EMC Test Report

Report No.	:	**1812C40196912502E**
Applicant	:	**Zhejiang Lingzhu Technology Co., Ltd.**
Address	:	**Room 302,No 1 Building Huace Center,Xihu District, Hangzhou City, Zhejiang Province,China**
Product Name	:	**Smart Camera**
Report Date	:	**Apr. 28, 2025**

Shenzhen Anbotek Compliance Laboratory Limited

Contents

TEST REPORT

Applicant	:	Zhejiang Lingzhu Technology Co., Ltd.
Manufacturer	:	Zhejiang Lingzhu Technology Co., Ltd.
Product Name	:	Smart Camera
Model No.	:	SC319-WBR8, SC319-WBR8A, SC319-WBR8B, SC319-WBR8C, SC319-WBR8D, SC319-WBR8E, SC319-WBR8F, SC319-WBR8G
Trade Mark	:	N/A
Rating(s)	:	Input: 5V⎓2A
Test Standard(s)	:	**EN 55032:2015+A1:2020** **EN 55035:2017+A11:2020**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with above listed standard(s) requirements.
This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Receipt: Dec. 26, 2024

Date of Test: Dec. 26, 2024 to Apr. 15, 2025

Prepared By: Lene Chen

(Lene Chen)

Approved & Authorized Signer: KingKong Jin

(KingKong Jin)

1. General Information

1.1. Client Information

Applicant	:	Zhejiang Lingzhu Technology Co., Ltd.
Address	:	Room 302,No 1 Building Huace Center,Xihu District, Hangzhou City, Zhejiang Province,China
Manufacturer	:	Zhejiang Lingzhu Technology Co., Ltd.
Address	:	Room 302,No 1 Building Huace Center,Xihu District, Hangzhou City, Zhejiang Province,China
Factory	:	Shenzhen Interthings Technology Co., Ltd.
Address	:	701, Building 1, Lechuanghui Building, No.1211 Guanguang Road, Longhua District, Shenzhen,China

1.2. Description of Device (EUT)

Product Name	:	Smart Camera
Model No.	:	SC319-WBR8, SC319-WBR8A, SC319-WBR8B, SC319-WBR8C, SC319-WBR8D, SC319-WBR8E, SC319-WBR8F, SC319-WBR8G (Note: All samples are the same except the model number, so we prepare "SC319-WBR8" for test only.)
Trade Mark	:	N/A
Test Power Supply	:	DC 5V from adapter input AC 230V/50Hz
Test Sample No.	:	1-2-1(Normal Sample), 1-2-2(Engineering Sample)
Adapter	:	Model: BS10A-0502000EU Input: 100-240V~50/60Hz 0.35A Max. Output: 5.0V⎓2.0A 10.0W
Remark: (1) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

1.3. Auxiliary Equipment Used During Test

Title	Manufacturer	Model No.	Serial No.
MSCard	Sony	Memory stick	/

1.4. Description of Test Modes

Pretest Modes	Descriptions
TM1	Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)
TM2	Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

1.5. Measurement Uncertainty

Parameter	Uncertainty
Conducted emissions (AMN 150kHz~30MHz)	3.2dB
Radiated emissions (30MHz~1000MHz)	Horizontal: 3.70dB; Vertical: 4.42dB
Radiated emissions (above 1GHz)	1G-6GHz: 4.64dB; 6G-18GHz: 4.82dB
The measurement uncertainty and decision risk evaluated according to AB/WI-RF-F-032. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

1.6. Test Summary

Test Items	Test Modes	Status
Conducted emissions from AC mains power ports (150kHz-30MHz)	Mode1,2	P
Radiated emissions (30MHz-1GHz)	Mode1,2	P
Radiated emissions (above 1GHz)	Mode1,2	P
Electrostatic discharges	Mode1,2	P
RF electromagnetic field disturbances	Mode1,2	P
Electrical fast transients / burst for AC mains power ports	Mode1,2	P
Surges for AC mains power ports	Mode1,2	P
Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)	Mode1,2	P
Voltage dips and interruptions	Mode1,2	P
Note: P: Pass N: N/A, not applicable		

1.7. Description of Test Facility

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

FCC-Registration No.:434132
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location
Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

1.8. Disclaimer

1. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
2. The test report is invalid if there is any evidence and/or falsification.
3. The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.
4. This document may not be altered or revised in any way unless done so by Anbotek and all revisions are duly noted in the revisions section.
5. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.
6. The authenticity of the information provided by the customer is the responsibility of the customer and the laboratory is not responsible for its authenticity.
7. The data in this report will be synchronized with the corresponding national market supervision and management departments and cross-border e-commerce platforms as required by regulatory agencies.

The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

1.9. EMS Performance Criteria

General Performance Criteria

Performance Criteria 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 Criteria 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 Criteria 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.

