

## VCCI-CISPR 32

## **TEST REPORT**

For

## **USB Flash Drive**

## MODEL NUMBER: Wafer Duo (WAD), Alloy Duo (AYD)

## REPORT NUMBER: 4791789462.1-1-EMC-3

## ISSUE DATE: June 6, 2025

Prepared for

**Flashbay Electronics** 

Building2, Jixun Industrial Park, Xinjiao, Dong'ao Village, Shatian Town, Huiyang District, Huizhou City, Guangdong Province, P.R.China

Prepared by

## UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch

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The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products.



### **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	June 6, 2025	Initial Issue	



Summary of Test Results						
Standard	Limit	Result	Remark			
VCCI-CISPR 32:2016	Conducted emissions from the AC mains power ports	Class B	Pass			
	Asymmetric mode conducted emissions	Class B	N/A	NOTE (1)		
	Radiated emissions at frequencies up to 1 GHz	Class B	Pass			
	Radiated emissions at frequencies above 1 GHz	Class B	Pass	NOTE (2)		

Note:

(1) "N/A" denotes test is not applicable in this Test Report

(2) If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz. If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz. If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.
(3) This test report is only published to and used by the applicant, and it is not for evidence purpose in China.

(4) The measurement result for the sample received is <Pass> according to < VCCI-CISPR 32:2016 > when <Simple Acceptance> decision rule is applied.



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# **1. ATTESTATION OF TEST RESULTS**

### **Applicant Information**

Company Name: Address:	Flashbay Electronics Building2, Jixun Industrial Park, Xinjiao, Dong'ao Village, Shatian Town, Huiyang District, Huizhou City, Guangdong Province, P.R.China
Manufacturer Information	
Company Name:	Flashbay Electronics
Address:	Building2, Jixun Industrial Park, Xinjiao, Dong'ao Village, Shatian Town, Huiyang District, Huizhou City, Guangdong Province, P.R.China
EUT Information	
EUT Name:	USB Flash Drive
Model:	Wafer Duo (WAD), Alloy Duo (AYD)
Brand:	/
Sample Received Date:	May 13, 2025
Sample Status:	Normal
Sample ID:	8459388-1 (Wafer Duo (WAD)), 8459388-2 (Alloy Duo (AYD))
Date of Tested:	May 13, 2025 to June 4, 2025

APPLICABLE STANDARDS				
STANDARDS TEST RESULTS				
VCCI-CISPR 32:2016	PASS			

Prepared By:

James Qin Project Engineer Kebo Zhang

Checked By:

Kebo. zhonz.

Senior Project Engineer

Approved By:

Stephen Guo Operations Manager



# 2. TEST METHODOLOGY

All tests were performed in accordance with the standard VCCI-CISPR 32:2016.

# 3. FACILITIES AND ACCREDITATION

	A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.
Accreditation Certificate	FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.
	<b>ISED (Company No.: 21320)</b> UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.

Note:

All tests measurement facilities use to collect the measurement data are located at Room 101, Building 2, No.4, Information Road, Songshan Lake, Dongguan, Guangdong, China.



# 4. CALIBRATION AND UNCERTAINTY

## 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

## 4.2. MEASUREMENT UNCERTAINTY

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

Test Item	Measurement Frequency Range	к	U(dB)		
Conducted emissions (AC mains power ports)	0.15MHz - 30MHz	2	3.63		
Radiated emissions below 1GHz	30MHz -1GHz	2	4.13		
Radiated emissions above 1GHz   1GHz - 18GHz   2   5.64					
Note1: This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of k=2.					
Note 2: According to the standard CISPR 16-4-2, the MU for the Conducted emissions from the AC mains power ports using AMN should not exceed 3.8 in range of 9kHz to 150kHz and 3.4 in range of 150kHz to 30MHz. We have considered the test results containing the value of Ulab (in dB) for the measurement instrumentation actually used for the measurements.					

# 5. EQUIPMENT UNDER TEST

## 5.1. Description of EUT

EUT Name	USB Flash Drive	
Model	Wafer Duo (WAD), Alloy Duo (AYD)	
Ratings	Input: 5 Vdc	

## 5.2. Test Mode

Test Mode	Description
Mode 1	Data transferred via USB-C port
Mode 2	Data transferred via USB-A port

## 5.3. EUT Accessory

Item	Accessory	Brand Name	Model Name	Description
/	/	/	/	/

# 5.4. SUPPORT UNITS FOR SYSTEM TEST

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Specification	Series No.
E-1	Laptop	Lenovo	Thinkpad T14 Gen 1	N/A	PF-39TXGN

The following cables were used to form a representative test configuration during the tests.

Item	Type of cable	Shielded Type	Ferrite Core	Length
١	١	١	١	١



# 6. MEASURING EQUIPMENT AND SOFTWARE USED

Test Equipment of Conducted emissions					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	101961	Sep. 28, 2024	Sep. 27, 2025
Two-Line V- Network	ROHDE & SCHWARZ	ENV216	101983	Sep. 28, 2024	Sep. 27, 2025
Artificial Mains Networks	Schwarzbeck	NSLK 8126	8126465	Sep. 28, 2024	Sep. 27, 2025
Test Software for Conducted Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment of Radiated emissions below 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Hybrid Log Periodic Antenna	TDK	HLP-3003C	130960	Jun. 28, 2024	Jun. 27, 2027
MXE EMI Receiver	KEYSIGHT	N9038A	MY56400036	Sep. 28, 2024	Sep. 27, 2025
Amplifier	HP	8447F	2944A03683	Sep. 28, 2024	Sep. 27, 2025
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Test Equipment	Test Equipment of Radiated emissions above 1GHz					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date	
EMI Measurement Receiver	ROHDE & SCHWARZ	ESR26	101377	Sep. 28, 2024	Sep. 27, 2025	
Preamplifier	TDK	PA-02-2	TRS-307- 00003	Sep. 28, 2024	Sep. 27, 2025	
Highpass Filter	Wainwright	WHKX10- 2700-3000- 18000-40SS	23	/	/	
Horn Antenna	TDK	HRN-0118	130939	Apr. 29, 2022	Apr. 28, 2025	
Preamplifier	TDK	PA-02-3	TRS-308- 00002	Sep. 28, 2024	Sep. 27, 2025	
Preamplifier	TDK	PA-02-0118	TRS-305- 00067	Sep. 28, 2024	Sep. 27, 2025	
High Gain Horn Antenna	Schwarzbeck	BBHA-9170	697	Jun. 30, 2024	Jun. 29, 2027	
Band Reject Filter	Wainwright	WRCJV8- 2350-2400- 2483.5- 2533.5-40SS	4	/	/	



