TEST REPORT

Job No.	:	**GPEM2507000771EC**
Test Report No.	:	**F690501-RF-EMC003938_1**
Applicant	:	**Xperix Inc.**
Product Name	:	**Fingerprint Scanner**
Model Name	:	**RealScan SG10**
Standards	:	**EN 55032: 2015/A11:2020**
		EN 55035: 2017/A11:2020
Date of Receipt	:	**July 2, 2025**
Date of Test	:	**July 28, 2025 ~ August 20, 2025**
Date of Issue	:	**September 15, 2025**
Test Result	:	**Complied**

1) This test report does not assure KOLAS accreditation.
2) The results of this test report are effective only to the items tested.
3) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.

	Tested by (Name, signature)	Approved by (Name, signature)
Affirmation	***Dojun Lee***	***Paul Kang***

SGS Korea Co., Ltd. Gunpo Laboratory
4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, 15807, KOREA

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Revision History

Revision	Report Number	Description
0	F690501-RF-EMC003938	Initial
1	F690501-RF-EMC003938_1	The product name, model name, and alt model names have been modified.

1. Test Laboratory

1.1 General information

Name	SGS Korea Co., Ltd.
- Branch Site	4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Republic of Korea Tel. +82 31 428 5700 Fax. +82 31 427 5370
- Branch Site-3	35, Giheungdanji-ro 121beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Republic of Korea Tel. +82 31 548 0710 Fax. +82 31 548 0719
- Branch Site-4	12, Dongtansandan 10-gil, Hwaseong-si, Gyeonggi-do, 18487, Republic of Korea Tel. +82 31 8007 5302 Fax. +82 31 427 2370
Website	http://www.sgsgroup.kr/ee

SGS Korea Co., Ltd. has been accredited by the agencies listed in the following table;

Accreditation	Accreditation bodies	Accreditation No.
KC	MSIT- RRA	KR0150
FCC	FCC (MRA)	
IC	IC (MRA)	
Vietnam-MIC	Vietnam-MIC	
Japan EMI	VCCI	C-14102, T-11156, R-13662, G-20037
KOLAS	KATS - KOLAS	Testing No.123
CBTL	IECEE	TL 146
SDPPI	SDPPI	-

2. General Information of E.U.T.

2.1 Applicant Information

Applicant	Xperix Inc.
Applicant Address	1207, 37, Sagimakgol-ro, 62beon-gil, Jungwon-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Manufacturer	Xperix Inc.
Manufacturer Address	1207, 37, Sagimakgol-ro, 62beon-gil, Jungwon-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

2.2 General Information of E.U.T.

Classification	Description
Product Name	Fingerprint Scanner
Model Name	RealScan SG10
Alt. Model Name	RSSG10, RealScan SG10i, RSSG10i
Model Differences	Same as the base model, differentiating the model by delivery destination.
Serial No.	-
EMI Classification	Class A
Internal Clock Frequency	1 ㎓
Rated Power	5 Vd.c.(USB)
Tested Power	230 V~, 50 ㎐(Laptop AC-DC Adapter)
H/W Version	-
S/W Version	-
Port	USB A-type
Components	EUT(Main body), USB Cable
Function	Fingerprint scanner

2.3 Configurations of E.U.T

Description	Model	Serial No.	Manufacturer	Note
CAM	SV-XPE1-ET130-R02	-	-	-
LED board	RSSG10-UI-PS1	-	-	-
Main board	RSSG10-MAIN-PS1	-	-	-

3. E.U.T. Operation and Test Configuration

3.1 Peripheral Equipments

Description	Model	Serial No.	Manufacturer	Note.
Laptop	NT740U5L	-	Samsung Electronics Suzhou Computer Co., Ltd.	-

3.2 Cable List

Start		END		Cable Spec.		Used core
Name	I/O Port	Name	I/O Port	Length (m)	Shield	
EUT	USB A-type	Laptop	USB A-type	1.4	Unshielded	-

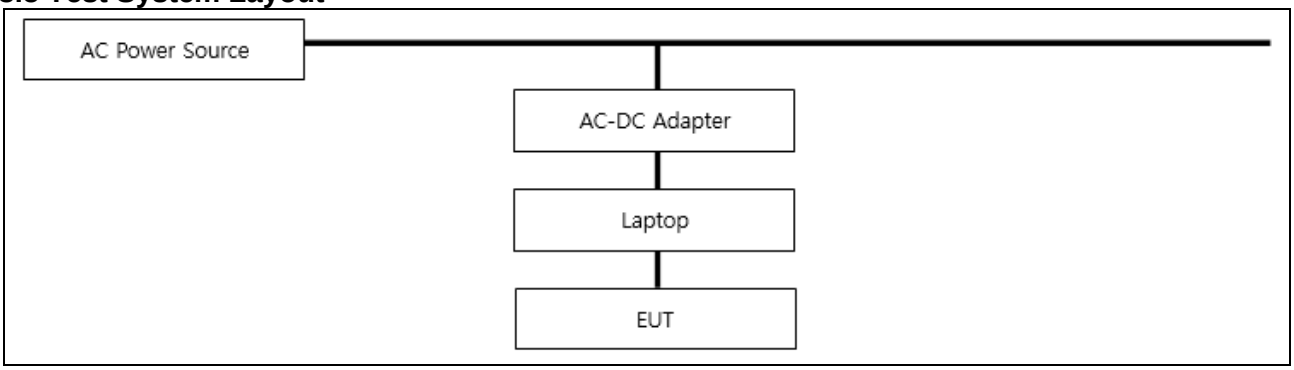
3.3 Operating Modes and Conditions

Operating mode	Operating condition
01 Operating	The state in which the test equipment scans the fingerprint and transfers the data to the Laptop.

3.4 Monitoring method

01 Operating	Check any errors of operating status though display light, navigation LED, Laptop dedicated monitoring program.

3.5 Test System Layout



3.6 Modifications to the test items during testing

■	No modifications done during testing
□	Modification done during testing (see details below)
No.	Description of modification (if any)
1	
2	

4. Test Results

4.1 Summary

Test Items	Standards	Test Results
Conducted Emission	EN 55032: 2015/A11:2020	Complied
Radiated Emission	EN 55032: 2015/A11:2020	Complied
Electrostatic Discharge	EN 61000-4-2: 2009	Complied
Radiated Immunity	EN 61000-4-3: 2006/A1:2008/A2:2010	Complied
Fast Transients	EN 61000-4-4: 2012	Complied
Surges	EN 61000-4-5: 2014/A1:2017	Complied
Conducted Immunity	EN 61000-4-6: 2014/AC:2015	Complied
Magnetic Field Immunity	EN 61000-4-8: 2010	Complied
Voltage dips and Interruptions	EN 61000-4-11: 2004/AC:2017	Complied

4.2 Note

1 Test Methods of all test items are performed according to the basic standard in subclause 4.1.

2

Emission Test

5.1 Test Method and Limits

Test Items	Measuring Frequency Range	RBW	Measuring Distance
Conducted Emission	0.15 ㎒ ~ 30 ㎒	9 ㎑	-
Radiated Emission	30 ㎒ ~ 1 ㎓	120 ㎑	10 m
	1 ㎓ ~ 6 ㎓	1 ㎒	3 m

5.2 Test Limits

Frequency Range	Limits(dBμV)		Class
	Quasi-peak	CISPR-Average	
0.15 ㎒ - 0.5 ㎒	79	66	Class A
0.5 ㎒ - 30 ㎒	73	60	
0.15 ㎒ - 0.5 ㎒	66 to 56 Note 1	56 to 46 Note 1	Class B
0.5 ㎒ - 5 ㎒	56	46	
5 ㎒ - 30 ㎒	60	50	

[Table 2.1 Conducted Emission Limits]

Frequency Range	Limits(dBμV/m)		Class
	Quasi-peak		
	10 m	3 m	
30 ㎒ ~ 230 ㎒	40	50	Class A
230 ㎒ ~ 1 ㎓	47	57	
30 ㎒ ~ 230 ㎒	30	40	Class B
230 ㎒ ~ 1 ㎓	37	47	

[Table 2.2 Radiated Emission Limits below 1 ㎓]

Frequency Range	Limits(dBμV/m)		Class
	Peak	CISPR-Average	
1 ㎓ ~ 3 ㎓	76	56	Class A
3 ㎓ ~ 6 ㎓	80	60	
1 ㎓ ~ 3 ㎓	70	50	Class B
3 ㎓ ~ 6 ㎓	74	54	

[Table 2.3 Radiated Emission Limits Above 1 ㎓]

Note 1. The lower limit shall apply at the transition frequencies. The limit decreases linearly with the logarithm of that frequency.

