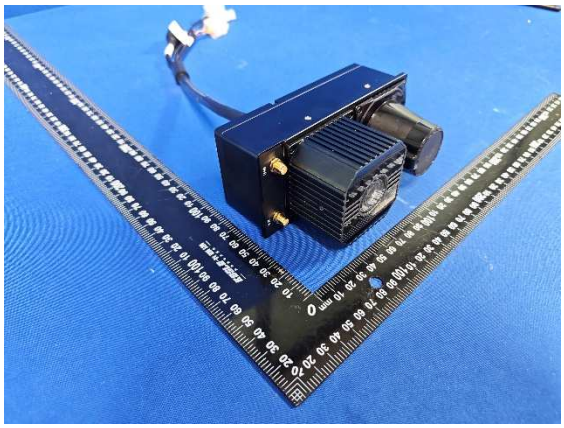
Prüfbericht-Nr.: *Test report no.*:	**CN26JCYZ 001**	**Auftrags-Nr.:** *Order no.*:	27240789	Seite 1 von 24 *Page 1 of 24*
Kunden-Referenz-Nr.: *Client reference no.*:	N/A	**Auftragsdatum:** *Order date:*	2026-06-16	
Auftraggeber: *Client*:	Zhejiang MRDVS Technology Co., Ltd. 1st Floor, No. 5 Building, Phase II ofHigh-end Manufacturing Industrial Park,No. 1177 Xin'an Road, High-tech Zone, Wuxing District, Huzhou, 313000 Zhejiang, P.R. China			
Prüfgegenstand: *Test item*:	V2Pro Loc-Nav Module			
Bezeichnung / Typ-Nr.: *Identification / Type no.*:	MRDVS-V2358-6BE-940A			
Auftrags-Inhalt: *Order content*:	Test Report			
Prüfgrundlage: *Test specification*:	EN 301 489-1 V2.2.3 EN 301 489-17 V3.3.1 EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019 EN 55032:2015+A11:2020 EN 55035:2017+A11:2020		EN 300 328 V2.2.2 EN IEC 62311:2020 EN 62368-1:2014+A11:2017 EN 60825-1:2014 +A11:2021 EN 50689:2021	
Wareneingangsdatum: *Date of sample receipt*:	2026-05-15			
Prüfmuster-Nr.: *Test sample no:*	A004275797-001			
Prüfzeitraum: *Testing period*:	2026-06-26 - 2026-06-29			
Ort der Prüfung: *Place of testing*:	Shenzhen PSI Testing Co., Ltd.			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: *Test result**:	Pass			



geprüft von: tested by:	x Breeze Jiang Signed by: Breeze Jiang	**genehmigt von:** *authorized by*:	x Bell Hu Signed by: Bell Hu
Datum: *Date:* 2026-07-12		**Ausstellungsdatum:** *Issue date:* 2026-07-12	
Stellung / Position:	Sachverständige(r)/Expert	**Stellung** / Position:	Sachverständige(r)/Expert

Sonstiges / *Other*:	This report is for Article 3.1b EMC requirements. Refer to TÜV Rheinland report CN26JCYZ 002 for details of Article 3.1a Health and Article 3.2 Radio Spectrum requirements. Refer to TÜV Rheinland report CN26VHNV 001 and CN2688XJ 001 for details of Article 3.1a Electrical Safety requirements.
Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery*:	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
* *Legend:*	*P(ass) = passed a.m. test specification(s)*	*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.
This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.

Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. *The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system.* *Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.*
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. *Test clauses with remark of * are subcontracted to qualified subcontractors and descripted under the respective test clause in the report.* *Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.*
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnisen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezueglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. *The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the “Zero Guard Band Rule” and “Simple Acceptance” in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.*

Test Summary

5.1.1 CONDUCTED EMISSION
RESULT: *Pass*

5.1.2 RADIATED EMISSION
RESULT: *Pass*

5.2.1 RADIO FREQUENCY ELECTROMAGNETIC FIELDS (RS)
RESULT: *Pass*

5.2.2 RADIO FREQUENCY CONTINUOUS CONDUCTED (CS)
RESULT: *Pass*

5.2.3 ELECTROSTATIC DISCHARGE (ESD)
RESULT: *Pass*

5.2.4 ELECTRICAL FAST TRANSIENTS (EFT)
RESULT: *Pass*

5.2.5 SURGE
RESULT: *Pass*

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1 General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results of EMC.

2 Test Sites

2.1 Test Facilities

Shenzhen PSI Testing Co., Ltd.

1-2F, Building 5, Yudafu Industrial Park, No.10, Xingye West Road, Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Registration number: CNAS L19010

A2LA CAB identifier: CN0158

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

For Frequency Range 30MHz~1GHz Radiated Emission Test Equipment:

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	/	/	2025.12.18	3 Year
2.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2025.12.18	1 Year
3.	Bilog Antenna	Schwarzbeck	VULB 9168	01448	/	2025.01.02	2 Year
4.	6dB Fixed Attenuator	SKET	AP_DC01G-2W-N-6dB	SK2020053101	/	2025.12.18	1 Year

For Frequency Range above 1GHz Radiated Emission Test Equipment:

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	9*6*6 anechoic chamber	SKET	9*6*6	/	/	2025.12.18	3 Year
2.	Spectrum Analyzer	Rohde&Schwarz	FSV-40N	101648	3.70	2025.12.18	1 Year
3.	Horn Antenna	Schwarz beck	BBHA 9120 D	02706	/	2025.01.02	2 Year
4.	Amplifier	SKET	LAPA_01G18G-45dB	SK2022032901	/	2025.12.18	1 Year

For Power Line Conducted Emission Test Equipment:

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESCI 7	101032/003	4.42 SP3	2025.12.18	1 Year
2.	L.I.S.N.	Rohde&Schwarz	ENV 216	102282	/	2025.12.18	1 Year
3.	L.I.S.N.	RFT	NNB111	13835240	/	2025.12.18	1 Year

For Electrostatic Discharge Test Equipment:

Item	Equipment	Manufacturer	Model No.	Serial No.	Firmware Version	Last Cal.	Cal. Interval
1.	ESD Tester	ETEST	ES-ESD-30	ESD-21012	/	2025.12.19	1 Year

For RF Field Strength Susceptibility Test Equipment:							
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Firmware Version**	**Last Cal.**	**Cal. Interval**
1.	Analog signal generator	Agilent	N5181A	2024.03.29	A.01.87	2025.12.18	1 Year
2.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.02 -117725-vh	/	2025.12.18	1 Year
3.	RF Power Probe	Rohde&Schwarz	NRP-Z11	1138.3004.02 -1111533-Fz	/	2025.12.18	1 Year
4.	Isotropic Electric Field Probe	narda	EP-601	511WX60706	/	2025.12.18	1 Year
5.	High Gain Antenna	Schwarzbeck	STLP9129	00203	/	/	/
6.	RF Power Amplifier	SKET	RITS_80M06 G	RITS800604	/	/	/

For Electrical fast transient Test and Surge test Equipment:							
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Firmware Version**	**Last Cal.**	**Cal. Interval**
1.	Pulse Surge Generator	ETEST	ES-4516A	ES-4516A-220204	1.3	2025.12.18	1 Year
2.	Capacitive Coupli ng Clamp	ETEST	ES-EFTC	/	/	2025.12.18	1 Year

For Radio-frequency, Continuous conducted disturbance test Equipment:							
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Firmware Version**	**Last Cal.**	**Cal. Interval**
1.	Conducted Immunity Test System (RF-Generator)	SKET	CITS_150k23 0M-75W	202302438	/	2025.12.18	1 Year
2.	Fixed Coaxial Attenuator(6dB Attenuation)	SKET	WDTS100-6-4-B	221122225	/	2025.12.18	1 Year
3.	Coupling-Decoupling Network (CDN)	SKET	CDN_150K23 0M-M2/M3-16A	221122169	/	2025.12.18	1 Year
4.	Coupling-Decoupling Network (CDN)	SKET	CDN_150K80 M-T8	221122178	/	2025.12.18	1 Year
5.	Electromagnetic Injection Clamp (EMC-Clamp)	Prima	PECL-100	PR2301814 56	/	2025.12.18	1 Year
For BER/FER Monitoring:							
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Firmware Version**	**Last Cal.**	**Cal. Interval**
1.	Comprehensive Test Instrument	Rohde&Schwarz	CMW 500	145266	/	2025.12.18	1 Year

For Test Software Information			
Item	**Software Name**	**Manufacturer**	**Version**
RE	EZ-EMC	Farad	PSI-3A1
CE	EZ-EMC	Farad	PSI-3A1

2.3 Uncertainty of Measurement

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.
The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Table 2: Measurement Uncertainty

Item	Uncertainty
Power Line Conducted Emissions Test	2.13dB
Radiation Emission test in 3m chamber(Below 30MHz)	4.07dB
Radiation Emission test in 3m chamber(30MHz to 1GHz)	4.51dB
Radiation Emission test in 3m chamber(1GHz to 18GHz)	5.07dB
Radiation Emission test in 3m chamber(18GHz to 40GHz)	5.21dB
95% confidence levels, k=2	

3 General Product Information

3.1 Product Function and Intended Use

The Product is V2Pro Loc-Nav Module, which supports 2.4GHz Wi-Fi wireless technology.