Band Reject Filter	Wainwright	WRCJV20- 5120-5150- 5350-5380- 60SS	2	/	/
Highpass Filter	Wainwright	WHKX10- 5850-6500- 1800-40SS	4	/	/
Test Software for Radiated Emission	Farad	EZ-EMC	Ver.UL-3A1	N/A	N/A

Other Instrument					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Temperature humidity probe	OMEGA	ITHX-SD-5	18470007	Oct.8, 2024	Oct.7, 2025
Barometer	Yiyi	Baro	N/A	Oct.10, 2024	Oct.9, 2025
Attenuator	Agilent	8495B	2814a12853	Sep.28, 2024	Sep.27, 2025



# 7. EMISSION TEST

## 7.1. Conducted Emissions Measurement

### Limits of Conducted Emissions

(a.) Limits of conducted emissions from the AC mains power ports of Class A equipment

Frequency range MHz	Coupling device	Detector type / bandwidth	Class A voltage limits dB(uV)
0.15 to 0.5		Quesi Besk / 0 kHz	79
0.5 to 30	AMN	Quasi Peak / 9 kHz	73
0.15 to 0.5			66
0.5 to 30	AMN	Average / 9 kHz	60

(b.) Limits of conducted emissions from the AC mains power ports of Class B equipment

Frequency range MHz	Coupling device	Detector type / bandwidth	Class B voltage limits dB(uV)
0.15 to 0.5			66 to 56
0.5 to 5	AMN	Quasi Peak / 9 kHz	56
5 to 30			60
0.15 to 0.5	AMN		56 to 46
0.5 to 5	AIVIN	Average / 9 kHz	46
5 to 30			50

(c.) Limits of asymmetric mode conducted emissions of Class A equipment

Frequency range MHz	Coupling device	Detector type / bandwidth	Class A voltage limits dB(uV)	Class A current limits dB(uA)
0.15 -0.5	AAN	Quasi Peak / 9 kHz	97 to 87	n/a
0.5 -30	AAN	Quasi reak / 9 KHZ	87	n/a
0.15 -0.5	AAN	Average / 0 kHz	84 to 74	n/a
0.5 -30	AAN	Average / 9 kHz	74	n/a
0.15 -0.5	Current	Quasi Peak / 9 kHz	n/a	53 to 43
0.5 -30	Probe	QUASI PEAK / 9 KHZ	n/a	43
0.15 -0.5	Current	Average / 9 kHz	n/a	40 to 30
0.5 -30	Probe	Average / 9 KHZ	n/a	30



Frequency range MHz	Coupling device	Detector type / bandwidth	Class B voltage limits dB(uV)	Class B current limits dB(uA)
0.15 -0.5	AAN	Quasi Peak / 9 kHz	84 to 74	n/a
0.5 -30	AAN		74	n/a
0.15 -0.5	AAN	Average / 0 kHz	74 to 64	n/a
0.5 -30	AAN	Average / 9 kHz	64	n/a
0.15 -0.5	Current	Quasi Book / 0 kHz	n/a	40 to 30
0.5 -30	Probe	Quasi Peak / 9 kHz	n/a	30
0.15 -0.5	Current	Average / 9 kHz	n/a	30 to 20
0.5 -30	Probe	Average / 9 KHZ	n/a	20

(d.) Limits of asymmetric mode conducted emissions of Class B equipment

Note:

(1)The tighter limit applies at the band edges.

(2)The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

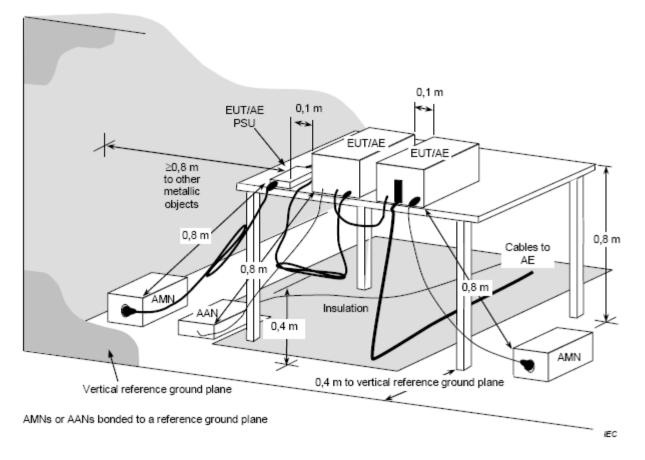
### Test Procedure

- a. The EUT was placed 0.8 meters from the horizontal ground plane
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. AMN/ANN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item: Photographs of Test Configuration



### Test Setup

(a.) Example measurement arrangement for table-top EUT (alternative 1)

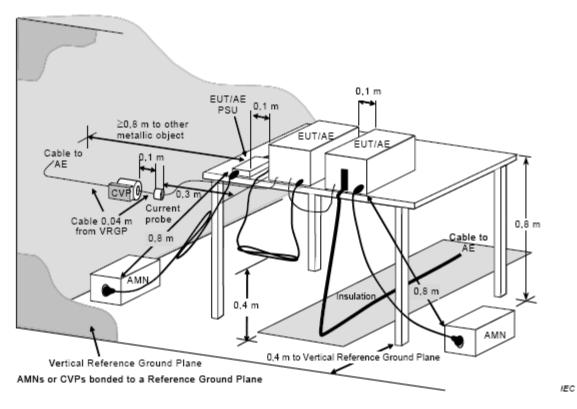


The 0,8 m distance specified between EUT/AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be ≥0,8 m.