5.3 Conducted Emission

5.3.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
EMI TEST RECEIVER	ESU8	R&S	100128	2026-05-30
2-LINE V-NETWORK	ENV216	R&S	101180	2025-08-09
PULSE LIMITER	ESH3-Z2	R&S	100283	2025-08-21

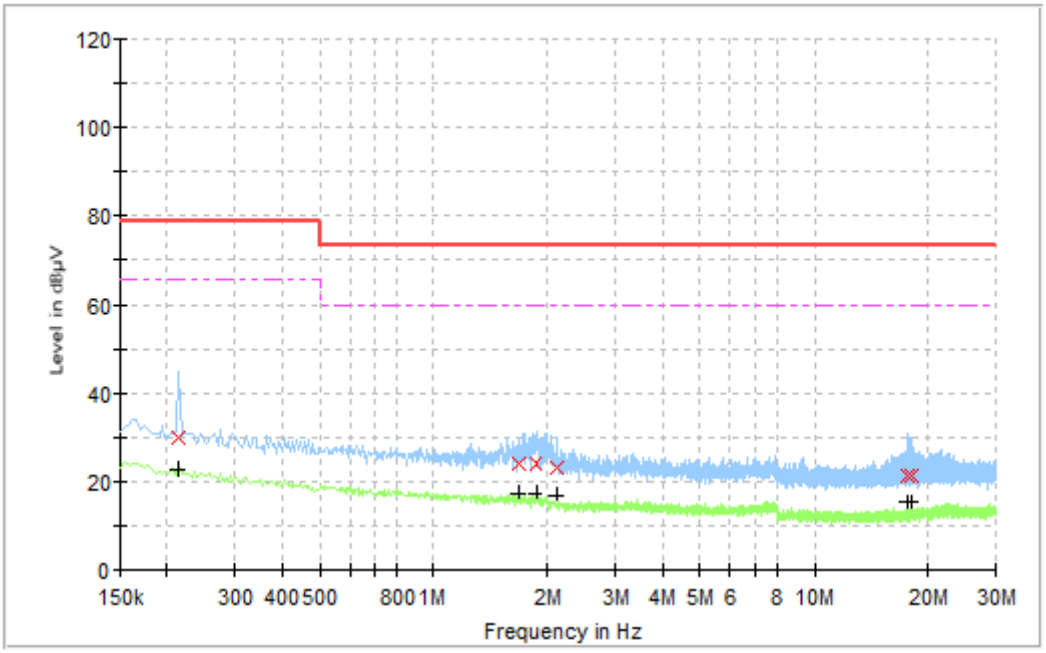
Note. Measuring software is below
- Branch Site : EMC32(V10.60.20) from R&S
- Branch Site-3 : EMC32(V10.40.10) from R&S
- Branch Site-4 : EMC32(V10.40.00) from R&S

5.3.2 Environment Conditions

Test Site	Shield Room in Branch site-3
Temperature	(Minimum 19.4, Maximum 20.5) ℃
Humidity	(Minimum 52.0, Maximum 55.0) % R.H.
Atmospheric Pressure	(Minimum 100.4, Maximum 100.4) ㎪
Test Date	2025-08-01

5.3.3 Test Results

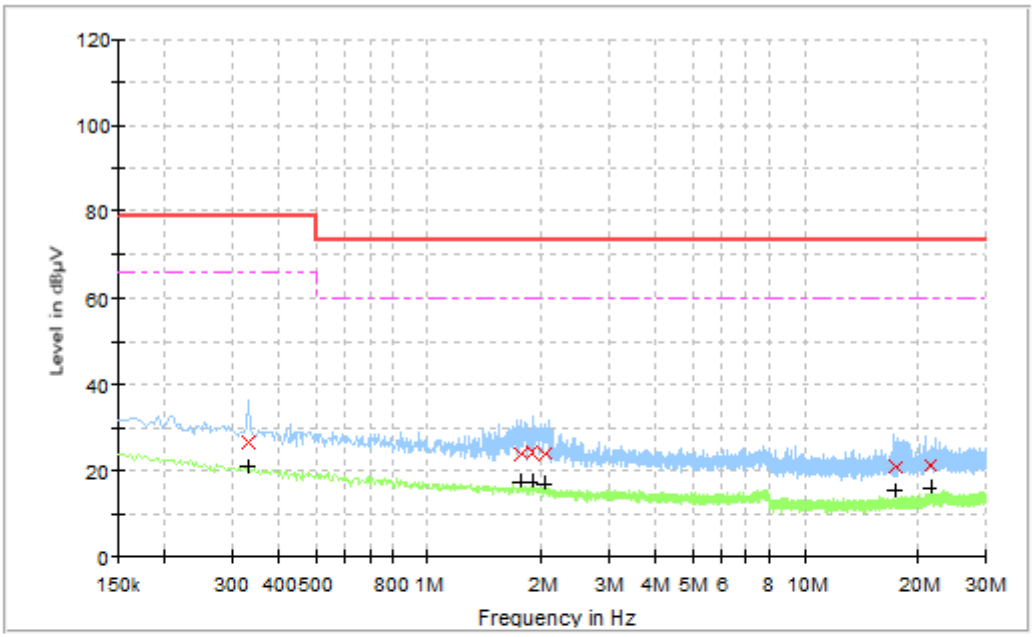
Live Line_01 Mode



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.214	---	22.55	66.00	43.45	15 000.0	9.000	L1	ON	19.7
0.214	30.02	---	79.00	48.98	15 000.0	9.000	L1	ON	19.7
1.678	---	17.52	60.00	42.48	15 000.0	9.000	L1	ON	19.6
1.678	23.79	---	73.00	49.21	15 000.0	9.000	L1	ON	19.6
1.862	---	17.42	60.00	42.58	15 000.0	9.000	L1	ON	19.7
1.862	23.94	---	73.00	49.06	15 000.0	9.000	L1	ON	19.7
2.110	---	16.76	60.00	43.24	15 000.0	9.000	L1	ON	19.7
2.110	22.95	---	73.00	50.05	15 000.0	9.000	L1	ON	19.7
17.594	---	15.26	60.00	44.74	15 000.0	9.000	L1	ON	19.9
17.594	21.13	---	73.00	51.87	15 000.0	9.000	L1	ON	19.9
18.030	---	15.27	60.00	44.73	15 000.0	9.000	L1	ON	19.9
18.030	21.10	---	73.00	51.90	15 000.0	9.000	L1	ON	19.9

Neutral Line_01 Mode



Final_Result

Frequency (kHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.334	---	20.75	66.00	45.25	15 000.0	9.000	N	ON	19.7
0.334	26.41	---	79.00	52.59	15 000.0	9.000	N	ON	19.7
1.762	---	17.44	60.00	42.56	15 000.0	9.000	N	ON	19.7
1.762	23.99	---	73.00	49.01	15 000.0	9.000	N	ON	19.7
1.886	---	17.46	60.00	42.54	15 000.0	9.000	N	ON	19.7
1.886	24.28	---	73.00	48.72	15 000.0	9.000	N	ON	19.7
2.038	---	17.03	60.00	42.97	15 000.0	9.000	N	ON	19.7
2.038	23.63	---	73.00	49.37	15 000.0	9.000	N	ON	19.7
17.414	---	15.22	60.00	44.78	15 000.0	9.000	N	ON	19.9
17.414	20.88	---	73.00	52.12	15 000.0	9.000	N	ON	19.9
21.494	---	15.96	60.00	44.04	15 000.0	9.000	N	ON	20.0
21.494	21.44	---	73.00	51.56	15 000.0	9.000	N	ON	20.0

Note. Measurement Uncertainty : See Appendix A

- Line (L1) : Live Line of AC Power
- Line (N) : Neutral Line of AC Power
- Margin = Limit – Quasi Peak or CAverage
- Corr. = LISN Factor + Cable loss + Pulse Limiter factor

5.4 Radiated Emission

5.4.1 Test Equipments

Equipment	Model	Manufacturer	Serial No	Cal Due. Date
EMI TEST RECEIVER	ESU40	R&S	100075	2026-01-17
TRILOG BROADBAND ANTENNA	VULB 9163	SCHWARZBECK	9163-396	2026-04-02
Double Ridged Horn Antenna	HF907	R&S	100208	2026-03-06
PRE-AMPLIFIER	AM-1431	MITEQ	1336160	2026-06-09
AMPLIFIER	SCU 18	R&S	10070	2025-08-21

Note. Measuring software is below
- Branch Site : ELECTRA(V5.02.0) from R&S
- Branch Site-3 : EMC32(V10.40.10) from R&S
- Branch Site-4 : EMC32(V10.40.10) from R&S