1.10. Test Equipment List

Conducted emissions from AC mains power ports (150kHz-30MHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	2024-09-09	2025-09-08
2	Three Phase V-type Artificial Power Network	CYBERTEK	EM5040DT	E215040DT001	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
3	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/
4	EMI Test Receiver(CE2#)	Rohde & Schwarz	ESPI3	100926	2024-09-09	2025-09-08

Radiated emissions (30MHz-1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
					2025-01-14	2026-01-13
2	Pre-amplifier	SONOMA	310N	186860	2024-01-17	2025-01-16
					2025-01-14	2026-01-13
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Radiated emissions (above 1GHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	EMI Test Receiver(RE2/3#)	Rohde & Schwarz	ESR26	101481	2024-01-23	2025-01-22
					2025-01-14	2026-01-13
2	Pre-amplifier	SONOMA	310N	186860	2024-01-17	2025-01-16
					2025-01-14	2026-01-13
3	Bilog Broadband Antenna	Schwarzbeck	VULB9163	345	2022-10-23	2025-10-22
4	EMI Preamplifier	SKET Electronic	LNPA-0118G-45	SKET-PA-002	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
5	Double Ridged Horn Antenna	SCHWARZBECK	BBHA 9120D	02555	2022-10-16	2025-10-15
6	Software Name EZ-EMC	Farad Technology	ANB-03A	N/A	/	/

Electrostatic discharge						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	ESD Simulators	emtest	ESD NX30.1	11936	2024-03-11	2025-03-10
					2025-03-03	2026-03-02

RF electromagnetic field disturbances						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Signal Generator	Agilent	N5181A	MY50143107	2024-01-23	2025-01-22
					2025-01-13	2026-01-12
2	Power Meter	Agilent	E4417A	MY45101384	2024-01-23	2025-01-22
					2025-01-13	2026-01-12
3	Amplifier	Micotop	MPA-80-1000-600	MPA2110318	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
4	Amplifier	Micotop	MPA-1000-6000-100	MPA2110327	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
5	Log.-Per.-Antenna	Schwarzbeck	VULP 9118E	01012	/	/
6	Microwave Log.-Per. Antenna	Schwarzbeck	STLP 9149	00788	/	/
7	Power Sensor	KEYSIGHT	E9323A	US40410647	2024-01-23	2025-01-22
					2025-01-13	2026-01-12
8	Power Sensor	KEYSIGHT	E9323A	MY53100007	2024-01-23	2025-01-22
					2025-01-13	2026-01-12
9	Electric field Probe	Narda S.T.S /PMM	EP 601	811ZX10351	2024-01-19	2025-01-18
					2025-01-13	2026-01-12
10	Software	EMtrace	EM 3	/	/	/

Electrical fast transients / burst for AC mains power ports						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Surge Generator	TESEQ	NSG 3060	1480	2024-01-18	2025-01-17
					2025-01-13	2026-01-12
2	CDN	TESEQ	CDN 3061	1408	2024-01-18	2025-01-17
					2025-01-13	2026-01-12
3	EFT-Clamp	PRIM	EFT61004B	PR10114282	2024-01-17	2025-01-16
					2025-01-13	2026-01-12

Surges for AC mains power ports						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	Combined Wave Lightning Surge Simulator	3Ctest	CCS600	ES3771702	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
2	Three Phase Power Coupling Network	3Ctest	SEPN69100T	ES0801757	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
3	Telecom port surge generator	PMI	TW101	190411	2024-01-18	2025-01-17
					2025-01-14	2026-01-13

Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	CDN	FRANKONIA	CDN - M2+ M3	A2210178/ 2012	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
2	6dB Attenuator	FRANKONIA	DAM 26W	1172202	2024-09-09	2025-09-08
3	EM-Clamp	FRANKONIA	EMCL-20	18101728-0103	2024-01-17	2025-01-16
					2025-01-13	2026-01-12
4	Signal Generator	R&S	SMC100A	104424	2024-02-04	2025-02-03
					2025-01-13	2026-01-12
5	Software	EMtrace	EM 6	/	/	/
6	Power Meter	Agilent	E4419B	GB43312730	2024-02-04	2025-02-03
					2025-01-13	2026-01-12
7	Amplifier	Micotop	MPA-0.15-230-110	MPA2110317	2024-02-04	2025-02-03
					2025-01-14	2026-01-13
8	Power Sensor	Agilent	E9304	/	2024-02-04	2025-02-03
					2025-01-13	2026-01-12
9	Power Sensor	Agilent	E9304	MY41498663	2024-02-04	2025-02-03
					2025-01-13	2026-01-12
10	CDN	TESEQ	CDN M432-3LN	33659	2024-01-17	2025-01-16
					2025-01-13	2026-01-12

Voltage dips and interruptions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal.Due Date
1	CYCLE SAG Simulator	PRIMA	DRP61011AG	PR12046234	2024-01-17	2025-01-16
					2025-01-13	2026-01-12

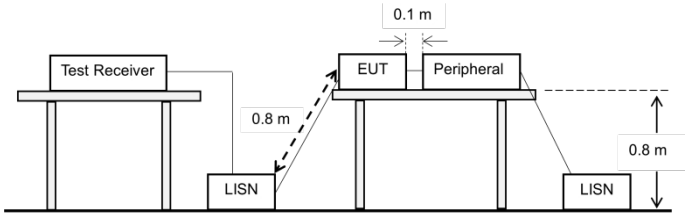
2. Conducted emissions from AC mains power ports (150kHz-30MHz)

Test Requirement:	Class B
Test Limit:	**Frequency Range** / **Limit (Quasi-Peak)** / **Limit (Average)** 0.15MHz to 0.5MHz: 66dB(μV) to 56dB(μV) / 56dB(μV) to 46dB(μV) 0.5MHz to 5MHz: 56dB(μV) / 46dB(μV) 5MHz to 30MHz: 60dB(μV) / 50dB(μV) Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz
Test Method:	EN 55032:2015+A1:2020
Procedure:	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. Remark: Result(dBμV)=Reading(dBμV)+Factor(dB); OverLimit(dB)=Result(dBμV)-Limit(dBμV)

