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EMC TEST REPORT

Dates of Tests: September 21, 2023

Project No: 230831-0147

Test Site : LTA Co., Ltd.

Model No.

XRN-6420DB4

APPLICANT

Hanwha Vision Co., Ltd

Equipment Name : Network Video Recorder
Manufacturer : Hanwha Vision Co., Ltd
Model Name : XRN-6420DB4
Additional Model Name : -
Test Device Serial No.: : Identification
Rule Part(s) : VCCI-CISPR 32:2016

Date of issue : October 20, 2023

This test report is issued under the authority of:

The test was supervised by:

Young Kyu Shin, Technical Manager

Min Su Han, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory.

This test report is not related to KS Q ISO/IEC 17025 and KOLAS accreditation.

Revision history

Revision	Date of issue	Test report No.	Description
0	07.08.2023	LR500172308C	Initial
1	20.10.2023	LR500172310X	Change hardware parts (PCBs and fan)

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1. General information's

1-1 Test Performed

Company name : **LTA Co., Ltd**
 Address : 4, Songju-ro 236beon-gil, Yangji-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, 17159, Korea
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Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which “General requirements for the competents of calibration and testing laboratory”.

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
RRA	KOREA		-	RRA accredited Lab.
	U.S.A	KR0049	2025-03-29	
	CANADA		2024-08-15	
VCCI	JAPAN	C-14948	2026-09-10	VCCI registration
		T-12416	2026-09-10	
		R-14483	2026-10-15	
		G-10847	2024-12-13	
KOLAS	KOREA	KT551	2025-10-12	KOLAS accredited Lab.

2. Information's about test item

2-1 Client / Manufacturer

Company name : Hanwha Vision Co., Ltd
 Address : 6, Pangyo-ro 319 Beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13488, KOREA
 Telephone /Facsimile : +82-10-2667-4196 / +82-70-7147-8361

Factory #1

Company name : HANWHA VISION VIETNAM COMPANY LIMITED
 Address : Lot O-2, Que Vo Industrial Zone extended area ,Nam Son commune, Bac Ninh city,Bac Ninh province, Vietnam

Factory #2

Company name : D-TECH CO.,LTD.
 Address : 173-25, Saneop-ro, Gwonseon-gu, Suwon-si, Gyeonggi-do, Korea (Suwon Industrial Complex)

2-2 Equipment Under Test (EUT)

Class : A
 Category : Network Video Recorder
 Model Name : XRN-6420DB4
 Additional Model Name : -
 Serial number : Identification
 Date of receipt : August 31, 2023
 EUT condition : Pre-production, not damaged
 Interface ports : AC IN #1~#2, HDMI #1~#2, ALARM IN, ALARM OUT, AUDIO OUT, USB #1~#4, NETWORK #1~#3, Ground
 Power rating : AC 100 V, 50, 60 Hz

2-3 Modification

- Supplementary area: gasket tape inside the device / Material: gasket tape (model name: N/A, manufacturer: N/A number: 1 EA)

2-4 Test conditions

Temp. / Humid. : (21 - 23) °C / (53 - 55) % R.H.
 Tested Model : XRN-6420DB4
 Test mode : Operating mode
 Test Voltage : AC 100 V, 50, 60 Hz

2-5 List of EUT and ACCESSORY

EUT				
Equipment Name	Model Name	Serial No.	Manufacturer	Remarks
Network Video Recorder	XRN-6420DB4	N/A	HANWHA VISION VIETNAM COMPANY LIMITED D-TECH CO., LTD.	EUT
Mouse	MOKJUO	34O04812	Primax Electronics Ltd.	EUT
ACCESSORY				
Equipment Name	Model Name	Serial No.	Manufacturer	Remarks
NOTEBOOK	ELITE BOOK	N/A	HP	-
MONITOR #1	6230VP	73010478A2 20371	Lien Fong(Wujiang) Electronics Co.,Ltd.	-
MONITOR #2	AM24MB	N/A	ATEC	-
Keyboard	K120	1547SC5034 U8	Logitech	-
POE Injector	ipTIMEPoE408	POE408 4BC00624	ipTIME	-
POE Injector adapter	ANY480A5C-NI	N/A	Wwnedng Any Electronics Co.,Ltd	-
ALARM JIG #1	N/A	N/A	N/A	-
ALARM JIG #2	N/A	N/A	N/A	-
Earphone	N/A	N/A	N/A	-
USB Memory Stick	Cruzer Blade 8GB	N/A	SanDisk	2 EA
IP Camera #1	LND-6032R	ZNDJ6V4M 90000CM	HANWHA TECHWIN CO.,LTD.	-
IP Camera #2	LND-6022R	ZNDE6V4M 90000EV	HANWHA TECHWIN CO.,LTD.	-

Cable List					
From		To		Length (m)	Shielding
Type	I/O Port	Type	I/O Port		
EUT	AC IN #1	AC POWER SOURCE	3 PIN AC LINE	1.0	NO
EUT	AC IN #2	AC POWER SOURCE	3 PIN AC LINE	1.0	NO
EUT	USB #1	MOUSE	-	1.0	NO
EUT	USB #2	KEY BOARD	-	1.0	NO
EUT	USB #3	USB MEMORY STICK #1	-	-	NO
EUT	USB #4	USB MEMORY STICK #2	-	-	NO
EUT	HDMI #1	MONITOR #1	HDMI	1.0	YES
EUT	HDMI #2	MONITOR #2	HDMI	1.0	YES
EUT	NETWORK #1	POE INJECTOR	LAN #1	3.0	NO
EUT	NETWORK #2	NOTEBOOK	LAN	3.0	NO
EUT	NETWORK #3	POE INJECTOR	LAN #2	3.0	NO
EUT	AUDIO OUT	EAR PHONE	-	1.0	NO
EUT	ALARM IN	ALARM ZIG #1	-	1.0	NO
EUT	ALARM OUT	ALARM ZIG #2	-	1.0	NO
EUT	GROUND	GROUND	GROUND	1.4	NO
POE INJECTOR	DC IN	POE INJECTOR ADAPTER	DC OUT	1.0	NO
POE INJECTOR ADAPTER	AC IN	AC POWER SOURCE	2 PIN AC LINE	1.0	NO
MONITOR #1	AC IN	AC POWER SOURCE	3 PIN AC LINE	1.0	NO
MONITOR #2	AC IN	AC POWER SOURCE	3 PIN AC LINE	1.0	NO
POE INJECTOR	POE #1	IP CAMERA #1	LAN	1.0	NO
POE INJECTOR	POE #2	IP CAMERA #2	LAN	1.0	NO

3. Test Report

3.1 Summary of tests

Parameter	Applied Standard	Status
I. Emission		
Conducted Emissions	VCCI-CISPR 32:2016	C
Conducted Emissions at telecommunication ports	VCCI-CISPR 32:2016	C
Radiated Emissions	VCCI-CISPR 32:2016	C
Radiated Emissions at above 1 GHz	VCCI-CISPR 32:2016	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

4. EMISSION

4.1 Conducted Emissions

Definition:

The test assesses the ability of the EUT to limit its internal noise from being present on the AC mains Power In/Output/Telecommunication ports.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	: VCCI-CISPR 32:2016
Measurement Frequency range	: 150 kHz - 30 MHz
Measurement RBW	: 9 kHz
Test Location	: Shielded Room
Test mode	: Operating mode
Result	: Complies

Measurement Data:

- Refer to the Next page (Maximum emission configuration)

A sample calculation:

COR. F (correction factor)= LISN Insertion loss + Cable loss + Pulse Limiter Factor

Emission Level= meter reading + COR.F

Limits for Conducted Emissions at the mains ports of class A ITE

Frequency Range	Quasi-peak	Average
(0.15 - 0.5) MHz	79 dB μ V	66 dB μ V
(0.5 – 30) MHz	73 dB μ V	60 dB μ V

Note: The limits will decrease with the frequency logarithmically within 0.15MHz to 0.5MHz

Limits for Conducted Emissions at the mains ports of class B ITE

Frequency Range	Quasi-peak	Average
(0.15 – 0.5) MHz	(66 – 56) dB μ V	(56 - 46) dB μ V
(0.5 – 5) MHz	56 dB μ V	46 dB μ V
(5 – 30) MHz	60 dB μ V	50 dB μ V

Note: The limits will decrease with the frequency logarithmically within 0.15 MHz to 0.5 MHz

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15 MHz to 30 MHz for class A equipment

Frequency Range	Voltage limits		Current limits	
	Quasi-peak	Average	Quasi-peak	Average
(0.15 - 0.5) MHz	(97 – 87) dB μ V	(84 – 74) dB μ V	(53 – 43) dB μ V	(40 – 30) dB μ V
(0.5 – 30) MHz	87 dB μ V	74 dB μ V	43 dB μ V	30 dB μ V

Note 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150 Ω to the telecommunication port under test (conversion factor is $20 \log_{10} 150/I = 44$ dB)

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0.15 MHz to 30 MHz for class B equipment

Frequency Range	Voltage limits		Current limits	
	Quasi-peak	Average	Quasi-peak	Average
(0.15 - 0.5) MHz	(84 – 74) dB μ V	(74 – 64) dB μ V	(40 – 30) dB μ V	(30 – 20) dB μ V
(0.5 – 30) MHz	74 dB μ V	64 dB μ V	30 dB μ V	20 dB μ V

Note 1: The limits decrease linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

Note 2: The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150 Ω to the telecommunication port under test (conversion factor is $20 \log_{10} 150/I = 44$ dB)

Conducted Emissions (LINE) / 50 Hz / #1



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Project No. : 230831-0147

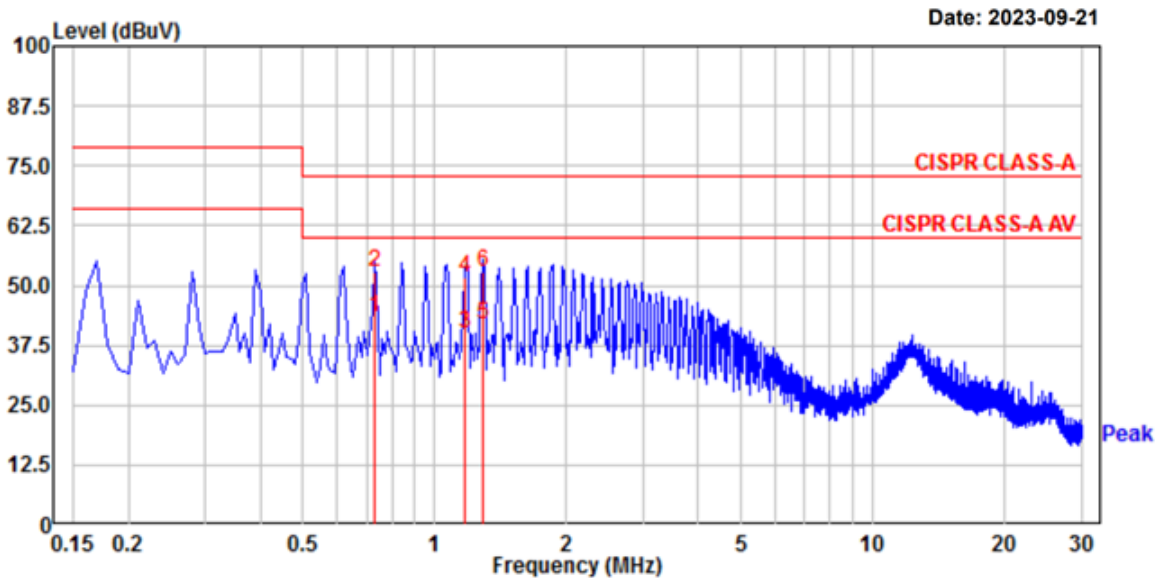
Phase : Line #1

Test Mode : Operating

Test Power : AC 100 V / 50 Hz

Temp./ Humi. : 23 'C / 55 % R.H.