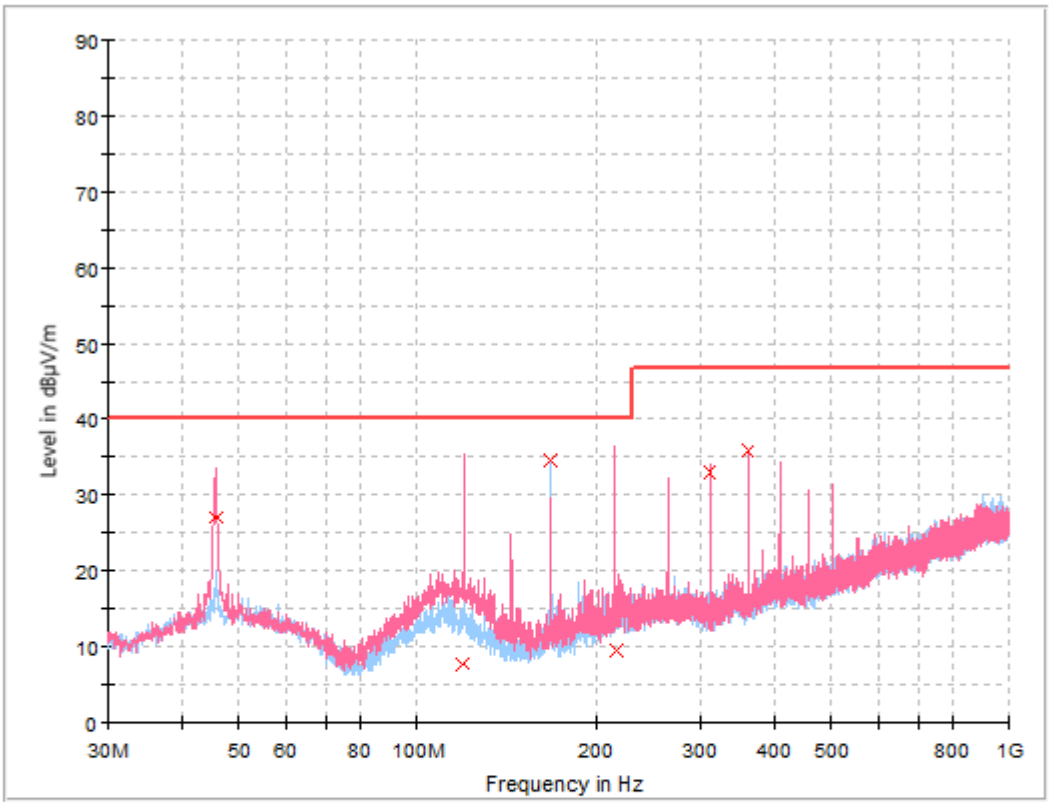
5.4.2 Environment Conditions

Test Site	10 m SEMI-ANECHOIC CHAMBER in Branch site-3
Temperature	(Minimum 20.0, Maximum 22.4) ℃
Humidity	(Minimum 50.0., Maximum 52.0) % R.H.
Atmospheric Pressure	(Minimum 100.0, Maximum 100.3) kPa
Test Date	2025-07-28 (Below 1 GHz) 2025-08-11 (Below 1 GHz)

5.4.3 Test Result

<Below 1 ㎓>

01 Mode



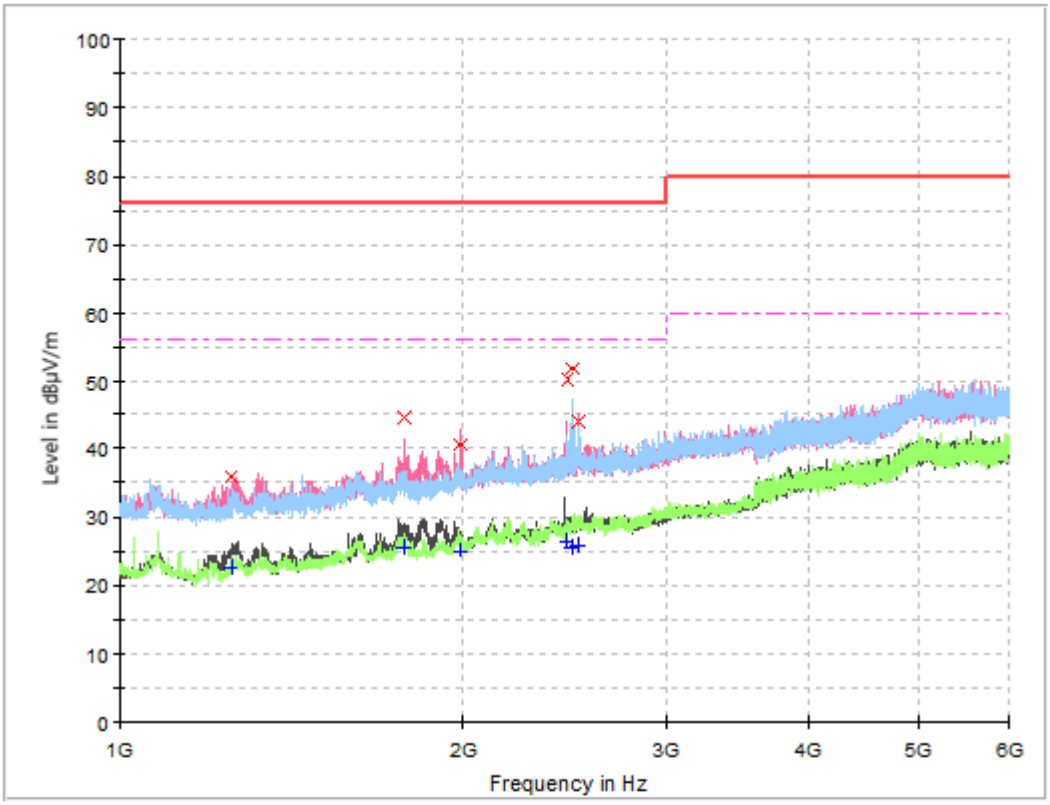
Final_Result

Frequency (㎒)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (㎑)	Height (㎝)	Pol	Azimuth (deg)	Corr. (dB/m)
45.737	26.98	40.00	13.02	15 000.0	120.000	150.0	V	64.0	-17.1
119.599	7.88	40.00	32.12	15 000.0	120.000	130.0	V	184.0	-20.5
167.991	34.53	40.00	5.47	15 000.0	120.000	400.0	H	42.0	-21.5
216.309	9.43	40.00	30.57	15 000.0	120.000	143.0	V	185.0	-18.9
312.019	33.01	47.00	13.99	15 000.0	120.000	100.0	V	4.0	-16.4
359.994	35.93	47.00	11.07	15 000.0	120.000	100.0	V	112.0	-15.3

Note. Measurement Uncertainty: See Appendix A
- POL H = Horizontal
- POL V = Vertical
- Margin = Limit – Quasi Peak
- Corr. = Antenna Factor + Cable loss – Amplifier Gain

<Above 1 GHz>

01 Mode



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	CAverage (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1 253.500	---	22.65	56.00	33.35	15 000.0	1 000.000	100.0	V	180.0	-12.6
1 253.500	36.03	---	76.00	39.97	15 000.0	1 000.000	100.0	V	180.0	-12.6
1 777.000	44.48	---	76.00	31.52	15 000.0	1 000.000	100.0	V	192.0	-8.7
1 777.000	---	25.59	56.00	30.41	15 000.0	1 000.000	100.0	V	192.0	-8.7
1 991.500	40.72	---	76.00	35.28	15 000.0	1 000.000	100.0	V	12.0	-6.6
1 991.500	---	24.95	56.00	31.05	15 000.0	1 000.000	100.0	V	12.0	-6.6
2 468.000	---	26.53	56.00	29.47	15 000.0	1 000.000	100.0	H	0.0	-4.3
2 468.000	50.15	---	76.00	25.85	15 000.0	1 000.000	100.0	H	0.0	-4.3
2 491.500	51.95	---	76.00	24.05	15 000.0	1 000.000	100.0	H	45.0	-4.0
2 491.500	---	25.69	56.00	30.31	15 000.0	1 000.000	100.0	H	45.0	-4.0
2 518.500	43.97	---	76.00	32.03	15 000.0	1 000.000	100.0	H	0.0	-3.7
2 518.500	---	25.91	56.00	30.09	15 000.0	1 000.000	100.0	H	0.0	-3.7

Note. Measurement Uncertainty: See Appendix A

- AF = Antenna Factor
- CL = Cable Loss
- AMP = Amplifier Gain
- POL H = Horizontal
- POL V = Vertical
- A = Angle
- H = Height
- Margin = Limit – Result
- Corr. = AF + CL – AMP

** The value of 'Level' includes 'Corr.'.

IMMUNITY TEST

6.1 Performance Criteria for Immunity test

EN 55035:2017/A11:2020

Performance criterion A
The equipment shall continue to operate as intended without operator intervention. No degradation of performance, loss of function or change of operating state is allowed below a performance level specified by the manufacturer when the equipment is used as intended.
The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion B
During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.
After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended.
The performance level may be replaced by a permissible loss of performance.
If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion C
Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.
Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.