2.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

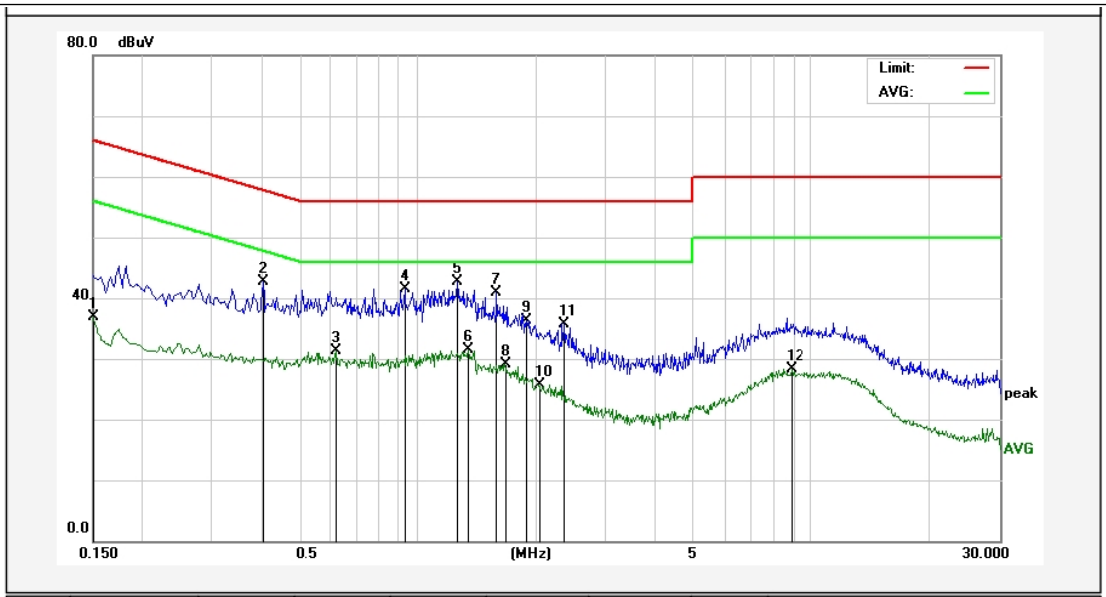
2.2. Test Setup



2.3. Test Data

Temperature:	23.1 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa

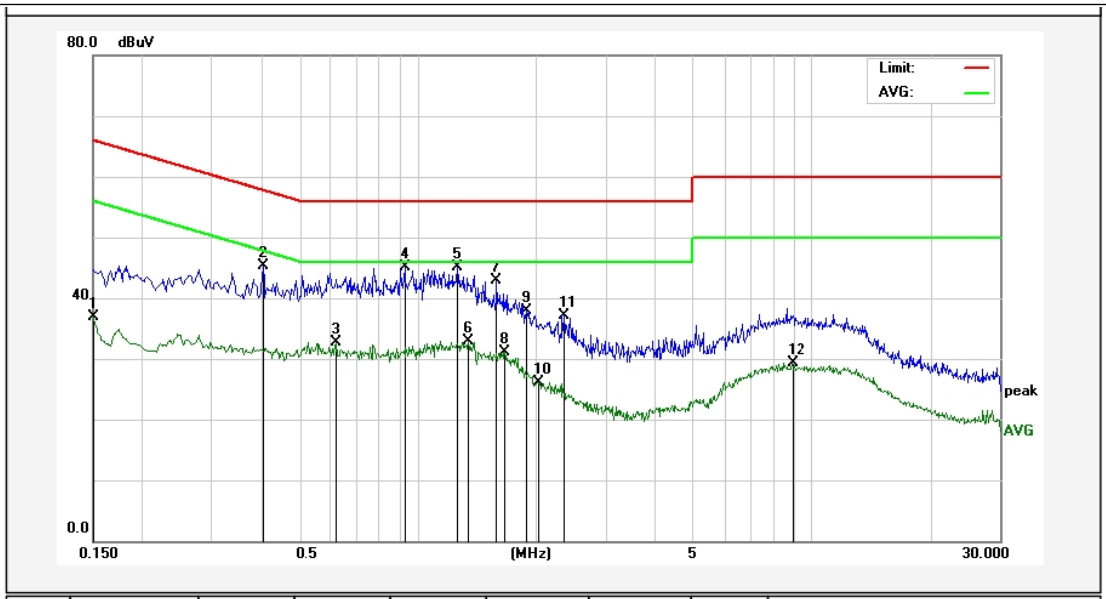
TM1 / Line: Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1499	19.11	17.82	36.93	56.00	-19.07	AVG	
2	0.4060	24.91	17.81	42.72	57.73	-15.01	QP	
3	0.6260	13.42	17.87	31.29	46.00	-14.71	AVG	
4	0.9300	23.72	17.86	41.58	56.00	-14.42	QP	
5	1.2660	24.78	17.86	42.64	56.00	-13.36	QP	
6	1.3500	13.57	17.86	31.43	46.00	-14.57	AVG	
7	1.5900	23.06	17.85	40.91	56.00	-15.09	QP	
8	1.6660	11.26	17.85	29.11	46.00	-16.89	AVG	
9	1.8940	18.48	17.85	36.33	56.00	-19.67	QP	
10	2.0260	7.82	17.85	25.67	46.00	-20.33	AVG	
11	2.3460	17.85	17.85	35.70	56.00	-20.30	QP	
12	8.8939	10.45	17.95	28.40	50.00	-21.60	AVG	

