ENERGY STAR CERTIFIED

Displays

SMART - SBID-MX065-V4 : SBID-MX065-V4

Specifications

ENERGY STAR Unique ID:	2403802
Brand Name:	SMART
Model Name:	SBID-MX065-V4
Model Number:	SBID-MX065-V4
Product Type:	Signage Display
Panel Type:	TFT LCD
Screen Size (inches):	64.5
Screen Area (square inches):	1779.36
Native Resolution (pixels):	3840 x 2160
Maximum Luminance (candelas per square meter):	400.0
Total Native Resolution (megapixels):	8.3
Model Features:	Bluetooth,Embedded Module (Non-removable),Full Network Connectivity,Touch Screen,USB-C,Built-In Speakers,Automatic Brightness Control
Signal or Data Interfaces:	VGA,RS232,RJ45,Other,HDMI,USB
Power Source:	Ac to dc internal power supply
On Mode Power (watts):	124.42
Markets:	United States, Taiwan, Japan, Canada
Sleep Mode Power (watts):	1.19
Off Mode Power (watts):	0.0
Tiled Display System:	No
ENERGY STAR Certified:	Yes
ENERGY STAR Most Efficient:	No

Additional Model Information

,IDX65-4,; ,SBID-MX065-V4-PW:SBID-MX265-V4,; ,SBID-MX265-V4-PW,; ,SBID-MX265-V4-VO,

UPC Codes	628012402607

Captured On:
06/27/2023

CERTIFICATE OF CONFORMITY

This Certificate indicates that the Applicant has satisfied the Intertek requirements for the application of the EPA ENERGY STAR Mark to the model(s) described in the Product(s) Covered section of the referenced Compliance Report when made in accordance with the conditions set forth in the Energy Efficiency Certification Agreement, the Certification Report and the Program Manual. This certificate is issued subject to the Applicant attaining, and remaining in, compliance with any separate EPA ENERGY STAR Program requirements necessary for use of the ENERGY STAR Mark. This document is the property of Intertek Testing Services and is not transferable.

Company:	SMART Technologies ULC	**OEM name:**	Smart Technologies ULC
Address:	3636 Research Road NW,Calgary AB T2L 1Y1	**Address:**	3636 Research Road NW,Calgary AB T2L 1Y1
Country:	Canada	**Country:**	Canada
Contact:	John Hogg	**Contact:**	John Hogg
Phone:	NA	**Phone:**	NA
FAX:	NA	**FAX:**	NA
Email:	johnhogg@smarttech.com	**Email:**	johnhogg@smarttech.com

3rd-party Report Issuing Office: Intertek Testing Services Hong Kong Limited

Control Number: *5017637* **Authorized by:** for L. Matthew Snyder, Certification Manager

This document supersedes all previous Certificate of Conformity for the noted Report Number.

Intertek Testing Services NA Inc.
545 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-439-5667 Fax 312-283-1672
www.intertek.com

Standard(s):	ENERGY STAR® Program Requirements for Displays Version 8.0
Product:	Signage Display
Models:	SBID-MX065-V4;SBID-MX065-V4-PW:SBID-MX265-V4;SBID-MX265-V4-PW;SBID-MX265-V4-VO;IDX65-4

- Home
- Scrivanie Telematiche
  - Produttori
  - Sistemi Collettivi di Finanziamento
- Registro AEE
  - Produttori
  - Sistemi Finanziamento Individuale
  - Sistemi Collettivi di Finanziamento
- Informazioni Utili
- Registri Europei
- Delibere del CDV
- Help
  - Verifica Compatibilità
- Area Riservata Enti
  - Accesso

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Produttori iscritti al Registro AEE

Ricerca

Numero iscrizione | Codice Fiscale

Profilo: [Tutti]

Ragione Sociale: (•) contiene ( ) inizia per — SMART TECHNOLOGIES

Apparecchiatura: [Tutte]

Soggetto

Tipo soggetto: [Tutti]

Nazione: [Tutte] — Provincia: [Tutte]

Visualizza | Pulisci

Legenda: iscritto | sospeso

25 righe per pagina

Numero iscrizione		Denominazione	Provincia	Nazione
IT19050000011410	■	SNAITECH SMART TECHNOLOGIES S.R.L.	MILANO	ITALIA

Da 1 a 1 di 1 — << < 1 > >>

Verification of Compliance

Product Name	:	**Notebook Computer**
Brand Name	:	acer
Model Number	:	**N22C6, HH5A4, A515-57, A515-57G, A515-57T, A515-57GT, S50-54, HH5J4, A315-59, A315-59G, HH5AB, A515-47, EX215-55, EX215-55G, IH5T4** **N22C7, HH7A4, A517-53, A517-53G, HH7J4, A317-54, A317-54G**
Applicant	:	**Acer Incorporated**
Address	:	**8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C.)**
Report Number	:	**S2O-A170-2111-146**
Issue Date	:	**April 11, 2022**
Applicable Standards	:	**ETSI EN 301 489-1 V2.1.1** **ETSI EN 301 489-17 V3.1.1** EN 55032:2015+AC:2016-07 Class B / BS EN55032:2015+AC:2016-07 EN 61000-3-2:2014/ BS EN 61000-3-2:2014 EN 61000-3-3:2013/ BS EN 61000-3-3:2013 EN 61000-4-2:2009/ BS EN 61000-4-2:2009 EN 61000-4-3:2006+A1:2008+A2:2010/ BS EN 61000-4-3:2006+A1:2008+A2:2010 EN 61000-4-4:2012/ BS EN 61000-4-4:2012 EN 61000-4-5:2014/ BS EN 61000-4-5:2014 EN 61000-4-6:2014/ BS EN 61000-4-6:2014 EN 61000-4-11:2004/ BS EN 61000-4-11:2004 **EN 55035:2017+A11:2020/ BS EN 55035:2017+A11:2020** **AS/NZS CISPR32:2015 Class B**

CE

Based on the European Council Radio equipment Directive 2014/53/EU, EMC Directive 2014/30/EU and the specifications of the customer, one sample of the designated product has been tested in our laboratory and found to be in compliance with the EMC standards cited above.

Central Research Technology Co.

11, Lane 41, Fushuen St., Jungshan Chiu,

Taipei 104, Taiwan

Tel : 886-2-25872719

Fax : 886-2-25850364

(Jim Chien/Technical Manager)

Date: April 11, 2022

TAF 0905

FCC CAB Code TW1104, TW0019

NVLAP Lab Code 200575-0

ISED CAB Code TW0905

VCCI Accep. No. R-11527, C-11609, T-11441, G-10010, C-20010

T-20009, G-10614

CE EMC Test Report

for

Notebook Computer

Trade Name	:	acer
Model No.	:	**N22C6, HH5A4, A515-57, A515-57G, A515-57T, A515-57GT, S50-54, HH5J4, A315-59, A315-59G, HH5AB, A515-47, EX215-55, EX215-55G, IH5T4 N22C7, HH7A4, A517-53, A517-53G, HH7J4, A317-54, A317-54G**
Report No.	:	**S2O-A170-2111-146**
Date of Receipt	:	**March 7, 2022**
Date of Report	:	**April 11, 2022**

Prepared for

Acer Incorporated

8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)

Prepared by

Central Research Technology Co.

11, Lane 41, Fushuen St., Jungshan Chiu, Taipei 104, Taiwan

Verification of Compliance

Equipment Under Test	:	Notebook Computer
Model No.	:	N22C6, HH5A4, A515-57, A515-57G, A515-57T, A515-57GT, S50-54, HH5J4, A315-59, A315-59G, HH5AB, A515-47, EX215-55, EX215-55G, IH5T4 N22C7, HH7A4, A517-53, A517-53G, HH7J4, A317-54, A317-54G
Applicant	:	Acer Incorporated
Address	:	8F., No.88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)
Applicable Standards	:	**ETSI EN 301 489-1 V2.1.1** **ETSI EN 301 489-17 V3.1.1** EN 55032:2015+AC:2016-07 Class B / BS EN 55032:2015+AC:2016-07 EN 61000-3-2:2014/ BS EN 61000-3-2:2014 EN 61000-3-3:2013/ BS EN 61000-3-3:2013 EN 61000-4-2:2009/ BS EN 61000-4-2:2009 EN 61000-4-3:2006+A1:2008+A2:2010/ BS EN 61000-4-3:2006+A1:2008+A2:2010 EN 61000-4-4:2012/ BS EN 61000-4-4:2012 EN 61000-4-5:2014/ BS EN 61000-4-5:2014 EN 61000-4-6:2014/ BS EN 61000-4-6:2014 EN 61000-4-11:2004/ BS EN 61000-4-11:2004 **EN 55035:2017+A11:2020/ BS EN 55035:2017+A11:2020** **AS/NZS CISPR32:2015 Class B**
Date of Testing	:	March 10~17, 2022
Deviation	:	The method, configuration and arrangement of the tests are following the requirement of customer and the applicable standards cited above.
Condition of Test Sample	:	Engineering Sample

We, **Central Research Technology Co**., hereby certify that one sample of the designated product was tested in our facility during the period mentioned above. The test records, data evaluation and Equipment Under Test (EUT) configurations shown in the present report are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in the present report is in compliance with the requirements set forth in the standards mentioned above and apply to the tested sample identified in the present report only. The test report shall not be reproduced, except in its entirety, without the written approval of Central Research Technology Co.

PREPARED BY : Rosa Hsieh , DATE : **April 11, 2022**

(Rosa Hsieh/System Executive)

APPROVED BY : , DATE : **April 11, 2022**

(Jim Chien/Technical Manager)

Contents

1. General Description

This report is based on the report: S3O-A170-2111-146 of Central Research Technology Co. for adding model numbers HH5AB, A515-47, EX215-55, EX215-55G, IH5T4 and some components of Sample 1 (boldface marked in the components list) due to the requirements of marketing.

1.1 General Description of EUT

Equipment Under Test	:	Notebook Computer
Model No.	:	N22C6, HH5A4, A515-57, A515-57G, A515-57T, A515-57GT, S50-54, HH5J4, A315-59, A315-59G, HH5AB, A515-47, EX215-55, EX215-55G, IH5T4 N22C7, HH7A4, A517-53, A517-53G, HH7J4, A317-54, A317-54G
Power in	:	Supplied by the power adapter listed on page 9
Highest Operating Frequency:		2.7GHz from the test specification
Function Description	:	

The EUT is an engineering sample of the Notebook Computer. Please refer to the user's manual for the details.

The products of the Sample 1 models: N22C6, HH5A4, A515-57, A515-57G, A515-57T, A515-57GT, S50-54, HH5J4, A315-59, A315-59G HH5AB, A515-47, EX215-55, EX215-55G and IH5T4 are identical, they are for different market only.

The products of the Sample 2 models: N22C7, HH7A4, A517-53, A517-53G HH7J4, A317-54 and A317-54G are identical, they are for different market only.

The Model No.: N22C6 (Sample 1) was designated by its manufacturer to perform all tests. It was taken as the representative condition for testing and its data are recorded in the present document.

The I/O ports of EUT for final verification test are listed below:

Intel Type

No.	I/O Port Type	Quantity
1	USB 3.0 port	3
2	Type C port(Optional)	1
3	HDMI port	1
4	Audio output/ Mic. combo port	1
5	LAN port(Optional)	1

AMD Type

No.	I/O Port Type	Quantity
1	USB 3.0 port	3
2	Type C port	1
3	HDMI port	1
4	Audio output/ Mic. combo port	1
5	LAN port	1

The devices (supplied by manufacturer) can be installed inside the EUT are listed below:

Components	Vendor	Description
MB Board	compal	LA-M214 (AMD)
		LA-M211 (Intel)
CPU	Intel	Product Description of Processor Manufacturer an Max Speed Up to and include 2.7GHz
	AMD	**Product Description of Processor Manufacturer an Max Speed Up to and include 2.7GHz**
LCD	CMI	N156HGA (FHD)
		N156HCA (FHD)
		N156HCN (FHD)
		N156BGA (HD)
	AUO	B156HTN06 (FHD)
		B156HAN02 (FHD)
	LG	LP156WFH (FHD)
	BOE	NT156FHM (FHD)
		NV156FHM (HD)
VGA	Nvidia	GN18-S5
		GN20-S7
		GN20-S5
Camera	Chicony	CNFLH3421004970LH
	TECH-FRONT	1YHVZZZ0008
MEMORY	**Two DDR4 slots, total max capacity to 32G**	
PCIE SSD	Max up to 2 pcs	
SATA HDD	Max up to 1 pcs	
Battery	PANASONIC	AP19B5L
		AP19B5K
	SIMPLO	AP18C7K
	COSMX	AP20CBL
	LG	AP19B8K
		AP18C8K
WLAN+BT Combo	INTEL	AX201NGW
		AX211NGW
		9560NGW

Components	Vendor	Description
WLAN+BT Combo	Mediatek	MT7921
		MT7922A22M
		MT7663
	Realtek	**RTL8852BE**
Adaptor	CHICONY	A18-045N2A
		A18-065N3A
	DELTA	ADP-45FE
		ADP-65DE
	LITE-ON	PA-1450-26
		PA-1650-50

1.2 Test Mode

Final Verification Mode assigned by the applicant from test specification

Test Description	Test Voltage	Test Item
External Monitor HDMI 3840*2160@60Hz + EUT panel 1920*1080@60Hz	230V/50Hz	1. Conducted Emission Test(LISN&ISN) 2. EN 61000-3-2, EN 61000-3-3 and all EMS tests shown in clause 1.3 (excluding Dip Test)
	120V/60Hz	Conducted Emission Test (LISN)
	110V/60Hz	Radiated Emission Test (30MHz~1GHz & above 1GHz)
	240V/50Hz	Dip Test
	100V/50Hz	

All the devices listed below are chosen by the applicant to be the representative configuration for testing in this report.

Test Mode 1	
Component	**Description**
MB	Compal / LA-M214
CPU	AMD / R75825U 2G
LCD	AUO / B156HAN02 (FHD)
Camera	Chicony / CNFLH3421004970LH
Memory(1)	DDR4 3200 16GB
Memory(2)	DDR4 3200 16GB
HDD	N/A
SSD(1)	Hynix / HFM512GD3JX016N
SSD(2)	N/A
Battery	LGC / AP18C8K
WLAN+BT Combo	FOXCONN / T99H315
Power Adapter	LITE-ON / PA-1650-50

1.3 Applied standards

Based on European Council EMC Directive 2014/30/EU, Radio equipment Directive 2014/53/EU and the specifications of the manufacturer, the applied standards to evaluate the compliance of the EUT are as following:

Applied Standards		Test Items	Results
☑ ETSI EN 301 489-1 V2.1.1 ETSI EN 301 489-17 V3.1.1	☑ EN 55032:2015+AC:2016-07 Class B/ BS EN 55032:2015+AC:2016-07 Class B	Conducted Emission Measurement	PASS
		Radiated Emission Measurement	PASS
	☑ EN 61000-3-2:2014/ BS EN 61000-3-2:2014	Harmonic Current Emission Measurement	PASS
	☑ EN 61000-3-3:2013/ BS EN 61000-3-3:2013	Voltage Fluctuation and Flicker Emission Measurement	PASS
	☑ EN 61000-4-2:2009/ BS EN 61000-4-2:2009	Electrostatic discharge Test (ESD)	PASS
	☑ EN 61000-4-3:2006+A1:2008+A:2010/ BS EN 61000-4-3:2006+A1:2008+A:2010	Radiated electromagnetic field immunity Test (RS)	PASS
	☑ EN 61000-4-4:2012/ BS EN 61000-4-4:2012	Electrical fast transient / burst immunity Test (EFT)	PASS
	☑ EN 61000-4-5:2014/ BS EN 61000-4-5:2014	Surge immunity Test	PASS
	☑ EN 61000-4-6:2014/ BS EN 61000-4-6:2014	Immunity to conducted disturbances, induced by radio-frequency fields (CS)	PASS
	☑ EN 61000-4-11:2004/ BS EN 61000-4-11:2004	Voltage dips, short interruptions Test	PASS

Applied Standards		Test Items	Results
☑ EN 55035:2017+A11:2020/ BS EN 55035: 2017+A11:2020	☑ EN 61000-4-2:2009/ BS EN 61000-4-2:2009	Electrostatic discharge Test (ESD)	PASS
	☑ EN 61000-4-3:2006+A1:2008+A:2010/ BS EN 61000-4-3:2006+A1:2008+A:2010	Radiated electromagnetic field immunity Test (RS)	PASS
	☑ EN 61000-4-4:2012/ BS EN 61000-4-4:2012	Electrical fast transient / burst immunity Test (EFT)	PASS
	☑ EN 61000-4-5:2014/ BS EN 61000-4-5:2014	Surge immunity Test	PASS
	☑ EN 61000-4-6:2014/ BS EN 61000-4-6:2014	Immunity to conducted disturbances, induced by radio-frequency fields (CS)	PASS
	☐ EN 61000-4-8:2010/ BS EN 61000-4-8:2010	Power frequency magnetic field immunity Test (PFM)	N/A*
	☑ EN 61000-4-11:2004/ BS EN 61000-4-11:2004	Voltage dips, short interruptions Test	PASS
☑ AS/NZS CISPR32:2015 Class B		Conducted Emission Measurement	PASS
		Radiated Emission Measurement	PASS

Remark: *: The manufacturer determines from the electrical characteristic and intended usage of the EUT that one or more measurements (tests) are unnecessary.

According to applied standards, the measurement instrumentation uncertainty is not taken into account in the determination of compliance.

1.4 Description of Performance Criteria

Product Standard : EN 55035

Criteria A : normal performance within levels specified by the manufacturer, requestor or purchaser;

Criteria B : temporary loss of function or degradation of performance which ceases after the disturbance ceases, and from which the EUT recovers its normal performance, without operator intervention;

Criteria C : temporary loss of function or degradation of performance, the correction of which requires operator intervention;

Product Standard : ETSI EN 301 489-17

Criteria	During test	After test
A	Shall operate as intended. (see note 1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 3). Shall be no loss of function. Shall be no loss of stored data or user programmable functions
B	May show loss of function (one or more). May show degradation of performance (see note 2). Shall be no unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 3). Shall be no loss of stored data or user programmable functions
C	May be loss of function (one or more)	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 3).

NOTE 1:Operate as intended during the test allows a level of degradation not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation(including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

NOTE 2: Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation(including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

NOTE 3: No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.

Performance criteria for Continuous phenomena applied to Transmitters (CT)

The performance criteria A shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an ACKnowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Performance criteria for Transient phenomena applied to Transmitters (TT)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an acknowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Performance criteria for Continuous phenomena applied to Receivers (CR)

The performance criteria A shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Performance criteria for Transient phenomena applied to Receivers (TR)

The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration for which performance criteria C shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Pass/Fail verdict:

During the link test, the Wifi link shall have been maintained and the windows of monitor PC may not deviate from those before the test.

Monitoring:

The status of connection has been monitored from the display of the monitor PC via a camera or witness.

1.5 Test Setup for the EUT

The EUT is an unique unit connected with other necessary accessories and support units listed in the next section. It has been tested against each standard after the following setup steps:

a. Connect the EUT and all the support units to the appropriate power source.

b. Turn on the EUT and all the accessories and support units.

c. The EUT load an EMC test software (BurnIn Test V9.2) and execute it under the Windows environment.

d. The EUT runs ITU color bar on the display device(s) continuously.

e. The EUT sends audio signal to the audio device(s).

f. The EUT sends the CCD receiving image to the display device(s) continuously.

g. The EUT reads/ writes messages from/ to the internal & external storage device(s) continuously.

h. Let the Wireless functions of EUT operating continuously.

i. Another PC sends/receives messages to/from the EUT through a Hub and Wireless AP Router by executing the command of “PING”.

j. For Wifi function [EN 301 489-17]

j-1. Via wireless access point, EUT transmits/receives messages to/from another PC.

j-2. Monitor the status of connection by seeing the window of another PC.

k. Repeat and keep the setup steps listed above before and during all tests.

1.6 The Support Units

Conducted Emission Test

No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.	Note
1	LCD Monitor	U2718Q/ CN-0KDCJF-QDC00-76T-121L-A00	DoC	DELL	1.8m	✓	
2	Earphone & Microphone	ZBW4354TY/ 201912-1	DoC	xiaomi.tw	N/A	✓	
3	USB Mouse	SM-9625/ 12702544	DoC	ACER	N/A	✓	
4	USB 3.0 HDD	SRD00F1/ NA9EN6MD	DoC	Seagate	N/A	✓	
		SRD00F1/ NA9EN6PZ	DoC	Seagate	N/A	✓	
5	Type C HDD	Neutrino U3.1/ SK21D1621D00H4	DoC	AKiTio	N/A	✓	

Radiated Emission Test

No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.	Note
1	LCD Monitor	P2715Q/ 9M159C2	DoC	DELL	1.8m	✓	
2	Earphone & Microphone	HSEJ03JY/ 202010-5	DoC	xiaomi.tw	N/A	✓	
3	USB 3.0 HDD	Canvio Basics/ 79V3TOELTHJG	DoC	TOSHIBA	N/A	✓	
		Canvio Basics/ 88GSSF27SHJG	DoC	TOSHIBA	N/A	✓	
		Canvio Basics/ 88FTSFQDSHJG	DoC	TOSHIBA	N/A	✓	
4	Type C HDD	Neutrino U3.1/ SK21D2027D0035	DoC	AKiTio	N/A	✓	

ESD Test

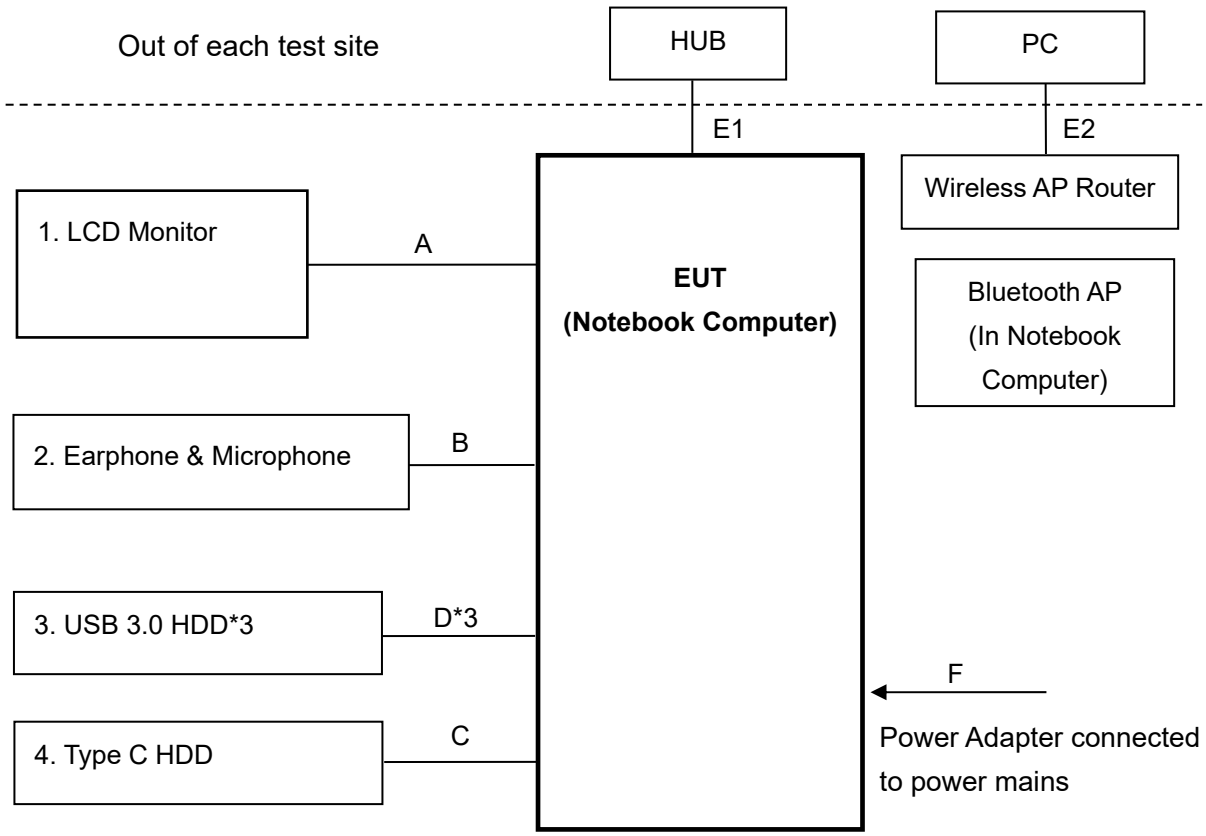
No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.	Note
1	LCD Monitor	P2715Q/ CN-0NTMTN-74445-6CA-ABVL	DoC	DELL	1.8m	✓	
2	Earphone & Microphone	ZBW4354TY/ 201912-4	DoC	xiaomi.tw	N/A	✓	
3	USB Mouse	MO56UC/ 516011428	DoC	DELL	N/A	✓	
4	USB 3.0 HDD	Canvio Basics/ 20M4T0OMTRNG	DoC	TOSHIBA	N/A	✓	
		Canvio Basics/ 20M3T0QETRNG	DoC	TOSHIBA	N/A	✓	
5	Type C HDD	Neutrino U3.1/ SK21D2027D002K	DoC	AKiTio	N/A	✓	

Other Tests

No.	Unit	Model No./ Serial No.	FCC ID	Trade Name	Power Cord	Supported by lab.	Note
1	LCD Monitor	U2718Q/ CN-0M5R5F-QDC00-9CL-0D1L-A10	DoC	DELL	1.8m	✓	
2	Earphone & Microphone	ZBW4354TY/ 20170210	DoC	xiaomi.tw	N/A	✓	
3	USB Mouse	M056U0A/ F0L0226E	DoC	DELL	N/A	✓	
4	USB 3.0 HDD	HD-PCTU3/ 85295434302634	DoC	Buffalo	N/A	✓	
		HD-PCTU3/ 85295534404825	DoC	Buffalo	N/A	✓	
5	Type C HDD	Neutrino U3.1/ SK21D1718X008E	DoC	AKiTio	N/A	✓	

1.7 Layout of the Setup

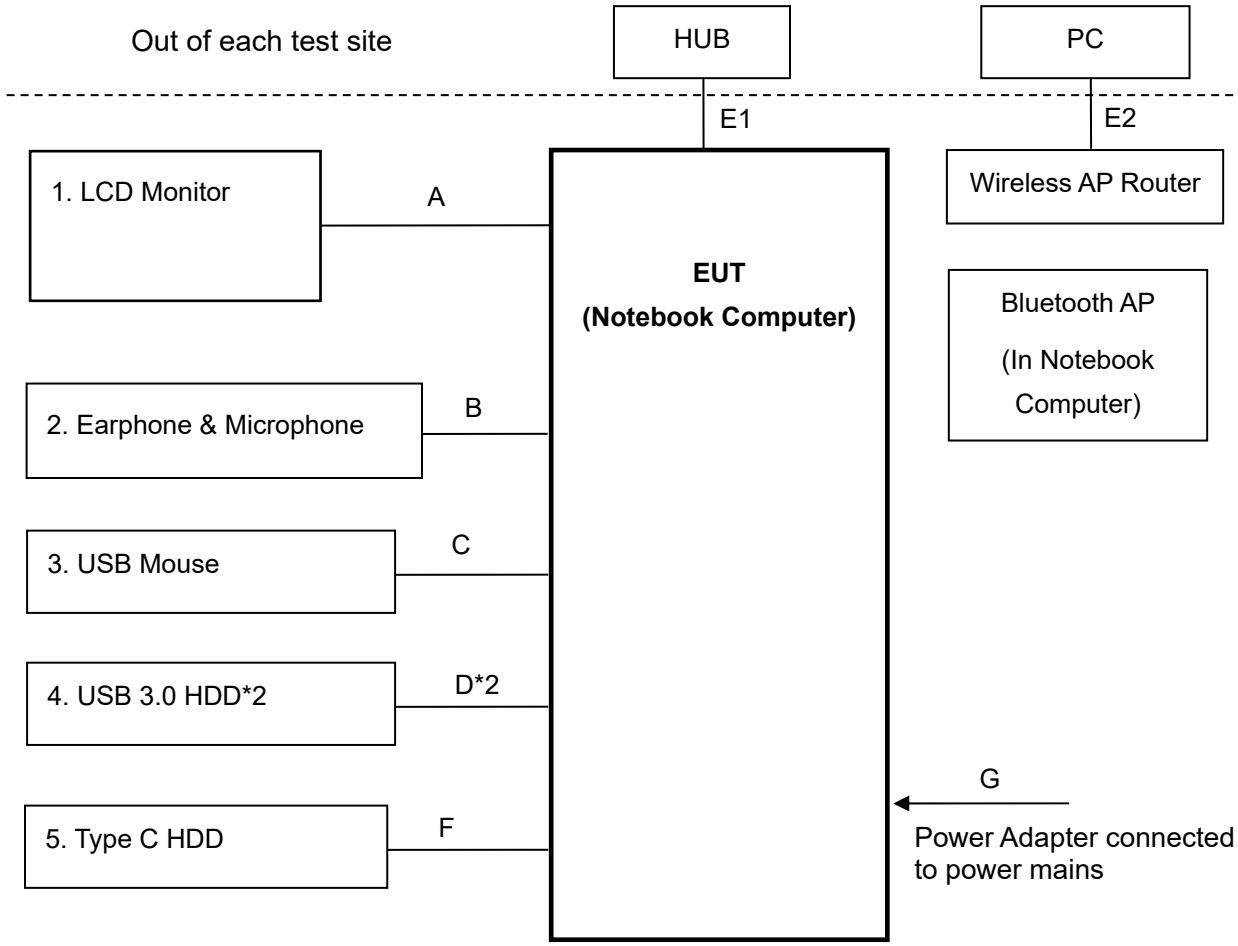
Radiated Emission Test



Connecting Cables:

No.	Cable	Path	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A	HDMI Cable	Monitor to EUT HDMI port.	1.8m	✓			✓	Model Name: JS41-14050
B	Earphone & Microphone Cable	Earphone & Microphone to EUT Audio/ Mic. port	1.2m	✓			✓	
C	Type-C cable	Type C HDD to EUT Type C port	1.0m	✓			✓	Model Name: C8F1M3A01BE1M0
D	USB 3.0 A to Micro USB cable	USB 3.0 HDD to EUT USB 3.0 port	1.0m	✓			✓	Model Name: JS-41-14021
E1	LAN Cable	Server (HUB) to EUT LAN port.	2.0m				✓	Cat.5e
E2		Wireless AP Router to PC LAN port.	2.0m				✓	Cat.5e
F	Power cable	Power Adapter to EUT DC port	1.8m		1			

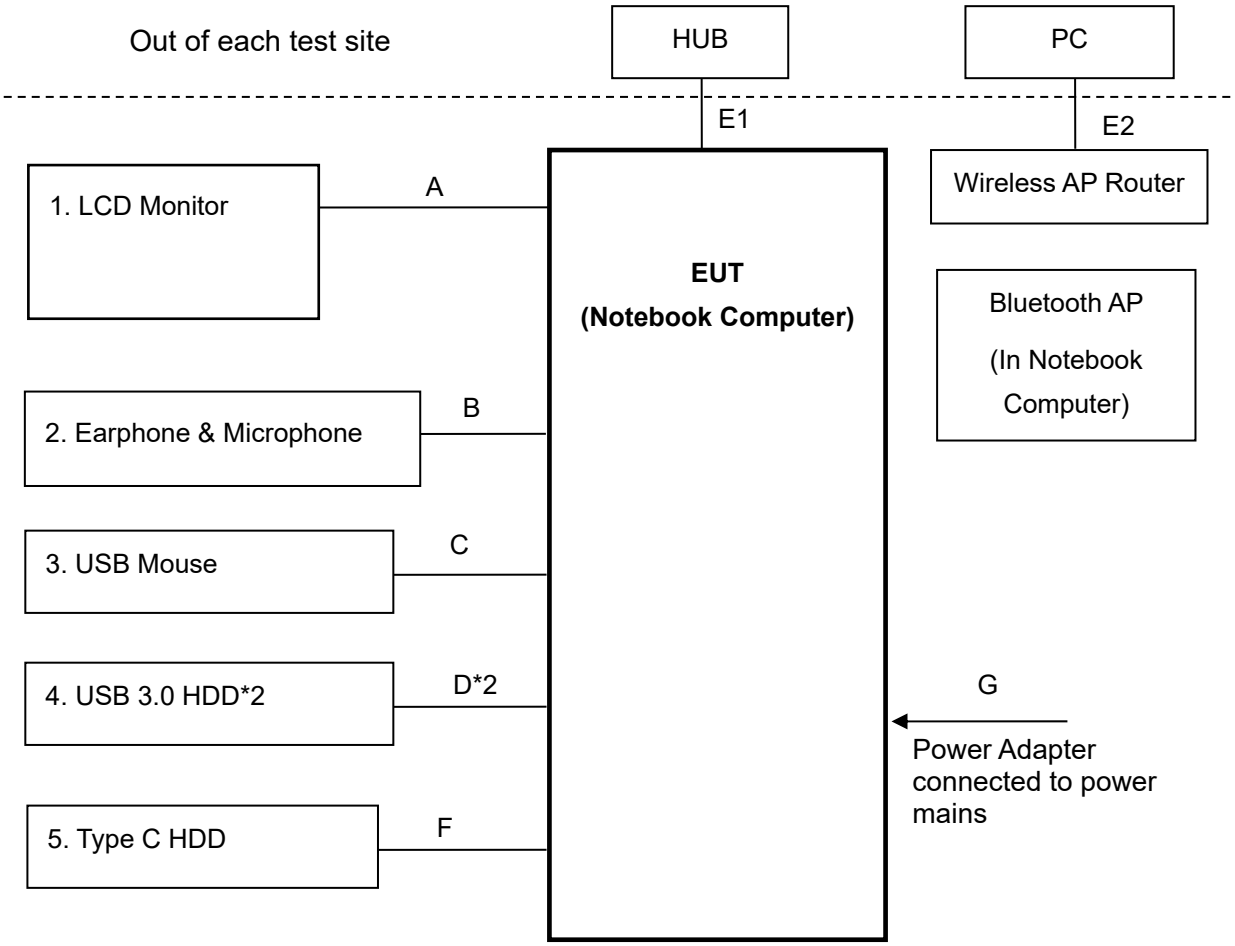
Conducted Emission Test



Connecting Cables:

No.	Cable	Path	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A	HDMI Cable	Monitor to EUT HDMI port.	1.8m	✓			✓	Model Name: JS41-14050
B	Earphone & Microphone Cable	Earphone & Microphone to EUT Audio/ Mic. port	1.2m	✓			✓	
C	USB Mouse Cable	USB Mouse to EUT USB 3.0 port	1.8m	✓			✓	
D	USB 3.0 A to Micro USB cable	USB 3.0 HDD to EUT USB 3.0 port	1.0m	✓			✓	Model Name: JS-41-14021
E1	LAN Cable	Server (HUB) to EUT LAN port.	2.0m				✓	Cat.5e
E2		Wireless AP Router to PC LAN port.	2.0m				✓	Cat.5e
F	Type-C cable	Type C HDD to EUT Type C port	1.0m	✓			✓	Model Name: C8F1M3-A01BE1-M0
G	Power cable	Power Adapter to EUT DC port	1.8m		1			

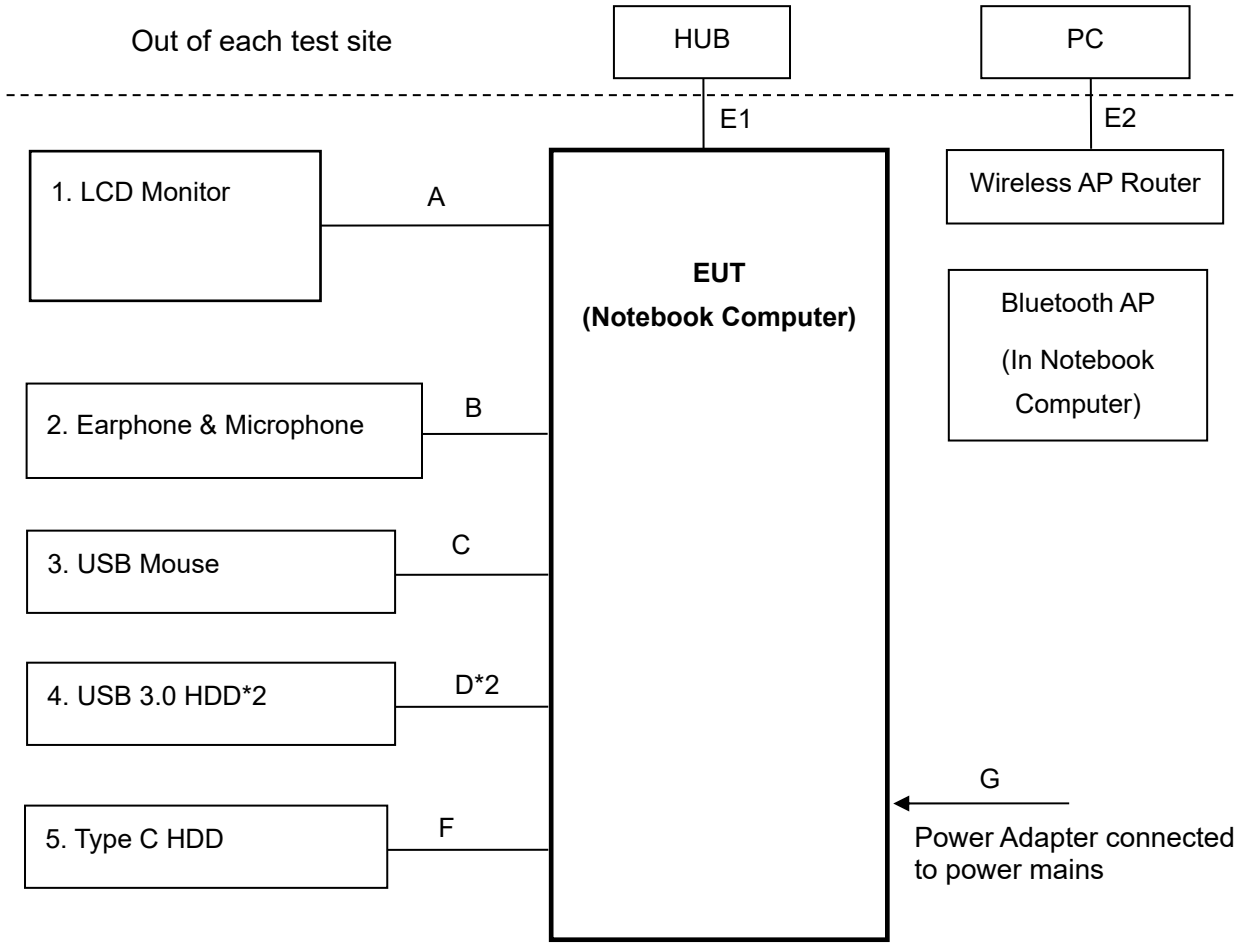
ESD Test



Connecting Cables:

No.	Cable	Path	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A	HDMI Cable	Monitor to EUT HDMI port.	1.8m	✓			✓	Model Name: JS41-14050
B	Earphone & Microphone Cable	Earphone & Microphone to EUT Audio/ Mic. port	1.2m	✓			✓	
C	USB Mouse Cable	USB Mouse to EUT USB 3.0 port	1.8m	✓			✓	
D	USB 3.0 A to Micro USB cable	USB 3.0 HDD to EUT USB 3.0 port	1.0m	✓			✓	Model Name: JS-41-14021
E1	LAN Cable	Server (HUB) to EUT LAN port.	1.5m				✓	Cat.5e
E2		Wireless AP Router to PC LAN port.	1.5m				✓	Cat.5e
F	Type-C cable	Type C HDD to EUT Type C port	1.0m	✓			✓	Model Name: C8F1M3A01BE1M0
G	Power cable	Power Adapter to EUT DC port	1.8m		1			

Other Tests



Connecting Cables:

No.	Cable	Path	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A	HDMI Cable	Monitor to EUT HDMI port.	1.8m	✓			✓	Model Name: JS41-14050
B	Earphone & Microphone Cable	Earphone & Microphone to EUT Audio/ Mic. port	1.2m	✓			✓	
C	USB Mouse Cable	USB Mouse to EUT USB 3.0 port	1.8m	✓			✓	
D	USB 3.0 A to Micro USB cable	USB 3.0 HDD to EUT USB 3.0 port	1.0m	✓			✓	Model Name: JS-41-14021
E1	LAN Cable	Server (HUB) to EUT LAN port.	2.0m				✓	Cat.5e
E2		Wireless AP Router to PC LAN port.	2.0m				✓	Cat.5e
F	Type-C cable	Type C HDD to EUT Type C port	1.0m	✓			✓	Model Name: C8F1M3-A01BE1-M0
G	Power cable	Power Adapter to EUT DC port	1.8m		1			

1.8 Test Capability

Test Facility

The test facility used for evaluating the conformance of the EUT with each standard in the present report meets what required in CISPR16 series and IEC/EN 61000-4-3.