6.2 Electrostatic Discharge

6.2.1 Test Equipments

Description	Model	Manufacturer	Serial No	Cal Due. Date
ESD SIMULATOR	NSG438	SCHAFFENER	244	2026-07-16
HCP/VCP	-	-	-	-

6.2.2 Environment Conditions

Test Site	Shield Room in Branch site-3
Temperature	(Minimum 19.5, Maximum 20.2) ℃
Humidity	(Minimum 55.0, Maximum 56.0) % R.H.
Atmospheric Pressure	(Minimum 100.2, Maximum 100.2) kPa
Test Date	2025-08-11

6.2.3 Performance Criterion: B

6.2.4 Test Result

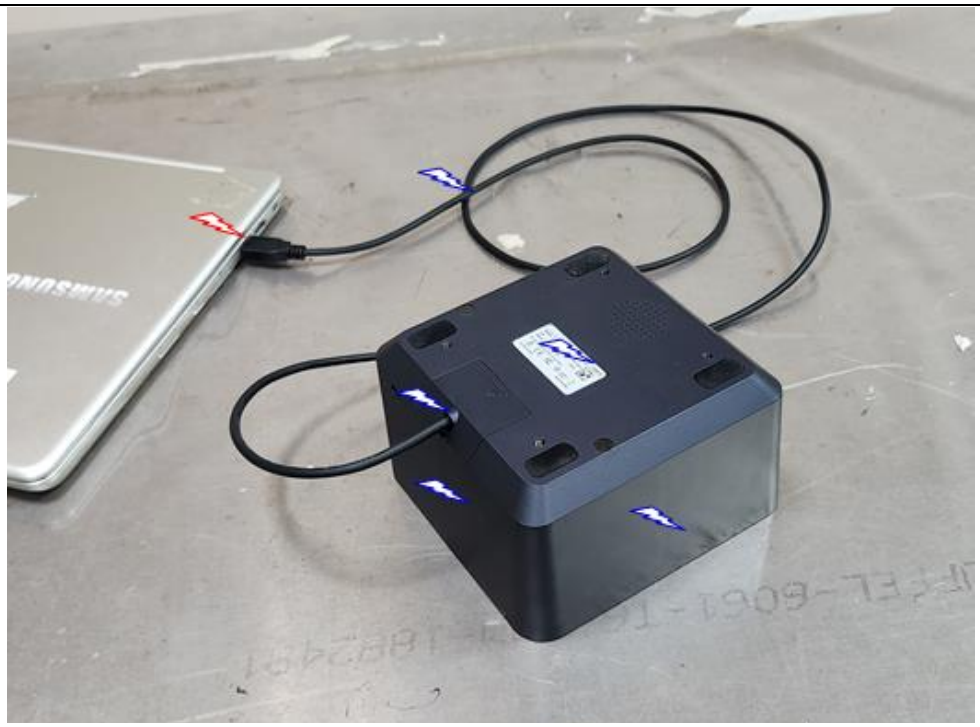
Test Points	Discharge Method	No. of Discharge	Level(kV)				Results
			±2	±4	±8	±15	
Port(USB A-type)	Contact	10		☒			Complied(A)
Enclosure(Non-metal), status display, navigation LED, scan area, cable	Air	10	☒	☒	☒		Complied(A)
HCP	Contact	10		☒			Complied(A)
VCP	Contact	10		☒			Complied(A)

Note 1. Electrostatic discharges shall be applied only to points and surfaces of the EUT which are expected to be touched during normal operation.
2. Performance Criteria (A), the EUT normally operated during and after the test.

6.2.5 Test Points Map

Contact
Air

[Front View of EUT]

[Rear View of EUT]


6.3 Radiated RF Electromagnetic Field

6.3.1 Test Equipments

Description	Model	Manufacturer	Serial No	Cal Due. Date
LOG-PERIODIC ANT	HL046E	R&S	100043	-
Double Ridged Horn Antenna	HF907	R&S	102578	-
SIGNAL GENERATOR	SMB100A	R&S	113497	2026-05-27
AVG POWER SENSOR	NRP-Z91	R&S	150165	2026-01-15
AVG POWER SENSOR	NRP-Z91	R&S	150166	2025-09-06
DUAL DIRECTIONAL COUPLER	DC6180M1	AR	0326931	2025-09-06
DUAL DIRECTIONAL COUPLER	DC7144M1	AR	0327098	2025-09-06
DIRECTIONAL COUPLER	BDC 0660-30/100	BONN Elektronik	1610833	2025-09-06
AMPLIFIER	500W1000A	AR	307076	-
AMPLIFIER	60S1G3	AR	327239	-
RF Power Amplifier	BLMA 2060-50S	BONN Elektronik	1610833	-

6.3.2 Environment Conditions

Test Site	RS Chamber in Branch site-3
Temperature	(Minimum 21.1, Maximum 23.5) ℃
Humidity	(Minimum 48.0, Maximum 50.0) % R.H.
Atmospheric Pressure	(Minimum 100.5, Maximum 100.5) kPa
Test Date	2025-08-04

6.3.3 Performance Criterion: A

6.3.4 Test Results

Frequency Range (MHz)	Position	Polarity	Field Strength	Modulation	Frequency Step	Dwell Time	Result
80 ~ 1 000	Front	Horizontal Vertical	3 V/m	80 % AM (1 kHz)	1 %	3 sec	Complied (A)
	Rear						
	Left						
	Right						
1 800, 2 600, 3 500, 5 000	Front	Horizontal Vertical	3 V/m	80 % AM (1 kHz)	1 %	3 sec	Complied (A)
	Rear						
	Left						
	Right						

Note 1. Performance Criteria (A), the EUT normally operated during and after the test.
2. Measurement Uncertainty: See Appendix A

6.4 Fast Transients/Burst

6.4.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
Ultra-Compact Simulator	UCS 500N5	EM TEST	V1115109226	2026-01-08

6.4.2 Environment Conditions

Test Site	Immunity Test Site in Branch site-3
Temperature	(Minimum 21.7, Maximum 22.6) ℃
Humidity	(Minimum 52.0, Maximum 54.0) % R.H.
Atmospheric Pressure	(Minimum 100.0, Maximum 100.0) kPa
Test Date	2025-08-07

6.4.3 Performance Criterion: B

6.4.4 Test Results

Test Point	Polarity	Coupling	Repetition	Pulse (ns)	Duration	Test Level(kV)	Results
L – N – PE	+/-	Direct	5 kHz	5/50	60 sec	1.0	Complied (A)
Signal	-	-	-	-	-	-	-

Note 1. Performance Criteria (A), the EUT normally operated during and after the test.

6.5 Surges

6.5.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
Ultra-Compact Simulator	UCS 500N5	EM TEST	V1115109226	2026-01-08

6.5.2 Environment Conditions

Test Site	Immunity Test Site in Branch site-3
Temperature	(Minimum 21.7, Maximum 22.6) ℃
Humidity	(Minimum 52.0, Maximum 54.0) % R.H.
Atmospheric Pressure	(Minimum 100.0, Maximum 100.0) kPa
Test Date	2025-08-07

6.5.3 Performance Criterion: B

6.5.4 Test Results

Test Point	Polarity	Coupling	Number of Surges	Repetition	Phase Angle(°)	Test Level (kV)	Results
L – N	+/-	Direct	5	60 sec	90 270	0.5, 1.0	Complied (A)
L – PE	+/-	Direct	5	60 sec	90 270	0.5, 1.0, 2.0	Complied (A)
N – PE	+/-	Direct	5	60 sec	90 270	0.5, 1.0, 2.0	Complied (A)

Note 1. Performance Criteria (A), the EUT normally operated during and after the test.

6.6 Conducted Immunity

6.6.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
SIGNAL GENERATOR	SMB100B	R&S	102916	2026-01-13
Millivolt meter	URV5	R&S	860723/055	2026-06-16
10V Insertion UNIT 50Ω	URV5-Z2	R&S	100833	2026-06-16
10V Insertion UNIT 50Ω	URV5-Z2	R&S	100834	2026-06-16
DIRECTIONAL COUPLER	BDC 0125-40/250	BONN Elektronik	1610877	2026-01-13
Power Amplifier	BSA0125-125	BONN Elektronik	1610877	-
6 dB Attenuation	150W1GNN-06	QMTL	Q180006	2026-01-10
CDN	M2/M3	EM TEST	1107-59	2026-01-15

6.6.2 Environment Conditions

Test Site	Immunity Test Site in Branch site-3
Temperature	(Minimum 20.1, Maximum 21.4) ℃
Humidity	(Minimum 45.0, Maximum 47.0) % R.H.
Atmospheric Pressure	(Minimum 100.1, Maximum 100.1) kPa
Test Date	2025-08-05

6.6.3 Performance Criterion: A

6.6.4 Test Results

Test Point	Frequency (MHz)	Coupling	Voltage Level	Modulation	Frequency Step	Dwell Time	Results
AC IN	0.15 ~ 10 10 ~ 30 30 ~ 80	CDN(M3)	3 V 3 ~1 V 1 V	80% AM(1 kHz)	1 %	3 sec	Complied (A)
Signal	0.15 ~ 10 10 ~ 30 30 ~ 80	-	-	-	-	-	-

Note 1. Performance Criteria (A), the EUT normally operated during and after the test.
2. Measurement Uncertainty: See Appendix A

6.7 Power Frequency Magnetic Field

6.7.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
Ultra Compact Simulator	UCS500M4	EM TEST	0801-08	2026-05-23
Magnetic Field Antenna	MS 100	EM TEST	-	2026-05-23
Current Transformer	MC2630	EM TEST	D5101	2026-05-23
Current Transformer	MC26100	EM TEST	1001-04	2026-05-23

6.7.2 Environment Conditions

Test Site	Immunity Test Site in Branch site-3
Temperature	(Minimum 21.5, Maximum 22.0) ℃
Humidity	(Minimum 54.0, Maximum 55.0) % R.H.
Atmospheric Pressure	(Minimum 100.2, Maximum 100.2) kPa
Test Date	2025-08-20

6.7.3 Performance Criterion: A

6.7.4Test Results

Frequency (Hz)	Axis of Orientation	Test Level	Result
50	X, Y, Z	1 A/m	Pass

Note 1. The EUT normally operated during and after the test. (The measured valves are within tolerance)
2. Measurement Uncertainty: See Appendix A.

