TEST REPORT

Reference No.	:	WTD21D04030236W V1
FCC ID	:	2AZLG-AHD01M
Applicant	:	KAVE Industries LLC
Address	:	8605 Santa Monica.Blvd #53476, Los Angeles, CA 90069
Manufacturer	:	A-oneTech Limited
Address	:	Unit B, 6/F, Valiant Industrial Center, 2-12 Au Pui Wan Street, Fo Tan, N.T., Hong Kong
Product	:	airKAVE Room
Model(s)	:	AHD01, AHD02, AHD03
Standards	:	FCC PART18: 2020
Date of Receipt sample	:	2021-04-12
Date of Test	:	2021-04-12 to 2021-04-22
Date of Issue	:	2021-06-15
Test Result	:	**Pass**

Remarks:
The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company.The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:
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Compiled by:

Estel Qian / Project Engineer

Approved by:

Daniel Lin / Designated Reviewer

1 Contents

2 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD21D04030236W	2021-04-12	2021-04-12 to 2021-04-22	2021-04-22	Original	-	Replaced
WTD21D04030236W V1	2021-04-12	2021-04-12 to 2021-04-22	2021-06-15	Version 1	Updated	Valid

3 General Information

3.1 General Description of E.U.T.

Product ..... : airKAVE Room

Model(s)..... : AHD01, AHD02, AHD03

Model Difference ..... : Only the model name are difference.

Remark ..... : The model AHD01 is the tested sample.

3.2 Details of E.U.T.

Operation Frequency..... : 25kHz

Type of Modulation..... : Load modulation

Ratings ..... : 12V ⎓ 5A

Adapter……..... : Model: DSS65-1205000
Input: 100-240V ~ 2.0A 50/60Hz
Output: 12.0V ⎓ 5.0A

3.3 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab:N/A

Lab address:N/A

Test items: N/A

3.4 Abnormalities from Standard Conditions

None.

3.5 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

4 Test Summary

Test Item	Test Requirement	Test Result
AC Power Line ConductedEmission	FCC PART 18	Pass
Radiated Emission	FCC PART 18	Pass

Remark:

Pass Test item meets the requirement

Fail Test item does not meet the requirement

N/A Test case does not apply to the test object

5 Equipment Used during Test

5.1 Equipment List

AC Power Line ConductedEmission						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1.	EMI Test Receiver	R&S	ESCI	100947	2020.07.30	2021.07.29
2.	LISN	R&S	ENV216	100115	2020.07.30	2021.07.29
3.	Cable	Top	TYPE16(3.5M)	-	2020.07.30	2021.07.29
3m Semi-anechoic Chamber for Radiation(TDK)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	2020-04-20 2021-04-19	2021-04-19 2022-04-18
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	2021-04-24
3	Active Loop Antenna	Com-Power Corp.	AL-130R	10160007	2020-05-06	2021-05-05
4	Amplifier	ANRITSU	MH648A	M43381	2020-04-20 2021-04-19	2021-04-19 2022-04-18
5	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20 2021-04-19	2021-04-19 2022-04-18

5.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

5.3 Measurement Uncertainty

Parameter	Uncertainty (Note 1)
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emission (150kHz-30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(Above 1GHz)	±5.47dB

Note 1: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by GUANG ZHOU GRG METROLOGY & TEST CO., LTD. address is No.163, Pingyun Rd. West of Huangpu Ave,Tianhe District, Guangzhou, Guangdong, China.

5.5 Test Mode

Test Item	Test Mode	Test Voltage
AC Power Line Conducted Emission (150kHz to 30MHz)	Standby	AC 120V/60Hz
	Silent (Minimum working power)	
	Normal (Normal working power)	
	Boost (maximum working power)	
Radiated Emissions (30MHz-1GHz)	Standby	AC 120V/60Hz
	Silent (Minimum working power)	
	Normal (Normal working power)	
	Boost (maximum working power)	
Note: "*" shows the worst-case mode which were recorded in this report.		

6 Emission Test Results

6.1 AC Power Line ConductedEmission

Test Requirement..... : FCC PART 18

Test Method..... : FCC OST/MP-5

Test Result ..... : Pass

Class..... : 18.307

Limit..... : ☐All induction cooking ranges and ultrasonic equipment:

Frequency range (MHz)	Limit dB(uV)	
	Quasi-peak	Average
0.009-0.05	110	---
0.05-0.15	90-80*	---
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Remark: * Decreases with the logarithm of the frequency.
In the above table, the tighter limit applies at the band edges.

☒All other part 18 consumer devices:

Frequency range (MHz)	Limit dB(uV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

Remark: * Decreases with the logarithm of the frequency.
In the above table, the tighter limit applies at the band edges.

☐ RF lighting devices:

Frequency range (MHz)	Maximum RF line voltage measured with a 50 uH/50 ohm LISN(uV)
Non-consumer equipment	
0.45-1.6	1000
1.6-30	3000
Consumer equipment	
0.45-2.51	250
2.51-3.0	3000
3.0-30	250

6.1.1 E.U.T. Operation

Operating Environment:

Temperature ..... : 23.1°C

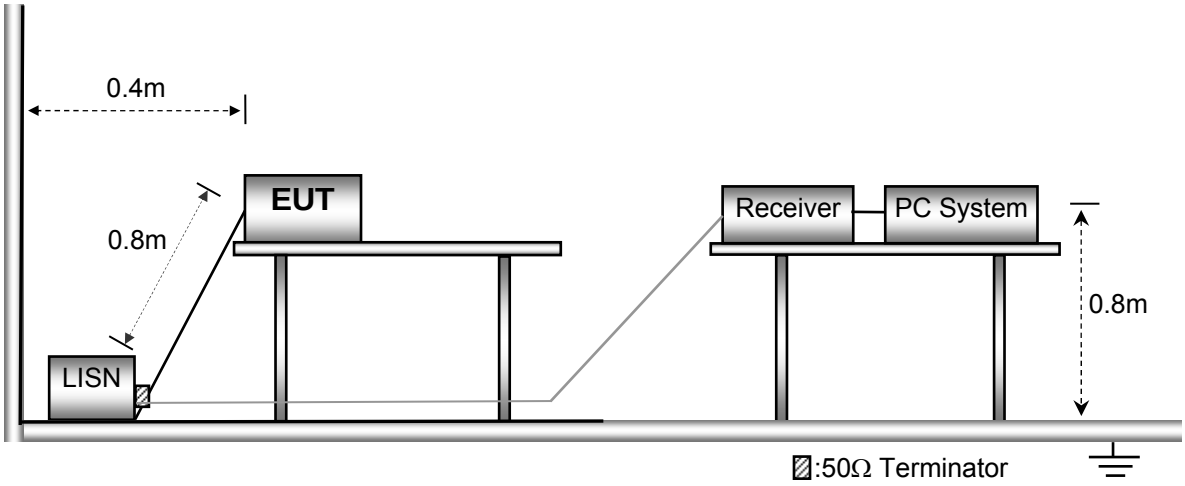
Humidity..... : 52.6%RH

Atmospheric Pressure ..... : 101.2kPa

EUT Operation..... : Refer to section 5.5.

6.1.2 Block Diagram of Test Setup

The AC Power Line Conducted Emissions tests were performed in accordance with the FCC OST/MP-5.

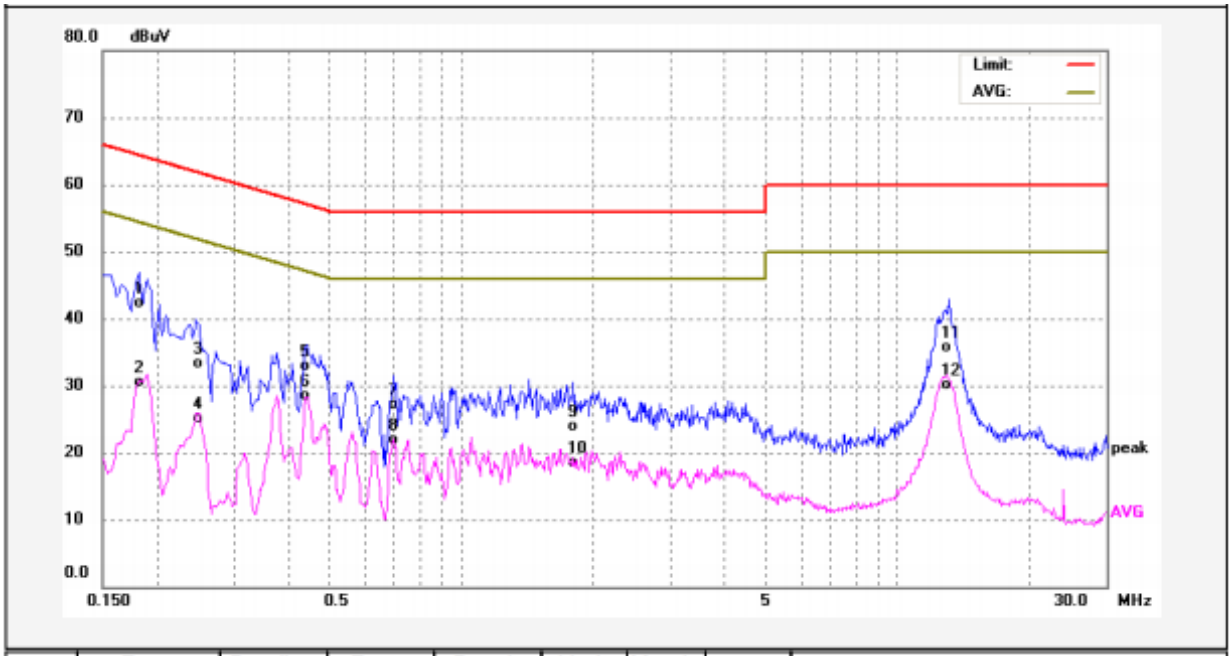


6.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line. According to the data in section 5.1.4, the EUT complied with the FCC PART 18.307 standards.

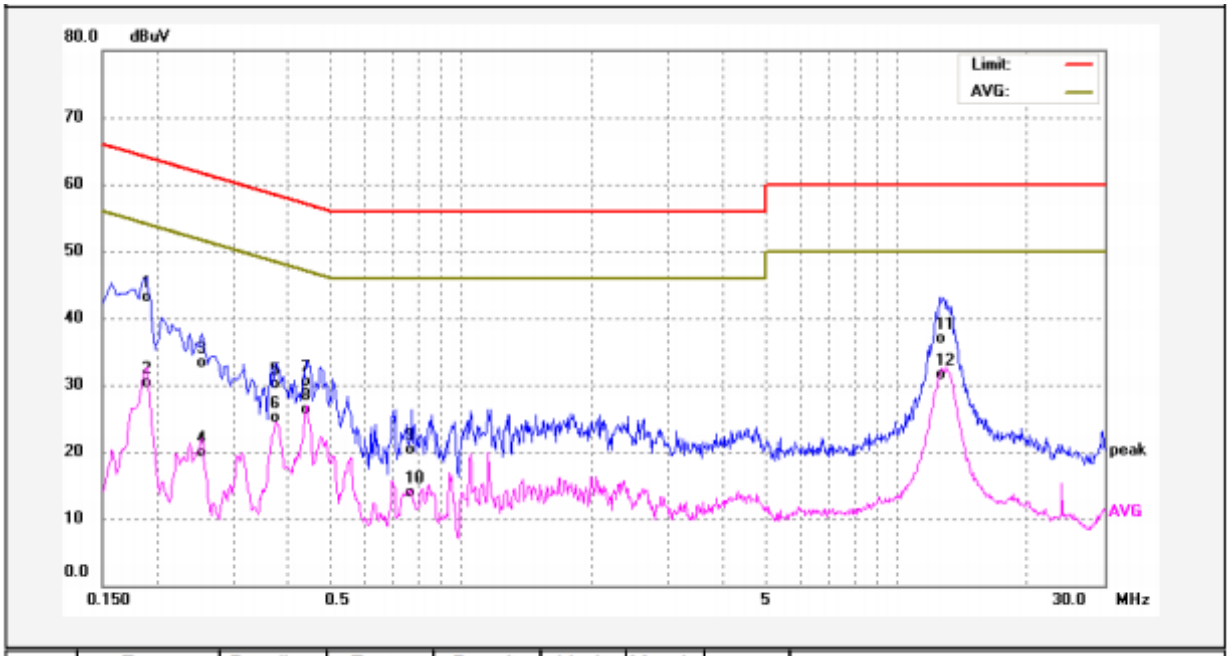
6.1.4 AC Power Line ConductedEmission Test Data

Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1819	31.51	10.72	42.23	64.39	-22.16	QP	
2	0.1819	19.82	10.72	30.54	54.39	-23.85	AVG	
3	0.2460	22.64	10.65	33.29	61.89	-28.60	QP	
4	0.2460	14.52	10.65	25.17	51.89	-26.72	AVG	
5	0.4420	22.27	10.55	32.82	57.02	-24.20	QP	
6	0.4420	18.04	10.55	28.59	47.02	-18.43	AVG	
7	0.6980	16.52	10.60	27.12	56.00	-28.88	QP	
8	0.6980	11.30	10.60	21.90	46.00	-24.10	AVG	
9	1.8020	13.25	10.60	23.85	56.00	-32.15	QP	
10	1.8020	7.87	10.60	18.47	46.00	-27.53	AVG	
11	13.1140	24.83	10.80	35.63	60.00	-24.37	QP	
12	13.1140	19.32	10.80	30.12	50.00	-19.88	AVG	

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1900	32.42	10.70	43.12	64.03	-20.91	QP	
2	0.1900	19.64	10.70	30.34	54.03	-23.69	AVG	
3	0.2540	22.72	10.64	33.36	61.62	-28.26	QP	
4	0.2540	9.24	10.64	19.88	51.62	-31.74	AVG	
5	0.3740	19.60	10.58	30.18	58.41	-28.23	QP	
6	0.3740	14.46	10.58	25.04	48.41	-23.37	AVG	
7	0.4420	19.99	10.55	30.54	57.02	-26.48	QP	
8	0.4420	15.69	10.55	26.24	47.02	-20.78	AVG	
9	0.7740	9.64	10.60	20.24	56.00	-35.76	QP	
10	0.7740	3.29	10.60	13.89	46.00	-32.11	AVG	
11	12.7220	26.05	10.80	36.85	60.00	-23.15	QP	
12	12.7220	20.76	10.80	31.56	50.00	-18.44	AVG	

6.2 Radiation Emission

Test Requirement..... : FCC PART 18

Test Method..... : FCC OST/MP-5

Test Result ..... : Pass

Class. : 18.305

Limit..... :

■Table 1

Equipment	Operating frequency	RF Power generated by equipment (watts	Field strength limit (uV/m)	Distance (meters)
☒Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500 500 or more	25 25 x SQRT (power/500)	300 (1)300
	Any NON-ISM frequency	Below 500 500 or more	15 15 x SQRT (power/500)	300 (1)300
☐Industrial heaters and RF stabilized arc welders	On or below 5,725 MHz Above 5,725 MHz	Any Any	10 (2)	1600 (2)
☐Medical diathermy	Any ISM frequency Any non- ISM frequency	Any Any	25 15	300 300
☐Ultrasonic	Below 490 kHz	Below 500 500 or more	2,400/F(kHz) 2,400/F(kHz)x SQRT(power/500)	300 (3)300
	490 to 1,600 kHz Above 1,600 kHz	Any Any	2,400/F(kHz) 15	30 30
☐Induction cooking ranges	Below 90 kHz On or above 90 kHz	Any Any	1,500 300	(4)30 (4)30

(1) Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.
(2) Reduced to the greatest extent possible.
(3) Field strength may not exceed 10 μV/m at 1600 meters. Consumer equipment is not permitted the increase in field strength otherwise permitted here for over 500 watts.
(4) Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment.

Note : The field strength limit and distance shown in the following Table 2 are the conversion of the requirement in Table 1.

☐Table 2

Equipment	Operating frequency	RF Power generated by equipment (watts)	Field strength limit (dBuV/m)	Distance (meters)
Any type unless otherwise specified (miscellaneous)	Any ISM frequency	Below 500	57.5	10

☐The for RF lighting devices field strength limits

Frequency (MHz)	Field strength limit at 30 meters (μV/m)
Non-consumer equipment:	
30-88	30
88-216	50
216-1000	70
Consumer equipment:	
30-88	10
88-216	15
216-1000	20

Notes:
1. The tighter limit shall apply at the boundary between two frequency ranges.

