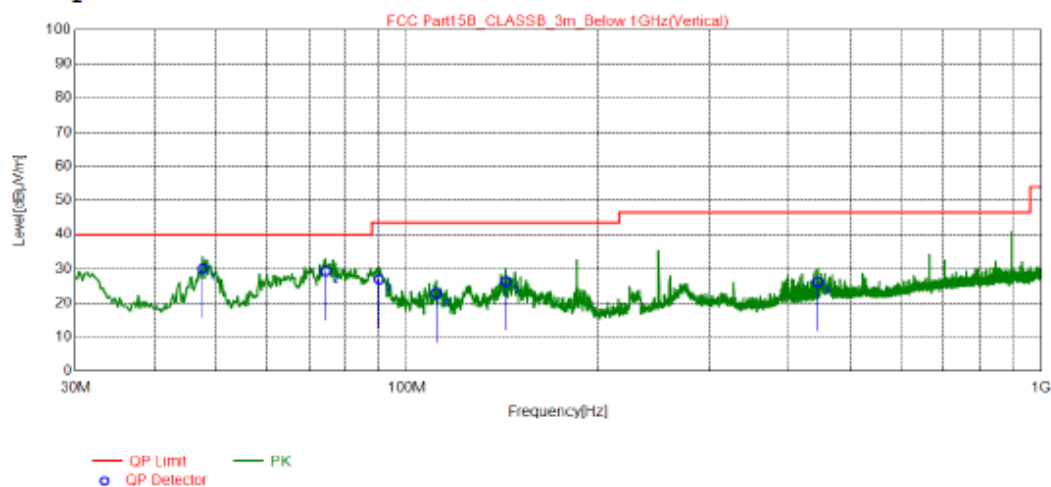
NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	46.87	27.86	-9.63	18.23	40.00	21.77	100	79	Horizontal
2	76.36	32.13	-13.16	18.97	40.00	21.03	100	24	Horizontal
3	110.7	39.45	-12.06	27.39	43.50	16.11	200	9	Horizontal
4	141.1	32.04	-10.07	21.97	43.50	21.53	200	49	Horizontal
5	275.0	37	-9.79	27.21	46.50	19.29	100	206	Horizontal
6	421.4	37.94	-7.40	30.54	46.50	15.96	100	292	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

Test Graph



NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	47.65	39.76	-9.64	30.12	40.00	9.88	100	124	Vertical
2	74.42	42.24	-12.84	29.40	40.00	10.60	100	206	Vertical
3	90.33	41.41	-14.47	26.94	43.50	16.56	100	156	Vertical
4	111.2	34.91	-12.04	22.87	43.50	20.63	200	168	Vertical
5	143.2	36.33	-9.88	26.45	43.50	17.05	100	170	Vertical
6	444.7	32.95	-6.78	26.17	46.50	20.33	100	115	Vertical

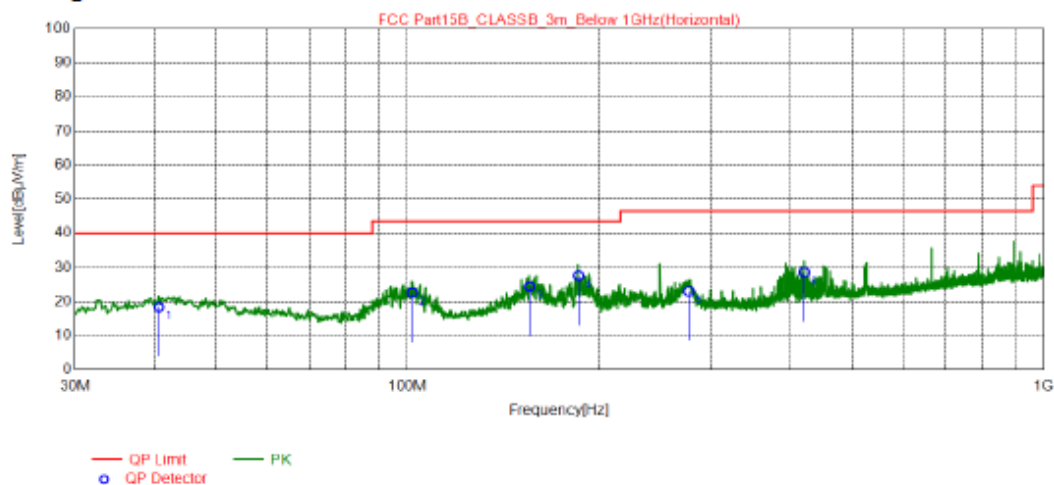
REMARKS:

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.

For POE port test on POE adapter

Position: Horizontal

Test Graph



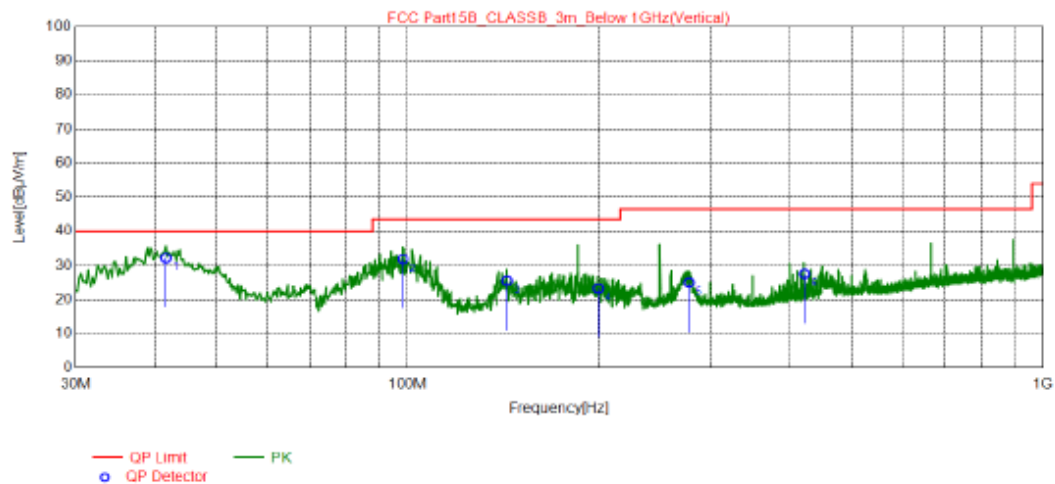
NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	40.67	27.84	-9.47	18.37	40.00	21.63	100	65	Horizontal
2	101.7	35.78	-13.22	22.56	43.50	20.94	200	59	Horizontal
3	155.5	33.51	-9.10	24.41	43.50	19.09	200	8	Horizontal
4	185.5	39.33	-11.74	27.59	43.50	15.91	200	209	Horizontal
5	276.7	32.77	-9.76	23.01	46.50	23.49	100	230	Horizontal
6	420.1	36.02	-7.44	28.58	46.50	17.92	100	230	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

Test Graph



NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	41.64	41.73	-9.50	32.23	40.00	7.77	200	114	Vertical
2	98.28	45.52	-13.64	31.88	43.50	11.62	100	79	Vertical
3	143.2	35.35	-9.88	25.47	43.50	18.03	100	170	Vertical
4	199.5	35.63	-12.34	23.29	43.50	20.21	100	328	Vertical
5	277.1	34.72	-9.75	24.97	46.50	21.53	100	60	Vertical
6	421.1	34.93	-7.41	27.52	46.50	18.98	200	295	Vertical

REMARKS:

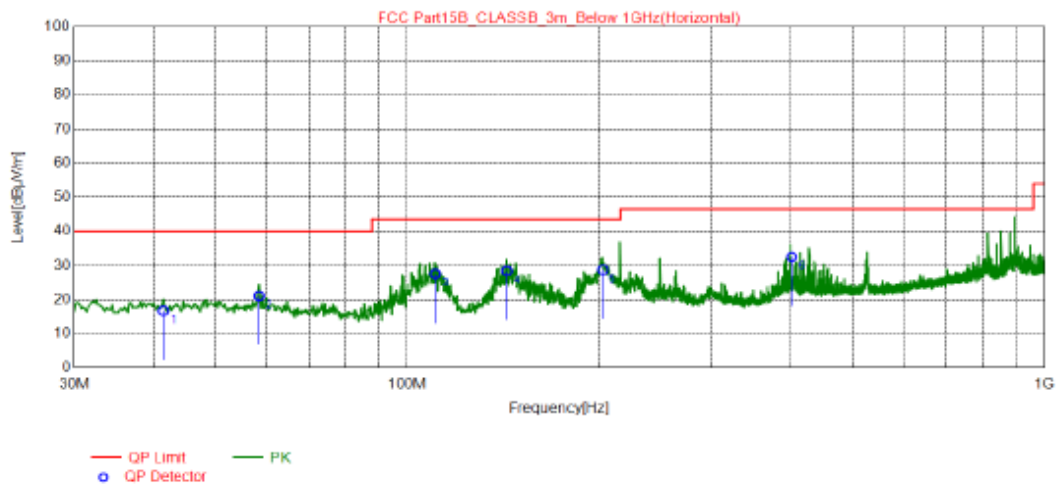
1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