Test Room	Type of Test Room	Descriptions
TR1	10m semi-anechoic chamber	For the radiated emission measurement. (below 1GHz)
TR1	10m semi-anechoic chamber with absorber	For the radiated emission measurement. (above 1GHz)
TR11	3m semi-anechoic chamber	For the radiated emission measurement. (below 1GHz)
TR5	Shielding Room	For the conducted emission measurement.
TR20	Shielding Room	
TR3	3m fully-anechoic chamber	For the radiated immunity test.
TR7	Shielding Room	For the Current Harmonic / Voltage Flicker and other immunity tests.
TR8	Shielding Room	
TR4	Shielding Room	
AR	Shielding Room	
TR12	Plane Grounding Site	
TR14	Plane Grounding Site	
TR300	3m fully-anechoic chamber	For the radiated emission measurement. (above 1GHz)

Test Laboratory Competence Information

Central Research Technology Co. has been accredited / filed / authorized by the agencies listed in the following table.

Certificate	Nation	Agency	Code	Mark
Accreditation Certificate	USA	NVLAP	200575-0	ISO/IEC 17025
	USA	FCC	TW1104, TW0019	ISO/IEC 17025
	R.O.C. (Taiwan)	TAF	0905	ISO/IEC 17025
	R.O.C. (Taiwan)	BSMI	SL2-IN-E-0033, SL2-IS-E-0033, SL2-R1/R2-E-0033, SL2-A1-E-0033, SL2-L1-E-0033	ISO/IEC 17025
	Canada	ISED	TW0905	ISO/IEC 17025
Site Filing Document	Japan	VCCI	R-11527,C-11609,T-11441, G-10010,C-20010, G-10614, T-20009	Test facility list & NSA Data
Authorization Certificate	Germany	TUV	UA 50235497	ISO/IEC 17025

The copy of each certificate can be downloaded from our web site: www.crc-lab.com

2. Conducted Emission Measurement

Test Result: PASS*

***: According to test specification of customer, the criteria is 2dB under the required limit of standard.**

2.1 Limits for Emission Measurement

Test Standard: ETSI EN 301 489-1
ETSI EN 301 489-17
as §1.3 described

☑ Limits for conducted disturbances at the power mains

Frequency (MHz)	Used in industrial environment or telecom. center		Normal Used	
	Quasi-peak (dBµV)	Average (dBµV)	Quasi-peak (dBµV)	Average (dBµV)
0.15 to 0.5	79	66	66 – 56	56 – 46
0.5 to 5	73	60	56	46
5 to 30	73	60	60	50
Note 1- The lower limit shall apply at the transition frequency. Note 2- The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz for Class B equipment.				

☑ Limits for conducted common mode disturbances at telecommunication ports

Frequency (MHz)	Used in industrial environment or telecom. center				Normal Used			
	Voltage Limits		Current Limits		Voltage Limits		Current Limits	
	Q.P. (dBµV)	Average (dBµV)	Q.P. (dBµA)	Average (dBµA)	Q.P. (dBµV)	Average (dBµV)	Q.P. (dBµA)	Average (dBµA)
0.15 to 0.5	97 - 87	84 – 74	53 – 43	40 – 30	84 – 74	74 - 64	40 – 30	30 - 20
0.5 to 30	87	74	43	30	74	64	30	20
Note 1- The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz. 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 150Ω to the telecommunication port under test.								

Test Standard: **EN 55032**
as §1.3 described

☑ Limits for conducted disturbances at the mains ports

Frequency (MHz)	Class A Equipment		Class B Equipment	
	Quasi-peak (dBµV)	Average (dBµV)	Quasi-peak (dBµV)	Average (dBµV)
0.15 to 0.5	79	66	66 – 56	56 – 46
0.5 to 5	73	60	56	46
5 to 30	73	60	60	50

Note 1- The lower limit shall apply at the transition frequency.
Note 2- The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz for Class B equipment.

☑ Limits for conducted common mode disturbances at telecommunication ports

Frequency (MHz)	Class A Equipment				Class B Equipment			
	Voltage Limits		Current Limits		Voltage Limits		Current Limits	
	Q.P. (dBµV)	Average (dBµV)	Q.P. (dBµA)	Average (dBµA)	Q.P. (dBµV)	Average (dBµV)	Q.P. (dBµA)	Average (dBµA)
0.15 to 0.5	97 - 87	84 – 74	53 – 43	40 – 30	84 – 74	74 - 64	40 – 30	30 - 20
0.5 to 30	87	74	43	30	74	64	30	20

Note 1- The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5MHz.
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 150Ω to the telecommunication port under test.

2.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Test Receiver	R&S	ESR/ 102550	April 21, 2021	April 21, 2022
LISN	SchwarzBeck	NSLK-8128-RC/ 8128-383	July 7, 2021	July 7, 2022
2nd LISN	R&S	ENV4200/ 833209/010	May 5, 2021	May 5, 2022
ISN	FCC	☐ FCC-TLISN-T2-02/20269	Aug. 15, 2021	Aug. 15, 2022
	TESEQ	☑ ISN T400A/ 28575	Aug. 15, 2021	Aug. 15, 2022
		☑ ISN T800/ 36191	Aug. 16, 2021	Aug. 16, 2022
50Ω terminator	SUHNER	65 BNC-50-0-1/133 NE/005	June 1, 2021	June 1, 2022
RF Switch	R&S	RSU28/ 338965/002	Nov. 12, 2021	May 12, 2022
RF Cable	N/A	N/A/ C0052 ~ 56	Nov. 12, 2021	May 12, 2022
Test Software	Audix	e3/ V6.110303a2	NCR	NCR
TR5 shielded room	ETS LINDGREN	TR5/ 15353-F	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

Measurement Uncertainty

The assessed measurement uncertainty with a suitable coverage factor K to ensure 95% confidence level for the normal distribution are shown as below, the values are less than U_{cispr} in table 1 of CISPR 16-4-2 and the compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit.

Test Item	Uncertainty Value
Conducted emissions using a LISN : NSLK-8128-RC	2.92dB
Conducted emissions using a LISN :ENV 4200	2.90dB
Conducted emissions using a ISN : FCC-TLISN-T2-02	2.88dB
Conducted emissions using a ISN : ISN T400A	2.92dB
Conducted emissions using a ISN : ISN T800	3.24dB

2.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters above the reference ground plane and 0.4 meters from the conducting wall of the shielded room. Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15 meters above the reference ground plane.

c. For EN 55032, all cables connecting to AE located outside the chamber shall drop directly to, but be insulated from, the RGP (or turntable). The thickness of the insulation shall not be more than 150 mm.

d. Connect the EUT's power source / telecommunication lines to the appropriate power mains / peripherals through the LISN / ISN.

e. All the other peripherals are connected to the 2nd LISN, if any.

f. The LISN / ISN was placed 0.8 meters from the EUT and at least 0.8 meters from other units and other metal planes.

g. Measure the conducted emissions on each power line (Neutral Line and Line 1 – Hot side) of the EUT's power source by using the test receiver connected to the coupling RF output port of LISN.

h. Rapidly scan the signal from 150kHz to 30MHz by using the receiver through the Maximum-Peak detector to determine those frequencies associated with higher emission levels for each measured line.

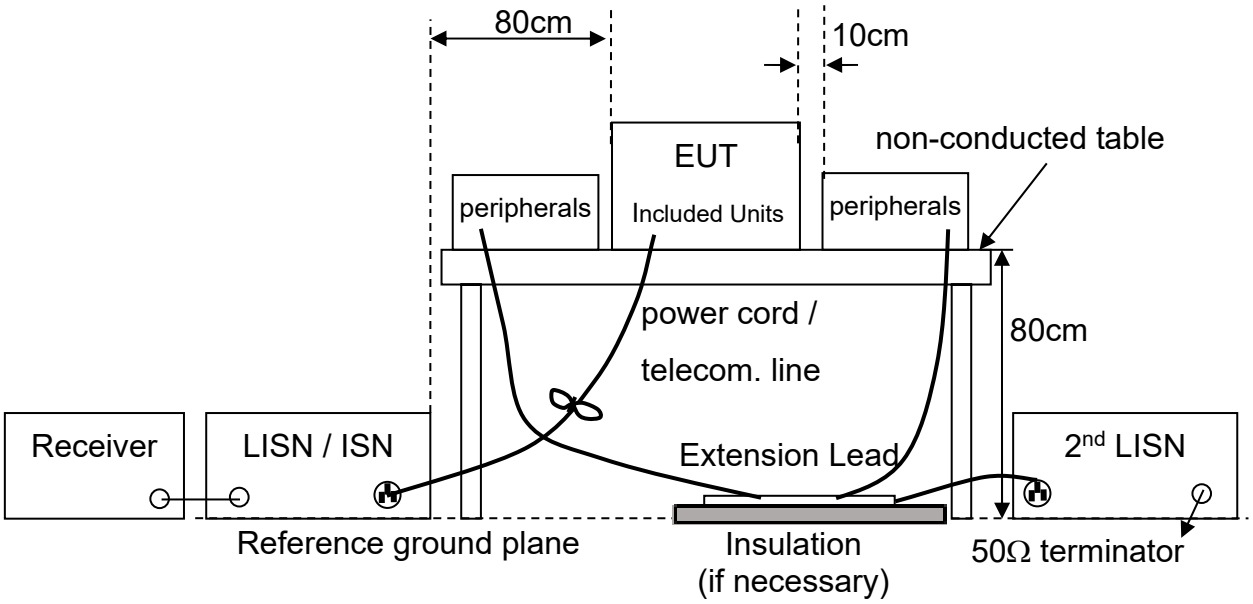
i. Then measure the maximum level of conducted disturbance for each frequency found from step g. by using the receiver through the Quasi-Peak and Average detectors per CISPR 16-1.

j. Record the level for each frequency and compare with the required limit.

k. If required, measure the conducted emissions on telecommunication lines of EUT by using the test receiver connected to the coupling RF output port of ISN and repeat step g. to i.

l. If the peak emission level is lower than the specified Average limit, then the emission values presented will be the peak value only. Otherwise, accurate Q.P. or Average values will be measured and presented.

2.4 Test Configurations

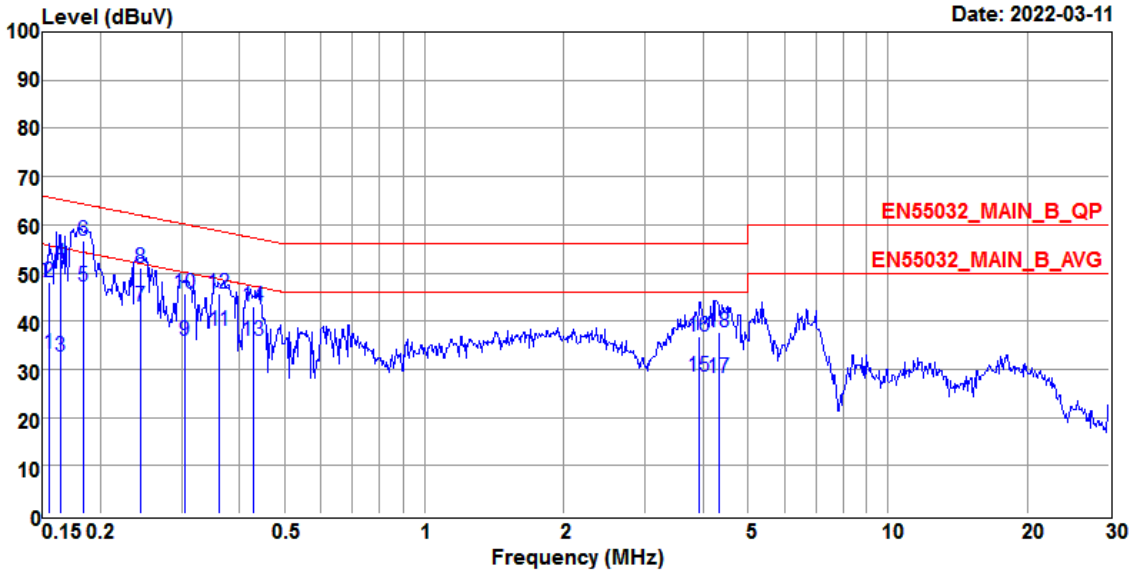


2.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

2.6 Test Results

Test Mode	:	Mode 1			
Test Voltage	:	230Vac/50Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**Line**

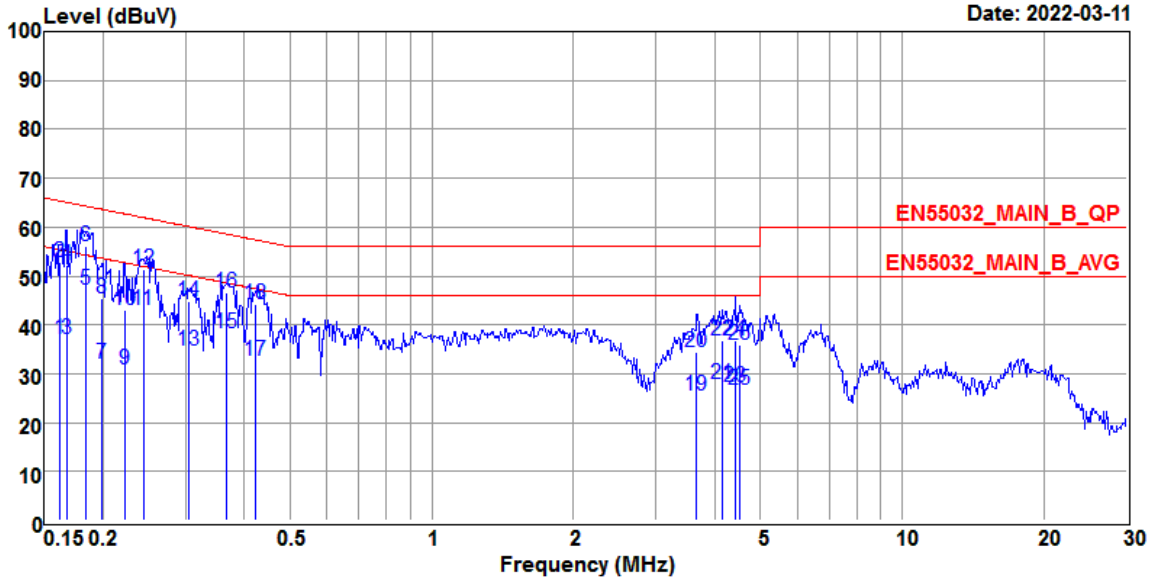


Site : TR5 Conduction Emission Chamber
Condition : EN55032_MAIN_B_QP NSLK_8128RC_WO LINE
Power : 50Hz/230V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.155	33.12	23.10	10.02	55.74	-22.62	LINE	Average
2	0.155	47.95	37.93	10.02	65.74	-17.79	LINE	QP
3	0.164	32.57	22.55	10.02	55.25	-22.68	LINE	Average
4	0.164	51.84	41.82	10.02	65.25	-13.41	LINE	QP
5	0.184	47.31	37.30	10.01	54.28	-6.97	LINE	Average
6	0.184	56.71	46.70	10.01	64.28	-7.57	LINE	QP
7	0.244	43.15	33.14	10.01	51.95	-8.80	LINE	Average
8	0.244	50.91	40.90	10.01	61.95	-11.04	LINE	QP
9	0.305	36.02	26.01	10.01	50.10	-14.08	LINE	Average
10	0.305	45.69	35.68	10.01	60.10	-14.41	LINE	QP
11	0.361	38.07	28.06	10.01	48.69	-10.62	LINE	Average
12	0.361	45.76	35.75	10.01	58.69	-12.93	LINE	QP
13	0.428	36.06	26.05	10.01	47.29	-11.23	LINE	Average
14	0.428	43.15	33.14	10.01	57.29	-14.14	LINE	QP
15	3.922	28.62	18.44	10.18	46.00	-17.38	LINE	Average
16	3.922	36.90	26.72	10.18	56.00	-19.10	LINE	QP
17	4.338	28.23	18.03	10.20	46.00	-17.77	LINE	Average
18	4.338	37.67	27.47	10.20	56.00	-18.33	LINE	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	230Vac/50Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**Neutral**

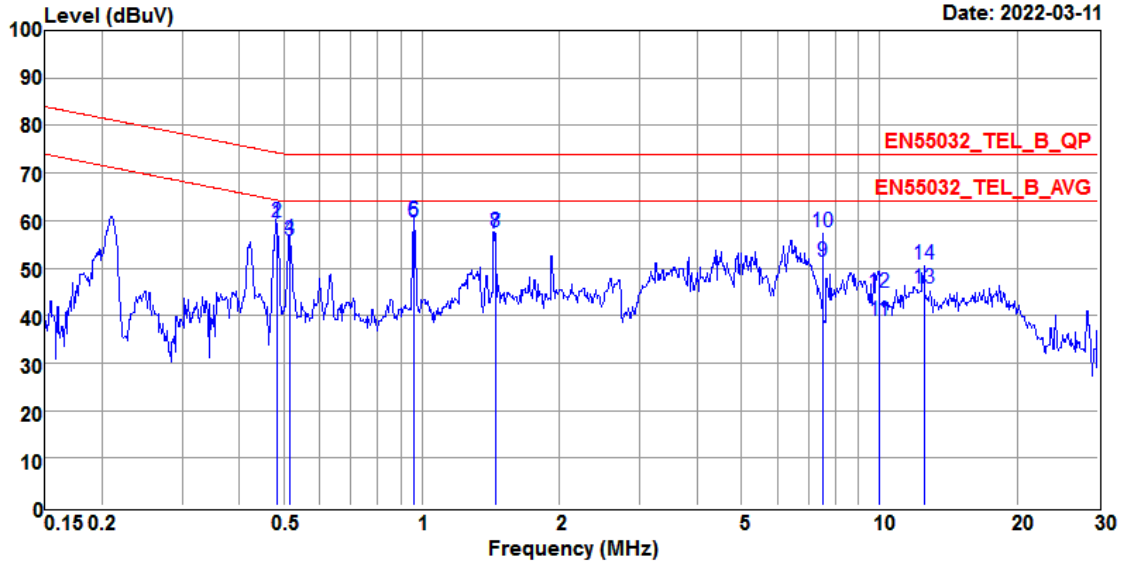


Site : TR5 Conduction Emission Chamber
Condition : EN55032_MAIN_B_QP NSLK_8128RC_WO NEUTRAL
Power : 50Hz/230V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.162	36.96	26.98	9.98	55.34	-18.38	NEUTRAL	Average
2	0.162	52.89	42.91	9.98	65.34	-12.45	NEUTRAL	QP
3	0.168	37.10	27.12	9.98	55.08	-17.98	NEUTRAL	Average
4	0.168	52.31	42.33	9.98	65.08	-12.77	NEUTRAL	QP
5	0.184	47.12	37.14	9.98	54.28	-7.16	NEUTRAL	Average
6	0.184	56.07	46.09	9.98	64.28	-8.21	NEUTRAL	QP
7	0.200	31.96	21.98	9.98	53.62	-21.66	NEUTRAL	Average
8	0.200	45.45	35.47	9.98	63.62	-18.17	NEUTRAL	QP
9	0.223	30.97	20.99	9.98	52.70	-21.73	NEUTRAL	Average
10	0.223	43.18	33.20	9.98	62.70	-19.52	NEUTRAL	QP
11	0.244	42.95	32.97	9.98	51.95	-9.00	NEUTRAL	Average
12	0.244	51.25	41.27	9.98	61.95	-10.70	NEUTRAL	QP
13	0.305	34.70	24.72	9.98	50.10	-15.40	NEUTRAL	Average
14	0.305	44.88	34.90	9.98	60.10	-15.22	NEUTRAL	QP
15	0.365	38.26	28.28	9.98	48.61	-10.35	NEUTRAL	Average
16	0.365	46.49	36.51	9.98	58.61	-12.12	NEUTRAL	QP
17	0.421	32.54	22.56	9.98	47.42	-14.88	NEUTRAL	Average
18	0.421	44.18	34.20	9.98	57.42	-13.24	NEUTRAL	QP
19	3.661	25.68	15.55	10.13	46.00	-20.32	NEUTRAL	Average
20	3.661	34.50	24.37	10.13	56.00	-21.50	NEUTRAL	QP
21	4.136	27.79	17.65	10.14	46.00	-18.21	NEUTRAL	Average
22	4.136	36.84	26.70	10.14	56.00	-19.16	NEUTRAL	QP
23	4.430	27.39	17.23	10.16	46.00	-18.61	NEUTRAL	Average
24	4.430	36.93	26.77	10.16	56.00	-19.07	NEUTRAL	QP
25	4.525	26.70	16.54	10.16	46.00	-19.30	NEUTRAL	Average
26	4.525	35.96	25.80	10.16	56.00	-20.04	NEUTRAL	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	230Vac/50Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**LAN for 10Mbps**

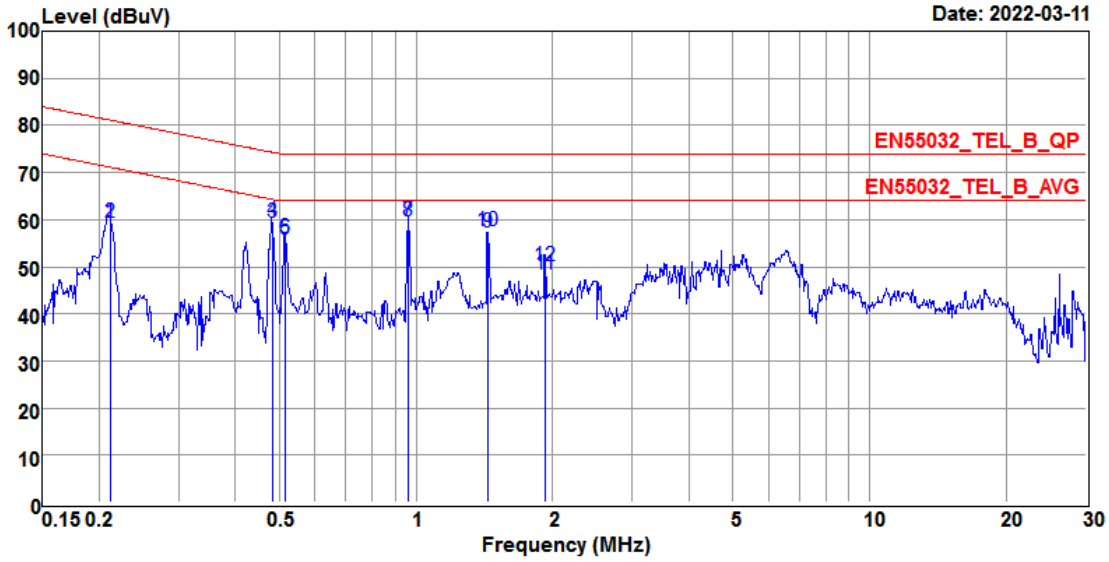


Site : TR5 Conduction Emission Chamber
Condition : EN55032_TEL_B_QP ISN_T400A_CAT5-LAN LINE
Power : 50Hz/230V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.482	59.44	49.67	9.77	64.30	-4.86	LINE	Average
2	0.482	59.63	49.86	9.77	74.30	-14.67	LINE	QP
3	0.515	55.69	45.94	9.75	64.00	-8.31	LINE	Average
4	0.515	56.09	46.34	9.75	74.00	-17.91	LINE	QP
5	0.965	59.60	49.93	9.67	64.00	-4.40	LINE	Average
6	0.965	59.83	50.16	9.67	74.00	-14.17	LINE	QP
7	1.447	57.14	47.50	9.64	64.00	-6.86	LINE	Average
8	1.447	57.54	47.90	9.64	74.00	-16.46	LINE	QP
9	7.500	51.39	41.75	9.64	64.00	-12.61	LINE	Average
10	7.500	57.72	48.08	9.64	74.00	-16.28	LINE	QP
11	10.000	38.83	29.18	9.65	64.00	-25.17	LINE	Average
12	10.000	44.72	35.07	9.65	74.00	-29.28	LINE	QP
13	12.500	45.85	36.17	9.68	64.00	-18.15	LINE	Average
14	12.500	50.85	41.17	9.68	74.00	-23.15	LINE	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN/ ISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	230Vac/50Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**LAN for 100Mbps**

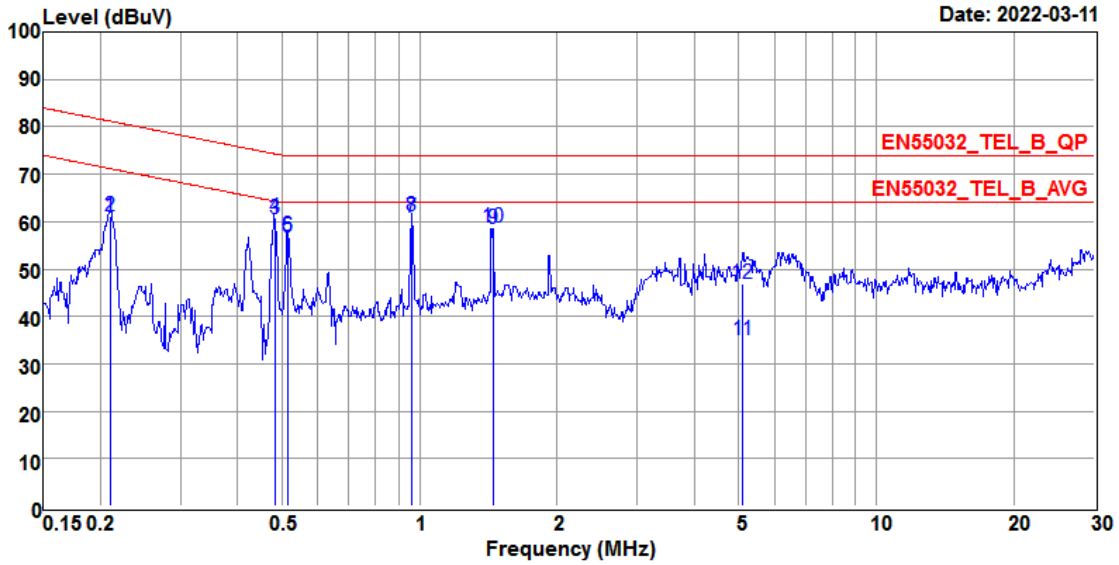


Site : TR5 Conduction Emission Chamber
Condition : EN55032_TEL_B_QP ISN_T400A_CAT5-LAN LINE
Power : 50Hz/230V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.212	59.24	49.26	9.98	71.11	-11.87	LINE	Average
2	0.212	59.27	49.29	9.98	81.11	-21.84	LINE	QP
3	0.482	59.41	49.64	9.77	64.31	-4.90	LINE	Average
4	0.482	59.58	49.81	9.77	74.31	-14.73	LINE	QP
5	0.516	55.72	45.97	9.75	64.00	-8.28	LINE	Average
6	0.516	56.01	46.26	9.75	74.00	-17.99	LINE	QP
7	0.964	59.53	49.86	9.67	64.00	-4.47	LINE	Average
8	0.964	59.74	50.07	9.67	74.00	-14.26	LINE	QP
9	1.446	57.17	47.53	9.64	64.00	-6.83	LINE	Average
10	1.446	57.49	47.85	9.64	74.00	-16.51	LINE	QP
11	1.928	48.32	38.70	9.62	64.00	-15.68	LINE	Average
12	1.928	50.03	40.41	9.62	74.00	-23.97	LINE	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN/ ISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	230Vac/50Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**LAN for 1Gbps**

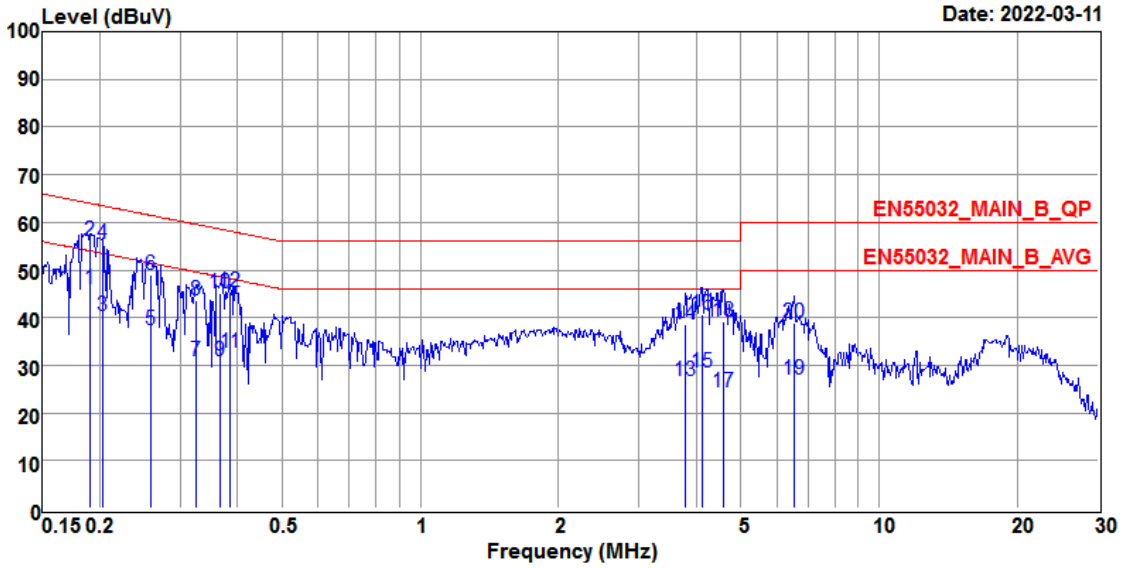


Site : TR5 Conduction Emission Chamber
Condition : EN55032_TEL_B_QP ISN_T800_CAT5-LAN LINE
Power : 50Hz/230V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.211	61.03	50.88	10.15	71.18	-10.15	LINE	Average
2	0.211	61.09	50.94	10.15	81.18	-20.09	LINE	QP
3	0.482	60.61	50.66	9.95	64.31	-3.70	LINE	Average
4	0.482	60.77	50.82	9.95	74.31	-13.54	LINE	QP
5	0.516	56.78	46.85	9.93	64.00	-7.22	LINE	Average
6	0.516	57.07	47.14	9.93	74.00	-16.93	LINE	QP
7	0.964	60.85	50.99	9.86	64.00	-3.15	LINE	Average
8	0.964	61.07	51.21	9.86	74.00	-12.93	LINE	QP
9	1.446	58.47	48.64	9.83	64.00	-5.53	LINE	Average
10	1.446	58.79	48.96	9.83	74.00	-15.21	LINE	QP
11	5.099	35.01	25.20	9.81	64.00	-28.99	LINE	Average
12	5.099	46.95	37.14	9.81	74.00	-27.05	LINE	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN/ ISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	120Vac/60Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**Line**