Test Engineer : HAN M S



No.	Freq MHz	RD QP dBμV	RD AV dBμV	C.F dB	Result QP dBμV	Result AV dBμV	Limit QP dBμV	Limit AV dBμV	Margin QP dB	Margin AV dB	Phase
2.	0.733	33.43	23.87	19.45	52.88	43.32	73.00	60.00	20.12	16.68	Line
4.	1.174	32.29	20.55	19.47	51.76	40.02	73.00	60.00	21.24	19.98	Line
6.	1.289	33.45	22.28	19.48	52.93	41.76	73.00	60.00	20.07	18.24	Line

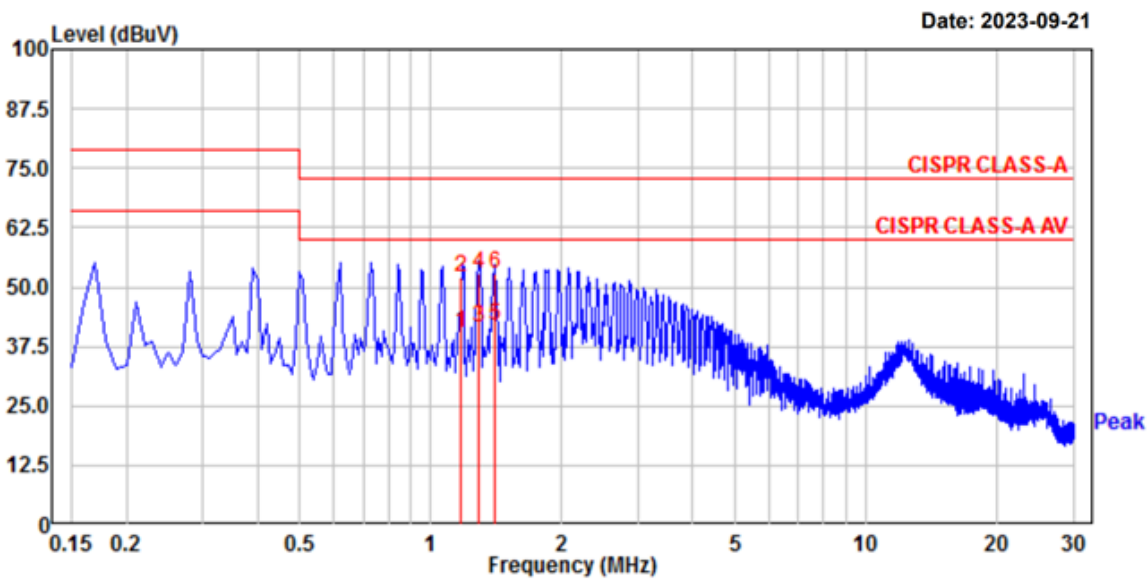
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (NEUTRAL) / 50 Hz / #1



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Project No.	: 230831-0147	Phase	: Neutral #1
Test Mode	: Operating	Test Power	: AC 100 V / 50 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBuV	RD AV dBuV	C.F dB	Result QP dBuV	Result AV dBuV	Limit QP dBuV	Limit AV dBuV	Margin QP dB	Margin AV dB	Phase
2.	1.174	32.70	20.91	19.47	52.17	40.38	73.00	60.00	20.83	19.62	neutral
4.	1.288	33.25	21.90	19.48	52.73	41.38	73.00	60.00	20.27	18.62	neutral
6.	1.404	33.36	22.22	19.48	52.84	41.70	73.00	60.00	20.16	18.30	neutral

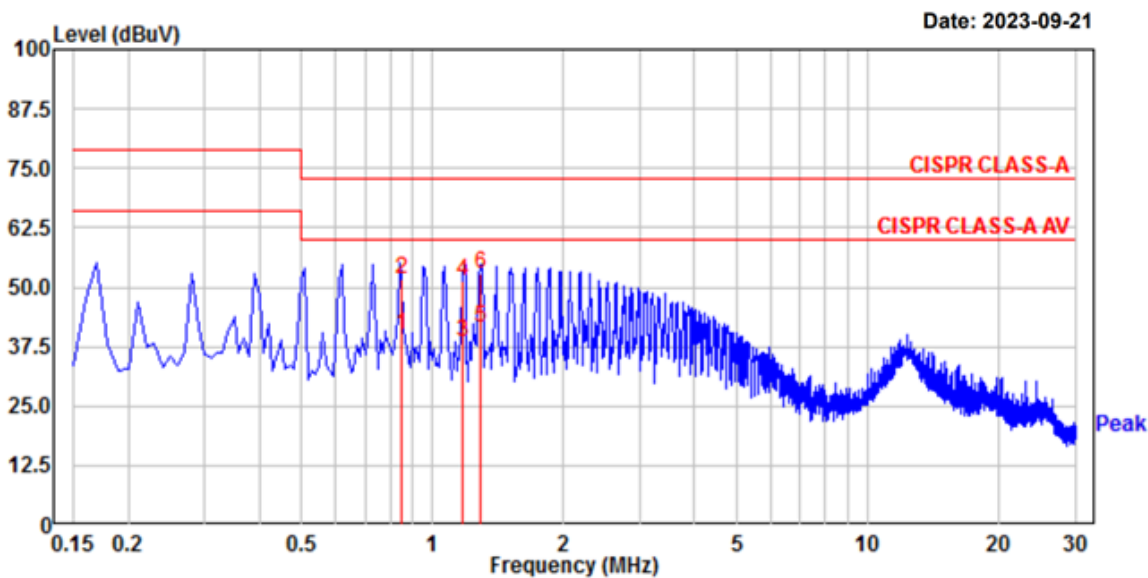
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (LINE) / 50 Hz / #2



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Project No.	: 230831-0147	Phase	: Line #2
Test Mode	: Operating	Test Power	: AC 100 V / 50 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBμV	RD AV dBμV	C.F dB	Result QP dBμV	Result AV dBμV	Limit QP dBμV	Limit AV dBμV	Margin QP dB	Margin AV dB	Phase
2.	0.848	32.24	20.38	19.47	51.71	39.85	73.00	60.00	21.29	20.15	Line
4.	1.172	31.77	19.14	19.47	51.24	38.61	73.00	60.00	21.76	21.39	Line
6.	1.288	33.29	21.92	19.48	52.77	41.40	73.00	60.00	20.23	18.60	Line

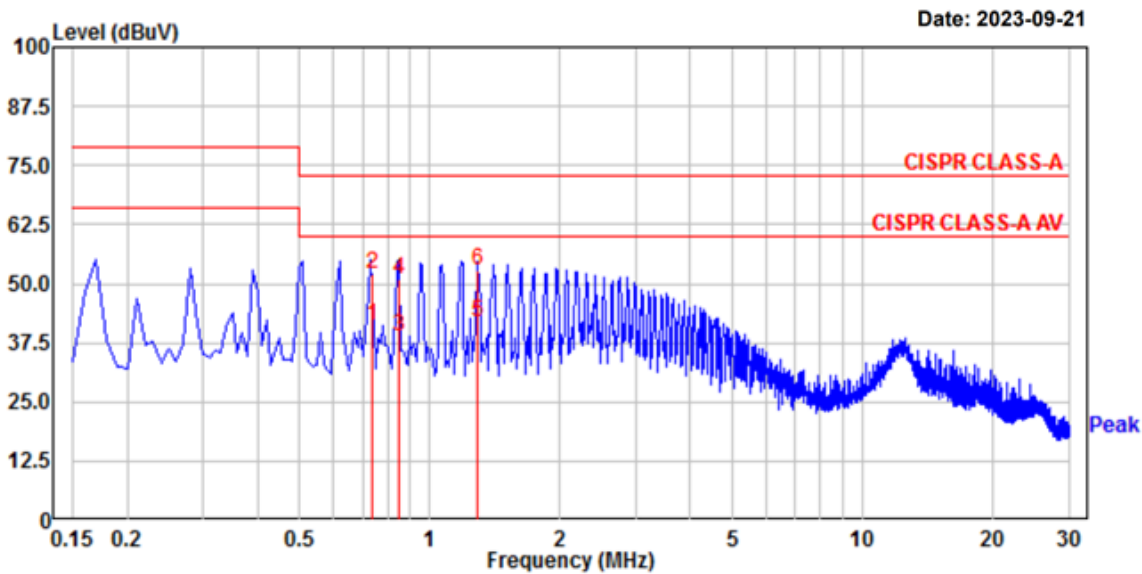
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (NEUTRAL) / 50 Hz / #2



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Project No.	: 230831-0147	Phase	: Neutral #2
Test Mode	: Operating	Test Power	: AC 100 V / 50 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBμV	RD AV dBμV	C.F dB	Result QP dBμV	Result AV dBμV	Limit QP dBμV	Limit AV dBμV	Margin QP dB	Margin AV dB	Phase
2.	0.735	32.64	21.74	19.45	52.09	41.19	73.00	60.00	20.91	18.81	neutral
4.	0.849	31.59	19.26	19.47	51.06	38.73	73.00	60.00	21.94	21.27	neutral
6.	1.289	33.40	22.29	19.48	52.88	41.77	73.00	60.00	20.12	18.23	neutral