For DH-IPC-HDW5541HP-AS-PV

For DC12V port test on AC adapter

Position: Horizontal

Test Graph



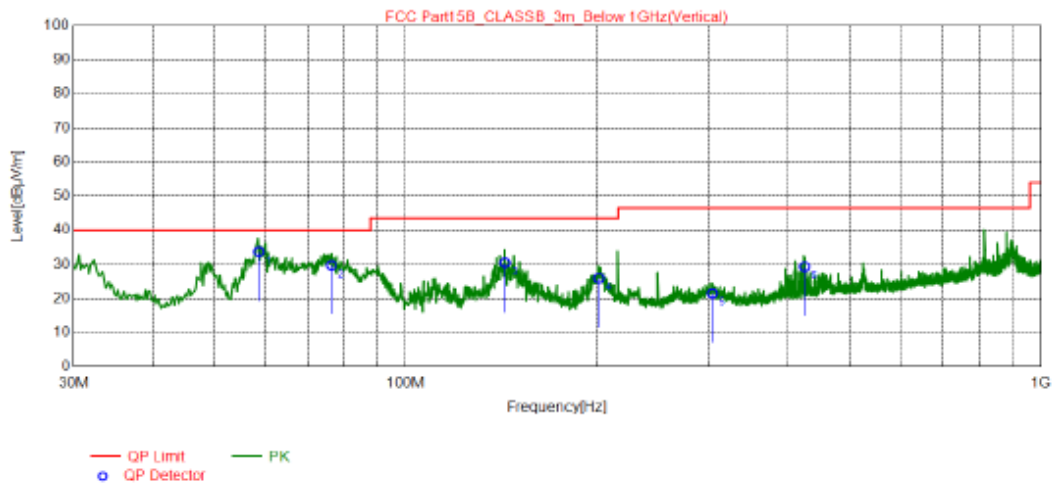
NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	41.44	26.14	-9.49	16.65	40.00	23.35	200	158	Horizontal
2	58.51	31.49	-10.43	21.06	40.00	18.94	200	231	Horizontal
3	110.7	39.58	-12.06	27.52	43.50	15.98	200	203	Horizontal
4	143.2	38.27	-9.88	28.39	43.50	15.11	200	203	Horizontal
5	202.6	40.95	-12.24	28.71	43.50	14.79	200	158	Horizontal
6	400.9	40.36	-7.82	32.54	46.50	13.96	100	245	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

Test Graph



NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	58.71	44.14	-10.44	33.70	40.00	6.30	100	80	Vertical
2	76.36	42.92	-13.16	29.76	40.00	10.24	100	70	Vertical
3	143.2	40.35	-9.88	30.47	43.50	13.03	100	176	Vertical
4	201.3	38.27	-12.30	25.97	43.50	17.53	100	144	Vertical
5	303.7	30.58	-9.10	21.48	46.50	25.02	200	204	Vertical
6	424.2	36.67	-7.32	29.35	46.50	17.15	200	0	Vertical

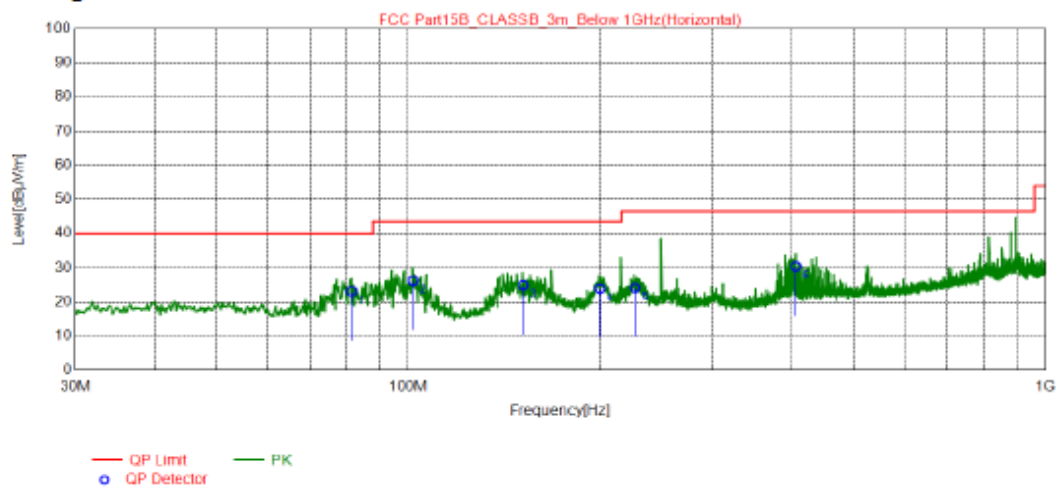
REMARKS:

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 POE port test on POE adapter

Position: Horizontal

Test Graph



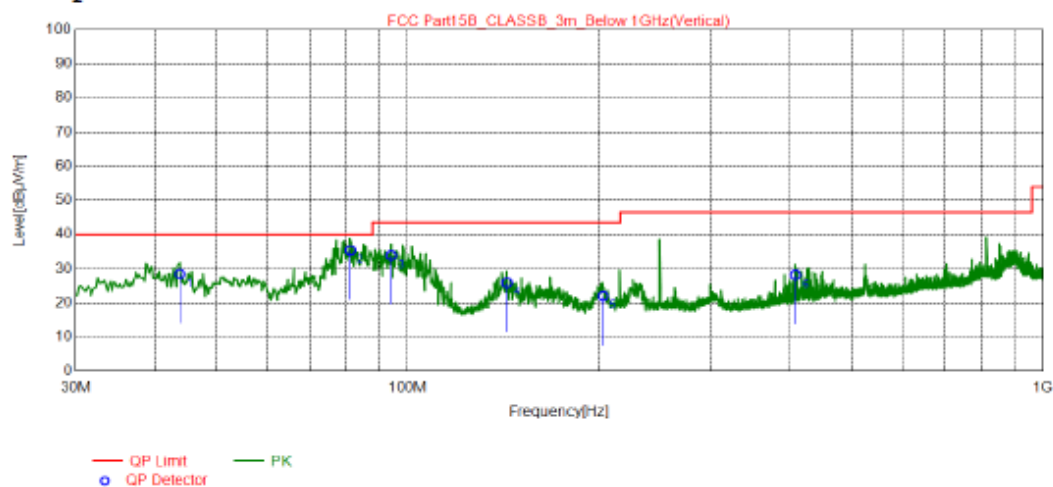
NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	81.41	36.94	-13.86	23.08	40.00	16.92	100	24	Horizontal
2	101.7	39.48	-13.22	26.26	43.50	17.24	200	213	Horizontal
3	151.4	34.11	-9.25	24.86	43.50	18.64	200	154	Horizontal
4	199.7	36.27	-12.35	23.92	43.50	19.58	100	147	Horizontal
5	226.9	35.33	-11.23	24.10	46.50	22.40	200	40	Horizontal
6	405.9	38.1	-7.72	30.38	46.50	16.12	200	104	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

Test Graph



NO.	Freq. [MHz]	QP Reading [dBμV/m]	Factor [dB]	QP Value [dBμV/m]	QP Limit [dBμV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	43.77	38	-9.55	28.45	40.00	11.55	100	134	Vertical
2	81.21	49.24	-13.85	35.39	40.00	4.61	100	120	Vertical
3	94.21	47.95	-14.07	33.88	43.50	9.62	100	175	Vertical
4	143.2	35.78	-9.88	25.90	43.50	17.60	100	143	Vertical
5	202.8	34.2	-12.23	21.97	43.50	21.53	100	152	Vertical
6	407.9	35.85	-7.68	28.17	46.50	18.33	200	331	Vertical

REMARKS:

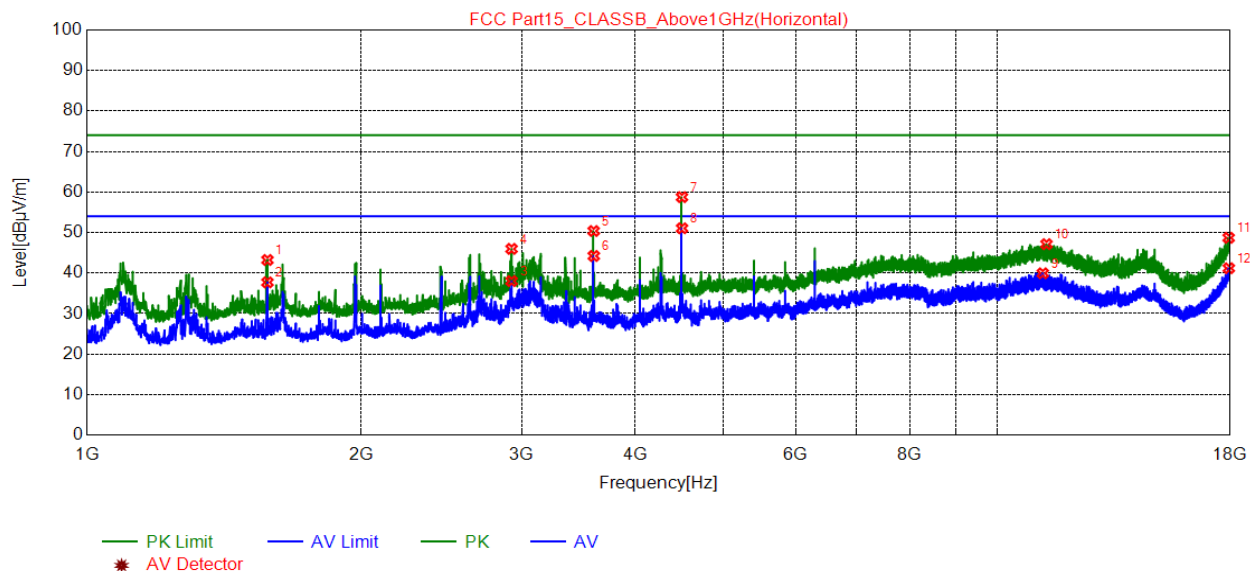
1. Q.P. is abbreviation of quasi-peak individually.
2. The emission levels of other frequencies were very low against the limit.
3. QP Margin value = QP Limit value – QP value
4. Factor = Antenna Factor + Amplifier Factor + Cable loss
5. QP value = Factor + Reading Value.