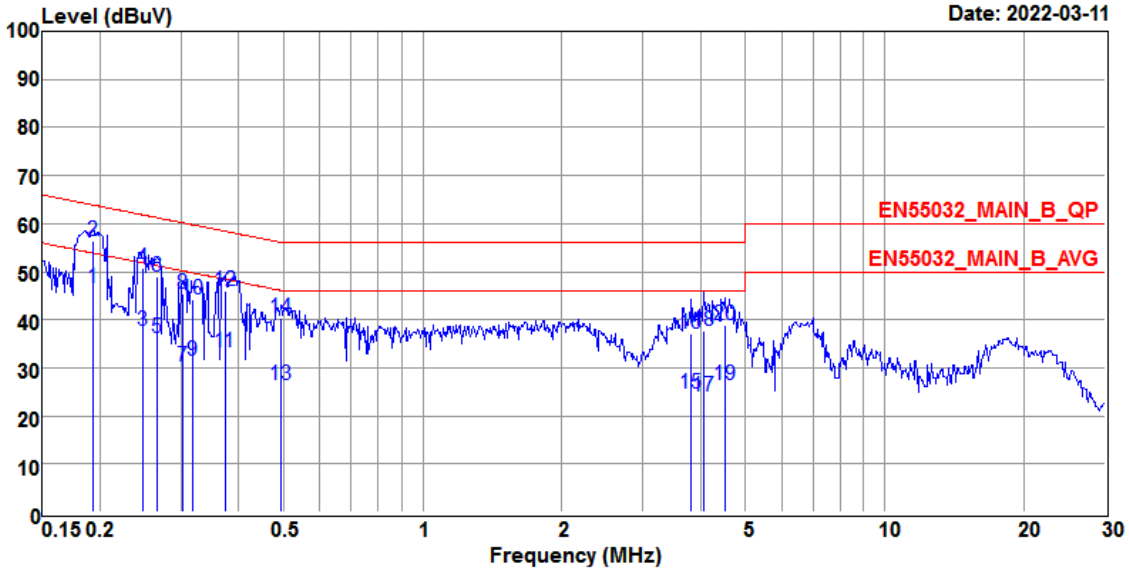


Site : TR5 Conduction Emission Chamber
Condition : EN55032_MAIN_B_QP NSLK_8128RC_WO LINE
Power : 60Hz/120V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.191	46.03	36.02	10.01	53.98	-7.95	LINE	Average
2	0.191	56.22	46.21	10.01	63.98	-7.76	LINE	QP
3	0.203	40.44	30.43	10.01	53.49	-13.05	LINE	Average
4	0.203	55.44	45.43	10.01	63.49	-8.05	LINE	QP
5	0.259	37.47	27.46	10.01	51.47	-14.00	LINE	Average
6	0.259	48.99	38.98	10.01	61.47	-12.48	LINE	QP
7	0.325	30.75	20.74	10.01	49.57	-18.82	LINE	Average
8	0.325	43.72	33.71	10.01	59.57	-15.85	LINE	QP
9	0.365	30.77	20.76	10.01	48.61	-17.84	LINE	Average
10	0.365	44.97	34.96	10.01	58.61	-13.64	LINE	QP
11	0.385	32.53	22.52	10.01	48.17	-15.64	LINE	Average
12	0.385	45.31	35.30	10.01	58.17	-12.86	LINE	QP
13	3.779	26.78	16.60	10.18	46.00	-19.22	LINE	Average
14	3.779	38.55	28.37	10.18	56.00	-17.45	LINE	QP
15	4.114	28.55	18.37	10.18	46.00	-17.45	LINE	Average
16	4.114	40.77	30.59	10.18	56.00	-15.23	LINE	QP
17	4.574	24.26	14.06	10.20	46.00	-21.74	LINE	Average
18	4.574	39.19	28.99	10.20	56.00	-16.81	LINE	QP
19	6.523	27.08	16.80	10.28	50.00	-22.92	LINE	Average
20	6.523	38.77	28.49	10.28	60.00	-21.23	LINE	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	120Vac/60Hz to the power adapter			
Tester	:	Der-Jan Ken	**Temperature**	:	24°C
Humidity	:	56%RH	**Frequency Range**	:	150kHz~30MHz
IF Bandwidth	:	9kHz	**Phase**	:	**Neutral**



Site : TR5 Conduction Emission Chamber
Condition : EN55032_MAIN_B_QP NSLK_8128RC_WO NEUTRAL
Power : 60Hz/120V
Operator : DER-JAN KEN T24/H56/P1016

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB		
1	0.193	46.53	36.55	9.98	53.89	-7.36	NEUTRAL	Average
2	0.193	56.48	46.50	9.98	63.89	-7.41	NEUTRAL	QP
3	0.248	37.75	27.77	9.98	51.82	-14.07	NEUTRAL	Average
4	0.248	50.64	40.66	9.98	61.82	-11.18	NEUTRAL	QP
5	0.266	36.18	26.20	9.98	51.25	-15.07	NEUTRAL	Average
6	0.266	48.83	38.85	9.98	61.25	-12.42	NEUTRAL	QP
7	0.303	30.30	20.32	9.98	50.15	-19.85	NEUTRAL	Average
8	0.303	45.30	35.32	9.98	60.15	-14.85	NEUTRAL	QP
9	0.318	31.52	21.54	9.98	49.75	-18.23	NEUTRAL	Average
10	0.318	44.12	34.14	9.98	59.75	-15.63	NEUTRAL	QP
11	0.373	33.27	23.29	9.98	48.43	-15.16	NEUTRAL	Average
12	0.373	46.10	36.12	9.98	58.43	-12.33	NEUTRAL	QP
13	0.494	26.40	16.43	9.97	46.10	-19.70	NEUTRAL	Average
14	0.494	40.39	30.42	9.97	56.10	-15.71	NEUTRAL	QP
15	3.820	24.65	14.51	10.14	46.00	-21.35	NEUTRAL	Average
16	3.820	37.23	27.09	10.14	56.00	-18.77	NEUTRAL	QP
17	4.070	24.13	13.99	10.14	46.00	-21.87	NEUTRAL	Average
18	4.070	37.75	27.61	10.14	56.00	-18.25	NEUTRAL	QP
19	4.501	26.50	16.34	10.16	46.00	-19.50	NEUTRAL	Average
20	4.501	38.82	28.66	10.16	56.00	-17.18	NEUTRAL	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

3. Radiated Emission Measurement

Test Result: PASS*

***: According to test specification of customer, the criteria is 2dB under the required limit of standard.**

3.1 Limits for Emission Measurement

Type of EUT	Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
☐	Below 108	1000
☐	108 - 500	2000
☐	500 - 1000	5000
☑	Above 1000	5th harmonic of the highest frequency or 6GHz, whichever is lower

Test Standard: **ETSI EN 301 489-1**
ETSI EN 301 489-17
as §1.3 described

☑ Limits for radiated disturbances at a measuring distance of 10m

Frequency (MHz)	Used in industrial environment or telecom. center	Normal Used
	Quasi-peak (dBμV/m)	Quasi-peak (dBμV/m)
30 to 230	40	30
230 to 1000	47	37
Note 1- The lower limit shall apply at the transition frequency. Note 2- Additional provisions may be required for cases where interference occurs.		

☑ Limits for radiated disturbances at a measuring distance of 3m

Frequency (GHz)	Used in industrial environment or telecom. center		Normal Used	
	Peak (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/m)
1 to 3	76	56	70	50
3 to 6	80	60	74	54
Note 1- The lower limit shall apply at the transition frequency.				

Test Standard: EN 55032
as §1.3 described

☑ Limits for radiated disturbances at a measuring distance of 10m

Frequency (MHz)	Class A Equipment	Class B Equipment
	Quasi-peak (dBμV/m)	Quasi-peak (dBμV/m)
30 to 230	40	30
230 to 1000	47	37
Note 1- The lower limit shall apply at the transition frequency. Note 2- Additional provisions may be required for cases where interference occurs.		

☑ Limits for radiated disturbances at a measuring distance of 3m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dBμV/m)	Average (dBμV/m)	Peak (dBμV/m)	Average (dBμV/m)
1 to 3	76	56	70	50
3 to 6	80	60	74	54
Note 1- The lower limit shall apply at the transition frequency.				

3.2 Test Instruments

☑ Below 1GHz measurement

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR/ 102308	July 8, 2021	July 8, 2022
Bilog Antenna with 5 dB Attenuator	SCHWARZBECK & Mini-Circuits	VULB 9168 & BW-N5W5+ / VULB 9168-618 & 001	June 3, 2021	June 3, 2022
Bilog Antenna with 5 dB Attenuator	SCHWARZBECK & JYEBAO	VULB 9168 & FAT-NM5NF5T10G2W5/ VULB 9168-01007 & 002	Aug. 31, 2021	Aug. 31, 2022
Pre-Amplifier	EMCI	EMC9135/ 980630	Nov. 13, 2021	May 13, 2022
Pre-Amplifier	EMCI	EMC9135/ 980550	Nov. 13, 2021	May 13, 2022
Spectrum Analyzer	R&S	FSP 7/ 100106	Mar. 24, 2021	Mar. 24, 2022
Spectrum Analyzer	R&S	FSP 7/ 100384	Feb. 18, 2022	Feb. 18, 2023
RF Cable	JYEBAO	0214/ C0058 + C0049 + C0049-2 + RSU + C0050-3	Nov. 13, 2021	May 13, 2022
RF Cable	JYEBAO	0214/ C0059 + C0050 + C0050-2 + RSU + C0050-3	Nov. 13, 2021	May 13, 2022
Test Software	Audix	e3/ V6.110303a2	NCR	NCR
TR1 Semi - anechoic Chamber	ETS. LINDGREN	TR1/ 17627-B	Jan. 29, 2022	Jan. 29, 2023

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.
3. The calibration date of the chamber TR1 listed above is the date of NSA measurement.

☑ Above 1GHz measurement (TR1)

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Horn Antenna	EMCO	3117/ 0082847	Nov. 9, 2021	Nov. 9, 2022
ANTENNA MAST	MF	MFA-560BSN/ 1308728	NCR	NCR
Pre-Amplifier	MITEQ	TTA1800-30-HG-N-M/ 1904295	Oct. 28, 2021	Oct. 28, 2022
RF Cable	Suhner	Sucoflex 106P / C0091	Oct. 4, 2021	Oct. 4, 2022
MXA Signal Analyzer	KeySight	N9020A/ MY54420147	July 5, 2021	July 5, 2022
Test Software	Audix	e3/ V9 20150907c	NCR	NCR
TR1 Semi-anechoic chamber with absorber	ETS. LINDGREN	TR1/ 17627-B	Jan. 30, 2022	Jan. 30, 2023

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.
3. The calibration date of the chamber TR1 listed above is the date of site VSWR measurement.

Measurement Uncertainty

The assessed measurement uncertainty with a suitable coverage factor K to ensure 95% confidence level for the normal distribution are shown as below, the values are less than U_{cispr} in table 1 of CISPR 16-4-2 and the compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit.

Test Site (Measuring distance)	**Polarization**	**Frequency Range**
		30MHz ~ 1000MHz
TR1(10m)	Horizontal	5.08dB
	Vertical	5.14dB

Test Site (Measuring distance)	**Polarization**	**Frequency Range**
		1GHz ~ 6GHz
TR1(3m)	Horizontal	4.62dB
	Vertical	4.48dB
TR300(3m)	Horizontal	4.94dB
	Vertical	4.88dB

3.3 Test Procedures

Below 1GHz measurement

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters above the reference ground plane and 10 meters away from the interference receiving antenna in the semi-anechoic chamber.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15 meters above the reference ground plane and 10 meters away from the interference-receiving antenna in the semi-anechoic chamber.

d. For EN 55032, all cables connecting to AE located outside the chamber shall drop directly to, but be insulated from, the RGP (or turntable). The thickness of the insulation shall not be more than 150 mm.

e. Rapidly sweep the signal from 30MHz to 1GHz by using the spectrum through the Maximum-peak detector.

f. Rotate the EUT from 0° to 360° and position the receiving antenna at heights from 1 to 4 meters above the reference ground plane continuously to determine at least three frequencies associated with higher emission levels and record them.

g. Then measure each frequency found from step e. by using the spectrum with rotating the EUT and positioning the receiving antenna height to determine the maximum level.

h. Finely tune the antenna and turntable around the recorded position of each frequency found from step f. by using the receiver through the Quasi-Peak detector per CISPR 16-1 to find out where the maximum level occurred.

i. Record frequency, azimuth angle of the turntable, height, and polarization of the receiving antenna and compare the maximum level with the required limit.

j. Change the receiving antenna to another polarization to measure radiated emission by following step d. to h. again.

k. If the peak emission level measured from step e. is 4dB lower than the limit specified, then the emission values presented will be the peak value only. Otherwise, accurate Q.P. value will be measured and presented.

Above 1GHz measurement

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it should be placed on a non-conducted table with a height of 0.8 meters above the reference ground plane and 3 meters away from the interference receiving antenna in the fully-anechoic chamber.

c. If the EUT is floor-standing equipment, it should be placed on a non-conducted support with a height up to 0.15 meters above the reference ground plane and 3 meters away from the interference-receiving antenna in the fully-anechoic chamber.

d. For EN 55032, all cables connecting to AE located outside the chamber shall drop directly to, but be insulated from, the RGP (or turntable). The thickness of the insulation shall not be more than 150 mm.

e. Rapidly sweep the signal from 1GHz to the upper frequency of measurement range by using the spectrum through the Maximum-peak detector.

f. If the 3dB beamwidth of the receiving antenna (minima w is 2.8m @ 1GHz to 6GHz while test distance is 3m) encompasses EUT height, the center of the receiving antenna will be fixed at the height of the center of the EUT. If w of a 1m-height receiving antenna encompasses the whole EUT, the antenna will be fixed at 1m height. For any EUT with the height larger than w, the receiving antenna will travelled vertically so that the antenna beam scans the whole EUT.

g. Rotate the EUT from 0° to 360° continuously and position the receiving antenna at specified height above the reference ground plane to determine the frequencies associated with higher emission levels and record them.

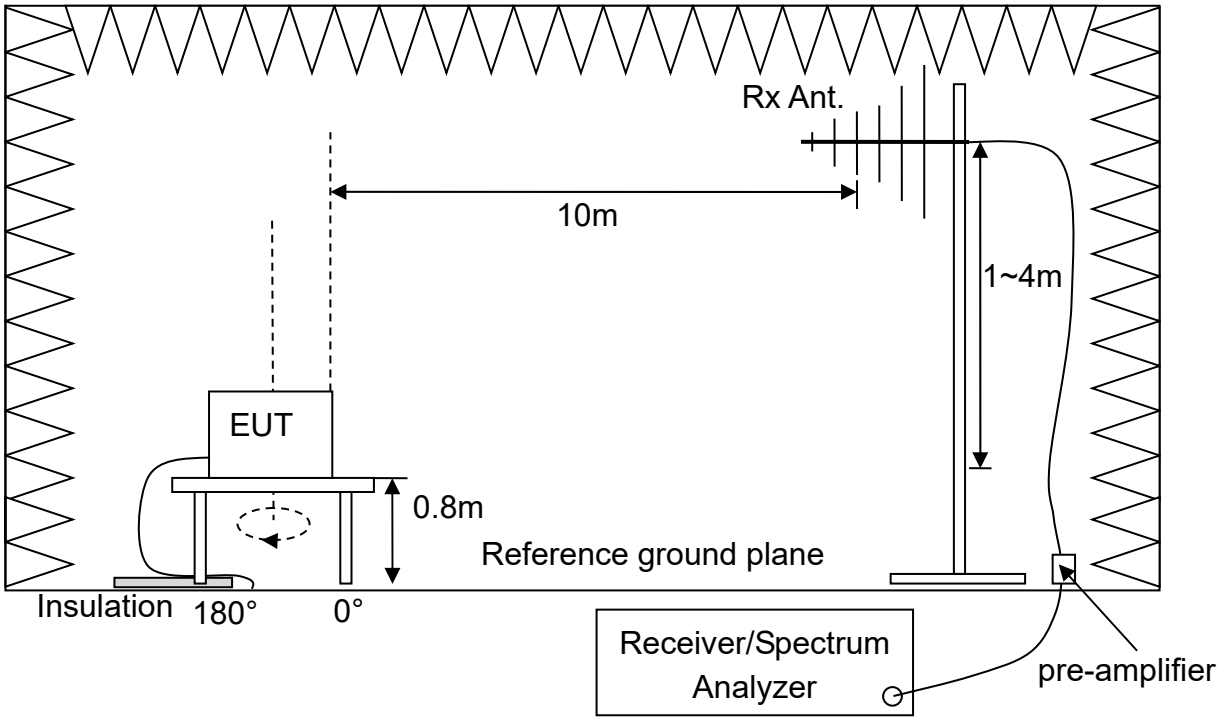
h. Then measure each frequency found from step e. by using the spectrum with rotating the EUT to determine the maximum peak and average level.

i. Record frequency, azimuth angle of the turntable and compare the maximum level with the required limit.

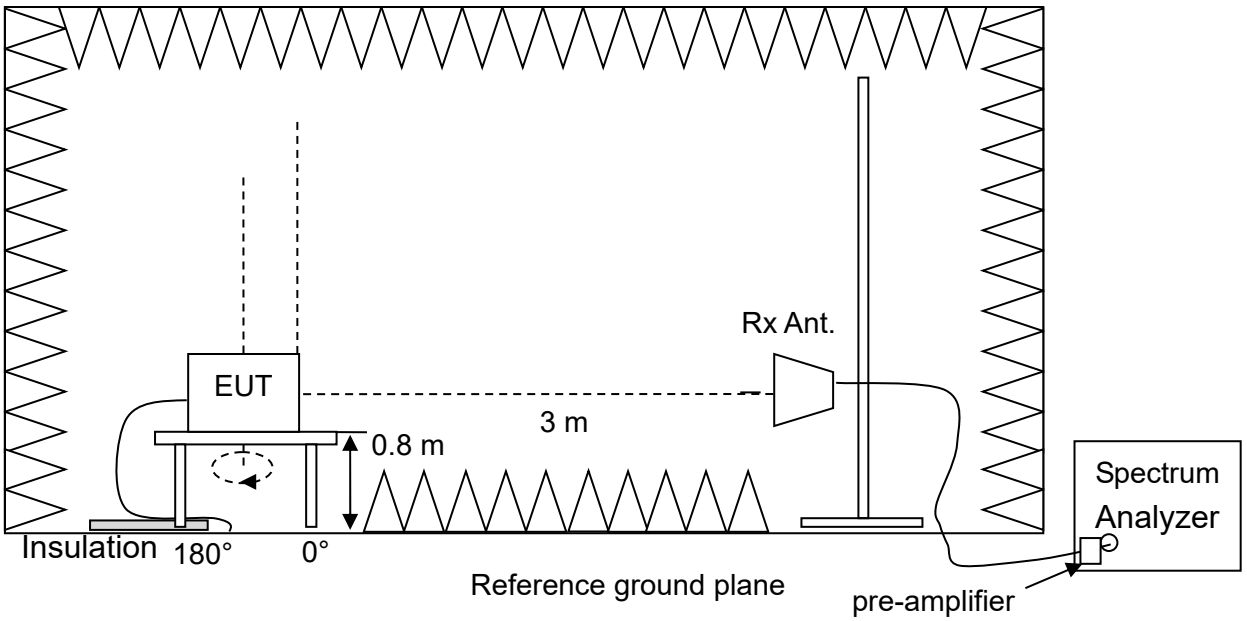
j. Change the receiving antenna to another polarization to measure radiated emission by following step d. to g. again.

3.4 Test Configurations

Below 1GHz measurement



Above 1GHz measurement



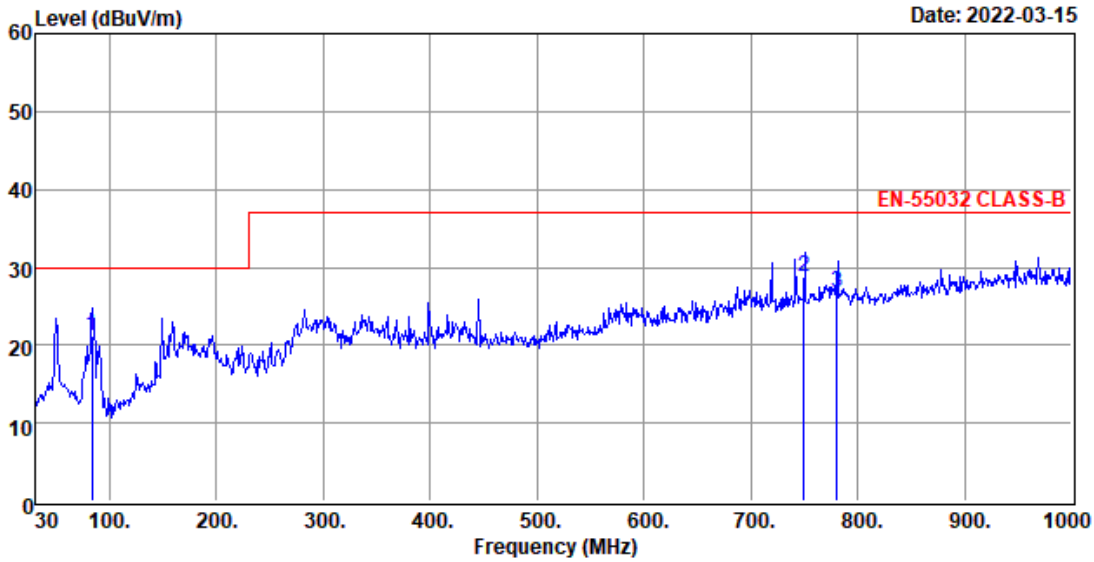
3.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

3.6 Test Results

Radiated Emission Measurement below 1000MHz

Test Mode	:	Mode 1			
Test Voltage	:	110Vac/60Hz to the power adapter			
Tester	:	Jack	**Temperature**	:	22°C
Humidity	:	55%RH	**Frequency Range**	:	30MHz~1GHz
IF Bandwidth	:	120kHz	**Polarization**	:	**Horizontal**

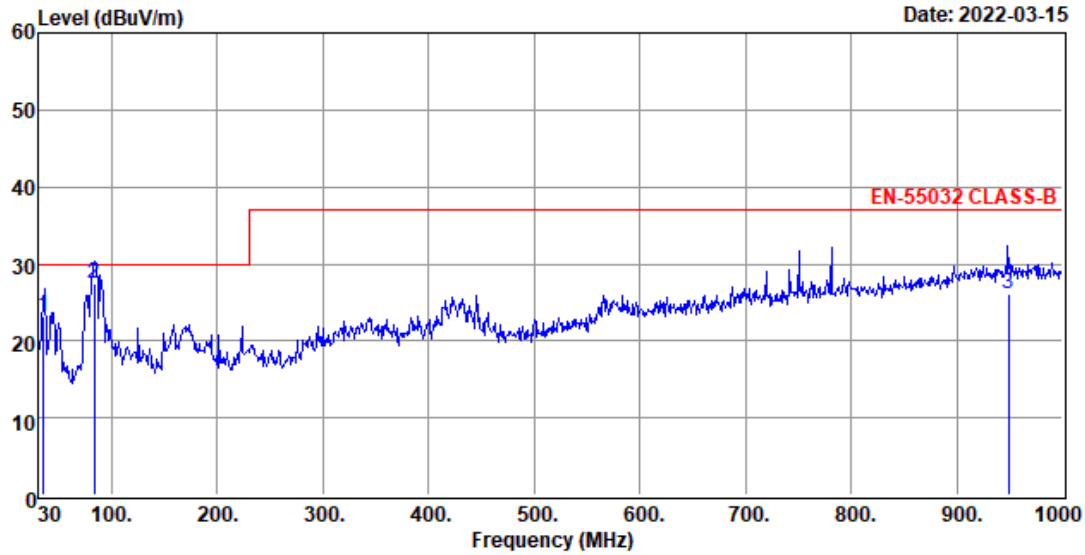



```
Site            : TR1 10M RE CHAMBER
Condition       : EN-55032 CLASS-B 10m VULB_9168-01007 HORIZONTAL
Power           : 110V/60Hz
Operator        : Jack (1M) ' T:22 ' H:55 ' P:1012
```

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	83.400	21.18	43.94	-22.76	30.00	-8.82	389	256	HORIZONTAL	QP
2	749.948	28.83	33.89	-5.06	37.00	-8.17	114	22	HORIZONTAL	QP
3	781.045	26.82	31.75	-4.93	37.00	-10.18	110	22	HORIZONTAL	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.
3. Q.P is abbreviation of quasi-peak.

Test Mode	:	Mode 1			
Test Voltage	:	110Vac/60Hz to the power adapter			
Tester	:	Jack	**Temperature**	:	22°C
Humidity	:	55%RH	**Frequency Range**	:	30MHz~1GHz
IF Bandwidth	:	120kHz	**Polarization**	:	**Vertical**



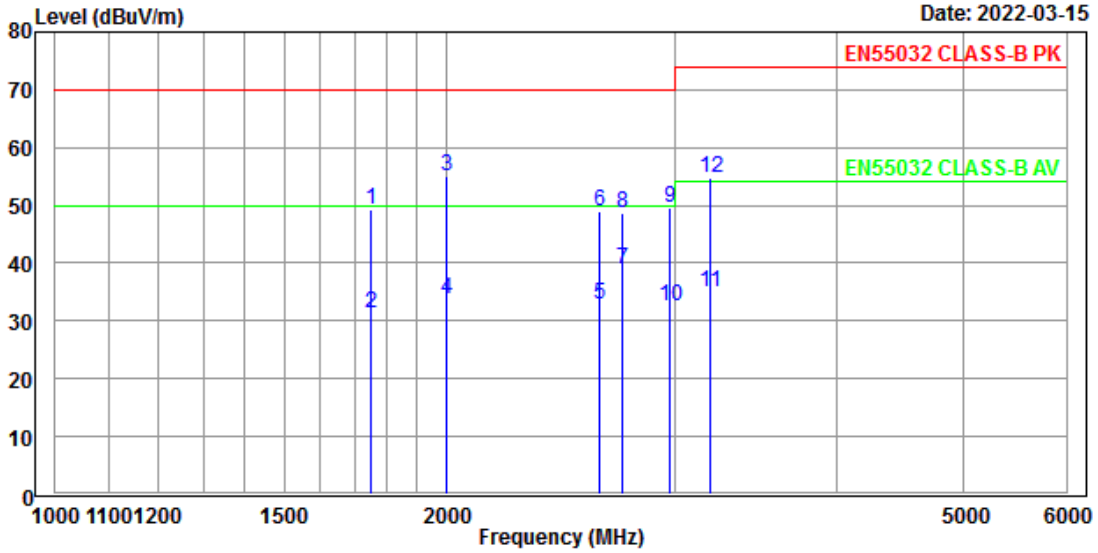

```
Site            : TR1 10M RE CHAMBER
Condition       : EN-55032 CLASS-B 10m VULB_9168-618 VERTICAL
Power           : 110V/60Hz
Operator        : Jack (1M) ' T:22 ' H:55 ' P:1012
```

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	35.598	23.28	41.07	-17.79	30.00	-6.72	106	229	VERTICAL	QP
2	83.360	27.44	48.76	-21.32	30.00	-2.56	119	262	VERTICAL	QP
3	948.840	25.99	26.15	-0.16	37.00	-11.01	390	244	VERTICAL	QP

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.
3. Q.P is abbreviation of quasi-peak.

Radiated Emission Measurement above 1000MHz

Test Mode	:	Mode 1			
Test Voltage	:	110Vac/60Hz to the power adapter			
Tester	:	Jack	**Temperature**	:	22°C
Humidity	:	55%RH	**Frequency Range**	:	1GHz~6GHz
IF Bandwidth	:	1MHz	**Polarization**	:	**Horizontal**

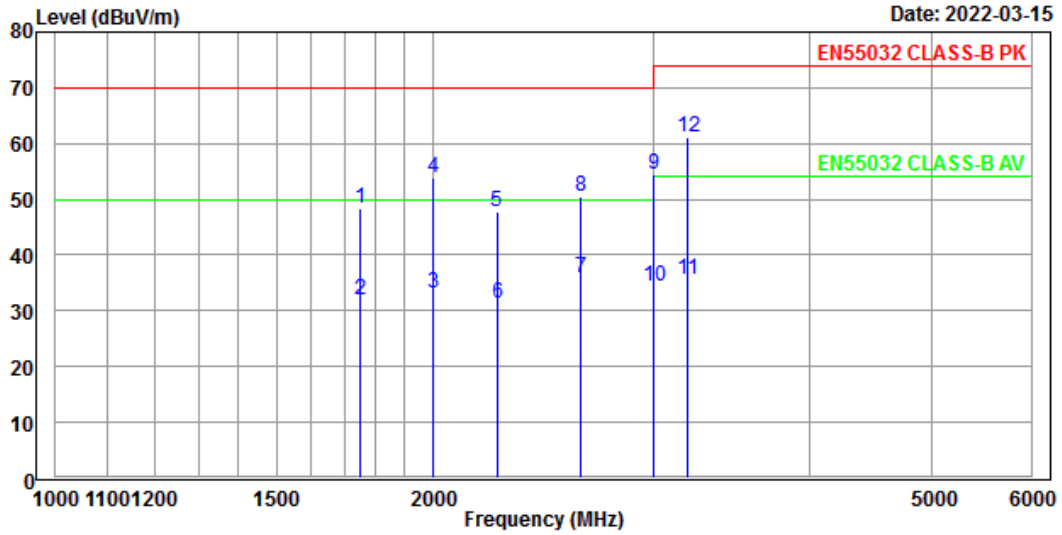


Condition : EN55032 CLASS-B PK 3m EMCO_3117_82847 Horizontal
POWER : 110V/60Hz
OPERATOR : Jack,T:22,H:55,P:1012

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1748.694	49.24	67.84	-18.60	70.00	-20.76	100	199	Horizontal	Peak
2	1749.266	31.21	49.81	-18.60	50.00	-18.79	100	204	Horizontal	Average
3	1999.906	54.96	71.59	-16.63	70.00	-15.04	100	206	Horizontal	Peak
4	2000.308	33.84	50.47	-16.63	50.00	-16.16	100	210	Horizontal	Average
5	2624.728	32.86	47.54	-14.68	50.00	-17.14	100	247	Horizontal	Average
6	2625.371	49.08	63.76	-14.68	70.00	-20.92	100	242	Horizontal	Peak
7	2729.511	39.08	54.12	-15.04	50.00	-10.92	100	175	Horizontal	Average
8	2730.273	48.66	63.71	-15.05	70.00	-21.34	100	179	Horizontal	Peak
9	2968.814	49.51	64.31	-14.80	70.00	-20.49	100	105	Horizontal	Peak
10	2969.449	32.52	47.32	-14.80	50.00	-17.48	100	101	Horizontal	Average
11	3189.578	34.97	49.67	-14.70	54.00	-19.03	100	166	Horizontal	Average
12	3190.073	54.69	69.39	-14.70	74.00	-19.31	100	160	Horizontal	Peak

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.

Test Mode	:	Mode 1			
Test Voltage	:	110Vac/60Hz to the power adapter			
Tester	:	Jack	**Temperature**	:	22°C
Humidity	:	55%RH	**Frequency Range**	:	1GHz~6GHz
IF Bandwidth	:	1MHz	**Polarization**	:	**Vertical**



Condition : EN55032 CLASS-B PK 3m EMCO_3117_82847 Vertical
POWER : 110V/60Hz
OPERATOR : Jack,T:22,H:55,P:1012

	Freq	Level	Read Level	Factor	Limit Line	Over Limit	APos	TPos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1749.980	48.35	66.95	-18.60	70.00	-21.65	100	169	Vertical	Peak
2	1750.247	32.06	50.66	-18.60	50.00	-17.94	100	173	Vertical	Average
3	1999.647	33.08	49.71	-16.63	50.00	-16.92	100	214	Vertical	Average
4	2000.079	53.83	70.46	-16.63	70.00	-16.17	100	221	Vertical	Peak
5	2248.534	47.79	63.48	-15.69	70.00	-22.21	100	233	Vertical	Peak
6	2249.285	31.34	47.01	-15.67	50.00	-18.66	100	239	Vertical	Average
7	2624.732	35.75	50.43	-14.68	50.00	-14.25	100	223	Vertical	Average
8	2625.141	50.38	65.06	-14.68	70.00	-19.62	100	227	Vertical	Peak
9	2999.986	54.58	69.34	-14.76	70.00	-15.42	100	183	Vertical	Peak
10	3000.332	34.37	49.13	-14.76	54.00	-19.63	100	178	Vertical	Average
11	3192.792	35.51	50.22	-14.71	54.00	-18.49	100	15	Vertical	Average
12	3193.141	61.11	75.82	-14.71	74.00	-12.89	100	11	Vertical	Peak

Note:
1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + antenna factor – gain of pre-amplifier.

4. Harmonic Current Emission Measurement

Test Result : PASS

4.1 Limits for Emission Measurement

☐ Limits for Class A equipment

Harmonic order (n) Odd harmonics	Maximum permissible harmonic current (A)	Harmonic order (n) Even Harmonics	Maximum permissible harmonic current (A)
3	2.30	2	1.08
5	1.14	4	0.43
7	0.77	6	0.3
9	0.40	8 ≦ n ≦40	0.23 8/n
11	0.33		
13	0.21		
15 ≦ n ≦ 39	0.15 15/n		

☐ Limits for Class B equipment

It shall not exceed the values give in class A multiplied by a factor of 1.5.

☐ Limits for Class C equipment

Harmonic order (n)	Maximum permissible harmonic current expressed as a percentage of the input current at the fundamental frequency %
2	2
3	30·λ (λ is the circuit power factor)
5	10
7	7
9	5
11 ≤ n ≤ 39 (odd harmonics only)	3

☑ Limits for Class D equipment

Harmonic order (n)	Maximum permissible harmonic current per watt (mA/W)	Maximum permissible harmonic current (A)
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.40
11	0.35	0.33
13 ≤ n ≤ 39 (odd harmonics only)	3.85/n	See class A

4.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Power Source	PACIFIC	140-TMX/ 247	March 10, 2022	March 10, 2023
Power Analyzer	California Instrument	PACS-1/ 72398	March 10, 2022	March 10, 2023
Test Software	C.I.	CTS 4/ Ver. 4.26	NCR	NCR
TR7 shielded room	ETS. LINDGREN	TR7/ 15353-D	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

4.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters in the shielded room.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters in the shielded room.

d. Decide the classification of the EUT as following:

Class A : - balanced three-phase equipment
- household appliances, excluding equipment identified as class D
- tools, excluding portable tools
- dimmers for incandescent lamps
- audio equipment
- equipments not specified in one of the three other classes

Class B : - portable tools
- arc welding equipment which is not professional equipment.

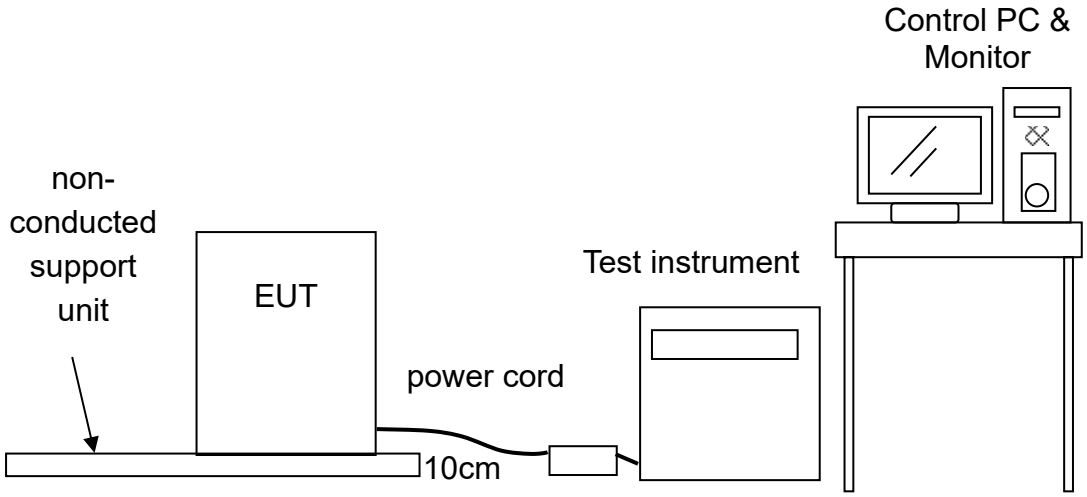
Class C : - lighting equipment

Class D : - Equipment specified power less than or equal to 600W of the following types
- personal computers and personal computer monitors
- television receivers
- refrigerators and freezers having one or more variable-speed drives to control compressor motor(s).

e. Connects the EUT's power source to the mains power supplied by the test instrument. Turn on the EUT.

f. Operating the EUT as required and measuring the harmonic current emissions on the current carrying lines of EUT's power source.