Temperature:	23.1 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa

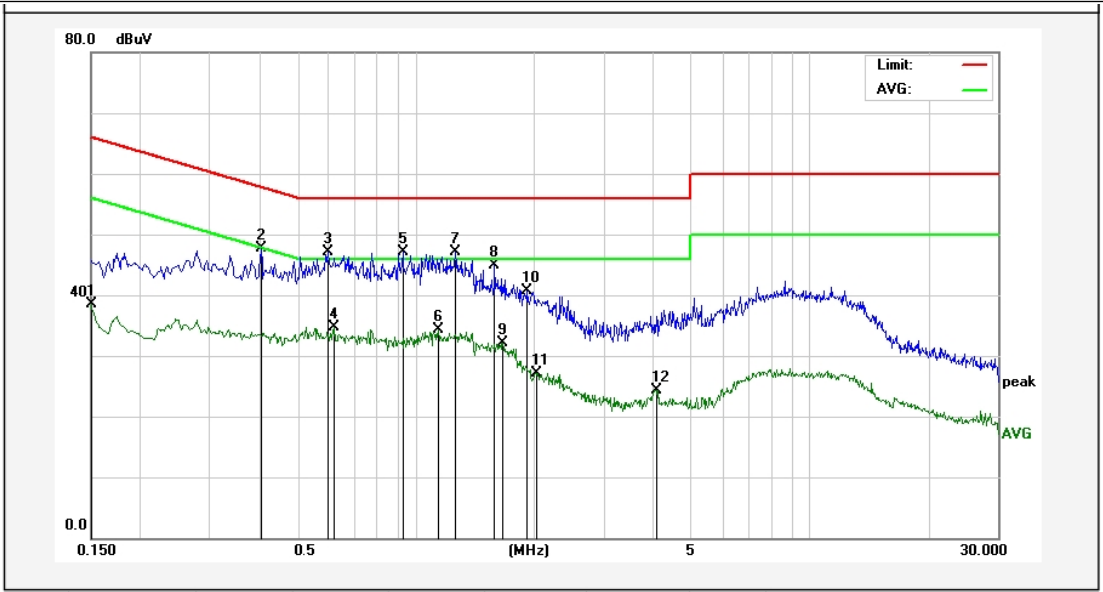
TM1 / Line: Neutral



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1499	19.11	17.82	36.93	56.00	-19.07	AVG	
2	0.4040	27.41	17.81	45.22	57.77	-12.55	QP	
3	0.6238	14.92	17.87	32.79	46.00	-13.21	AVG	
4	0.9282	27.22	17.86	45.08	56.00	-10.92	QP	
5	1.2620	27.28	17.86	45.14	56.00	-10.86	QP	
6	1.3448	15.07	17.86	32.93	46.00	-13.07	AVG	
7	1.5849	25.06	17.85	42.91	56.00	-13.09	QP	
8	1.6625	13.26	17.85	31.11	46.00	-14.89	AVG	
9	1.8877	19.98	17.85	37.83	56.00	-18.17	QP	
10	2.0224	8.32	17.85	26.17	46.00	-19.83	AVG	
11	2.3460	19.35	17.85	37.20	56.00	-18.80	QP	
12	8.8690	11.45	17.95	29.40	50.00	-20.60	AVG	

Temperature:	23.1 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa

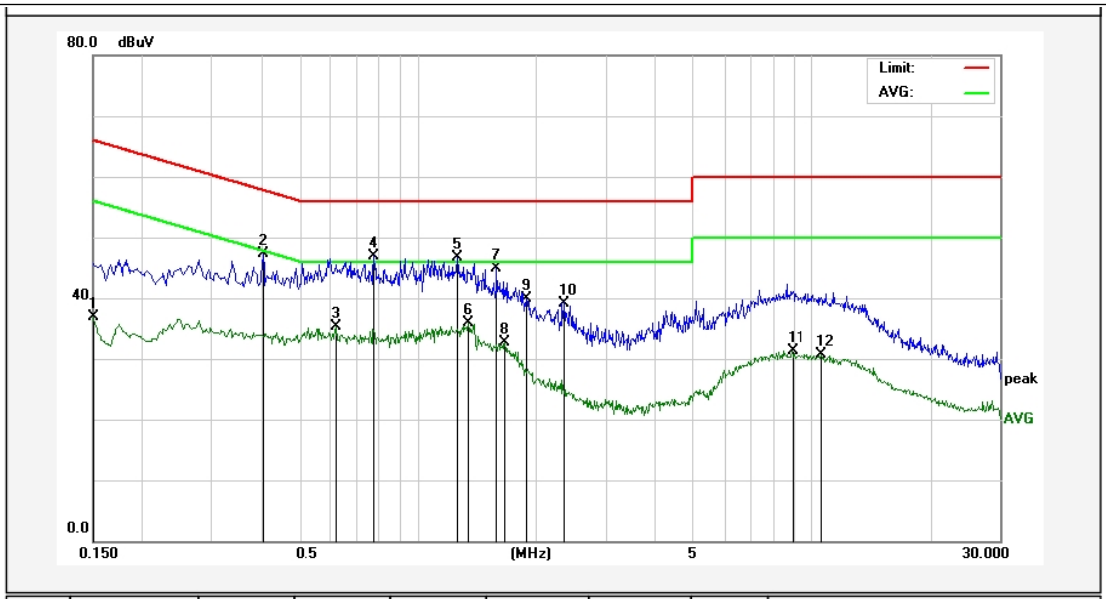
TM2 / Line: Line



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1499	20.61	17.82	38.43	56.00	-17.57	AVG	
2	0.4040	29.91	17.81	47.72	57.77	-10.05	QP	
3	0.6010	29.15	17.87	47.02	56.00	-8.98	QP	
4	0.6238	16.92	17.87	34.79	46.00	-11.21	AVG	
5	0.9282	29.22	17.86	47.08	56.00	-8.92	QP	
6	1.1412	16.51	17.86	34.37	46.00	-11.63	AVG	
7	1.2620	29.28	17.86	47.14	56.00	-8.86	QP	
8	1.5850	27.06	17.85	44.91	56.00	-11.09	QP	
9	1.6625	14.26	17.85	32.11	46.00	-13.89	AVG	
10	1.9181	22.93	17.85	40.78	56.00	-15.22	QP	
11	2.0224	9.32	17.85	27.17	46.00	-18.83	AVG	
12	4.0704	6.54	17.85	24.39	46.00	-21.61	AVG	