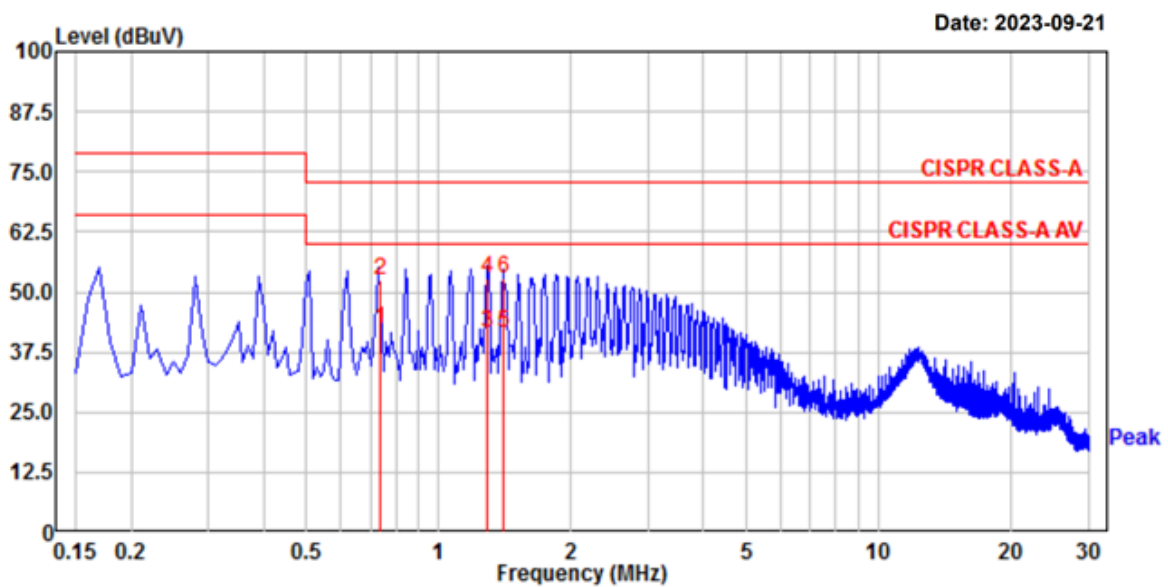
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (LINE) / 60 Hz / #1



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Project No.	: 230831-0147	Phase	: Line #1
Test Mode	: Operating	Test Power	: AC 100 V / 60 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBμV	RD AV dBμV	C.F dB	Result QP dBμV	Result AV dBμV	Limit QP dBμV	Limit AV dBμV	Margin QP dB	Margin AV dB	Phase
2.	0.734	33.11	22.98	19.45	52.56	42.43	73.00	60.00	20.44	17.57	Line
4.	1.288	33.25	21.86	19.48	52.73	41.34	73.00	60.00	20.27	18.66	Line
6.	1.404	33.27	22.21	19.48	52.75	41.69	73.00	60.00	20.25	18.31	Line

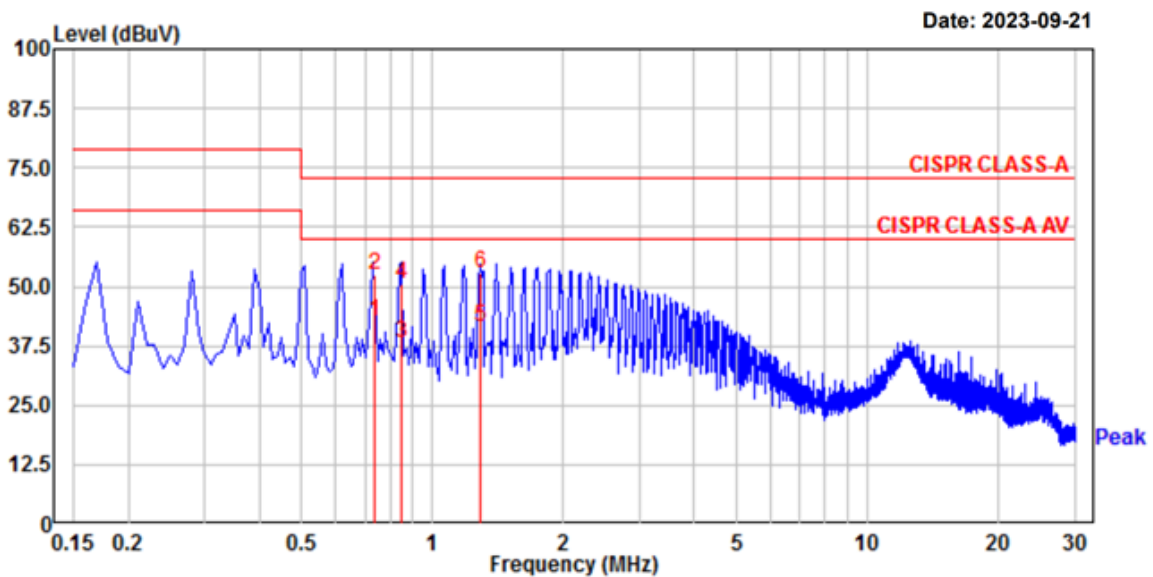
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (NEUTRAL) / 60 Hz / #1



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Project No.	: 230831-0147	Phase	: Neutral #1
Test Mode	: Operating	Test Power	: AC 100 V / 60 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBuV	RD AV dBuV	C.F dB	Result QP dBuV	Result AV dBuV	Limit QP dBuV	Limit AV dBuV	Margin QP dB	Margin AV dB	Phase
2.	0.734	33.18	23.14	19.45	52.63	42.59	73.00	60.00	20.37	17.41	neutral
4.	0.850	31.13	18.51	19.47	50.60	37.98	73.00	60.00	22.40	22.02	neutral
6.	1.289	33.40	22.14	19.48	52.88	41.62	73.00	60.00	20.12	18.38	neutral

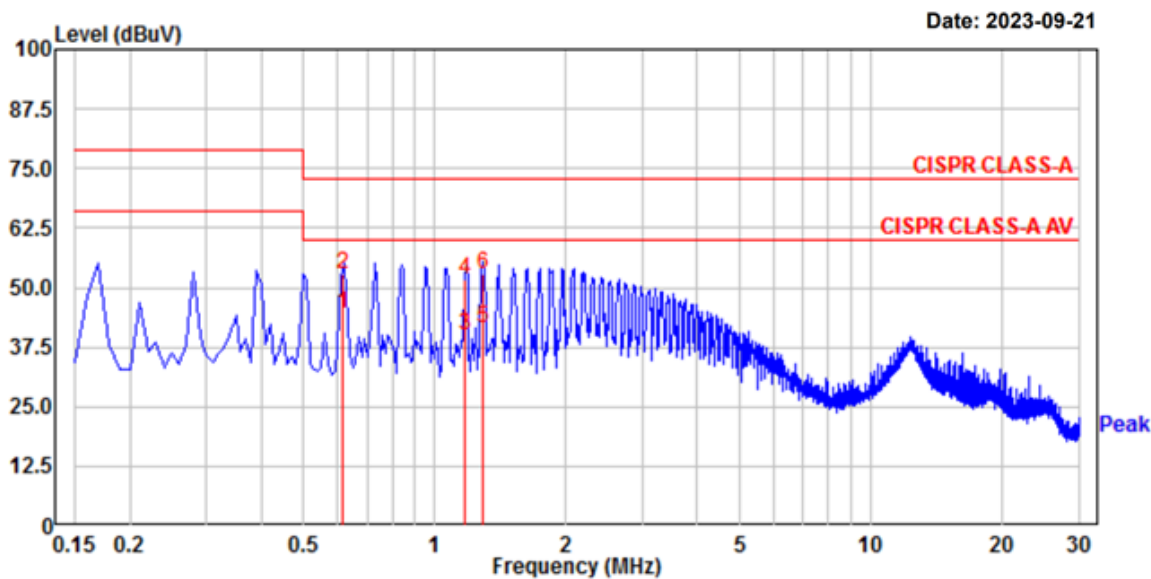
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (LINE) / 60 Hz / #2



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Project No.	: 230831-0147	Phase	: Line #2
Test Mode	: Operating	Test Power	: AC 100 V / 60 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBμV	RD AV dBμV	C.F dB	Result QP dBμV	Result AV dBμV	Limit QP dBμV	Limit AV dBμV	Margin QP dB	Margin AV dB	Phase
2.	0.615	33.53	24.92	19.45	52.98	44.37	73.00	60.00	20.02	15.63	Line
4.	1.174	32.33	20.59	19.47	51.80	40.06	73.00	60.00	21.20	19.94	Line
6.	1.288	33.30	21.98	19.48	52.78	41.46	73.00	60.00	20.22	18.54	Line

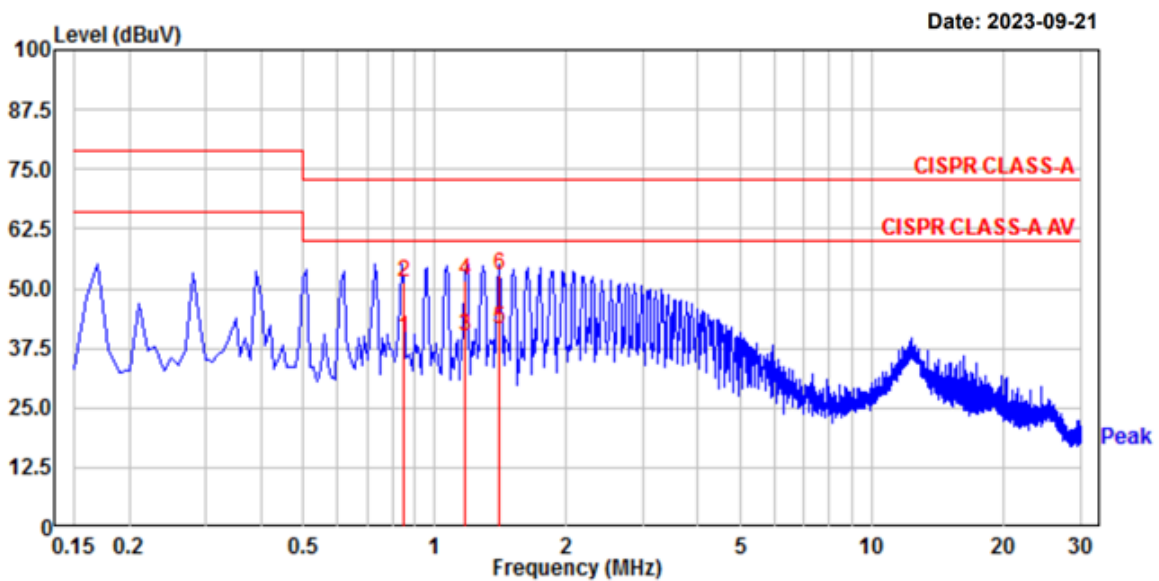
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (NEUTRAL) / 60 Hz / #2