For the actual test configuration, please refer to Appendix I: Photographs of Test Configuration



(b.) Example measurement arrangement for table-top EUT measuring in accordance with C.4.1.6.4



The 0,8 m distance specified between EUT/local AE/PSU and AMN/AAN, is applicable only to the EUT being measured. If the device is AE then it shall be  $\geq$ 0,8 m.

For the actual test configuration, please refer to Appendix I: Photographs of Test Configuration

#### TEST ENVIRONMENT

Temperature	24.3°C	Relative Humidity	54.2%
Atmosphere Pressure	101kPa		

#### TEST DATE / ENGINEER

Test DateMay 15, 2025Test ByDeaco	n Tan
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#### TEST MODE

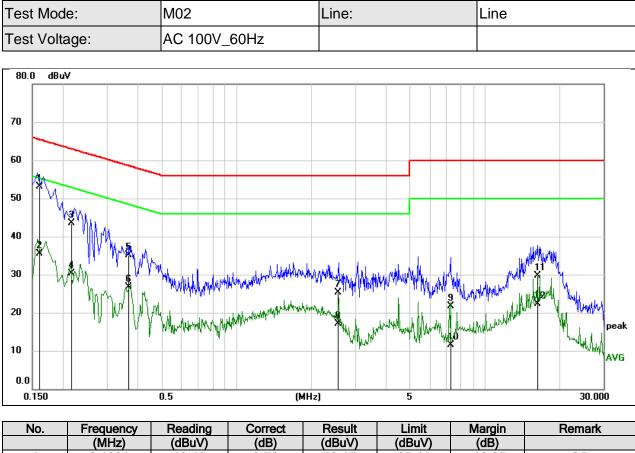
Pre-test Mode:	M01 ~ M02
Final Test Mode:	M02

Note: All test modes had been tested, but only the worst data recorded in the report.

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### TEST RESULTS



NO.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1604	43.45	9.72	53.17	65.44	-12.27	QP
2	0.1604	25.85	9.72	35.57	55.44	-19.87	AVG
3	0.2172	33.85	9.64	43.49	62.93	-19.44	QP
4	0.2172	20.59	9.64	30.23	52.93	-22.70	AVG
5	0.3681	25.55	9.64	35.19	58.54	-23.35	QP
6	0.3681	17.02	9.64	26.66	48.54	-21.88	AVG
7	2.5488	15.49	9.74	25.23	56.00	-30.77	QP
8	2.5488	7.43	9.74	17.17	46.00	-28.83	AVG
9	7.3146	11.91	9.73	21.64	60.00	-38.36	QP
10	7.3146	1.82	9.73	11.55	50.00	-38.45	AVG
11	16.2925	19.91	9.74	29.65	60.00	-30.35	QP
12	16.2925	12.57	9.74	22.31	50.00	-27.69	AVG

Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor) Margin = Result - Limit



4.3024

15.8468

15.8468

10

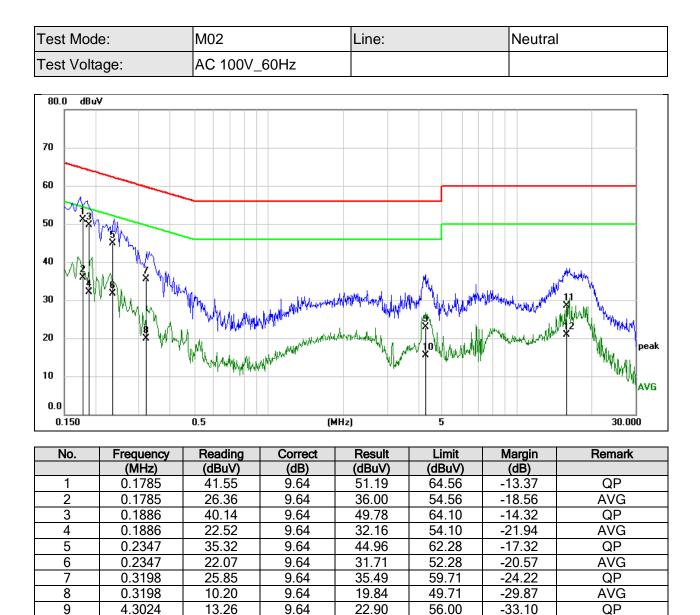
11

12

5.79

18.84

11.16



Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor) Margin = Result - Limit

9.64

9.74

9.74

46.00

60.00

50.00

15.43

28.58

20.90

-30.57

-31.42

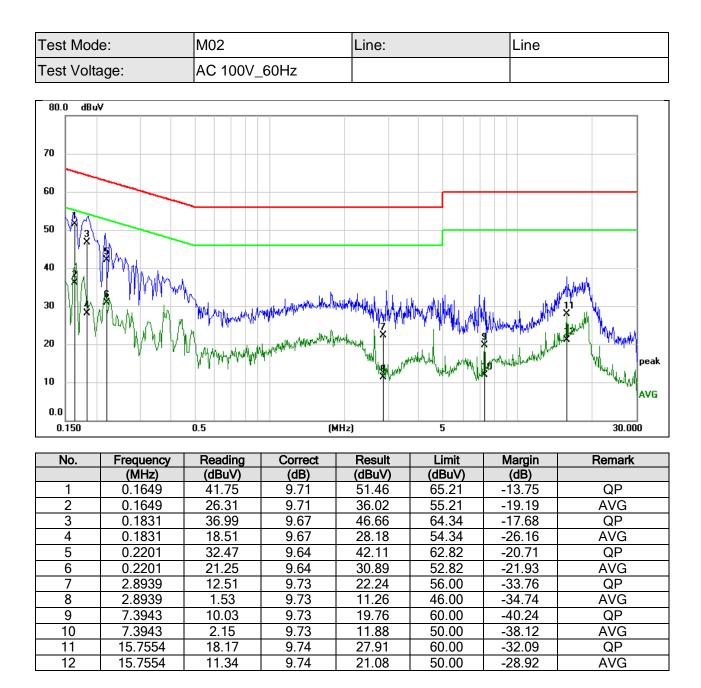
-29.10

AVG

QP

AVG





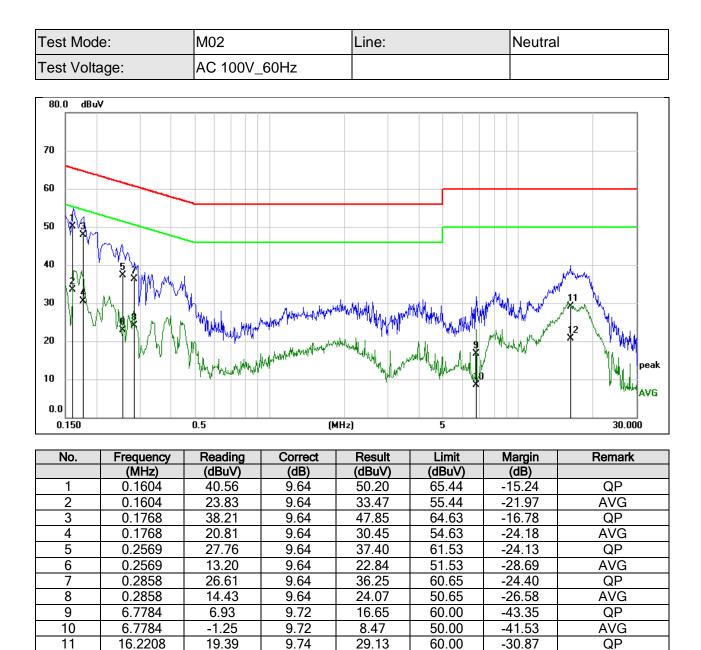
Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor) Margin = Result - Limit



12

16.2208

11.00



Remark: Result = Reading +Correct (Insertion Loss + Cable Loss + Attenuator Factor) Margin = Result - Limit

20.74

50.00

-29.26

AVG

9.74



## 7.2. Radiated Emissions Measurement

### Limits of Radiated Emissions Measurement

### (a). Limits up to 1 GHz

	Clas	ss A	Class B		
FREQUENCY (MHz)	At 10m	At 3m	At 10m	At 3m	
	dBµV/m	dBµV/m	dBµV/m	dBµV/m	
30 – 230	40	50	30	40	
230 – 1000	47 57		37	47	

### (b). Limits above 1 GHz

FREQUENCY (MHz)	Class A (at 3	3m) dBµV/m	Class B (at 3m) dBµV/m		
FREQUENCT (MITZ)	Peak	Avg	Peak	Avg	
1000-3000	76	56	70	50	
3000-6000	80 60		74	54	

Note:

(1) The limit for radiated test was performed according to CISPR 32.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBµV/m)=20log Emission level (uV/m).

(4) If the highest frequency of the internal sources of the EUT is less than 108 MHz, themeasurement shall only be made up to 1 GHz.If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, measurement shall only be made up to 5 GHz. If the highest frequency of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

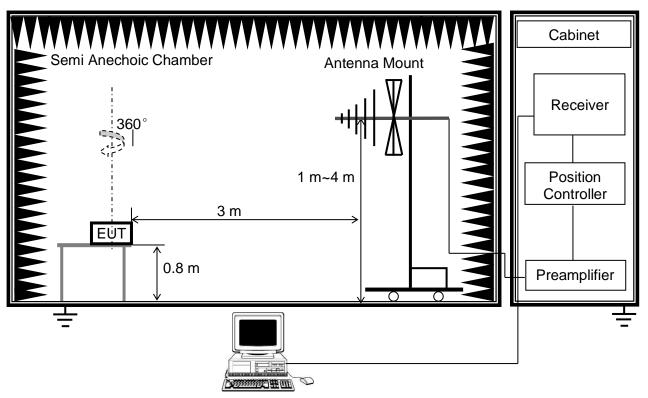


### Test Procedure

- a. The measuring distance at 3 m shall be used for measurements.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the actual test configuration, please refer to the related Item: Photographs of Test Configuration.

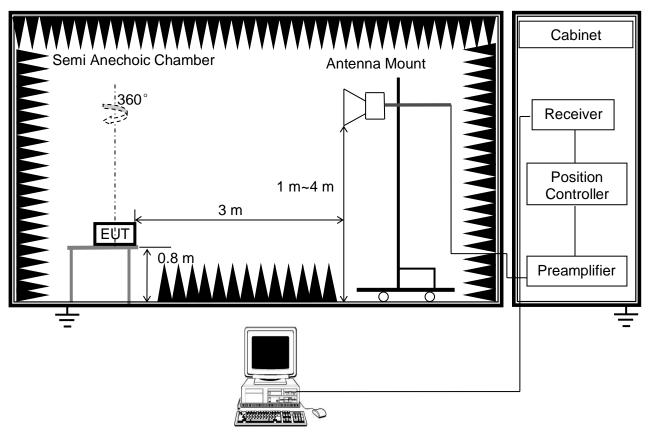
### Test Setup

(a) Radiated Emissions Test Set-Up Frequency 30 MHz-1 GHz





(b) Radiated Emissions Test Set-Up Frequency above 1 GHz



For the actual test configuration, please refer to Appendix I: Photographs of Test Configuration

### **ENVIRONMENT**

Temperature	24°C	Relative Humidity	60%
Atmosphere Pressure	101kPa		

#### **TEST DATE / ENGINEER**

Test DateMay 19, 2025Test ByStipe Zheng
---

#### TEST MODE

Pre-test Mode:	M01 ~ M02
Final Test Mode:	M02

Note: All test modes had been tested, but only the worst data recorded in the report.