4.4 Test Configurations

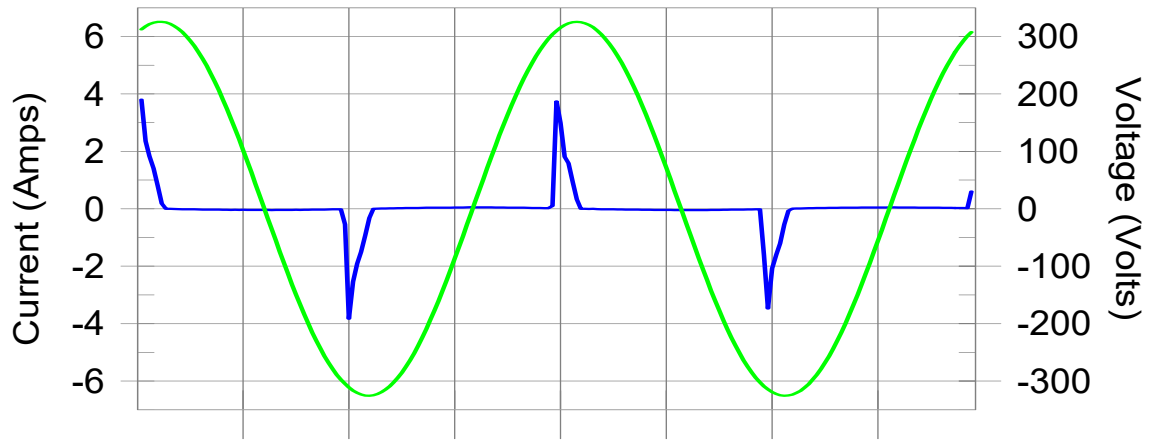


4.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

4.6 Test Results

Test Mode	:	Mode 1
Tester	:	Jeff
Temperature	:	24°C
Humidity	:	56%RH
Date of Testing	:	March 15, 2022
Test observation period	:	10 min



Note: The EUT power level is below 75.0 Watts and therefore has no defined limits

Test Raw Data:

THC(A): 0.654 I-THD(%): 199.0 POHC(A): 0.218 POHC Limit(A): 0.031

Highest parameter values during test:

V_RMS (Volts):	230.10	Frequency(Hz):	50.00
I_Peak (Amps):	4.045	I_RMS (Amps):	0.741
I_Fund (Amps):	0.329	Crest Factor:	6.298
Power (Watts):	71.8	Power Factor:	0.422

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.002	0.000	N/A	0.005	0.000	N/A	N/L
3	0.306	0.244	N/A	0.309	0.366	N/A	N/L
4	0.002	0.000	N/A	0.006	0.000	N/A	N/L
5	0.286	0.136	N/A	0.288	0.205	N/A	N/L
6	0.002	0.000	N/A	0.006	0.000	N/A	N/L
7	0.257	0.072	N/A	0.259	0.108	N/A	N/L
8	0.002	0.000	N/A	0.006	0.000	N/A	N/L
9	0.223	0.036	N/A	0.225	0.054	N/A	N/L
10	0.002	0.000	N/A	0.006	0.000	N/A	N/L
11	0.187	0.025	N/A	0.188	0.038	N/A	N/L
12	0.002	0.000	N/A	0.006	0.000	N/A	N/L
13	0.151	0.022	N/A	0.151	0.032	N/A	N/L
14	0.002	0.000	N/A	0.006	0.000	N/A	N/L
15	0.119	0.019	N/A	0.120	0.028	N/A	N/L
16	0.002	0.000	N/A	0.006	0.000	N/A	N/L
17	0.096	0.017	N/A	0.096	0.025	N/A	N/L
18	0.002	0.000	N/A	0.006	0.000	N/A	N/L
19	0.083	0.015	N/A	0.084	0.022	N/A	N/L
20	0.002	0.000	N/A	0.006	0.000	N/A	N/L
21	0.080	0.013	N/A	0.080	0.020	N/A	N/L
22	0.002	0.000	N/A	0.006	0.000	N/A	N/L
23	0.080	0.012	N/A	0.081	0.018	N/A	N/L
24	0.002	0.000	N/A	0.006	0.000	N/A	N/L
25	0.081	0.011	N/A	0.082	0.017	N/A	N/L
26	0.002	0.000	N/A	0.006	0.000	N/A	N/L
27	0.079	0.010	N/A	0.080	0.015	N/A	N/L
28	0.002	0.000	N/A	0.006	0.000	N/A	N/L
29	0.075	0.010	N/A	0.076	0.014	N/A	N/L
30	0.002	0.000	N/A	0.006	0.000	N/A	N/L
31	0.069	0.009	N/A	0.069	0.013	N/A	N/L
32	0.002	0.000	N/A	0.006	0.000	N/A	N/L
33	0.062	0.008	N/A	0.062	0.012	N/A	N/L
34	0.002	0.000	N/A	0.006	0.000	N/A	N/L
35	0.056	0.008	N/A	0.056	0.012	N/A	N/L
36	0.002	0.000	N/A	0.006	0.000	N/A	N/L
37	0.050	0.007	N/A	0.051	0.011	N/A	N/L
38	0.002	0.000	N/A	0.006	0.000	N/A	N/L
39	0.046	0.007	N/A	0.047	0.011	N/A	N/L
40	0.002	0.000	N/A	0.005	0.000	N/A	N/L

5. Voltage Fluctuations and Flickers Emission Measurement

Test Result : PASS

5.1 Limits for Emission Measurement

- the short-term flicker indicator, P_{st}, shall not be greater than 1.0;
- the long-term flicker indicator, P_{lt}, shall not be greater than 0.65;
- the relative steady-state voltage change, d_c, shall not exceed 3.3%;
- T_{max}, the accumulated time value of *d(t)* with a deviation exceeding 3,3 % during a single voltage change at the EUT terminals, shall not exceed 500 ms;
- the maximum relative voltage change, d_{max}, shall not exceed
  - ☑ a) 4% without additional conditions;
  - ☐ b) 6% for equipment which is switched manually
  - ☐ c) 7% for equipment which is attended whilst in use

5.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Power Source	PACIFIC	140-TMX/ 247	March 10, 2022	March 10, 2023
Power Analyzer	California Instrument	PACS-1/ 72398	March 10, 2022	March 10, 2023
Test Software	C.I.	CTS 4/ Ver. 4.26	NCR	NCR
TR7 shielded room	ETS. LINDGREN	TR7/ 15353-D	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

5.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters in the shielded room.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters in the shielded room.

d. Decide the type of EUT to define the d_{max} limit and its corresponding test methods described in the relative standard.

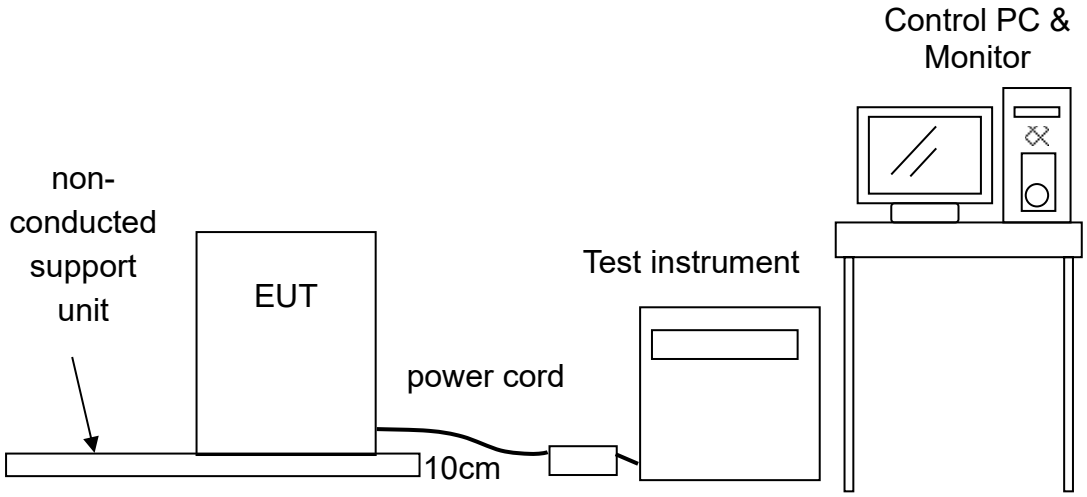
e. Maintain the supply voltage to be ±2% of the EUT's rated voltage and also the frequency to be 50Hz ±0.5%.

f. Connects the EUT's power source to the mains power supplied by the test instrument.

g. Operating the EUT as required and measuring the voltage fluctuation and flickers of EUT's power source.

h. Verify the fluctuations of the test supply voltage to be less than 0.4 before and after the test.

5.4 Test Configurations



5.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

5.6 Test Results

Test Mode : Mode 1

Tester : Jeff

Temperature : 24°C

Humidity : 56%RH

Date of Testing : March 15, 2022

TEST FREQ	50	
TEST VOLTS	230	
TEST TIME	10 Minutes	
	EUT Data	**Limit**
T_{max} (ms)	0	500
d_c (%)	0	3.3
d_{max} (%)	0.25	4
P_{st} max	0.184	1
P_{lt} max	0.080	0.65

6. Electrostatic Discharge (ESD) Immunity Test

Test Result : PASS

6.1 Specifications of Immunity Test Requirement

Product (Generic) Standard	:	ETSI EN 301 489-1 ETSI EN 301 489-17 EN 55035 / BS EN 55035 as §1.3 described and requirement of manufacturer
Basic Standard	:	EN 61000-4-2 / BS EN 61000-4-2
Required Performance	:	TT / TR (EN 301 489) B (EN 55035 / BS EN 55035)
Test Level	:	2 (Contact discharge) 3 (Air discharge)
Discharge Voltage	:	Contact →±2kV, ±4kV (Direct / Indirect discharge) Air → ±2kV, ±4kV, ±8kV (Direct discharge)
Time Interval	:	1 sec. minimum
Number of discharges	:	Minimum 50 times at each test point (Contact) Minimum 20 times at each test point (Air)
Test Voltage	:	230Vac/50Hz to the power adapter
Tester	:	Marco
Ambient Temperature	:	21°C
Relative Humidity	:	41%
Atmospheric Pressure	:	1009mbar
Date of Testing	:	March 17, 2022

6.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Electrostatic Generator	EM TEST	DITO/ V0537100716	Aug. 17, 2021	Aug. 17, 2022
TR8 shielded room	ETS. LINDGREN	TR8/ 15353-C	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

6.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters above the ground reference plane in the shielded room. Also a HCP (Horizontal Coupling Plane) which was connected to the ground reference plane via a cable with a 470kΩ resister located at each end was placed on the wooden table and isolated with the EUT by an insulating support 0.5mm thick. The ground reference plane shall project beyond the EUT or HCP by at least 0.5m on all sides.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters above the ground reference plane in the shielded room. The ground reference plane shall project beyond the EUT by at least 0.5m on all sides.

d. Keep the EUT 1m away from all other metallic walls in the shielded room as the minimum distance.

e. The static electricity discharges shall be applied only to those points and surfaces of the EUT which are accessible to persons during normal use. Contact discharge is the preferred test method and it is applied to the conductive surfaces of EUT and coupling planes. Air discharge shall be used where contact discharge cannot be performed and it is applied to the insulating surfaces of EUT.

f. The discharge return cable of the generator shall be kept at a distance of at least 0.2m from the EUT whilst the discharge is being applied.

g. The time interval between successive single discharges was at least 1 second.

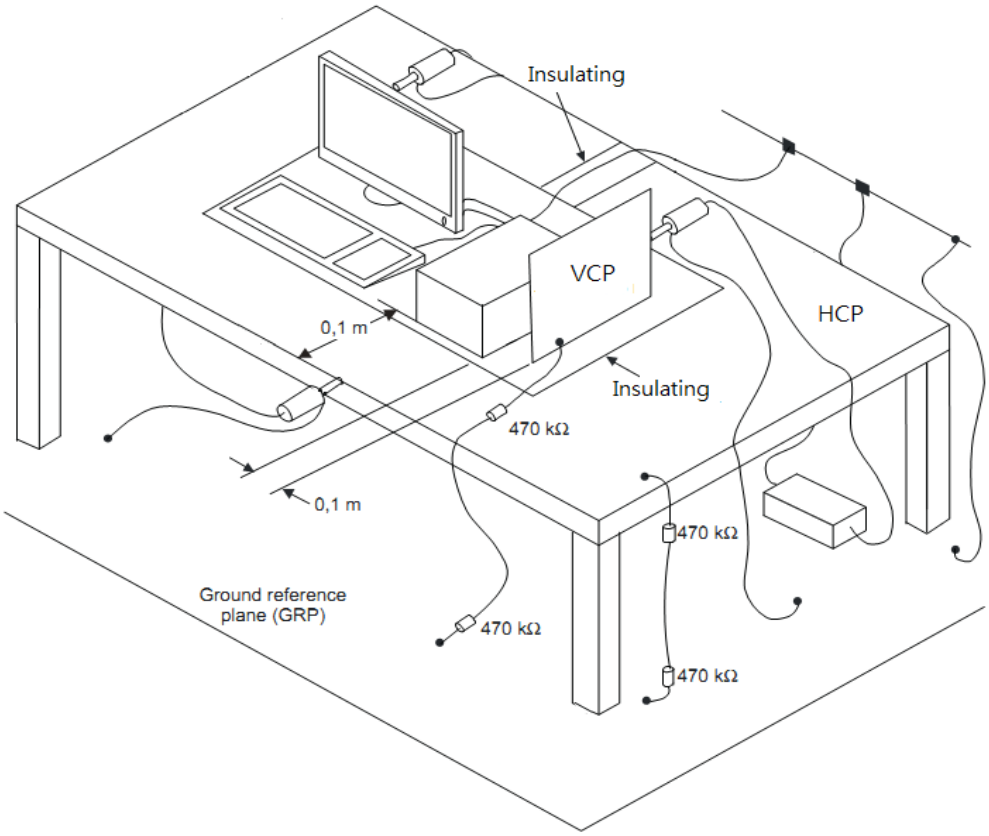
h. Select appropriate points of the EUT for contact discharge and put marks on it to indicate the tested point(s). Then start the contact discharge with the tip of the discharge electrode to touch the EUT before the discharge switch is operated.

i. Use the round discharge tip of the discharge electrode to scan the EUT to select the points for air discharge. Then start the air discharge by approaching the discharge electrode as fast as possible to touch the EUT. After each discharge, the ESD generator shall be removed from the EUT.

j. The indirect HCP discharge test is applied at the front edge of each HCP opposite the center point of each unit of the EUT and 0.1m from the front of the EUT. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

k. The indirect VCP (Vertical Coupling Plane) discharge test is applied to the center of one vertical edge of the coupling plane. The VCP, of dimensions 0.5m×0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. It shall be applied with sufficient different positions such that the four faces of the EUT are completely illuminated.

6.4 Test Configurations



6.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

6.6 Test Results

Test Mode : Mode 1

Product (Generic) Standard : ETSI EN 301 489-1
ETSI EN 301 489-17

Discharge Voltage (kV)	Type of discharge	Label for Dischargeable Points	Result (Pass/Fail)
±2	Contact	A,B	**Pass(1)**
±4	Contact	A,B	**Pass(1)**
±2	Air	10,19	**Pass(1)**
±4	Air	6,9,10,12,14,15,19	**Pass(1)**
		4	**Pass(1)**
+8	Air	1~3,5~7,9~19	**Pass(1)**
		4,8	**Pass(1)**
-8		1~3,5~19	**Pass(1)**
		4	**Pass(1)**
±2	HCP-Bottom	Front Edge of the HCP	**Pass(1)**
±2	VCP-Front	Center of the VCP	**Pass(1)**
±2	VCP-Left	Center of the VCP	**Pass(1)**
±2	VCP-Back	Center of the VCP	**Pass(1)**
±2	VCP-Right	Center of the VCP	**Pass(1)**
±4	HCP-Bottom	Front Edge of the HCP	**Pass(1)**
±4	VCP-Front	Center of the VCP	**Pass(1)**
±4	VCP-Left	Center of the VCP	**Pass(1)**
±4	VCP-Back	Center of the VCP	**Pass(1)**
±4	VCP-Right	Center of the VCP	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Product (Generic) Standard : EN 55035 / BS EN 55035

Discharge Voltage (kV)	Type of discharge	Label for Dischargeable Points	Performance		Result (Pass/Fail)
			Required	Observation	
±2	Contact	A,B	B	A(1)	**Pass**
±4	Contact	A,B	B	A(1)	**Pass**
±2	Air	10,19	B	A(1)	**Pass**
±4	Air	6,9,10,12,14,15,19	B	A(1)	**Pass**
		4	B	B(2)	**Pass**
+8	Air	1~3,5~7,9~19	B	A(1)	**Pass**
		4,8	B	B(2)(3)	**Pass**
-8		1~3,5~19	B	A(1)	**Pass**
		4	B	B(2)	**Pass**
±2	HCP-Bottom	Front Edge of the HCP	B	A(1)	**Pass**
±2	VCP-Front	Center of the VCP	B	A(1)	**Pass**
±2	VCP-Left	Center of the VCP	B	A(1)	**Pass**
±2	VCP-Back	Center of the VCP	B	A(1)	**Pass**
±2	VCP-Right	Center of the VCP	B	A(1)	**Pass**
±4	HCP-Bottom	Front Edge of the HCP	B	A(1)	**Pass**
±4	VCP-Front	Center of the VCP	B	A(1)	**Pass**
±4	VCP-Left	Center of the VCP	B	A(1)	**Pass**
±4	VCP-Back	Center of the VCP	B	A(1)	**Pass**
±4	VCP-Right	Center of the VCP	B	A(1)	**Pass**

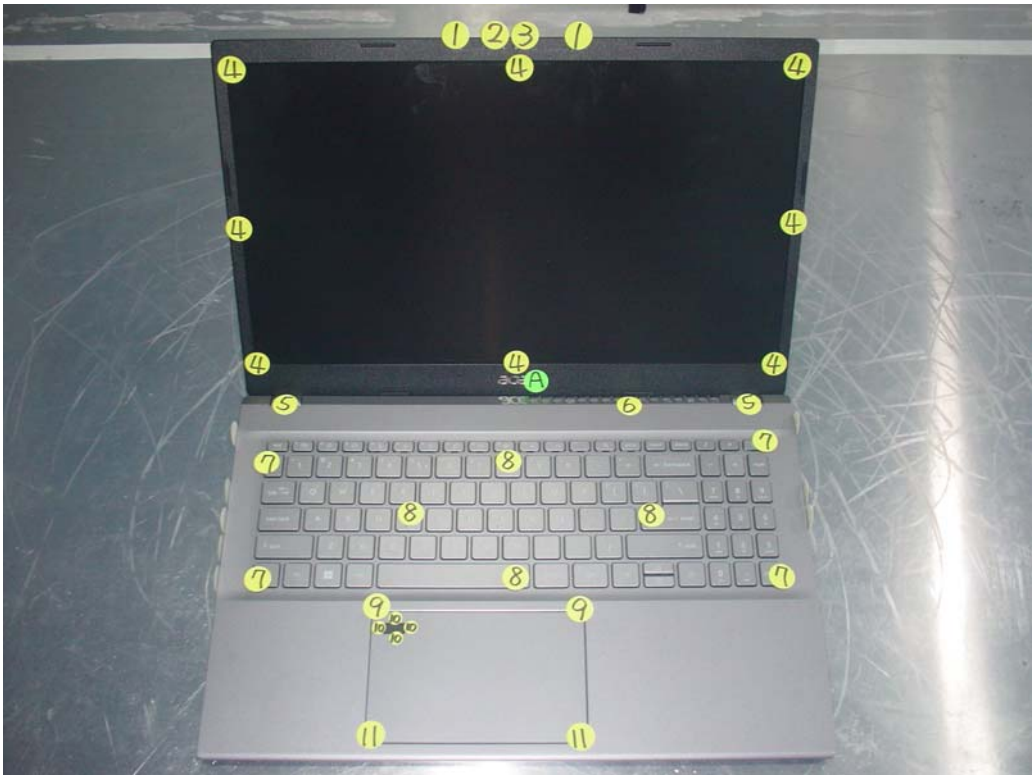
Observation of Performance during Test

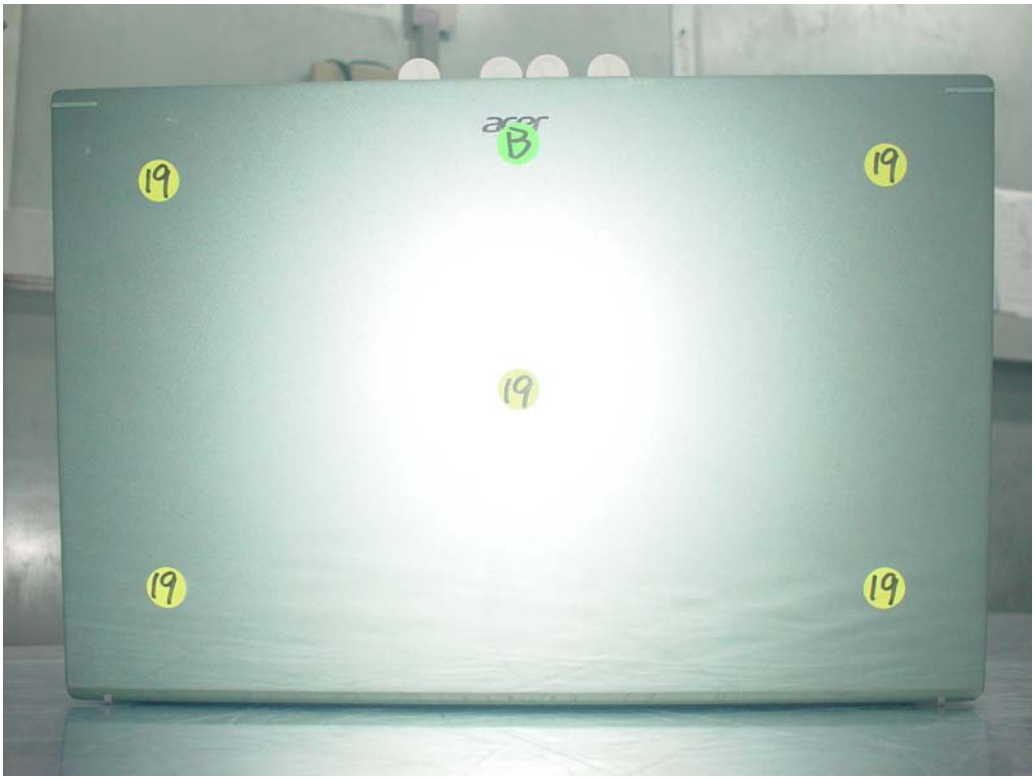
(1) Normal operation condition specified by manufacturer during the test.

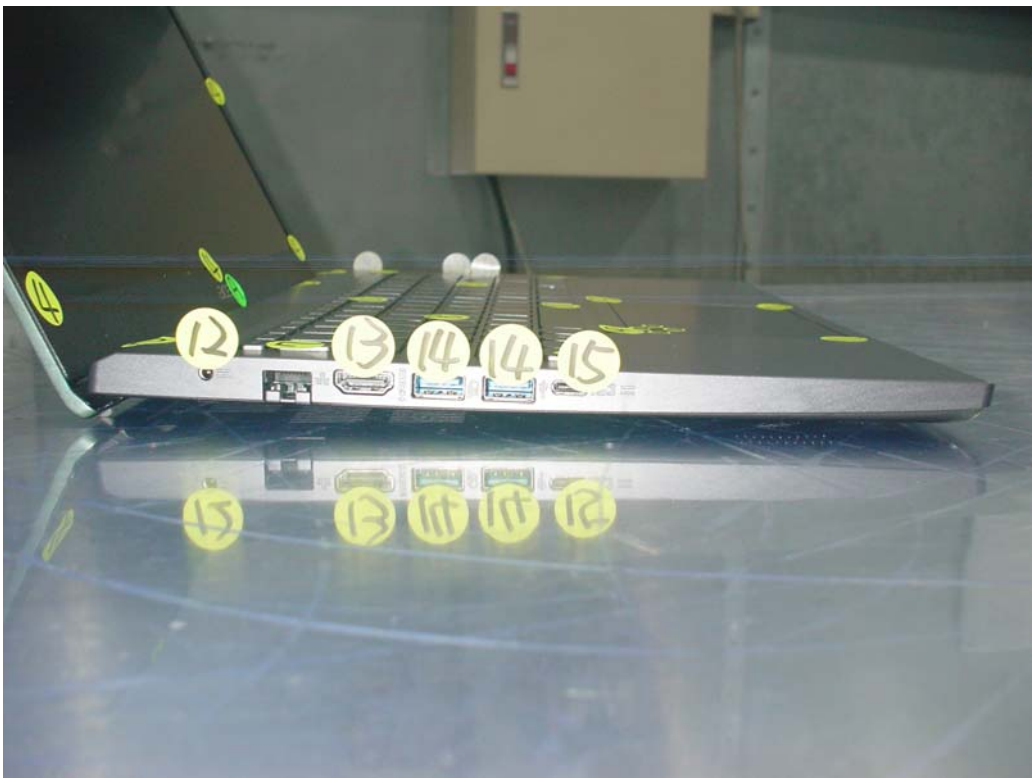
(2) The white line would appear on the display of EUT and the picture on the display of EUT would flicker while test is performing, it could self-recover after the test.

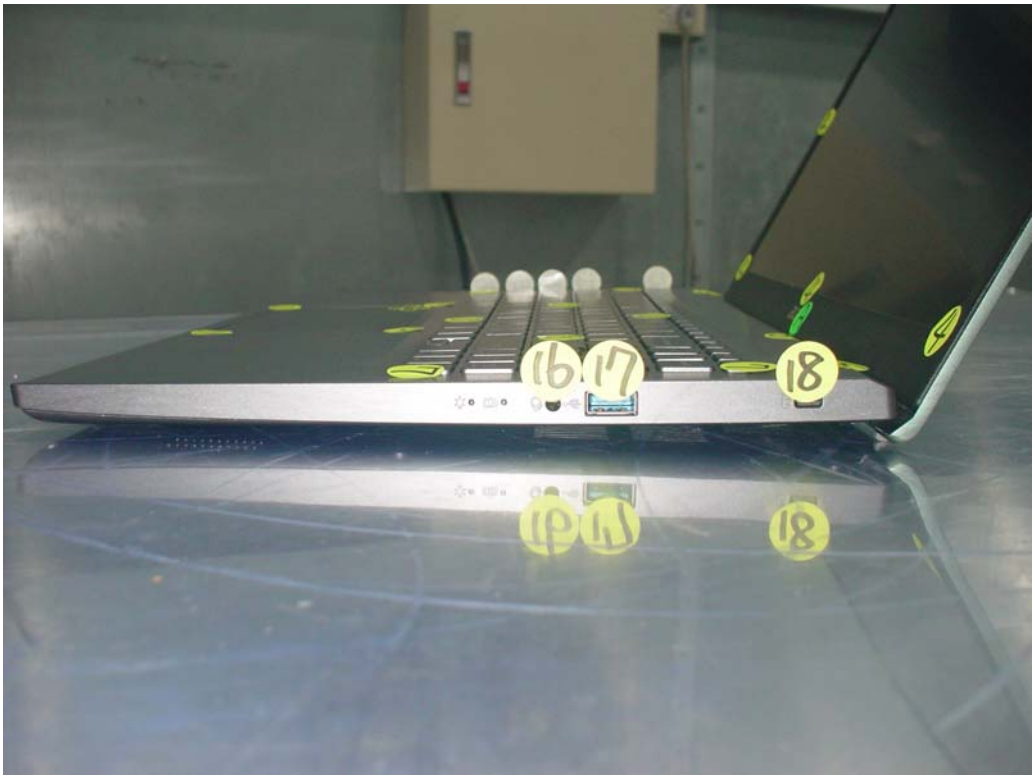
(3) The light of keyboard would turn on while test is performing, it could self-recover after the test.

Photographs of the Test Points on the EUT for ESD Test









7. Radiated Electromagnetic Field (RS) Immunity Test

Test Result : PASS

7.1 Specifications of Immunity Test Requirement

Product (Generic) Standard	:	ETSI EN 301 489-1 ETSI EN 301 489-17 as §1.3 described
Basic Standard	:	EN 61000-4-3 / BS EN 61000-4-3
Required Performance	:	CT / CR
Test Level	:	2
Field Strength	:	3 V/m
Test Frequency Range	:	80MHz ~ 6GHz
Frequency Step	:	1% of the momentary frequency
Dwell Time	:	Minimum 3 sec. per frequency
Modulation	:	1kHz Sine Wave with 80% Amplitude Modulation
Polarization of Antenna	:	Horizontal and Vertical
Test Voltage	:	230Vac/50Hz to the power adapter
For Speaker		
Tester	:	Eddie
Ambient Temperature	:	22°C
Relative Humidity	:	52%
Atmospheric Pressure	:	1012mbar
Date of Testing	:	March 16, 2022
For Audio Line-out port (Right & Left Channel)		
Tester	:	Eddie
Ambient Temperature	:	23°C
Relative Humidity	:	55%
Atmospheric Pressure	:	1018mbar
Date of Testing	:	March 14, 2022

Product (Generic) Standard	:	EN 55035 / BS EN 55035 as §1.3 described
Basic Standard	:	EN 61000-4-3 / BS EN 61000-4-3
Required Performance	:	A
Test Level	:	2
Field Strength	:	3 V/m
Test Frequency Range	:	(a) 80MHz~1GHz (b) Spot Frequency: 1.8GHz, 2.6GHz, 3.5GHz, 5GHz
Frequency Step	:	1% of the momentary frequency
Dwell Time	:	Minimum 3 sec. per frequency
Modulation	:	1kHz Sine Wave with 80% Amplitude Modulation
Polarization of Antenna	:	Horizontal and Vertical
Test Voltage	:	230Vac/50Hz to the power adapter
For Speaker		
Tester	:	Eddie
Ambient Temperature	:	22°C
Relative Humidity	:	52%
Atmospheric Pressure	:	1012mbar
Date of Testing	:	March 16, 2022
For Audio Line-out port (Right & Left Channel)		
Tester	:	Eddie
Ambient Temperature	:	23°C
Relative Humidity	:	55%
Atmospheric Pressure	:	1018mbar
Date of Testing	:	March 14, 2022

7.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Signal Generator	R&S	SMB 100A / 113868	Feb. 24, 2022	Feb. 24, 2023
Dual Directional Coupler	AR	DC 6180A / 0350436	March 4, 2022	March 4, 2023
Boardband Amplifier	TESEQ	CBA 1G-275 / T44287	NCR	NCR
	R&S	BBA150 / 102412	NCR	NCR
Log Antenna	R&S	HL046 / 359132/004	NCR	NCR
Stacked log.-Per Antenna	Schwarzbeck Mess - Elektronik	STLP 9149 / 9149-467	NCR	NCR
Isotropic E Field Probe	AR	FL7006 / 0336500	Feb. 24, 2022	Feb. 24, 2023
Average Power Sensor	R&S	NRP6AN / 101001	Feb. 23, 2022	Feb. 23, 2023
Microphone Unit	Brüel & Kjær	4192-L-001/ 3038774	Oct. 28, 2021	Oct. 28, 2022
2-channel Microphone Conditioning Amplifier	Brüel & Kjær	2690-A-0S2/ 3008818	Oct. 28, 2021	Oct. 28, 2022
Test Software	Audix	i2 / 5.16_20181108	NCR	NCR
TR3 fully-anechoic chamber	ETS. LINDGREN	TR3/ 15353-I	March 9, 2022	March 9, 2023

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.
3. The calibration date of the fully-anechoic chamber listed above is the date of Field Uniformity Calibration measurement.

7.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters and 2.0/2.2 meters away from the transmitting antenna in the fully anechoic chamber.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters and 2.0/2.2 meters away from the transmitting antenna in the fully anechoic chamber. Also if the floor-standing equipment which is capable of being stood on a non-conducting 0.8m high platform may be so arranged.

d. All EUT's individual faces shall be fully enclosed by the "uniform area" and its wires shall be arranged parallel to the uniform area of the field.

e. Before testing the EUT, the intensity of the established field strength is checked by placing the field sensor at a calibration grid point to give the calibrated field strength to measure the EUT.

f. After the calibration has been verified, the test field can be generated using the values obtained from the calibration.

g. Perform the test with the specified immunity level in the test frequency range and with the specified modulation type.

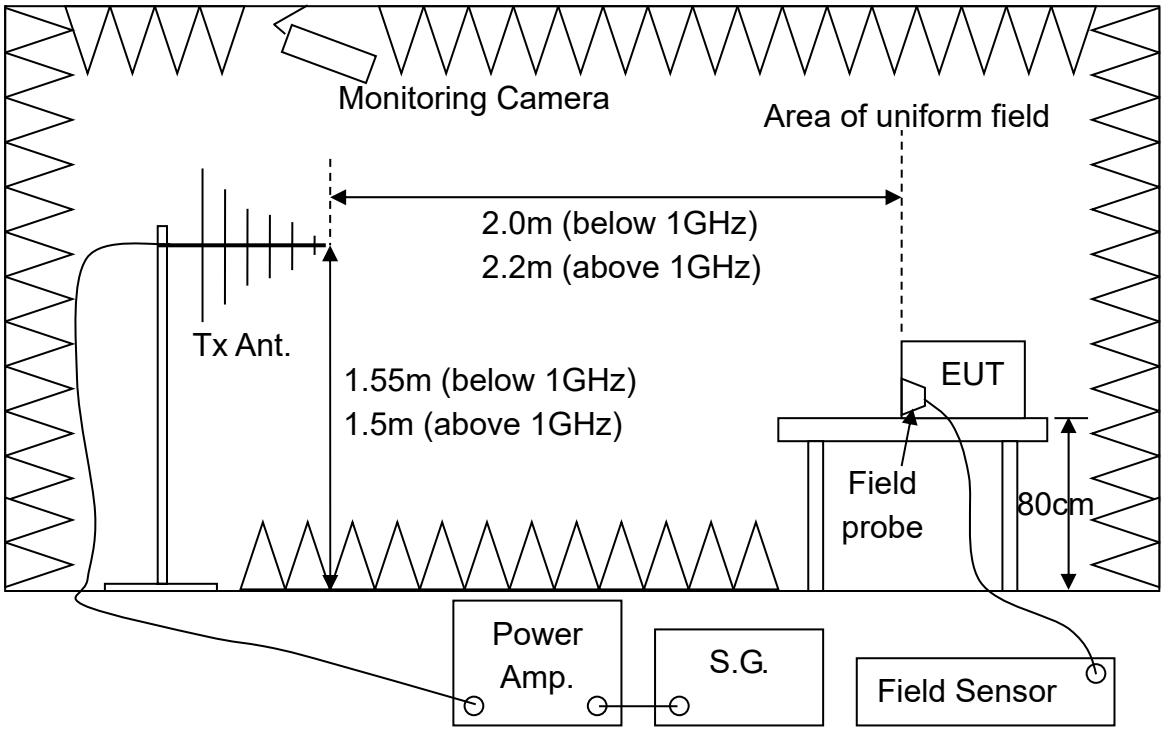
h. The transmitting antenna is normally facing each of the four sides of the EUT with two polarizations (Vertical and Horizontal) to perform the test.

i. The dwell time at each frequency shall be not less than the time necessary for the EUT to be exercised and be able to respond.

j. The sensitive frequencies of EUT shall be analyzed separately, if any.

k. Record the performance of the EUT.

