TEST REPORT

Application No.:	KSEM2407001940AT
Applicant:	Qingdao MicroSense Intelligent Technology Co.,Ltd.
Address of Applicant:	Room 803, Floor 8, Building F, Innovation Park II, No.1, Keyuan Wei 1st Road, Laoshan District, Qingdao, Shandong, China
Manufacturer:	Qingdao MicroSense Intelligent Technology Co.,Ltd.
Address of Manufacturer:	Room 803, Floor 8, Building F, Innovation Park II, No.1, Keyuan Wei 1st Road, Laoshan District, Qingdao, Shandong, China
Factory:	Qingdao MicroSense Intelligent Technology Co.,Ltd.
Address of Factory:	Room 803, Floor 8, Building F, Innovation Park II, No.1, Keyuan Wei 1st Road, Laoshan District, Qingdao, Shandong, China
Equipment Under Test (EUT):	
EUT Name:	3D TOF CAMERA
Model No.:	DS86, DS87
Trade Mark:	Vzense
Standard(s) :	EN IEC 61000-6-4: 2019
	EN IEC 61000-6-2: 2019
Date of Receipt:	2023-07-03
Date of Test:	2023-07-07 to 2023-07-14
Date of Issue:	2024-08-07
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Revision Record			
Version	**Description**	***Date***	***Remark***
00	Co-license	2024-08-07	Based on KSEM230600147201

Authorized for issue by:				
Tested By		Lee. Li **Lee Li /Project Engineer**		
Approved By		Terry Hou **Terry Hou /Reviewer**		

2 Test Summary

Emission Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Conducted Emissions at DC Power Port (150kHz-30MHz)	EN IEC 61000-6-4: 2019	CISPR 16-2-1	Table A.1	Pass
Conducted Emissions at Wired Network Port (150kHz-30MHz)		CISPR 32	Table 5	Pass
Radiated Emissions (30MHz-1GHz)		CISPR 16-2-3	Table 3	Pass
Radiated Emissions (Above 1GHz)		CISPR 16-2-3	Table 3	Pass

Immunity Part				
Item	**Standard**	**Method**	**Requirement**	**Result**
Electrostatic Discharge	EN IEC 61000-6-2: 2019	EN 61000-4-2:2009	±4kV Contact Discharge, ±8kV Air Discharge	Pass
Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz)		EN IEC 61000-4-3: 2020	80MHz to 1GHz 10V/m, 80%, 1kHz Amp. Mod. 1.4 to 6GHz 3V/m, 80%, 1kHz Amp. Mod.	Pass
Electrical Fast Transients Burst at DC Power Port		EN 61000-4-4:2012	1kV 5/50ns Tr/Td 5kHz or 100kHz Repetition Frequency	Pass
Electrical Fast Transients Burst at Signal Port		EN 61000-4-4:2012	1kV 5/50ns Tr/Td 5kHz or 100kHz Repetition Frequency	Pass
Surge at DC Power Port		EN 61000-4-5:2014+A1:2017	1.2/50μs Tr/Td , 0.5kV Line to Line , 1kV Line to Ground	Pass
Surge at Signal Port		EN 61000-4-5:2014+A1:2017	1.2/50μs Tr/Td , 1kV Line to Ground	Pass
Conducted Immunity at DC Power Port (150kHz-80MHz)		EN 61000-4-6:2014	10Vrms (emf),80%,1kHz Amp. Mod.	Pass
Conducted Immunity at Signal Port (150kHz-80MHz)		EN 61000-4-6:2014	10Vrms (emf),80%,1kHz Amp. Mod.	Pass
Power Frequency Magnetic Field		EN 61000-4-8:2010	50Hz/60Hz 30A/m	Pass

Note: This report was an additional report copied from the report KSEM230600147201, just changing the applicant, manufacturer and factory.

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	DC 12-24V

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Notebook	XIAOMI	Pro15	00342-35744-35614-AAOEM

4.3 Measurement Uncertainty & Decision Rule

Measurement Uncertainty:

No.	Item	Measurement Uncertainty (U_{LAB}) *	U_{CISPR}
1	Conducted Emission at mains port using AMN	2.4dB (9kHz to 150kHz)	3.8dB (9kHz to 150kHz)
		2.2dB (150kHz to 30MHz)	3.4dB (150kHz to 30MHz)
2	Conducted Emission at telecommunication port using AAN	4.0 dB (150kHz to 30MHz)	5.0dB (150kHz to 30MHz)
3	Radiated Power	3.2dB	4.5dB (30MHz to 300MHz)
4	Radiated Emission (10m)	4.1 dB	6.3dB (30MHz-1GHz)
5	Radiated Emission (3m)	4.6 dB (30MHz-1GHz)	6.3dB (30MHz-1GHz)
		5.0dB (1GHz-6GHz)	5.2dB (1GHz-6GHz)
		5.2dB (6GHz-18GHz)	5.5dB (6GHz-18GHz)
		5.3dB (18GHz-40GHz)	N/A

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Decision Rule:

• CISPR 16-4-2 for emission measurements is as below described.

Pass means the test result passed the test standard requirement, please find the detailed decision rule in the report relative section.

U_{LAB} less than U_{CISPR}, therefore:

– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit.

– non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

• For immunity testing no decision rule is applicable.

4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.6 Deviation from Standards

None

4.7 Abnormalities from Standard Conditions

None

5 Equipment List

Conducted Emissions at DC Power Port (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMI TEST RECEIVER	R&S	ESCI	KS301101	02/03/2023	02/02/2024
TWO-LINE V-NETWORK	R&S	ENV216	KS301197	01/17/2023	01/16/2024
V (V-LISN)	SCHWARZBECK	NNLK 8129	KS301091	01/17/2023	01/16/2024
Pulse LIMITER	R&S	ESH3-Z2	KUS1902E001	01/17/2023	01/16/2024
Software	Faratronic	EZ_EMC-v 3A1	N/A	N/A	N/A

Conducted Emissions at Wired Network Port (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMI TEST RECEIVER	R&S	ESCI	KS301101	02/03/2023	02/02/2024
TWO-LINE V-NETWORK	R&S	ENV216	KS301197	01/17/2023	01/16/2024
V (V-LISN)	SCHWARZBECK	NNLK 8129	KS301091	01/17/2023	01/16/2024
Pulse LIMITER	R&S	ESH3-Z2	KUS1902E001	01/17/2023	01/16/2024
CISPR22 FOUR BALANCED TELECOM PARIS ISN	FCC	FCC-TLISN-T2-02	KS301144	01/17/2023	01/16/2024
COUPLING AND DECOUPLING NETWORK	TESEQ	ISN ST08	KS301171	01/17/2023	01/16/2024
IMPEDANCE STABILIZATION NETWORK	TESEQ	ISN T800	KS301185	01/17/2023	01/16/2024
IMPEDANCE STABILIZATION NETWORK	TESEQ	ISN T8-CAT6	KS301285	01/17/2023	01/16/2024
RF CURRENT PROBE	FCC	F-65A	CZ301012	01/17/2023	01/16/2024
Software	Faratronic	EZ_EMC-v 3A1	N/A	N/A	N/A

Radiated Emissions (30MHz-1GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMI Test Receiver	R&S	ESCI	KS301196	08/22/2022	08/21/2023
Antenna	TESEQ	CBL 6112D	KUS1806E006	03/05/2022	03/04/2024
Software	Faratronic	EZ_EMC v 3A1	N/A	N/A	N/A

Radiated Emissions (Above 1GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Spectrum Analyzer	R&S	FSU26	KS301206	03/16/2023	03/15/2024
Preamplifier	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-2	01/17/2023	01/16/2024
Horn-antenna	SCHWARZBECK	BBHA9120D	KS301079	04/02/2022	04/01/2024

Software	Faratronic	EZ_EMC-v 3A1	N/A	N/A	N/A

Electrostatic Discharge					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
ESD Simulator	EM TEST	DITO 509030	KS301147	02/06/2023	02/05/2024

Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Synthesized Signal Generator	AGILENT	83732B	KS301183	02/03/2023	02/02/2024
Laser probe interface	AR Worldwide	FI7000	KS301193-2	03/21/2023	03/20/2024
E-Field Sensor	AR Worldwide	FL7006 100K-6G	KS301193-1	03/21/2023	03/20/2024
Amplifier Research (80~1000MHz 150w)	AR Worldwide	150W1000M1	KS301139	08/22/2022	08/21/2023
Amplifier Research (1~6GHz 50w)	AR Worldwide	50S1G6M1	KS301231	08/22/2022	08/21/2023
Dual Directional Coupler (1-11G)	AR Worldwide	C1-A47NFNF 35dB	KS301193-5	N.C.R	N.C.R
Dual Directional Coupler (80~1000MHz 400w)	AR Worldwide	DC6180	KS301193-6	N.C.R	N.C.R
RF POWER METER	BOONTON	4232A-01	KS301022	02/03/2023	02/02/2024
POWER SENSOR	BOONTON	51085	H3010235-1	02/03/2023	02/02/2024
POWER SENSOR	BOONTON	51085	H3010235-2	02/03/2023	02/02/2024
Antenna	AR Worldwide	TP1000A	CZ301029	N.C.R	N.C.R
Software	AR	emc ware-v 3.2.0.4	N/A	N/A	N/A

Electrical Fast Transients Burst at DC Power Port					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMC Immunity Tester	EMC PARTNER	Transient2000	KS301188-1	08/22/2022	08/21/2023
Coupling Network	EMC PARTNER	CN-EFT1000	KS301188-3	08/22/2022	08/21/2023
Burst Generator	SANKI	EFT-0404S	KUS2009M002-7	03/31/2023	03/30/2024
Coupling and Decoupling Network	SANKI	CDN-4350	KUS2009M002-8	03/31/2023	03/30/2024

Electrical Fast Transients Burst at Signal Port					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMC Immunity Tester	EMC PARTNER	Transient2000	KS301188-1	08/22/2022	08/21/2023
Coupling Network	EMC PARTNER	CN-EFT1000	KS301188-3	08/22/2022	08/21/2023
Burst Generator	SANKI	EFT-0404S	KUS2009M002-7	03/31/2023	03/30/2024
Coupling and Decoupling	SANKI	CDN-4350	KUS2009M002-8	03/31/2023	03/30/2024

Network					

Surge at DC Power Port					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMC Immunity Tester	EMC PARTNER	TRA2006	KS301188-1	08/22/2022	08/21/2023
Coupling and Decoupling Network	EMC PARTNER	CDN-UTP8	KS301188-2	08/22/2022	08/21/2023
Surge Generator	SANKI	LSG-0506S	KUS2009M002-5	03/31/2023	03/30/2024
Coupling and Decoupling Network	SANKI	CDN-5350	KUS2009M002-6	03/31/2023	03/30/2024

Surge at Signal Port					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMC Immunity Tester	EMC PARTNER	TRA2006	KS301188-1	08/22/2022	08/21/2023
Coupling and Decoupling Network	EMC PARTNER	CDN-UTP8	KS301188-2	08/22/2022	08/21/2023
Surge Generator	SANKI	LSG-0506S	KUS2009M002-5	03/31/2023	03/30/2024
Coupling and Decoupling Network	SANKI	CDN-5350	KUS2009M002-6	03/31/2023	03/30/2024

Conducted Immunity at DC Power Port (150kHz-80MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Test System for Conducted and Radiated Immunity	TESEQ	NSG 4070B	KSZ201705E003	02/03/2023	02/02/2024
Amplifier	TESEQ	SCCXE75	KSZ201705E004	02/03/2023	02/02/2024
EM-Koppelzange	SCHAFFNER	KEMZ 801	CZ301002	02/03/2023	02/02/2024
Attenuator	EURO MC	7860 ORGEVAL	CZ301084	03/16/2023	03/15/2024
Directional Coupler	HIGH POWER	C21A8	CZ750021	09/06/2022	09/05/2023
CDN（Coupling and Decoupling Network)	SCHAFFNER	CDN M216	CZ301085	03/16/2023	03/15/2024
CDN（Coupling and Decoupling Network)	SCHAFFNER	CDN M316	CZ301025	03/16/2023	03/15/2024
CDN（Coupling and Decoupling Network)	TESEQ	CDN S751	KS301184-2	03/16/2023	03/15/2024
CDN（Coupling and Decoupling Network)	TESEQ	CDN M116	KS301184-1	03/16/2023	03/15/2024
CDN	TESEQ	CDN T2-10S	KS301286	03/16/2023	03/15/2024
CDN	TESEQ	CDN T4-10S	KS301287	03/16/2023	03/15/2024
CDN	TESEQ	CDN T8-10S	KS301288	03/16/2023	03/15/2024

Current Clamp	TESEQ	IP-DR250	KS201703E001	02/03/2023	02/02/2024
CDN	TESEQ	CDN M432	KUS2003M001-1	02/03/2023	02/02/2024
CDN	TESEQ	CDN M432-3LN	KUS2003M001-2	02/03/2023	02/02/2024
CDN	TESEQ	CDN M532	KUS2003M001-3	02/03/2023	02/02/2024
CDN	TESEQ	CDN M232	KSZ201706E001	03/16/2023	03/15/2024
CDN	TESEQ	CDN M332	KSZ201706E002	03/16/2023	03/15/2024
Software	TESEQ	NSG 4070-v 1.3.0.1	N/A	N/A	N/A

Conducted Immunity at Signal Port (150kHz-80MHz)					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Test System for Conducted and Radiated Immunity	TESEQ	NSG 4070B	KSZ201705E003	02/03/2023	02/02/2024
Amplifier	TESEQ	SCCXE75	KSZ201705E004	02/03/2023	02/02/2024
EM-Koppelzange	SCHAFFNER	KEMZ 801	CZ301002	02/03/2023	02/02/2024
Attenuator	EURO MC	7860 ORGEVAL	CZ301084	03/16/2023	03/15/2024
Directional Coupler	HIGH POWER	C21A8	CZ750021	09/06/2022	09/05/2023
CDN（Coupling and Decoupling Network)	SCHAFFNER	CDN M216	CZ301085	03/16/2023	03/15/2024
CDN（Coupling and Decoupling Network)	SCHAFFNER	CDN M316	CZ301025	03/16/2023	03/15/2024
CDN（Coupling and Decoupling Network)	TESEQ	CDN S751	KS301184-2	03/16/2023	03/15/2024
CDN（Coupling and Decoupling Network)	TESEQ	CDN M116	KS301184-1	03/16/2023	03/15/2024
CDN	TESEQ	CDN T2-10S	KS301286	03/16/2023	03/15/2024
CDN	TESEQ	CDN T4-10S	KS301287	03/16/2023	03/15/2024
CDN	TESEQ	CDN T8-10S	KS301288	03/16/2023	03/15/2024
Current Clamp	TESEQ	IP-DR250	KS201703E001	02/03/2023	02/02/2024
CDN	TESEQ	CDN M432	KUS2003M001-1	02/03/2023	02/02/2024
CDN	TESEQ	CDN M432-3LN	KUS2003M001-2	02/03/2023	02/02/2024
CDN	TESEQ	CDN M532	KUS2003M001-3	02/03/2023	02/02/2024
CDN	TESEQ	CDN M232	KSZ201706E001	03/16/2023	03/15/2024
CDN	TESEQ	CDN M332	KSZ201706E002	03/16/2023	03/15/2024

Software	TESEQ	NSG 4070-v 1.3.0.1	N/A	N/A	N/A

Power Frequency Magnetic Field					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
EMC Immunity Tester	EMC PARTNER	TRA2006	KS301188-1	08/22/2022	08/21/2023
Inductive Standard Coil	EMC PARTNER	MF1000-1	KS301188-4	08/22/2022	08/21/2023

General used equipment					
Equipment	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal Date**	**Cal Due Date**
Digital Pressure Meter	Mengde	DYM3	CZ750023	01/31/2023	01/30/2024
Temperature & Humidity Recorder	Anymetre	TH603	CZ720001-1 CZ720001-2 CZ720001-3 CZ720001-4 CZ720001-5 CZ720001-6 CZ720001-7	10/13/2022	10/12/2023

6 Emission Test Results

6.1 Conducted Emissions at DC Power Port (150kHz-30MHz)

Test Requirement: EN IEC 61000-6-4: 2019

Test Method: CISPR 16-2-1

Limit:

0.15MHz -0.5MHz	89dB(μV) quasi-peak, 76dB(μV) average
0.5MHz -30MHz	83dB(μV) quasi-peak, 70dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 150kHz to 30MHz
NOTE 1:	The lower limit is applicable at the transition frequency.