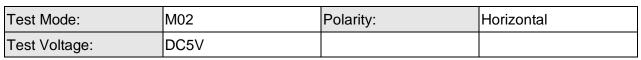
5

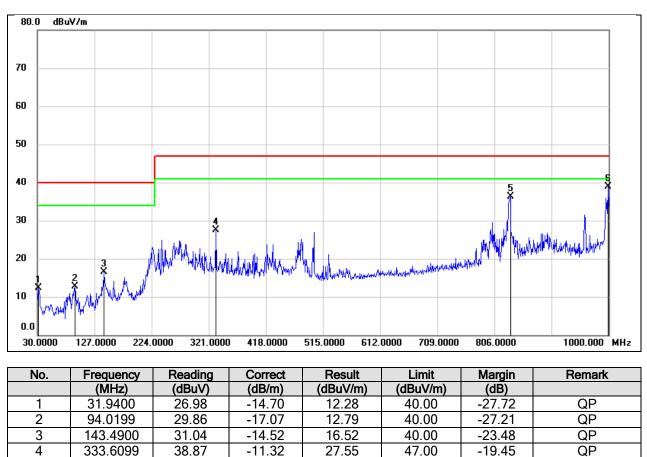
6

833.1599

999.0300

### TEST RESULTS UP TO 1 GHZ





36.24

38.88

47.00

47.00

-10.76

-8.12

QP

QP

Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor) 2. Margin = Result - Limit