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Project No.	: 230831-0147	Phase	: Neutral #2
Test Mode	: Operating	Test Power	: AC 100 V / 60 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBμV	RD AV dBμV	C.F dB	Result QP dBμV	Result AV dBμV	Limit QP dBμV	Limit AV dBμV	Margin QP dB	Margin AV dB	Phase
2.	0.848	31.90	20.23	19.47	51.37	39.70	73.00	60.00	21.63	20.30	neutral
4.	1.173	32.31	20.52	19.47	51.78	39.99	73.00	60.00	21.22	20.01	neutral
6.	1.402	33.25	22.12	19.48	52.73	41.60	73.00	60.00	20.27	18.40	neutral

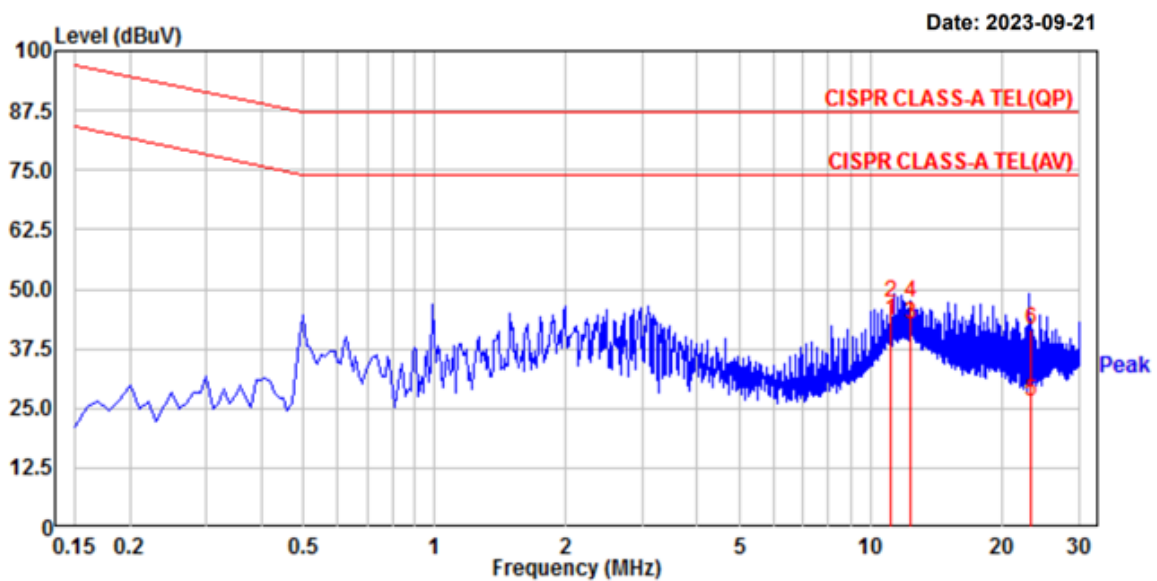
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (TEL_1000 M #1)



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Project No.	: 230831-0147	Phase	: TEL_1000M #1
Test Mode	: Operating	Test Power	: AC 220 V / 60 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBuV	RD AV dBuV	C.F dB	Result QP dBuV	Result AV dBuV	Limit QP dBuV	Limit AV dBuV	Margin QP dB	Margin AV dB	Phase
2.	11.075	27.61	23.84	19.44	47.05	43.28	87.00	74.00	39.95	30.72	Line
4.	12.326	27.61	23.25	19.46	47.07	42.71	87.00	74.00	39.93	31.29	Line
6.	23.326	22.02	6.63	19.66	41.68	26.29	87.00	74.00	45.32	47.71	Line

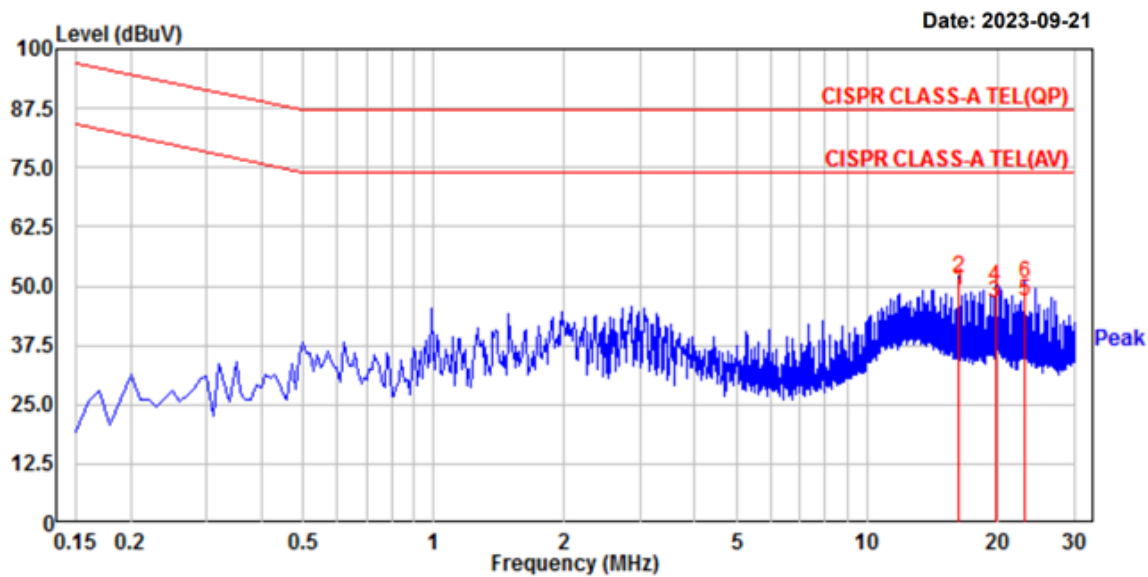
Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

Conducted Emissions (TEL_1000 M #2)



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Project No.	: 230831-0147	Phase	: TEL_1000M #2
Test Mode	: Operating	Test Power	: AC 220 V / 60 Hz
Temp./ Humi.	: 23 'C / 55 % R.H.	Test Engineer	: HAN M S



No.	Freq MHz	RD QP dBuV	RD AV dBuV	C.F dB	Result QP dBuV	Result AV dBuV	Limit QP dBuV	Limit AV dBuV	Margin QP dB	Margin AV dB	Phase
2.	16.228	32.10	29.50	19.54	51.64	49.04	87.00	74.00	35.36	24.96	Line
4.	19.709	30.35	26.63	19.60	49.95	46.23	87.00	74.00	37.05	27.77	Line
6.	23.129	30.84	27.05	19.66	50.50	46.71	87.00	74.00	36.50	27.29	Line

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss + Pulse Limiter

4.2 Radiated Emissions

Definition:

The test assesses the ability of ancillary equipment to limit their internal noise from being radiated from the enclosure.

We were performed the test according to LTA procedure LTA-QI-04.

Test method	: VCCI-CISPR 32:2016
Measuring Distance	: 10 m below 1 GHz / 3 m above 1 GHz
Measurement Frequency range	: 30 MHz – 6 000 MHz
Measurement RBW	: 120 kHz @ 10 m / 1 MHz @ 3 m
Test Location	: 10 m Chamber
Test mode	: Operating mode
Result	: Complies

Measurement Data:

- Refer to the Next page (Maximum emission configuration)
- The highest internal source of an EUT is higher than 108 MHz, the measurement shall only be made up to 6 GHz.

A sample calculation:

$COR.F \text{ (correction factor)} = \text{Antenna factor} + \text{Cable loss} - \text{Amp.gain} - \text{Distance correction}$

$\text{Emission Level} = \text{meter reading} + COR.F$

Limit of 10 m below 1 GHz

CLASS A

Frequency Range	Quasi-peak
(30 – 230) MHz	40 dB μ V/m
(230 – 1 000) MHz	47 dB μ V/m

CLASS B

Frequency Range	Quasi-peak
(30 – 230) MHz	30 dB μ V/m
(230 – 1 000) MHz	37 dB μ V/m

Limit of 3m above 1 GHz

CLASS A

Frequency Range	Average Limit @ 3m (dB μ V/m)	Peak limit @ 3m (dB μ V/m)
(1 000 – 3 000) MHz	56	76
(3 000 – 6 000) MHz	60	80

NOTE: The lower limit applies at the transition frequency.

CLASS B

Frequency Range	Average Limit @ 3m (dB μ V/m)	Peak limit @ 3m (dB μ V/m)
(1 000 – 3 000) MHz	50	70
(3 000 – 6 000) MHz	54	74

NOTE: The lower limit applies at the transition frequency.

Radiated Emissions (Below 1 GHz) / H / 50 Hz



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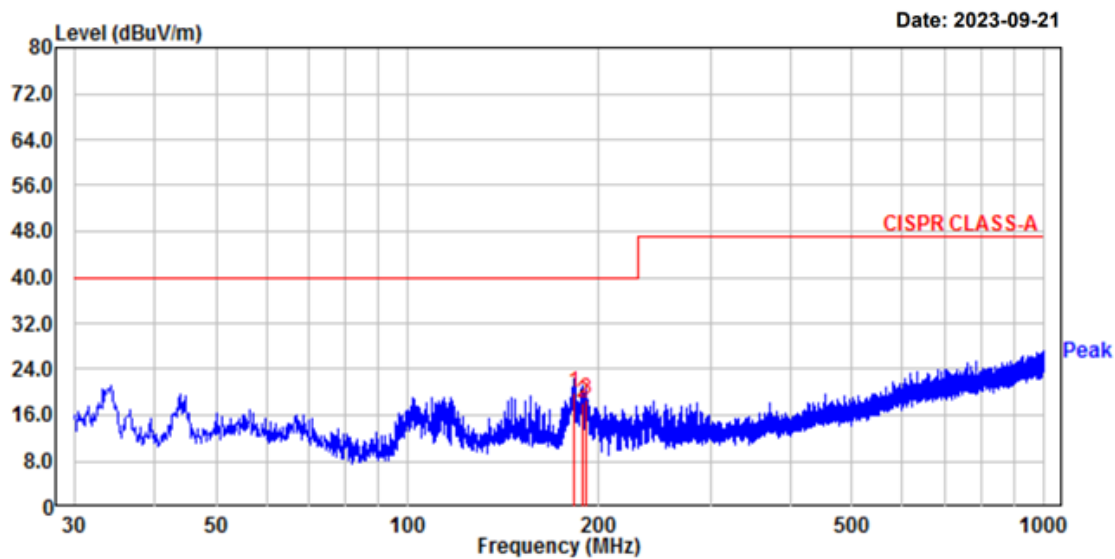
Project No. : 230831-0147

Temp/Humi: 21 'C / 53 % R.H.