6.8 Voltage Dips and Interruptions

6.8.1 Test Equipments

Description	Model No.	Manufacturer	Serial No	Cal Due. Date
Ultra-Compact Simulator	UCS 500N5	EM TEST	V1115109226	2026-01-08

6.8.2 Environment Conditions

Test Site	Immunity Test Site in Branch site-3
Temperature	(Minimum 21.7, Maximum 22.6) ℃
Humidity	(Minimum 52.0, Maximum 54.0) % R.H.
Atmospheric Pressure	(Minimum 100.0, Maximum 100.0) kPa
Test Date	2025-08-07

6.8.3 Performance Criterion: B&C

6.8.4 Test Results

Test Voltage	Test Level %U_T	Voltage Dip/Int. %U_T	Duration (ms/Cycle)	Result
100 V~, 50 Hz	< 5 %	> 95 %	0.5 Cycle	Complied(A)
	70 %	30 %	25 Cycle	Complied(A)
	< 5 %	> 95 %	250 Cycle	Complied(A)
240 V~, 50 Hz	< 5 %	> 95 %	0.5 Cycle	Complied(A)
	70 %	30 %	25 Cycle	Complied(A)
	< 5 %	> 95 %	250 Cycle	Complied(A)

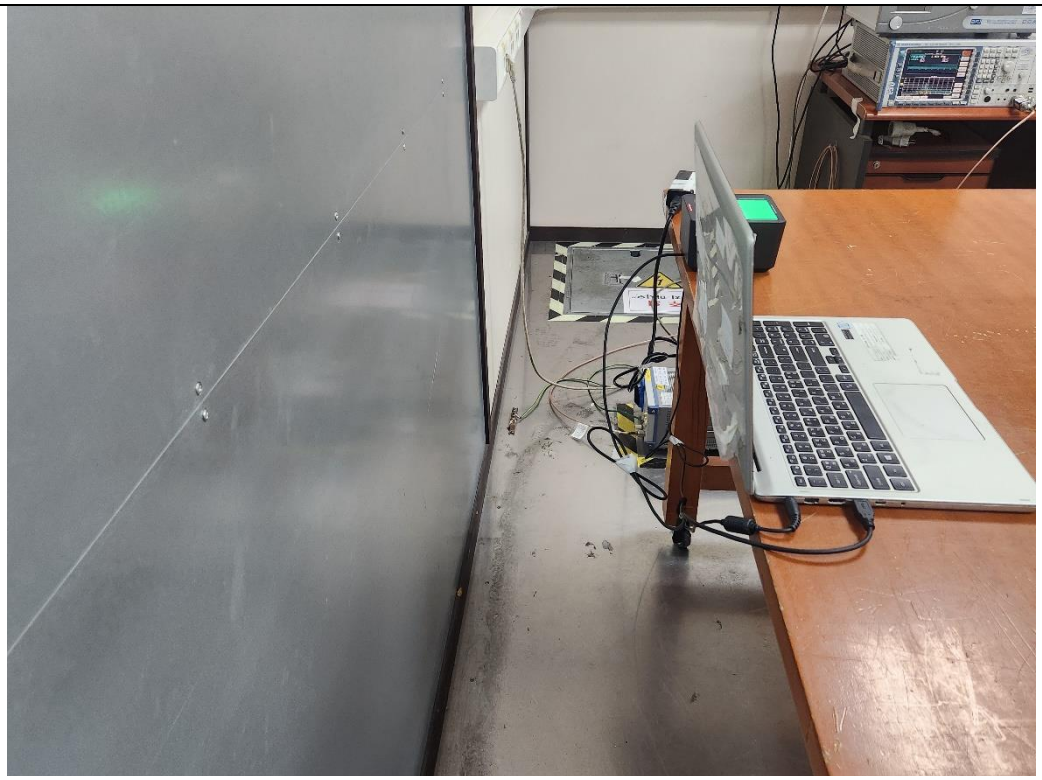
Note 1. Performance Criteria (A), the EUT normally operated during and after the test.

7. Photographs of Test Items

[Front view of Conducted Emission at the main port]



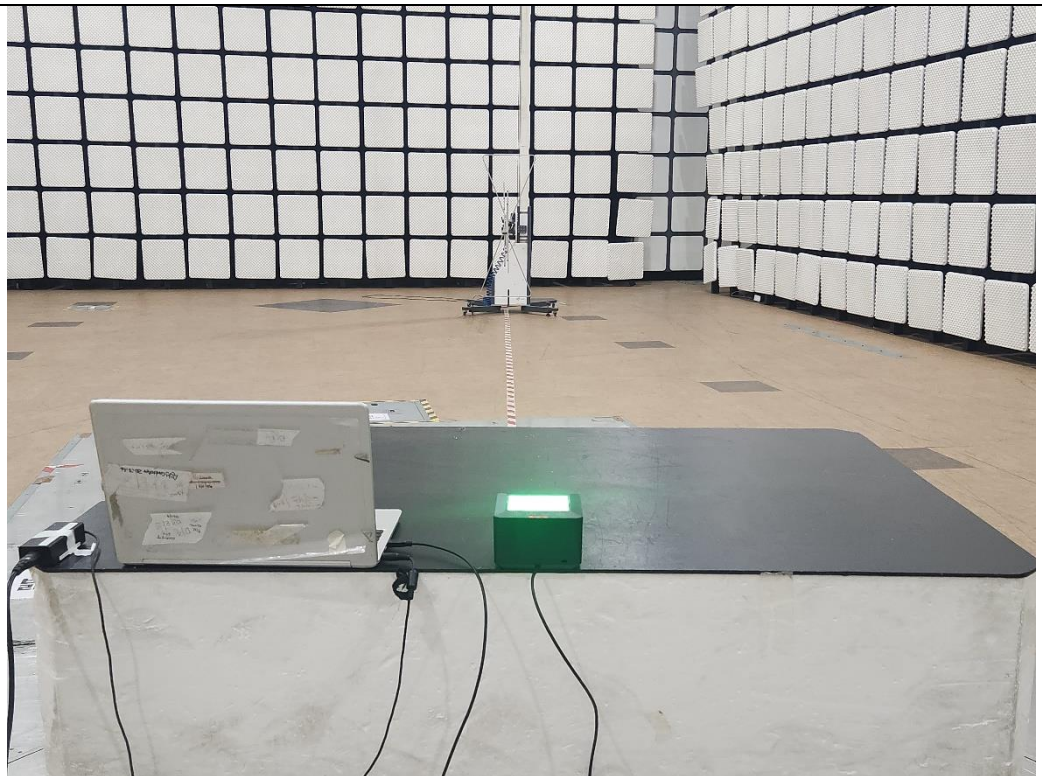
[Rear view of Conducted Emission at the main port]



[Front view of Radiated Emission_Below 1 ㎓]