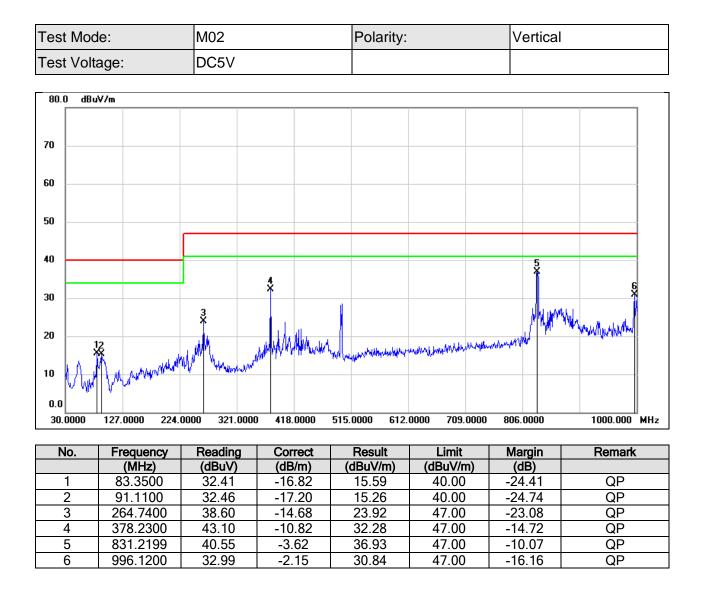
-3.57

-2.12

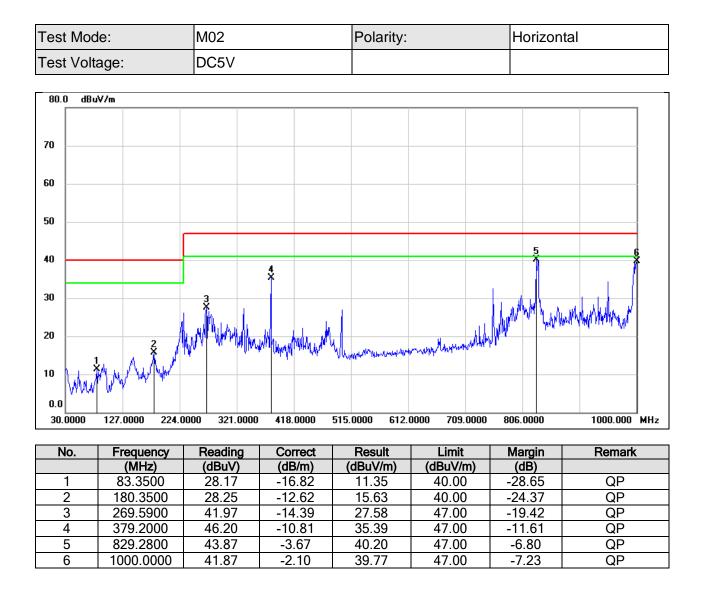
39.81

41.00

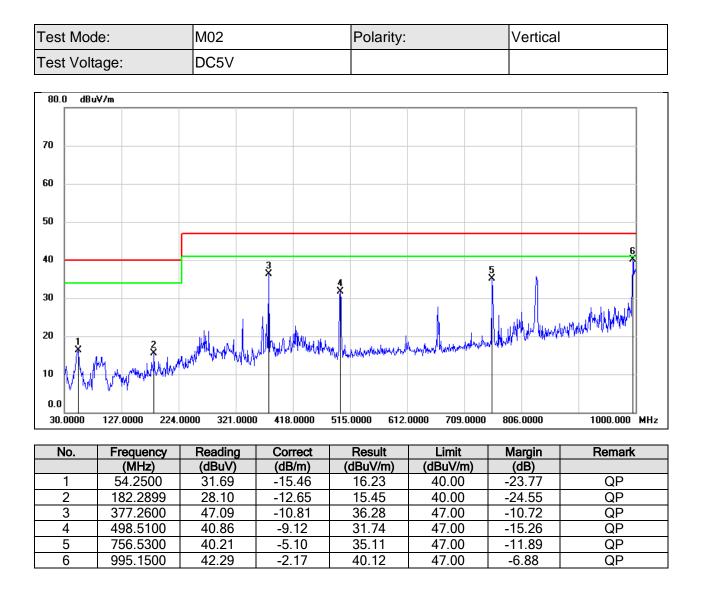












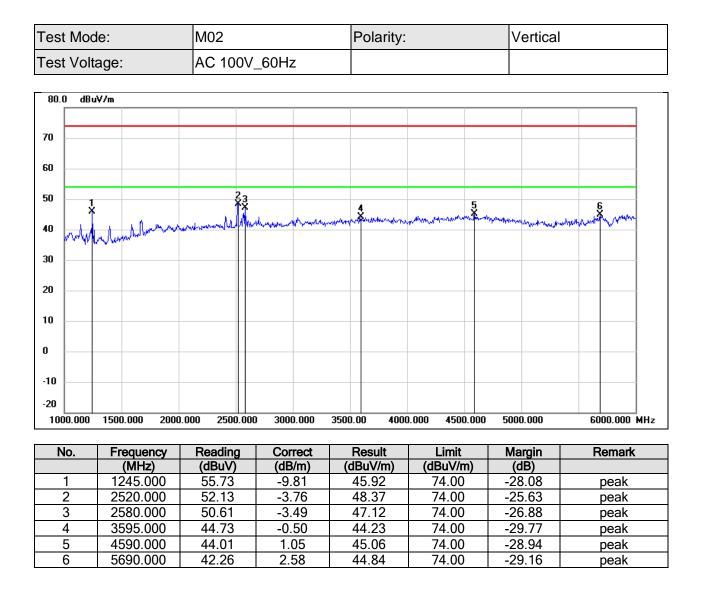
Note: 1. Result = Reading +Correct (Amplifier Factor + Cable Loss + Antenna Factor) 2. Margin = Result - Limit



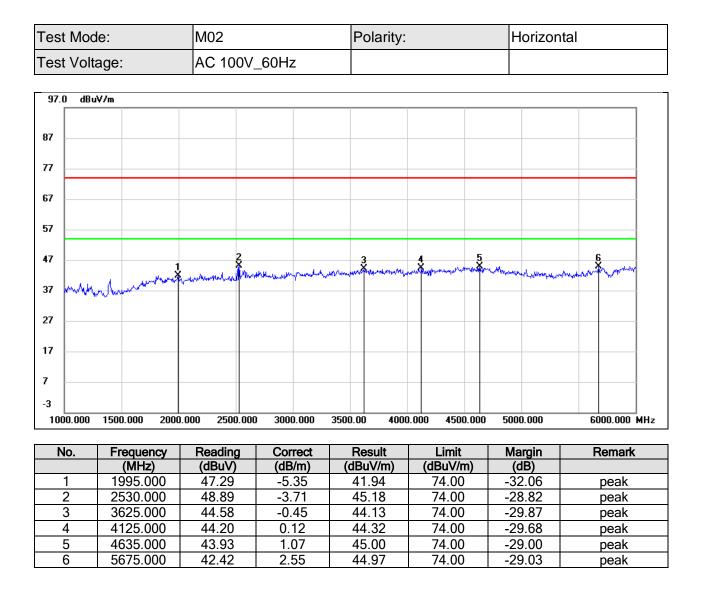
### **TEST RESULTS ABOVE 1 GHZ**

Test Mode:		M02		Pola	Polarity:			Horizontal	
Test Volta	age:		AC 100V_	_60Hz					
87.0 dBu	V/m								
77									
67									
01									
57									
			2						_
47		1 X	2 All	3	4	at a present of the second states	and the start	Manual Maria	6
37 4144	Munham	how	how we have a second	Martin Contraction		an shart we		and the second	alburkhhannan . A.
	A and								
27									
17									
7									
-3									
-13									
1000.000	1500.000	2000.0	00 2500.000	3000.000	3500.00	4000.000	4500.000	5000.000	6000.000 MHz
No.	Frequen		Reading	Correct	Resu	t	Limit	Margin	Remark
	(MHz)		(dBuV)	(dB/m)	(dBuV/		lBuV/m)	(dB)	
1	1815.0		49.14	-5.87	43.27		74.00	-30.73	peak
2	2570.0		50.21	-3.54	46.67		74.00	-27.33	peak
3	3035.0		45.18	-1.52	43.66		74.00	-30.34	peak
4 5	3605.0		44.82 43.98	-0.47 1.01	44.35		74.00 74.00	-29.65 -29.01	peak peak
: 1	4:00:000		4 3 90						