7.4 Test Configurations



7.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

7.6 Test Results

Test Mode : Mode 1

Product (Generic) Standard : ETSI EN 301 489-1
ETSI EN 301 489-17

Test Frequency Range : 80MHz ~ 6GHz		
Side of the EUT	**Polarization**	**Result (Pass/Fail)**
Front	H	**Pass(1)**
	V	**Pass(1)**
Left	H	**Pass(1)**
	V	**Pass(1)**
Back	H	**Pass(1)**
	V	**Pass(1)**
Right	H	**Pass(1)**
	V	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Product (Generic) Standard : EN 55035 / BS EN 55035

Test Frequency Range : 80MHz ~ 1GHz				
Side of the EUT	**Polarization**	**Performance**		**Result (Pass/Fail)**
		Required	**Observation**	
Front	H	A	A(1)	**Pass**
	V	A	A(1)	**Pass**
Left	H	A	A(1)	**Pass**
	V	A	A(1)	**Pass**
Back	H	A	A(1)	**Pass**
	V	A	A(1)	**Pass**
Right	H	A	A(1)	**Pass**
	V	A	A(1)	**Pass**

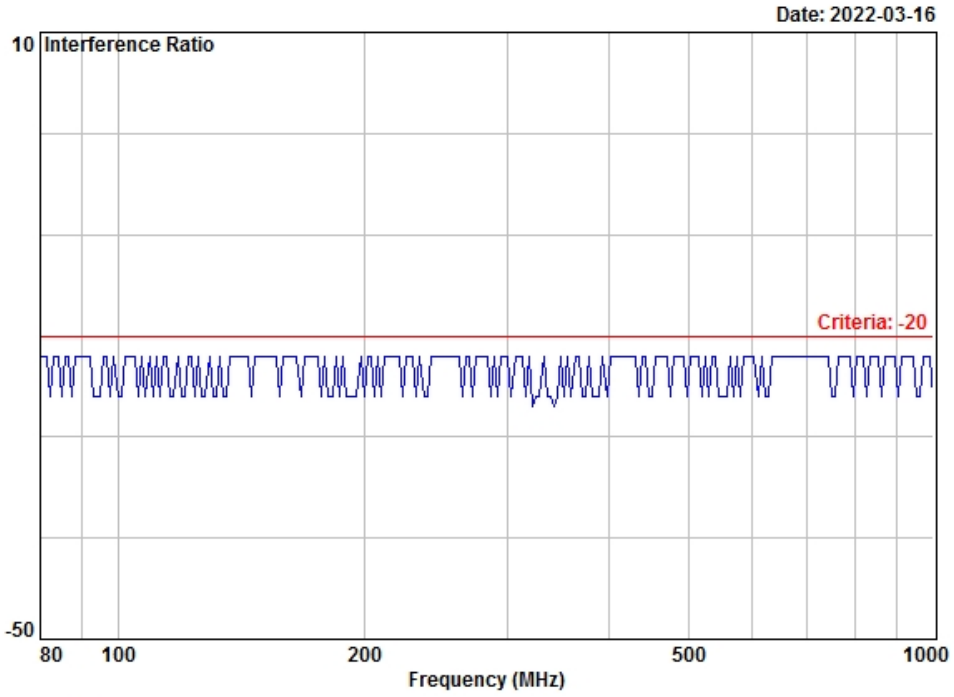
Spot Frequency, with 1kHz Sine Wave 80% Amplitude Modulation				
Frequency (GHz)	**Side of the EUT & Polarization**	**Performance**		**Result (Pass/Fail)**
		Required	**Observation**	
1.8	Front/ Left/Back/ Right H / V	A	A(1)	**Pass**
2.6	Front/ Left/Back/ Right H / V	A	A(1)	**Pass**
3.5	Front/ Left/Back/ Right H / V	A	A(1)	**Pass**
5	Front/ Left/Back/ Right H / V	A	A(1)	**Pass**

Observation of Performance during Test

(1) Normal operation condition specified by manufacturer during the test.

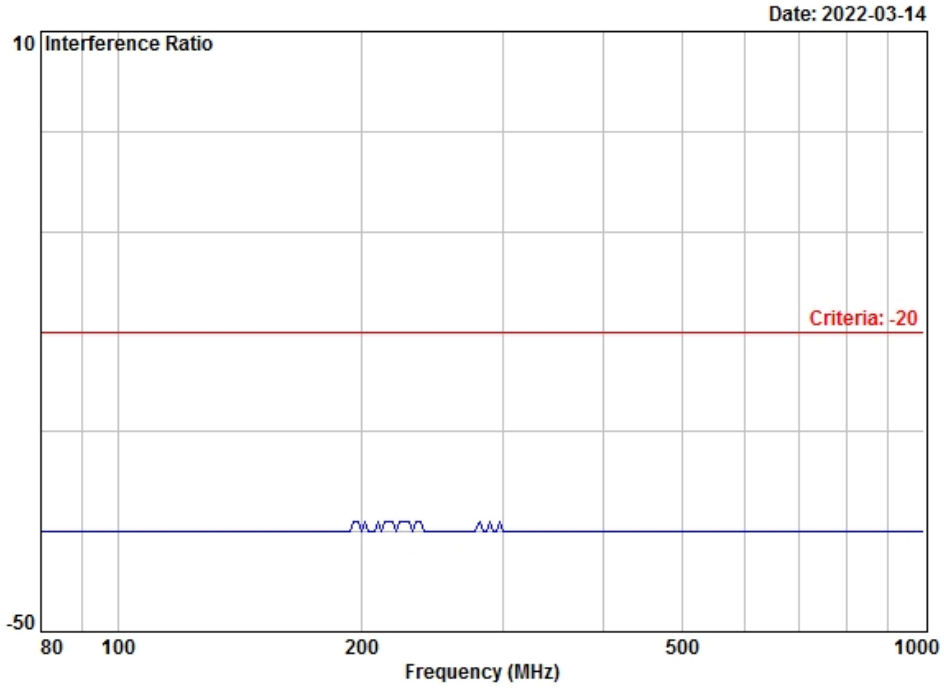
For Speaker

Acoustic interference ratio:



For Audio Line-out port (Right & Left Channel)

Electric interference ratio:



8. Electrical fast transient / burst (EFT) Immunity Test

Test Result : PASS

8.1 Specifications of Immunity Test Requirement

Product (Generic) Standard	:	ETSI EN 301 489-1 ETSI EN 301 489-17 EN 55035 / BS EN 55035 as §1.3 described
Basic Standard	:	EN 61000-4-4 / BS EN 61000-4-4
Required Performance	:	TT / TR (EN 301 489) B (EN 55035 / BS EN 55035)
Test Level	:	2
Voltage Peak	:	☑ ±1kV (on power supply port) ☑ ±0.5kV (on I/O signal, data and control port)
Repetition frequency	:	5kHz
Wave Shape of the Pulse (T_r/T_h)	:	5ns / 50ns
Burst Duration	:	15ms
Burst Period	:	300ms
Time Duration	:	1 min
Test Voltage	:	230Vac/50Hz to the power adapter
Tester	:	Jeff
Ambient Temperature	:	24°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1011mbar
Date of Testing	:	March 15, 2022

8.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
EFT/Burst Simulator	EMC PARTNER	TRA2000IN6/ 870	April 21, 2021	April 21, 2022
Coupling Clamp	EMC PARTNER	CN-EFT1000/ 532	Aug. 23, 2021	Aug. 23, 2022
Test Software	EMC PARTNER	TEMA/ Ver. 2.05	NCR	NCR
TR7 shielded room	ETS. LINDGREN	TR7/ 15353-D	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

8.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a non-conducted support with a height 0.1 meters above the ground reference plane. Also the ground reference plane is placed on a wooden table with a height of 0.8 meters in the shielded room. The ground reference plane shall project beyond the EUT by at least 0.1m on all sides.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters above the ground reference plane in the shielded room. The ground reference plane shall project beyond the EUT by at least 0.1m on all sides.

d. The test generator and the coupling/decoupling network shall be placed directly on, and bonded to, the ground reference plane.

e. All cables to the EUT shall be placed on the insulation support 0.1 m above the ground reference plane. Cables not subject to electrical fast transients shall be routed as far as possible from the cable under test to minimize the coupling between the cables.

f. Keep the EUT 0.5m away from all other conductive structures, except the ground reference plane beneath the EUT as the minimum distance. Also if any, the minimum distance between the coupling clamp and all other conductive structures, except the ground reference plane beneath the coupling clamp and EUT shall be 0.5m.

g. Keep the length of the power and signal lines, if required, between the coupling device and the EUT to be 0.5m. If a non-detachable supply cable more than 0.5m long, the excess length of this cable shall be folded to avoid a flat coil and situated at a distance of 0.1m above the ground reference plane.

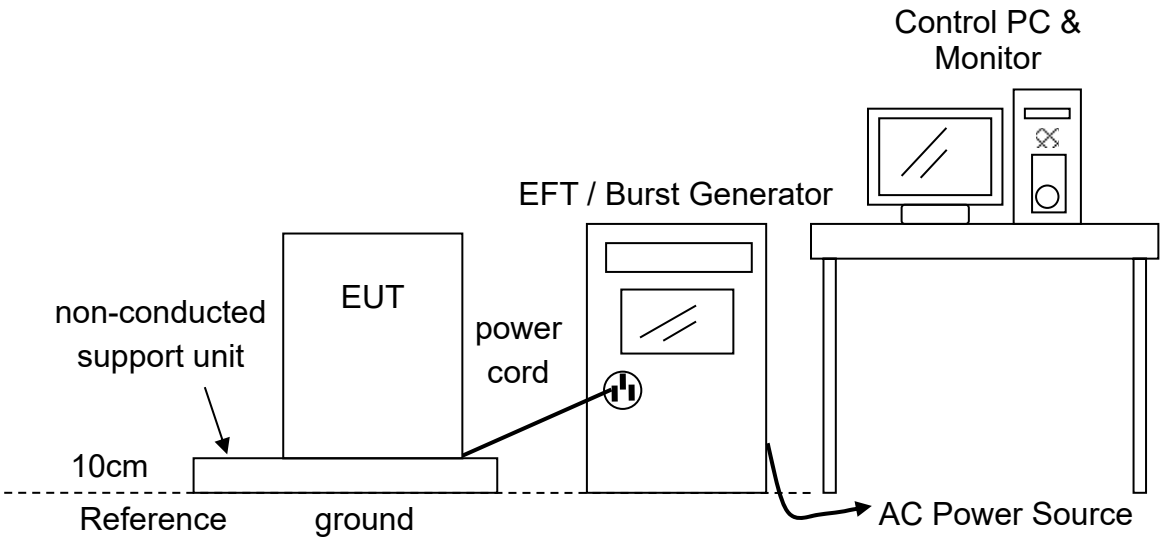
h. Connect the EUT's power source to the appropriate power through the coupling devices and perform the specified test level.

i. If any, connect all the I/O signal, data and control lines between EUT and accessories/support units through the coupling devices and perform the specified test level.

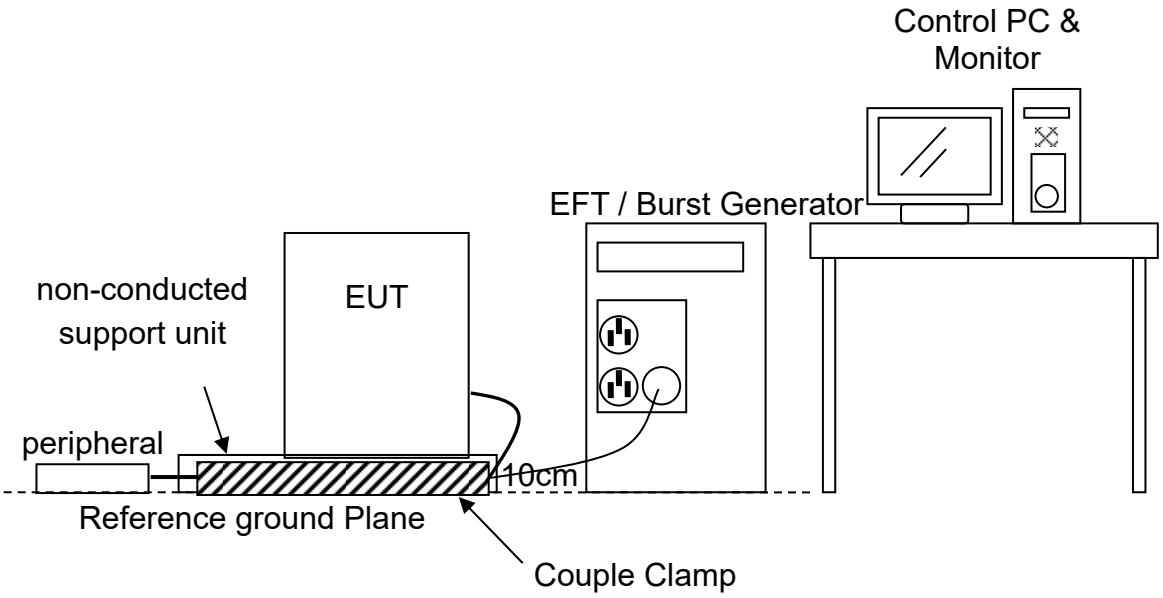
j. Record the performance of the EUT.

8.4 Test Configurations

Power supply port Test



I/O signal, data and control port Test (if any)



8.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

8.6 Test Results

Test Mode : Mode 1

Product (Generic) Standard : ETSI EN 301 489-1
ETSI EN 301 489-17

Injected Line	Voltage Peak (kV)	Injected Method	Result (Pass/Fail)
L	±1.0	Direct	**Pass(1)**
N	±1.0	Direct	**Pass(1)**
PE	±1.0	Direct	**Pass(1)**
L - N - PE	±1.0	Direct	**Pass(1)**
Data Line (RJ-45)	±0.5	Clamp Coupling	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Product (Generic) Standard : EN 55035 / BS EN 55035

Injected Line	Voltage Peak (kV)	Injected Method	Performance		Result (Pass/Fail)
			Required	Observation	
L	±1.0	Direct	B	B(2)	**Pass**
N	±1.0	Direct	B	B(2)	**Pass**
PE	±1.0	Direct	B	B(2)	**Pass**
L - N - PE	±1.0	Direct	B	B(2)	**Pass**
Data Line (RJ-45)	±0.5	Clamp Coupling	B	B(2)	**Pass**

Observation of Performance during Test

(1) Normal operation condition specified by manufacturer during the test.
(2) The noise would appear from the speaker while test is performing, it could self-recover after the test.

9. Surge Immunity Test

Test Result : PASS

9.1 Specifications of Immunity Test Requirement

Product (Generic) Standard	:	ETSI EN 301 489-1 ETSI EN 301 489-17 as §1.3 described
Basic Standard	:	EN 61000-4-5 / BS EN 61000-4-5
Required Performance	:	TT / TR
Test Level	:	☑ 3 (line to line on power supply port) ☑ 3 (line to earth (ground) on power supply port) ☐ 2 (on I/O signal, data and control port)
Open-circuit Test Voltage	:	☑ ±0.5kV, ±1kV (line to line on power supply port) ☑ ±0.5kV, ±1kV, ±2kV (line to earth (ground) on power supply port) ☐ ±0.5kV, ±1kV (on I/O signal, data and control port)
CW Waveform (T_r/T_h)	:	1.2 / 50μs (open-circuit voltage) 8 / 20μs (short-circuit current)
Phase Angle	:	0º, 90º, 180º, 270º
Time interval	:	1min. or less
Number of Test	:	at least 5 positive and 5 negative at selected points
Test Voltage	:	230Vac/50Hz to the power adapter
Tester	:	Jeff
Ambient Temperature	:	24°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1011mbar
Date of Testing	:	March 15, 2022

Product (Generic) Standard	:	EN 55035 / BS EN 55035 as §1.3 described
Basic Standard	:	EN 61000-4-5 / BS EN 61000-4-5
Required Performance	:	B
Test Level	:	☑ 3 (line to line on power supply port) ☑ 3 (line to earth (ground) on power supply port) ☐ 2 (on I/O signal, data and control port)
Open-circuit Test Voltage	:	☑ ±0.5kV, ±1kV (line to line on power supply port) ☑ ±0.5kV, ±1kV, ±2kV (line to earth (ground) on power supply port) ☐ ±0.5kV, ±1kV (on I/O signal, data and control port)
CW Waveform (T_r/T_h)	:	1.2 / 50μs (open-circuit voltage) 8 / 20μs (short-circuit current)
Phase Angel	:	90º, 270º
Time interval	:	1min. or less
Number of Test	:	at least 5 positive and 5 negative at selected points
Test Voltage	:	230Vac/50Hz to the power adapter
Tester	:	Jeff
Ambient Temperature	:	24°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1011mbar
Date of Testing	:	March 15, 2022

9.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Surge Simulator	EMC PARTNER	TRA2000IN6/ 870	April 21, 2021	April 21, 2022
Test Software	EMC PARTNER	TEMA/ Ver. 2.05	NCR	NCR
TR7 shielded room	ETS. LINDGREN	TR7/ 15353-D	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

9.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height of 0.8 meters in the shielded room.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters above the ground reference plane in the shielded room.

d. For the surge test applied to EUT's power supply and unshielded unsymmetrical interconnection lines, if required, the capacitive coupling network are used.

e. If any, the surge test applied to the unshielded symmetrically interconnection lines of EUT, the gas arrestors coupling network are used.

f. Keep the interconnection line, if required, or power cord between the EUT or its power source and the coupling / decoupling network to be 2m in length (or shorter).

g. The surges have to be applied synchronized to the voltage phase at the zero-crossing and the peak value of the a.c. voltage wave (positive and negative).

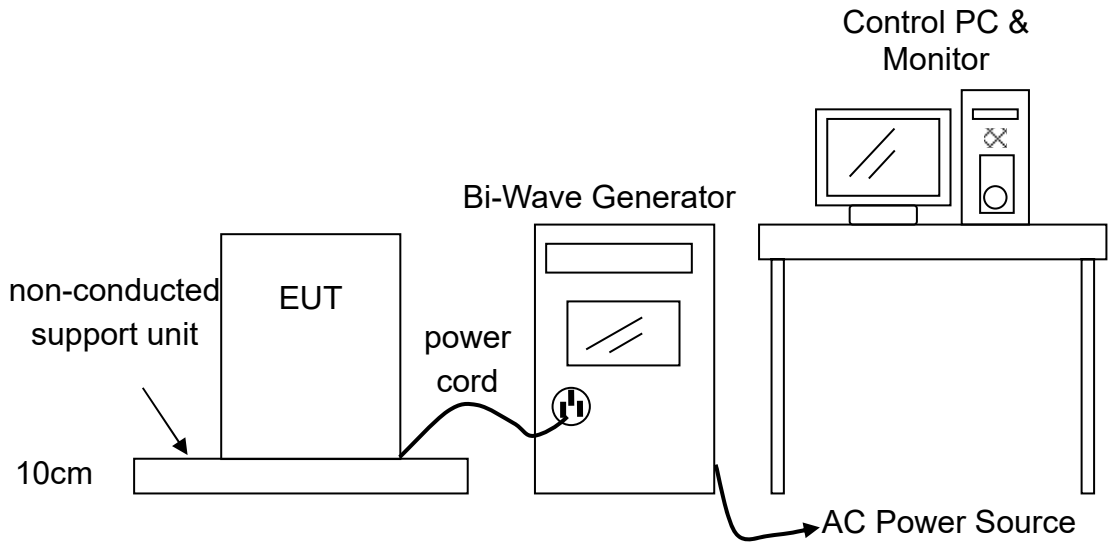
h. All lower levels including the selected test level shall be satisfied and the test voltage has to be increased by steps up to the specified test level.

i. Connect the EUT's power source to the appropriate power through the coupling devices and perform the specified test level.

j. If any, connect all the interconnection lines between EUT and accessories/support units through the coupling devices and perform the specified test level.

k. Record the performance of the EUT.

9.4 Test Configurations



9.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

9.6 Test Results

Test Mode : Mode 1

Product (Generic) Standard : ETSI EN 301 489-1
ETSI EN 301 489-17

Coupled Line	Open-circuit Test Voltage (kV)	Result (Pass/Fail)			
		0°	90°	180°	270°
L - PE	±0.5	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
N - PE	±0.5	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
L - N	±0.5	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
L - PE	±1	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
N - PE	±1	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
L - N	±1	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
L - PE	±2	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**
N - PE	±2	**Pass(1)**	**Pass(1)**	**Pass(1)**	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Product (Generic) Standard : EN 55035 / BS EN 55035

Coupled Line	Open-circuit Test Voltage (kV)	Performance			Result (Pass/Fail)
		Required	Observation		
			90°	270°	
L - PE	+0.5	B	A(1)	N/A	**Pass**
	-0.5	B	N/A	A(1)	**Pass**
N - PE	+0.5	B	N/A	A(1)	**Pass**
	-0.5	B	A(1)	N/A	**Pass**
L - N	+0.5	B	A(1)	N/A	**Pass**
	-0.5	B	N/A	A(1)	**Pass**
L - PE	+1	B	A(1)	N/A	**Pass**
	-1	B	N/A	A(1)	**Pass**
N - PE	+1	B	N/A	A(1)	**Pass**
	-1	B	A(1)	N/A	**Pass**
L - N	+1	B	A(1)	N/A	**Pass**
	-1	B	N/A	A(1)	**Pass**
L - PE	+2	B	A(1)	N/A	**Pass**
	-2	B	N/A	A(1)	**Pass**
N - PE	+2	B	N/A	A(1)	**Pass**
	-2	B	A(1)	N/A	**Pass**

Observation of Performance during Test

(1) Normal operation condition specified by manufacturer during the test.

10. Conducted disturbances (CS) Immunity Test

Test Result : PASS

10.1 Specifications of Immunity Test Requirement

Product (Generic) Standard	:	ETSI EN 301 489-1
		ETSI EN 301 489-17
		as §1.3 described
Basic Standard	:	EN 61000-4-6 / BS EN 61000-4-6
Required Performance	:	CT / CR
Test Level	:	2
Voltage Level(e.m.f.)	:	3V (e.m.f.)
Test Frequency Range	:	150kHz ~ 80MHz
Frequency Step	:	1% of the momentary frequency
Dwell Time	:	Minimum 3 sec. per frequency
Modulation	:	1kHz Sine Wave with 80% Amplitude Modulation
Coupling Devices	:	☑ CDN-M3 (on power supply port)
	:	☐ CDN-T2 (on RJ-11 port)
		☐ CDN-T4 (on LAN port)
		☑ CDN-T8 (on LAN port)
		☐ EM Clamp (on I/O signal, data and control port)
Test Voltage	:	230Vac/50Hz to the power adapter
Tester	:	Marco
Ambient Temperature	:	23°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1017mbar
Date of Testing	:	March 10, 2022

Product (Generic) Standard	:	EN 55035 / BS EN 55035 as §1.3 described
Basic Standard	:	EN 61000-4-6 / BS EN 61000-4-6
Required Performance	:	A
Test Level	:	2
Voltage Level(e.m.f.)	:	(a) 3V (e.m.f.) (b) 3V to 1V (e.m.f.) (c) 1V (e.m.f.)
Test Frequency Range	:	(a) 150kHz ~ 10MHz (b) 10MHz ~ 30MHz (c) 30MHz ~ 80MHz
Frequency Step	:	1% of the momentary frequency
Dwell Time	:	Minimum 3 sec. per frequency
Modulation	:	1kHz Sine Wave with 80% Amplitude Modulation
Coupling Devices	:	☑ CDN-M3 (on power supply port)
	:	☐ CDN-T2 (on RJ-11 port)
		☐ CDN-T4 (on LAN port)
		☑ CDN-T8 (on LAN port)
		☐ EM Clamp (on I/O signal, data and control port)
Test Voltage	:	230Vac/50Hz to the power adapter
Tester	:	Marco
Ambient Temperature	:	23°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1017mbar
Date of Testing	:	March 10, 2022

10.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Signal Generator	R&S	SML 03/ 101676	Aug. 6, 2021	Aug. 6, 2022
Dual Directional Coupler	AR	DC2600/ 28834	Feb. 15, 2022	Feb. 15, 2023
Power Amplifier	AR	75A250/ 28845	NCR	NCR
CDN	FCC	☐ FCC-801-M2-16A/ 2032	Feb. 17, 2022	Feb. 17, 2023
		☑ FCC-801-M3-16A/ 2060	Feb. 17, 2022	Feb. 17, 2023
		☐ FCC-801-M5-16A/ 2020	Nov. 23, 2021	Nov. 23, 2022
	FCC	☐ FCC-801-T2/ 2032	Oct. 31, 2021	Oct. 31, 2022
		☐ FCC-801-T4-RJ45/ 08031	Oct. 31, 2021	Oct. 31, 2022
		☑ NCDN-T8-RJ45/ 06016	Oct. 31, 2021	Oct. 31, 2022
ATTENUATOR	BIRD	300-A-MFN-06/ 0037	Oct. 25, 2021	Oct. 25, 2022
EM CLAMP	TESEQ	KEMZ 801A / 38676	Oct. 31, 2021	Oct. 31, 2022
Dual Channel Power Meter	R&S	NRVD/ 839374/012	Nov. 23, 2021	Nov. 23, 2022
Power Sensor	R&S	URV5-Z2/ 835640/013	Feb. 9, 2022	Feb. 9, 2023
	R&S	URV5-Z2/ 100731	Feb. 9, 2022	Feb. 9, 2023
Microphone Unit	Brüel & Kjær	4192-L-001/ 3038774	Oct. 28, 2021	Oct. 28, 2022
2-channel Microphone Conditioning Amplifier	Brüel & Kjær	2690-A-0S2/ 3008818	Oct. 28, 2021	Oct. 28, 2022

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Test Software	Audix	i2 / 5.16_20181108	NCR	NCR
TR4 shielded room	ETS LINDGREN	TR4/ 15353-E	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

10.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a non-conducted support with a height 0.1 meters above the ground reference plane. Also the ground reference plane is placed on a wooden table with a height of 0.8 meters in the shielded room.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters above the ground reference plane in the shielded room.

d. Decide the injection methods and test points according to the relative standard.

e. All relevant cables shall be provide with the appropriate coupling and decoupling devices at a distance between 0.1m and 0.3m from the projected geometry of the EUT on the ground reference plane.

f. All cables connected to each Auxiliary Equipment (AE), other than those being connected to the EUT, shall not be bundled nor wrapped and shall be kept between 30mm and 50mm above the ground reference plane.

g. The test shall be performed with the test generator connected to each of the coupling and decoupling devices in turn while the other non-excited RF input ports of the coupling devices are terminated by a 50Ω load resistor.

h. Perform the test with the specified immunity level in the test frequency range and with the specified modulation type.

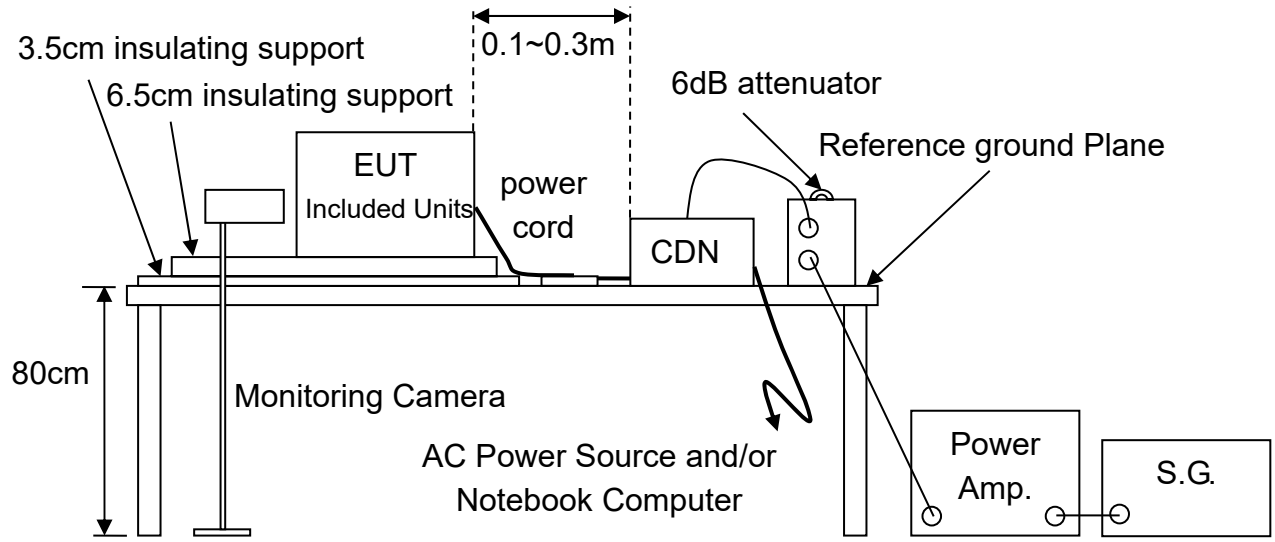
i. The dwell time at each frequency shall be not less than the time necessary for the EUT to be exercised and be able to respond.

j. The sensitive frequencies of EUT and harmonics or frequencies of dominant interest shall be analyzed separately, if any.

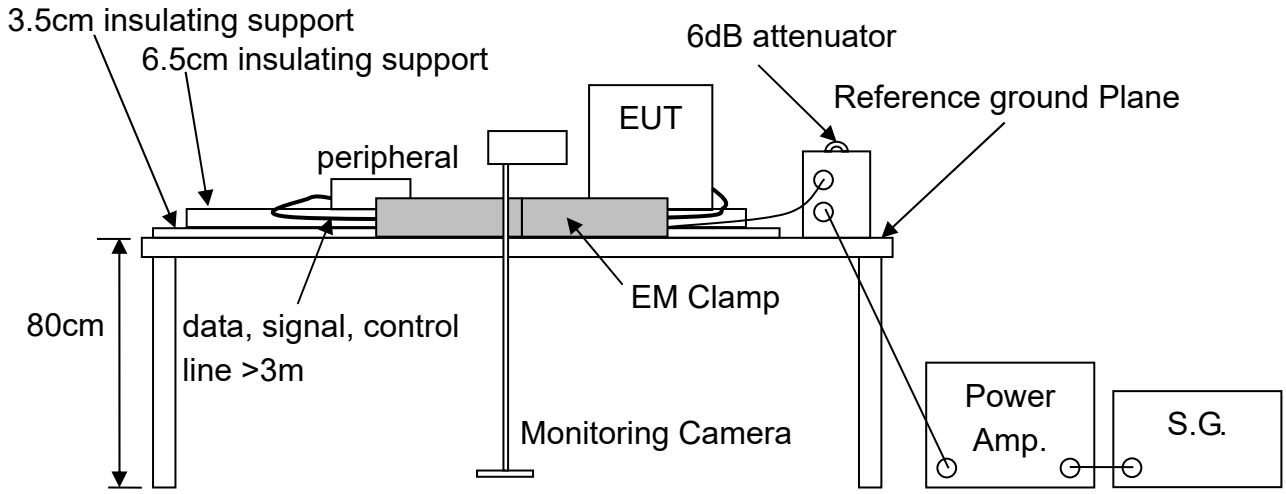
k. Record the performance of the EUT.

10.4 Test Configurations

Power supply and/or LAN port Test



I/O signal, data and control port Test (if any)



10.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

10.6 Test Results

Test Mode : Mode 1

Product (Generic) Standard : ETSI EN 301 489-1
ETSI EN 301 489-17

Injected Line	Coupling Devices	Result (Pass/Fail)
Power Lines	CDN-M3	**Pass(1)**
Data Lines (RJ-45)	CDN-T8 (1Gbps)	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Product (Generic) Standard : EN 55035 / BS EN 55035

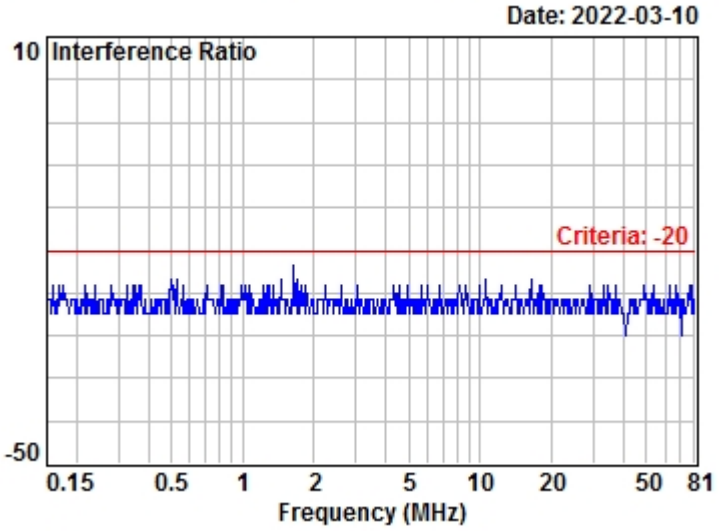
Injected Line	Test Frequency Range	Voltage Level	Coupling Devices	Performance		Result (Pass/Fail)
				Required	Observation	
Power Lines	150kHz ~ 10MHz	3V (e.m.f)	CDN-M3	A	A(1)	**Pass**
	10MHz ~ 30MHz	3V to 1V (e.m.f.)		A	A(1)	**Pass**
	30MHz ~ 80MHz	1V (e.m.f)		A	A(1)	**Pass**
Data Lines (RJ-45)	150kHz ~ 10MHz	3V (e.m.f)	CDN-T8 (1Gbps)	A	A(1)	**Pass**
	10MHz ~ 30MHz	3V to 1V (e.m.f.)		A	A(1)	**Pass**
	30MHz ~ 80MHz	1V (e.m.f)		A	A(1)	**Pass**

Observation of Performance during Test

(1) Normal operation condition specified by manufacturer during the test.