Temperature:	23.1 °C	Humidity:	48 %	Atmospheric Pressure:	101 kPa

TM2 / Line: Neutral



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV)	Over Limit (dB)	Detector	Remark
1	0.1499	19.11	17.82	36.93	56.00	-19.07	AVG	
2	0.4040	29.41	17.81	47.22	57.77	-10.55	QP	
3	0.6238	17.42	17.87	35.29	46.00	-10.71	AVG	
4	0.7752	29.12	17.87	46.99	56.00	-9.01	QP	
5	1.2620	28.78	17.86	46.64	56.00	-9.36	QP	
6	1.3449	18.07	17.86	35.93	46.00	-10.07	AVG	
7	1.5850	27.06	17.85	44.91	56.00	-11.09	QP	
8	1.6625	14.76	17.85	32.61	46.00	-13.39	AVG	
9	1.8878	21.98	17.85	39.83	56.00	-16.17	QP	
10	2.3460	21.35	17.85	39.20	56.00	-16.80	QP	
11	8.8691	13.45	17.95	31.40	50.00	-18.60	AVG	
12	10.5638	12.75	17.99	30.74	50.00	-19.26	AVG	

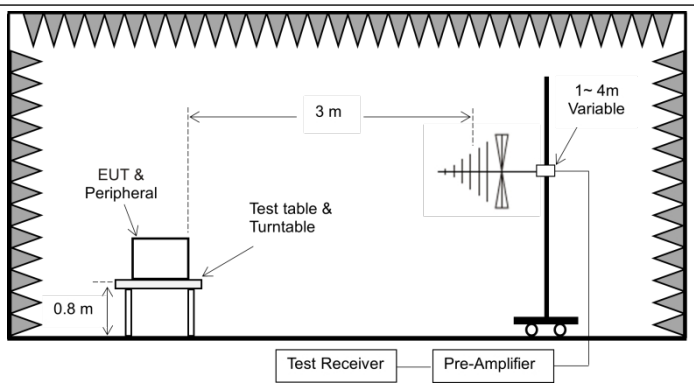
3. Radiated emissions (30MHz-1GHz)

Test Requirement:	Class B
Test Limit:	**Frequency (MHz)** / **Limit [dB(uV/m) at 10m]** / **Limit [dB(uV/m) at 3m]** 30 to 230 / 30 / 40 230 to 1000 / 37 / 47 Detector: / Peak for pre-scan (120kHz resolution bandwidth) 30M to 1000MHz
Test Method:	EN 55032:2015+A1:2020
Procedure:	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. Remark: Result(dBμV/m) = Reading(dBμV) + Factor(dB/m); Over Limit(dB) = Result(dBμV/m) - Limit(dBμV/m)

3.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

3.2. Test Setup



3.3. Test Data

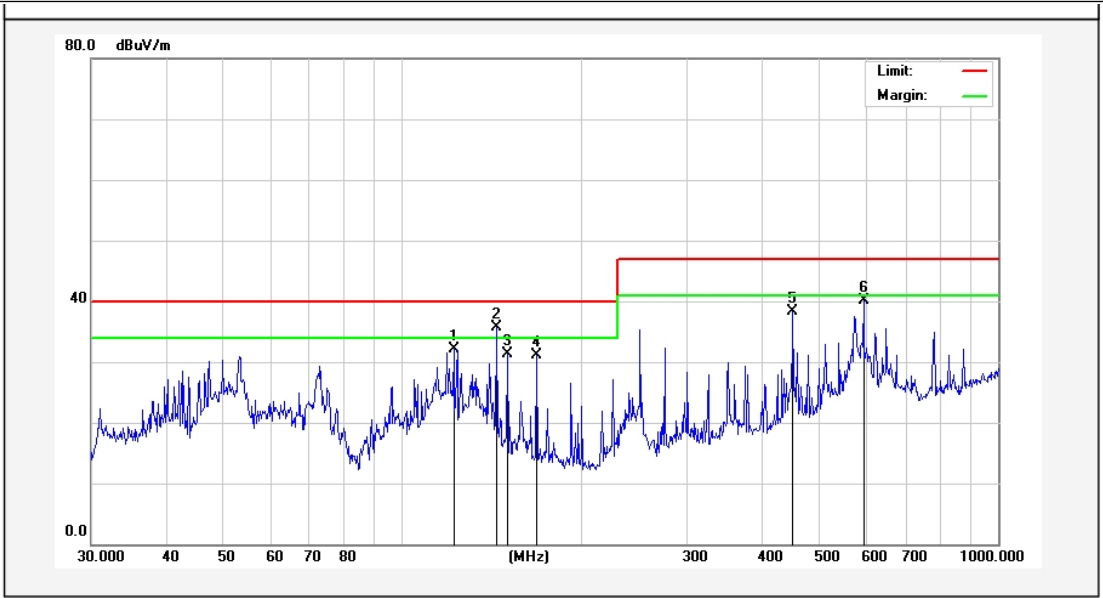
Temperature:	25.3 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