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

For DH-IPC-HDW5241HP-AS-PV

For DC12V port test on AC adapter

Position: Horizontal

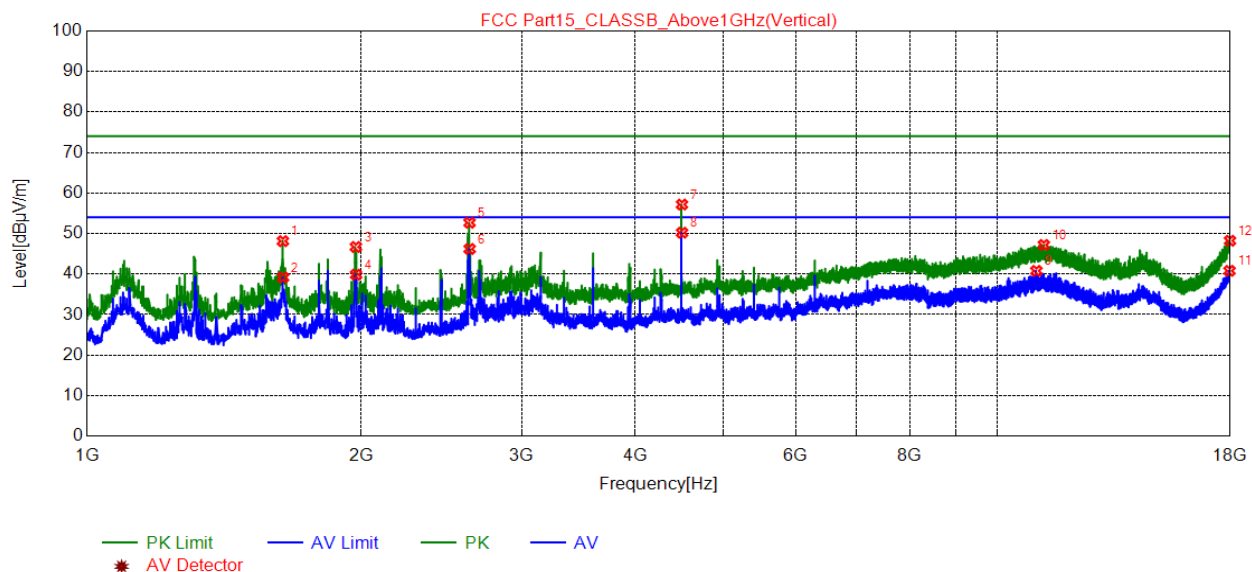


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1578.000	60.95	43.23	74.00	30.77	100	118	Horizontal	PK
2	1578.000	55.43	37.71	54.00	16.29	100	118	Horizontal	AV
3	2925.250	52.59	38.02	54.00	15.98	100	151	Horizontal	AV
4	2925.250	60.54	45.97	74.00	28.03	100	151	Horizontal	PK
5	3600.150	62.86	50.38	74.00	23.62	100	182	Horizontal	PK
6	3601.000	56.70	44.22	54.00	9.78	100	182	Horizontal	AV
7	4500.300	69.04	58.74	74.00	15.26	100	151	Horizontal	PK
8	4501.150	61.35	51.05	54.00	2.95	100	151	Horizontal	AV
9	11205.10	38.28	39.94	54.00	14.06	100	247	Horizontal	AV
10	11311.35	45.46	47.13	74.00	26.87	100	118	Horizontal	PK
11	17926.90	37.38	48.70	74.00	25.30	100	54	Horizontal	PK
12	17933.70	29.81	41.19	54.00	12.81	100	54	Horizontal	AV

REMARKS:

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

Position: Vertical



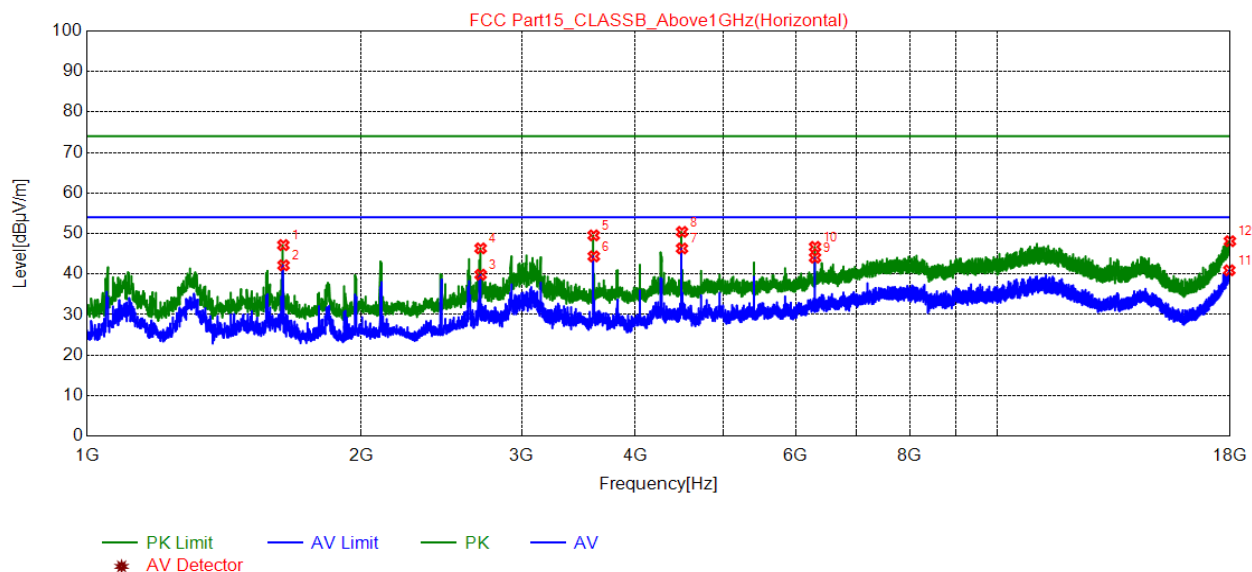
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1640.900	65.70	48.13	74.00	25.87	100	177	Vertical	PK
2	1641.750	56.74	39.17	54.00	14.83	100	177	Vertical	AV
3	1973.250	63.54	46.69	74.00	27.31	100	177	Vertical	PK
4	1974.100	56.69	39.85	54.00	14.15	100	177	Vertical	AV
5	2630.300	68.08	52.67	74.00	21.33	100	177	Vertical	PK
6	2631.150	61.61	46.20	54.00	7.80	100	177	Vertical	AV
7	4500.300	67.46	57.16	74.00	16.84	100	177	Vertical	PK
8	4501.150	60.51	50.21	54.00	3.79	100	177	Vertical	AV
9	11025.75	39.37	40.79	54.00	13.21	100	273	Vertical	AV
10	11234.85	45.52	47.19	74.00	26.81	100	49	Vertical	PK
11	17966.00	29.14	40.80	54.00	13.20	100	17	Vertical	AV
12	17988.95	36.37	48.22	74.00	25.78	100	177	Vertical	PK