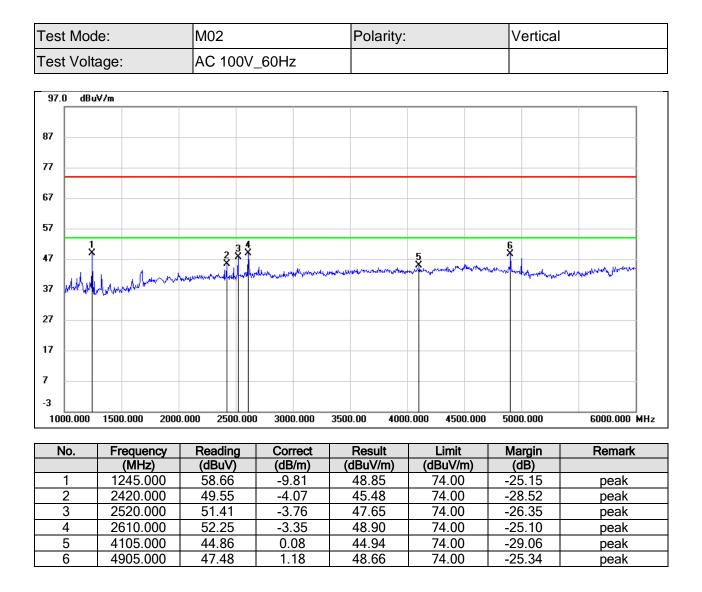


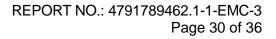








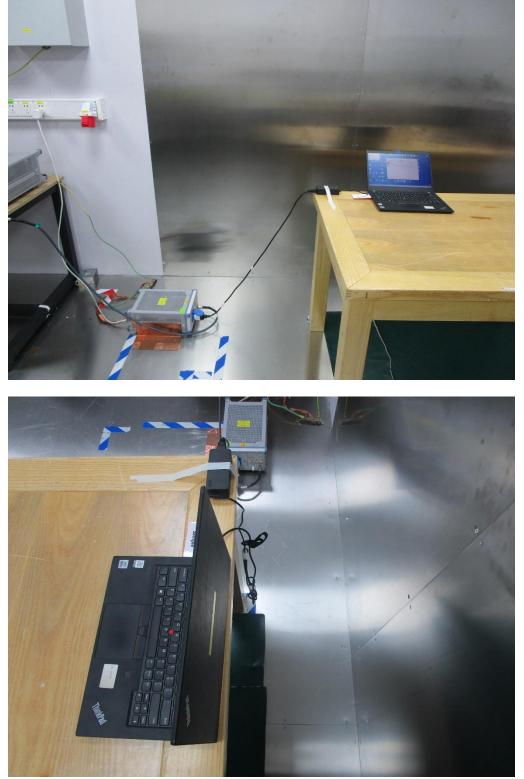




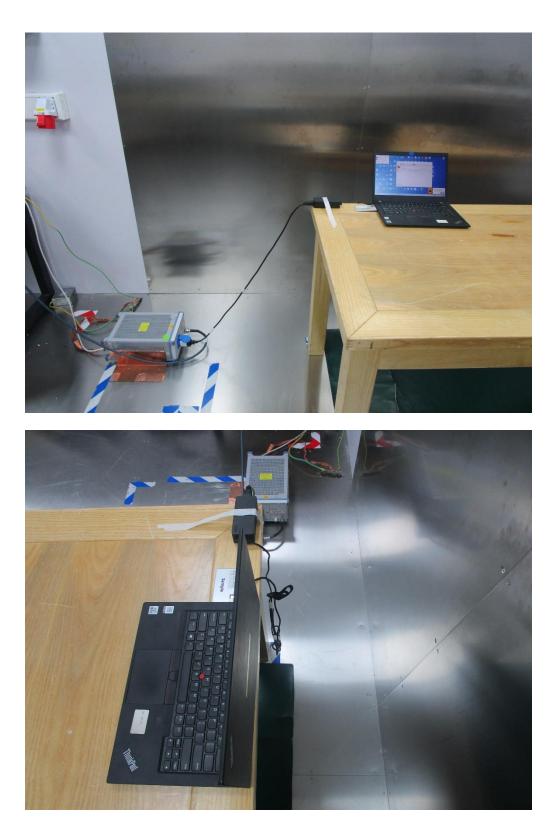


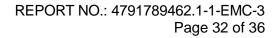
# **APPENDIX: PHOTOGRAPHS OF TEST CONFIGURATION**