Test Mode : Operating

Tested by: HAN M S

Power : AC 100 V / 50 Hz



No.	Freq MHz	Reading dBμV	C.F dB	Result QP dBμV/m	Limit dBμV/m	Margin dB	Height cm	Angle deg	Polarity
1.	182.41	32.60	-12.60	20.00	40.00	20.00	250	80	horizontal
2.	188.35	31.41	-13.15	18.26	40.00	21.74	120	20	horizontal
3.	190.90	31.90	-13.28	18.62	40.00	21.38	300	5	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emissions (Below 1 GHz) / V / 50 Hz



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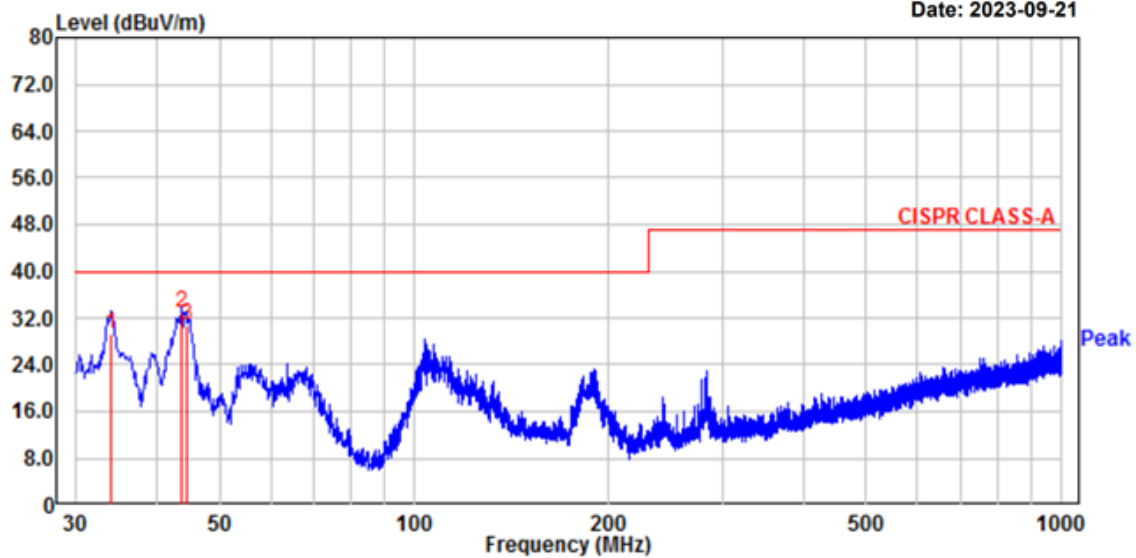
Temp/Humi: 21 'C / 53 % R.H.

Test Mode : Operating

Tested by: HAN M S

Power : AC 100 V / 50 Hz

Date: 2023-09-21



No.	Freq MHz	Reading dBμV	C.F dB	Result QP dBμV/m	Limit dBμV/m	Margin dB	Height cm	Angle deg	Polarity
1.	34.00	42.50	-13.22	29.28	40.00	10.72	100	186	vertical
2.	43.70	44.98	-11.99	32.99	40.00	7.01	220	5	vertical
3.	44.43	42.80	-11.94	30.86	40.00	9.14	310	10	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emissions (Below 1 GHz) / H / 60 Hz



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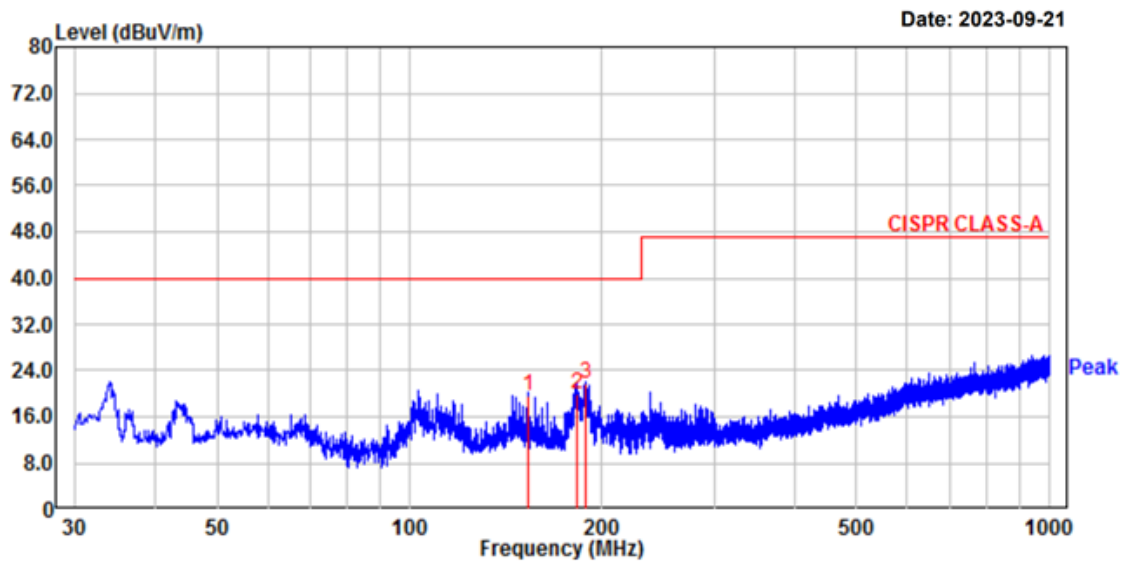
Project No. : 230831-0147

Temp/Humi: 21 'C / 53 % R.H.

Test Mode : Operating

Tested by: HAN M S

Power : AC 100 V / 60 Hz



No.	Freq MHz	Reading dBμV	C.F dB	Result QP dBμV/m	Limit dBμV/m	Margin dB	Height cm	Angle deg	Polarity
1.	153.68	30.50	-10.87	19.63	40.00	20.37	150	312	horizontal
2.	182.29	32.61	-12.60	20.01	40.00	19.99	400	239	horizontal
3.	188.96	34.80	-13.20	21.60	40.00	18.40	310	223	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emissions (Below 1 GHz) / V / 60 Hz



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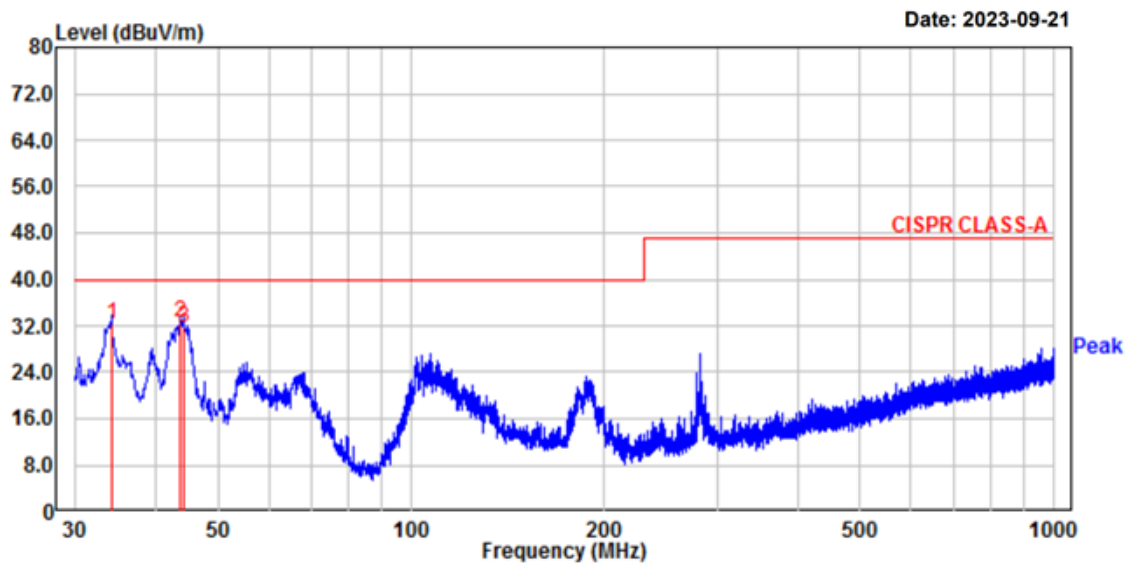
Project No. : 230831-0147

Temp/Humi: 21 'C / 53 % R.H.