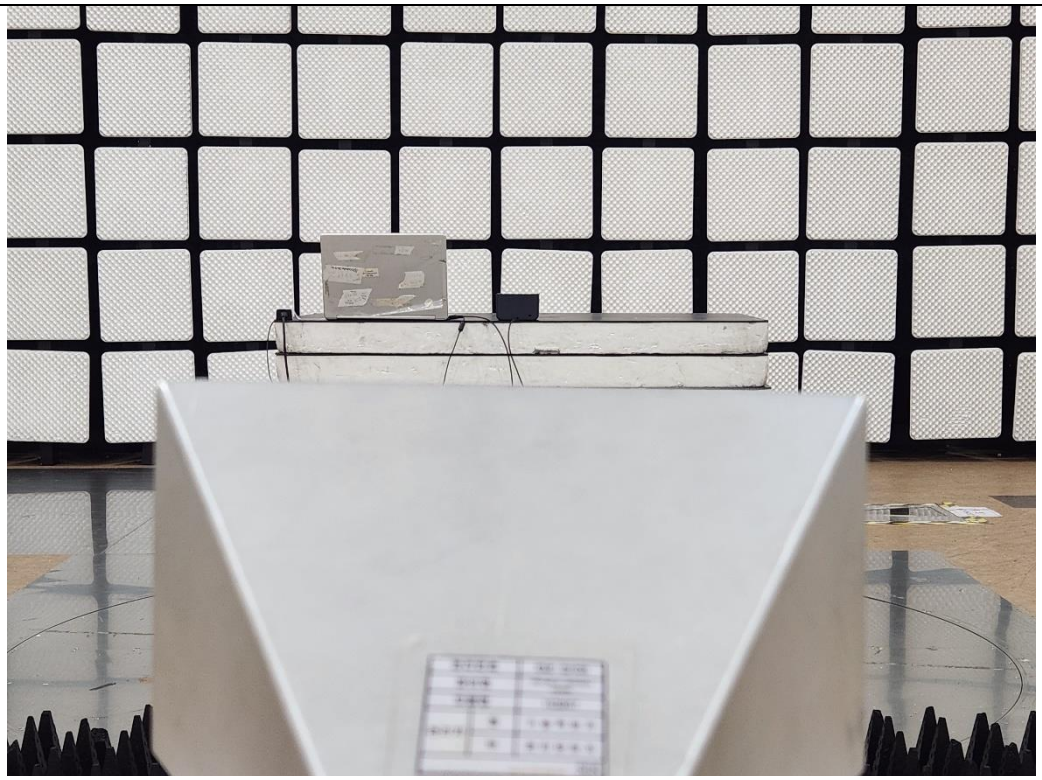
[Rear view of Radiated Emission_Below 1 ㎓]



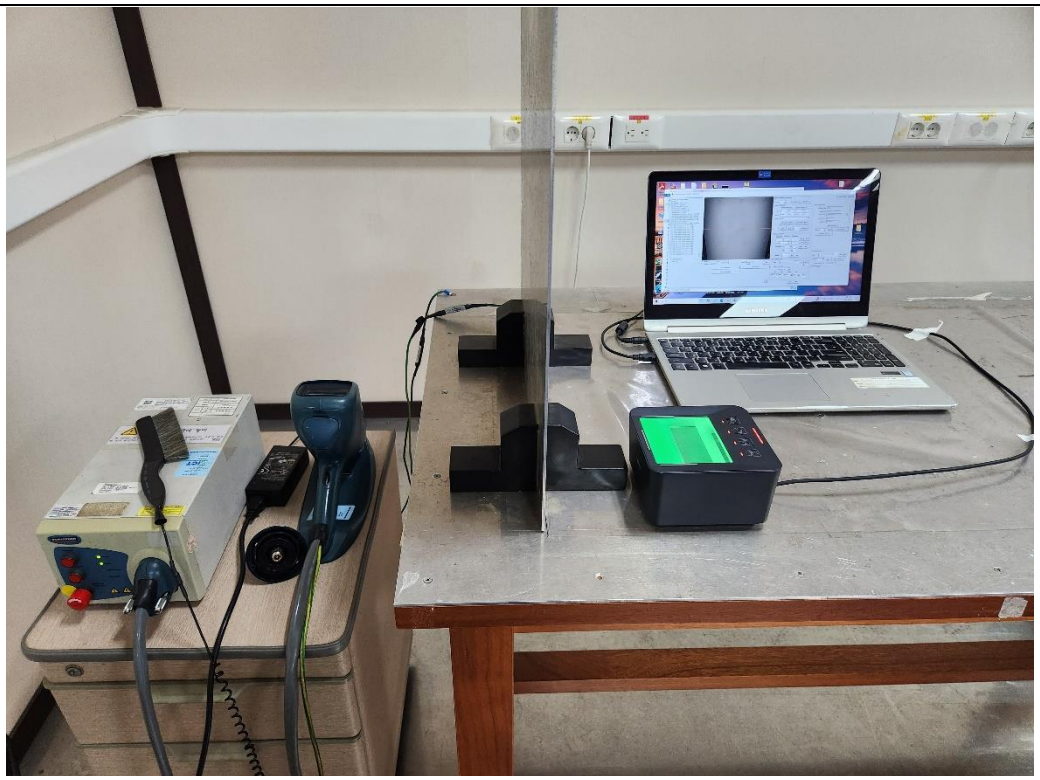
[Front view of Radiated Emission_Above 1 ㎓]



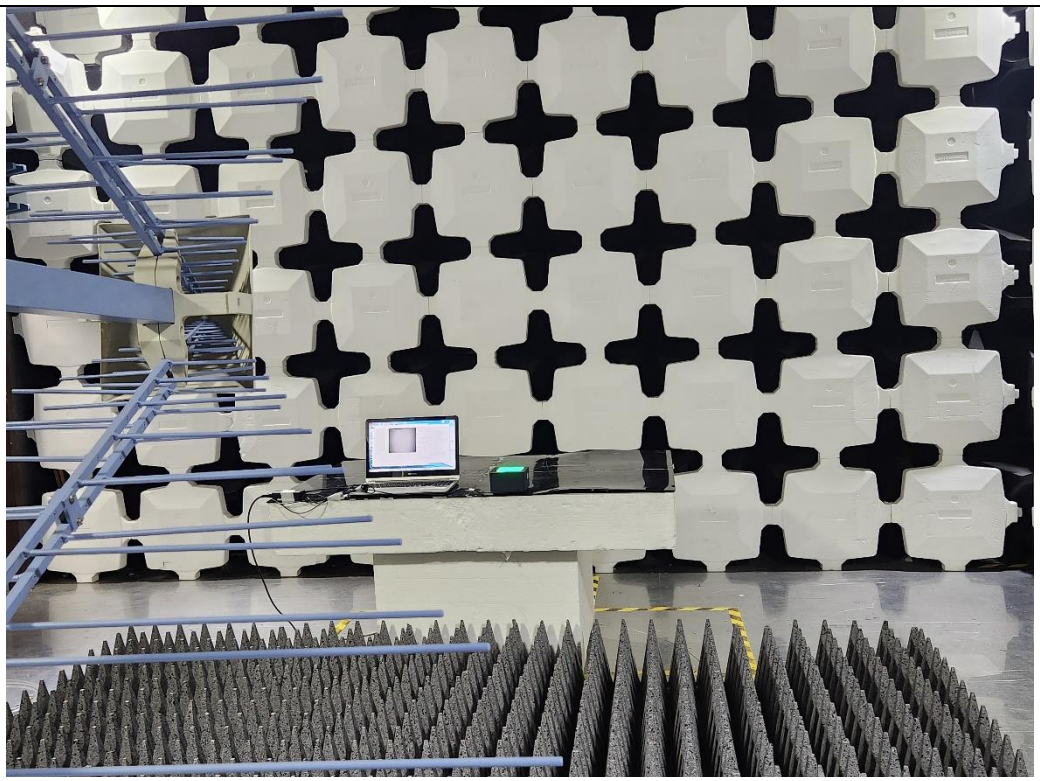
[Rear view of Radiated Emission_Above 1 ㎓]



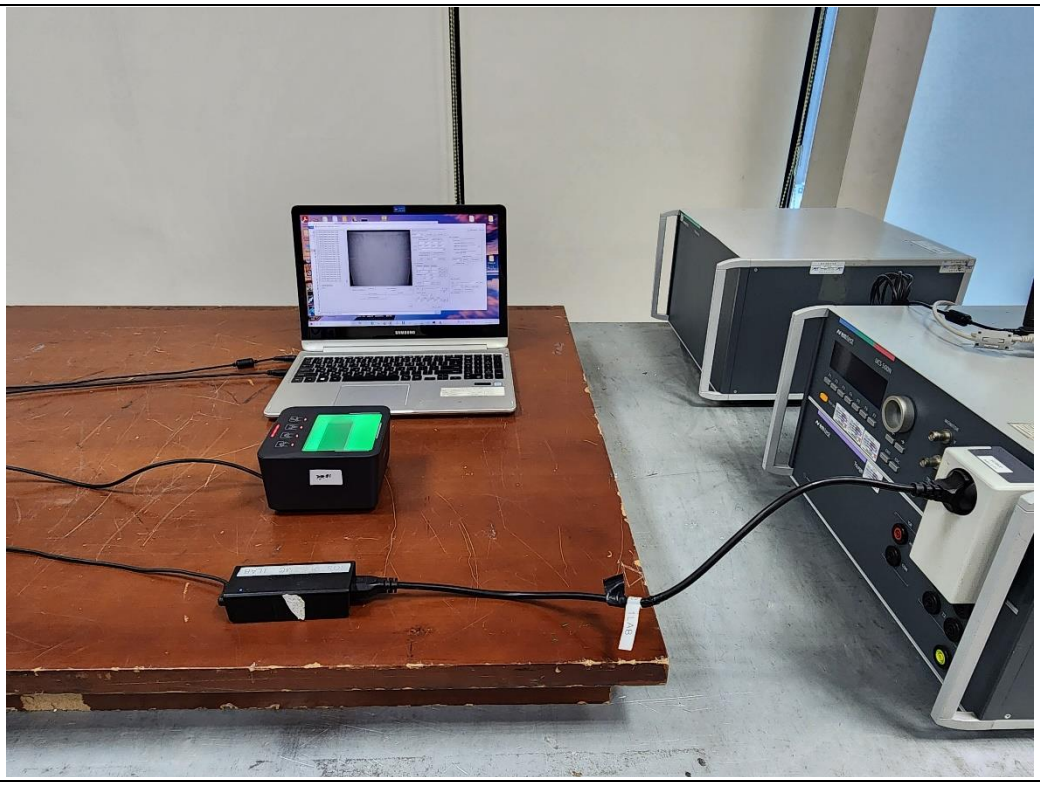
[View of Electrostatic Discharge]