TM1 / Polarization: Horizontal

No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	154.2786	54.95	-22.11	32.84	40.00	-7.16	QP			
2	225.3080	53.97	-18.82	35.15	40.00	-4.85	QP			
3	239.9874	57.25	-18.29	38.96	47.00	-8.04	QP			
4	250.3011	59.05	-17.92	41.13	47.00	-5.87	QP			
5	275.1570	57.87	-17.10	40.77	47.00	-6.23	QP			
6	782.3452	47.49	-8.15	39.34	47.00	-7.66	QP			

Temperature:	25.3 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

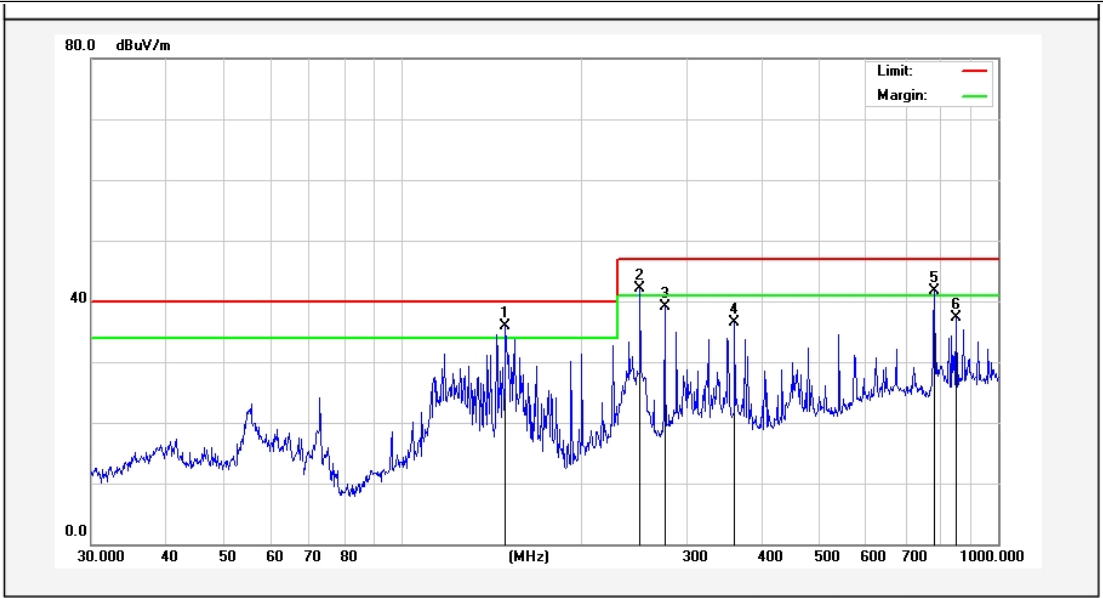
TM1 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	121.9755	52.90	-20.81	32.09	40.00	-7.91	QP			
2	143.8295	58.13	-22.33	35.80	40.00	-4.20	QP			
3	150.0108	53.33	-22.09	31.24	40.00	-8.76	QP			
4	167.8243	52.37	-21.23	31.14	40.00	-8.86	QP			
5	451.1350	50.56	-12.17	38.39	47.00	-8.61	QP			
6	595.1329	49.53	-9.46	40.07	47.00	-6.93	QP			

Temperature:	25.3 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

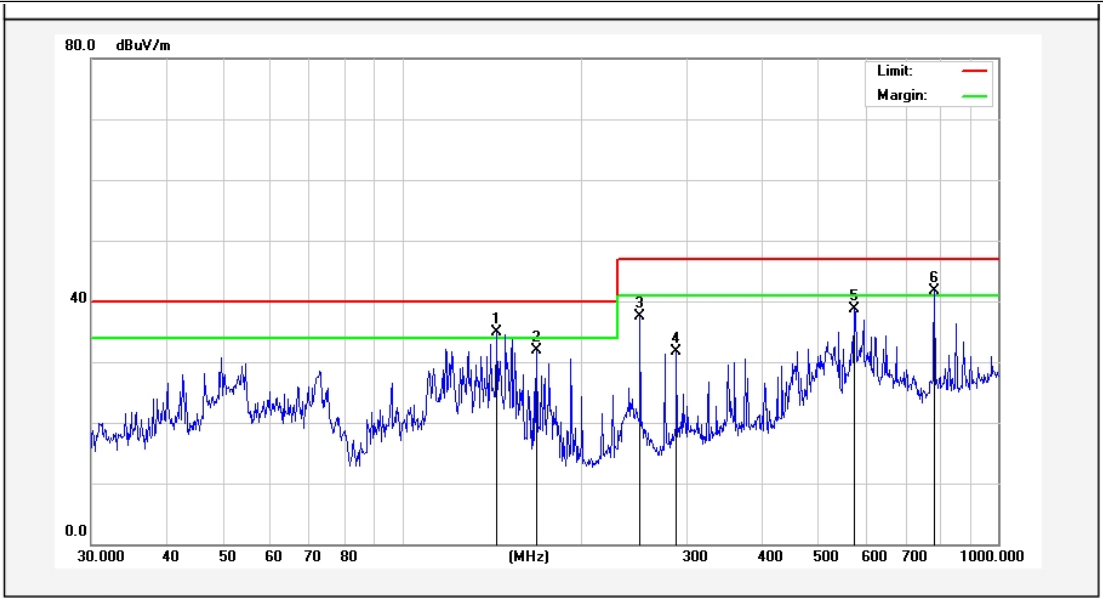
TM2 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	148.9625	58.18	-22.27	35.91	40.00	-4.09	QP			
2	250.3011	60.00	-17.92	42.08	47.00	-4.92	QP			
3	275.1570	56.20	-17.10	39.10	47.00	-7.90	QP			
4	360.4476	51.16	-14.65	36.51	47.00	-10.49	QP			
5	782.3453	49.89	-8.15	41.74	47.00	-5.26	QP			
6	851.0353	44.76	-7.46	37.30	47.00	-9.70	QP			