6.2.1 E.U.T. Operation

Operating Environment:
Temperature..... : 22.5°C

Humidity..... : 52.6%RH

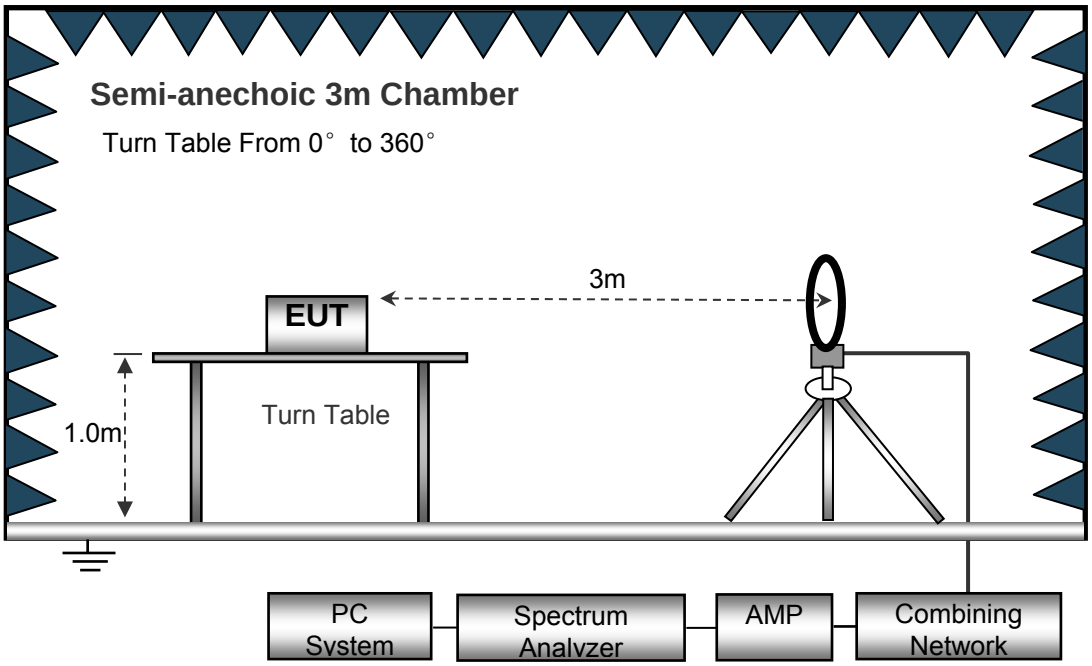
Atmospheric Pressure..... : 101.8kPa

EUT Operation..... : Refer to section 5.5.

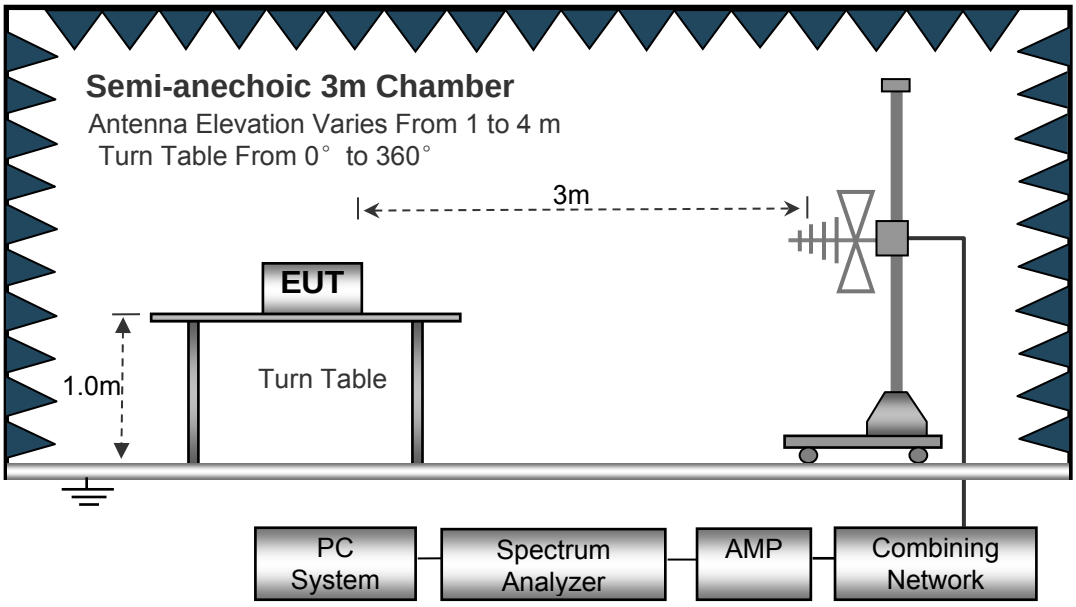
6.2.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with theFCC OST/MP-5.