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

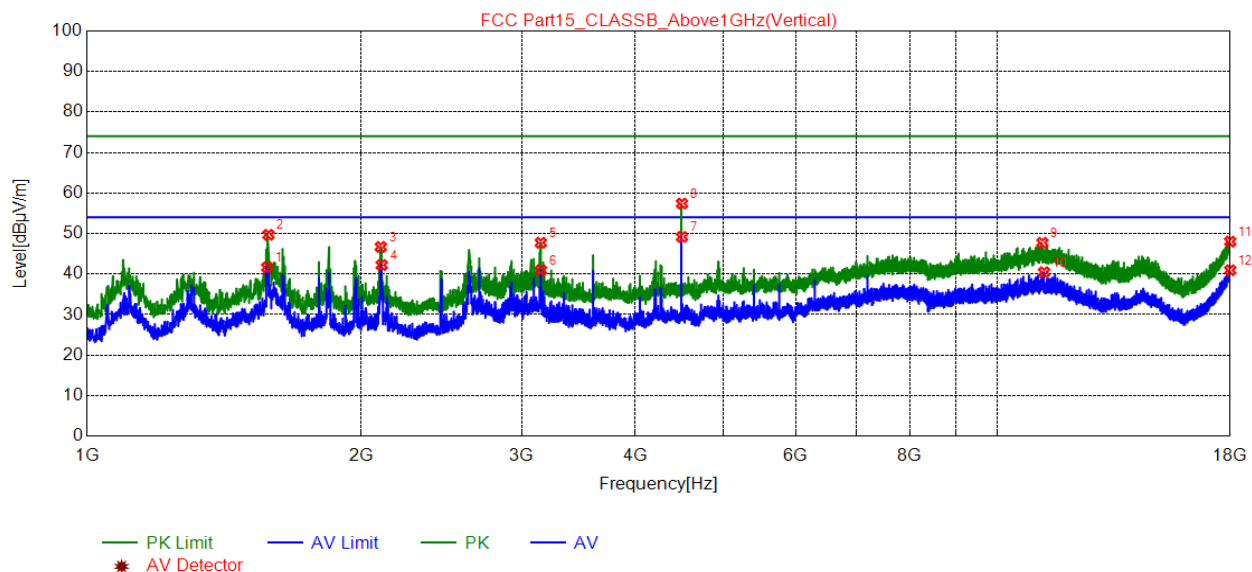


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1642.600	64.71	47.15	74.00	26.85	100	104	Horizontal	PK
2	1643.450	59.71	42.15	54.00	11.85	100	150	Horizontal	AV
3	2705.100	55.04	39.85	54.00	14.15	100	197	Horizontal	AV
4	2705.100	61.53	46.34	74.00	27.66	100	197	Horizontal	PK
5	3600.150	62.03	49.55	74.00	24.45	100	150	Horizontal	PK
6	3601.000	56.85	44.37	54.00	9.63	100	150	Horizontal	AV
7	4500.300	56.62	46.32	54.00	7.68	100	197	Horizontal	AV
8	4500.300	60.71	50.41	74.00	23.59	100	150	Horizontal	PK
9	6300.600	51.32	44.05	54.00	9.95	100	150	Horizontal	AV
10	6300.600	53.98	46.71	74.00	27.29	100	150	Horizontal	PK
11	17956.65	29.35	40.93	54.00	13.07	100	150	Horizontal	AV
12	17983.85	36.29	48.10	74.00	25.90	100	197	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	1577.150	59.36	41.64	54.00	12.36	100	24	Vertical	AV
2	1582.250	67.39	49.69	74.00	24.31	100	210	Vertical	PK
3	2101.600	63.29	46.71	74.00	27.29	100	164	Vertical	PK
4	2106.700	58.80	42.23	54.00	11.77	100	164	Vertical	AV
5	3149.650	61.64	47.73	74.00	26.27	100	256	Vertical	PK
6	3150.500	54.86	40.95	54.00	13.05	100	210	Vertical	AV
7	4500.300	59.47	49.17	54.00	4.83	100	164	Vertical	AV
8	4500.300	67.70	57.40	74.00	16.60	100	210	Vertical	PK
9	11194.90	46.07	47.72	74.00	26.28	100	210	Vertical	PK
10	11241.65	38.79	40.46	54.00	13.54	100	302	Vertical	AV
11	17999.15	36.07	48.01	74.00	25.99	100	210	Vertical	PK
12	18000.00	28.99	40.94	54.00	13.06	100	210	Vertical	AV

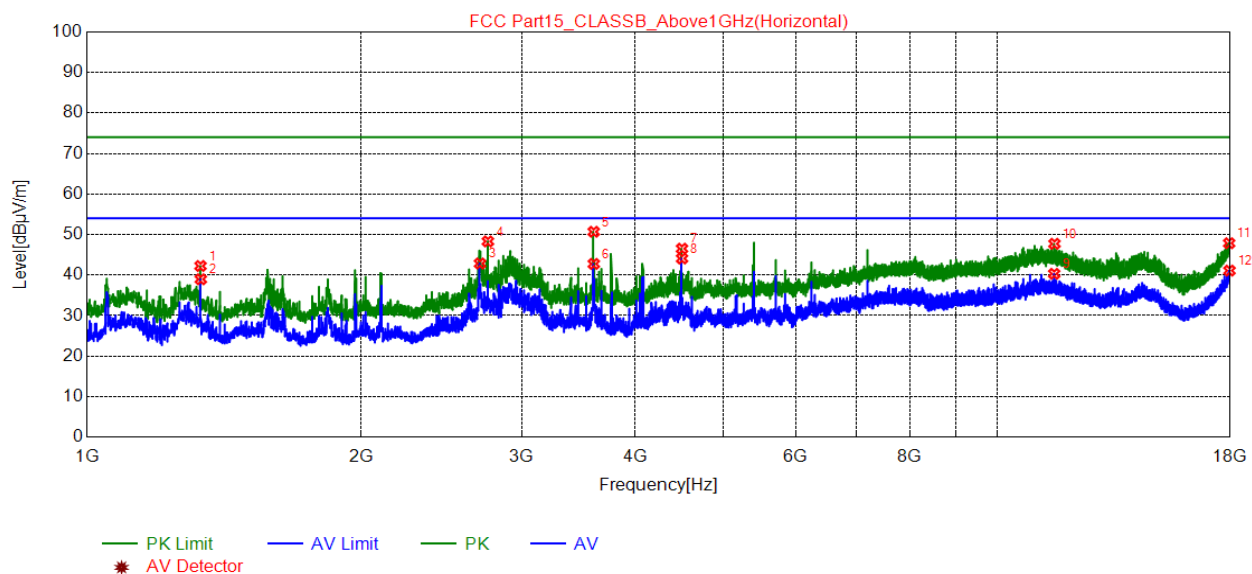
REMARKS:

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

For DH-IPC-HDW5541HP-AS-PV

For DC12V port test on AC adapter

Position: Horizontal

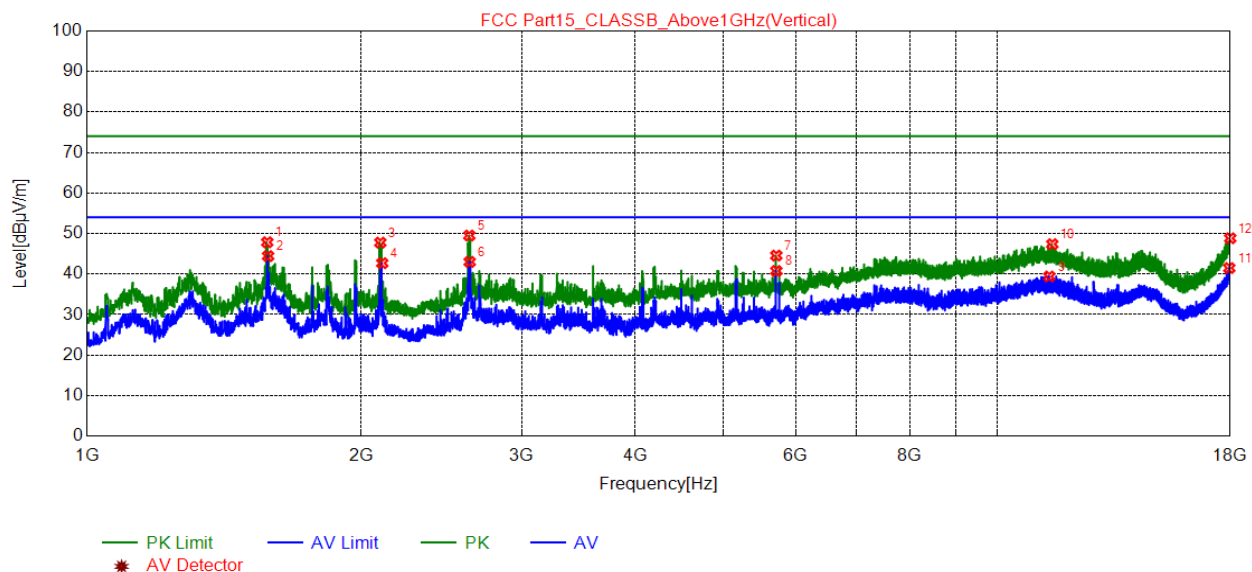


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1332.350	60.67	42.24	74.00	31.76	100	164	Horizontal	PK
2	1333.200	57.39	38.96	54.00	15.04	100	117	Horizontal	AV
3	2700.850	58.05	42.85	54.00	11.15	100	211	Horizontal	AV
4	2755.250	63.35	48.31	74.00	25.69	100	211	Horizontal	PK
5	3600.150	63.17	50.69	74.00	23.31	100	211	Horizontal	PK
6	3601.000	55.24	42.76	54.00	11.24	100	117	Horizontal	AV
7	4500.300	56.82	46.52	74.00	27.48	100	211	Horizontal	PK
8	4501.150	54.38	44.08	54.00	9.92	100	211	Horizontal	AV
9	11532.35	38.70	40.32	54.00	13.68	100	117	Horizontal	AV
10	11541.70	46.12	47.72	74.00	26.28	100	258	Horizontal	PK
11	17949.85	36.34	47.86	74.00	26.14	100	353	Horizontal	PK
12	17965.15	29.45	41.10	54.00	12.90	100	164	Horizontal	AV

REMARKS:

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

Position: Vertical



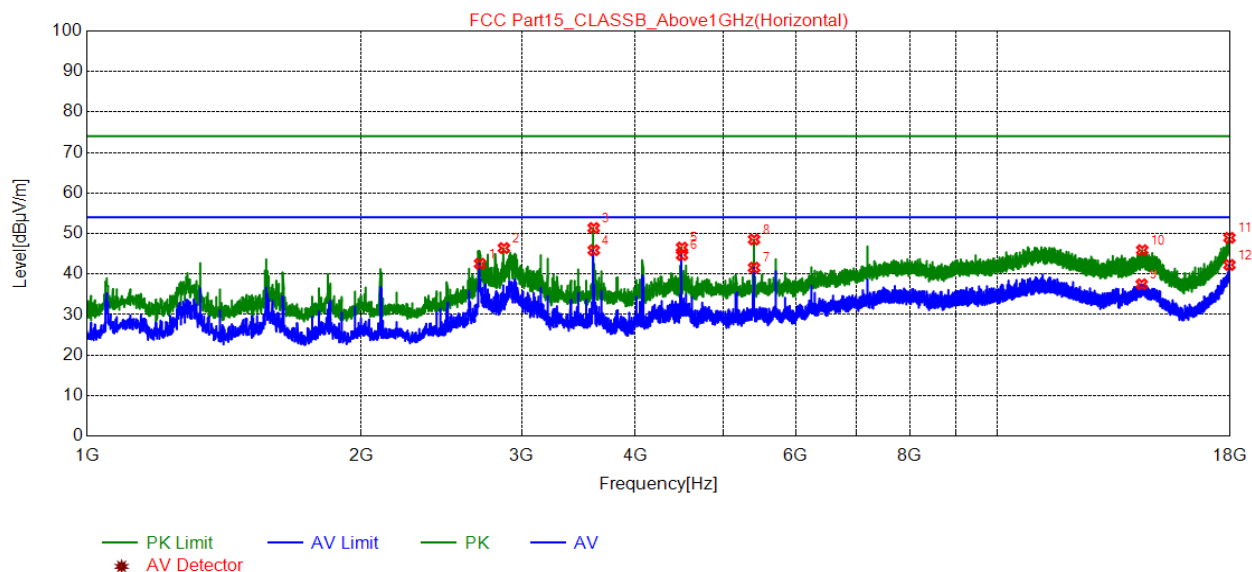
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1577.150	65.57	47.85	74.00	26.15	100	56	Vertical	PK
2	1580.550	62.15	44.44	54.00	9.56	100	56	Vertical	AV
3	2099.050	64.34	47.76	74.00	26.24	100	103	Vertical	PK
4	2109.250	59.25	42.69	54.00	11.31	100	56	Vertical	AV
5	2628.600	64.93	49.51	74.00	24.49	100	150	Vertical	PK
6	2631.150	58.41	43.00	54.00	11.00	100	150	Vertical	AV
7	5712.400	53.01	44.56	74.00	29.44	100	197	Vertical	PK
8	5713.250	49.22	40.77	54.00	13.23	100	197	Vertical	AV
9	11391.25	37.74	39.41	54.00	14.59	100	336	Vertical	AV
10	11478.80	45.69	47.38	74.00	26.62	100	197	Vertical	PK
11	17954.95	29.92	41.48	54.00	12.52	100	150	Vertical	AV
12	17999.15	36.89	48.83	74.00	25.17	100	243	Vertical	PK

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

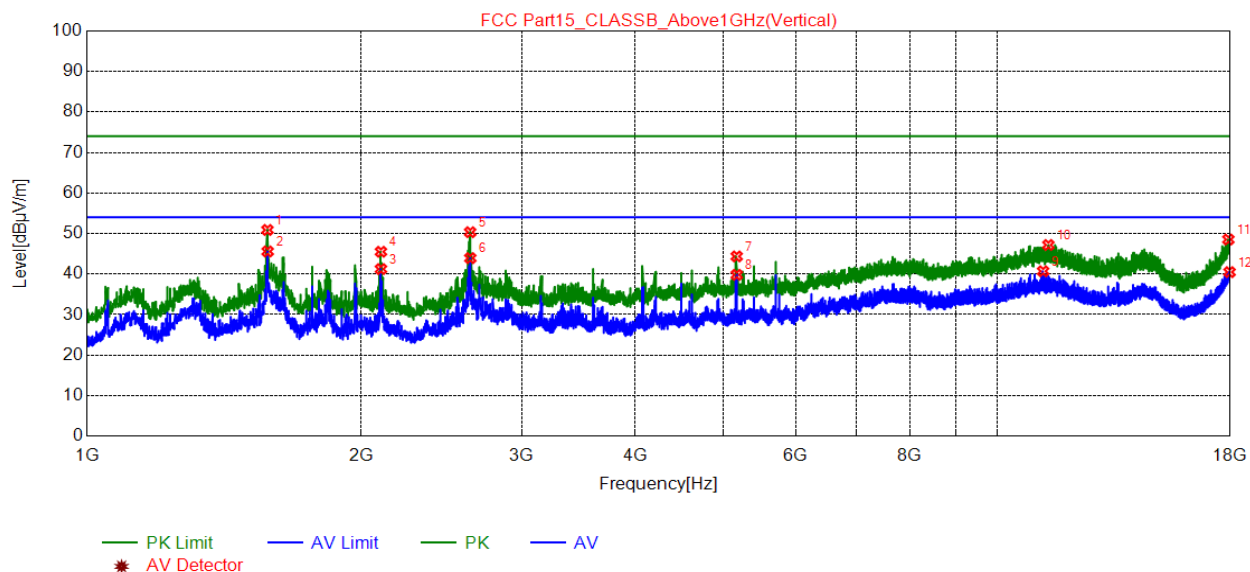


NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2700.850	57.76	42.56	54.00	11.44	100	194	Horizontal	AV
2	2869.150	61.13	46.41	74.00	27.59	100	146	Horizontal	PK
3	3600.150	63.85	51.37	74.00	22.63	100	146	Horizontal	PK
4	3601.000	58.36	45.88	54.00	8.12	100	194	Horizontal	AV
5	4500.300	56.85	46.55	74.00	27.45	100	146	Horizontal	PK
6	4501.150	54.98	44.68	54.00	9.32	100	194	Horizontal	AV
7	5400.450	50.50	41.57	54.00	12.43	100	194	Horizontal	AV
8	5400.450	57.45	48.52	74.00	25.48	100	194	Horizontal	PK
9	14389.20	33.86	37.49	54.00	16.51	100	194	Horizontal	AV
10	14410.45	42.24	45.91	74.00	28.09	100	53	Horizontal	PK
11	17962.60	37.32	48.95	74.00	25.05	100	194	Horizontal	PK
12	17963.45	30.62	42.26	54.00	11.74	100	194	Horizontal	AV

REMARKS:

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

Position: Vertical



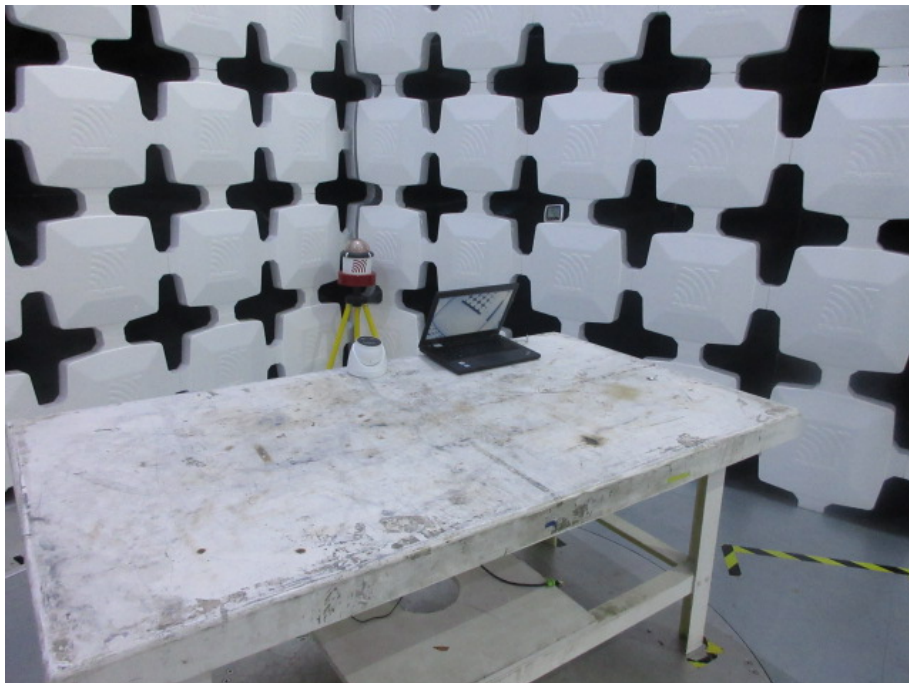
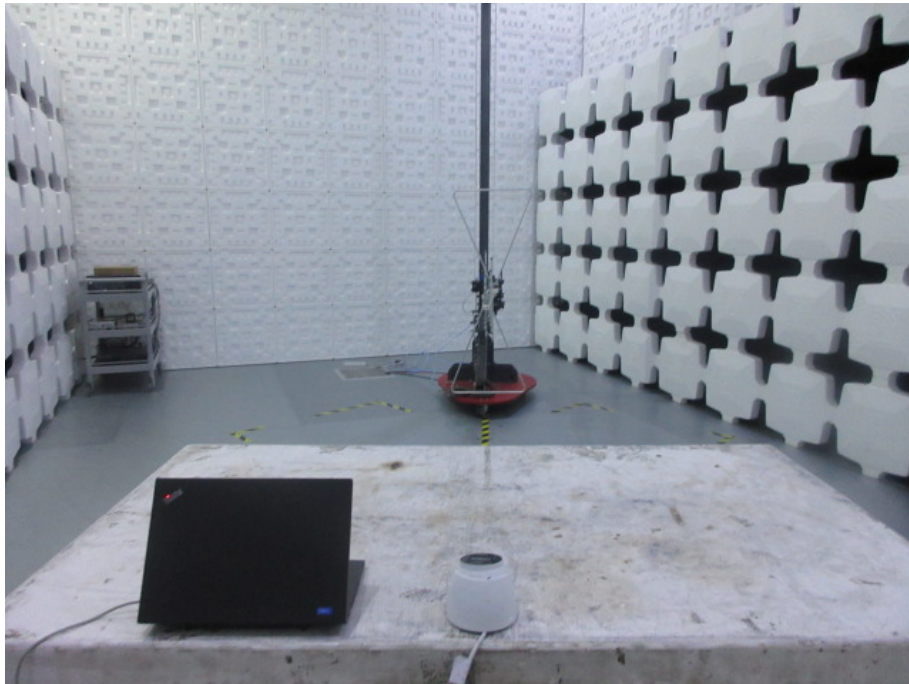
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	1578.000	68.61	50.89	74.00	23.11	100	70	Vertical	PK
2	1578.850	63.29	45.58	54.00	8.42	100	70	Vertical	AV
3	2102.450	57.80	41.23	54.00	12.77	100	70	Vertical	AV
4	2102.450	62.08	45.51	74.00	28.49	100	70	Vertical	PK
5	2634.550	65.74	50.34	74.00	23.66	100	211	Vertical	PK
6	2635.400	59.33	43.93	54.00	10.07	100	164	Vertical	AV
7	5168.400	53.36	44.36	74.00	29.64	100	258	Vertical	PK
8	5169.250	48.81	39.81	54.00	14.19	100	211	Vertical	AV
9	11214.45	39.04	40.70	54.00	13.30	100	304	Vertical	AV
10	11364.90	45.51	47.18	74.00	26.82	100	258	Vertical	PK
11	17915.00	37.31	48.53	74.00	25.47	100	304	Vertical	PK
12	17968.55	28.80	40.48	54.00	13.52	100	24	Vertical	AV