For details refer to the User Manual.

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	V2Pro Loc-Nav Module
Type Designation:	MRDVS-V2358-6BE-940A
Operating Voltage:	DC 24V, 3A
Testing Voltage:	DC 24V
Operating Temperature Range:	-20 °C ~ +60 °C

3.3 Independent Operation Modes

The basic operation modes are:

A. On, CN7 DC24V 3A Input + 2.4G WIFI Link+ CN6 RJ45 Data Transmission (100Mbps) + CN9 Can Communication + CN10 Audio Out (Speaker) + CN8 Communication
B. Standby

3.4 Noise Generating and Noise Suppressing Parts

For details refer to the Circuit Diagram.

3.5 Submitted Documents

- Application Form
- User Manual

4 Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

Immunity: The equipment under test (EUT) was configured to have its highest possible susceptibility against the tested phenomena. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5 and chapter 6.

According to clause 3.1, all tests were performed on model *MRDVS-V2358-6BE-940A* in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

No.	Description	Manufacturer	Model	Serial Number
1	Notebook PC	Dell	Latitude 3490	2TJSXR2
2	USB Cable	N/A	1m	N/A
3	CAN Analysis	N/A	CANalyst-II	61200010C13
4	Loudspeaker	BALWAY	BY-100-5W	N/A
	Adapter	Baseus	CCXFK65CC	N/A
5	False load plate	MRDVS	N/A	N/A
6	Battery (DC 12V*2)	Raysolar	RS12-100	N/A

Remarks 1.: The manufacturer declares that the cables supplied with the product shall not exceed 3 m in length, apart from the network cable, the actual length in use may exceed 3 meters.
Remarks 2.: The loudspeaker powered by adapter is the listed in No.4.

4.4 Countermeasures to Achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF).

No additional measures were employed to achieve compliance.

5 Test Results of EMC Requirement

5.1 Test Results of EMISSION

5.1.1 Conducted Emission

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55032: 2015+A11, EN IEC 61000-6-4:2019
Test requirement	:	EN 301 489-1 V2.2.3, Clause 8.3 & Clause 8.7 EN 55032: 2015+A11, A.3, EN IEC 61000-6-4:2019, Clause 9
Frequency range	:	150 kHz – 30 MHz
Classification	:	Class A
Kind of test site	:	Shielded Room
Limit	:	EN 301 489-1 V2.2.3, Clause 8.3.3 & Clause 8.7.3 EN 55032: 2015+A11, Table A.11 EN IEC 61000-6-4:2019, Table A.1 & Table 5

Test Setup

Date of testing	:	2026-06-26
Test voltage	:	DC 24V by Battery
Operation mode	:	A, B
Test ports	:	DC ports, Network Port
Earthing	:	Not connected
Test configuration	:	Table-top
Ambient temperature	:	Refer to test result
Relative humidity	:	Refer to test result
Atmospheric pressure	:	101.3 kPa

This testing was carried out on all operation modes, but only the worst case was presented in this report.
For the measurement records, refer to the appendix A.

5.1.2 Radiated Emission

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55032: 2015+A11, EN IEC 61000-6-4:2019
Test requirement	:	EN 301 489-1 V2.2.3, Clause 8.2 EN 55032: 2015+A11, A.2 EN IEC 61000-6-4:2019, Clause 9
Classification	:	Class A
Frequency range	:	30 MHz – 6000 MHz
Kind of test site	:	3m Semi-anechoic Chamber
Limit	:	EN 301 489-1 V2.2.3, Clause 8.2.3 EN 55032: 2015+A11, Table A.2 and A.3 EN IEC 61000-6-4:2019, Table 3

Test Setup

Date of testing	:	2026-06-29
Test voltage	:	DC 24V by Battery
Operation mode	:	A, B
Test Ports	:	Enclosure
Earthing	:	Not connected
Ambient temperature	:	Refer to test result
Relative humidity	:	Refer to test result
Atmospheric pressure	:	101.3 kPa

This testing was carried out on all operation modes, but only the worst case was presented in this report.
For the measurement records, refer to the appendix A.

5.2 Test Results of IMMUNITY

5.2.1 Radio Frequency Electromagnetic Fields (RS)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55035:2017+A11, EN IEC 61000-6-2:2019
Basic standard	:	EN IEC 61000-4-3: 2020
Test requirement	:	EN 301 489-1 V2.2.3, Clause 9.2 EN 55035:2017+A11, Table 1 EN IEC 61000-6-2:2019, Table 1
Frequency range	:	80MHz to 6000MHz for Swept test 1800MHz, 2600MHz, 3500MHz, 5000MHz for Spot test
Test level	:	3 V/m, 10 V/m (unmodulated, r.m.s)
Modulation	:	80% AM by a sinusoidal signal of 1 kHz
Kind of test site	:	3m Full-anechoic Chamber
Performance criteria	:	A

Test Setup

Date of testing	:	2026-06-26
Test voltage	:	DC 24V by Battery
Operation mode	:	A
Test Ports	:	Enclosure
Ambient temperature	:	26 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101.3 kPa

Table 5: Test Result of Radio Frequency Electromagnetic Fields (RS), EN 301 489

Test Frequency Band	Test port / Test Level	Polarity	Location	Actual Performance
80MHz – 1000MHz	Enclosure / 3V/m	Vertical / Horizontal	Front	A*
			Rear	A*
			Left	A*
			Right	A*
1000MHz – 6000MHz	Enclosure / 3V/m	Vertical / Horizontal	Front	A*
			Rear	A*
			Left	A*
			Right	A*

Table 6: Test Result of Radio Frequency Electromagnetic Fields (RS), EN 55035

Test Frequency Band	Test port / Test Level	Polarity	Location	Actual Performance
Spot Frequency 1800MHz, 2600MHz, 3500MHz, 5000MHz	Enclosure / 3V/m	Vertical / Horizontal	Front	A*
			Rear	A*
			Left	A*
			Right	A*

*Remark1: No degradation was observed during and after the tests.
Remark2: During and after the tests, the FER/PER/BER of WLAN is less than 10%.

5.2.2 Radio Frequency Continuous Conducted (CS)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55035:2017+A11, EN IEC 61000-6-2:2019
Basic standard	:	EN 61000-4-6: 2009
Test requirement	:	EN 301 489-1 V2.2.3, Clause 9.5 EN 55035:2017+A11, Table 2 EN IEC 61000-6-2:2019, Table 2 & Table 3
Frequency range	:	0.15 - 80 MHz
Source impedance	:	150 Ω
Test level	:	3V (unmodulated, r.m.s.) for EN 301 489-1 3V (unmodulated, r.m.s.) for 0.15 to 10MHz for EN 55035 3V to 1V (unmodulated, r.m.s.) for 10 to 30MHz for EN 55035 1V (unmodulated, r.m.s.) for 30 to 80MHz for EN 55035 10V (unmodulated, r.m.s.) for 0.15 to 80MHz for EN IEC 61000-6-2
Modulation	:	AM 80%, 1 kHz sine-wave
Sweep mode	:	Automatic
Sweep rate	:	< 1.5×10^{-3} decade / sec.
Performance criteria	:	A

Test Setup

Date of testing	:	2026-06-26
Test voltage	:	DC 24V by Battery
Operation mode	:	A
Test Ports	:	Network Port
Earthing	:	Not connected
Ambient temperature	:	26 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101.3 kPa

Note: The manufacturer declares that the DC cables supplied with the product shall not exceed 3m in length, aaccording to table 3, no testing is required.