The test setup for emission measurement below 30MHz



The test setup for emission measurement from 30 MHz to 1 GHz

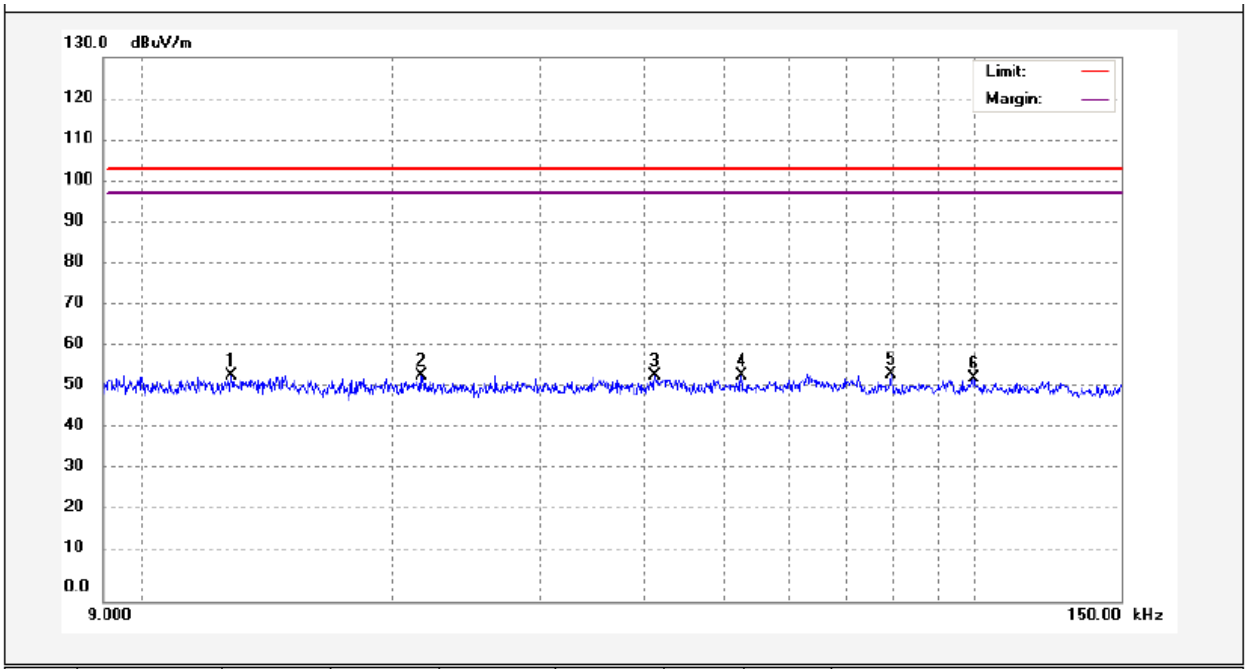


6.2.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

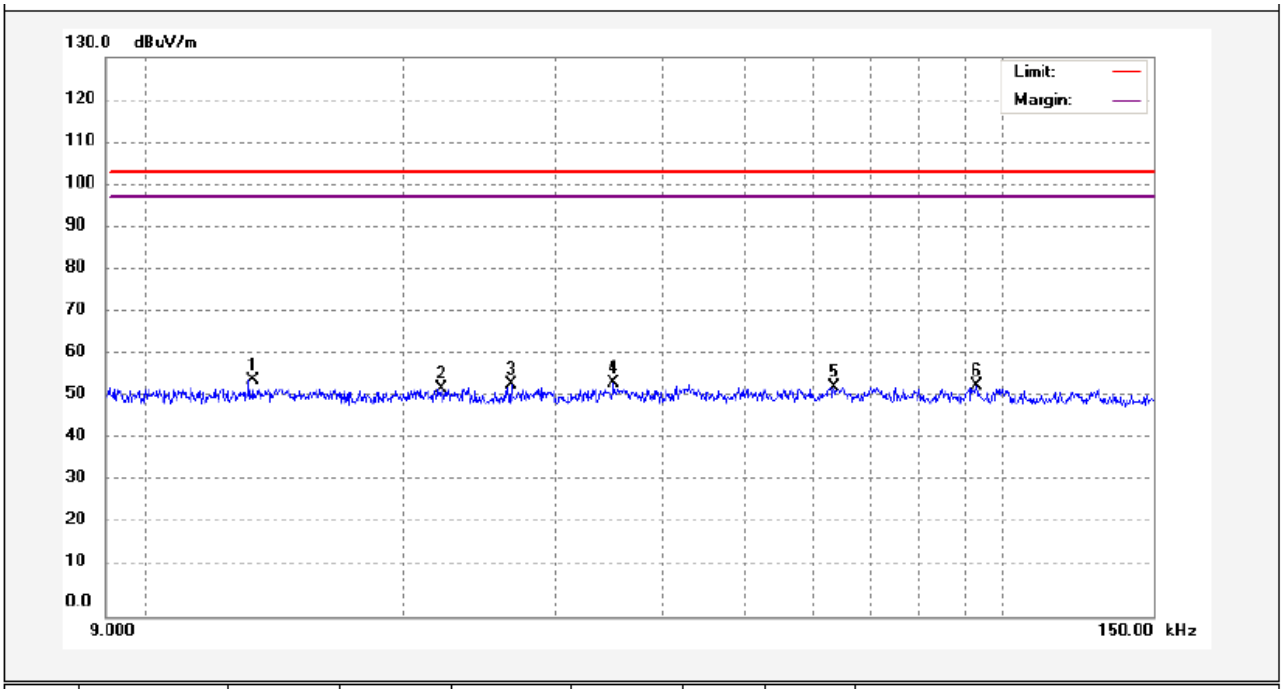
6.2.4 Radiated Emission Test Data, 9kHz to 150kHz

Antenna Polarization: 0°



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	0.0128	38.89	15.19	54.08	103.50	-49.42	peak	
2	0.0216	39.13	15.05	54.18	103.50	-49.32	peak	
3	0.0413	39.18	14.83	54.01	103.50	-49.49	peak	
4	0.0524	39.23	14.83	54.06	103.50	-49.44	peak	
5	0.0793	39.71	14.81	54.52	103.50	-48.98	peak	
6	0.0995	39.00	14.60	53.60	103.50	-49.90	peak	