6.1.1 E.U.T. Operation

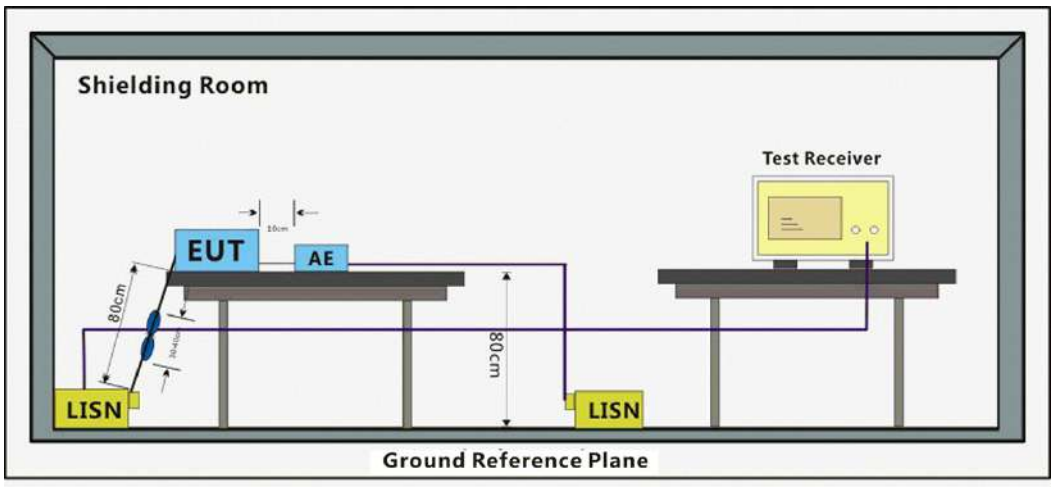
Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

6.1.3 Test Setup Diagram



6.1.4 Measurement Procedure and Data

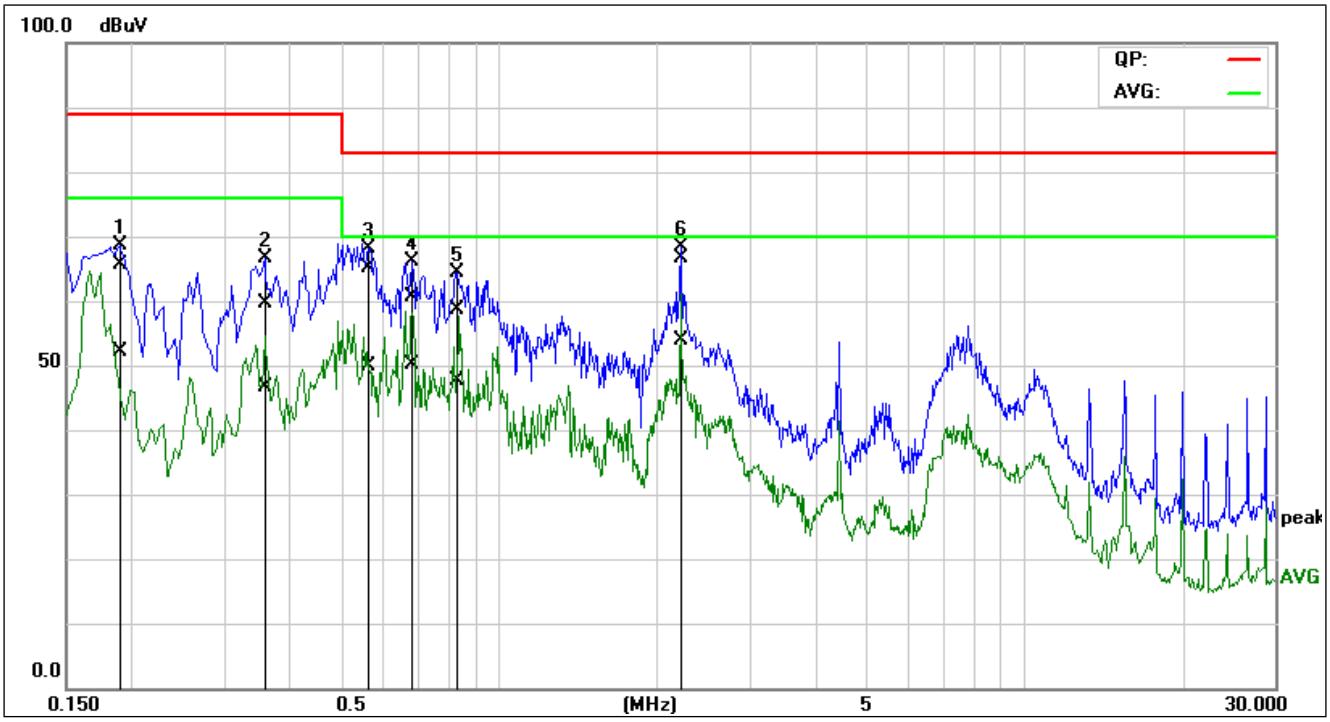
Frequency range: 150KHz-30MHz

An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

The red line show in graphic is the limit in standard used in this section.

Measured Level = Read level + Cable Loss + LISN Factor

Test Mode: 00; Line: Live line

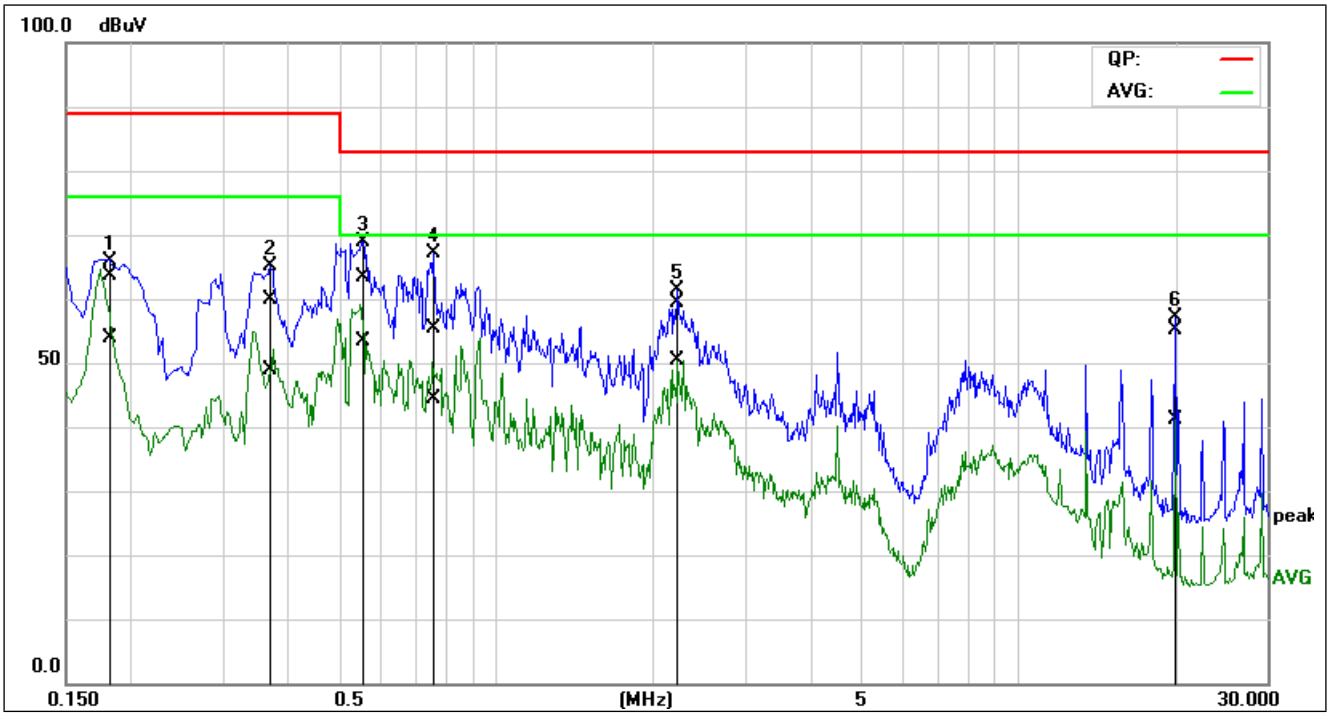


No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1861	45.51	32.13	20.07	65.58	52.20	89.00	76.00	-23.42	-23.80	Pass
2	0.3558	39.52	26.55	20.02	59.54	46.57	89.00	76.00	-29.46	-29.43	Pass
3	0.5555	45.05	29.97	20.01	65.06	49.98	83.00	70.00	-17.94	-20.02	Pass
4	0.6828	40.71	30.20	19.90	60.61	50.10	83.00	70.00	-22.39	-19.90	Pass
5	0.8262	38.81	27.62	19.90	58.71	47.52	83.00	70.00	-24.29	-22.48	Pass
6*	2.2193	46.66	33.85	20.08	66.74	53.93	83.00	70.00	-16.26	-16.07	Pass

Test Mode: 00; Line: Neutral Line

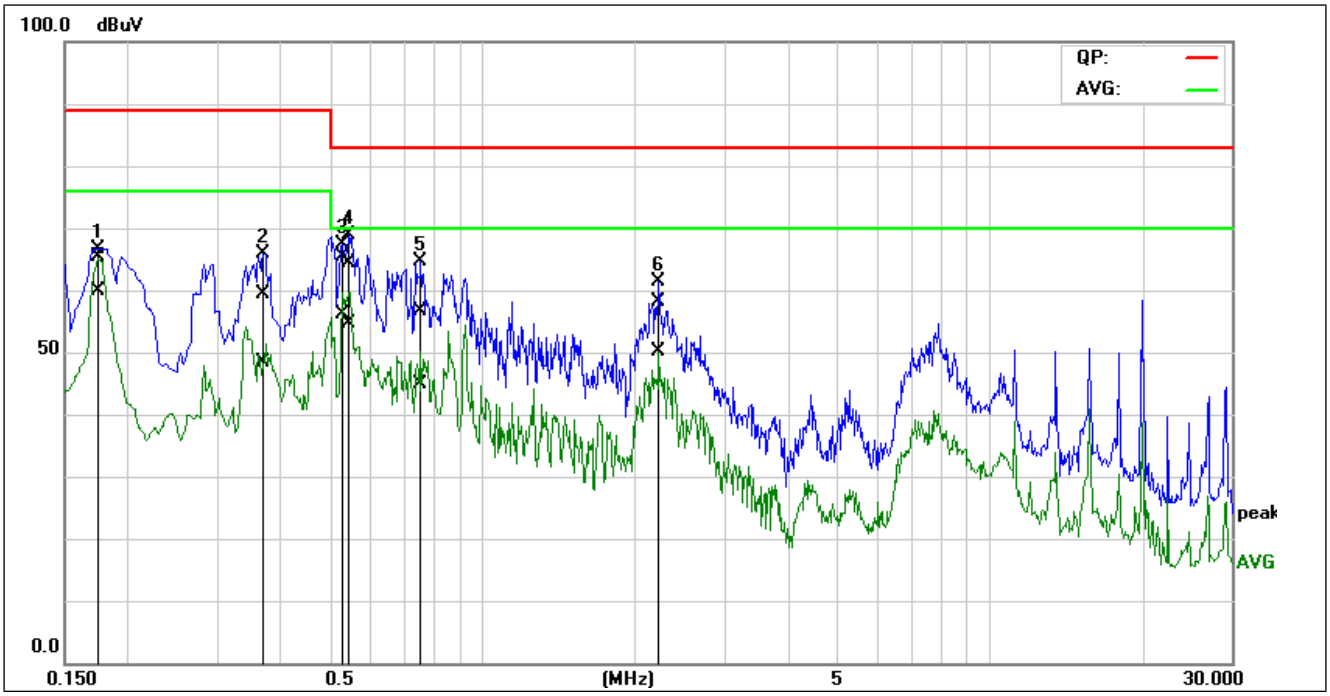
No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1675	45.64	39.38	20.22	65.86	59.60	89.00	76.00	-23.14	-16.40	Pass
2	0.2262	30.45	15.29	20.15	50.60	35.44	89.00	76.00	-38.40	-40.56	Pass
3*	0.5053	45.56	34.56	20.06	65.62	54.62	83.00	70.00	-17.38	-15.38	Pass
4	0.5619	44.75	29.27	20.01	64.76	49.28	83.00	70.00	-18.24	-20.72	Pass
5	0.6457	40.17	29.47	19.95	60.12	49.42	83.00	70.00	-22.88	-20.58	Pass
6	2.2235	46.90	33.67	20.01	66.91	53.68	83.00	70.00	-16.09	-16.32	Pass

Test Mode: 01; Line: Live line



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1836	43.63	33.75	20.08	63.71	53.83	89.00	76.00	-25.29	-22.17	Pass
2	0.3659	39.90	28.96	20.03	59.93	48.99	89.00	76.00	-29.07	-27.01	Pass
3*	0.5468	43.28	33.41	20.02	63.30	53.43	83.00	70.00	-19.70	-16.57	Pass
4	0.7573	35.42	24.52	19.90	55.32	44.42	83.00	70.00	-27.68	-25.58	Pass
5	2.2340	39.29	30.21	20.07	59.36	50.28	83.00	70.00	-23.64	-19.72	Pass
6	20.0060	35.13	21.14	19.99	55.12	41.13	83.00	70.00	-27.88	-28.87	Pass

Test Mode: 01; Line: Neutral Line



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1751	45.22	39.74	20.20	65.42	59.94	89.00	76.00	-23.58	-16.06	Pass
2	0.3691	39.32	28.26	20.12	59.44	48.38	89.00	76.00	-29.56	-27.62	Pass
3*	0.5212	45.38	35.99	20.04	65.42	56.03	83.00	70.00	-17.58	-13.97	Pass
4	0.5388	44.42	34.54	20.03	64.45	54.57	83.00	70.00	-18.55	-15.43	Pass
5	0.7524	36.67	25.01	19.92	56.59	44.93	83.00	70.00	-26.41	-25.07	Pass
6	2.2300	38.11	30.03	20.01	58.12	50.04	83.00	70.00	-24.88	-19.96	Pass

6.2 Conducted Emissions at Wired Network Port (150kHz-30MHz)

Test Requirement: EN IEC 61000-6-4: 2019

Test Method: CISPR 32

Limit:

0.15MHz -0.5MHz	97 to 87dB(μV) quasi-peak, 84 to 74dB(μV) average
0.5MHz -30MHz	87dB(μV) quasi-peak, 74dB(μV) average
Detector:	Peak for pre-scan (9kHz resolution bandwidth) 150kHz to 30MHz
NOTE 1:	The lower limit is applicable at the transition frequency.

6.2.1 E.U.T. Operation

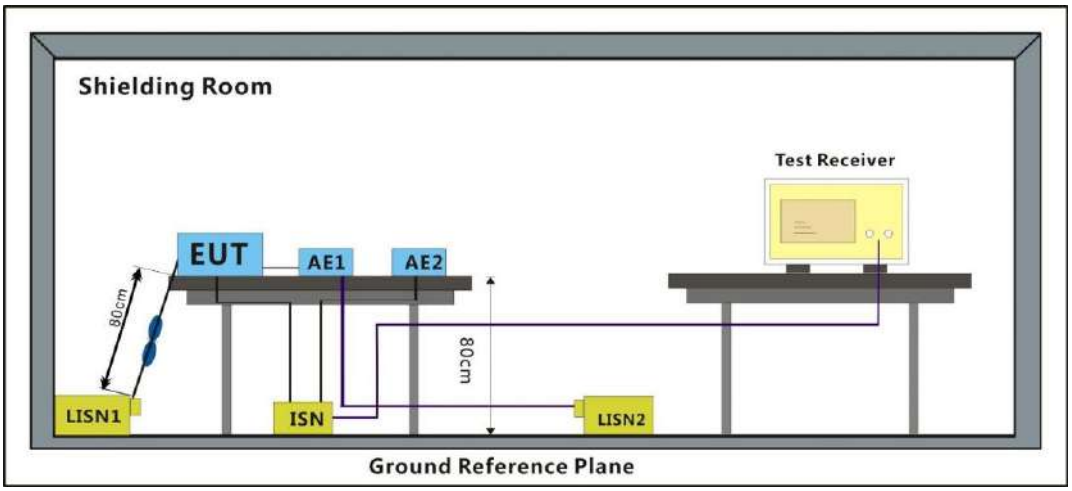
Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

6.2.3 Test Setup Diagram



6.2.4 Measurement Procedure and Data

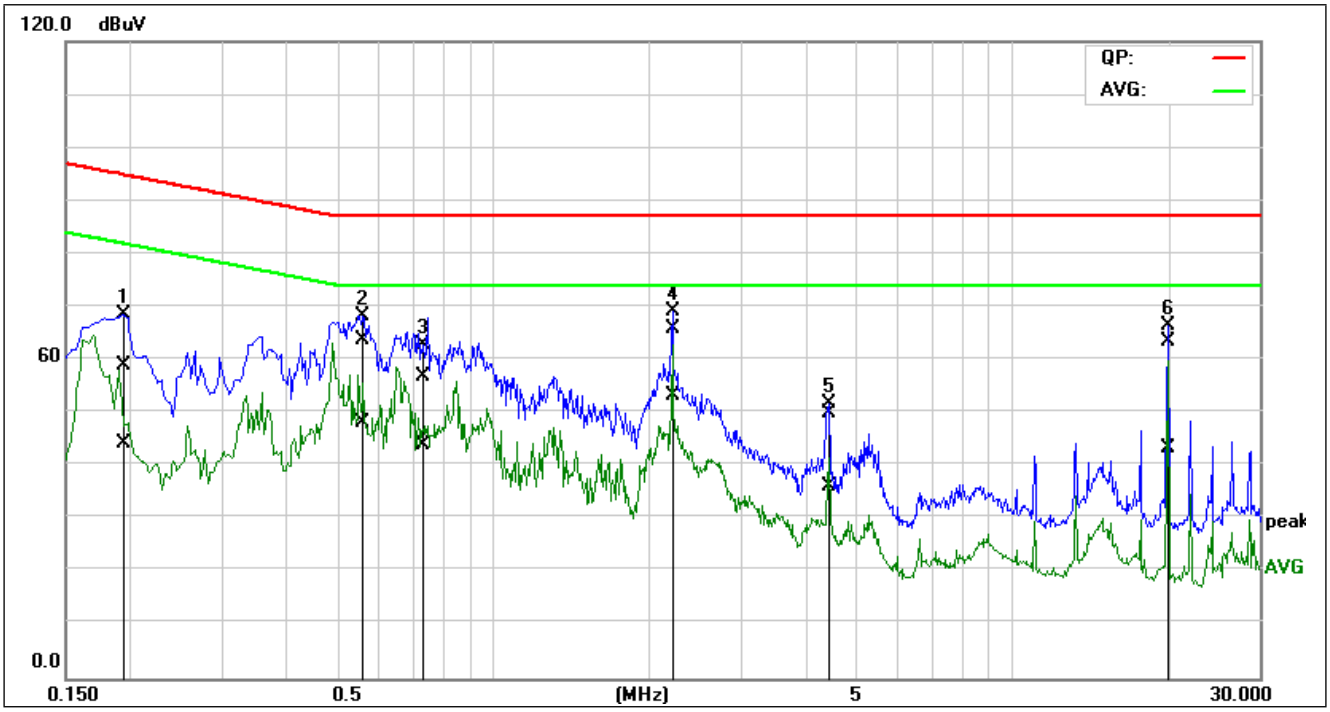
Frequency range: 150KHz-30MHz

An initial pre-scan was performed with peak detector.Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

The red line show in graphic is the limit in standard used in this section.