Table 7: Test result of Radio Frequency Continuous Conducted (CS)

Test Frequency Band	Coupling Method	Test Port	Test Level	Actual Performance
150kHz – 80MHz	CDN	RJ45 Ports	1.0 V, 3.0 V	A*

*Remark1: No degradation was observed during and after the tests.
Remark2: During and after the tests, the FER/PER/BER of WLAN is less than 10%.

5.2.3 Electrostatic Discharge (ESD)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55035:2017+A11, EN IEC 61000-6-2:2019
Basic standard	:	EN 61000-4-2: 2009
Test requirement	:	EN 301 489-1 V2.2.3, Clause 9.3 EN 55035:2017+A11, Table 1 EN IEC 61000-6-2:2019, Table 1
Discharge impedance	:	330 Ω / 150 pF
Test level	:	Air discharge: ± 2 kV, ± 4 kV, ± 8 kV Contact discharge: ± 4 kV HCP & VCP: ± 4 kV
Position	:	All exposed surfaces
Performance criteria	:	B

Test Setup

Date of testing	:	2026-06-26
Test voltage	:	DC 24V by Battery
Operation mode	:	A
Test Ports	:	Enclosure
Earthing	:	Not connected
Ambient temperature	:	26 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101.3 kPa

Table 8: Test Result of Electrostatic Discharge (ESD)

Test Mode	Test Level	Location	Actual Performance
A mode	± 4.0kV / Contact	HCP	A*
		VCP	A*
		Conducted Enclosure	A*
	± 2.0kV, ± 4.0kV, ± 8.0kV / Air	Non-conducted Enclosure	A*
		Button	A*
		Slot	A*

*Remark1: No degradation was observed during and after the tests.
Remark2: During and after the tests, the FER/PER/BER of WLAN is less than 10%.

5.2.4 Electrical Fast Transients (EFT)

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55035:2017+A11, EN IEC 61000-6-2:2019
Basic standard	:	EN 61000-4-4: 2012
Test requirement	:	EN 301 489-1 V2.2.3, Clause 9.4 EN 55035:2017+A11, Table 2 EN IEC 61000-6-2:2019, Table 2 & Table 3
Test level	:	± 0.5 Kv, ± 1.0 kV on Signal ± 1.0 kV on DC
Test duration	:	2 minute per level & polarity
Rise time	:	5/50ns
Repetition frequency	:	5 kHz
Performance criteria	:	B

Test Setup

Date of testing	:	2026-06-26
Test voltage	:	DC 24V by Battery
Operation mode	:	A
Test Ports	:	Network Port, DC Port
Earthing	:	Not connected
Ambient temperature	:	26 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101.3 kPa

Table 9: Test Result of Electrical Fast Transients (EFT)

Test Mode	Coupling Method	Coupling Port	Test Level	Actual Performance
A mode	CDN	RJ45 Cabel	± 0.5 kV, ± 1.0 kV on Signal	A*
A mode	Direct Injection	DC Input Port	± 1.0 kV	B**

*Remark1: No degradation was observed during and after the tests.
**Remark2: Temporary loss of function during testing; self-recovered after the disturbance ceased.
Remark3: During and after the tests, the FER/PER/BER of WLAN is less than 10%.

5.2.5 Surge

RESULT: **Pass**

Test Specification

Test standard	:	EN 301 489-1 V2.2.3, EN 301 489-17 V3.3.1 EN 55035:2017+A11, EN IEC 61000-6-2:2019
Basic standard	:	EN 61000-4-5:2014+A1:2017
Test requirement	:	EN 301 489-1 V2.2.3, Clause 9.8 EN 55035:2017+A11, Table 2 EN IEC 61000-6-2:2019, Table 2 & Table 3
Test level	:	± 0.5 kV, line to line on Signal ± 1.0 kV line to earth on Signal ± 0.5 kV line to line on DC Port ± 1.0 kV line to ground on DC Port
Repetition rate	:	Max. 1/min
Number of surges	:	5 (for each combination of parameters)
Performance criteria	:	B

Test Setup

Date of testing	:	2026-06-26
Test voltage	:	DC 24V by Battery
Operation mode	:	A
Test Ports	:	Network Port, DC Port
T_r / T_h	:	1,2 / 50 μs
Earthing	:	Not connected
Ambient temperature	:	26 ℃
Relative humidity	:	54 %
Atmospheric pressure	:	101.3 kPa

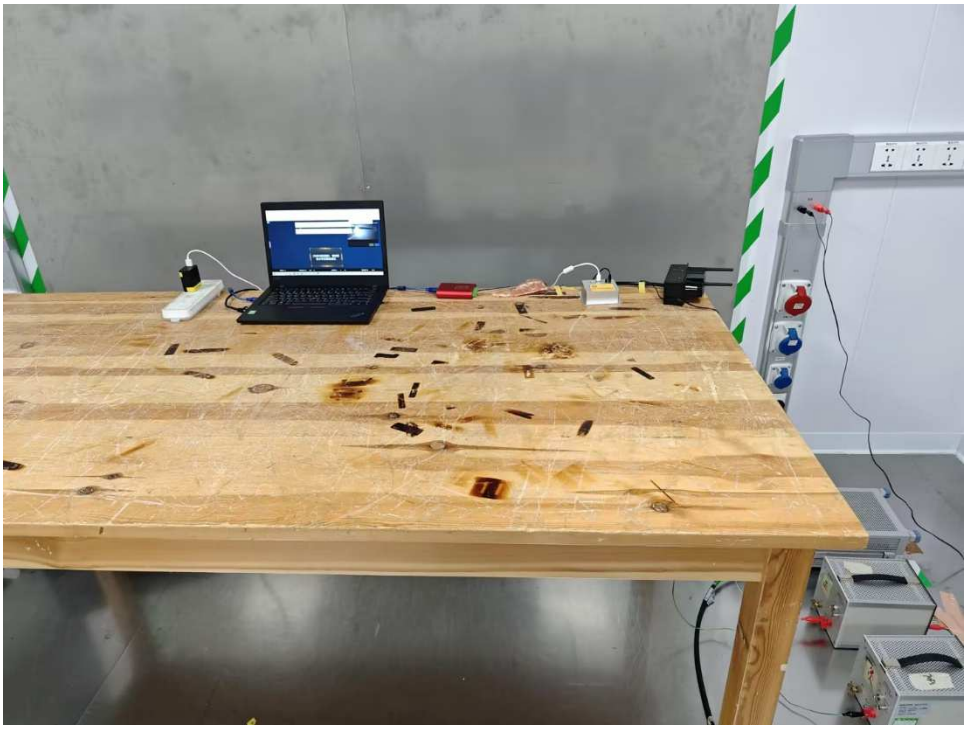
Table 10: Test Result of Surge

Test Mode	Coupling Port	Test Level (±kV)	Coupling Phase	Actual Performance
A mode	RJ45 ports	± 1.0 kV line to ground & ± 0.5 kV line to line	0	A*
			π/2	A*
			π	A*
			3π/2	A*
A mode	DC Input ports	± 1.0 kV line to ground & ± 0.5 kV line to line	0	B**
			π/2	B**
			π	B**
			3π/2	B**