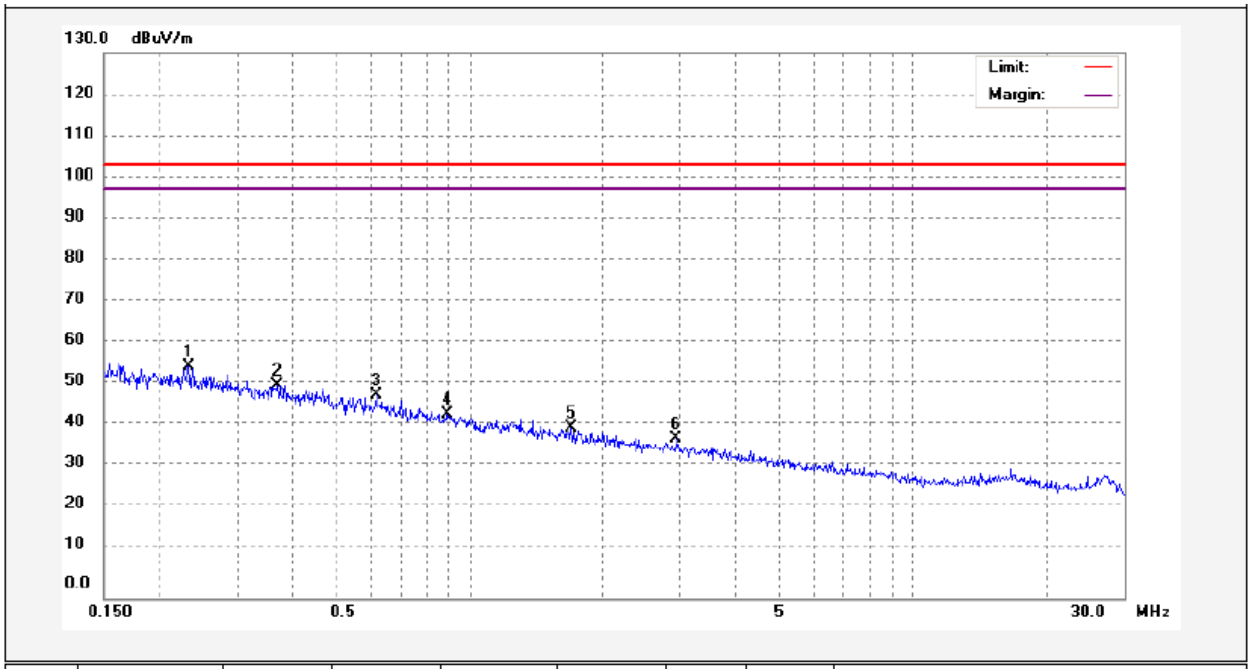
Antenna Polarization: 90°



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	0.0132	39.82	15.19	55.01	103.50	-48.49	peak	
2	0.0220	38.02	15.04	53.06	103.50	-50.44	peak	
3	0.0267	39.32	14.92	54.24	103.50	-49.26	peak	
4	0.0352	39.65	14.83	54.48	103.50	-49.02	peak	
5	0.0636	38.77	14.82	53.59	103.50	-49.91	peak	
6	0.0932	39.03	14.67	53.70	103.50	-49.80	peak	

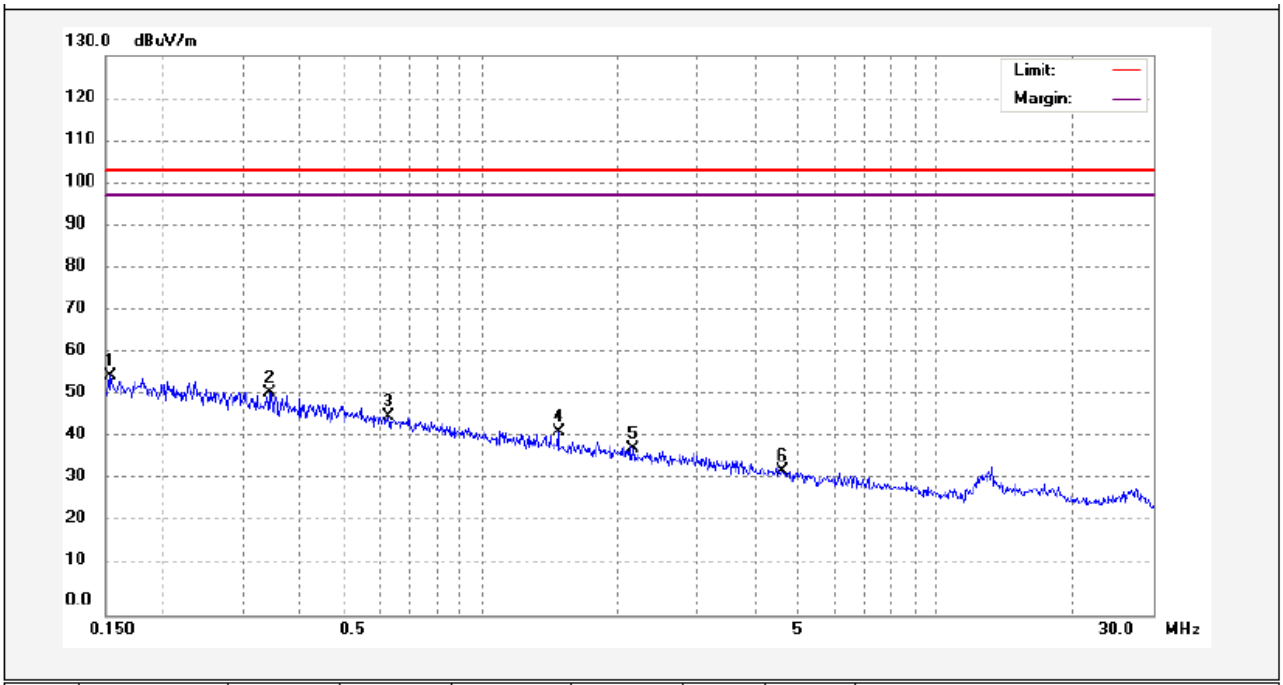
6.2.5 Radiated Emission Test Data, 150kHz to 30MHz

Antenna Polarization: 0°



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	0.2328	41.48	13.86	55.34	103.50	-48.16	peak	
2	0.3689	37.48	13.50	50.98	103.50	-52.52	peak	
3	0.6169	34.92	13.56	48.48	103.50	-55.02	peak	
4	0.8891	30.22	13.69	43.91	103.50	-59.59	peak	
5	1.6975	26.83	13.90	40.73	103.50	-62.77	peak	
6	2.9305	23.46	14.66	38.12	103.50	-65.38	peak	