REMARKS:

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

5.7. Test Photographs (30MHz ~ 1000MHz)

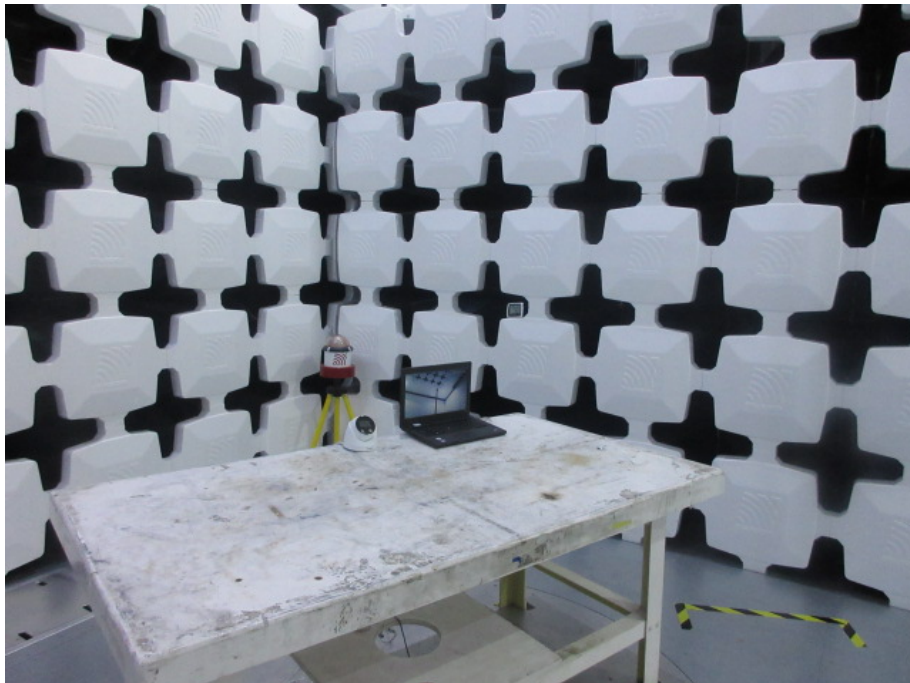
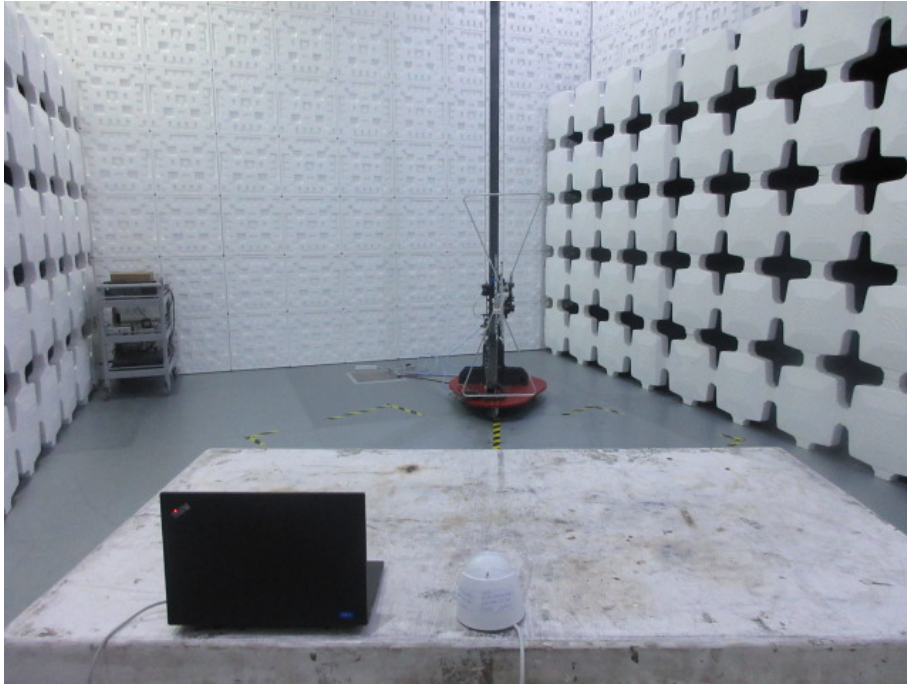
DH-IPC-HDW5241HP-AS-PV





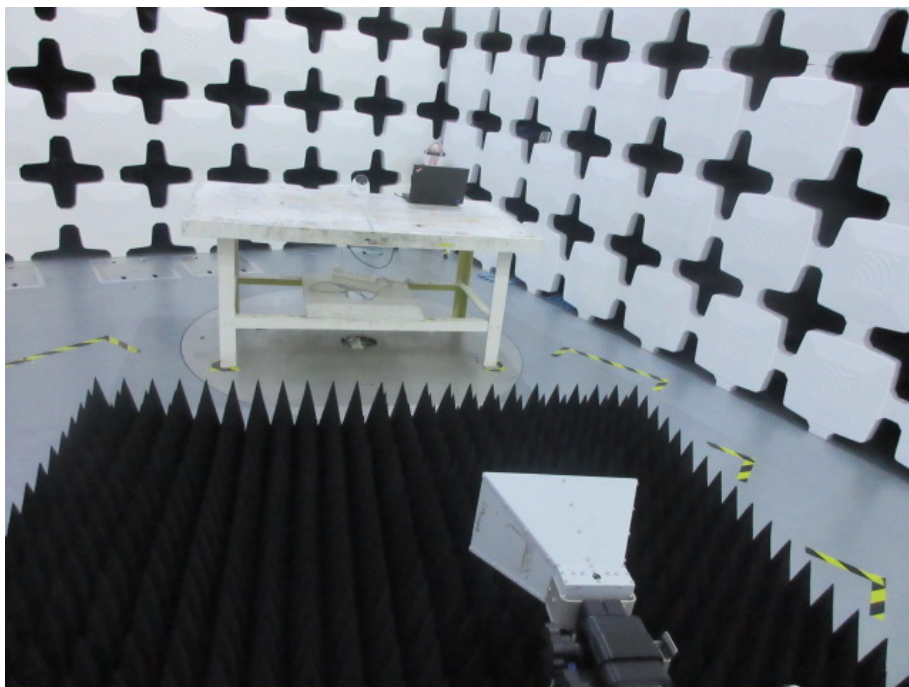
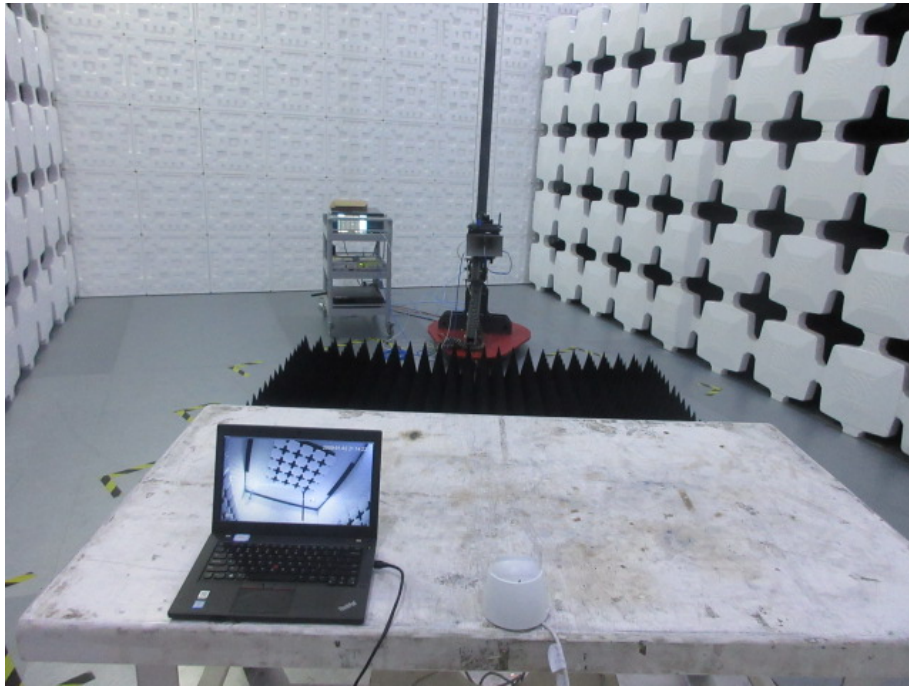
**BUREAU
VERITAS**