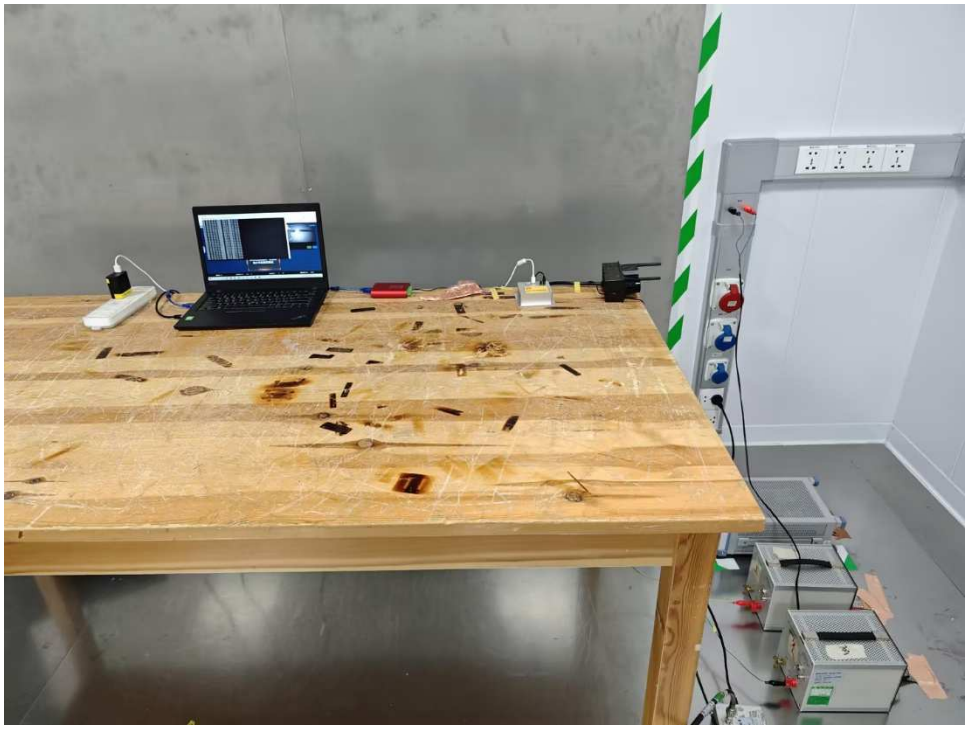
*Remark1: No degradation was observed during and after the tests.
**Remark2: Temporary loss of function during testing; self-recovered after the disturbance ceased.
Remark3: During and after the tests, the FER/PER/BER of WLAN is less than 10%.

5.3 Photographs of the Test Set-Up

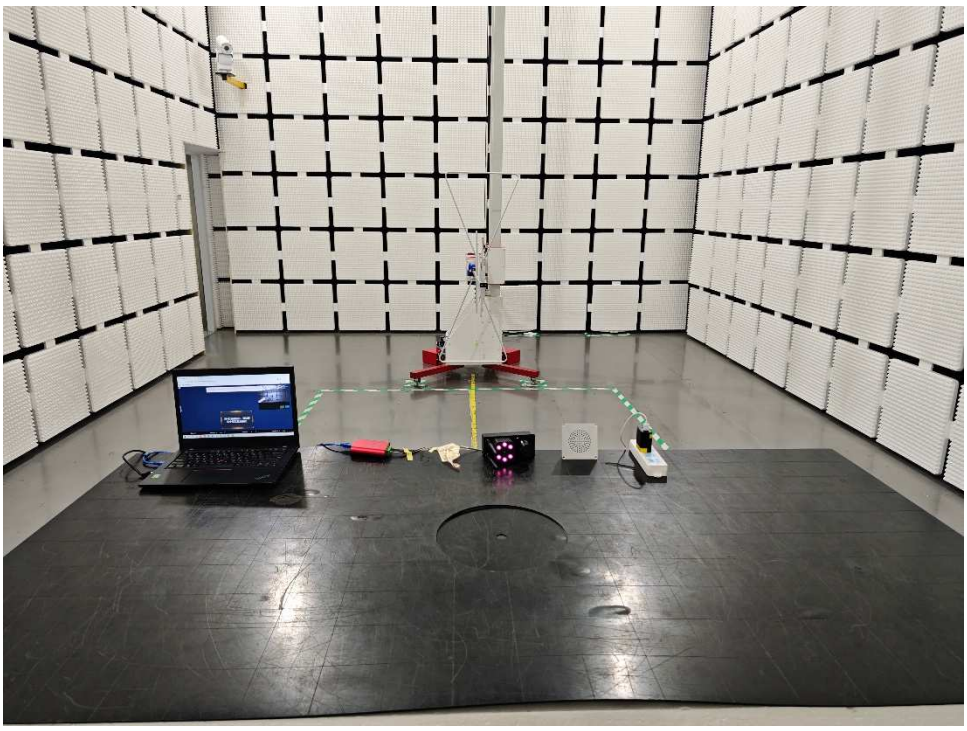
Photograph 1: Set-up for Conducted Emission on DC Port



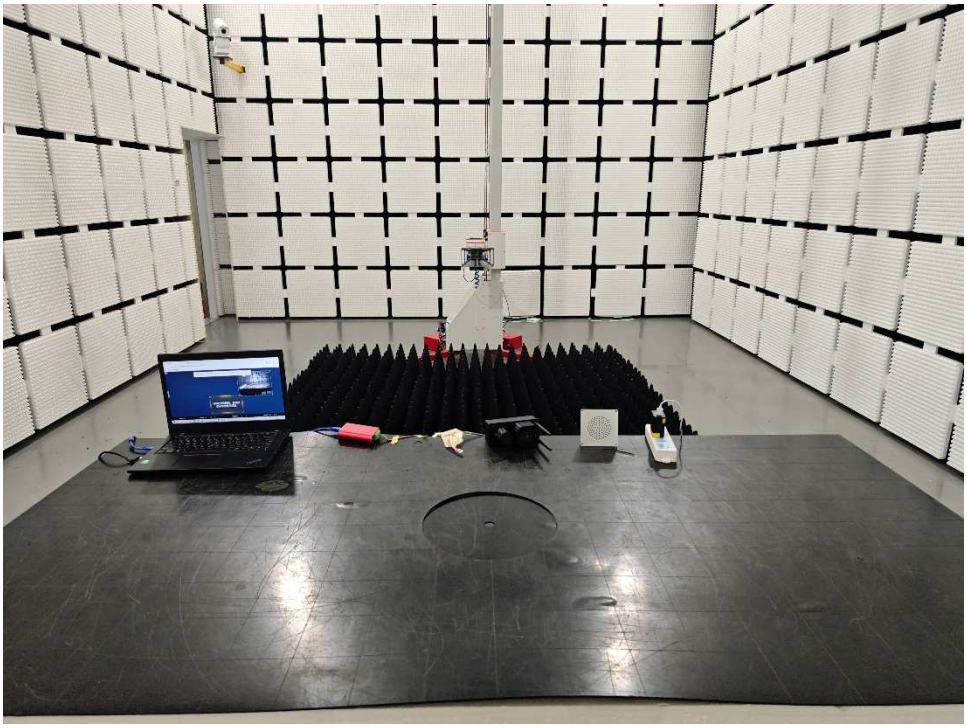
Photograph 2: Set-up for Conducted Emission on Network Port



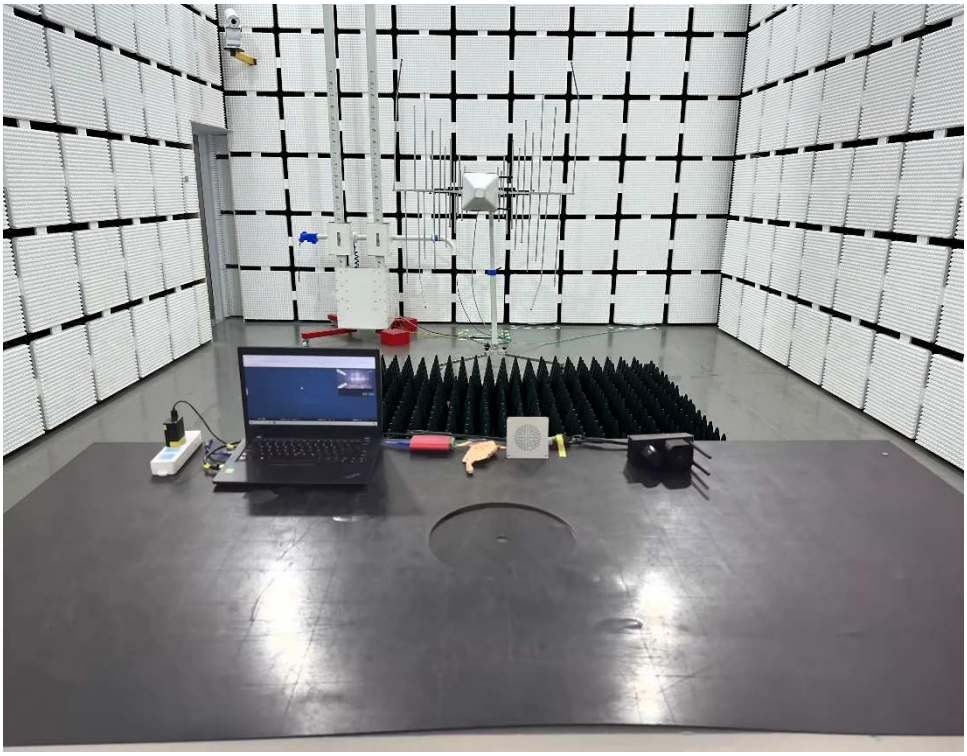
Photograph 3: Set-up for Radiated Emission, 30 MHz – 1 GHz