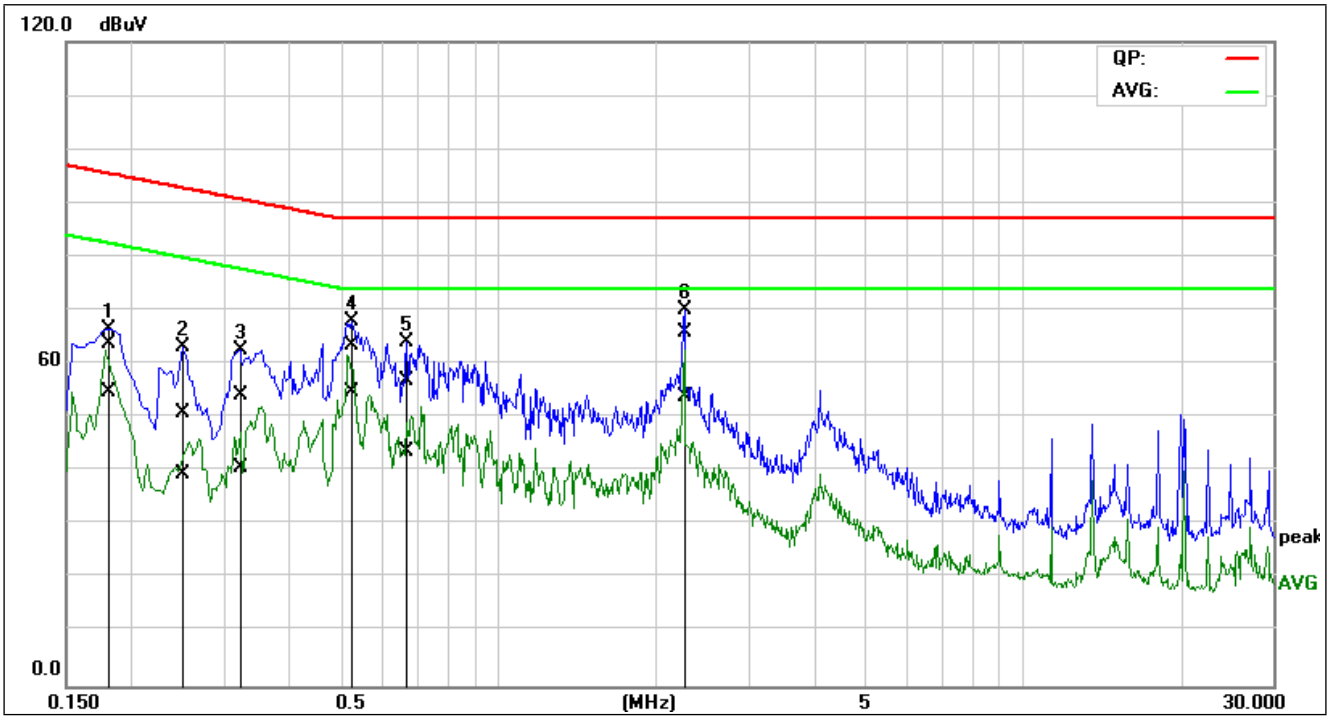
Measured Level = Read level + Cable Loss + ISN Factor

Test Mode: 00



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1957	39.05	24.43	19.95	59.00	44.38	94.79	81.79	-35.79	-37.41	Pass
2	0.5560	43.68	28.15	19.98	63.66	48.13	87.00	74.00	-23.34	-25.87	Pass
3	0.7319	36.74	24.05	20.03	56.77	44.08	87.00	74.00	-30.23	-29.92	Pass
4*	2.2108	45.81	33.14	20.14	65.95	53.28	87.00	74.00	-21.05	-20.72	Pass
5	4.4174	29.87	16.16	20.06	49.93	36.22	87.00	74.00	-37.07	-37.78	Pass
6	20.0000	43.20	23.12	20.23	63.43	43.35	87.00	74.00	-23.57	-30.65	Pass

Test Mode: 01



No.	Frequency	QuasiPeak reading	Average reading	Correction factor	QuasiPeak result	Average result	QuasiPeak limit	Average limit	QuasiPeak margin	Average margin	Remark
	(MHz)	(dBuV)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dBuV)	(dB)	(dB)	
1	0.1828	43.66	34.76	19.96	63.62	54.72	95.36	82.36	-31.74	-27.64	Pass
2	0.2482	30.94	19.48	19.95	50.89	39.43	92.82	79.82	-41.93	-40.39	Pass
3	0.3181	34.08	20.86	19.94	54.02	40.80	90.76	77.76	-36.74	-36.96	Pass
4*	0.5250	43.61	34.83	19.96	63.57	54.79	87.00	74.00	-23.43	-19.21	Pass
5	0.6617	36.83	23.60	20.02	56.85	43.62	87.00	74.00	-30.15	-30.38	Pass
6	2.2612	45.82	33.74	20.14	65.96	53.88	87.00	74.00	-21.04	-20.12	Pass

6.3 Radiated Emissions (30MHz-1GHz)

Test Requirement: EN IEC 61000-6-4: 2019

Test Method: CISPR 16-2-3

Limit:

Test Distance:	3m
30MHz-230MHz	50 dB(μV/m) quasi-peak
230MHz-1GHz	57 dB(μV/m) quasi-peak
Detector:	Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz

6.3.1 E.U.T. Operation

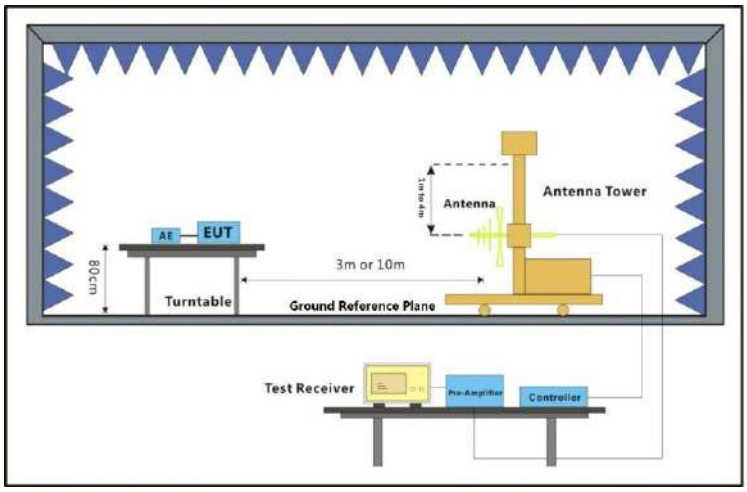
Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

6.3.3 Test Setup Diagram



6.3.4 Measurement Procedure and Data

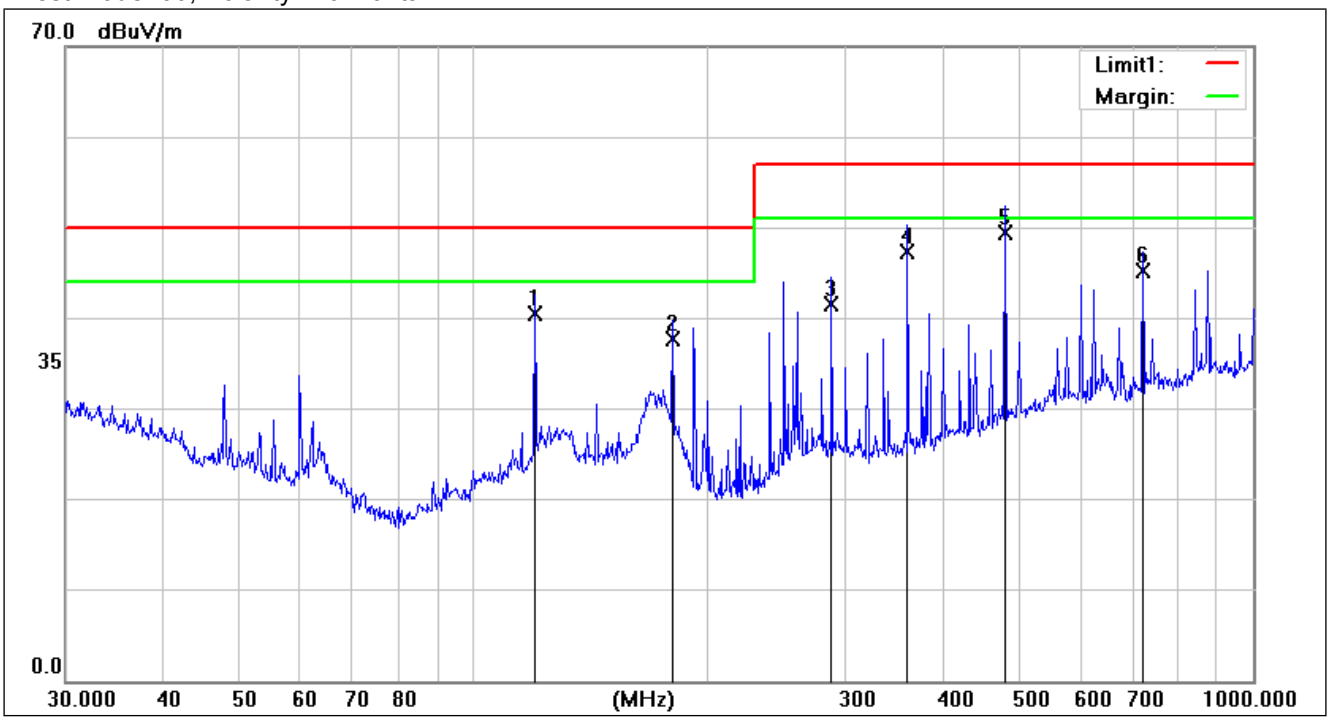
Frequency range: 30MHz-1GHz

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

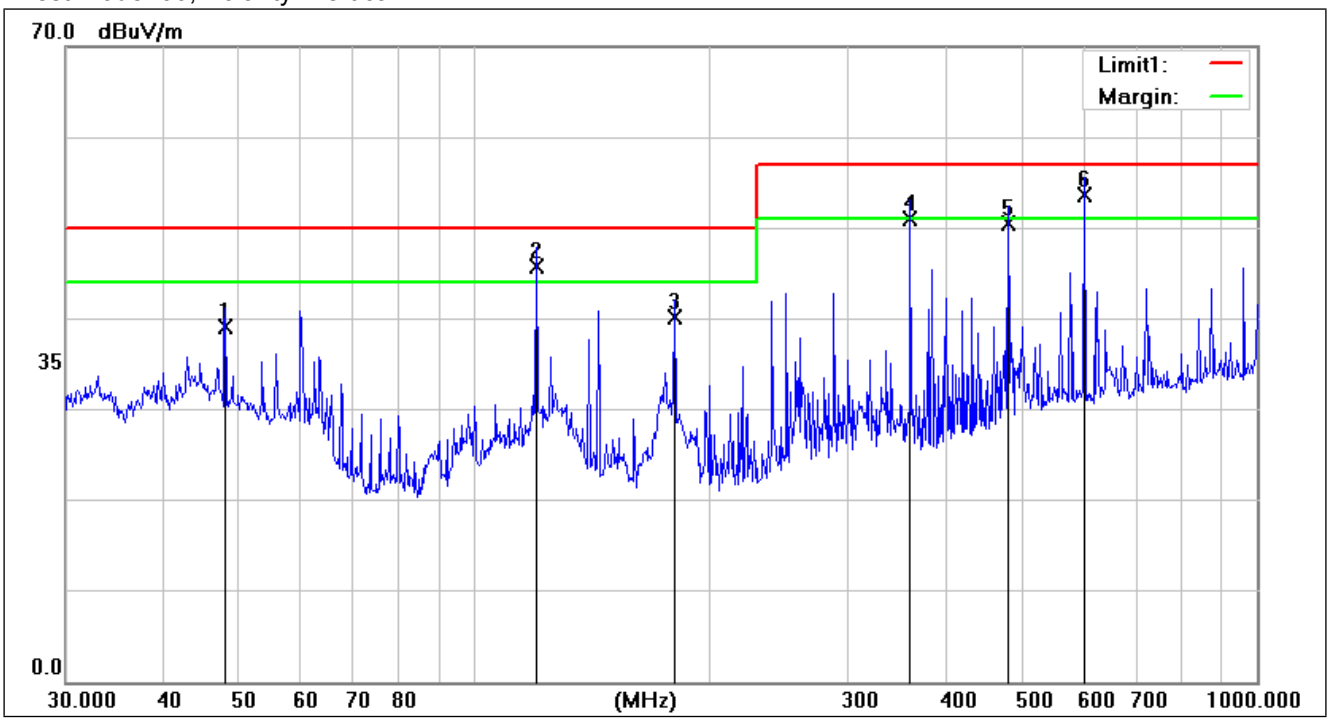
Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor

Test Mode: 00; Polarity: Horizontal



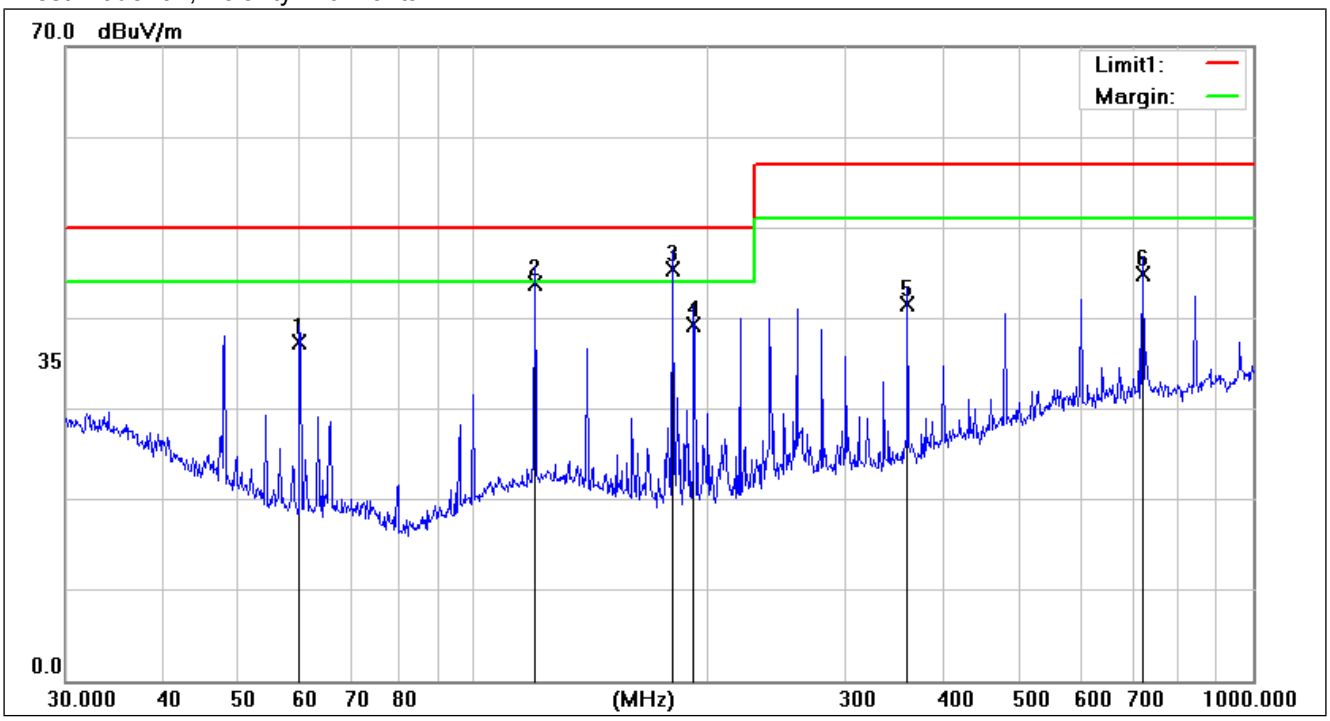
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	119.8556	21.16	19.41	40.57	50.00	-9.43	200	360	QP
2	180.0165	21.07	16.66	37.73	50.00	-12.27	200	79	QP
3	287.9904	21.19	20.40	41.59	57.00	-15.41	100	262	QP
4	360.4477	25.15	22.19	47.34	57.00	-9.66	100	45	QP
5	480.5276	24.23	25.22	49.45	57.00	-7.55	200	63	QP
6	721.7259	17.29	27.97	45.26	57.00	-11.74	100	73	QP

Test Mode: 00; Polarity: Vertical



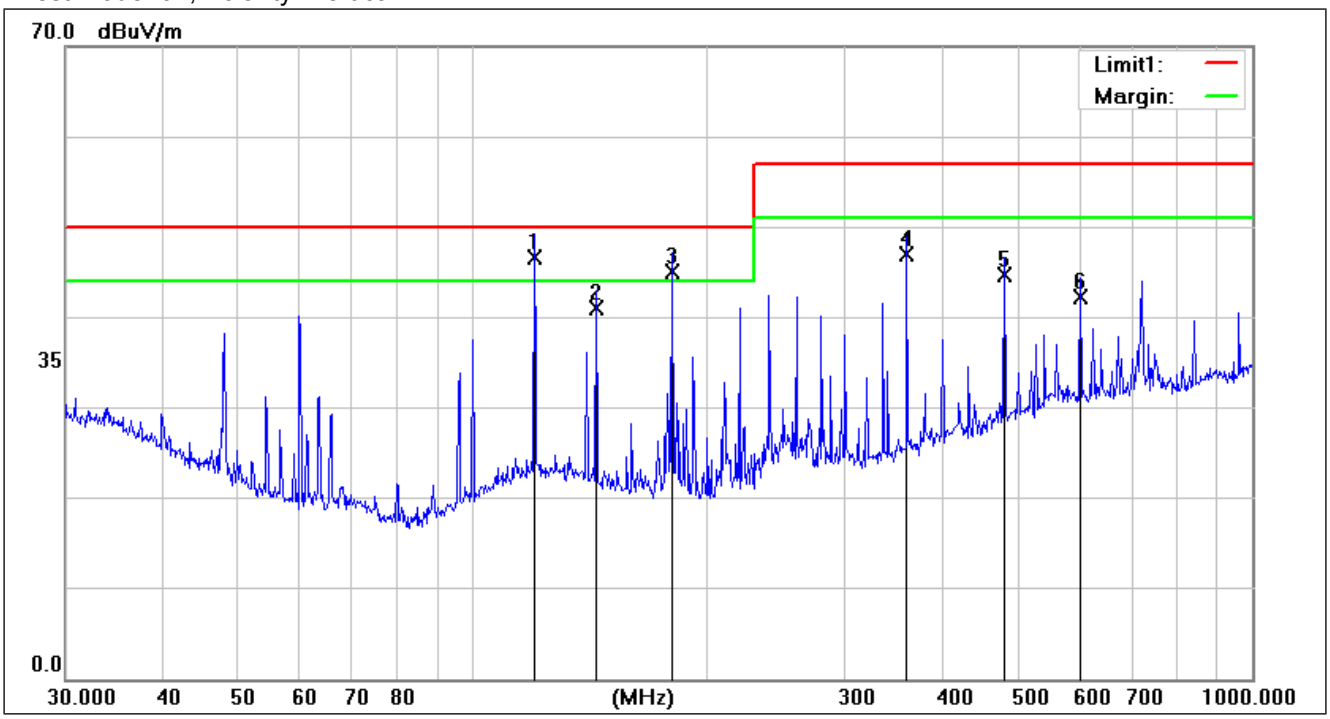
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	47.9940	20.57	18.57	39.14	50.00	-10.86	100	2	QP
2	119.8556	26.38	19.41	45.79	50.00	-4.21	100	87	QP
3	180.0165	23.43	16.66	40.09	50.00	-9.91	200	80	QP
4	360.4477	28.91	22.19	51.10	57.00	-5.90	200	360	QP
5	480.5276	25.25	25.22	50.47	57.00	-6.53	100	2	QP
6	601.4265	26.40	27.17	53.57	57.00	-3.43	100	220	QP