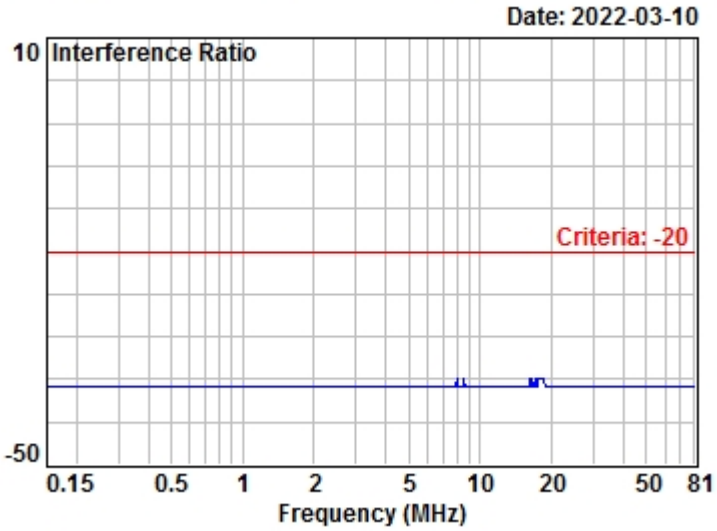
For Speaker

Acoustic interference ratio:



For Audio Line-out port (Right & Left Channel)

Electric interference ratio:



11. Voltage dips, short interruptions Immunity Test

Test Result : PASS

11.1 Specifications of Immunity Test Requirement

Product (Generic) Standard	:	ETSI EN 301 489-1 ETSI EN 301 489-17 as §1.3 described
Basic Standard	:	EN 61000-4-11 / BS EN 61000-4-11
Required Performance and Test Level	:	☑TT/TR 0% residual voltage dips with 0.5 cycle ☑TT/TR 0% residual voltage dips with 1 cycle ☑TT/TR 70% residual voltage dips with 25 cycles ☑TT/TR 0% residual voltage interruptions with 250 cycles
Basis Test Voltage Level (U_T)	:	240Vac/50Hz to the power adapter 100Vac/50Hz to the power adapter
Test Duration	:	Maximum 3 dips/interruptions with a sequence
Time interval	:	10s minimum between each test event
Phase Angle of Abrupt Changes	:	0°, 180°
Tester	:	Jeff
Ambient Temperature	:	24°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1011mbar
Date of Testing	:	March 15, 2022

Product (Generic) Standard	:	EN 55035 / BS EN 55035 as §1.3 described
Basic Standard	:	EN 61000-4-11 / BS EN 61000-4-11
Required Performance and Test Level	:	☑ B for 0% residual voltage dips with 0.5 cycle ☑ C for 70% residual voltage dips with 25 cycles ☑ C for 0% residual voltage interruptions with 250 cycles
Basis Test Voltage Level (U_T)	:	240Vac/50Hz to the power adapter 100Vac/50Hz to the power adapter
Test Duration	:	Maximum 3 dips/interruptions with a sequence
Time interval	:	10s minimum between each test event
Phase Angle of Abrupt Changes	:	0°
Tester	:	Jeff
Ambient Temperature	:	24°C
Relative Humidity	:	56%
Atmospheric Pressure	:	1011mbar
Date of Testing	:	March 15, 2022

11.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Voltage DIP Tester	EMC PARTNER	TRA2000IN6/ 870	April 21, 2021	April 21, 2022
Test Software	EMC PARTNER	TEMA/ Ver. 2.05	NCR	NCR
TR7 shielded room	ETS. LINDGREN	TR7/ 15353-D	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

11.3 Test Procedures

a. The EUT was set up per the test configuration figured in the next section of this chapter to simulate the typical usage per the user's manual.

b. If the EUT is tabletop equipment, it was placed on a wooden table with a height 0.8 meters above the ground reference plane in the shielded room.

c. If the EUT is floor-standing equipment, it was placed on a non-conducted support with a height of 0.1 meters above the ground reference plane in the shielded room.

d. The test shall be performed with the EUT connected to the test Generator with the shortest power supply cable as specified by the manufacturer.

e. If any, tests on the three-phase EUT are accomplished by using three sets of equipment mutually synchronized.

f. During the tests, the main voltage for testing is monitored within an accuracy of 2% and the zero crossing control of the generators must have an accuracy of ±10°.

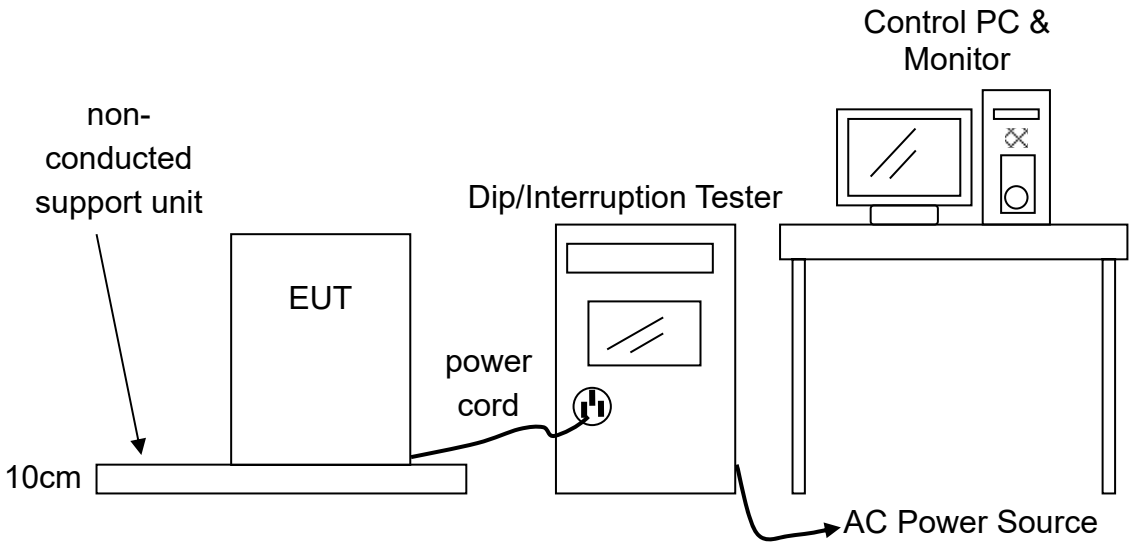
g. The EUT shall be tested for each selected combination of test level and duration with a sequence of three dips/interruptions with intervals of 10 sec. minimum (between each test event). Each representative mode of operation shall be test.

h. Abrupt changes in supply voltage shall occur at zero crossings of the voltage and additional angles preferably selected from 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315° on each phase.

i. Connect the EUT's power source to the appropriate power through the test generator and perform the specified test level.

j. Record the performance of the EUT.

11.4 Test Configurations



11.5 Photographs of the Test Configurations

Please refer to the Attachment 1 of the present report.

11.6 Test Results

Test Mode : Mode 1

Product (Generic) Standard : ETSI EN 301 489-1
ETSI EN 301 489-17

Test Voltage : 240Vac/50Hz to the power adapter

Voltage Dips Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Result (Pass/Fail)
0	100	0.5	**Pass(1)**
0	100	1	**Pass(1)**
70	30	25	**Pass(1)**

Voltage Interruption Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Result (Pass/Fail)
0	100	250	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Test Voltage : 100Vac/50Hz to the power adapter

Voltage Dips Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Result (Pass/Fail)
0	100	0.5	**Pass(1)**
0	100	1	**Pass(1)**
70	30	25	**Pass(1)**

Voltage Interruption Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Result (Pass/Fail)
0	100	250	**Pass(1)**

Observation of Performance during Test

(1) Normal operation condition specified on § 1.4 performance criteria during the test.

Product (Generic) Standard : EN 55035 / BS EN 55035

Test Voltage : 240Vac/50Hz to the power adapter

Voltage Dips Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Performance		Result (Pass/Fail)
			Required	Observation	
0	>95	0.5	B	A(1)	**Pass**
70	30	25	C	A(1)	**Pass**

Voltage Interruption Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Performance		Result (Pass/Fail)
			Required	Observation	
0	>95	250	C	B(2)	**Pass**

Observation of Performance during Test

(1) Normal operation condition specified by manufacturer during the test.

(2) The power adapter connected to the EUT would function off while test is performed, it could self-recover after the test.

Test Voltage : 100Vac/50Hz to the power adapter

Voltage Dips Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Performance		Result (Pass/Fail)
			Required	Observation	
0	>95	0.5	B	A(1)	**Pass**
70	30	25	C	A(1)	**Pass**

Voltage Interruption Test

Test level (% residual voltage)	Reduction Voltage (%)	Duration (cycle)	Performance		Result (Pass/Fail)
			Required	Observation	
0	>95	250	C	B(2)	**Pass**

Observation of Performance during Test

(1) Normal operation condition specified by manufacturer during the test.

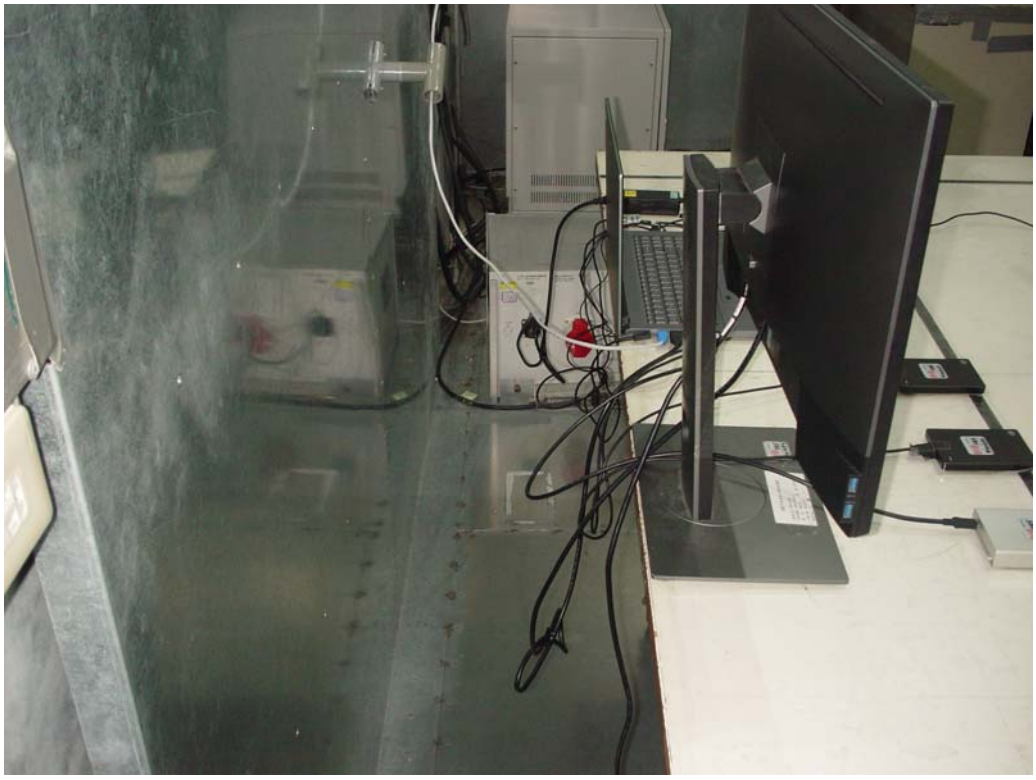
(2) The power adapter connected to the EUT would function off while test is performed, it could self-recover after the test.

Attachment 1

Photographs of the Test Configurations

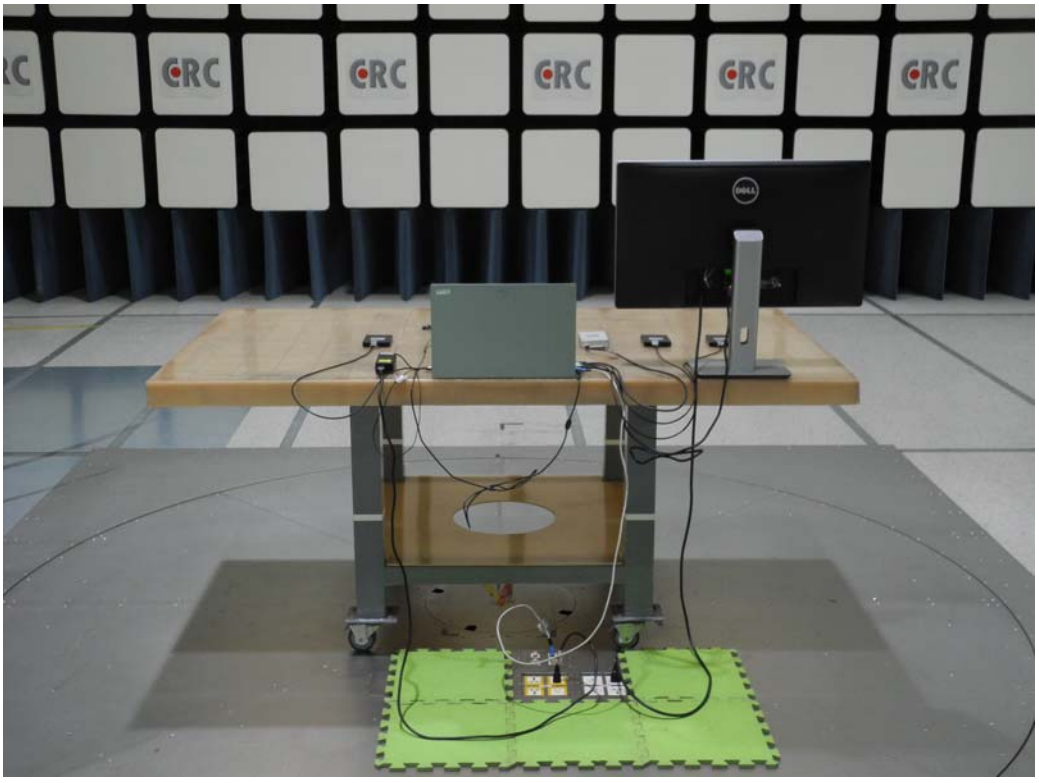
Contents

1. Conducted Emission Measurement

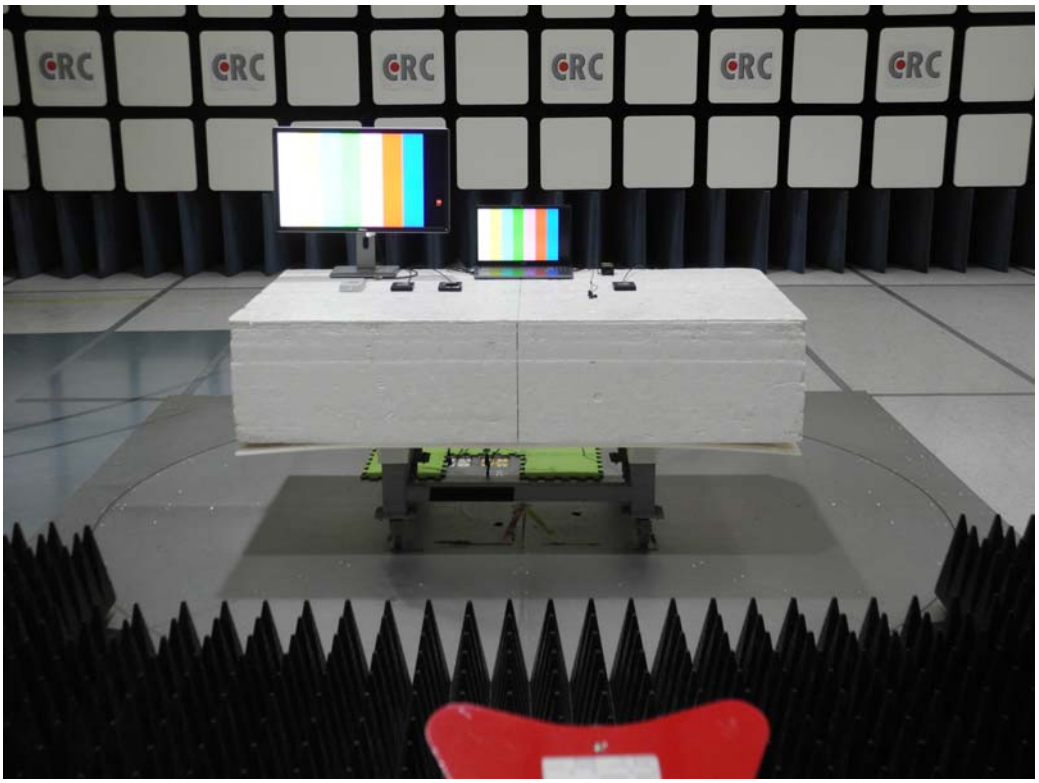


2. Radiated Emission Measurement

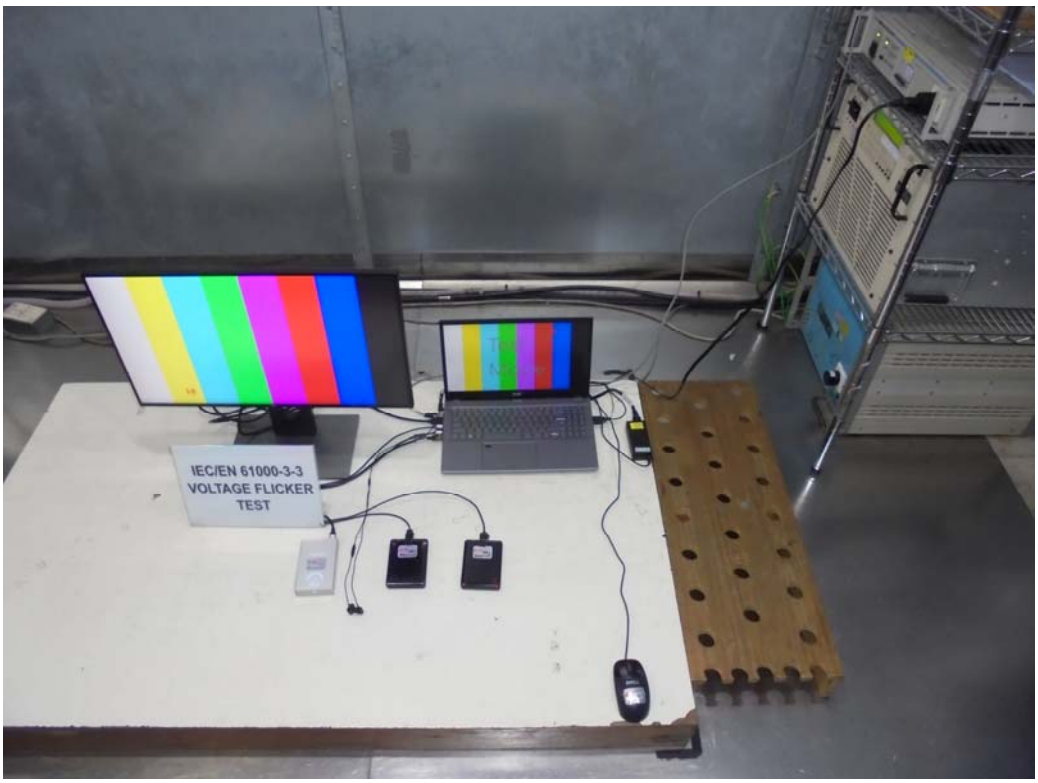
30MHz~1GHz



Above 1GHz

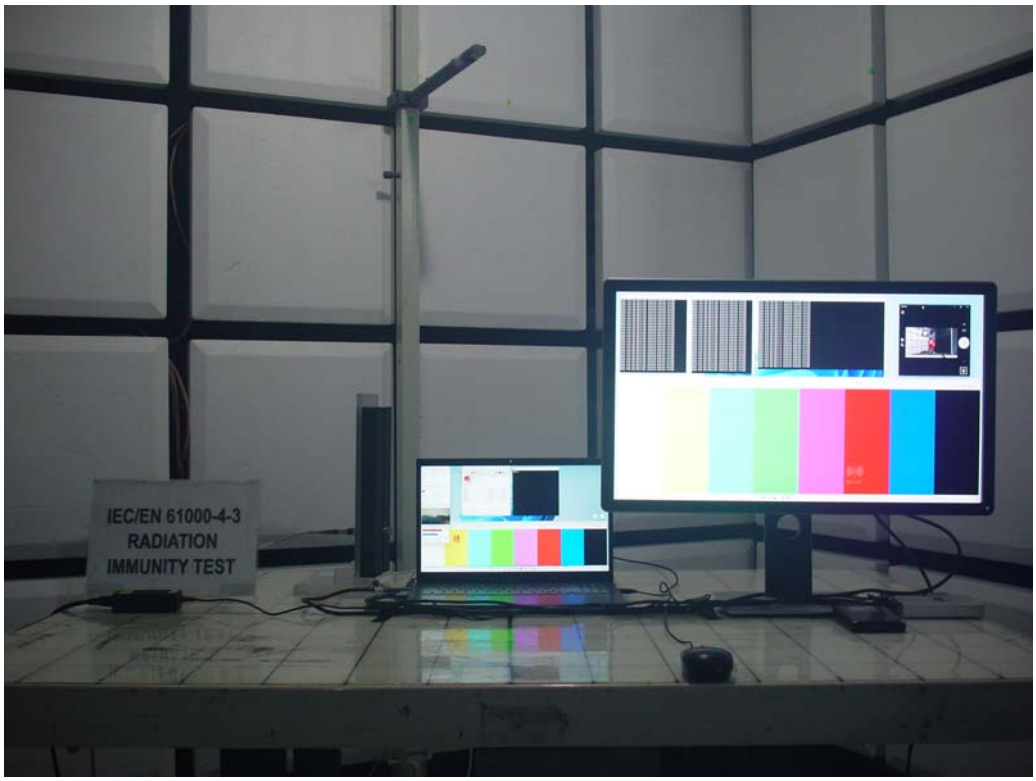


3. Harmonic Current & Voltage Fluctuations Emission Measurement

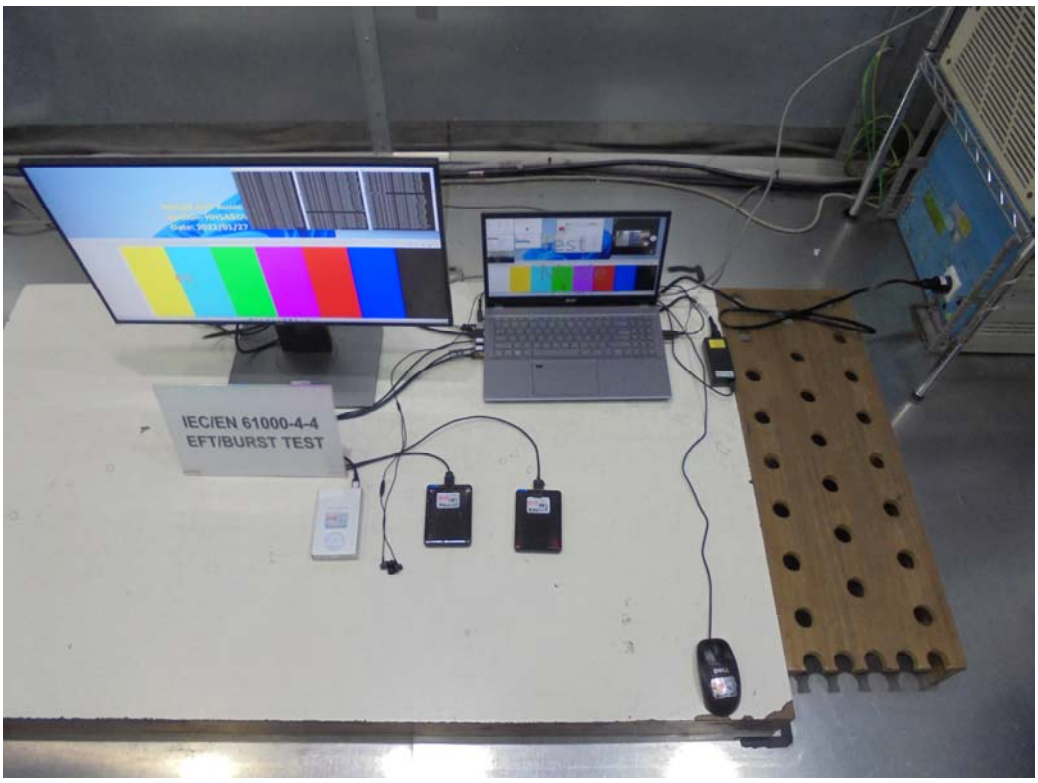


4. Electrostatic Discharge (ESD) Immunity Test

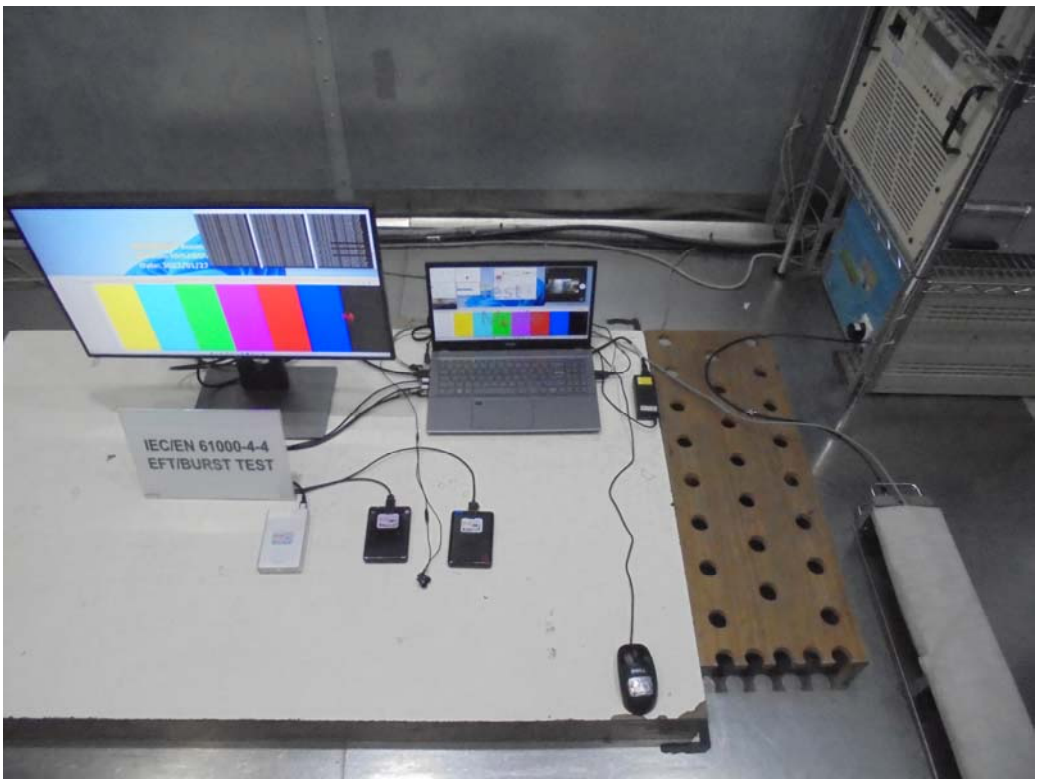
5. Radiated Electromagnetic Field (RS) Immunity Test



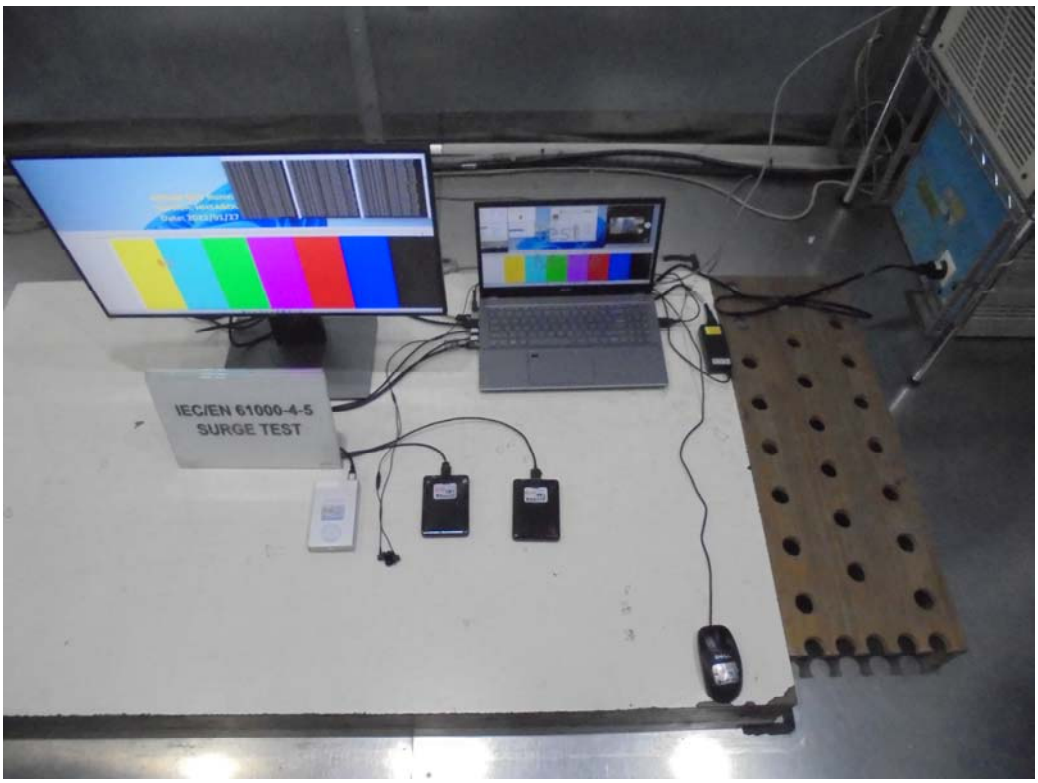
6. Electrical fast transient / burst (EFT) Immunity Test



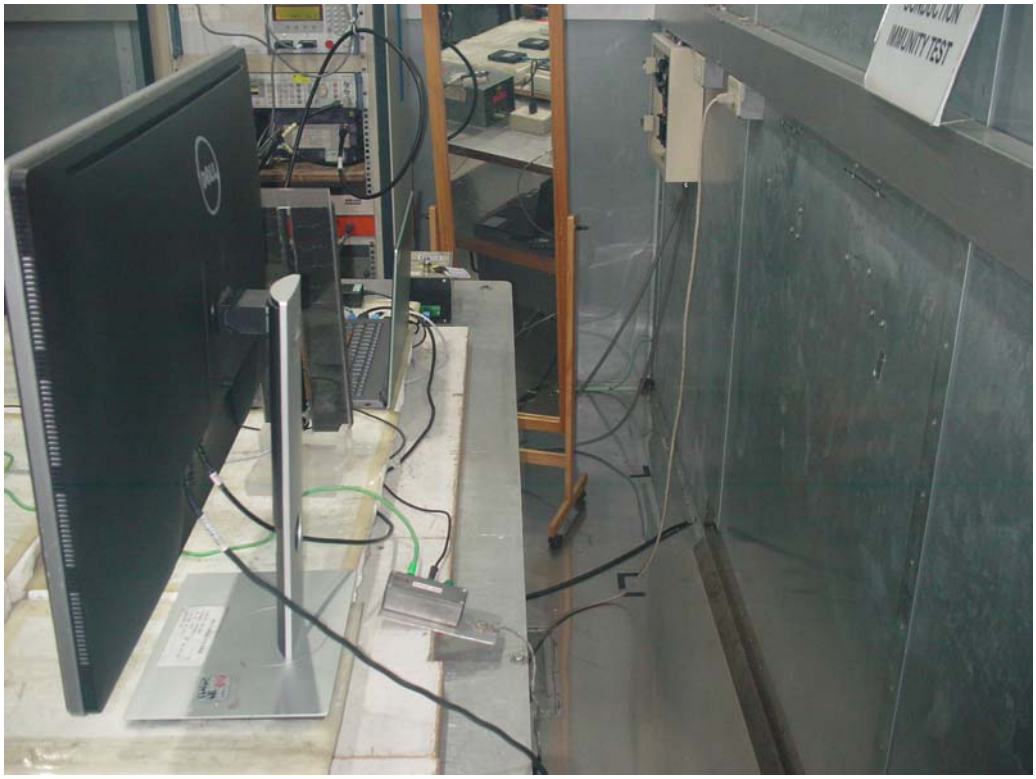
Test for LAN port



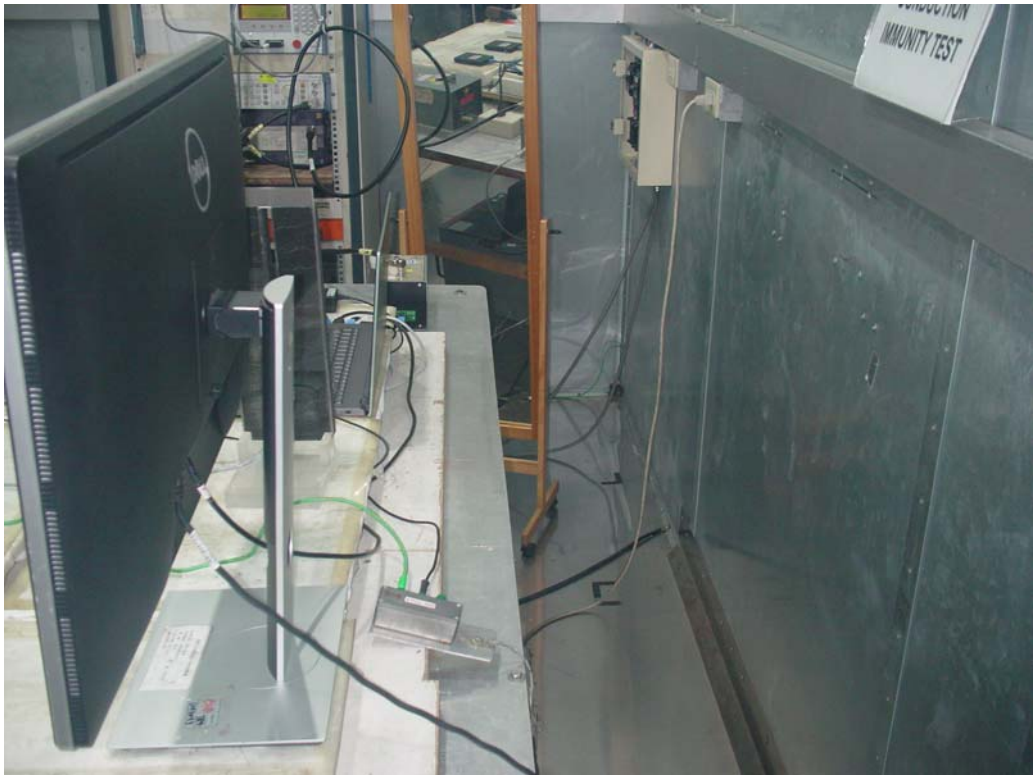
7. Surge Immunity Test



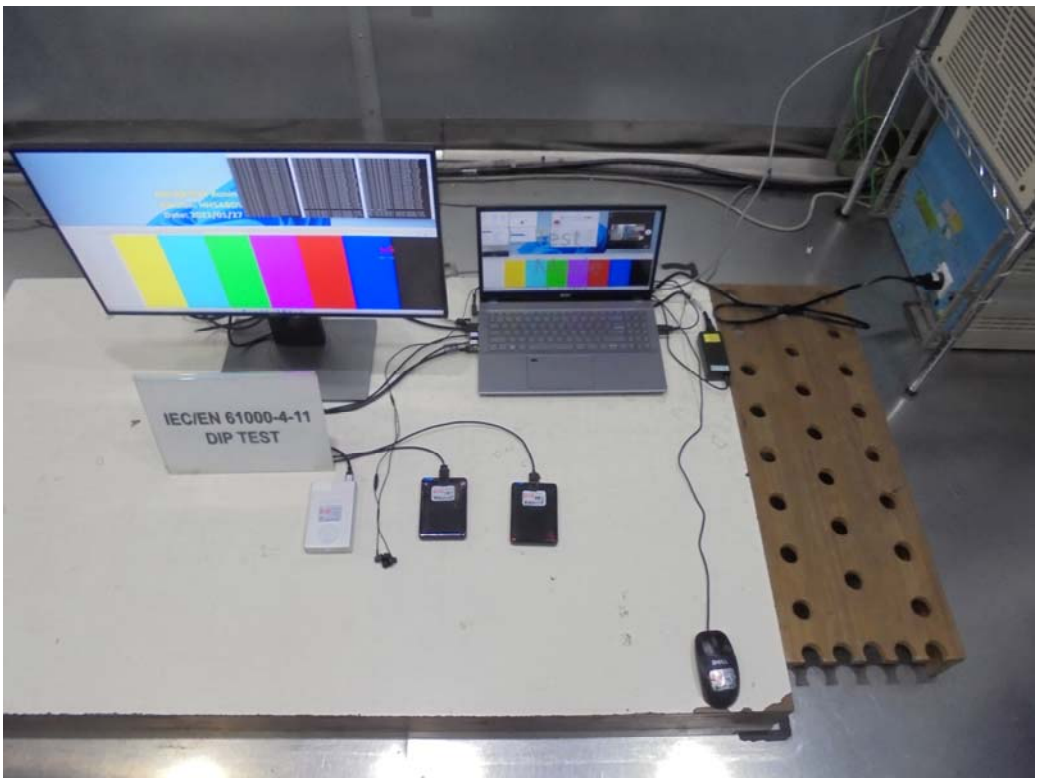
8. Conducted disturbances (CS) Immunity Test