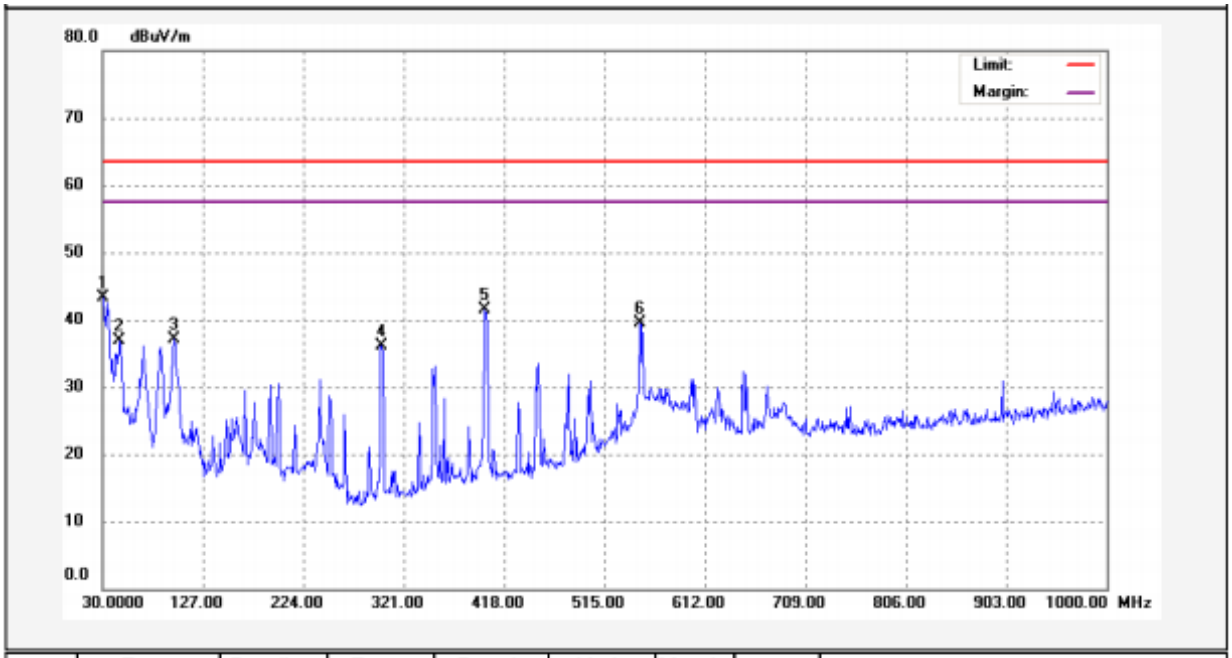
Antenna Polarization: 90°



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	0.1539	41.40	14.29	55.69	103.50	-47.81	peak	
2	0.3427	38.44	13.50	51.94	103.50	-51.56	peak	
3	0.6270	32.84	13.58	46.42	103.50	-57.08	peak	
4	1.4795	28.90	13.80	42.70	103.50	-60.80	peak	
5	2.1551	24.57	14.13	38.70	103.50	-64.80	peak	
6	4.5978	18.12	15.46	33.58	103.50	-69.92	peak	

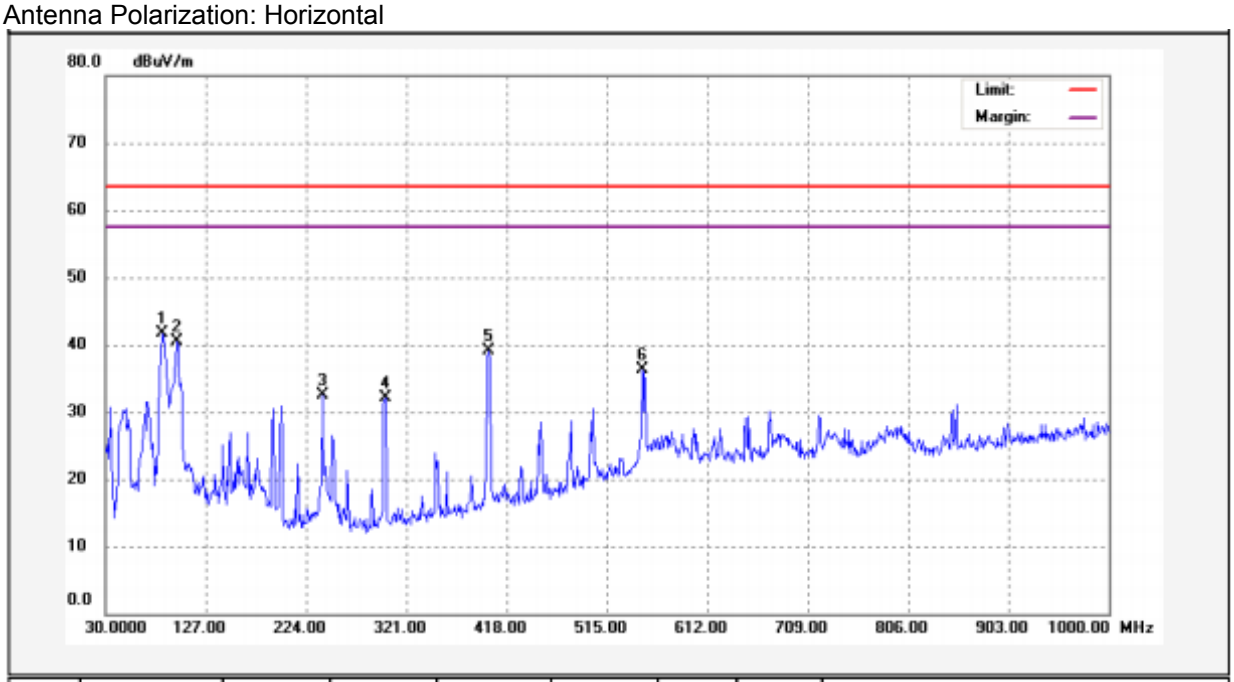
6.2.6 Radiated Emission Test Data,30MHz to 1000MHz

Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.9695	61.49	-18.12	43.37	63.50	-20.13	peak	
2	46.4900	54.01	-17.20	36.81	63.50	-26.69	peak	
3	98.8700	56.69	-19.58	37.11	63.50	-26.39	peak	
4	299.6600	50.79	-14.70	36.09	63.50	-27.41	peak	
5	399.5699	53.92	-12.46	41.46	63.50	-22.04	peak	
6	548.9500	48.36	-8.88	39.48	63.50	-24.02	peak	

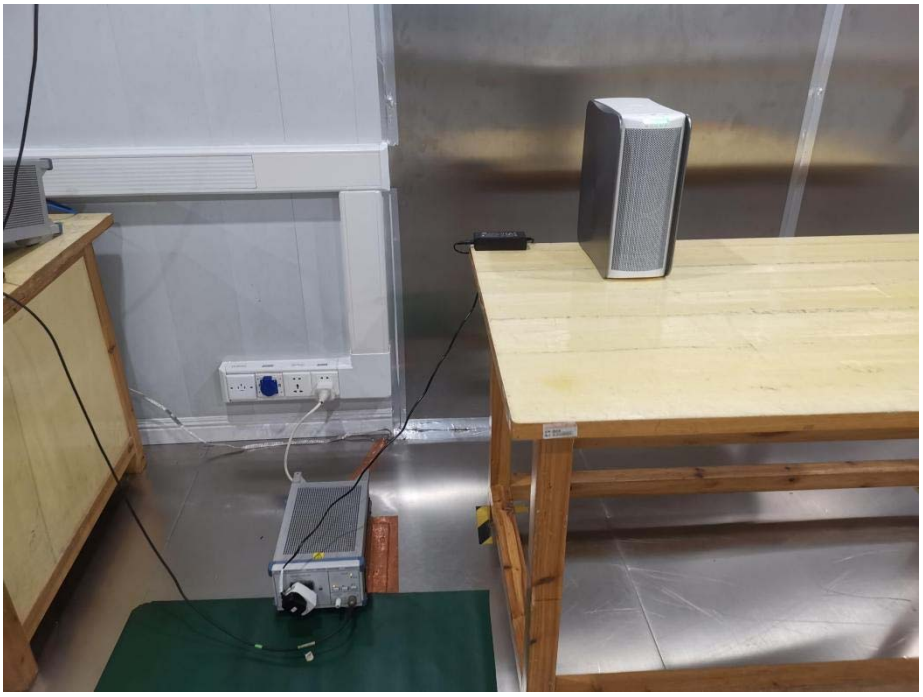
Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	85.2900	63.19	-21.40	41.79	63.50	-21.71	peak	
2	98.8700	60.03	-19.58	40.45	63.50	-23.05	peak	
3	239.5200	49.75	-17.24	32.51	63.50	-30.99	peak	
4	300.6298	46.77	-14.68	32.09	63.50	-31.41	peak	
5	400.5400	51.56	-12.45	39.11	63.50	-24.39	peak	
6	548.9500	45.10	-8.88	36.22	63.50	-27.28	peak	

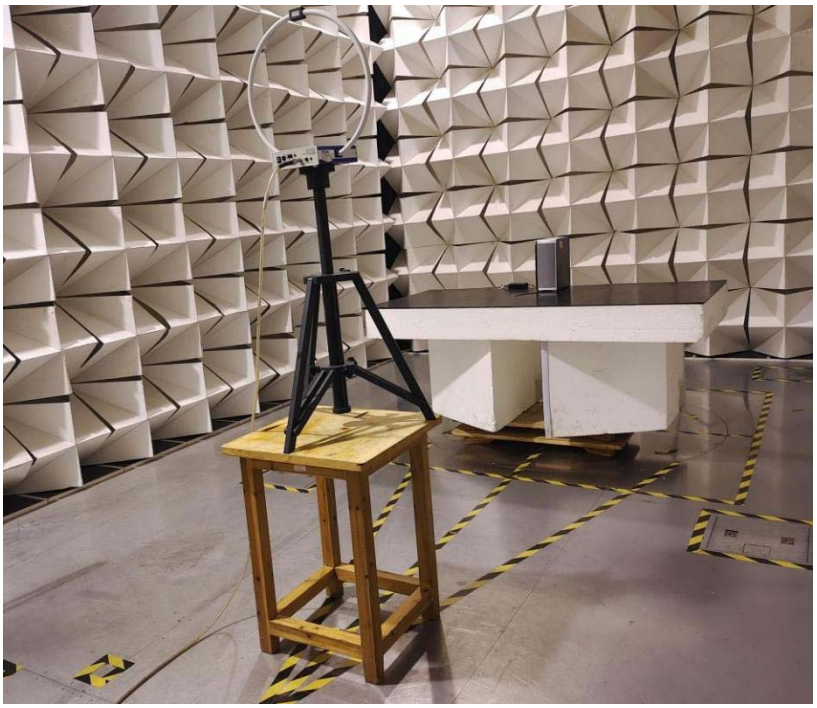
7 Photographs–Test Setup

7.1 Photograph–AC Power Line ConductedEmission Test Setup



7.2 Photograph–Radiated Emission

Test setup For 9KHz-30MHz



Test setup For 30MHz-1000MHz

8 Photographs – Constructional Details

Note: Please refer to appendix: Appendix- AHD01-photos.

======End of Report======