Test Mode: 01; Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	59.8588	22.27	15.01	37.28	50.00	-12.72	100	336	QP
2	119.8556	24.41	19.41	43.82	50.00	-6.18	100	60	QP
3	180.0165	28.83	16.66	45.49	50.00	-4.51	100	40	QP
4	191.7450	22.97	16.39	39.36	50.00	-10.64	200	53	QP
5	360.4477	19.35	22.19	41.54	57.00	-15.46	200	149	QP
6	721.7259	16.85	27.97	44.82	57.00	-12.18	100	299	QP

Test Mode: 01; Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	119.9956	27.24	19.41	46.65	50.00	-3.35	200	210	QP
2	143.8294	22.75	18.20	40.95	50.00	-9.05	200	140	QP
3	180.0165	28.42	16.66	45.08	50.00	-4.92	100	360	QP
4	360.4476	24.79	22.19	46.98	57.00	-10.02	100	359	QP
5	480.5276	19.49	25.22	44.71	57.00	-12.29	200	43	QP
6	601.4265	15.12	27.17	42.29	57.00	-14.71	100	359	QP

6.4 Radiated Emissions (Above 1GHz)

Test Requirement: EN IEC 61000-6-4: 2019

Test Method: CISPR 16-2-3

Limit:

Test Distance:	3m
1GHz-3GHz:	76 dB(μV/m) peak; 56 dB(μV/m) average
3GHz-6GHz:	80 dB(μV/m) peak; 60 dB(μV/m) average
Detector:	Peak for pre-scan (1000kHz resolution bandwidth) 1GHz to 6GHz

6.4.1 E.U.T. Operation

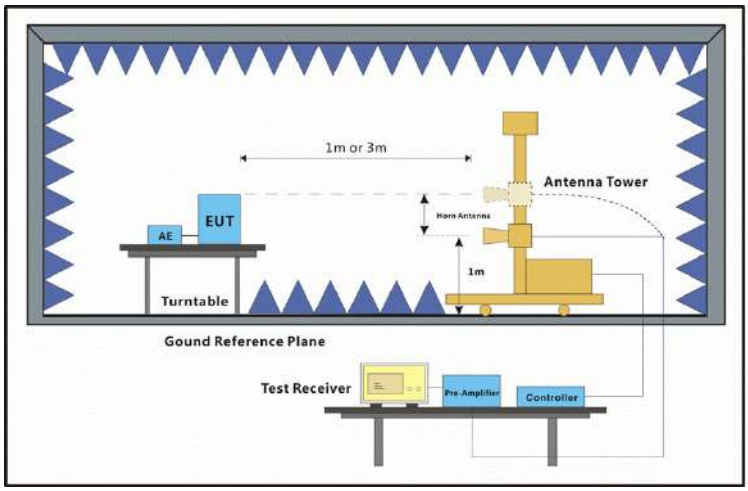
Operating Environment:

Temperature: 22.2 °C Humidity: 50.5 % RH Atmospheric Pressure: 1010 mbar

6.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

6.4.3 Test Setup Diagram



6.4.4 Measurement Procedure and Data

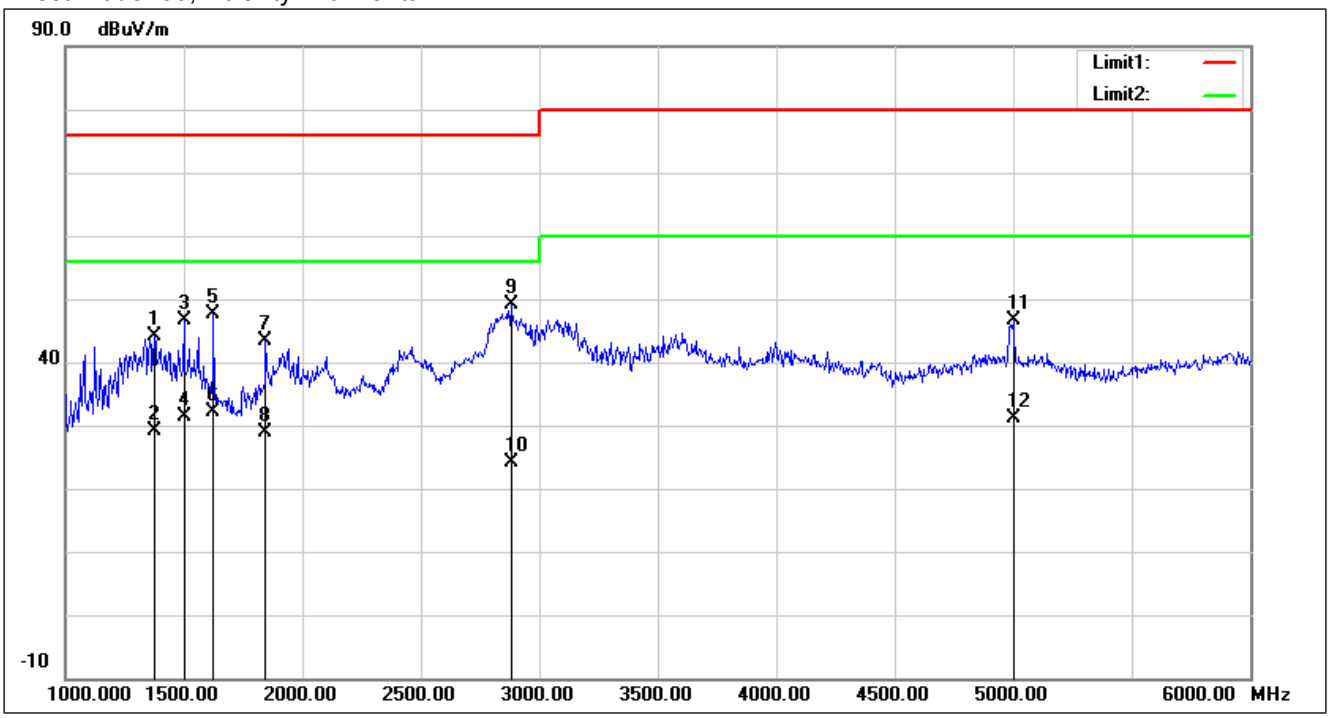
Frequency Range: Above 1GHz

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

The red line show in graphic is the limit in standard used in this section.

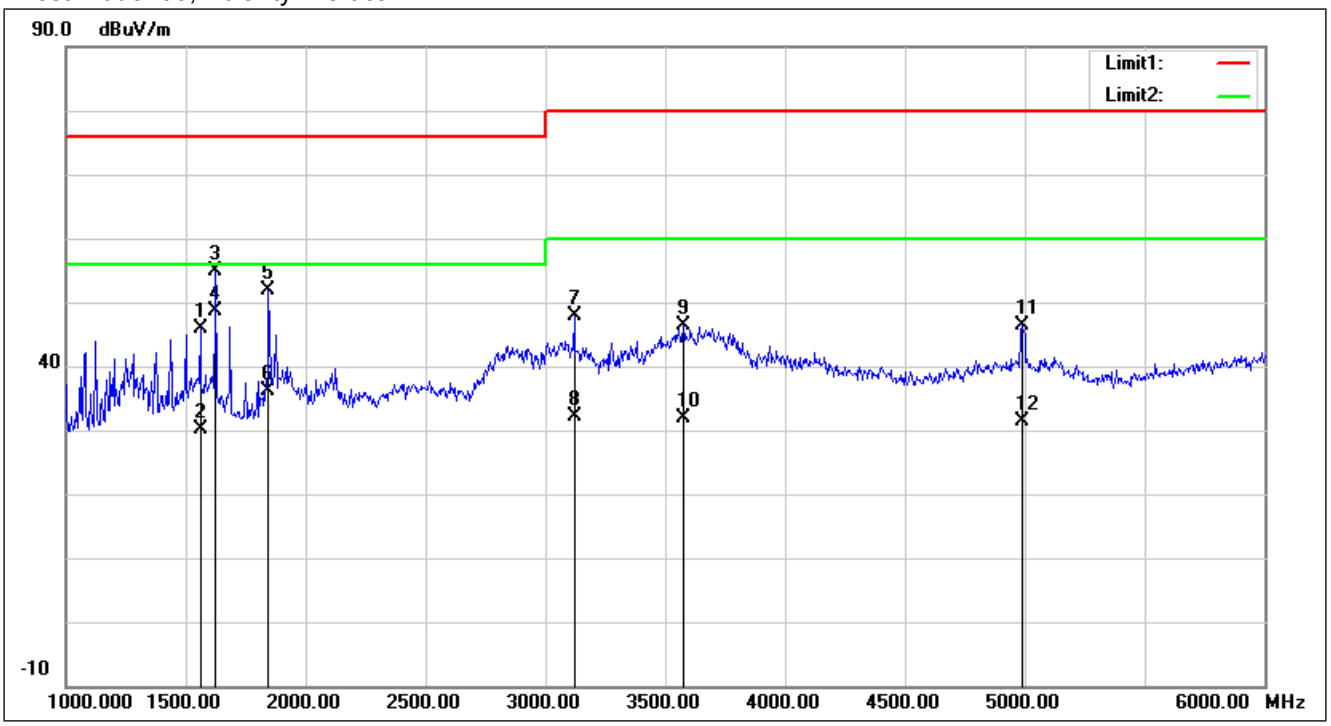
Level=Read Level + Antenna Factor + Cable Loss - Preamp Factor

Test Mode: 00; Polarity: Horizontal



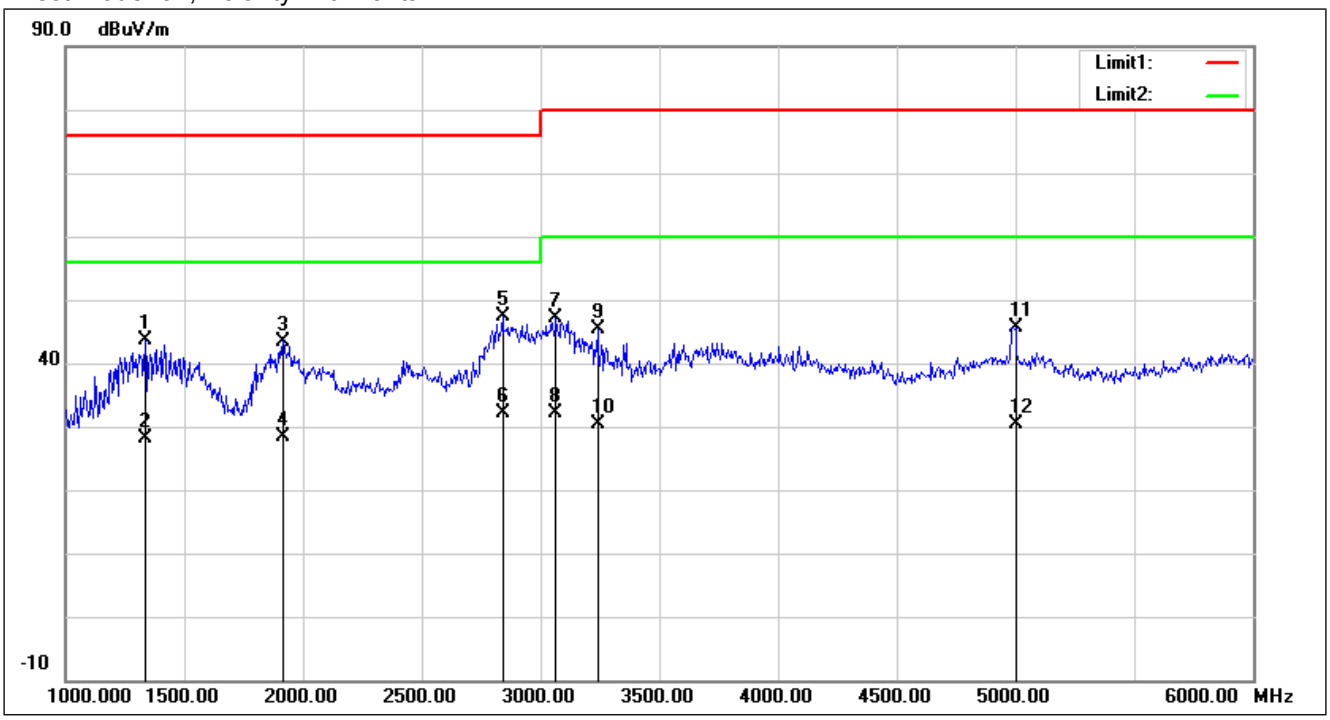
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	1375.000	65.81	-21.75	44.06	76.00	-31.94	100	320	peak
2	1375.000	50.88	-21.75	29.13	56.00	-26.87	100	320	AVG
3	1500.000	68.50	-21.97	46.53	76.00	-29.47	100	223	peak
4	1500.000	53.47	-21.97	31.50	56.00	-24.50	100	223	AVG
5	1625.000	69.95	-22.21	47.74	76.00	-28.26	100	293	peak
6	1625.000	54.34	-22.21	32.13	56.00	-23.87	100	293	AVG
7	1845.000	65.02	-21.72	43.30	76.00	-32.70	100	313	peak
8	1845.000	50.52	-21.72	28.80	56.00	-27.20	100	313	AVG
9	2880.000	66.97	-17.75	49.22	76.00	-26.78	100	330	peak
10	2880.000	41.95	-17.75	24.20	56.00	-31.80	100	330	AVG
11	5000.000	59.46	-12.84	46.62	80.00	-33.38	200	341	peak
12	5000.000	44.06	-12.84	31.22	60.00	-28.78	200	341	AVG

Test Mode: 00; Polarity: Vertical



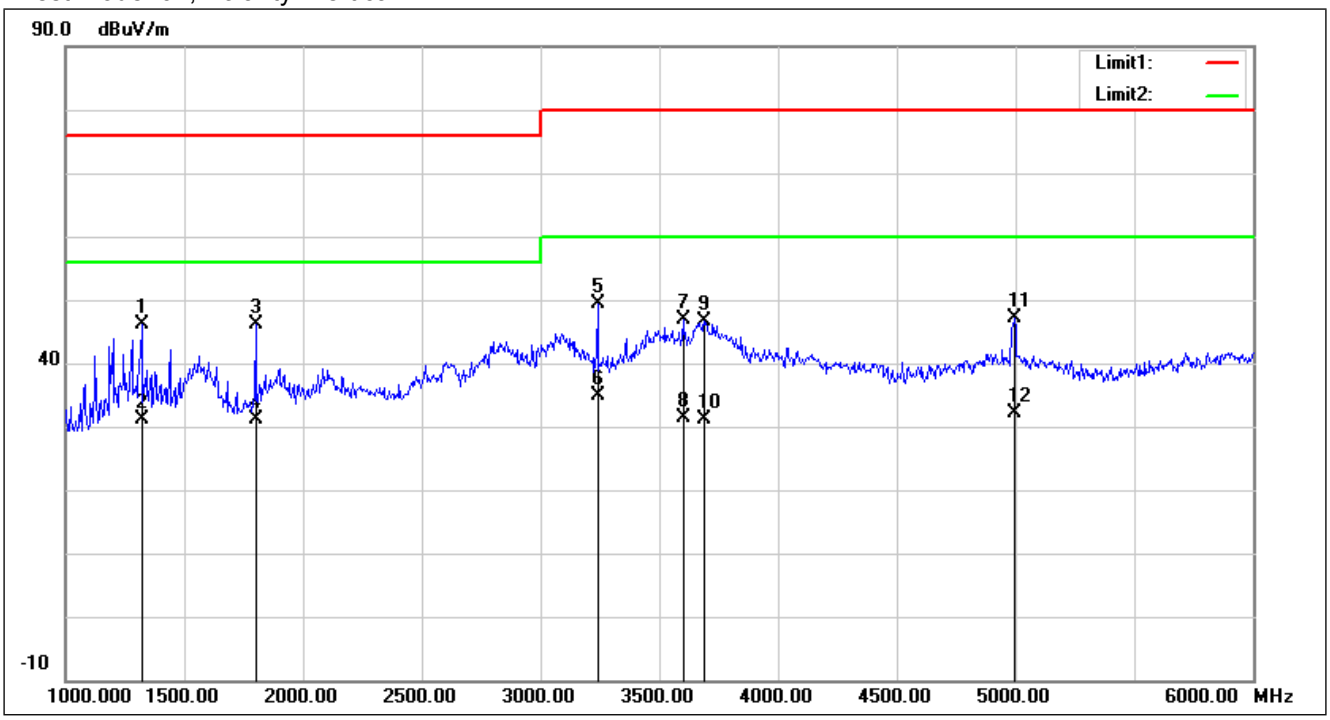
No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	1560.000	67.94	-22.06	45.88	76.00	-30.12	100	108	peak
2	1560.000	52.21	-22.06	30.15	56.00	-25.85	100	108	AVG
3	1625.000	77.01	-22.21	54.80	76.00	-21.20	100	312	peak
4	1625.000	70.94	-22.21	48.73	56.00	-7.27	100	349	AVG
5	1845.000	73.50	-21.72	51.78	76.00	-24.22	100	309	peak
6	1845.000	57.94	-21.72	36.22	56.00	-19.78	100	309	AVG
7	3120.000	64.76	-17.00	47.76	80.00	-32.24	100	2	peak
8	3120.000	49.15	-17.00	32.15	60.00	-27.85	100	2	AVG
9	3575.000	62.85	-16.51	46.34	80.00	-33.66	200	305	peak
10	3575.000	48.42	-16.51	31.91	60.00	-28.09	200	305	AVG
11	4990.000	59.16	-12.87	46.29	80.00	-33.71	100	43	peak
12	4990.000	44.28	-12.87	31.41	60.00	-28.59	100	43	AVG

Test Mode: 01; Polarity: Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	1335.000	65.13	-21.55	43.58	76.00	-32.42	100	322	peak
2	1335.000	49.77	-21.55	28.22	56.00	-27.78	100	322	AVG
3	1915.000	64.89	-21.39	43.50	76.00	-32.50	100	281	peak
4	1915.000	49.71	-21.39	28.32	56.00	-27.68	100	281	AVG
5	2840.000	65.20	-17.77	47.43	76.00	-28.57	100	339	peak
6	2840.000	49.87	-17.77	32.10	56.00	-23.90	100	339	AVG
7	3065.000	64.29	-17.16	47.13	80.00	-32.87	200	305	peak
8	3065.000	49.37	-17.16	32.21	60.00	-27.79	200	305	AVG
9	3240.000	62.51	-17.14	45.37	80.00	-34.63	100	9	peak
10	3240.000	47.63	-17.14	30.49	60.00	-29.51	100	9	AVG
11	5000.000	58.49	-12.84	45.65	80.00	-34.35	100	352	peak
12	5000.000	43.26	-12.84	30.42	60.00	-29.58	100	352	AVG