[View of Radiated RF Electromagnetic Field]



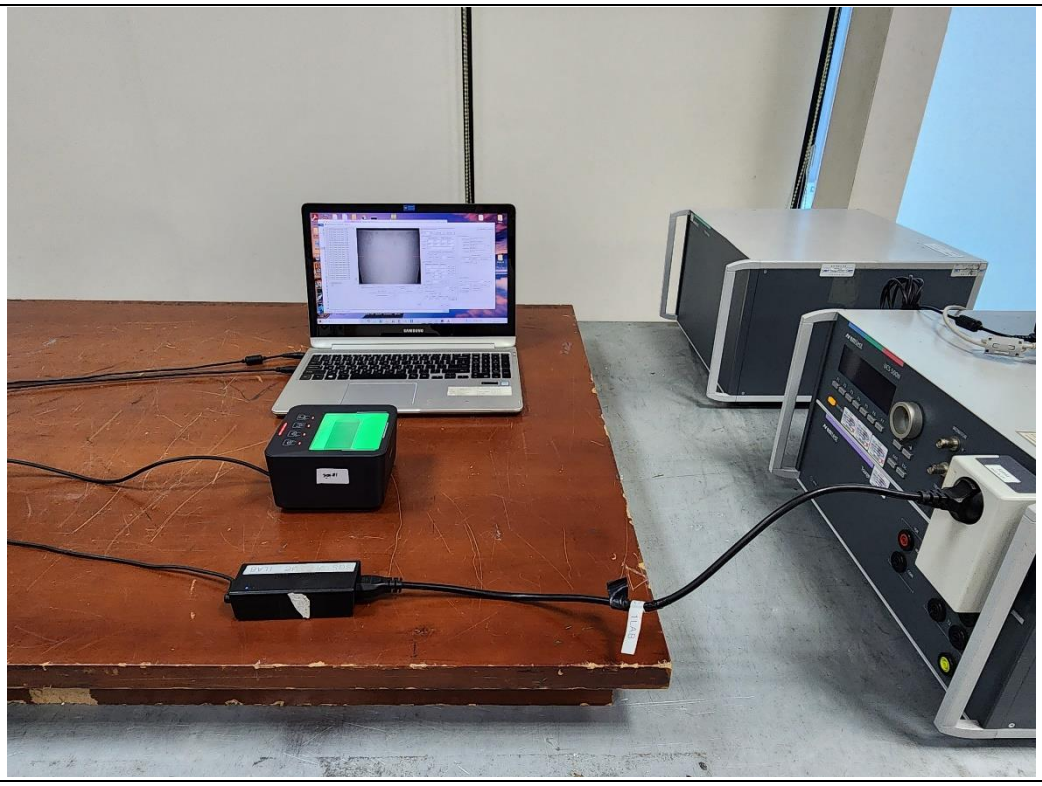
[View of Fast Transients/Burst(Power Line)]



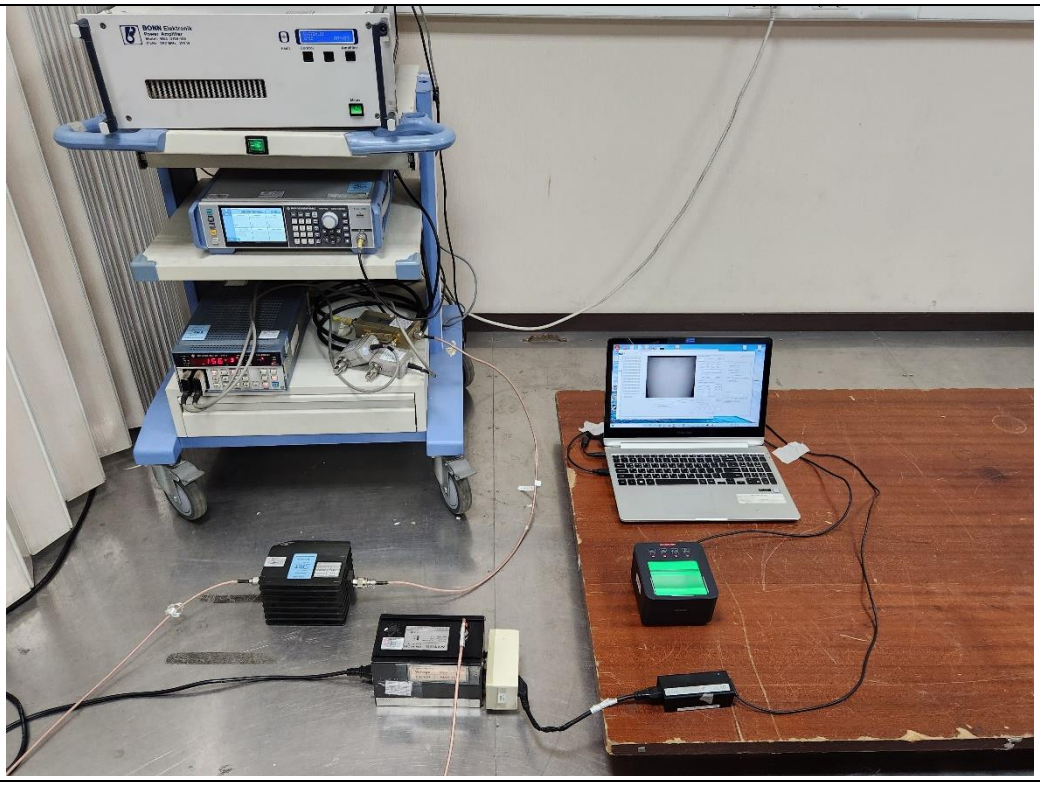
[View of Fast Transients/Burst(Signal Line)]

N/A

[View of Surge]

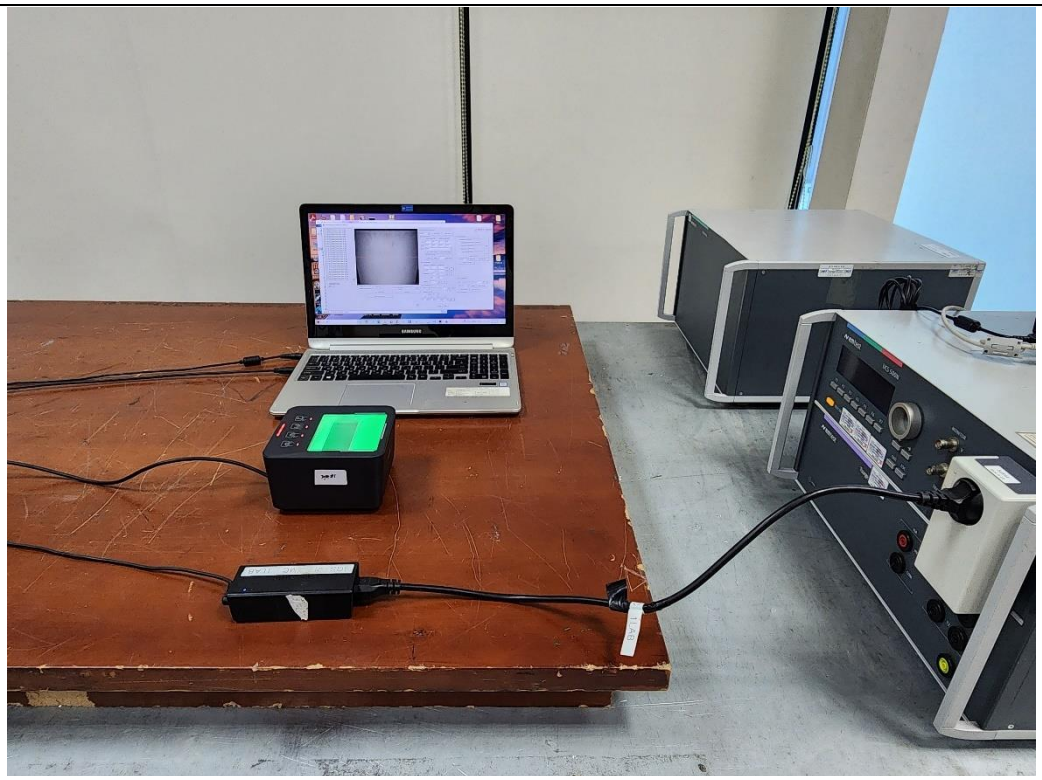


[View of Conducted Immunity(Power Line)]