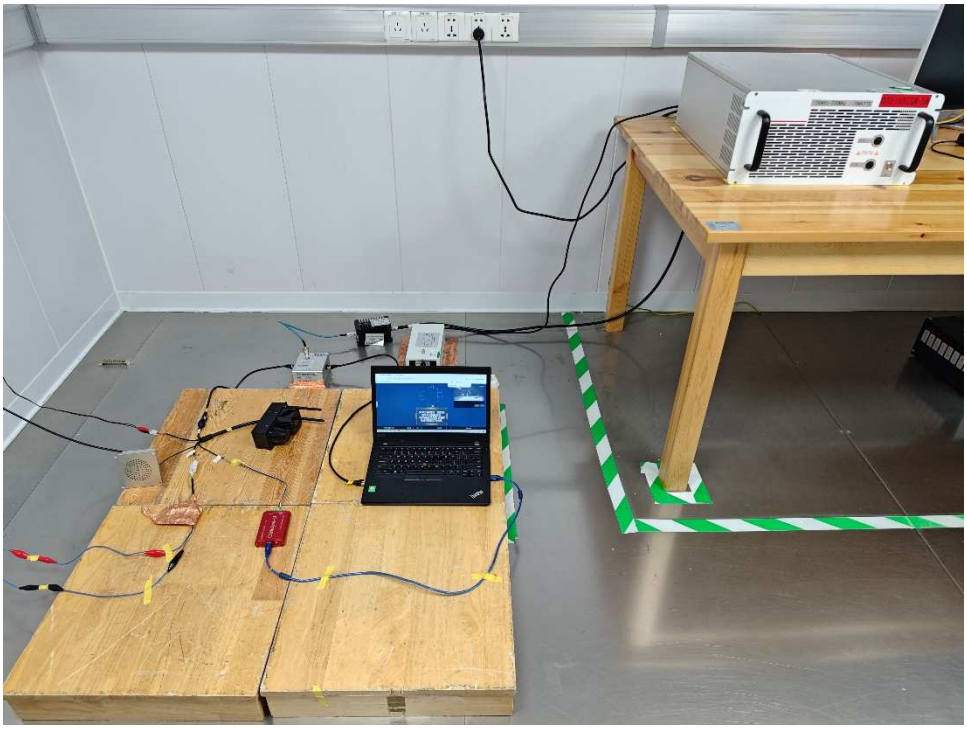
Photograph 4: Set-up for Radiated Emission, 1 GHz – 6 GHz



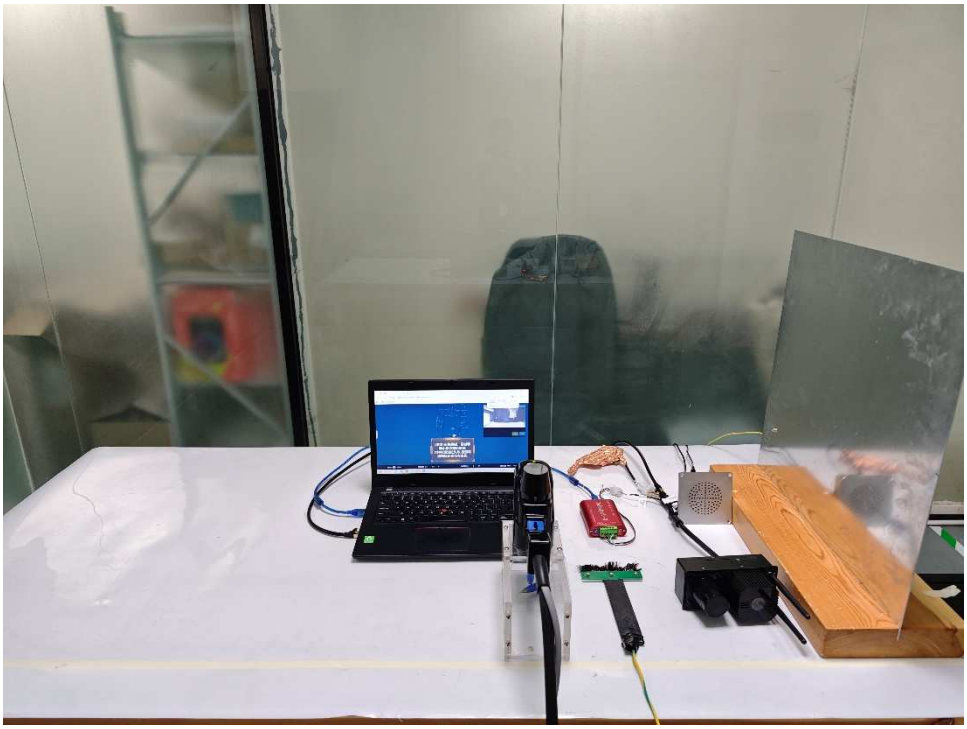
Photograph 5: Set-up for Radio Frequency Electromagnetic Fields (RS)



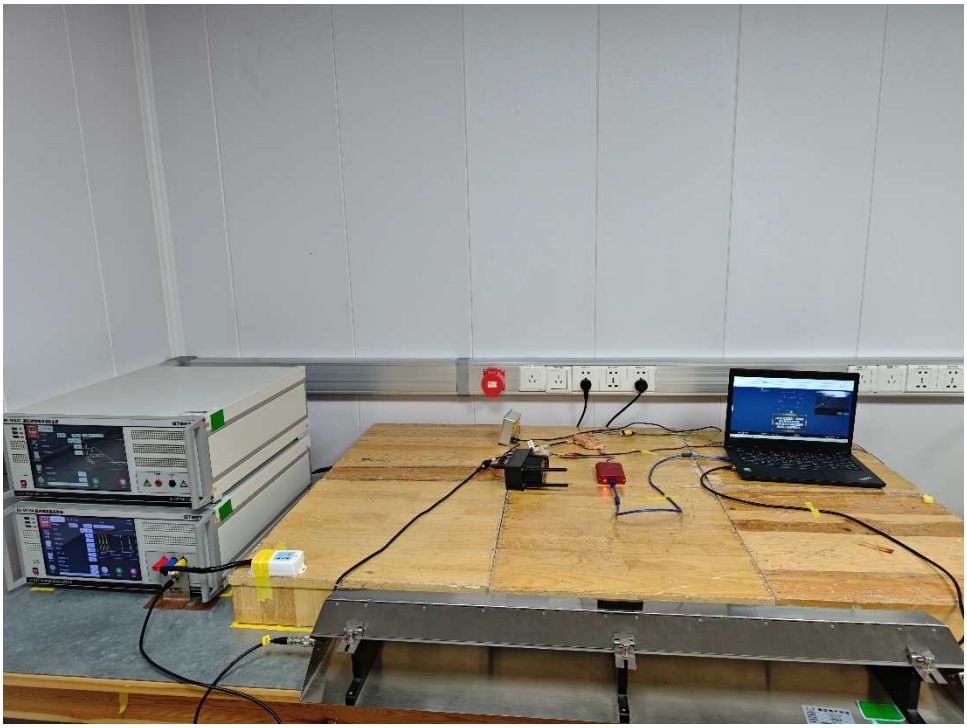
Photograph 6: Set-up for Radio Frequency Continuous Conducted (CS), Network Port