Test Mode : Operating

Tested by: HAN M S

Power : AC 100 V / 60 Hz



No.	Freq MHz	Reading dB μ V	C.F dB	Result QP dB μ V/m	Limit dB μ V/m	Margin dB	Height cm	Angle deg	Polarity
1.	34.12	45.50	-13.20	32.30	40.00	7.70	334	360	vertical
2.	43.70	44.60	-11.99	32.61	40.00	7.39	250	80	vertical
3.	44.19	43.70	-11.95	31.75	40.00	8.25	400	259	vertical

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Radiated Emissions (Above 1 GHz) / H / 50 Hz



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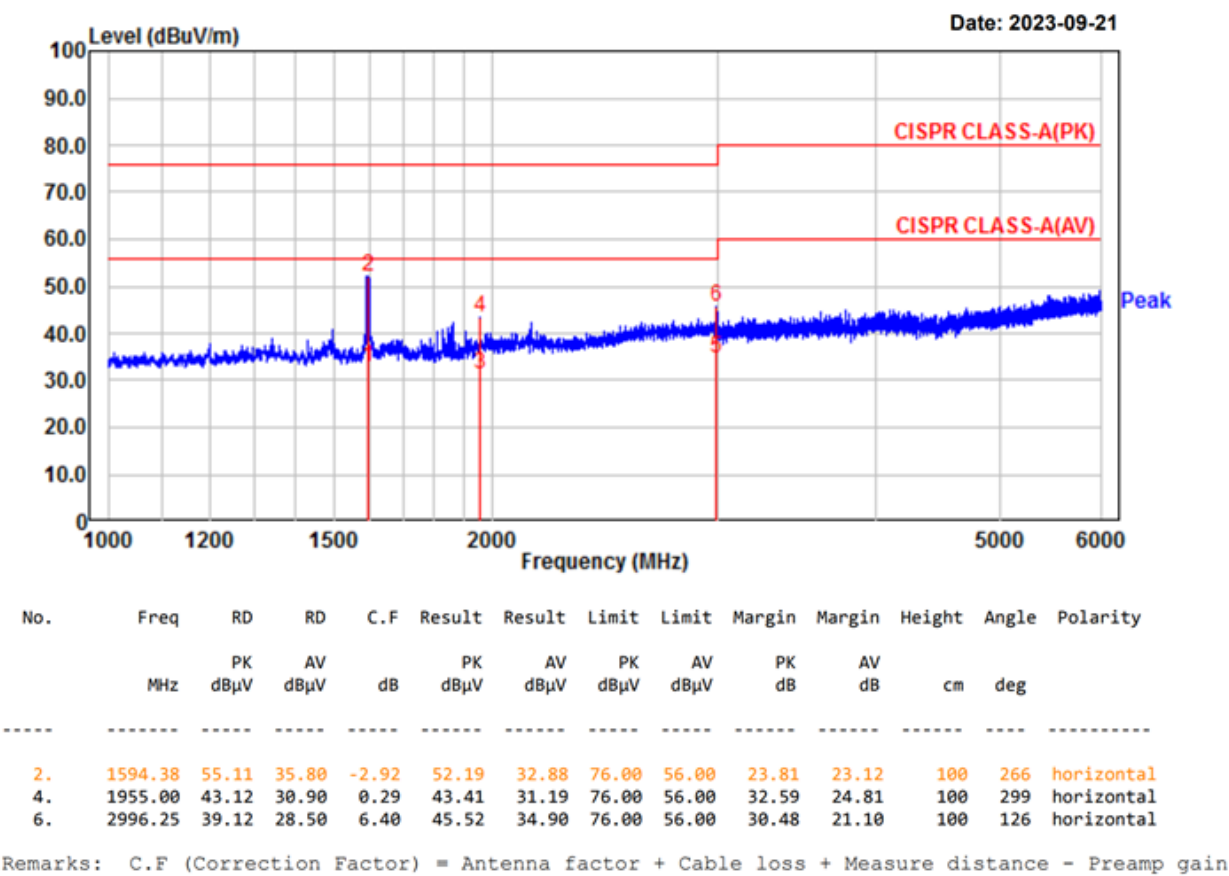
Temp/Humi: 21 'C / 53 % R.H.

Test Mode : Operating

Tested by: HAN M S

Power : AC 100 V / 60 Hz

Measure distance : 3.8 m

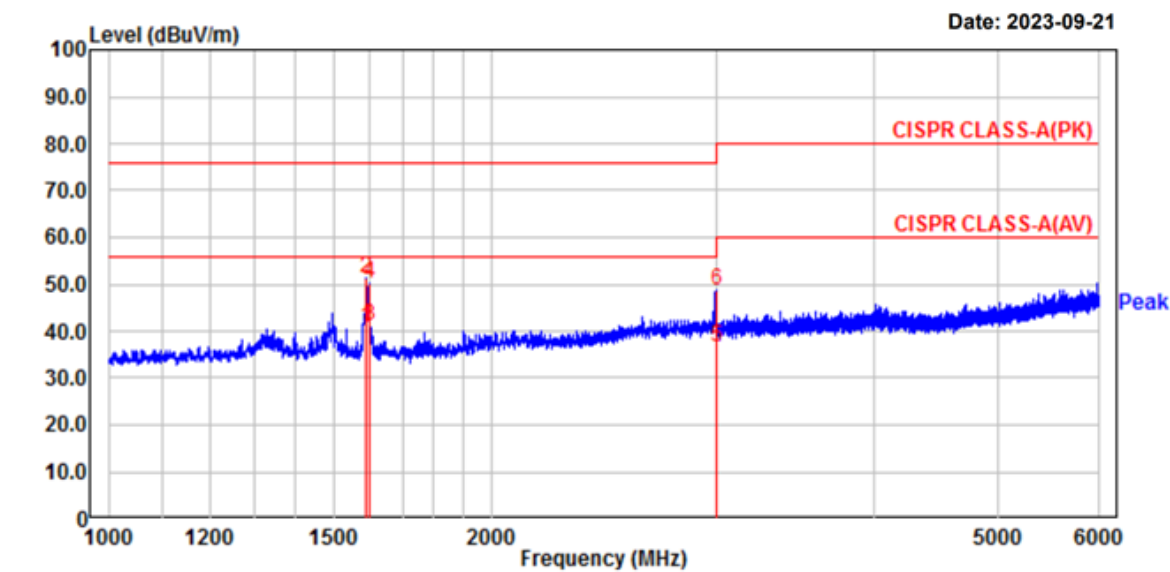


Radiated Emissions (Above 1 GHz) / V / 50 Hz



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Project No.	: 230831-0147	Temp/Humi:	21 'C / 53 % R.H.
Test Mode	: Operating	Tested by:	HAN M S
Power	: AC 100 V / 60 Hz	Measure distance :	3.8 m



No.	Freq	RD	RD	C.F	Result	Result	Limit	Limit	Margin	Margin	Height	Angle	Polarity
	MHz	PK	AV	dB	PK	AV	PK	AV	PK	AV	cm	deg	
2.	1593.13	54.24	43.79	-2.92	51.32	40.87	76.00	56.00	24.68	15.13	100	295	vertical
4.	1599.38	53.07	43.90	-2.92	50.15	40.98	76.00	56.00	25.85	15.02	100	295	vertical
6.	2999.38	42.09	30.20	6.41	48.50	36.61	76.00	56.00	27.50	19.39	100	276	vertical

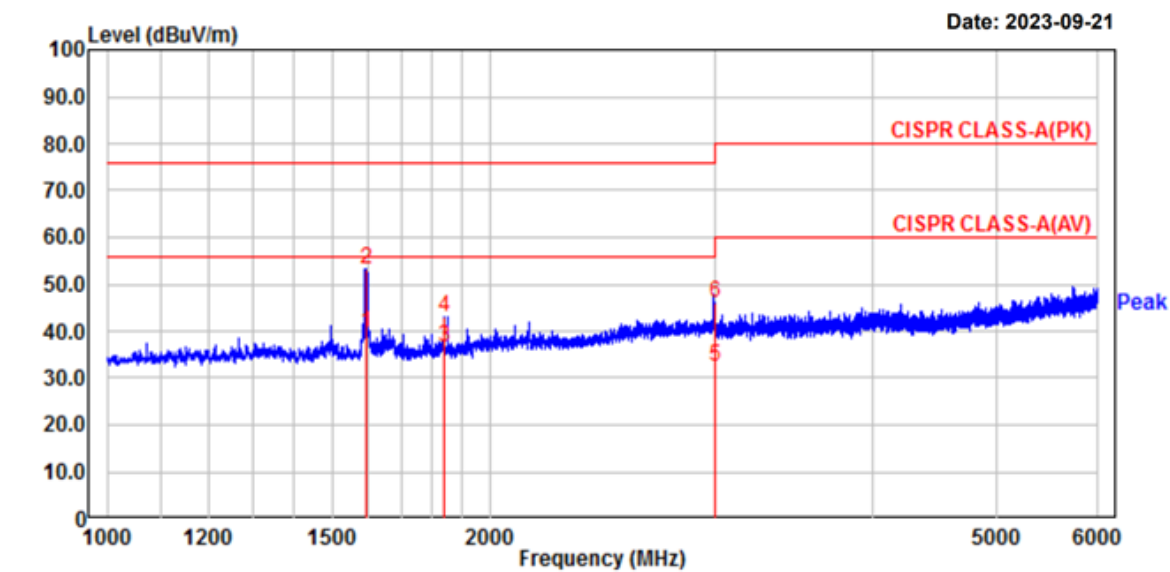
Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

Radiated Emissions (Above 1 GHz) / H / 60 Hz



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Project No.	: 230831-0147	Temp/Humi:	21 'C / 53 % R.H.
Test Mode	: Operating	Tested by:	HAN M S
Power	: AC 100 V / 50 Hz	Measure distance :	3.8 m



No.	Freq	RD	RD	C.F	Result	Result	Limit	Limit	Margin	Margin	Height	Angle	Polarity
	MHz	PK	AV	dB	PK	AV	PK	AV	PK	AV	cm	deg	
2.	1594.38	56.11	42.50	-2.92	53.19	39.58	76.00	56.00	22.81	16.42	100	261	horizontal
4.	1840.00	44.93	38.50	-1.73	43.20	36.77	76.00	56.00	32.80	19.23	100	220	horizontal
6.	2998.75	39.61	25.90	6.41	46.02	32.31	76.00	56.00	29.98	23.69	100	120	horizontal

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss + Measure distance - Preamp gain