Temperature:	25.3 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

TM2 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	143.8293	57.25	-22.33	34.92	40.00	-5.08	QP			
2	167.8243	53.19	-21.24	31.95	40.00	-8.05	QP			
3	250.3012	55.49	-17.92	37.57	47.00	-9.43	QP			
4	287.9904	48.29	-16.67	31.62	47.00	-15.38	QP			
5	574.6258	49.22	-10.52	38.70	47.00	-8.30	QP			
6	782.3451	49.81	-8.15	41.66	47.00	-5.34	QP			

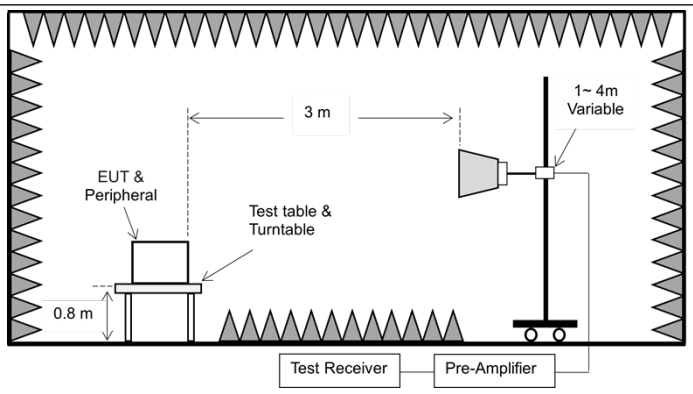
4. Radiated emissions (above 1GHz)

Test Requirement:	Class B
Test Limit:	**Frequency (MHz)** / **Limit (dBuV/m)**: **Peak** 74, **Average** 54 for 1000 to 6000 Detector: Peak for pre-scan (1000kHz resolution bandwidth) 1000MHz to 6000MHz
Test Method:	EN 55032:2015+A1:2020
Procedure:	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. Remark: Result(dBμV/m) = Reading(dBμV) + Factor(dB/m); Over Limit(dB) = Result(dBμV/m) - Limit(dBμV/m)