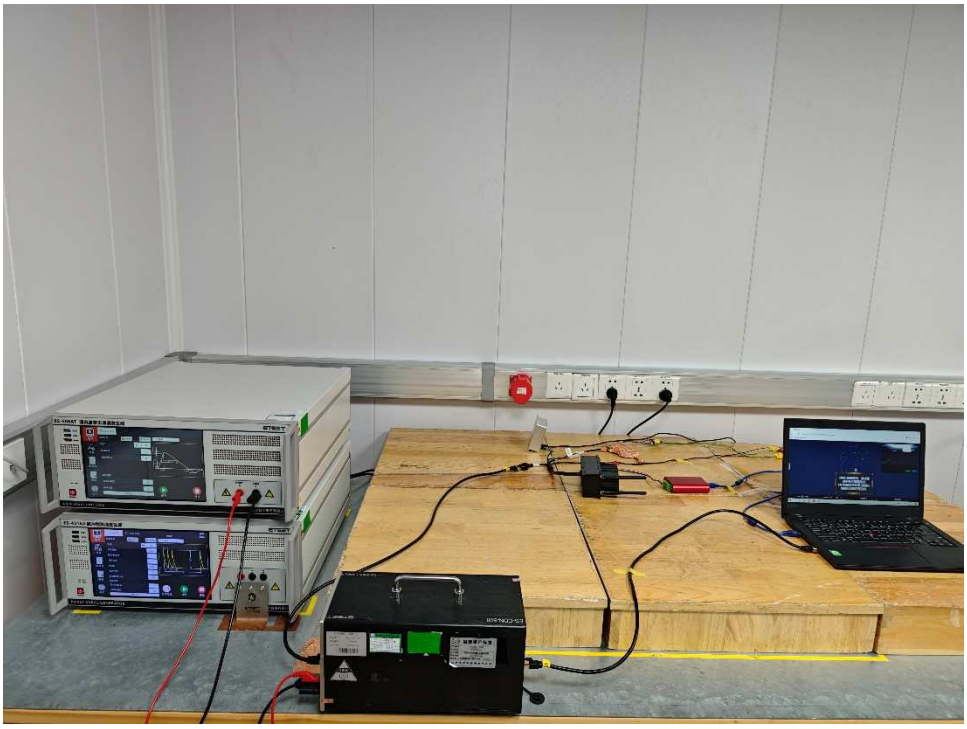
Photograph 7: Set-up for Electrostatic Discharges (ESD)



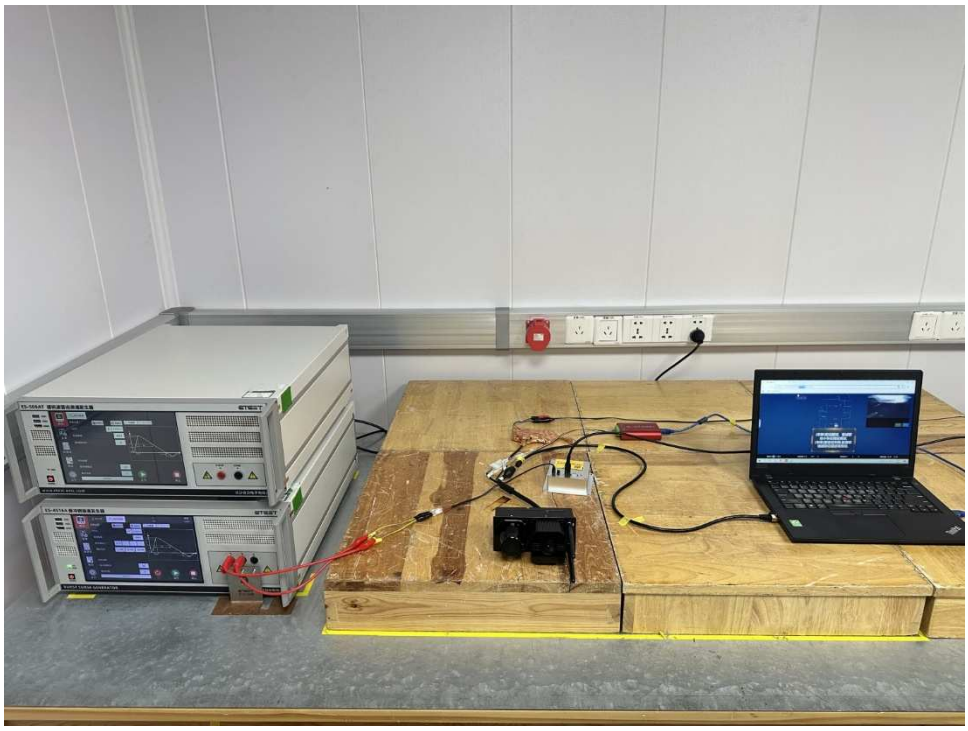
Photograph 8: Set-up for Electrical Fast Transients (EFT), Network Port



Photograph 9: Set-up for Surge, Network Port



Photograph 10: Set-up for EFT and Surge, DC Input Port



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Appendix A: Test Results of EMC

APPENDIX A: TEST RESULTS OF EMC 1

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APPENDIX A.3: TEST RESULTS OF RADIATED EMISSION, BELOW 1GHZ 5
APPENDIX A.4: TEST RESULTS OF RADIATED EMISSION, ABOVE 1GHZ 7

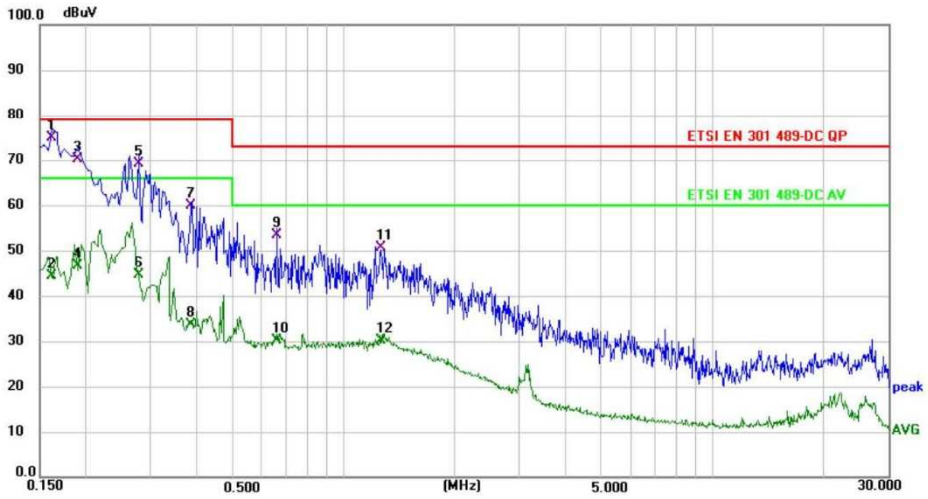
Appendix A.1: Test Results of Conducted Emission on DC Port

Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-Shielded Room	Phase: +	Temperature: 26 ℃
EUT:		Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A	Test Engineer: Jensen Wang	
Test Mode: Mode 1		
Test Voltage: DC 24V		
Note:		

Conducted Emission Measurement

Test Date: 2026/6/26 14:09:52



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.1620	64.96	10.04	75.00	79.00	-4.00	QP	P	
2	0.1620	34.39	10.04	44.43	66.00	-21.57	AVG	P	
3	0.1900	59.95	10.06	70.01	79.00	-8.99	QP	P	
4	0.1900	36.46	10.06	46.52	66.00	-19.48	AVG	P	
5	0.2779	59.04	10.11	69.15	79.00	-9.85	QP	P	
6	0.2779	34.50	10.11	44.61	66.00	-21.39	AVG	P	
7	0.3860	49.72	10.15	59.87	79.00	-19.13	QP	P	
8	0.3860	23.50	10.15	33.65	66.00	-32.35	AVG	P	
9	0.6580	43.08	10.20	53.28	73.00	-19.72	QP	P	
10	0.6580	19.86	10.20	30.06	60.00	-29.94	AVG	P	
11	1.2660	40.40	10.26	50.66	73.00	-22.34	QP	P	
12	1.2660	19.95	10.26	30.21	60.00	-29.79	AVG	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