Radiated Emissions (Above 1 GHz) / V / 60 Hz



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Project No. : 230831-0147

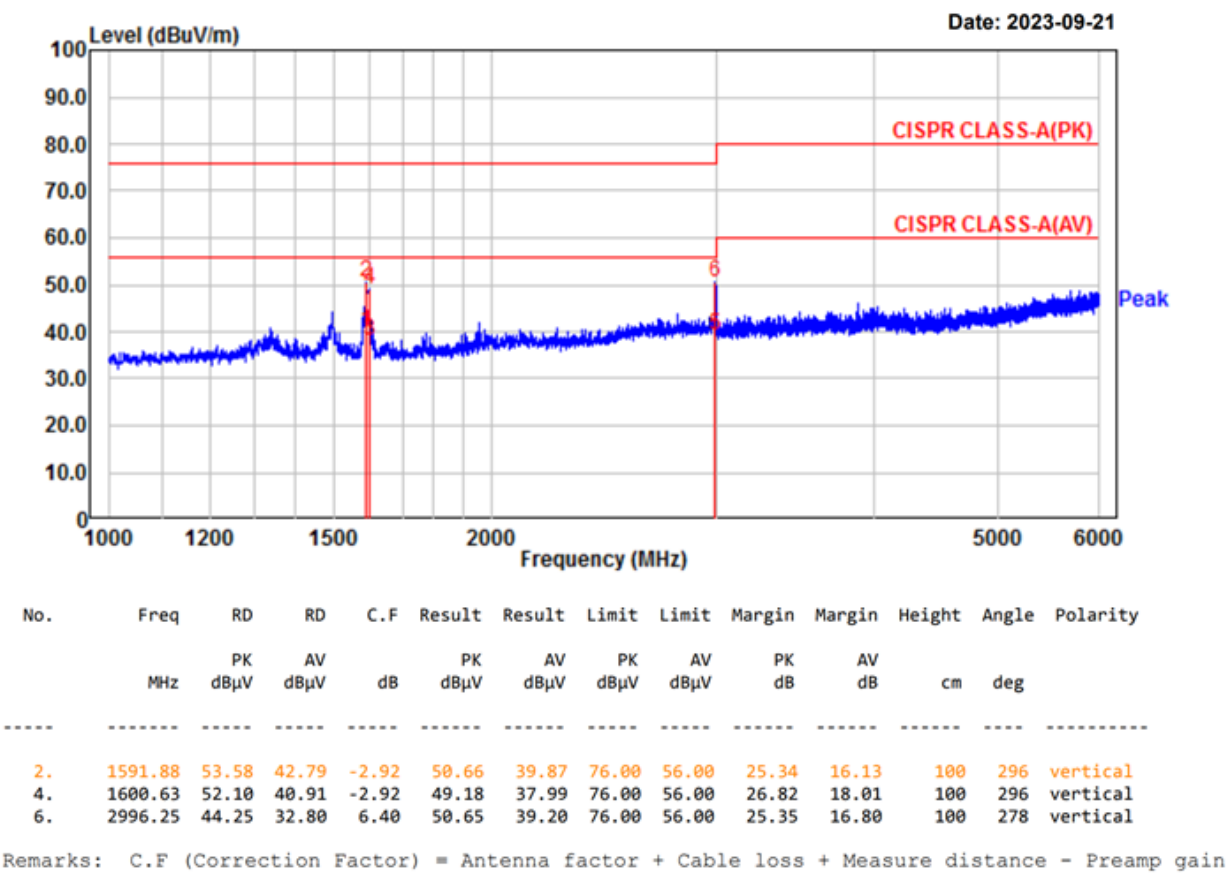
Temp/Humi: 21 'C / 53 % R.H.

Test Mode : Operating

Tested by: HAN M S

Power : AC 100 V / 50 Hz

Measure distance : 3.8 m



APPENDIX A

TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment are identified by the Test Laboratory.

Conducted Emissions

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	EMI TEST Receiver	ESR	Rohde & Schwarz	101499	2024.03.13	1 year
☒	Pulse Limiter	ESH3-Z2	Rohde & Schwarz	100710	2024.03.13	1 year
☐	ISN	ISN T800	TESEQ	27109	2024.08.17	1 year
☒	ISN	ENY81-CA6	Rohde & Schwarz	101565	2024.08.17	1 year
☐	ISN	ISN S8	Schwarzbeck	79	2024.08.17	1 year
☐	CURRENT PROBE	EZ-17	Rohde & Schwarz	100508	2024.08.23	1 year
☐	CDN	TSCDN-C1-BNC-75	F.C.C	07004	2024.03.13	1 year
☐	LISN	ESH3-Z6	Rohde & Schwarz	100378	2024.08.22	1 year
☐	LISN	ESH3-Z6	Rohde & Schwarz	101468	2024.08.22	1 year
☒	LISN(main)	ENV216	Rohde & Schwarz	102872	2024.09.07	1 year
☒	LISN(sub)	LT32C/10	AFJ	32031518210	2024.08.22	1 year
☒	TEST PROGRAM	e3_ce 20181212a (V9)	AUDIX	-	-	-

Radiated Emissions – Below 1 GHz

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	EMI TEST Receiver	ESCI7	Rohde & Schwarz	100772	2024.08.22	1 year
☒	Amplifier	8447D	HP	1937A03453	2024.08.22	1 year
☒	BILOG Antenna	VULB 9168	SCHWARZBECK	749	2025.03.29	2 year
☒	TEST PROGRAM	e3 20181212a (V9)	AUDIX	-	-	-

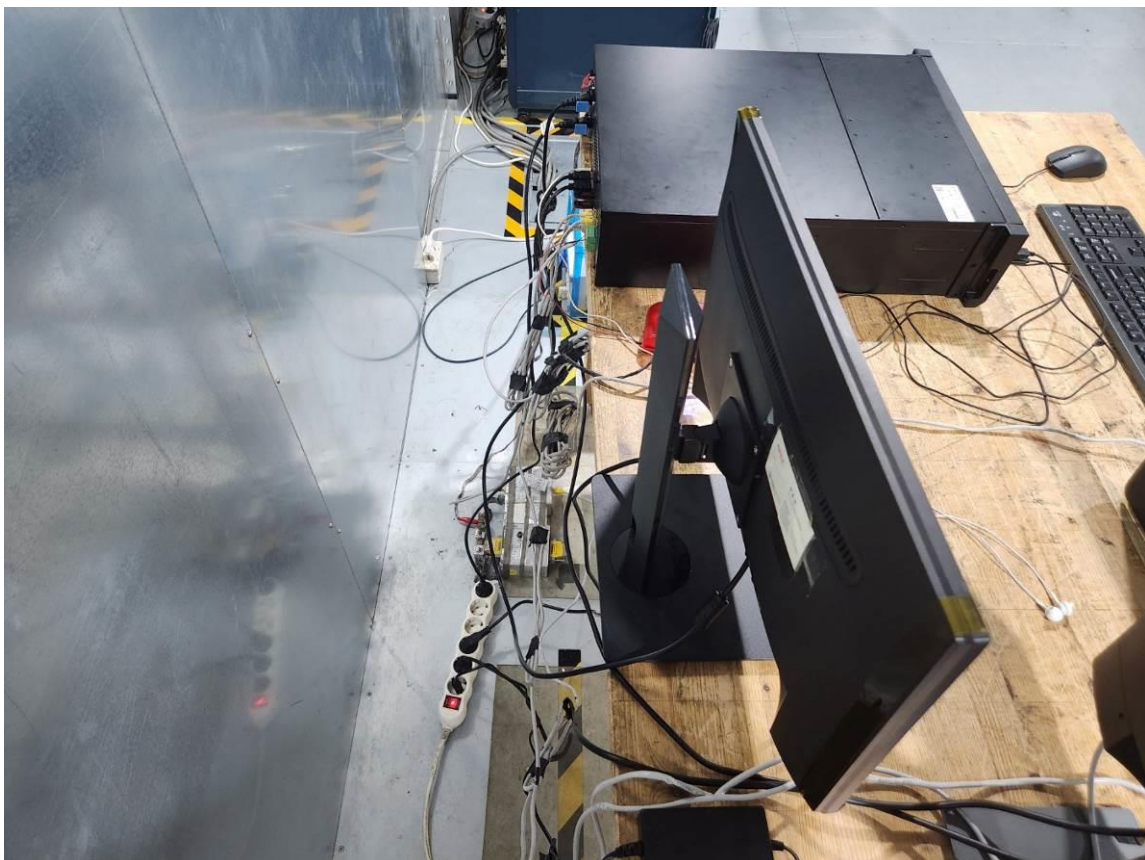
Radiated Emissions – Above 1 GHz

	Item	Model Name	Manufacturer	Serial No.	Next Cal.	Interval
☒	EMI TEST Receiver	ESCI7	Rohde & Schwarz	100772	2024.08.22	1 year
☐	EMI TEST Receiver	ESU	Rohde & Schwarz	100092	2024.08.22	1 year
☒	Amplifier	8449B	Agilent	3008A02126	2024.03.14	1 year
☐	Amplifier	PAM-840A	COM-POWER	461314	2024.03.15	1 year
☐	HORN ANTENNA	3116B	ETS	133350	2024.03.22	1 year
☐	HORN ANTENNA	3116B	ETS	81109	2024.04.25	1 year
☒	HORN ANTENNA	3115	ETS	114105	2024.04.20	1 year
☒	TEST PROGRAM	e3 20181212a (V9)	AUDIX	-	-	-