DH-IPC-HDW5541HP-AS-PV



5.8. Test Photographs (1000MHz ~ 18000MHz)

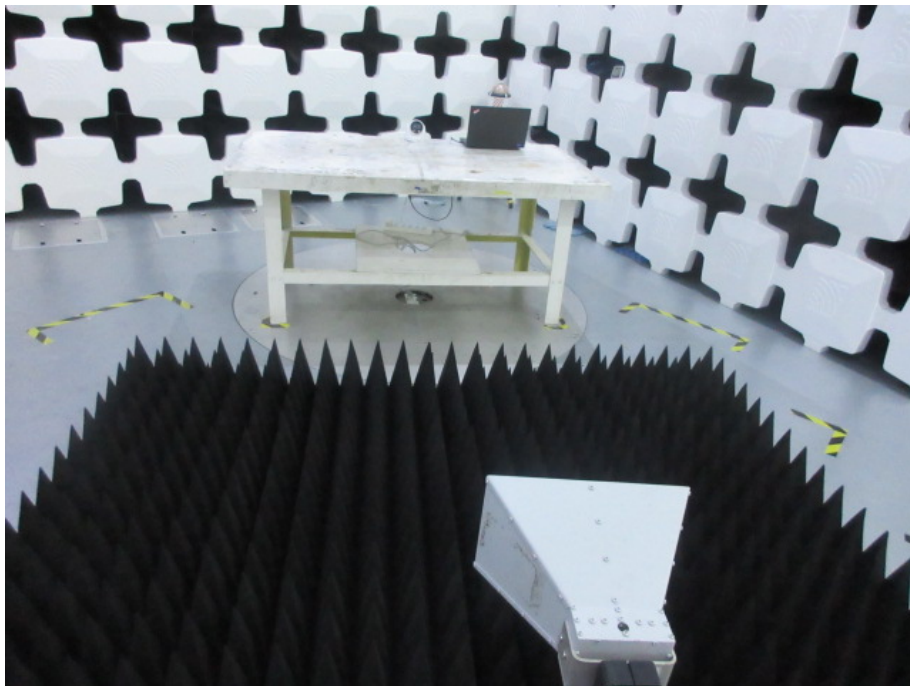
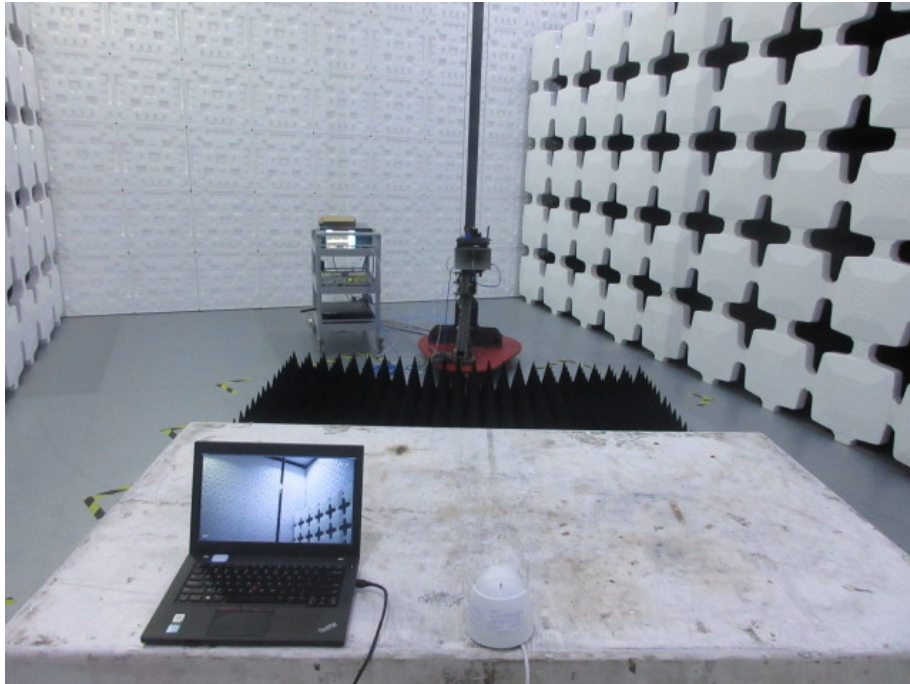
DH-IPC-HDW5241HP-AS-PV