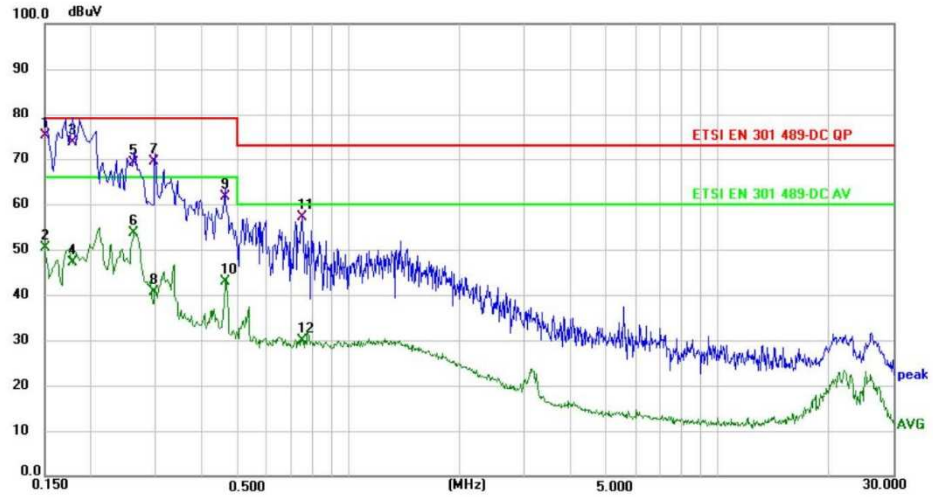
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Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-Shielded Room | Phase: - | Temperature: 26 ℃
EUT: | | Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A | Test Engineer: Jensen Wang
Test Mode: Mode 1
Test Voltage: DC 24V
Note:

Conducted Emission Measurement

Test Date: 2026/6/26 14:28:33



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1 *	0.1500	65.09	10.03	75.12	79.00	-3.88	QP	P	
2	0.1500	40.41	10.03	50.44	66.00	-15.56	AVG	P	
3	0.1780	63.66	10.05	73.71	79.00	-5.29	QP	P	
4	0.1780	37.04	10.05	47.09	66.00	-18.91	AVG	P	
5	0.2620	59.06	10.10	69.16	79.00	-9.84	QP	P	
6	0.2620	43.52	10.10	53.62	66.00	-12.38	AVG	P	
7	0.2980	59.30	10.12	69.42	79.00	-9.58	QP	P	
8	0.2980	30.42	10.12	40.54	66.00	-25.46	AVG	P	
9	0.4620	51.57	10.16	61.73	79.00	-17.27	QP	P	
10	0.4620	32.79	10.16	42.95	66.00	-23.05	AVG	P	
11	0.7500	46.91	10.20	57.11	73.00	-15.89	QP	P	
12	0.7500	19.76	10.20	29.96	60.00	-30.04	AVG	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

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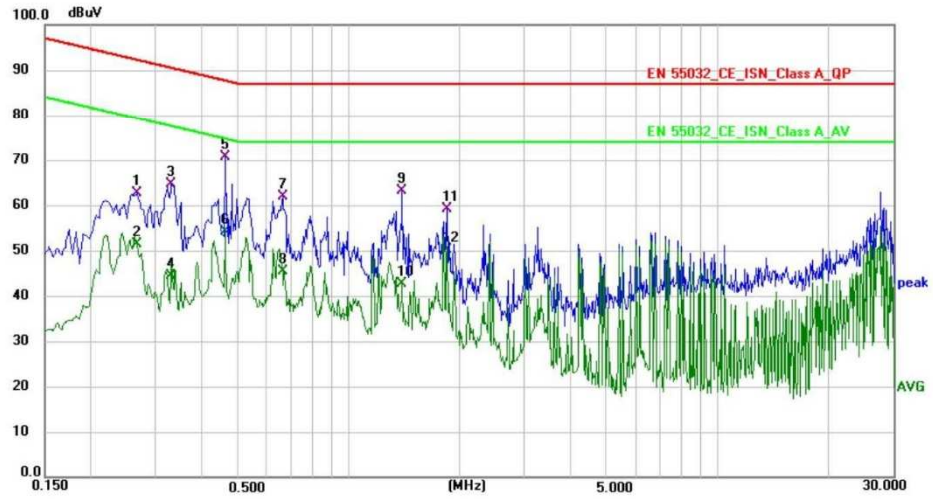
Appendix A.2: Test Results of Conducted Emission on Network Port

Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-Shielded Room	Phase:	Temperature: 26 ℃
EUT:		Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A	Test Engineer: Jensen Wang	
Test Mode: Mode 1		
Test Voltage: DC 24V		
Note:		

Conducted Emission Measurement

Test Date: 2026/6/26 14:42:41



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2660	53.21	9.40	62.61	92.24	-29.63	QP	P	
2	0.2660	42.10	9.40	51.50	79.24	-27.74	AVG	P	
3	0.3300	55.15	9.40	64.55	90.45	-25.90	QP	P	
4	0.3300	34.90	9.40	44.30	77.45	-33.15	AVG	P	
5 *	0.4620	61.00	9.59	70.59	87.66	-17.07	QP	P	
6	0.4620	44.51	9.59	54.10	74.66	-20.56	AVG	P	
7	0.6620	52.33	9.46	61.79	87.00	-25.21	QP	P	
8	0.6620	36.03	9.46	45.49	74.00	-28.51	AVG	P	
9	1.4020	53.40	9.84	63.24	87.00	-23.76	QP	P	
10	1.4020	32.73	9.84	42.57	74.00	-31.43	AVG	P	
11	1.8500	49.19	9.88	59.07	87.00	-27.93	QP	P	
12	1.8500	40.25	9.88	50.13	74.00	-23.87	AVG	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

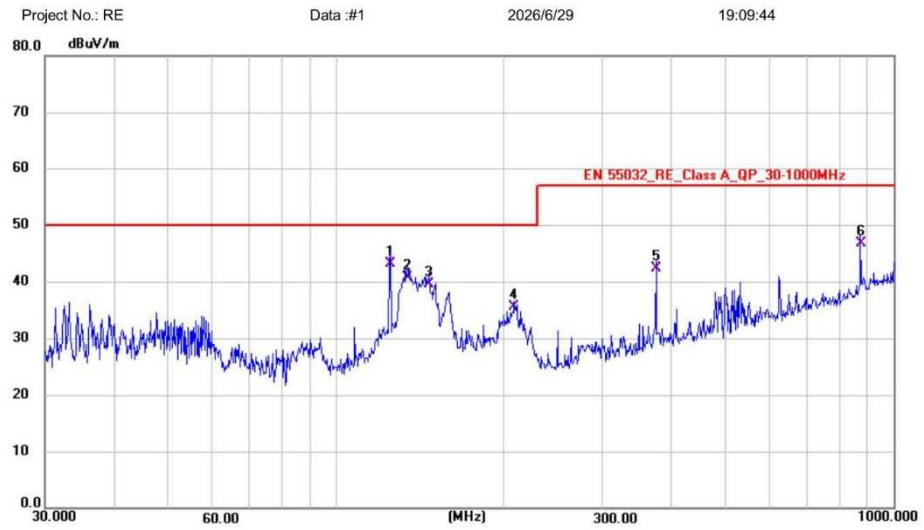
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Appendix A.3: Test Results of Radiated Emission, Below 1GHz

Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-3m Chamber	Polarization: ***Vertical***	Temperature: 26 ℃
EUT:	Distance: 3m	Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A	Test Engineer: Jensen Wang	
Test Mode: Mode 1		
Test Voltage: DC 24V		
Note:		