APPENDIX B

PHOTOGRAPHS

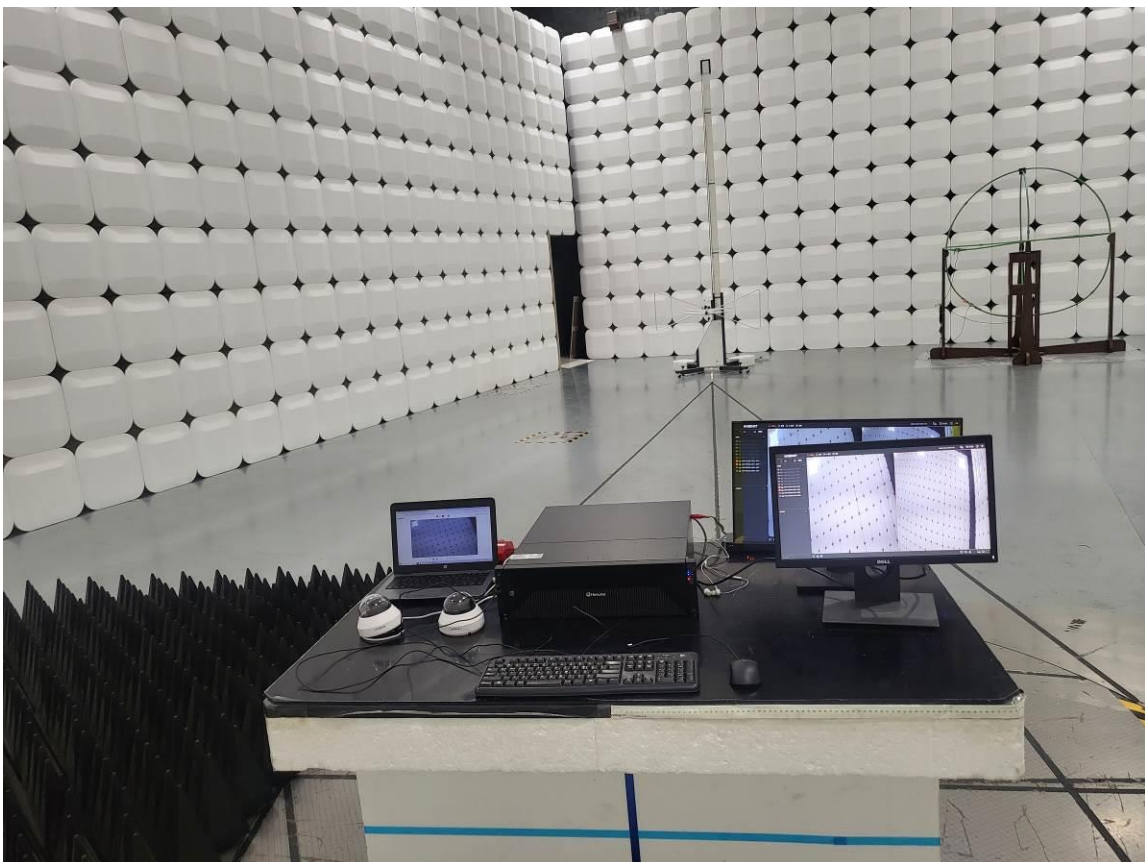
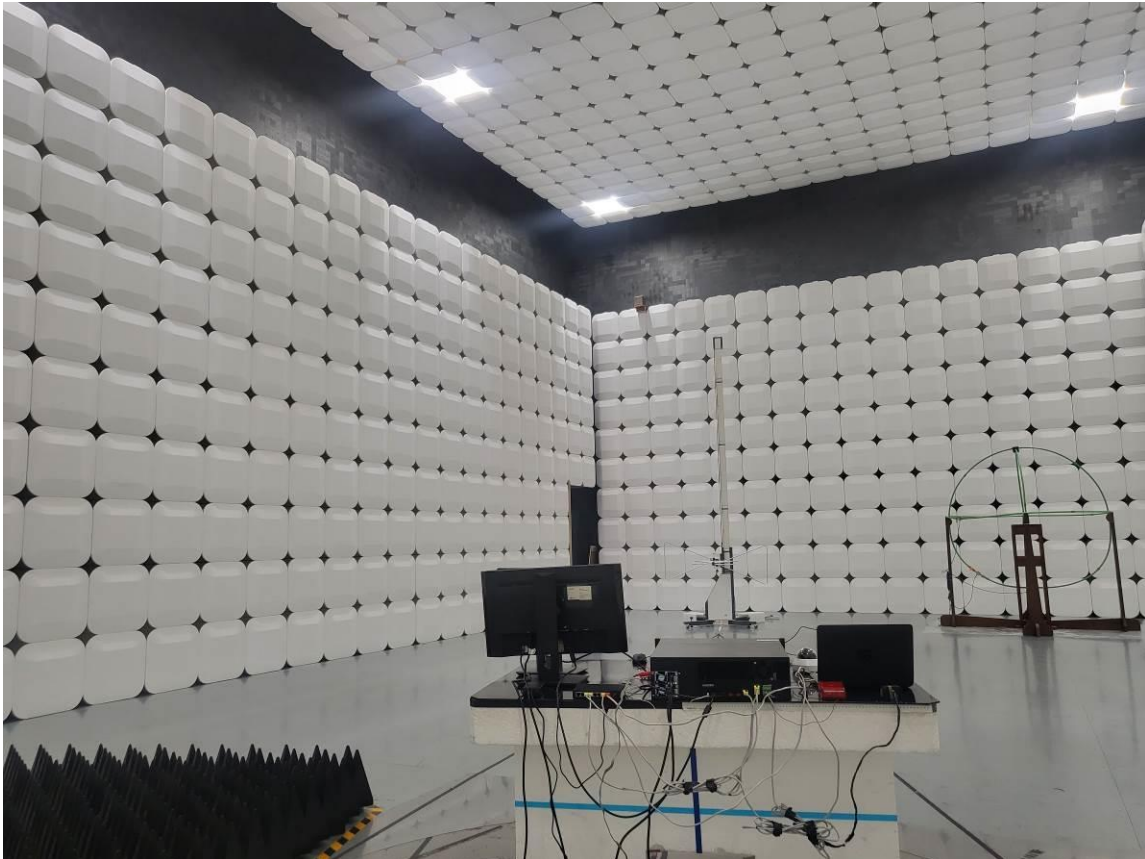
Conducted Emissions



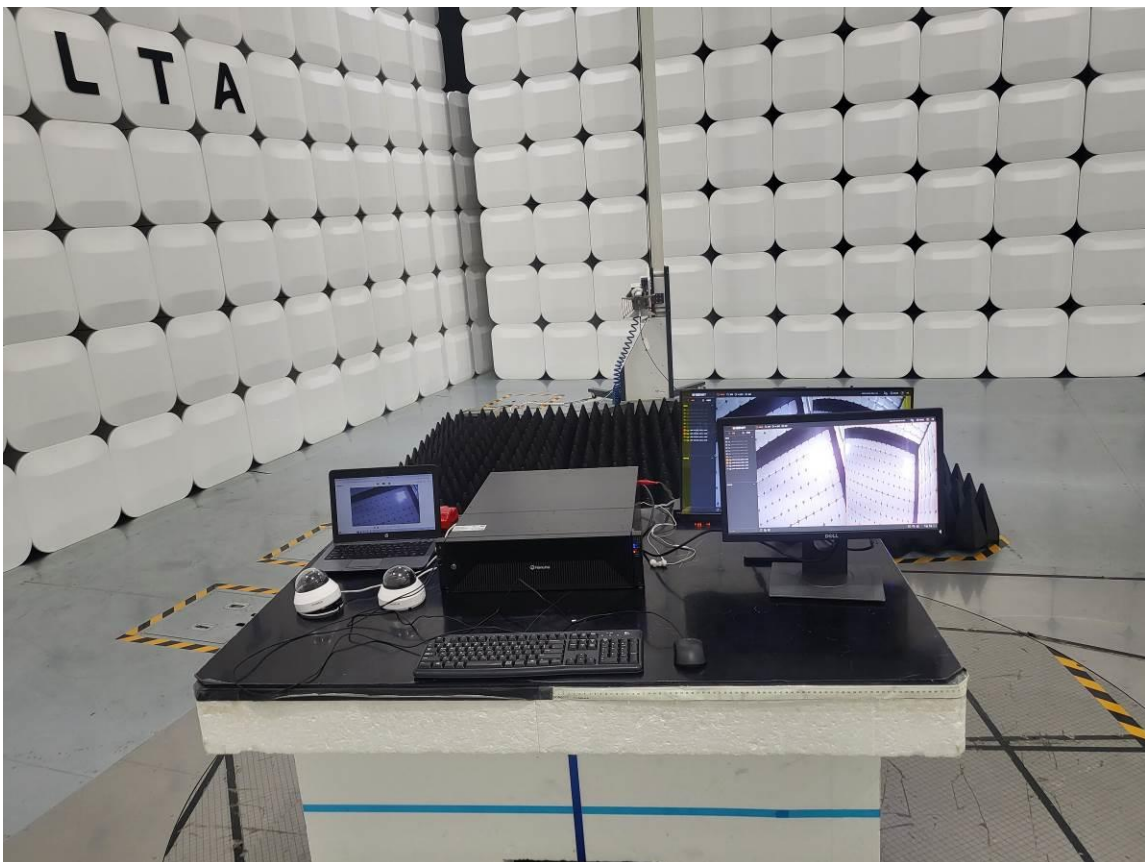
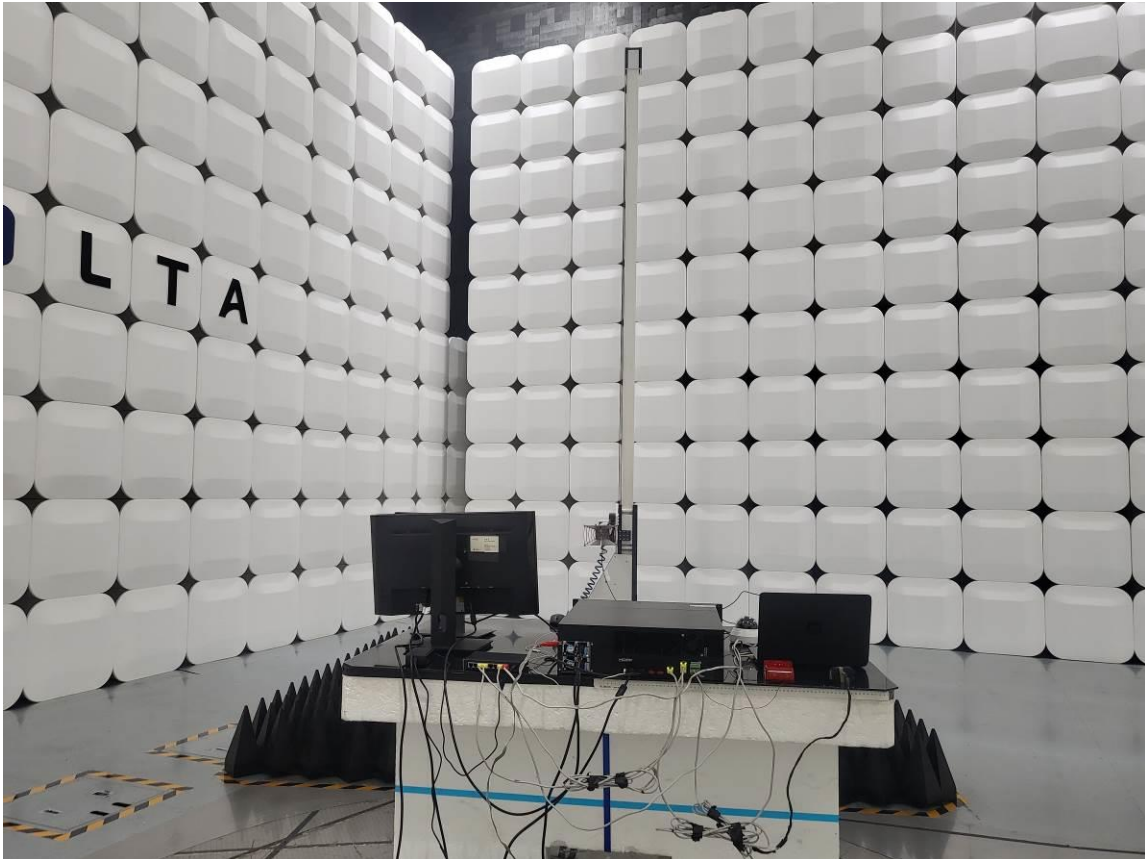
Conducted Emissions (TEL)



Radiated Emissions - Below 1 GHz



Radiated Emissions - Above 1 GHz



EUT



EUT



Modification