Test Mode: 01; Polarity: Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	1320.000	67.74	-21.51	46.23	76.00	-29.77	200	72	peak
2	1320.000	52.63	-21.51	31.12	56.00	-24.88	200	72	AVG
3	1800.000	68.17	-21.98	46.19	76.00	-29.81	100	327	peak
4	1800.000	53.11	-21.98	31.13	56.00	-24.87	100	327	AVG
5	3240.000	66.57	-17.14	49.43	80.00	-30.57	100	355	peak
6	3240.000	52.13	-17.14	34.99	60.00	-25.01	100	355	AVG
7	3600.000	63.29	-16.39	46.90	80.00	-33.10	100	338	peak
8	3600.000	47.81	-16.39	31.42	60.00	-28.58	100	338	AVG
9	3690.000	62.62	-16.04	46.58	80.00	-33.42	183	360	peak
10	3690.000	47.08	-16.04	31.04	60.00	-28.96	183	360	AVG
11	4995.000	59.95	-12.86	47.09	80.00	-32.91	100	351	peak
12	4995.000	45.01	-12.86	32.15	60.00	-27.85	100	351	AVG

7 Immunity Test Results

Performance Criteria Description in EN IEC 61000-6-2:2019

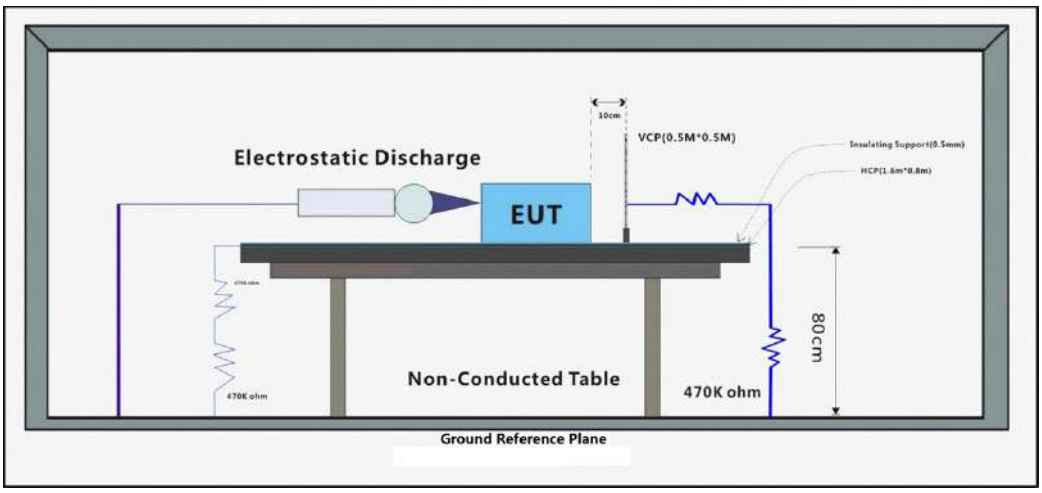
Criterion A	The EUT shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. If the performance level is not specified by the manufacturer, this may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
Criterion B	The EUT shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. However, during the test degradation of performance is allowed but no change of actual operating state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the equipment if used as intended.
Criterion C	Temporary loss of function is allowed during the test, provided the function is self-recoverable or can be restored by the operation of the controls.

7.1 Electrostatic Discharge

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-2:2009

7.1.1 Test Setup Diagram



7.1.2 E.U.T. Operation

Operating Environment:

Temperature: 25 °C Humidity: 55 % RH Atmospheric Pressure: 1010 mbar

7.1.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.1.4 Test Condition and Results:

Performance Criterion: B

Discharge Impedance: 330 Ω/150pF

Number of Discharge: Minimum 10 times at each test point

Discharge Mode: Single Discharge

Discharge Period: 1 second minimum

Test Point 1: All insulated enclosure & seams.

Test Point 2: All accessible metal parts of the enclosure.

Test Point 3: All sides.

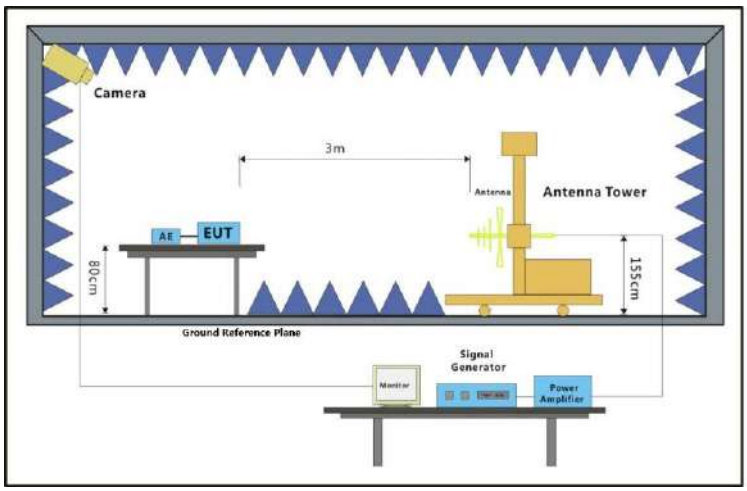
Discharge type	Level (kV)	Polarity	Test Point	Result / Observations
Air Discharge	2,4,8	+	1	A
Air Discharge	2,4,8	-	1	A
Contact Discharge	4	+	2	A
Contact Discharge	4	-	2	A
Horizontal Coupling	4	+	3	A
Horizontal Coupling	4	-	3	A
Vertical Coupling	4	+	3	A
Vertical Coupling	4	-	3	A
A: No degradation in the performance of the EUT was observed				

7.2 Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz)

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN IEC 61000-4-3: 2020

7.2.1 Test Setup Diagram



7.2.2 E.U.T. Operation

Operating Environment:

Temperature: 22.0 °C Humidity: 53.5 % RH Atmospheric Pressure: 1010 mbar

7.2.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.2.4 Test Condition and Results:

Performance Criterion: A
Antenna Polarisation: Vertical and Horizontal
Modulation: 1kHz,80% Amp. Mod,1% increment
Frequency Range: 80MHz to 1GHz, 1.4GHz to 6GHz

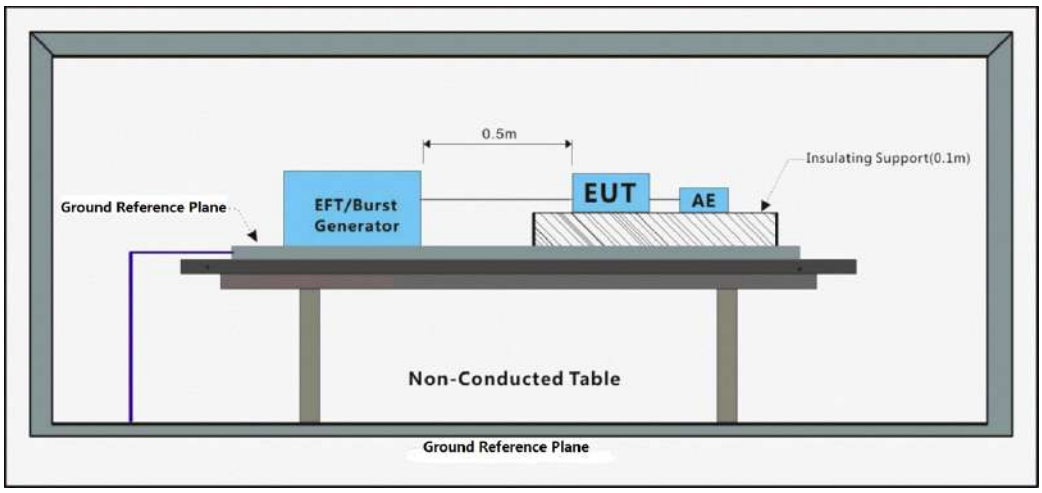
Frequency	Level (V/m)	EUT Face	Dwell time	Result / Observations
80MHz-1GHz	10	Front	3s	A
80MHz-1GHz	10	Back	3s	A
80MHz-1GHz	10	Left	3s	A
80MHz-1GHz	10	Right	3s	A
80MHz-1GHz	10	Top	3s	A
80MHz-1GHz	10	Underside	3s	A
1.4GHz-6GHz	3	Front	3s	A
1.4GHz-6GHz	3	Back	3s	A
1.4GHz-6GHz	3	Left	3s	A
1.4GHz-6GHz	3	Right	3s	A
1.4GHz-6GHz	3	Top	3s	A
1.4GHz-6GHz	3	Underside	3s	A
A: No degradation in the performance of the EUT was observed				

7.3 Electrical Fast Transients Burst at DC Power Port

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-4:2012

7.3.1 Test Setup Diagram



7.3.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.3.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.3.4 Test Condition and Results:

Performance Criterion: B

Repetition Frequency: 5kHz or 100kHz

Burst Period: 300ms

Test Duration: 2 minute per level & polarity

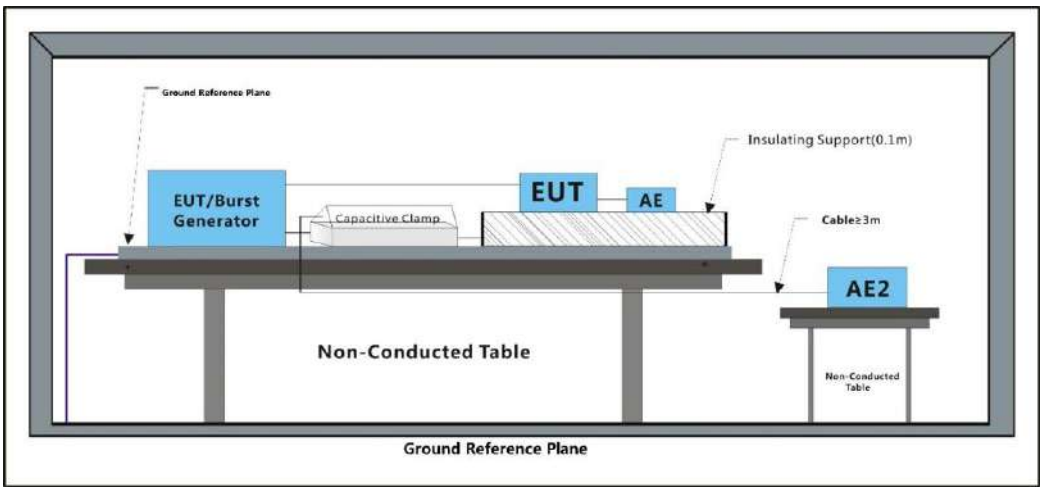
Test Line	Level (kV)	Polarity	CDN/Clamp	Result / Observations
DC Port	1	+	CDN	A
DC Port	1	-	CDN	A
A: No degradation in the performance of the EUT was observed				

7.4 Electrical Fast Transients Burst at Signal Port

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-4:2012

7.4.1 Test Setup Diagram



7.4.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.4.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.4.4 Test Condition and Results:

Performance Criterion: B

Repetition Frequency: 5kHz or 100kHz

Burst Period: 300ms

Test Duration: 2 minute per level & polarity

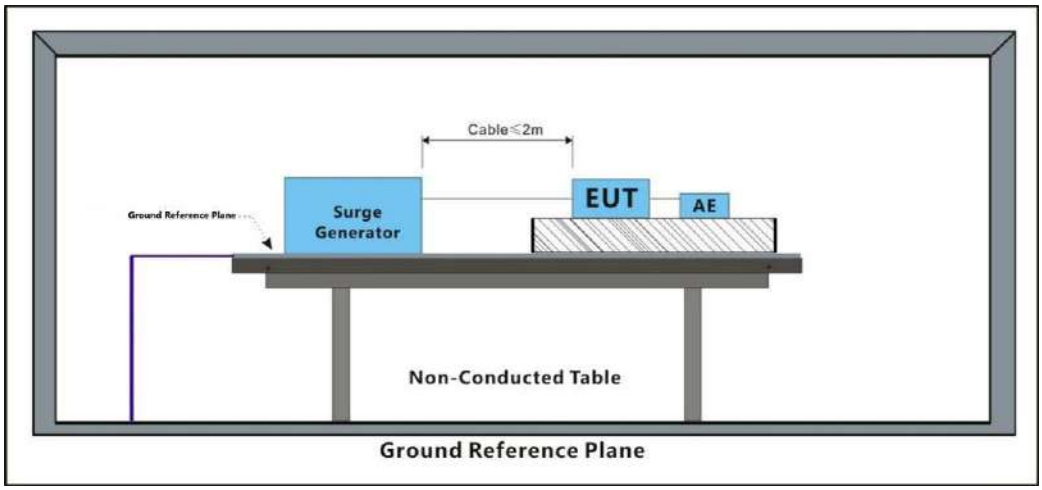
Port	Level (kV)	Polarity	CDN/Clamp	Result / Observations
Signal port	1	+	Clamp	A
Signal port	1	-	Clamp	A
A: No degradation in the performance of the EUT was observed				

7.5 Surge at DC Power Port

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-5:2014+A1:2017

7.5.1 Test Setup Diagram



7.5.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.5.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.5.4 Test Condition and Results:

Performance Criterion: B

Interval: 60s between each surge

Generator source impedance: 2Ω

CDN coupling impedance(Line-to-ground):10Ω

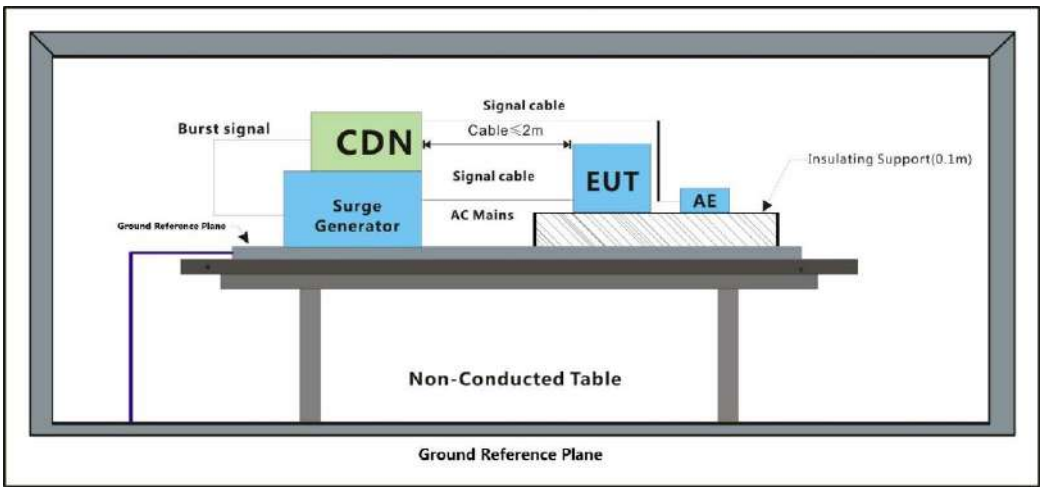
Test Line	Level (kV)	Polarity	Result / Observations
P-N	0.5	+	A
P-N	0.5	-	A
P-G	1	+	A
P-G	1	-	A
N-G	1	+	A
N-G	1	-	A
A: No degradation in the performance of the EUT was observed			

7.6 Surge at Signal Port

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-5:2014+A1:2017

7.6.1 Test Setup Diagram



7.6.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.6.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.6.4 Test Condition and Results:

Performance Criterion: B

Interval: 60s between each surge

Generator source impedance: 2Ω

CDN coupling impedance:40Ω

No. of surges: 5 positive, 5 negative

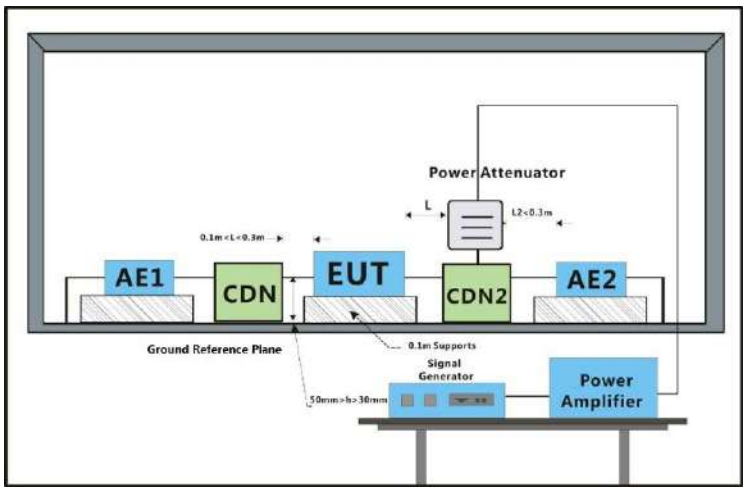
Port	Line	Level (kV)	Polarity	Result / Observations
Signal port	Line-Ground	0.5, 1	+	A
Signal port	Line-Ground	0.5, 1	-	A
A: No degradation in the performance of the EUT was observed				

7.7 Conducted Immunity at DC Power Port (150kHz-80MHz)

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-6:2014

7.7.1 Test Setup Diagram



7.7.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.7.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.7.4 Test Condition and Results:

Performance Criterion: A

Frequency Range: 0.15MHz to 80MHz

Modulation: 80%, 1kHz Amplitude Modulation

Step Size 1%

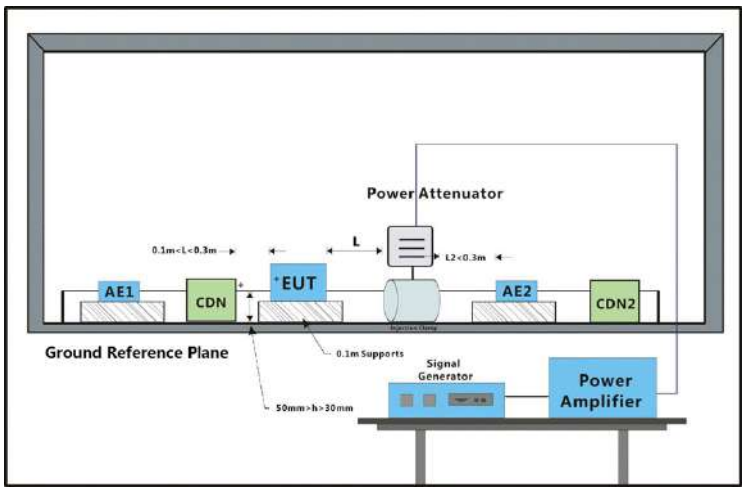
Port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
DC Port	10	CDN	3s	A
A: No degradation in the performance of the EUT was observed				