### Conducted emissions (AC mains power ports)

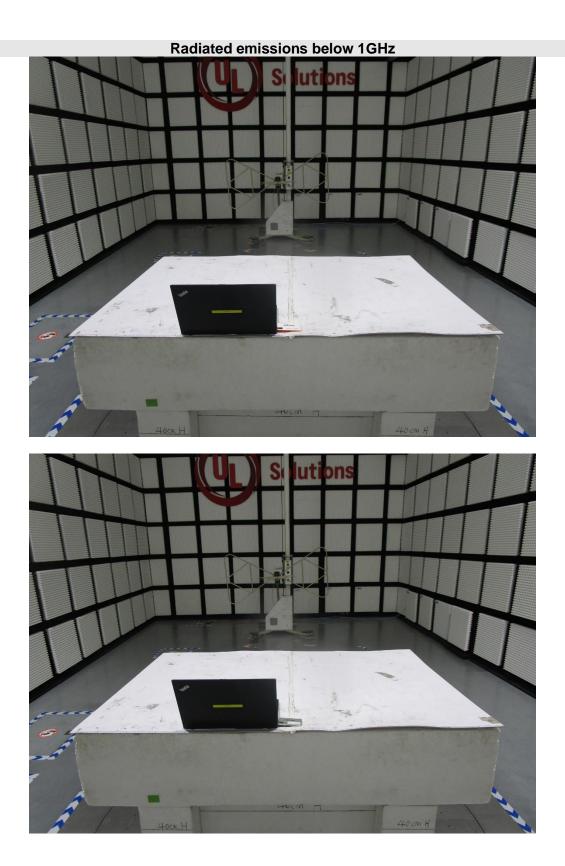


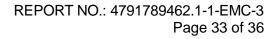




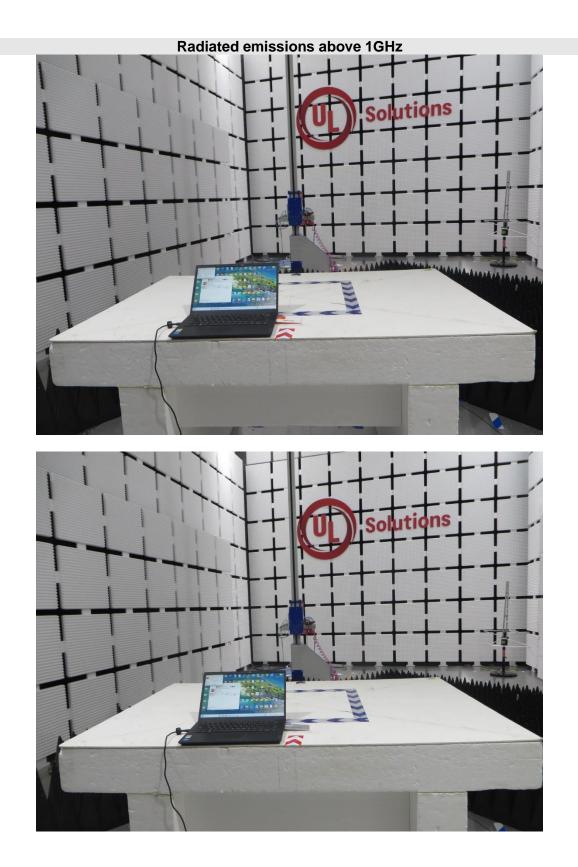




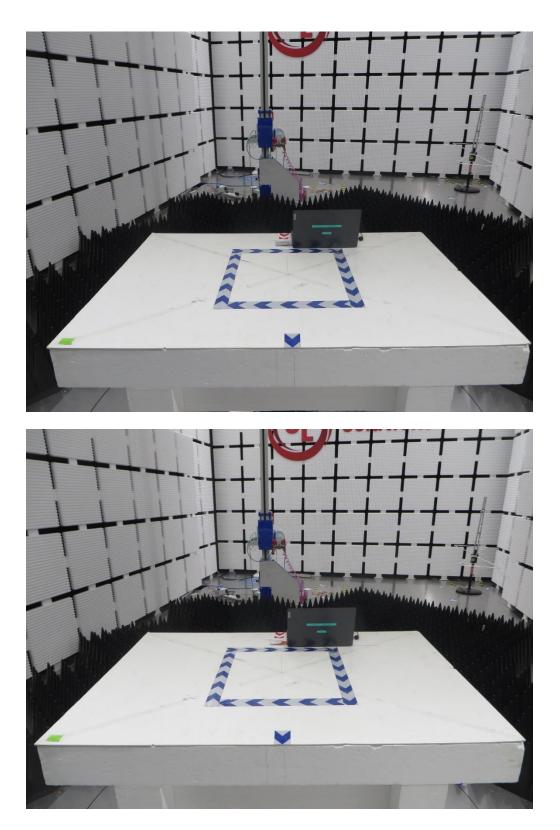






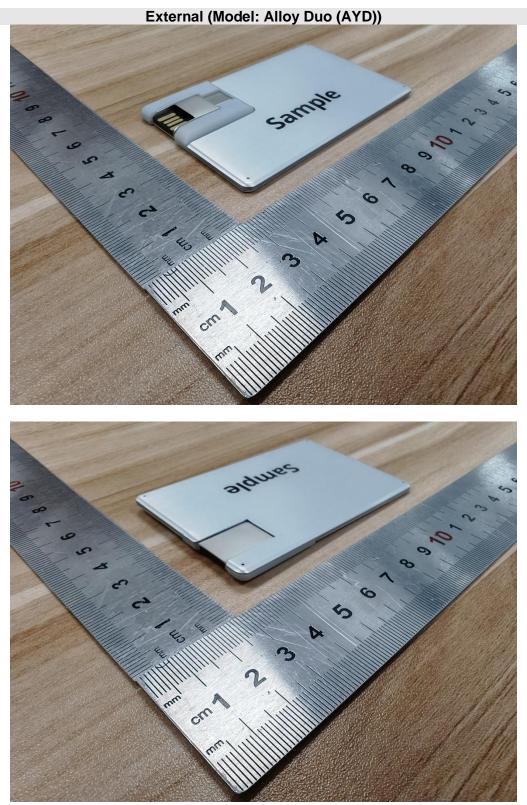




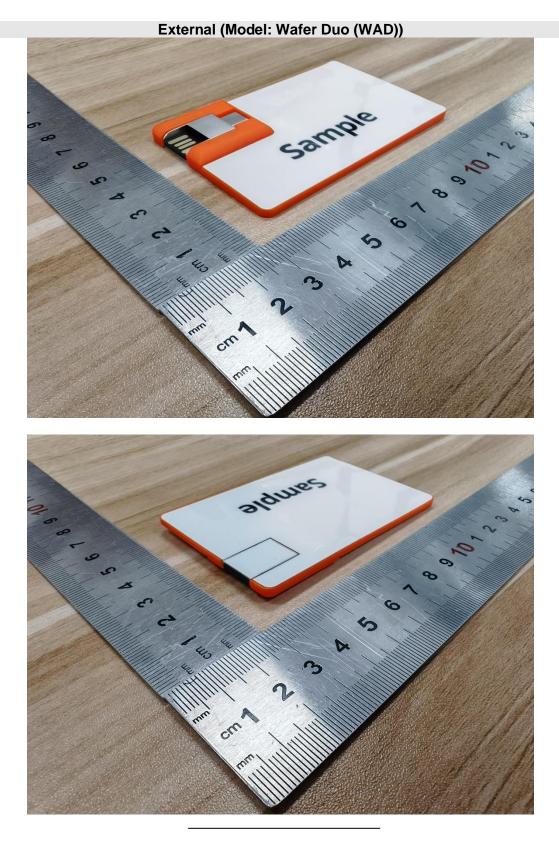




# **APPENDIX: PHOTOGRAPHS OF THE EUT**







# **END OF REPORT**