[View of Conducted Immunity(Signal Line)]
N/A
[View of Power Frequency Magnetic Field]


[View of Voltage Dips and Interruptions]



8. Photographs of EUT

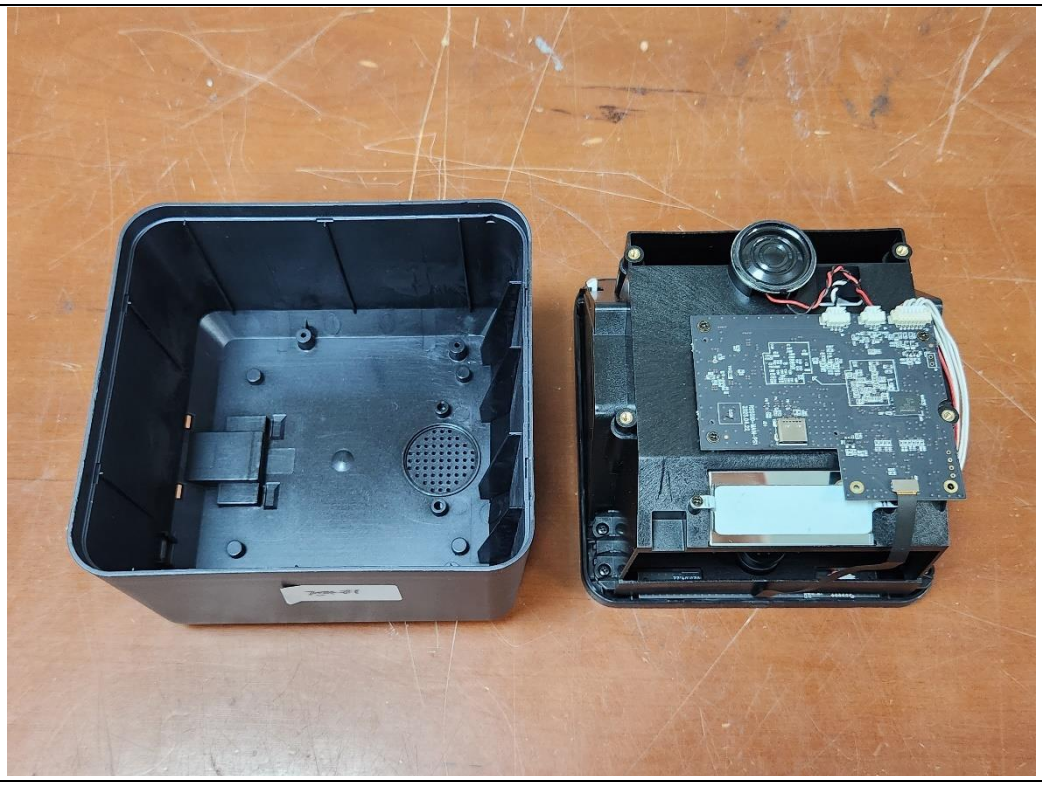
[Front view of EUT]



[Rear view of EUT]



[Inside view of EUT]



Appendix A: Measurement Uncertainty

Test Method			Measurement Uncertainty
Conducted Emission		ENV216	3.0 dB (The confidence level is 95 %, *k*=2)
		ESH2-Z5	2.8 dB (The confidence level is 95 %, *k*=2)
		ESH3-Z6	3.0 dB (The confidence level is 95 %, *k*=2)
Conducted Emission - Signal		ISN T800	5.3 dB (The confidence level is 95 %, *k*=2)
		ISNT8-Cat6	5.4 dB (The confidence level is 95 %, *k*=2)
		ISN S751	6.8 dB (The confidence level is 95 %, *k*=2)
Disturbance Voltage at Antenna Terminal		2.4 dB (The confidence level is 95 %, *k*=2)	
Radiated Emission	9 kHz - 30 MHz	Horizontal	3.4 dB (The confidence level is 95 %, *k*=2)
		Vertical	3.4 dB (The confidence level is 95 %, *k*=2)
	30 MHz - 1 000 MHz	Horizontal	4.6 dB (The confidence level is 95 %, *k*=2)
		Vertical	5.0 dB (The confidence level is 95 %, *k*=2)
	1 GHz - 18 GHz	Horizontal	3.6 dB (The confidence level is 95 %, *k*=2)
		Vertical	3.6 dB (The confidence level is 95 %, *k*=2)
Radiated Immunity Test		0.9 dB (The confidence level is 95 %, *k*=2)	
Conducted Immunity Test		1.9 dB (The confidence level is 95 %, *k*=2)	
Magnetic Field		2.8 dB (The confidence level is 95 %, *k*=2)	
Radiated fields in close proximity Immunity		30 kHz, 134.2 kHz	1.8 dB (The confidence level is 95 %, *k*=2)
		13.56 MHz	1.8 dB (The confidence level is 95 %, *k*=2)

Table A.1 Measurement Uncertainty of Branch Site

Test Method			Measurement Uncertainty
Conducted Emission		ENV216	3.3 dB (The confidence level is 95 %, *k*=2)
		ESH3-Z6	3.3 dB (The confidence level is 95 %, *k*=2)
		ESH2-Z5	3.1 dB (The confidence level is 95 %, *k*=2)
		NNLK8129	3.2 dB (The confidence level is 95 %, *k*=2)
Conducted Emission - Signal		ISN T800	5.5 dB (The confidence level is 95 %, *k*=2)
		ISN ST08	6.6 dB (The confidence level is 95 %, *k*=2)
Discontinuous		2.9 dB (The confidence level is 95 %, *k*=2)	
Radiated Emission	9 kHz - 30 MHz	Horizontal	3.4 dB (The confidence level is 95 %, *k*=2)
		Vertical	3.4 dB (The confidence level is 95 %, *k*=2)
	30 MHz - 1 000 MHz	Horizontal	4.7 dB (The confidence level is 95 %, *k*=2)
		Vertical	5.0 dB (The confidence level is 95 %, *k*=2)
	1 GHz - 18 GHz	Horizontal	3.8 dB (The confidence level is 95 %, *k*=2)
		Vertical	3.8 dB (The confidence level is 95 %, *k*=2)
Radiated Immunity Test		1.4 dB (The confidence level is 95 %, *k*=2)	
Conducted Immunity Test		4.4 dB (The confidence level is 95 %, *k*=2)	
Magnetic Field		2.2 dB (The confidence level is 95 %, *k*=2)	
Radiated fields in close proximity Immunity		30 kHz, 134.2 kHz	1.8 dB (The confidence level is 95 %, *k*=2)
		13.56 MHz	1.8 dB (The confidence level is 95 %, *k*=2)

Table A.2 Measurement Uncertainty of Branch Site-3

Test Method			Measurement Uncertainty
Conducted Emission		ENV216	3.5 dB (The confidence level is 95 %, *k*=2)
		ESH2-Z6	3.4 dB (The confidence level is 95 %, *k*=2)
		ESH3-Z5	3.4 dB (The confidence level is 95 %, *k*=2)
		NNLK8129	3.4 dB (The confidence level is 95 %, *k*=2)
Conducted Emission - Signal		ISN T800	5.6 dB (The confidence level is 95 %, *k*=2)
		ISN ST08	5.6 dB (The confidence level is 95 %, *k*=2)
Discontinuous		2.9 dB (The confidence level is 95 %, *k*=2)	
disturbance Power		4.2 dB (The confidence level is 95 %, *k*=2)	
Radiated Emission	9 kHz - 30 MHz (Triple Loop Ant.)	2.6 dB (The confidence level is 95 %, *k*=2)	
	9 kHz - 30 MHz (Loop Ant.)	Horizontal	4.2 dB (The confidence level is 95 %, *k*=2)
		Vertical	4.2 dB (The confidence level is 95 %, *k*=2)
	30 MHz - 1 000 MHz	Horizontal	5.4 dB (The confidence level is 95 %, *k*=2)
		Vertical	5.7 dB (The confidence level is 95 %, *k*=2)
	1 GHz - 18 GHz	Horizontal	4.6 dB (The confidence level is 95 %, *k*=2)
		Vertical	4.6 dB (The confidence level is 95 %, *k*=2)
Radiated Immunity Test		1.1 dB (The confidence level is 95 %, *k*=2)	
Conducted Immunity Test		4.4 dB (The confidence level is 95 %, *k*=2)	
Magnetic Field		3.0 dB (The confidence level is 95 %, *k*=2)	
Radiated fields in close proximity Immunity		30 kHz, 134.2 kHz	1.8 dB (The confidence level is 95 %, *k*=2)
		13.56 MHz	1.8 dB (The confidence level is 95 %, *k*=2)

Table A.3 Measurement Uncertainty of Branch Site-4

- End of Test Report -