7.8 Conducted Immunity at Signal Port (150kHz-80MHz)

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-6:2014

7.8.1 Test Setup Diagram



7.8.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.8.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

7.8.4 Test Condition and Results:

Performance Criterion: A

Frequency Range: 0.15MHz to 80MHz

Modulation: 80%, 1kHz Amplitude Modulation

Step Size 1%

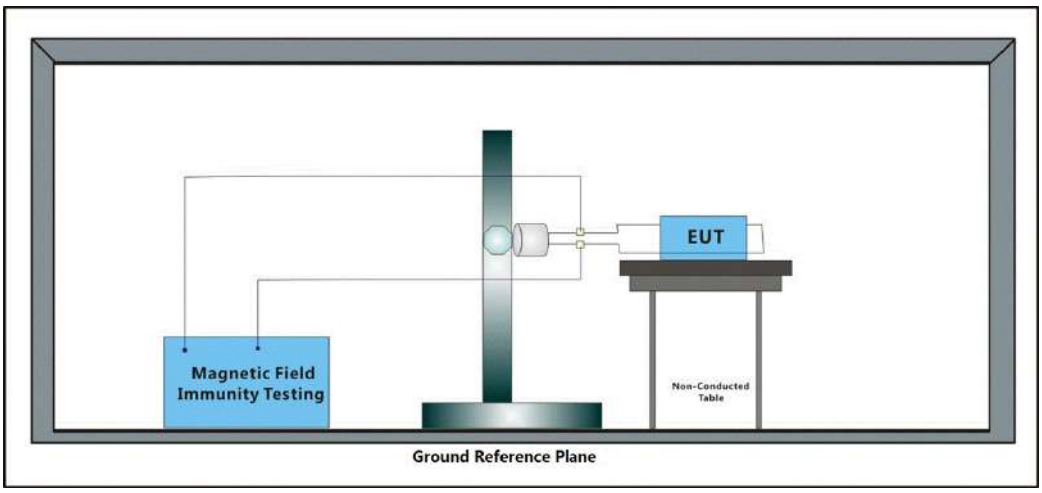
Port	Level (Vrms)	CDN/Clamp	Dwell time	Result / Observations
Signal port	10	Clamp	3s	A
A: No degradation in the performance of the EUT was observed				

7.9 Power Frequency Magnetic Field

Test Requirement: EN IEC 61000-6-2: 2019

Test Method: EN 61000-4-8:2010

7.9.1 Test Setup Diagram



7.9.2 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 46 % RH Atmospheric Pressure: 1010 mbar

7.9.3 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	Keep EUT1-DS86 working continuously with Auxiliary equipment
Final test	01	Keep EUT2-DS87 working continuously with Auxiliary equipment

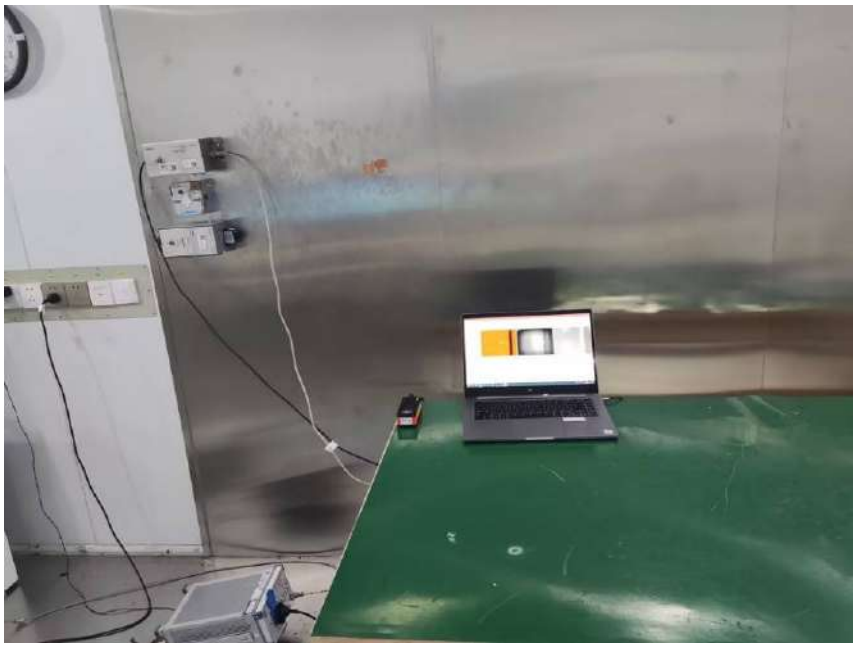
7.9.4 Test Condition and Results:

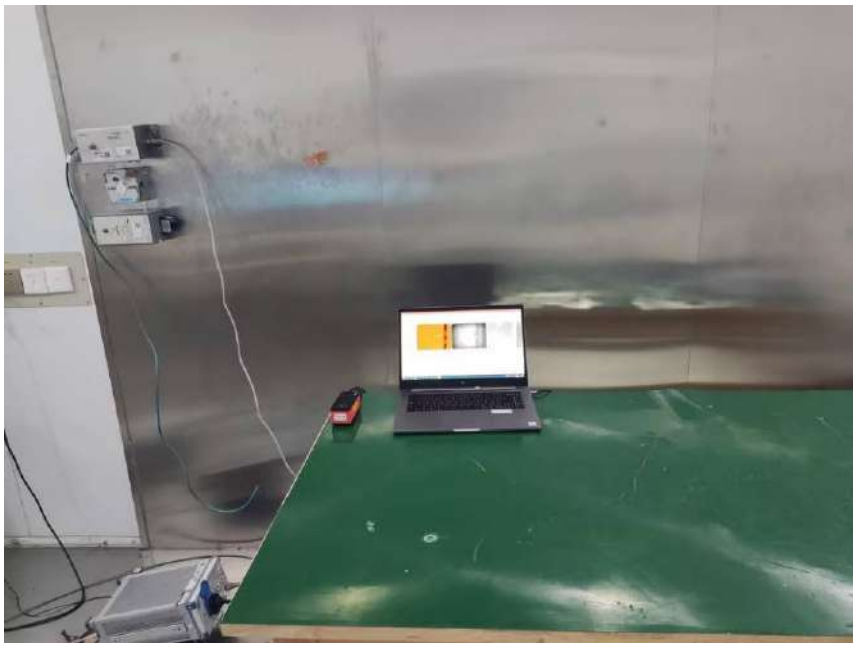
Performance Criterion:A

Frequency	Level (A/m)	Axial	Magnetic Field Type	Result / Observations
50 Hz	30	X	Continue	A
50 Hz	30	Y	Continue	A
50 Hz	30	Z	Continue	A
A: No degradation in the performance of the EUT was observed				

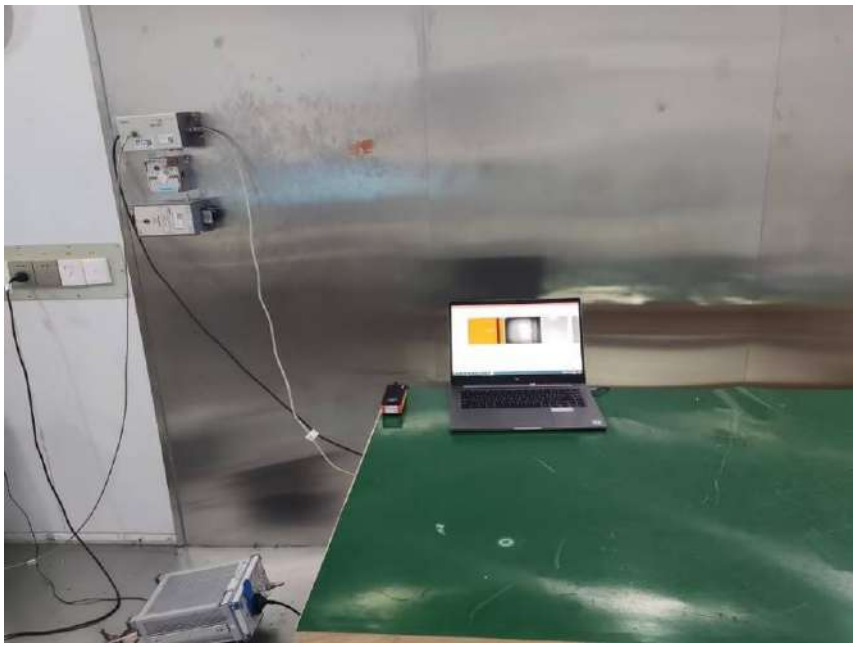
8 Test Setup Photo

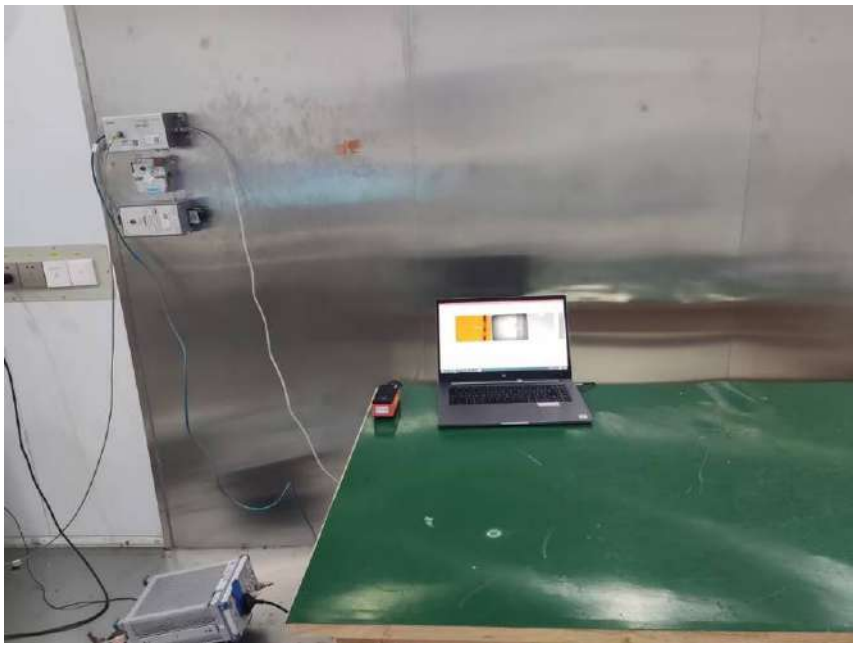
Conducted Emissions at DC Power Port (150kHz-30MHz)



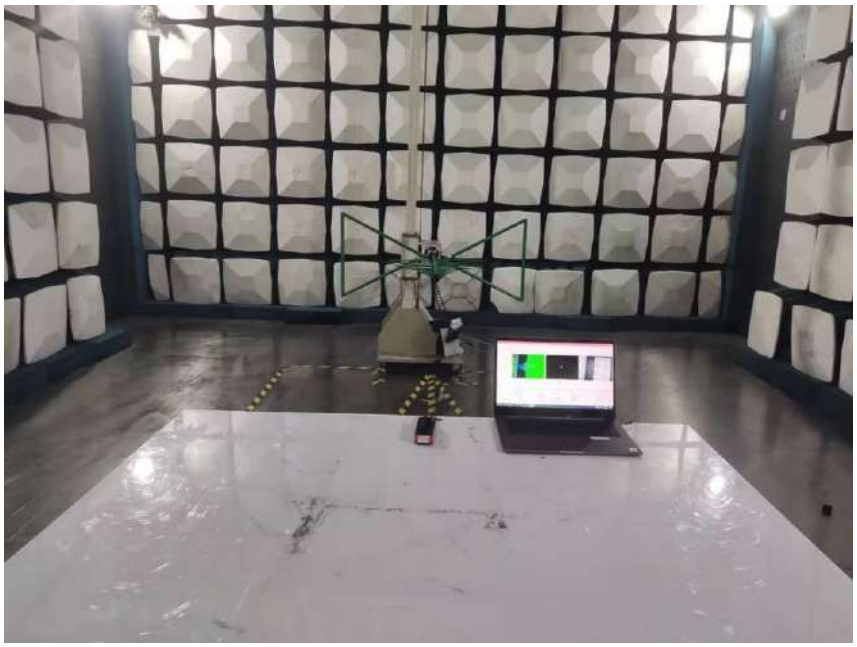


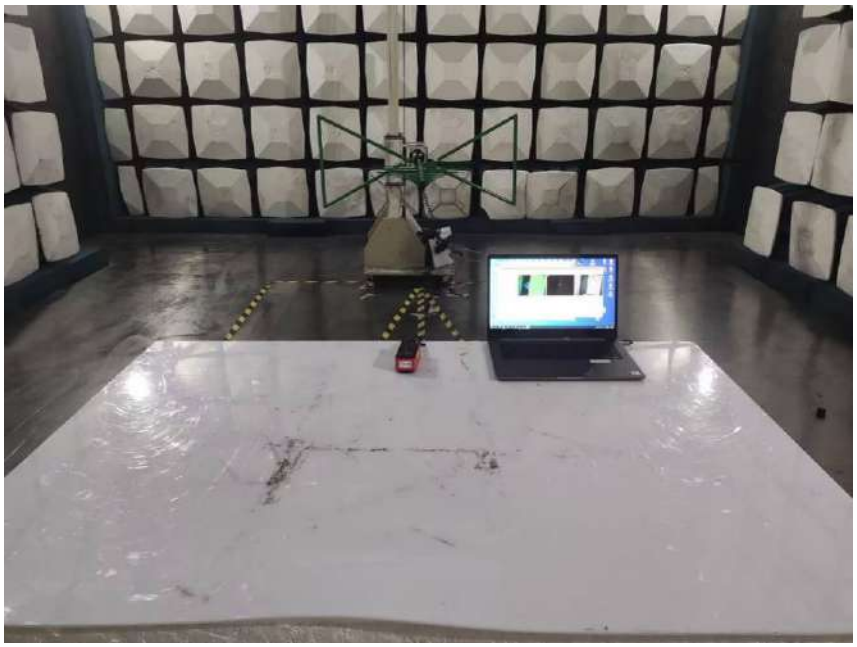
Conducted Emissions at Wired Network Port (150kHz-30MHz)



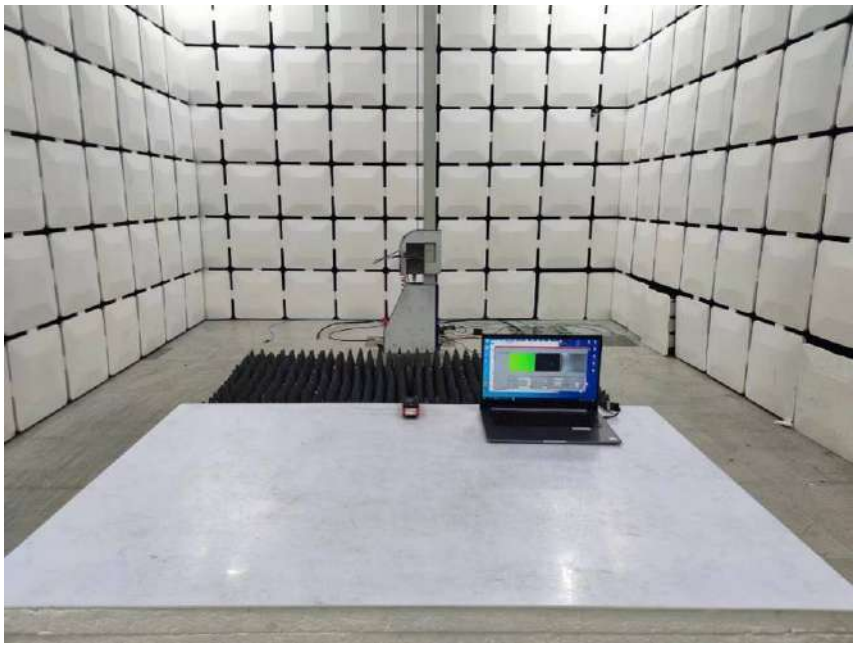


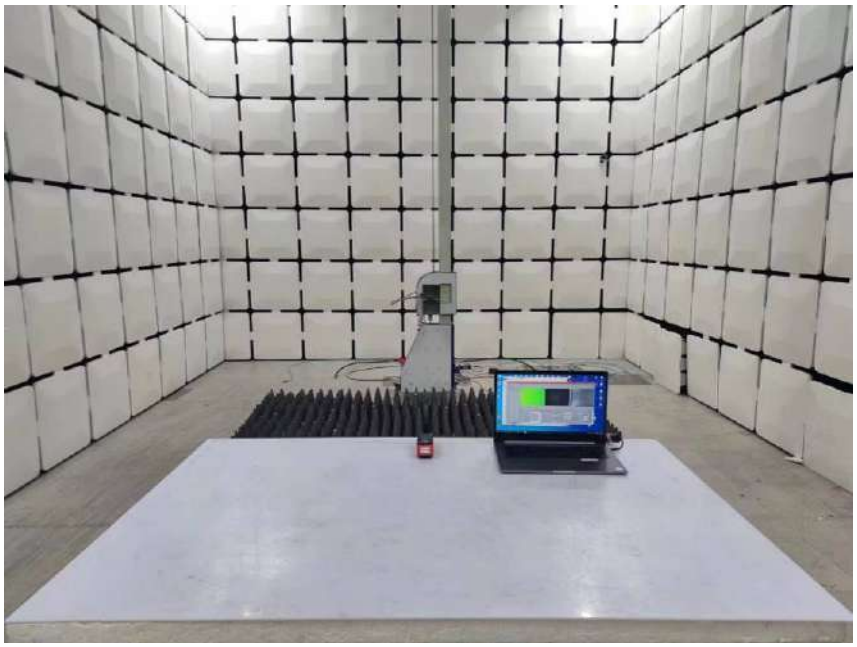
Radiated Emissions (30MHz-1GHz)