Radiated Emission Measurement



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1 *	125.0066	29.67	13.49	43.16	50.00	-6.84	QP	100	350	P	
2	134.5002	26.61	14.11	40.72	50.00	-9.28	QP	100	275	P	
3	146.8877	24.61	14.98	39.59	50.00	-10.41	QP	100	275	P	
4	208.9463	23.60	11.85	35.45	50.00	-14.55	QP	100	308	P	
5	375.1155	25.31	17.06	42.37	57.00	-14.63	QP	100	333	P	
6	875.2470	20.67	25.98	46.65	57.00	-10.35	QP	100	300	P	

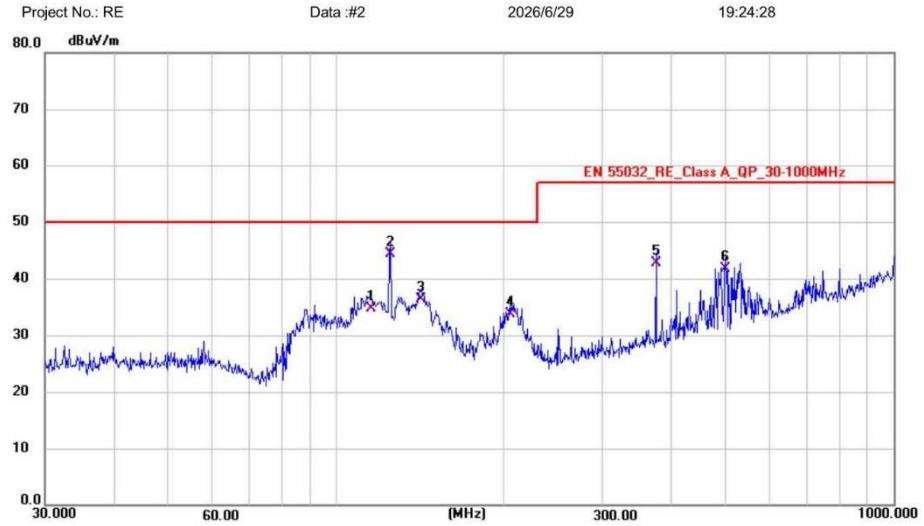
Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

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Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-3m Chamber	Polarization: ***Horizontal***	Temperature: 26 ℃
EUT:	Distance: 3m	Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A	Test Engineer: Jensen Wang	
Test Mode: Mode 1		
Test Voltage: DC 24V		
Note:		

Radiated Emission Measurement



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	115.9287	21.92	12.69	34.61	50.00	-15.39	QP	200	360	P	
2 *	125.0066	30.91	13.49	44.40	50.00	-5.60	QP	200	234	P	
3	142.2620	21.74	14.64	36.38	50.00	-13.62	QP	200	9	P	
4	205.3148	21.91	11.70	33.61	50.00	-16.39	QP	200	117	P	
5	375.1155	25.63	17.06	42.69	57.00	-14.31	QP	200	225	P	
6	500.0818	21.86	19.82	41.68	57.00	-15.32	QP	200	42	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

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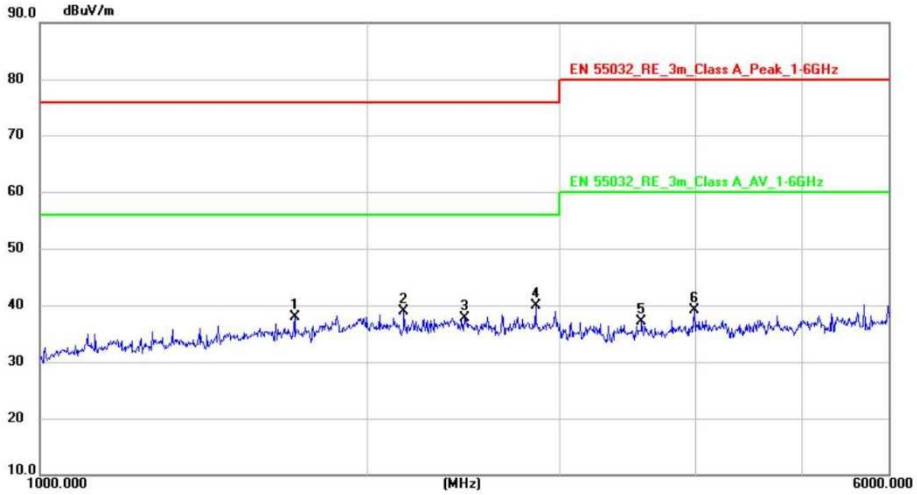
Appendix A.4: Test Results of Radiated Emission, Above 1GHz

Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-3m Chamber	Polarization: ***Vertical***	Temperature: 26 ℃
EUT:	Distance: 3m	Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A	Test Engineer: Jensen Wang	
Test Mode: Mode 1		
Test Voltage: DC 24V		
Note:		

Radiated Emission Measurement

Project No.: RE Data :#3 2026/6/29 19:39:48



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1712.537	60.81	-22.92	37.89	76.00	-38.11	peak	150	24	P	
2	2160.269	60.50	-21.63	38.87	76.00	-37.13	peak	150	337	P	
3	2452.784	59.01	-21.30	37.71	76.00	-38.29	peak	150	180	P	
4 *	2851.175	60.82	-20.86	39.96	76.00	-36.04	peak	150	341	P	
5	3564.520	56.88	-19.85	37.03	80.00	-42.97	peak	150	356	P	
6	3987.794	58.23	-19.21	39.02	80.00	-40.98	peak	150	46	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

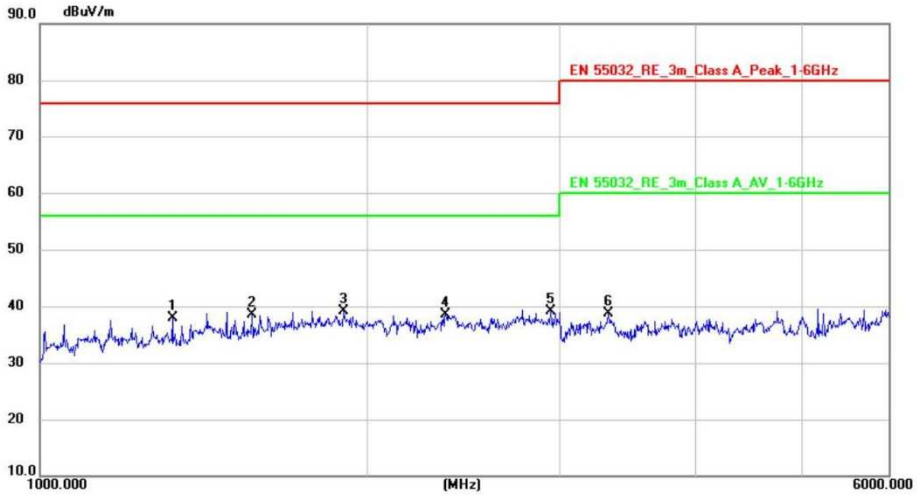
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Shenzhen PSI Testing Co., Ltd.
1-2F, Building 5, Yudafu Industrial Park, No. 10, Xingye West Road,
Shajing Street, Bao'an District, Shenzhen, Guangdong, China 518104

Test Site: PSI EMC Lab-3m Chamber	Polarization: ***Horizontal***	Temperature: 26 ℃
EUT:	Distance: 3m	Humidity: 54 %RH
M/N: MRDVS-V2358-6BE-940A	Test Engineer: Jensen Wang	
Test Mode: Mode 1		
Test Voltage: DC 24V		
Note:		

Radiated Emission Measurement

Project No.: RE Data :#4 2026/6/29 19:51:04



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	1323.080	62.28	-24.44	37.84	76.00	-38.16	peak	100	83	P	
2	1566.137	62.04	-23.49	38.55	76.00	-37.45	peak	100	30	P	
3	1900.509	61.20	-22.19	39.01	76.00	-36.99	peak	100	145	P	
4	2358.507	59.93	-21.41	38.52	76.00	-37.48	peak	100	275	P	
5 *	2942.652	59.81	-20.76	39.05	76.00	-36.95	peak	100	8	P	
6	3326.919	59.00	-20.21	38.79	80.00	-41.21	peak	100	82	P	

Note: *:Maximum data x:Over limit !:over margin Level = Reading + Factor Margin = Level - Limit

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