**BUREAU
VERITAS**

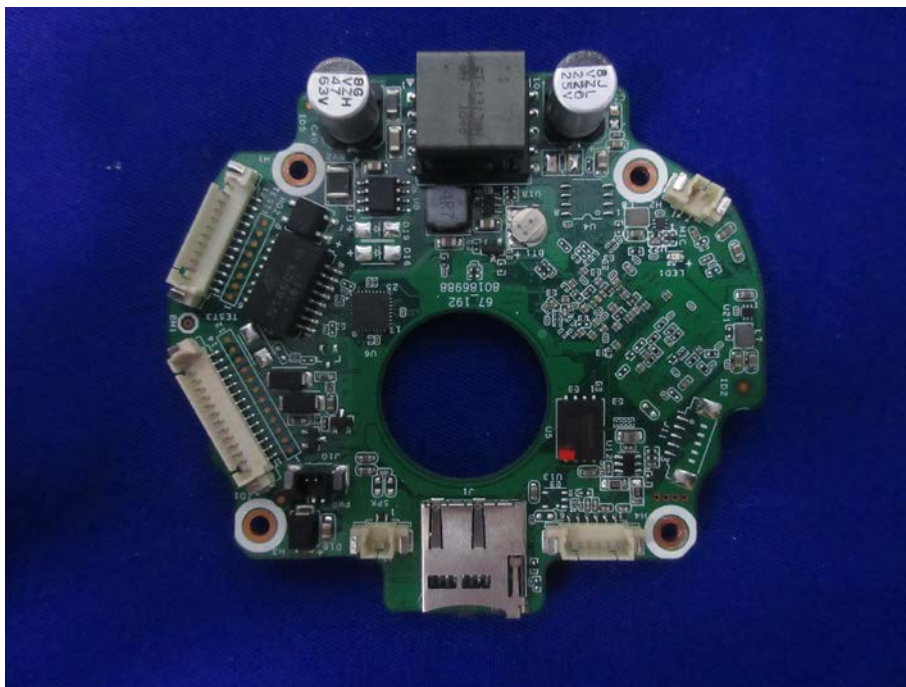
DH-IPC-HDW5541HP-AS-PV

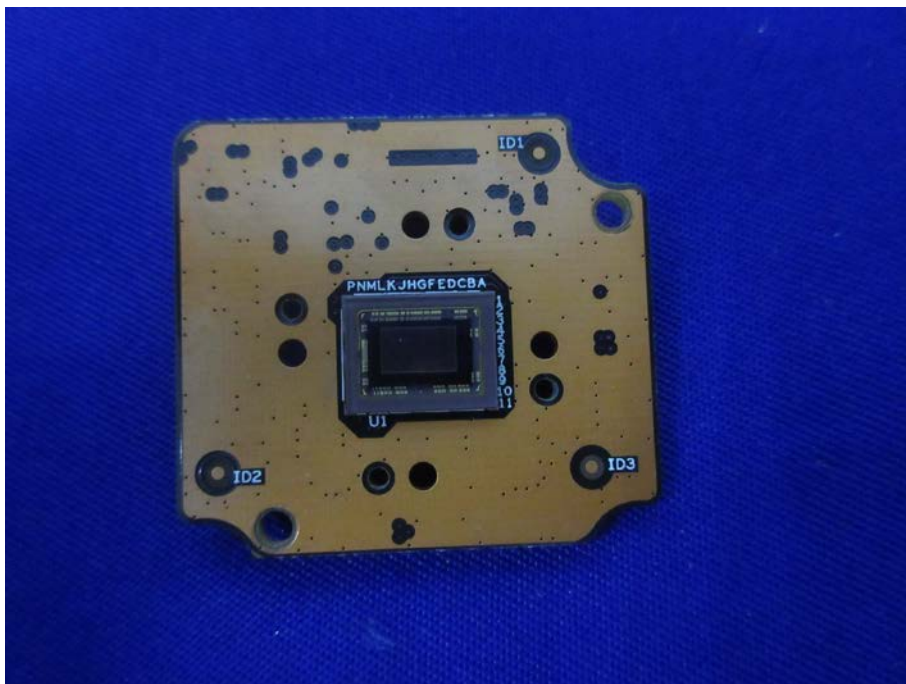
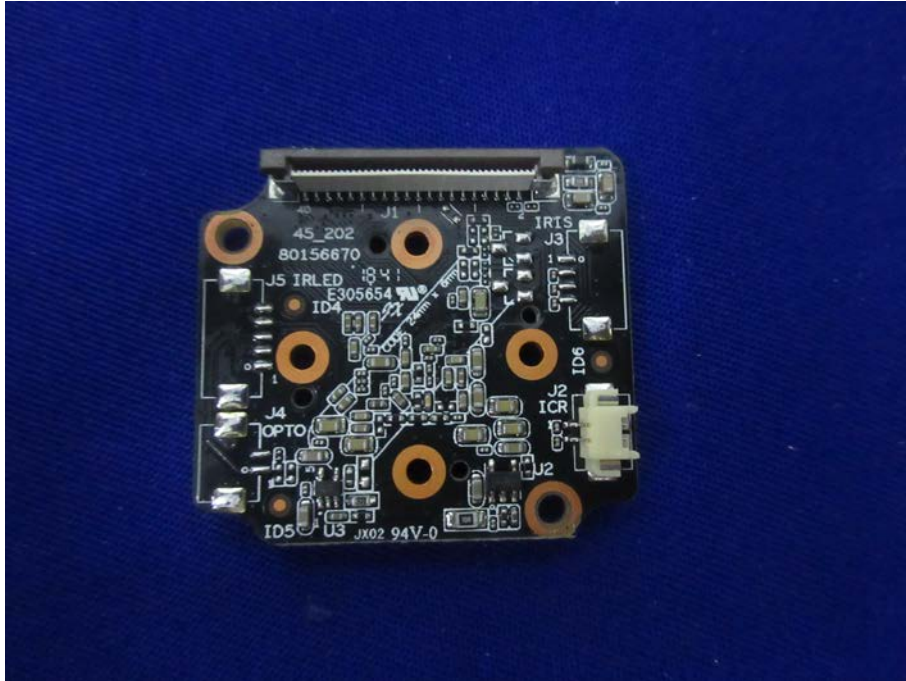


6. Photographs of EUT

DH-IPC-HDW5241HP-AS-PV

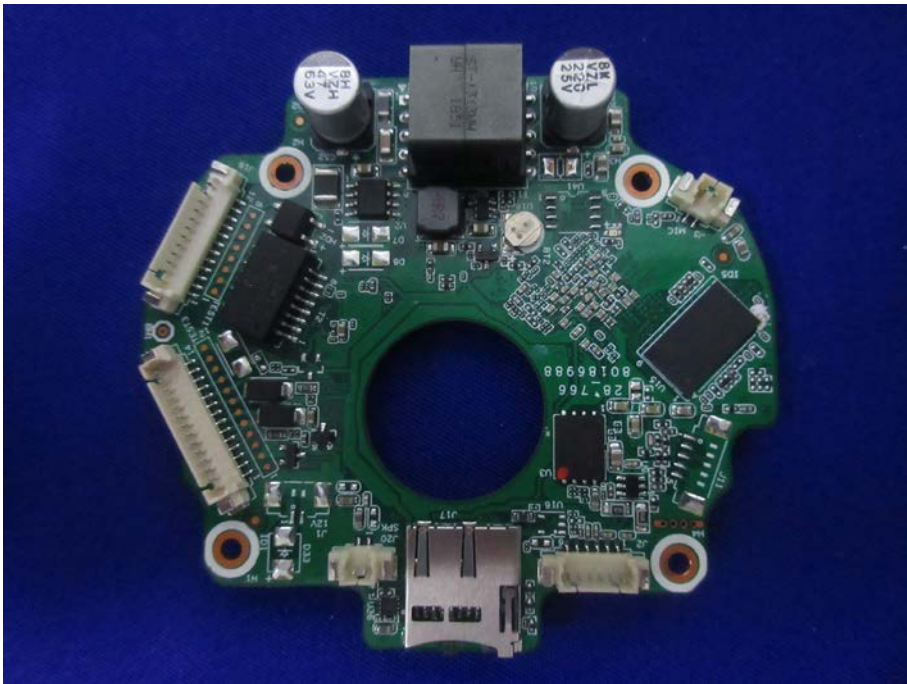


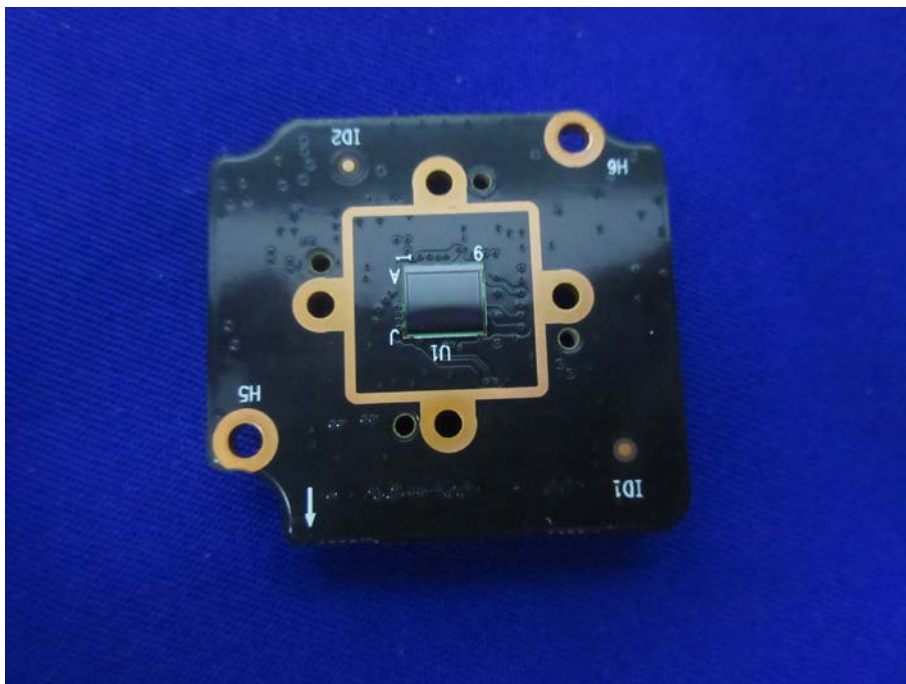
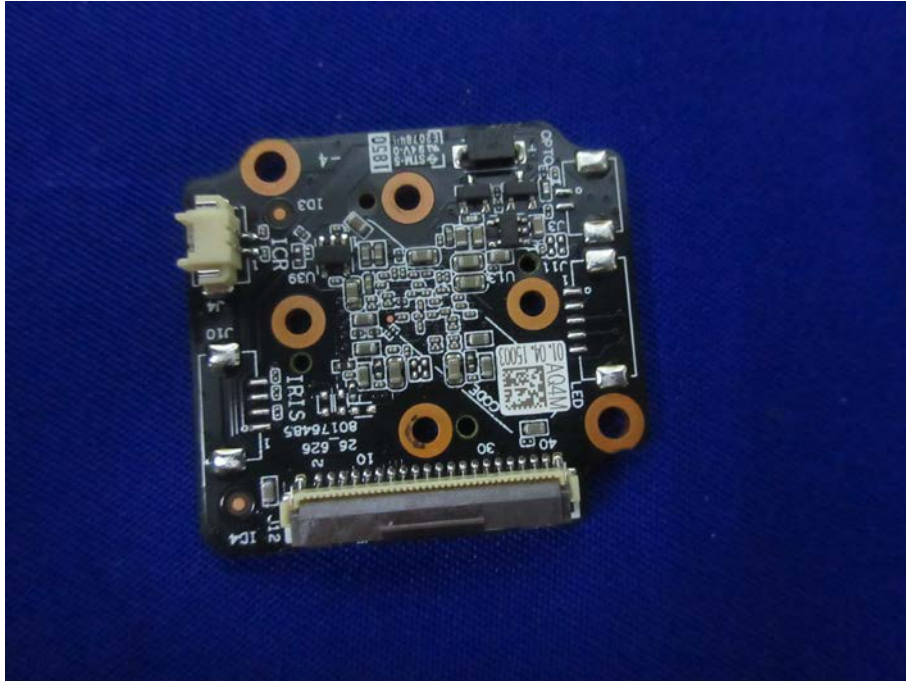




DH-IPC-HDW5541HP-AS-PV







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