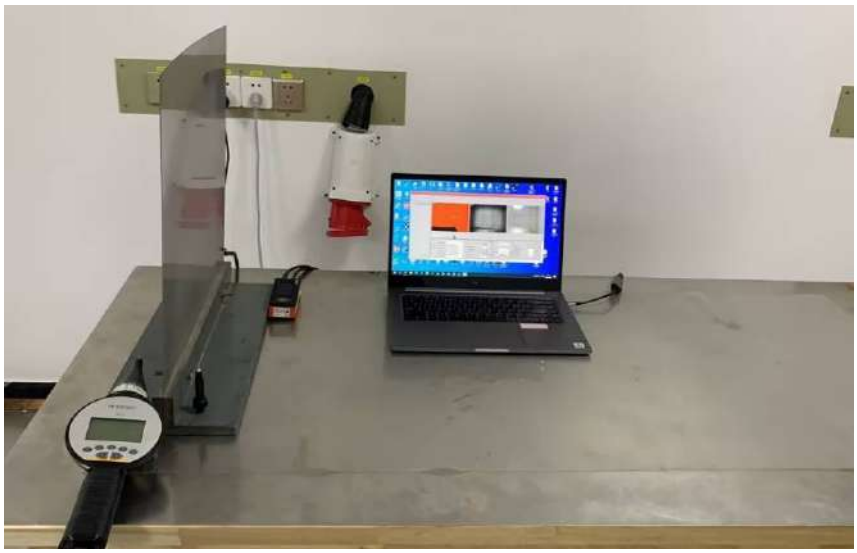


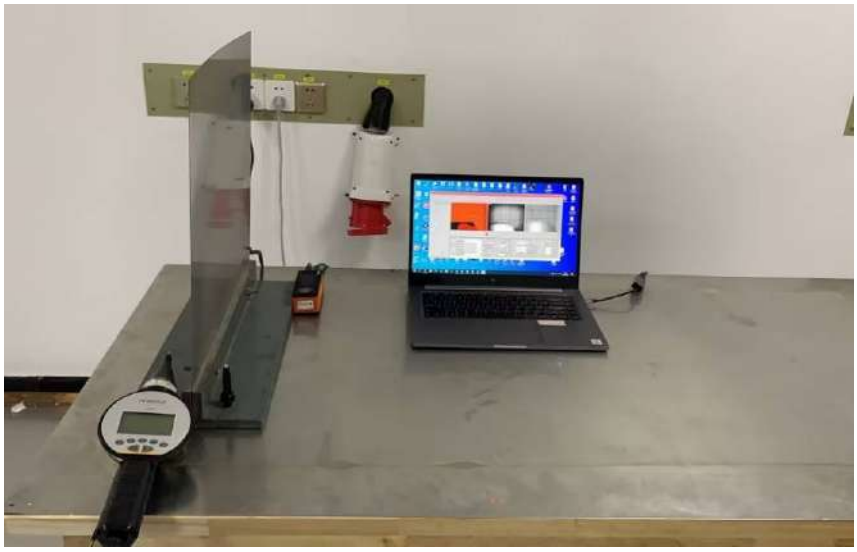
Radiated Emissions (Above 1GHz)



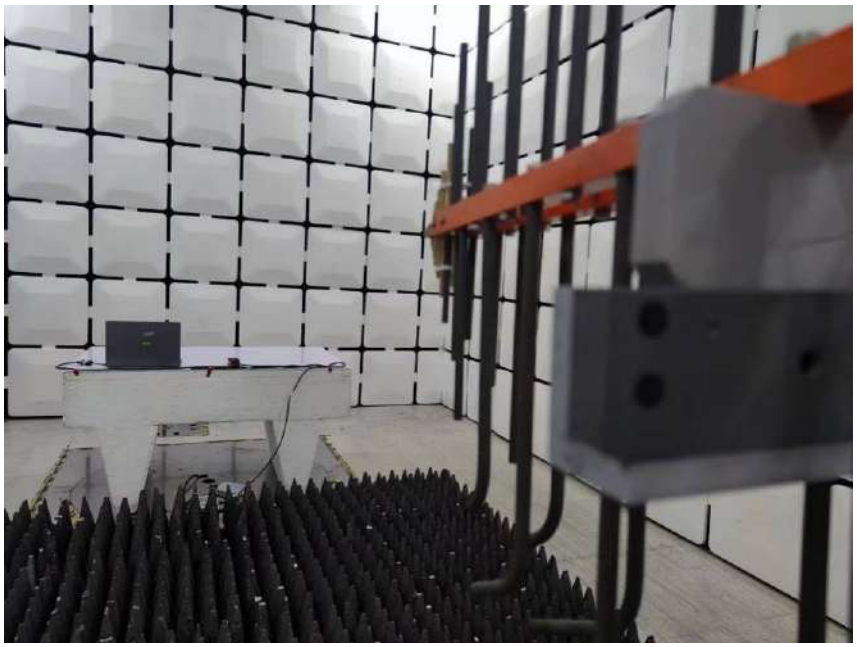


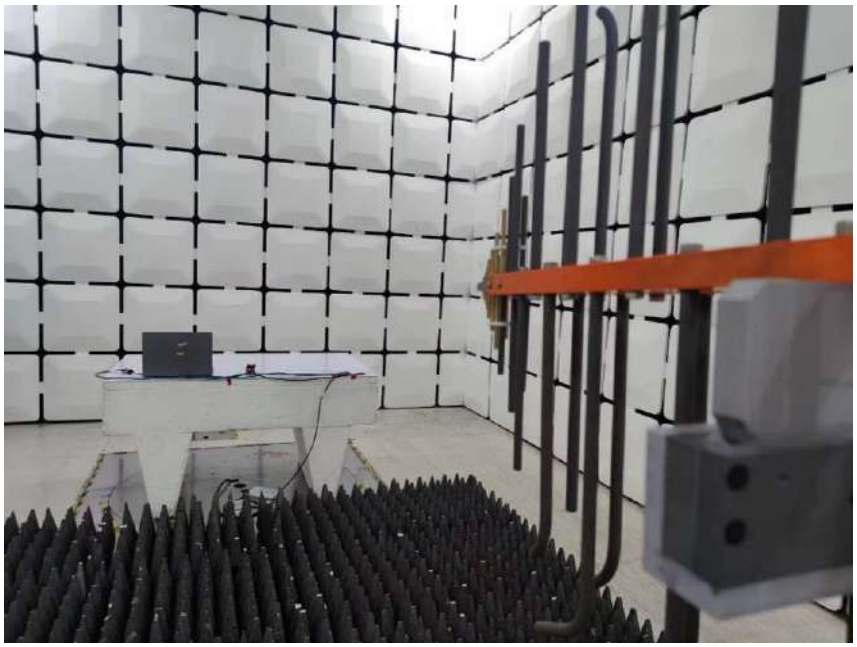
Electrostatic Discharge



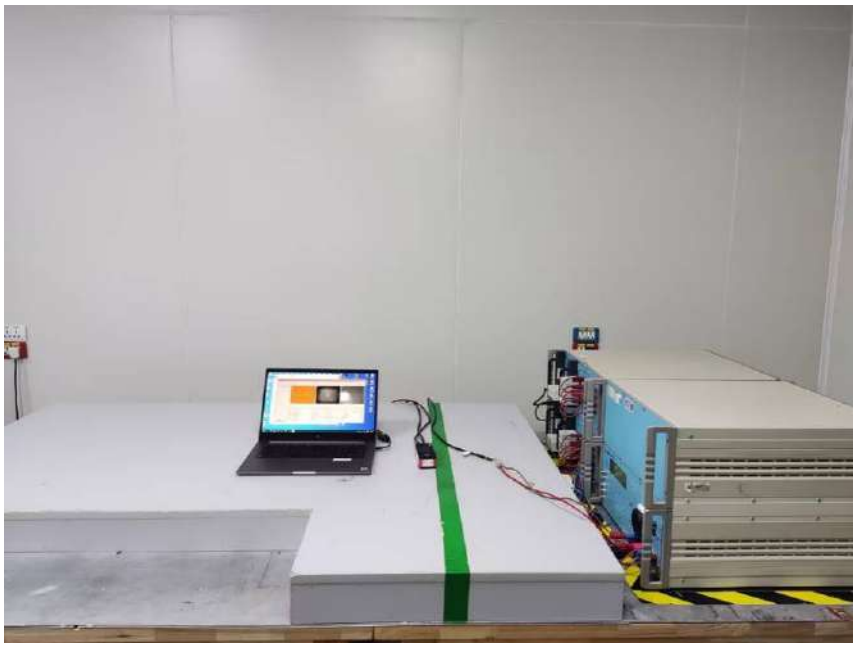


Radiated Immunity (80MHz-1GHz, 1.4GHz-6GHz)

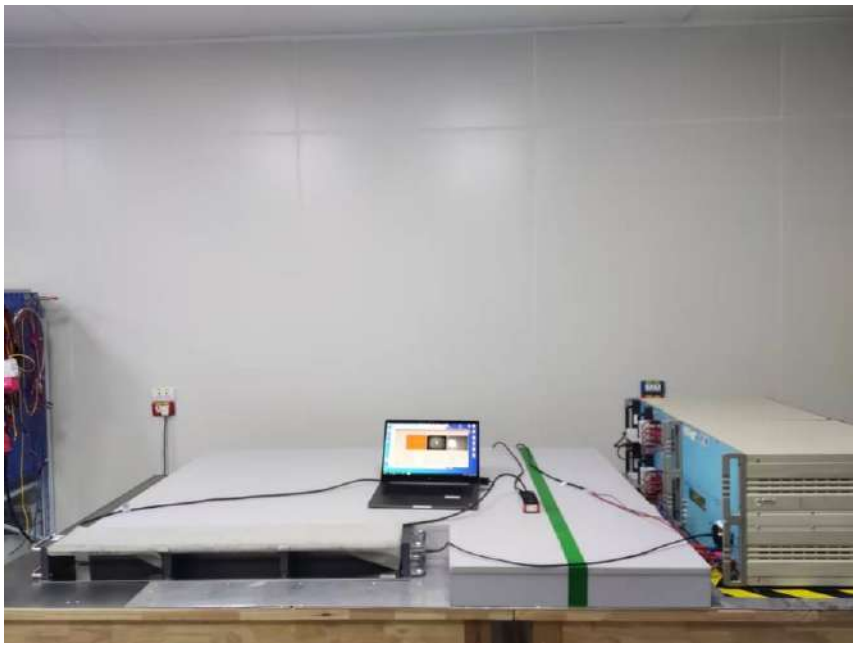


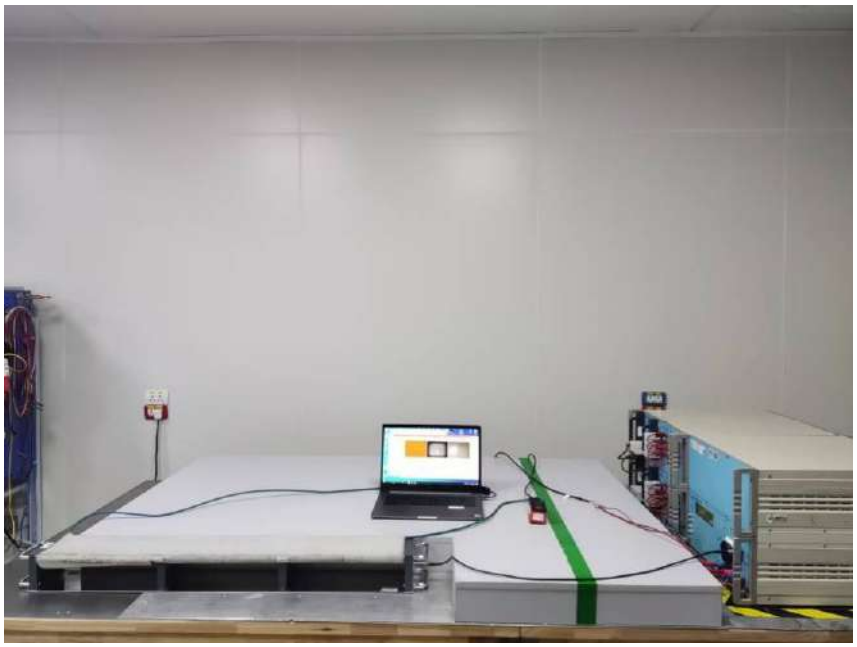


Electrical Fast Transients Burst at DC Power Port

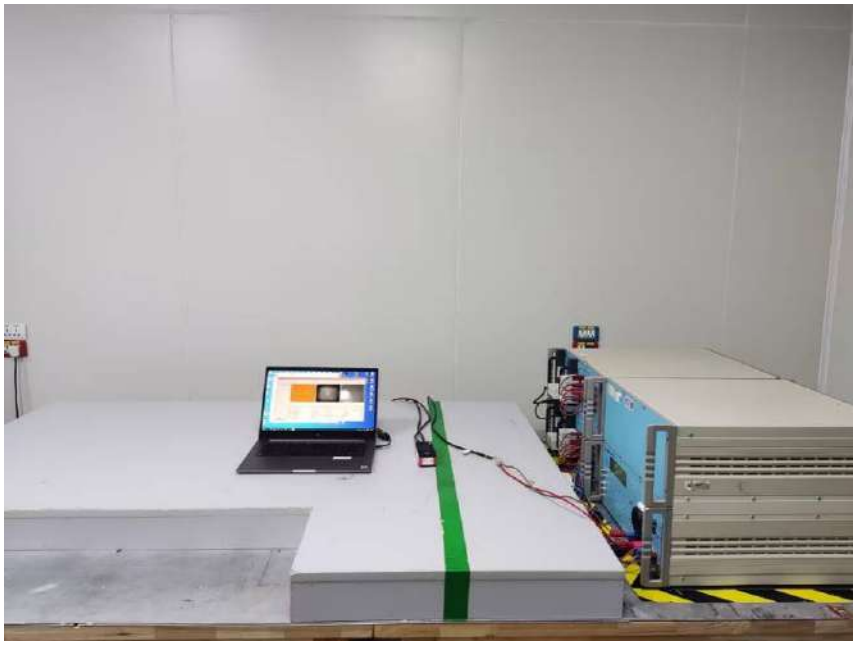


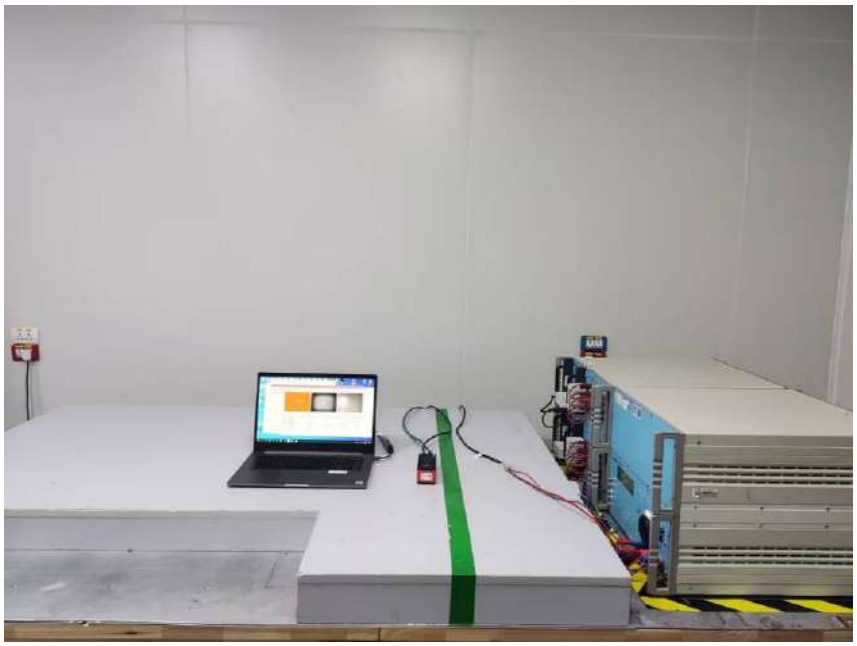
Electrical Fast Transients Burst at Signal Port