Test for LAN port



9. Voltage dips, short interruptions Immunity Test



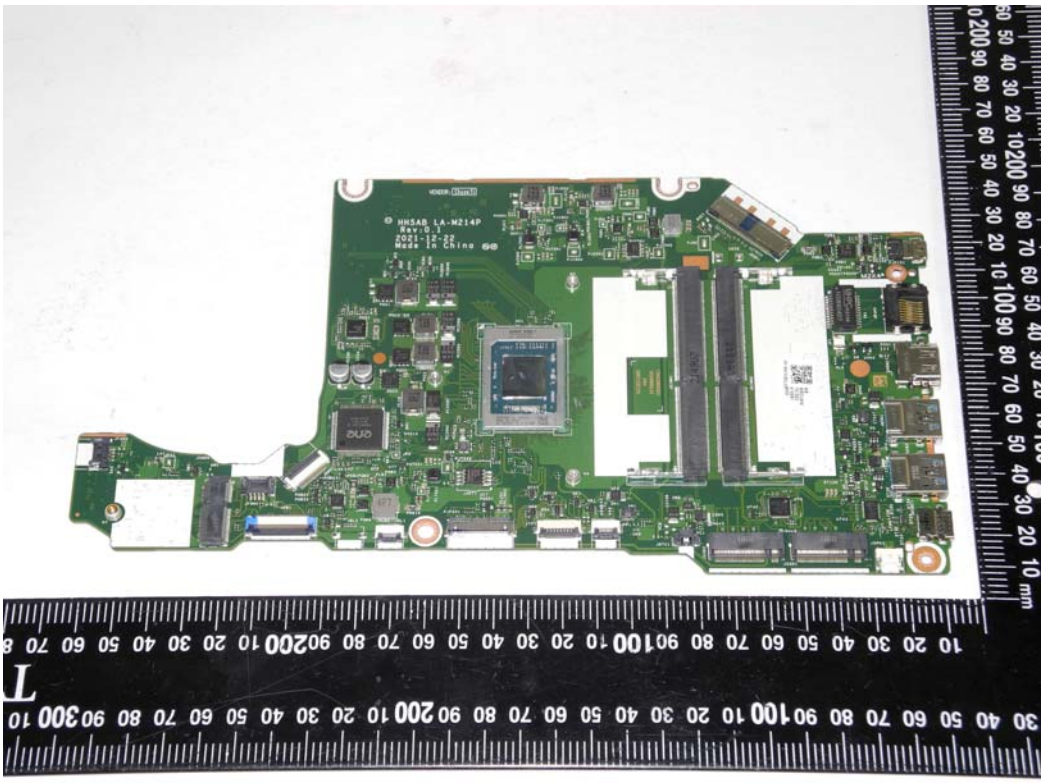
Attachment 2

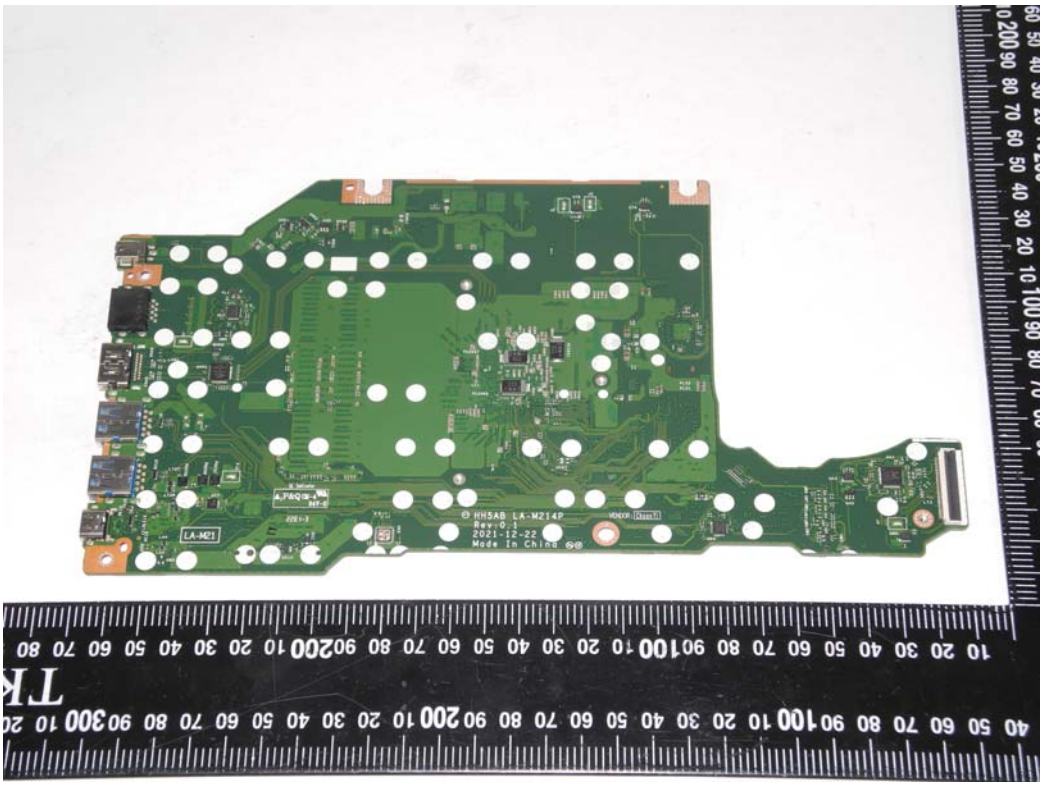
Photographs of Production

(Supplied by Customer)

MB

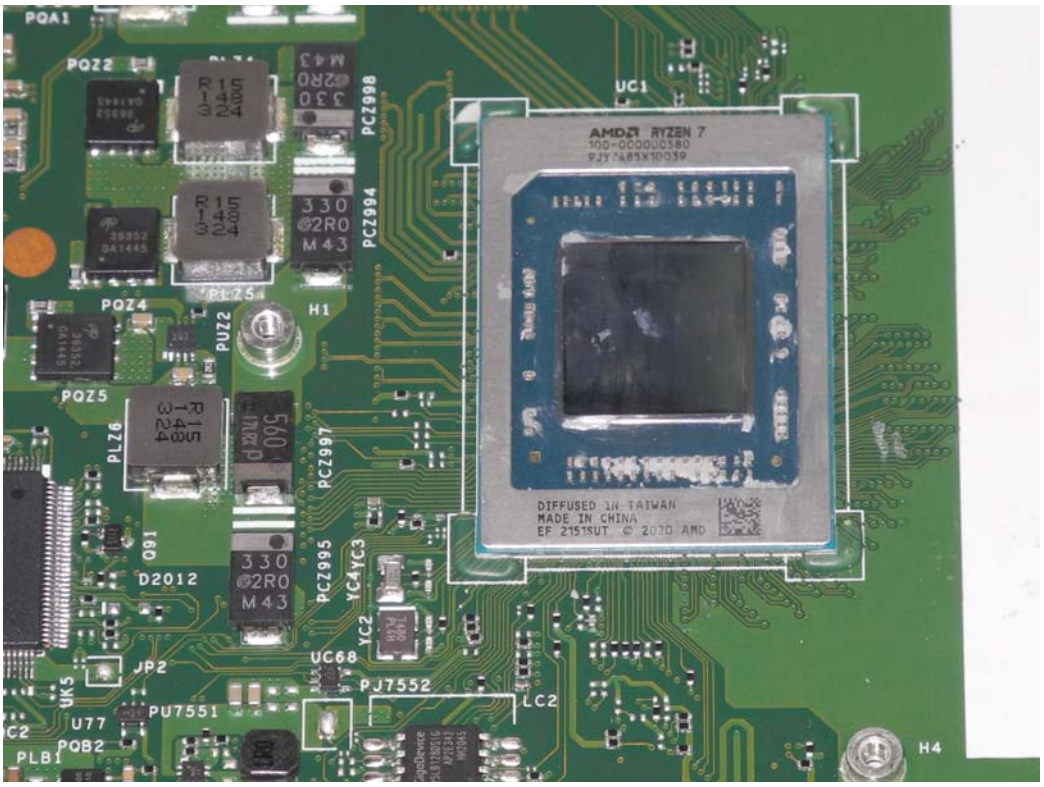
Compal / LA-M214





CPU

AMD / R75825U 2G

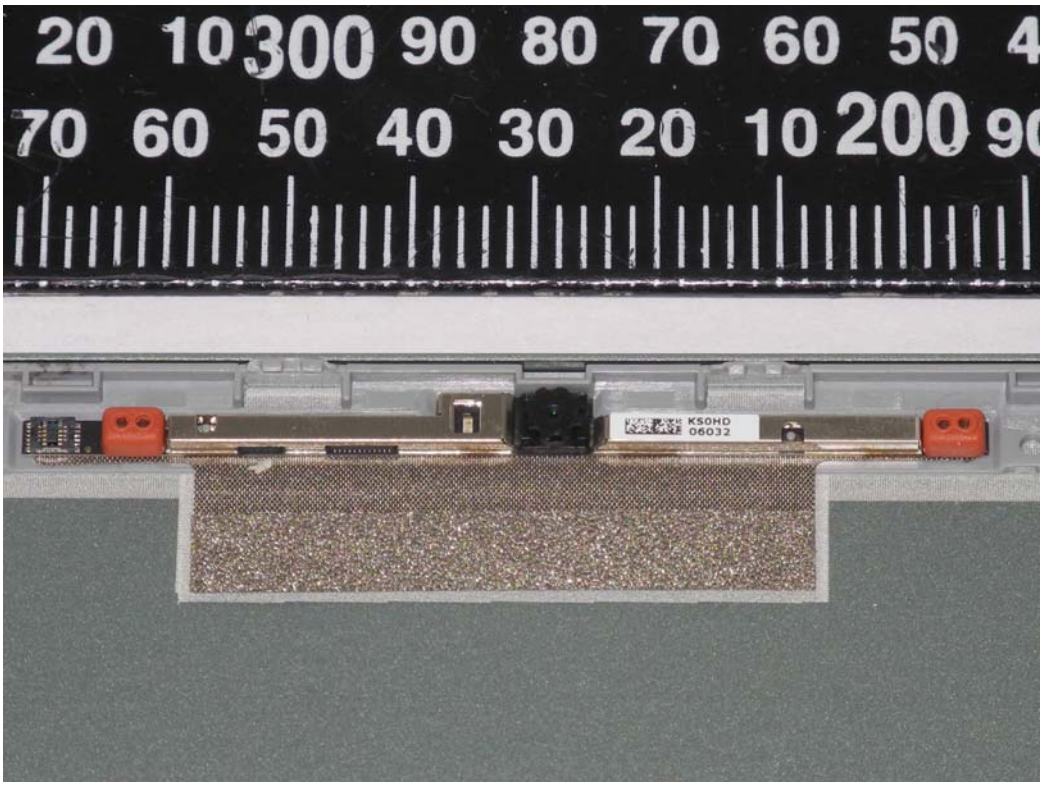


LCD

AUO / B156HAN02 (FHD)

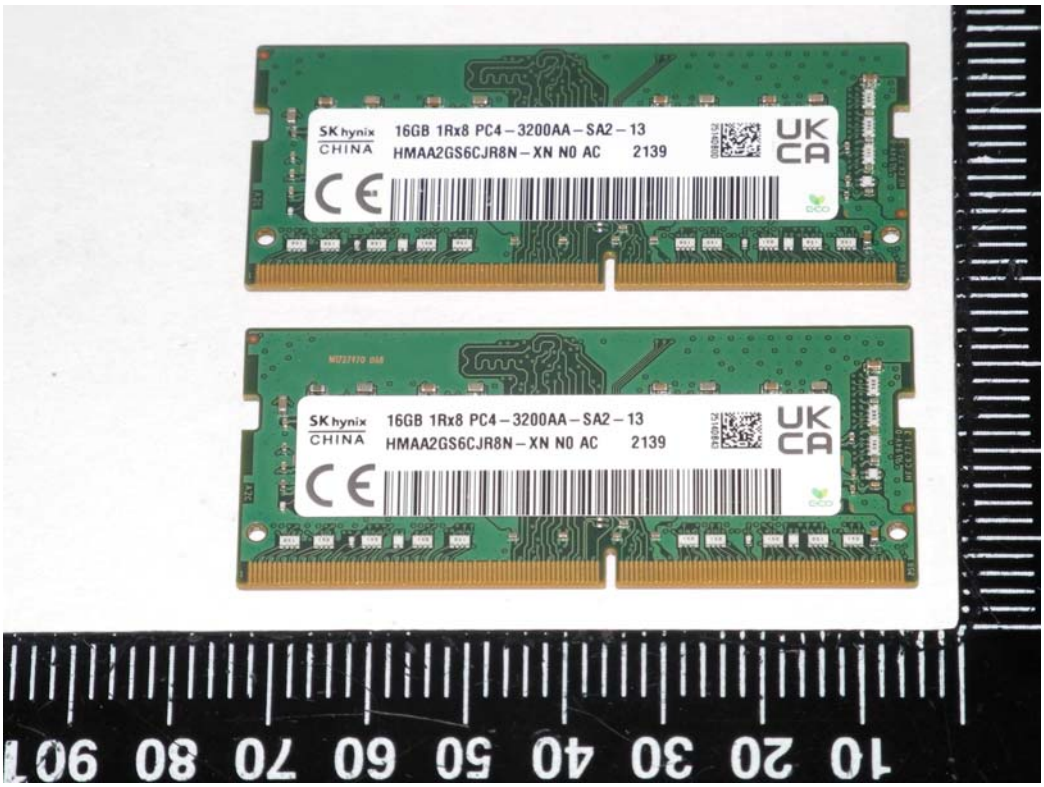
Camera

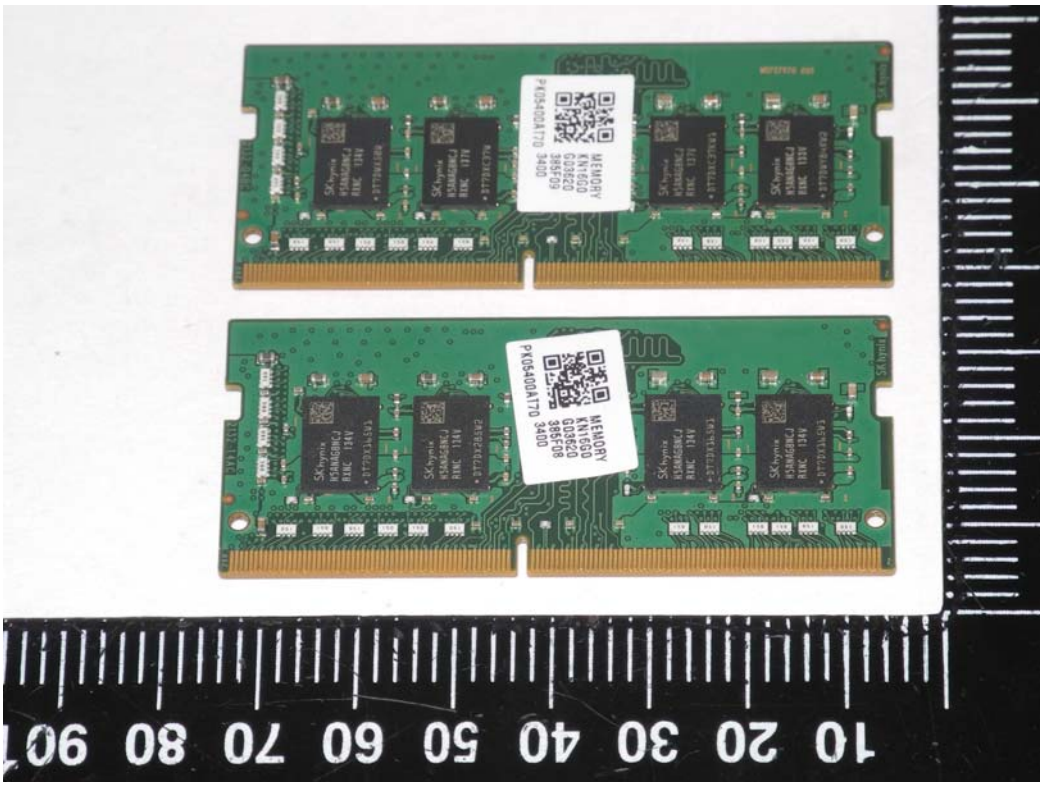
Chicony / CNFLH3421004970LH



Memory (1)/ Memory (2)

DDR4 3200 16GB



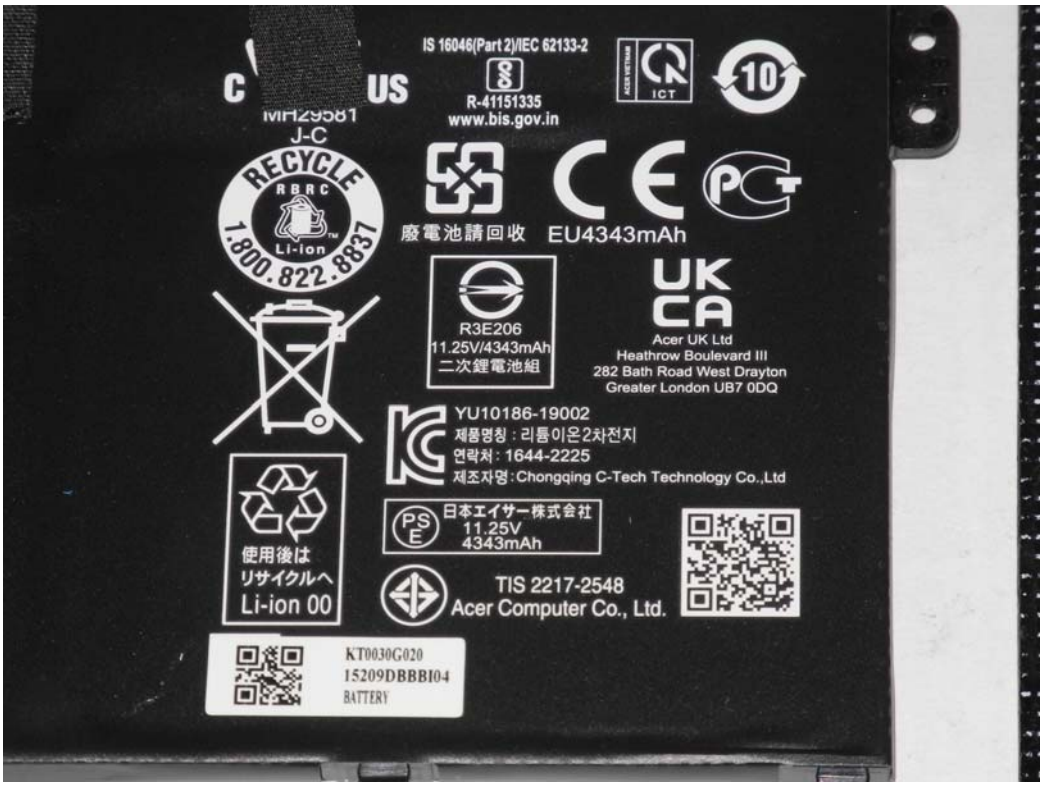


SSD(1)