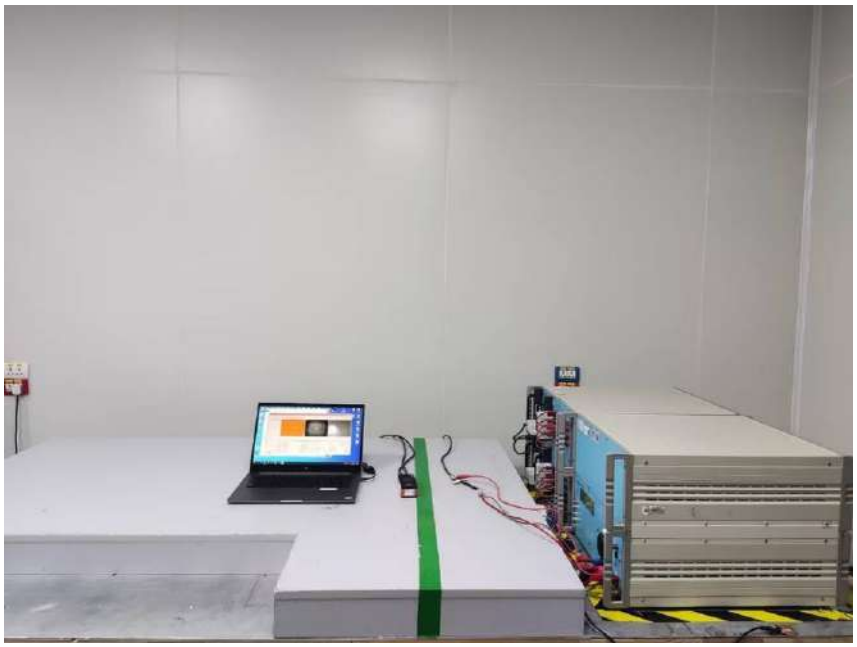


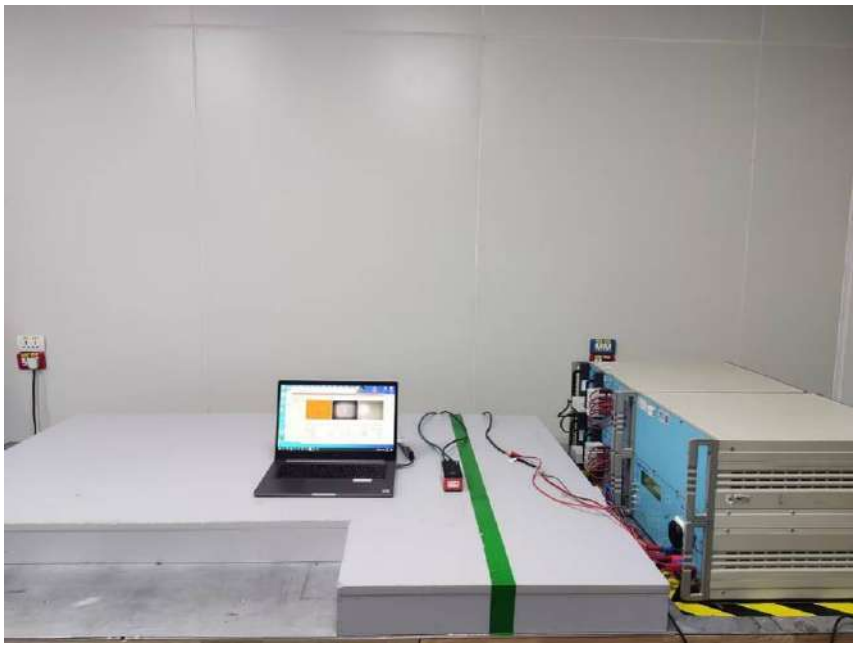
Surge at DC Power Port



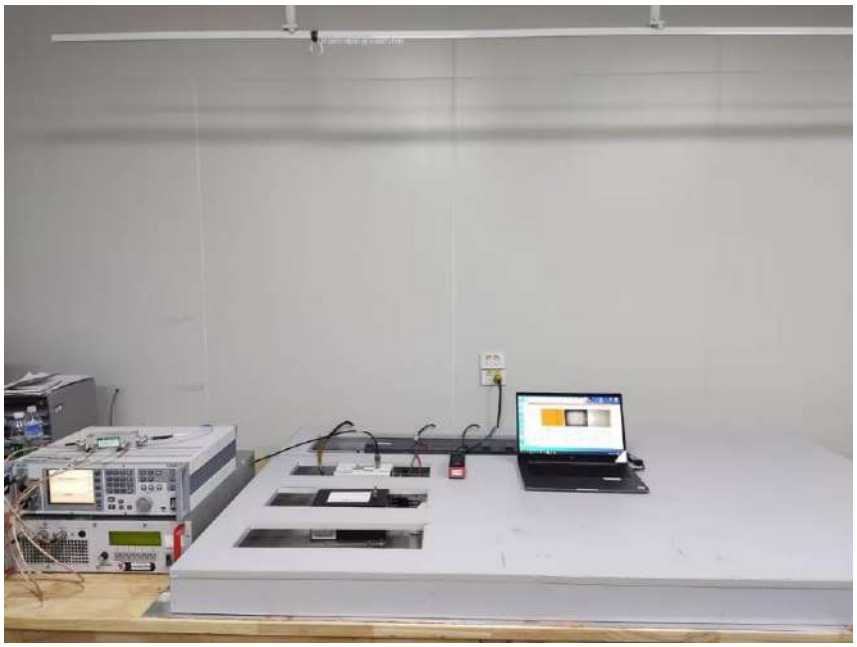


Surge at Signal Port

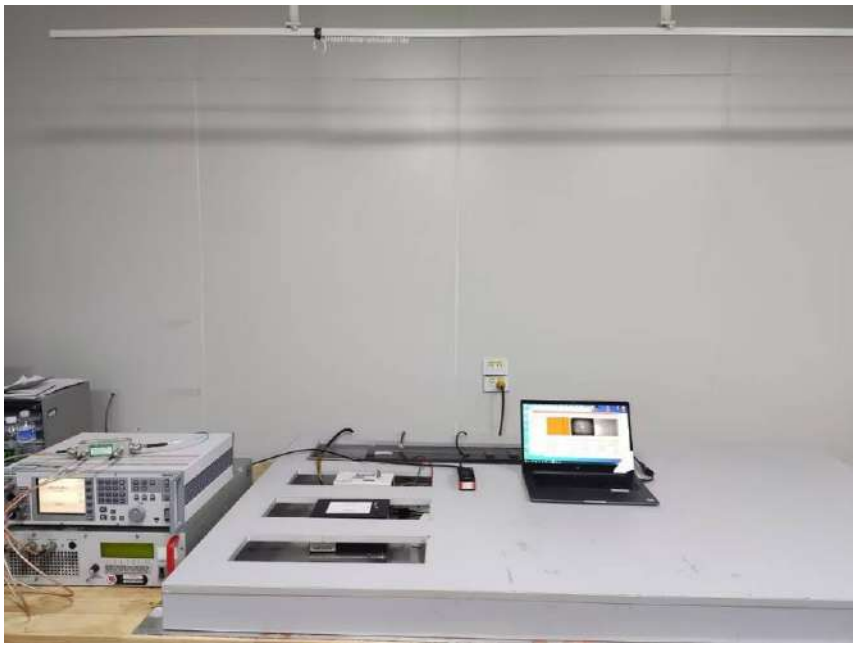


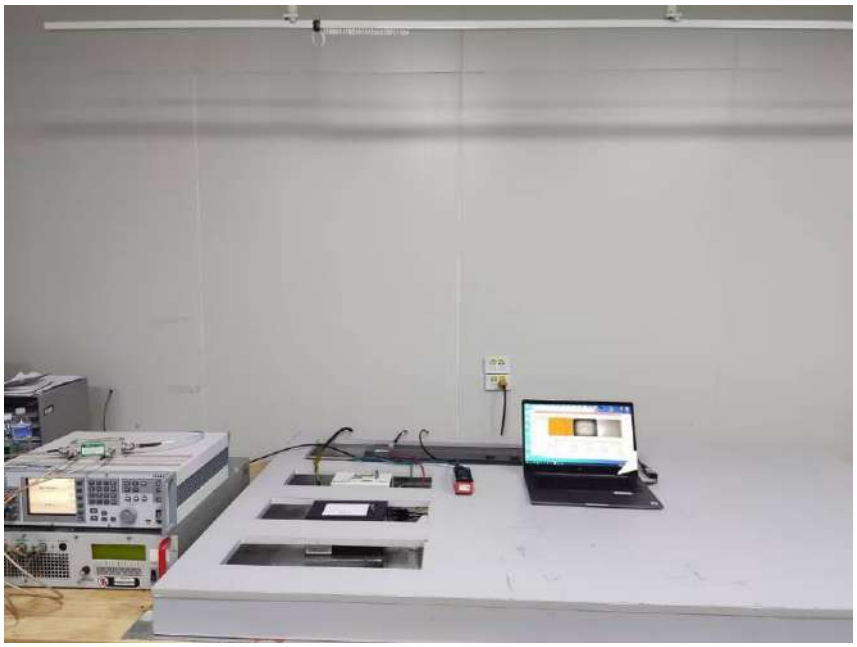


Conducted Immunity at DC Power Port (150kHz-80MHz)

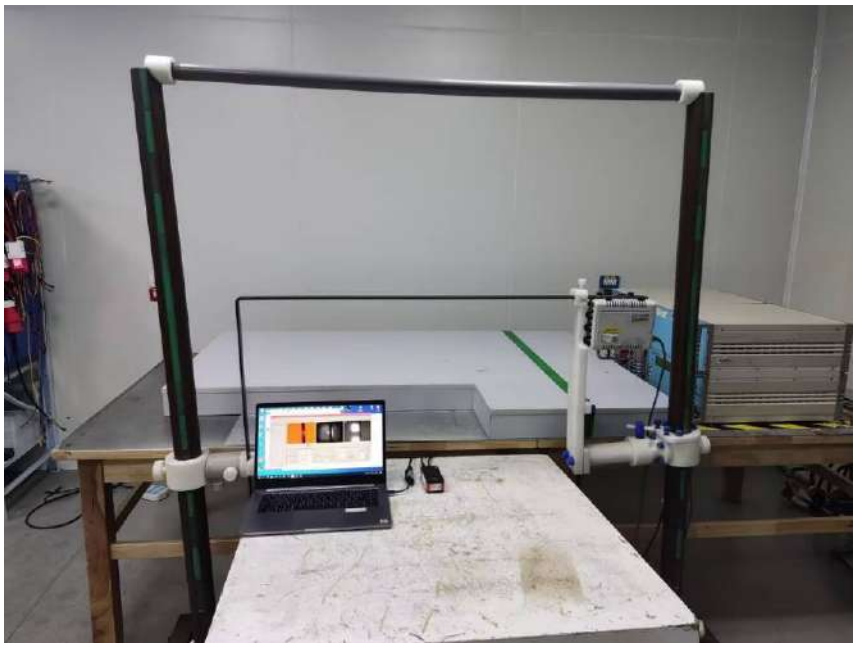


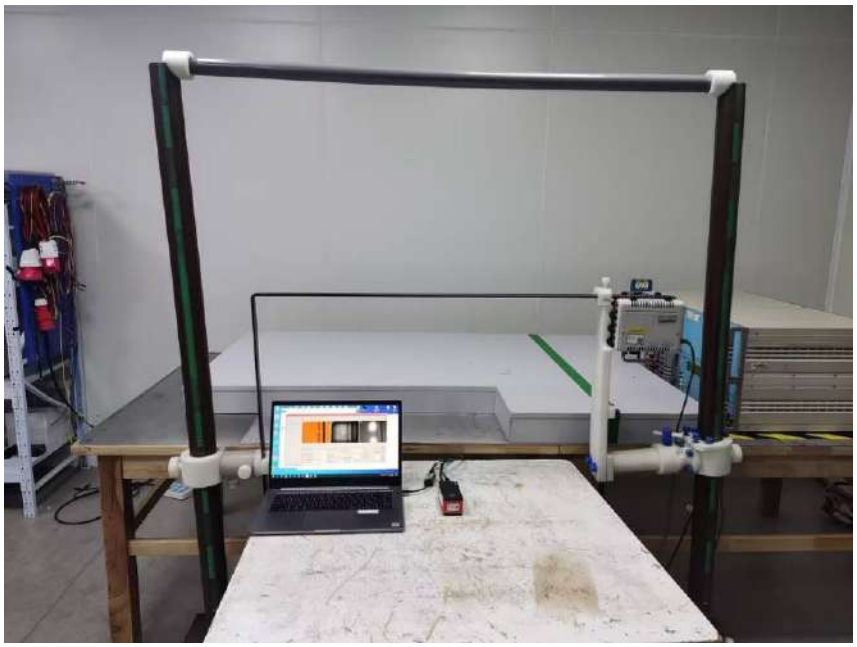
Conducted Immunity at Signal Port (150kHz-80MHz)



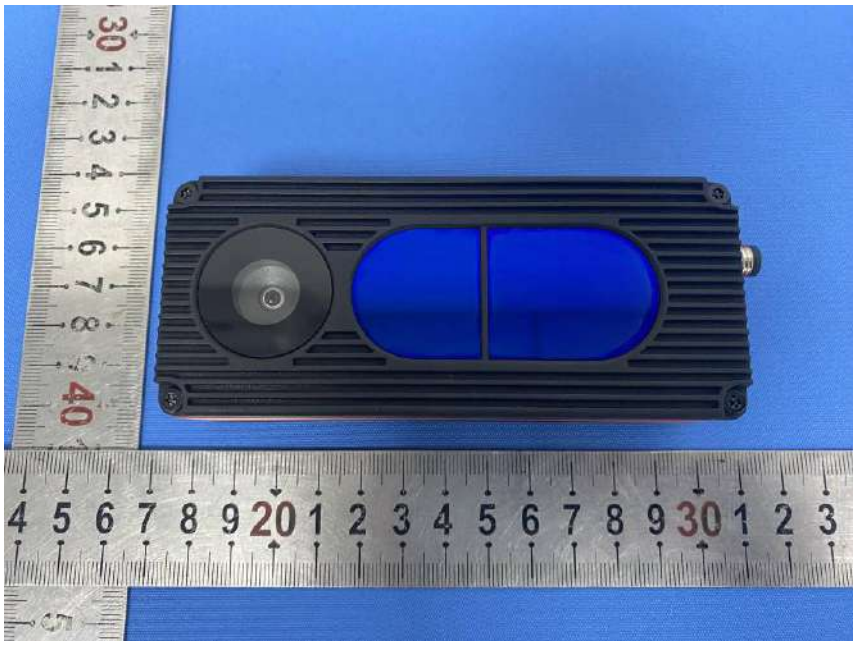


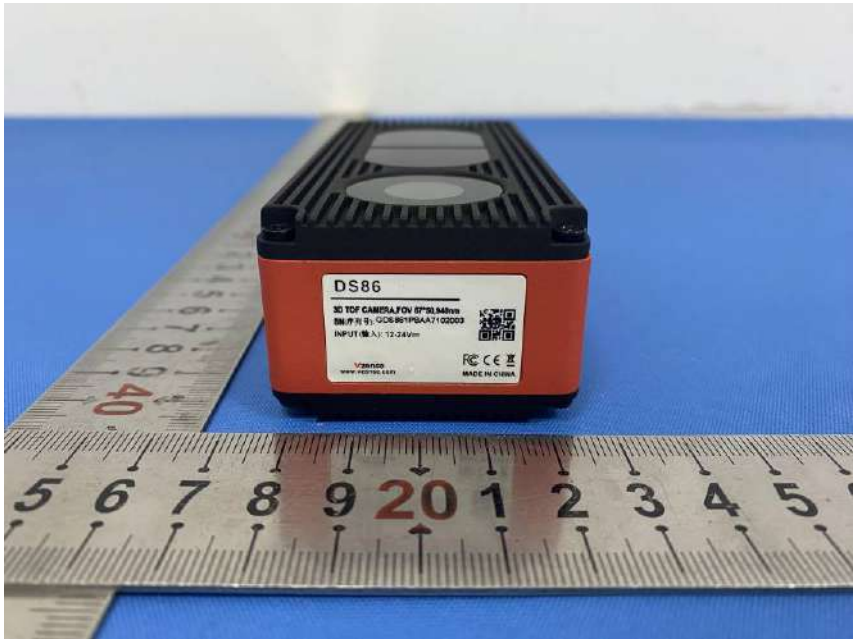
Power Frequency Magnetic Field

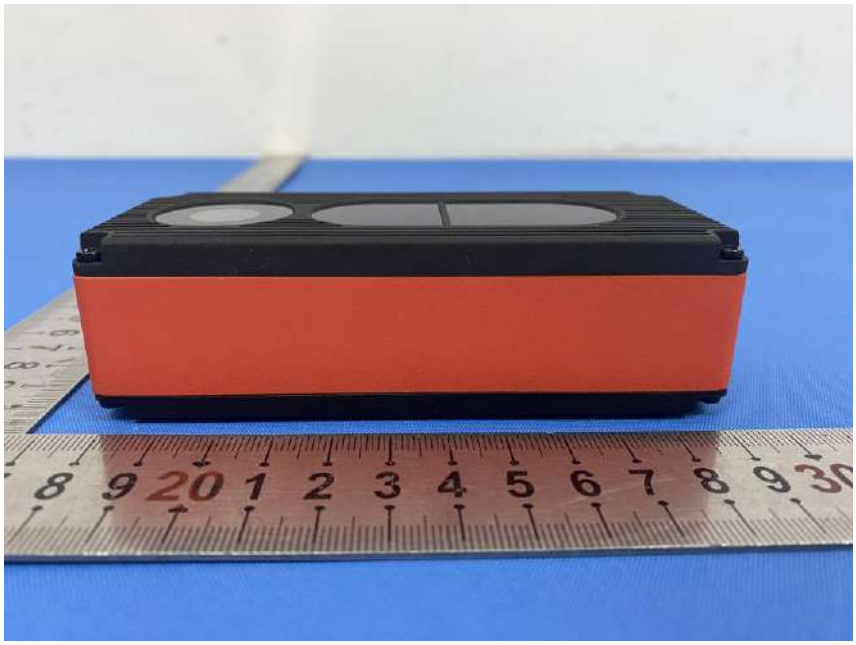


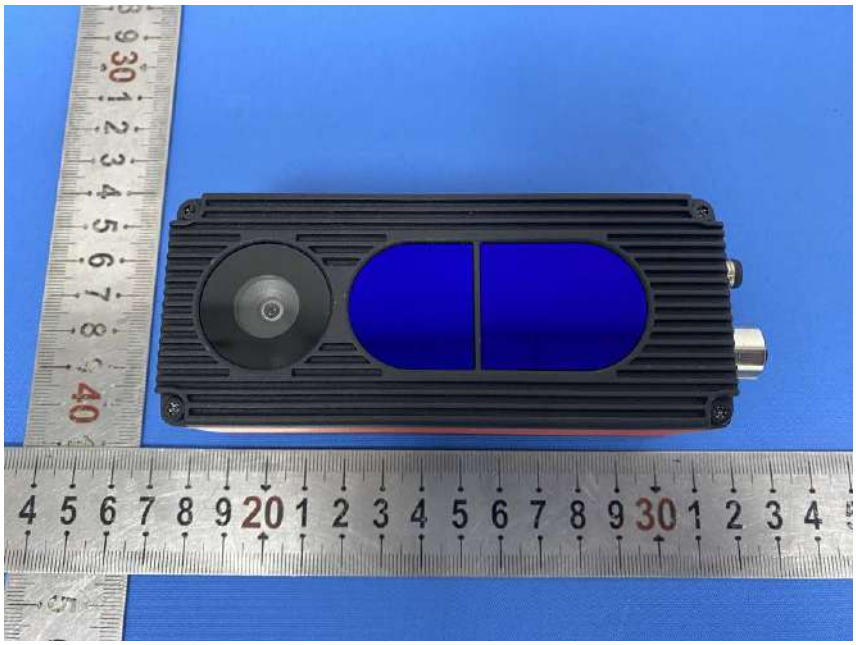


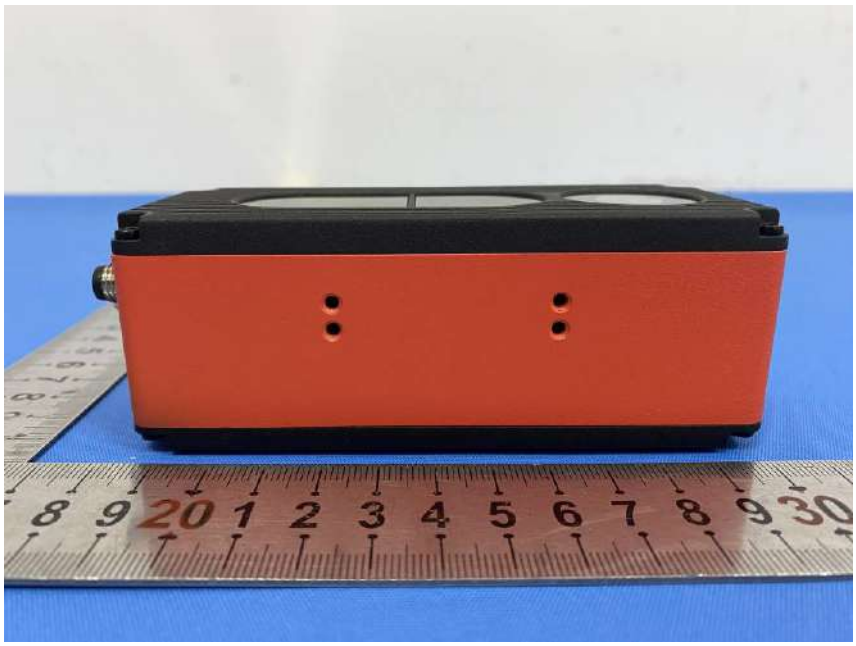
9 EUT Constructional Details (EUT Photos)




DS86
MADE IN CHINA







- End of the Report -