Hynix / HFM512GD3JX016N

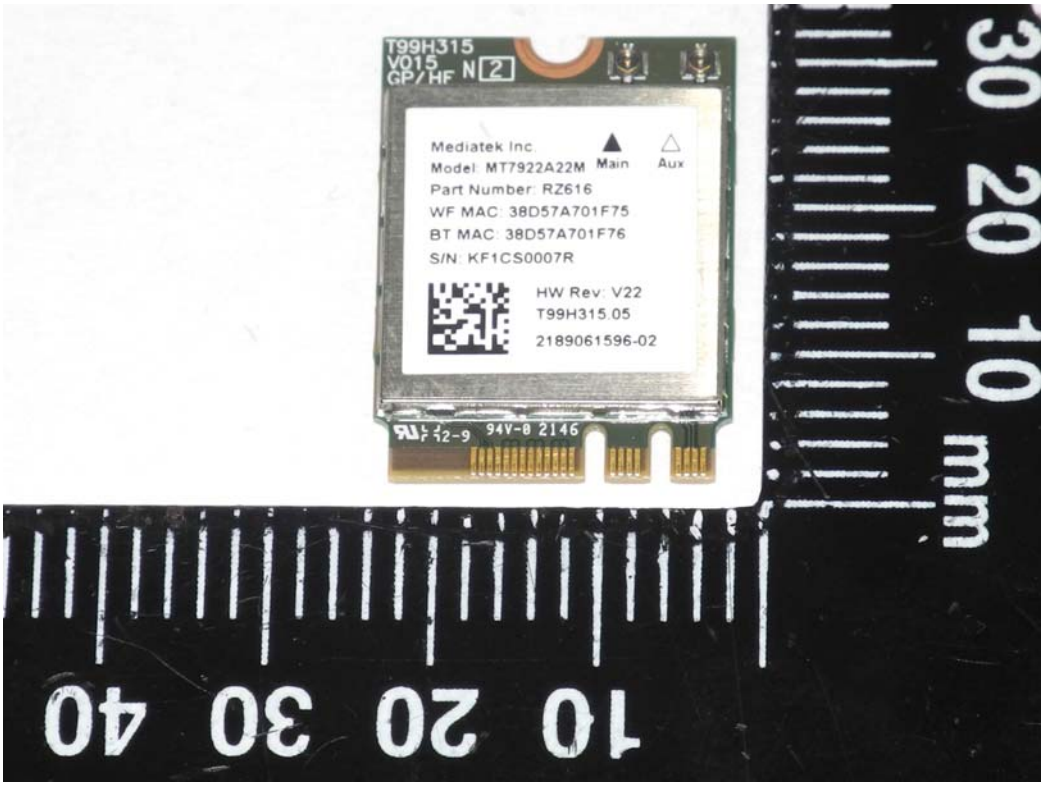
Battery

LGC / AP18C8K



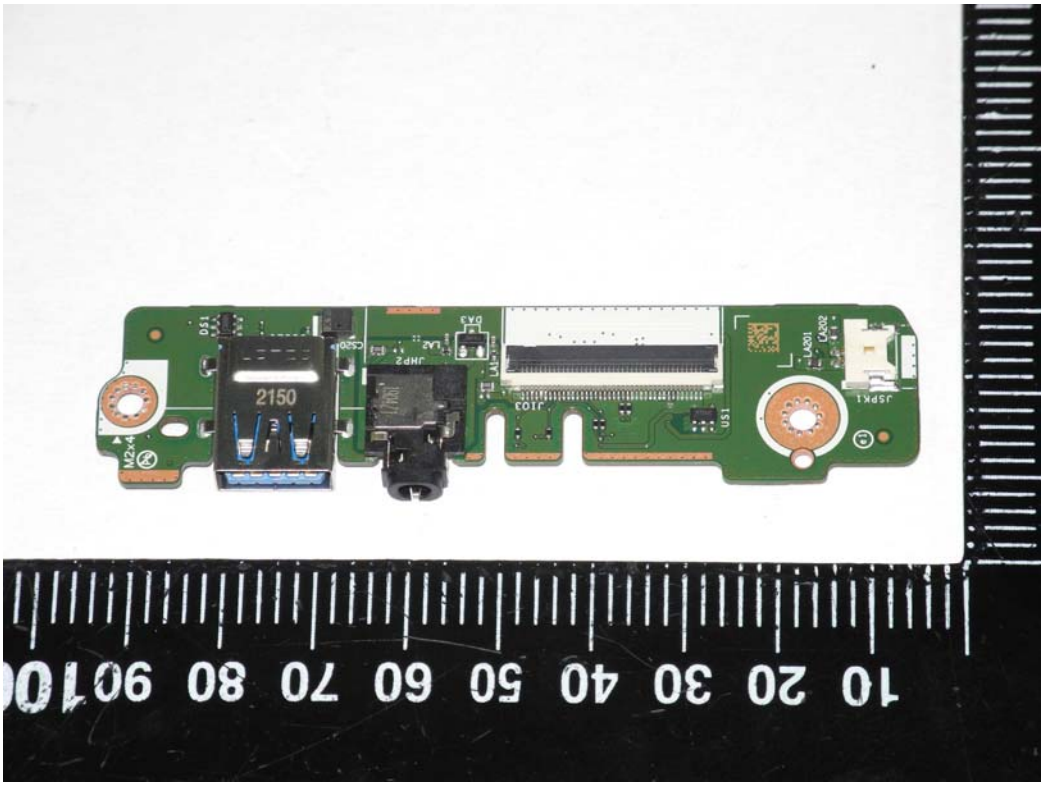
WLAN+BT Combo

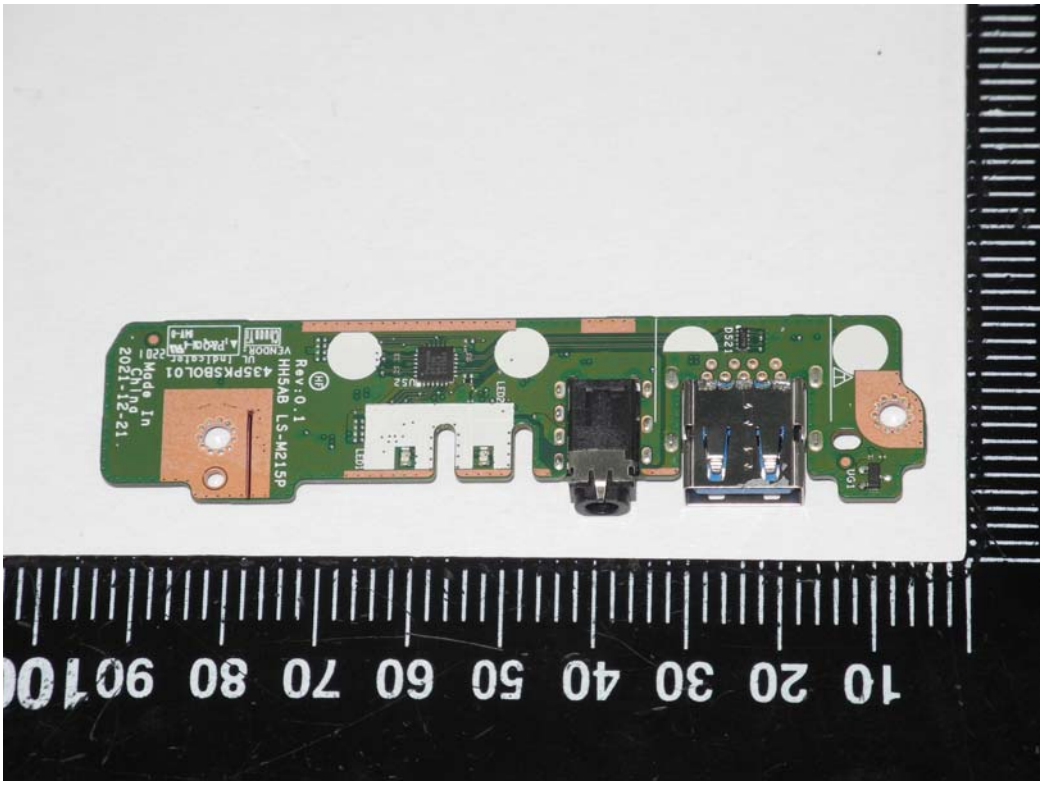
FOXCONN / T99H315

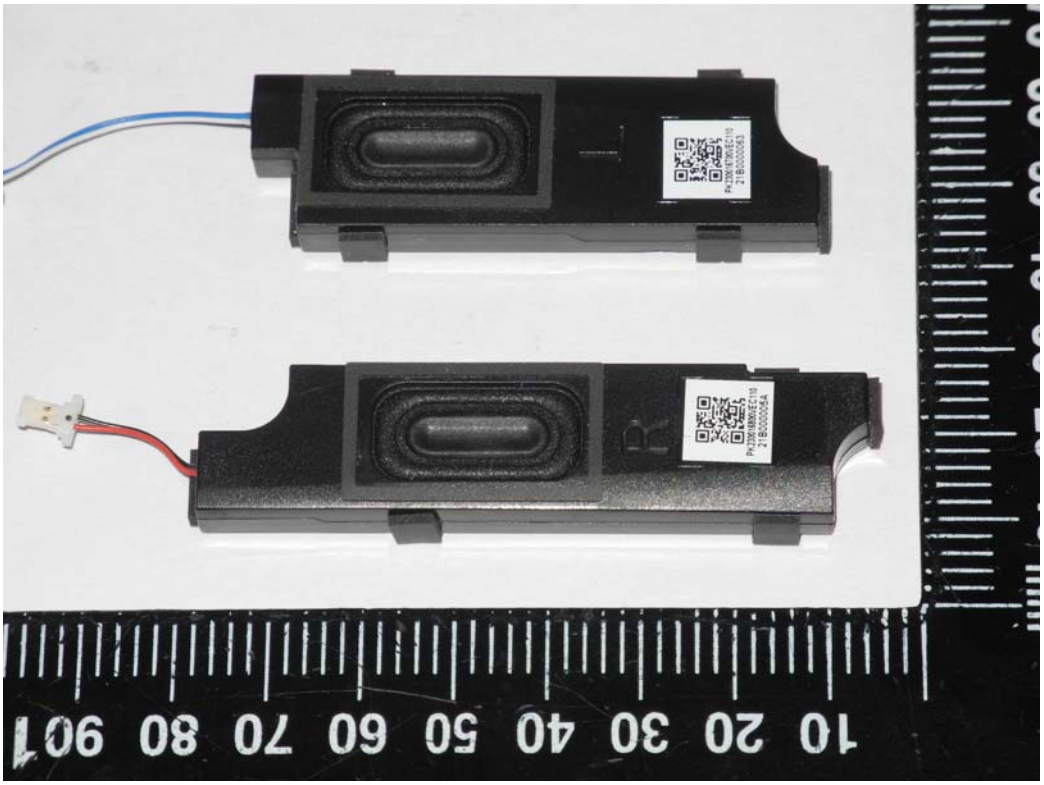


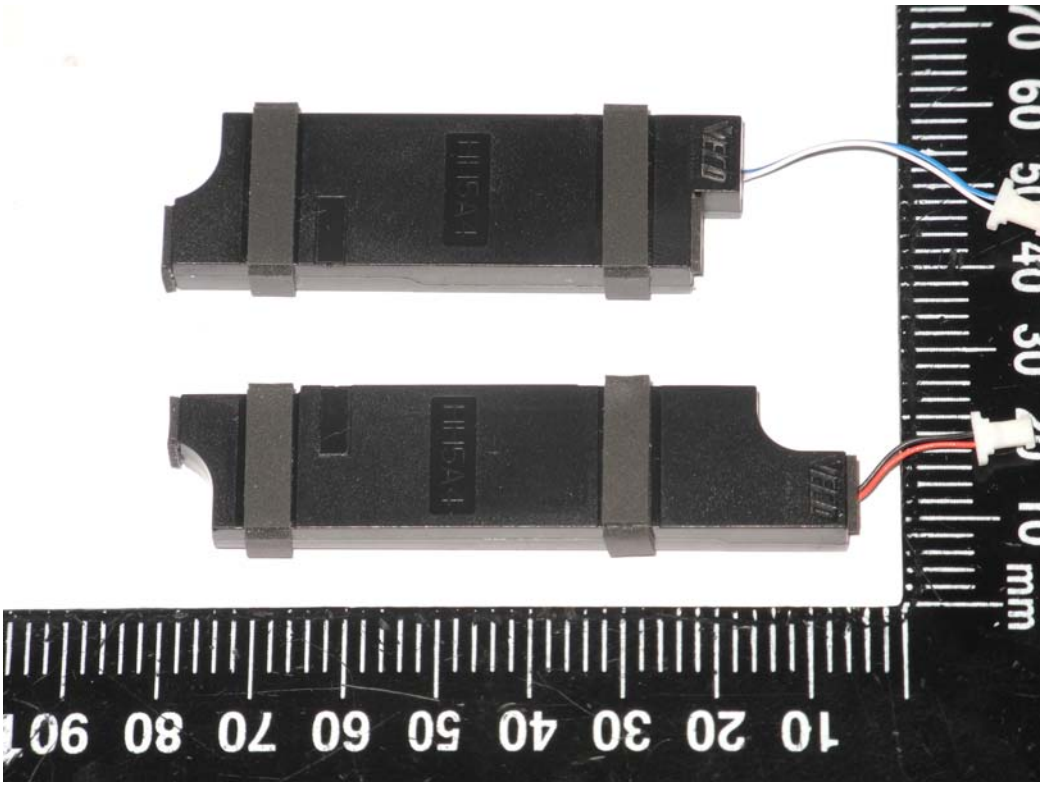
Power Adapter

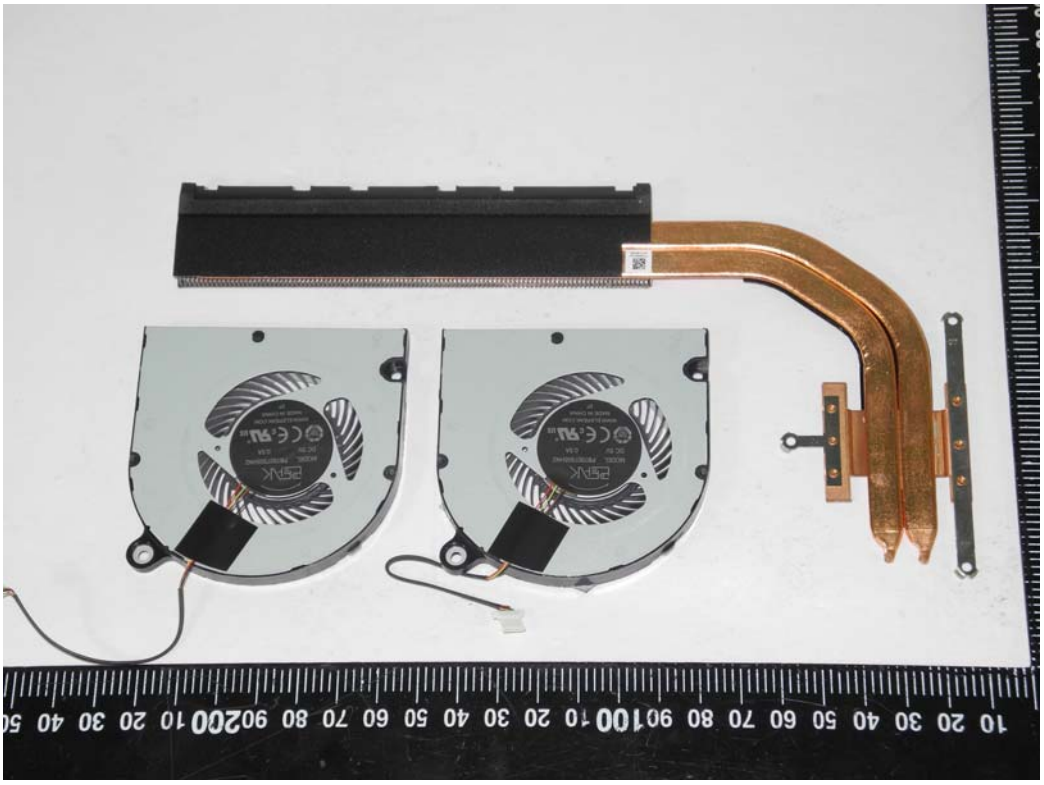
LITE-ON / PA-1650-50

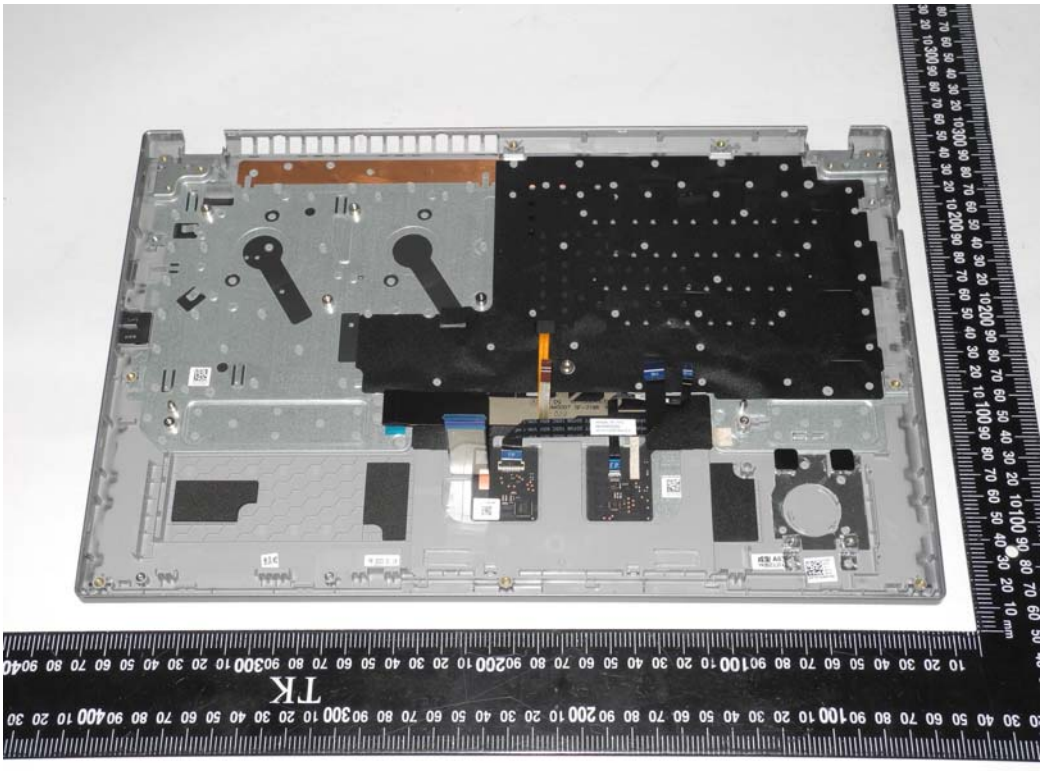


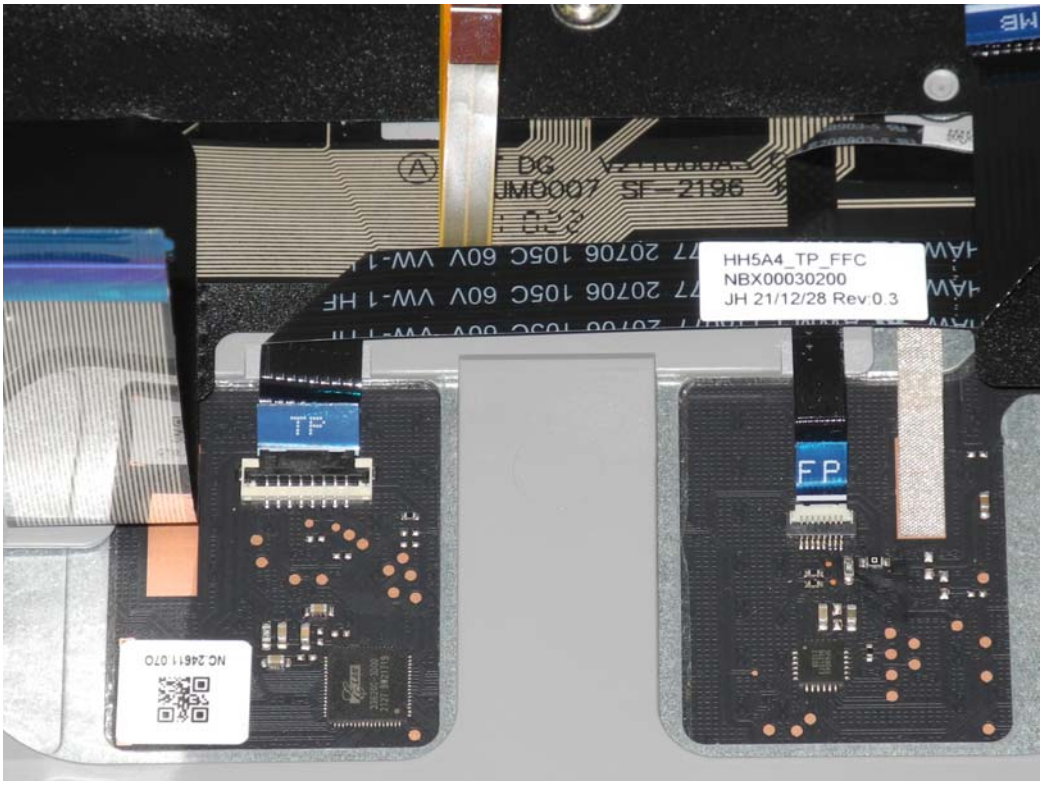


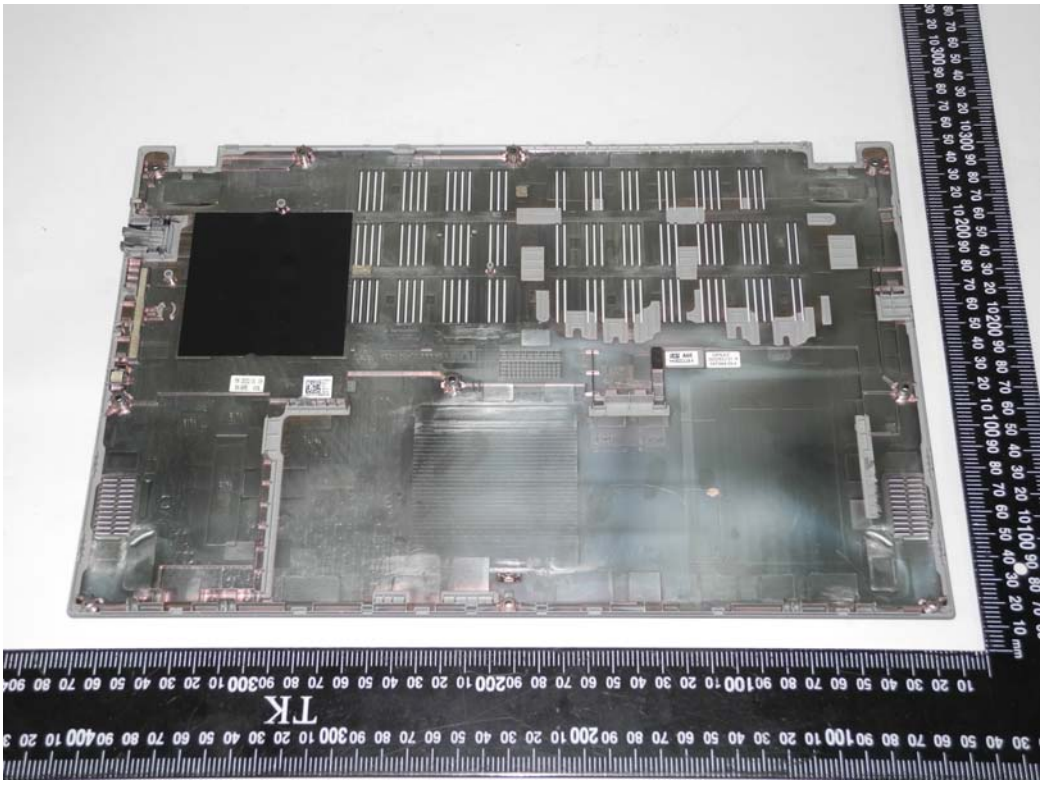


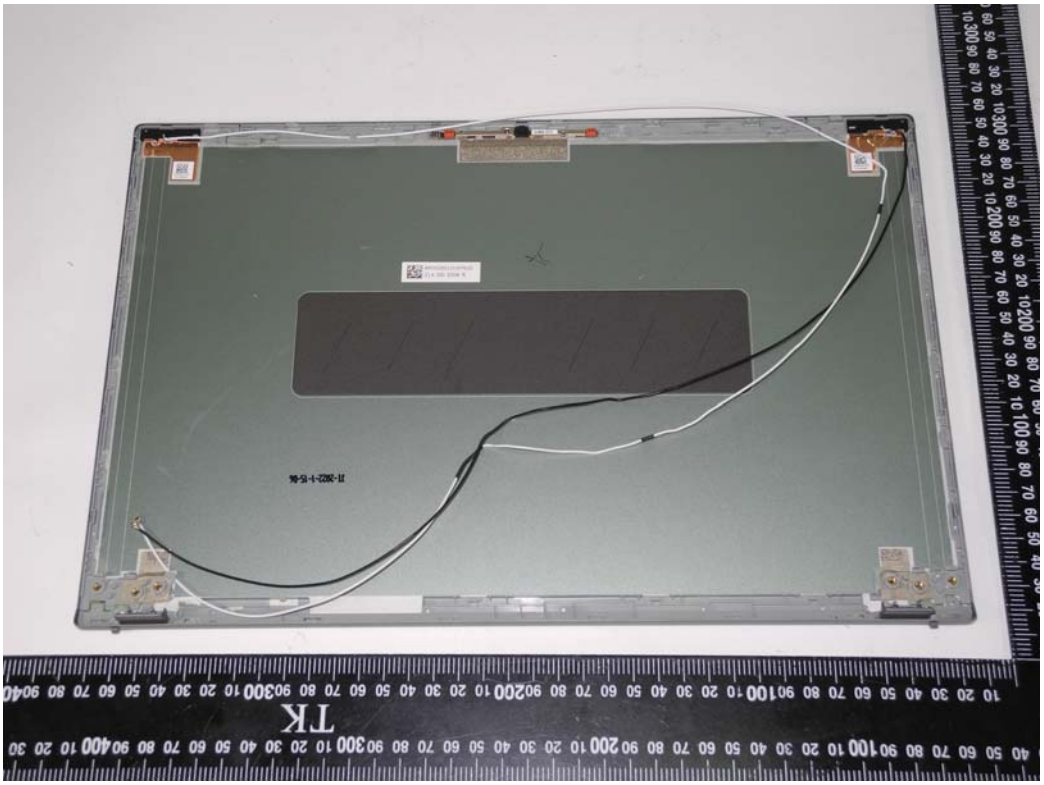












DICHIARAZIONE CE DI CONFORMITÀ

Noi,
Acer Incorporated
8F, 88, Sec. 1, Xintai 5th Rd., Xizhi,
New Taipei City 221, Taiwan
Referente: Signor RU Jan,e-mail: ru.jan@acer.com

Acer Italy s.r.l.
Viale delle Industrie 1/A, 20044 Arese (MI), Italy
Tel: +39-02-939-921,Fax: +39-02 9399-2913

Prodotto:	Computer notebook	
Marchio depositato:	acer	
Numero del modello	N22C6**	
Numero SKU	EX215-55**********	EX215-55G**********
	(* è “0-9”, “a-z”, “A-Z”, “-“, o vuoto)	

Noi, Acer Incorporated, con la presente dichiariamo sotto la nostra respponsabilità che il prodotto descritto in precedenza è conforme con legge di armonizzazione dell'Unione Europea pertinente: Direttiva 2014/53/UE sulle Apparecchiature radio, Direttiva RoHS 2011/65/UE e Direttiva ErP 2009/125/CE. Saranno applicati i seguenti standard armonizzati e/o standard pertinenti:

Compatibilità elettromagnetica (Direttiva 2014/30/UE)		
EN55032:2015+AC:2016-07	EN55035:2017+A11:2020	EN301489-1 V2.1.1
EN301489-17 V3.1.1	EN61000-3-2:2014	EN61000-3-3:2013
Utilizzo dello spetto in radio frequenza (Direttiva 2014/53/UE)		
EN300328 V2.2.2	EN301893 V2.1.1	
Salute e sicurezza (Direttiva 2014/35/UE)		
EN62368-1:2014	EN50566:2013 or EN62311:2008	
RoHS (Direttiva 2011/65/UE)		
EN IEC63000:2018		
ErP (Direttiva 2009/125/CE)		
(EU) No.2019/1782; EN50563:2011	(EC) No.1275/2008; EN50564:2011	

Modello apparecchiatura radio: 9560NGW,MTK-MT7663,

Frequenza di utilizzo e potenza di radiofrequenza sono elencati di seguito

[Bluetooth] 2402-2480MHz <10 dBm [WLAN] 2412MHz-2472MHz <20dBm, 5180-5320, 5500-5700, 5745-5825, MHz <23dBm

L’anno di inizio applicato è marchiato CE:2022

RU Jan, Sr.Manager@Taipei 2022-04-29

Nota: aprire il menu [Start] (Start) e cercare ‘Documenti Acer’ per assistenza nell’impostazione di una connessione di rete, l’uso del touchpad e altre informazioni importanti per la salute e la sicurezza.

Certificate of

Conformance

Energy Efficiency Certification

UL conducted an independent evaluation on behalf of:

Acer Incorporated

8F, 88, Sec. 1, Xintai 5th Rd.Xizhi, New Taipei City 221 Taiwan, R.O.C

Energy Verified

for the following products:

Notebook

Brand:
acer

Model Name:
N22C6

Model Number:
N22C6, A315-59, A315-59G, A515-47, A515-57, A515-57G, A515-57T, A515-57GT, S50-54, EX215-55, EX215-55G

This product meets all of the necessary qualifications pursuant to:

ENERGY STAR® Program Requirements Product Specification for Computers, Version 8.0 - Issue Date 2020/10/15

2022-03-03

Certification Date

N/A

Certification Revision Date

Issued by

4790306381

UL Product Number

00-VS-F0419, Version 6.0, This is to certify that representative samples of the Certified Product(s) listed above have been evaluated by UL to the Standard(s) identified on this Certificate in accordance with the UL Global Services Agreement and the EEC Terms & Conditions ("Agreement"). The Certificate Holder is entitled to use the UL Energy Verified Mark for the Certified Product(s) listed on the certificate and manufactured at the production site(s) covered by the UL Test Report, in accordance with the terms of the Agreement. This Certificate shall remain valid unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.

DECLARATION of REACH COMPLIANCE

Taipei, Taiwan – Mar. 22, 2023

As part of our continuous efforts to safeguard a clean environment, we have been dedicating substantial resources to improving the environmental friendliness of our products. One of our recent foci has been placed upon the compliance of REACH, i.e. Regulation (EC) No. 1907/ 2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals.

Acer Inc. hereby declares that we are committed to taking all necessary stepsto ensure our products comply with the REACH requirements. We will continue to reviewthe Candidate List of Substances of Very High Concern (SVHC) and the Restriction List(Annex XVII) for additions and updates, and will act accordingly in compliance with REACH regulations.

RU Jan
Sr. Manager

Ver. :B5-Mar., 2023

As specified in the table below according to the Candidate list published by ECHA (European Chemical Agency).

#	Substance Name	CAS #	Published Date
1	Anthracene	120-12-7	2008-10-28
2	4,4'- Diaminodiphenylmethane	101-77-9	2008-10-28
3	Dibutyl phthalate	84-74-2	2008-10-28
4	Cobalt dichloride	7646-79-9	2008-10-28
5	Diarsenic pentaoxide	1303-28-2	2008-10-28
6	Diarsenic trioxide	1327-53-3	2008-10-28
7	Sodium dichromate, dihydrate	10588-01-9	2008-10-28
8	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	2008-10-28
9	Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	2008-10-28
10	Hexabromocyclododecane (HBCDD)	3194-55-6	2008-10-28
11	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	2008-10-28
12	Bis(tributyltin) oxide,hexabutyldistannoxane	56-35-9	2008-10-28
13	Lead hydrogen arsenate	7784-40-9	2008-10-28
14	Triethyl arsenate	15606-95-8	2008-10-28
15	Benzyl butyl phthalate	85-68-7	2008-10-28
16	Anthracene oil	90640-80-5	2010-1-13
17	Anthracene oil, anthracene paste	90640-81-6	2010-1-13
18	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	2010-1-13
19	Anthracene oil, anthracene paste,distn. lights	91995-17-4	2010-1-13
20	Anthracene oil, anthracene-low	90640-82-7	2010-1-13
21	Pitch, coal tar, high temp.	65996-93-2	2010-1-13
22	Acrylamide	79-06-1	2010-3-30
23	2,4-Dinitrotoluene	121-14-2	2010-1-13
24	Diisobutyl phthalate	84-69-5	2010-1-13
25	Lead chromate	7758-97-6	2010-1-13

#	Substance Name	CAS #	Published Date
26	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	2010-1-13
27	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	2010-1-13
28	Tris(2-chloroethyl)phosphate	115-96-8	2010-1-13
29	Trichloroethylene	79-01-6	2010-6-18
30	Boric acid	10043-35-3	2010-6-18
31	Disodium tetraborate, anhydrous	1330-43-4	2010-6-18
32	Tetraboron disodium heptaoxide, hydrate	12267-73-1	2010-6-18
33	Sodium chromate	7775-11-3	2010-6-18
34	Potassium chromate	7789-00-6	2010-6-18
35	Ammonium dichromate	7789-09-5	2010-6-18
36	Potassium dichromate	7778-50-9	2010-6-18
37	Cobalt(II) sulphate	10124-43-3	2010-12-15
38	Cobalt(II) dinitrate	10141-05-6	2010-12-15
39	Cobalt(II) carbonate	513-79-1	2010-12-15
40	Cobalt(II) diacetate	71-48-7	2010-12-15
41	2-Methoxyethanol	109-86-4	2010-12-15
42	2-Ethoxyethanol	110-80-5	2010-12-15
43	Chromium trioxide	1333-82-0	2010-12-15
44	Acids generated from chromium trioxide and chromium trioxide and their oligomers: Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid	7738-94-5 13530-68-2 -	2010-12-15
45	2-Ethoxyethyl acetate	111-15-9	2011-6-20
46	Strontium chromate	7789-06-2	2011-6-20
47	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	2011-6-20
48	Hydrazine	302-01-2 7803-57-8	2011-6-20

#	Substance Name	CAS #	Published Date
49	1-Methyl-2-pyrrolidone	872-50-4	2011-6-20
50	1,2,3-Trichloropropane	96-18-4	2011-6-20
51	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	2011-6-20
52	Dichromium tris(chromate)	24613-89-6	2011-12-19
53	Potassium hydroxyoctaoxodizincatedi-chromate	11103-86-9	2011-12-19
54	Pentazinc chromate octahydroxide	49663-84-5	2011-12-19
55	Aluminosilicate Refractory Ceramic Fibres (RCF)	-	2011-12-19
56	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	-	2011-12-19
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	2011-12-19
58	Bis(2-methoxyethyl) phthalate	117-82-8	2011-12-19
59	2-Methoxyaniline; o-Anisidine	90-04-0	2011-12-19
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	2011-12-19
61	1,2-Dichloroethane	107-06-2	2011-12-19
62	Bis(2-methoxyethyl) ether	111-96-6	2011-12-19
63	Arsenic acid	7778-39-4	2011-12-19
64	Calcium arsenate	7778-44-1	2011-12-19
65	Trilead diarsenate	3687-31-8	2011-12-19
66	N,N-dimethylacetamide (DMAC)	127-19-5	2011-12-19
67	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	2011-12-19
68	Phenolphthalein	77-09-8	2011-12-19
69	Lead azide Lead diazide	13424-46-9	2011-12-19
70	Lead styphnate	15245-44-0	2011-12-19
71	Lead dipicrate	6477-64-1	2011-12-19

#	Substance Name	CAS #	Published Date
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	2012-6-18
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	2012-6-18
74	Diboron trioxide	1303-86-2	2012-6-18
75	Formamide	75-12-7	2012-6-18
76	Lead(II) bis(methanesulfonate)	17570-76-2	2012-6-18
77	TGIC(1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	2012-6-18
78	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	2012-6-18
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	2012-6-18
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	2012-6-18
81	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	548-62-9	2012-6-18
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	2580-56-5	2012-6-18
83	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	6786-83-0	2012-6-18
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	561-41-1	2012-6-18
85	Pyrochlore, antimony lead yellow	8012-00-08	2012-12-19
86	6-methoxy-m-toluidine (p-cresidine)	120-71-8	2012-12-19

#	Substance Name	CAS #	Published Date
87	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] *[The individual isomers [2],[3] and [3] (including their cis-and trans- stereo isomeric forms) and all possible combinations of isomers [1] are covered by this entry}]*	25550-51-0 19438-60-9 48122-14-1 57110-29-9	2012-12-19
88	Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] *[The individual cis-[2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry]*	85-42-7 13149-00-3 14166-21-3	2012-12-19
89	Dibutyltin dichloride (DBTC)	683-18-1	2012-12-19
90	Lead bis(tetrafluoroborate)	13814-96-5	2012-12-19
91	Lead dinitrate	10099-74-8	2012-12-19
92	Silicic acid, lead salt	11120-22-2	2012-12-19
93	4-Aminoazobenzen	60-09-3	2012-12-19
94	Lead titanium zzirconium oxide	12626-81-2	2012-12-19
95	Lead monoxide (lead oxide)	1317-36-8	2012-12-19
96	o-Toluidine	95-53-4	2012-12-19
97	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	2012-12-19
98	Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped *[with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]*	68784-75-8	2012-12-19

#	Substance Name	CAS #	Published Date
99	Trilead bis(carbonate) dihydroxide	1319-46-6	2012-12-19
100	Furan	110-00-9	2012-12-19
101	N,N-dimethylformamide	68-12-2	2012-12-19
102	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated *[covering well-defined substances and UVCB substances, polymers and homologues]*	-	2012-12-19
103	4-Nonylphenol, branched and linear *[substances with a linear and/or branched alkyl chanin with a carbon number of 9 convalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]*	-	2012-12-19
104	4,4'-methylenedi-o-toluidine	838-88-0	2012-12-19
105	Diethyl sulphate	64-67-5	2012-12-19
106	Dimethyl sulphate	77-78-1	2012-12-19
107	Lead oxide sulfate	12036-76-9	2012-12-19
108	Lead titanium trioxide	12060-00-3	2012-12-19
109	Acetic acid, lead salt, basic	51404-69-4	2012-12-19
110	[Phthaato(2-)]dioxotrilead	69011-06-9	2012-12-19
111	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	2012-12-19
112	N-methylacetamide	79-16-3	2012-12-19
113	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	2012-12-19
114	1,2-Diethoxyethane	629-14-1	2012-12-19
115	Tetralead trioxide sulphate	12202-17-4	2012-12-19
116	N-pentyl-isopentylphthalate	776297-69-9	2012-12-19
117	Dioxobis(stearato)trilead	12578-12-0	2012-12-19
118	Tetraethyllead	78-00-2	2012-12-19

#	Substance Name	CAS #	Published Date
119	Pentalead tetraoxide sulphate	12065-90-6	2012-12-19
120	Pentacosafluorotridecanoic acid	72629-94-8	2012-12-19
121	Tricosafluorododecanoic acid	307-55-1	2012-12-19
122	Henicosafluoroundecanoic acid	2058-94-8	2012-12-19
123	Heptacosafluorotetradecanoic acid	376-06-7	2012-12-19
124	1-bromopropane (n-propyl bromide)	106-94-5	2012-12-19
125	Methoxyacetic acid	625-45-6	2012-12-19
126	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	2012-12-19
127	Methyloxirane (Propylene oxide)	75-56-9	2012-12-19
128	Trilead dioxide phosphonate	12141-20-7	2012-12-19
129	o-aminoazotoluene	97-56-3	2012-12-19
130	1,2-Benzenedicarboxylic acid, dipentylester, branced and linear	84777-06-0	2012-12-19
131	4,4’-oxydianiline and its salts	101-80-4	2012-12-19
132	Orange lead (lead tetroxide)	1314-41-6	2012-12-19
133	Biphenyl-4-ylamine	92-67-1	2012-12-19
134	Diisopentylphthalate	605-50-5	2012-12-19
135	Fatty acids, C16-18, lead salts	91031-62-8	2012-12-19
136	Diazene-1,2-dicarboxamide (C,C’-azodi(formamide))	123-77-3	2012-12-19
137	Sulfurous acid, lead salt, dibasic	62229-08-7	2012-12-19
138	Lead cyanamidate	20837-86-9	2012-12-19
139	Cadmium	7440-43-9	2013-06-20
140	Cadmium oxide	1306-19-0	2013-06-20
141	Ammonium pentadecaflurorooctanote (APFO)	3825-26-1	2013-06-20
142	Pentadecafluorooctanoic acid (PFOA)	335-67-1	2013-06-20
143	Dipentyl phthalate (DPP)	131-18-0	2013-06-20

#	Substance Name	CAS #	Published Date
144	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	2013-06-20
145	Cadmium sulphide	1306-23-6	2013-12-16
146	Dihexyl phthalate	84-75-3	2013-12-16
147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)] bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	2013-12-16
148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo] -5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	2013-12-16
149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	2013-12-16
150	Lead di(acetate)	301-04-2	2013-12-16
151	Trixylyl phosphate	25155-23-1	2013-12-16
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	2014/06/16
153	Sodium perborate; perboric acid, sodium salt	-	2014/06/16
154	Sodium peroxometaborate	7632-04-4	2014/06/16
155	Cadmium chloride	10108-64-2	2014/06/16
156	Cadmium fluoride	7790-79-6	2014-12-17
157	Cadmium sulphate	10124-36-4 31119-53-6	2014-12-17

#	Substance Name	CAS #	Published Date
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	2014-12-17
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	2014-12-17
160	2-ethylhexyl,10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	2014-12-17
161	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	--	2014-12-17
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1	2015/06/15
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	--	2015/06/15
164	1,3-propanesultone	1120-71-4	2015/12/17
165	2,4-di-tert-butyl-6-(5- chlorobenzotriazol-2-yl)phenol (UV- 327)	3864-99-1	2015/12/17
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)- 6-(sec-butyl)phenol (UV-350)	36437-37-3	2015/12/17
167	Nitrobenzene	98-95-3	2015/12/17
168	Perfluorononan-1-oic acid (2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluorononanoic acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	2015/12/17

#	Substance Name	CAS #	Published Date
169	Benzo[def]chrysene (Benzo[a]pyrene)	50-32-8	2016/06/20
170	4,4'-isopropylidenediphenol	80-05-7	2017/01/12
171	4-Heptylphenol, branched and linear substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB-and well-defined substances which include any of the individual isomers or a combination thereof	--	2017/01/12
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts Ammonium nonadecafluorodecanoate Decanoic acid, nonadecafluoro-, sodium salt	335-76-2 3108-42-7 3830-45-3	2017/01/12
173	p-(1,1-dimethylpropyl)phenol = 4-tert-pentylphenol (PTAP)	80-46-6	2017/01/12
174	Perfluorohexane-1-sulphonic acid and its salts	--	2017/07/07
175	Benz[a]anthracene	56-55-3	2018/01/15
176	Cadmium carbonate	513-78-0	2018/01/15
177	Cadmium hydroxide	21041-95-2	2018/01/15
178	Cadmium nitrate	10325-94-7	2018/01/15
179	Chrysene	218-01-9	2018/01/15
180	Dechlorane plus (including any of its individual anti- and syn-isomers or any combination thereof)	-	2018/01/15
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear]	-	2018/01/15
182	Octamethylcyclotetrasiloxane (D4)	556-67-2	2018/06/07

#	Substance Name	CAS #	Published Date
183	Decamethylcyclopentasiloxane (D5)	541-02-6	2018/06/07
184	Dodecamethylcyclohexasiloxane (D6)	541-02-6	2018/06/07
185	Lead	7439-92-1	2018/06/07
186	Disodium octaborate	12008-41-2	2018/06/07
187	Benzo[ghi]perylene	191-24-2	2018/06/07
188	Terphenyl hydrogenated	61788-32-7	2018/06/07
189	Ethylenediamine (EDA)	107-15-3	2018/06/07
190	Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride; TMA)	552-30-7	2018/06/07
191	Dicyclohexyl phthalate (DCHP)	84-61-7	2018/06/07
192	1,7,7-trimethyl-3-(phenylmethylene) bicyclo[2.2.1]heptan-2-one (3-benzylidene camphor)	239-139-9	2019/1/15
193	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	401-720-1	2019/1/15
194	Benzo[k]fluoranthene	205-916-6	2019/1/15
195	Fluoranthene	205-912-4	2019/1/15
196	Phenanthrene	201-581-5	2019/1/15
197	Pyrene	204-927-3	2019/1/15
198	2-methoxyethyl acetate	110-49-6	2019/07/16
199	Tris (4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	-	2019/07/16
200	2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, its salts and its acyl halides (covering any of their individual isomers and combina_ons thereof)	-	2019/07/16
201	4-tert-butylphenol	98-54-4	2019/07/16
202	Diisohexyl phthalate	71850-09-4	2020/1/16
203	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	2020/1/16

#	Substance Name	CAS #	Published Date
204	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	2020/1/16
205	Perfluorobutane sulfonic acid (PFBS) and its salts	-	2020/1/16
206	1-vinylimidazole	1072-63-5	2020/6/25
207	2-methylimidazole	693-98-1	2020/6/25
208	butyl 4-hydroxybenzoate	94-26-8	2020/6/25
209	Dibutylbis(pentane-2,4-dionato-O,O')tin	22673-19-4	2020/6/26
210	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	2021/1/19
211	Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety dioctyltin dilaurate; stannane, dioctyl-, bis(coco acyloxy) derivs. Stannane, dioctyl-, bis(coco acyloxy) derivs. Dioctyltin dilaurate	-; -; 91648-39-4; 3648-18-8	2021/1/19
212	1,4-dioxane	123-91-1	2021/7/8
213	(1) 2,2-bis(bromomethyl)propane1,3- diol (BMP); (2) 2,2-dimethylpropan-1-ol, tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol(TBNPA); (3) 2,3-dibromo-1-propanol (2,3- DBPA)	(1)3296-90-0; (2)36483-57-5/ 1522-92-5; (3)96-13-9	2021/7/8
214	2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers: (2R)-3-(4-tert-butylphenyl)-2- methylpropanal; 2-(4-tert- butylbenzyl)propionaldehyde; (2S)-3-(4-tert-butylphenyl)-2- methylpropanal	75166-31-3; 80-54-6; 75166-30-2	2021/7/8

#	Substance Name	CAS #	Published Date
215	4,4'-(1-methylpropylidene)bisphenol	77-40-7	2021/7/8
216	glutaral	111-30-8	2021/7/8
217	Medium-chain chlorinated paraffins (MCCP) UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17	85535-85-9; 198840-65-2; 1372804-76-6; -	2021/7/8
218	orthoboric acid, sodium salt: boric acid (H3BO3), sodium salt, hydrate; Boric acid (H3BO3), disodium salt; Trisodium orthoborate; Boric acid, sodium salt; Orthoboric acid, sodium salt; Boric acid (H3BO3), sodium salt (1:1)	25747-83-5; 22454-04-2; 14312-40-4; 1333-73-9; 13840-56-7; 14890-53-0	2021/7/8
219	Phenol, alkylation products (mainly in para position) with C12-rich branched alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP): Phenol, 4-dodecyl, branched ; 4-isododecylphenol ; Phenol, 4-isododecyl- ; Phenol, dodecyl-, branched ; Phenol, (tetrapropenyl) derivatives ; Phenol, tetrapropylene-	210555-94-5; 27459-10-5; 27147-75-7; 121158-58-5; 74499-35-7; 57427-55-1	2021/7/8
220	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	1782069-81-1; 95342-41-9; 852541-25-4; 36861-47-9; 741687-98-9; 852541-30-1; 852541-21-0;	2022/1/17

#	Substance Name	CAS #	Published Date
221	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol	119-47-1	2022/1/17
222	S-(tricyclo(5.2.1.0'2,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2- ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	2022/1/17
223	tris(2-methoxyethoxy)vinylsilane	1067-53-4	2022/1/17
224	N-(hydroxymethyl)acrylamide	924-42-5	2022/6/10
225	1,1'-[ethane-1,2-diylbisoxy]bis[2,4,6-tribromobenzene]	37853-59-1	2023/1/17
226	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	79-94-7	2023/1/17
227	4,4'-sulphonyldiphenol	80-09-1	2023/1/17
228	Barium diboron tetraoxide	13701-59-2	2023/1/17
229	**bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof:** Bis(2-ethylhexyl) tetrabromophthalate	26040-51-7	2023/1/17
230	Isobutyl 4-hydroxybenzoate	4247-02-3	2023/1/17
231	Melamine	108-78-1	2023/1/17
232	Perfluoroheptanoic acid and its salts: Sodium perfluoroheptanoate; Perfluoroheptanoic acid; potassium perfluoroheptanoate; Ammonium perfluoroheptanoate	20109-59-5; 375-85-9; 21049-36-5; 6130-43-4	2023/1/17
233	reaction mass of 2,2,3,3,5,5,6,6- octafluoro-4-(1,1,1,2,3,3,3- heptafluoropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4- (heptafluoropropyl)morpholine	-	2023/1/17

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Producer Responsibility

ATTESTATO DI ADESIONE 2023

per la gestione responsabile e sostenibile

dei Rifiuti di Pile e Accumulatori

ACER ITALY SRL
CF. 07951950158

è iscritto per l'anno 2023 a **Erion Energy**
per la corretta gestione dei Rifiuti di Pile e Accumulatori (RPA),
adempiendo così agli obblighi del **Decreto Legislativo 188/08.**

Erion Energy, Sistema Collettivo tra i più autorevoli e
riconosciuti a livello nazionale ed europeo, garantisce per **ACER ITALY SRL** che tali rifiuti
siano gestiti e riciclati in maniera corretta, tracciata
e ambientalmente responsabile, nel rispetto della normativa vigente
e seguendo alti standard europei di qualità.

Milano, 24/03/2023

Laura Castelli
Direttore Generale
Erion Energy

Erion Energy

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Producer Responsibility

CERTIFICATE OF REGISTRATION 2023

for responsible and sustainable management

of Waste Batteries and Accumulators

ACER ITALY SRL
TC. 07951950158

is registered for the year 2023 to **Erion Energy**
for a proper management of Waste Batteries and Accumulators,
thus fulfilling the obligations of the Italian **Legislative Decree 188/08.**

Erion Energy, one of the most authoritative collective schemes at national and European level, guarantees for **ACER ITALY SRL**
that such waste is properly managed and recycled, in a traced and environmentally responsible way, in compliance with the current legislation
and following the high European quality standards.

Milano, 24/03/2023

Laura Castelli
Direttore Generale
Erion Energy

Laura Castelli

Erion Weee

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Producer Responsibility

ATTESTATO DI ADESIONE 2023

per la gestione responsabile e sostenibile dei RAEE

ACER ITALY SRL
CF. 07951950158

per l'anno 2023 è Socio di **Erion WEEE**
per la gestione e lo smaltimento dei
Rifiuti da Apparecchiature Elettriche ed Elettroniche (RAEE),
adempiendo così agli obblighi del **Decreto Legislativo 49/2014**.

Erion WEEE, Sistema Collettivo tra i più autorevoli e
riconosciuti a livello nazionale ed europeo, garantisce per **ACER ITALY SRL** che tali rifiuti
siano gestiti e riciclati in maniera corretta, tracciata
e ambientalmente responsabile, nel rispetto della normativa vigente
e seguendo alti standard europei di qualità.

Milano, 24/03/2023

Giorgio Arienti
Direttore Generale
Erion WEEE

Erion Weee

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Producer Responsibility

CERTIFICATE OF PARTECIPATION 2023

for responsible and sustainable management

of Waste Electrical and Electronical Equipment

ACER ITALY SRL
TC. 07951950158

for the year 2023 is part of **Erion WEEE**
for a proper management of Waste Electrical and Electronical Equipment,
thus fulfilling the obligations of the Italian **Legislative Decree 49/2014.**

Erion WEEE, one of the most authoritative collective schemes at national and European level, guarantees for **ACER ITALY SRL**
that such waste is properly managed and recycled, in a traced and environmentally responsible way, in compliance with the current legislation
and following the high European quality standards.

Milano, 24/03/2023

Giorgio Arienti
Direttore Generale
Erion WEEE

Declaration for REACH and POPs

Company: Acer Incorporated

Address: 8F, 88, Sec. 1, Xintai 5th Rd, Xizhi, New Taipei City 221, Taiwan, R.O.C

EU Importer: Acer Italy s.r.l.

Address: Viale delle Industrie 1/A, 20020 Arese (MI), Italy

Tel: +39-02-939-921, Fax: +39-02 9399-2913

This letter is to confirm all acer notebooks, desktops, All-in-one PCs, and monitors have been evaluated as compliant with Regulation (EC) 1907/2006 – Annex XIV candidate substance: SVHC (substances of very high concern), Annex XVII: substances restricted under REACH, and POP Regulation (EU) 2019/1021.

Signature: Angus Hsieh

Name: Angus Hsieh

Title: Director of Env. & Regulation Div.

Date: 6/26/2021