4.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

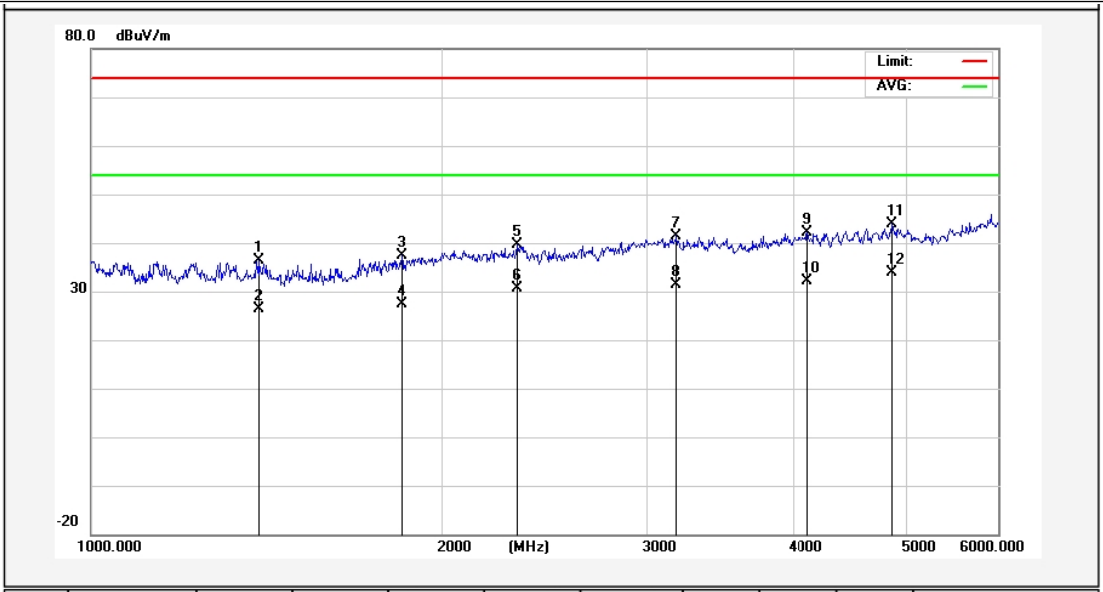
4.2. Test Setup



4.3. Test Data

Temperature:	23.8 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa

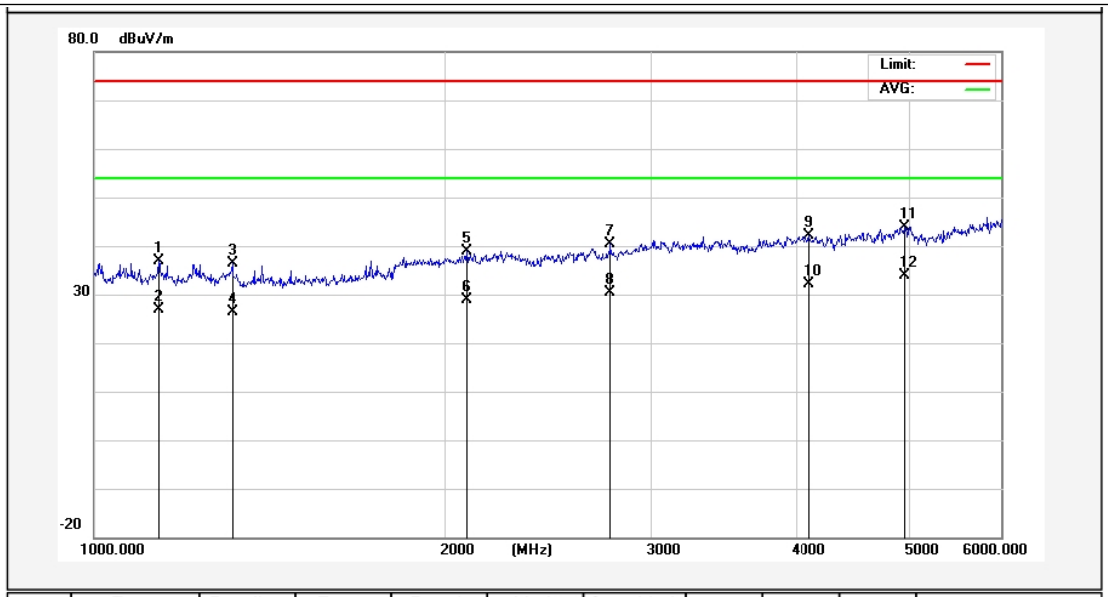
TM1 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	1393.022	56.24	-19.92	36.32	74.00	-37.68	peak			
2	1393.022	46.24	-19.92	26.32	54.00	-27.68	AVG			
3	1848.868	56.39	-18.97	37.42	74.00	-36.58	peak			
4	1848.868	46.39	-18.97	27.42	54.00	-26.58	AVG			
5	2321.299	57.09	-17.49	39.60	74.00	-34.40	peak			
6	2321.299	48.09	-17.49	30.60	54.00	-23.40	AVG			
7	3176.198	56.10	-14.84	41.26	74.00	-32.74	peak			
8	3176.198	46.10	-14.84	31.26	54.00	-22.74	AVG			
9	4118.504	54.51	-12.44	42.07	74.00	-31.93	peak			
10	4118.504	44.51	-12.44	32.07	54.00	-21.93	AVG			
11	4865.277	54.43	-10.57	43.86	74.00	-30.14	peak			
12	4865.277	44.43	-10.57	33.86	54.00	-20.14	AVG			

Temperature:	23.8 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa

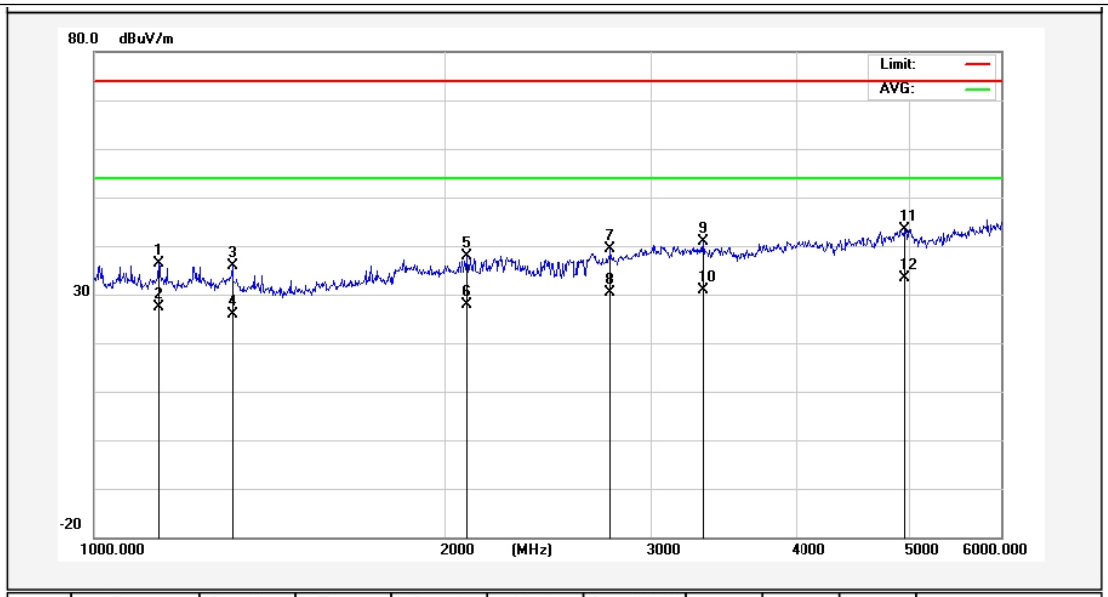
TM1 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	1135.661	64.37	-27.54	36.83	74.00	-37.17	peak			
2	1135.661	54.37	-27.54	26.83	54.00	-27.17	AVG			
3	1313.043	63.36	-27.09	36.27	74.00	-37.73	peak			
4	1313.043	53.36	-27.09	26.27	54.00	-27.73	AVG			
5	2088.431	63.86	-25.08	38.78	74.00	-35.22	peak			
6	2088.431	53.86	-25.08	28.78	54.00	-25.22	AVG			
7	2771.839	63.92	-23.54	40.38	74.00	-33.62	peak			
8	2771.839	53.92	-23.54	30.38	54.00	-23.62	AVG			
9	4111.131	61.60	-19.47	42.13	74.00	-31.87	peak			
10	4111.131	51.60	-19.47	32.13	54.00	-21.87	AVG			
11	4962.119	61.34	-17.43	43.91	74.00	-30.09	peak			
12	4962.119	51.34	-17.43	33.91	54.00	-20.09	AVG			

Temperature:	23.8 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa

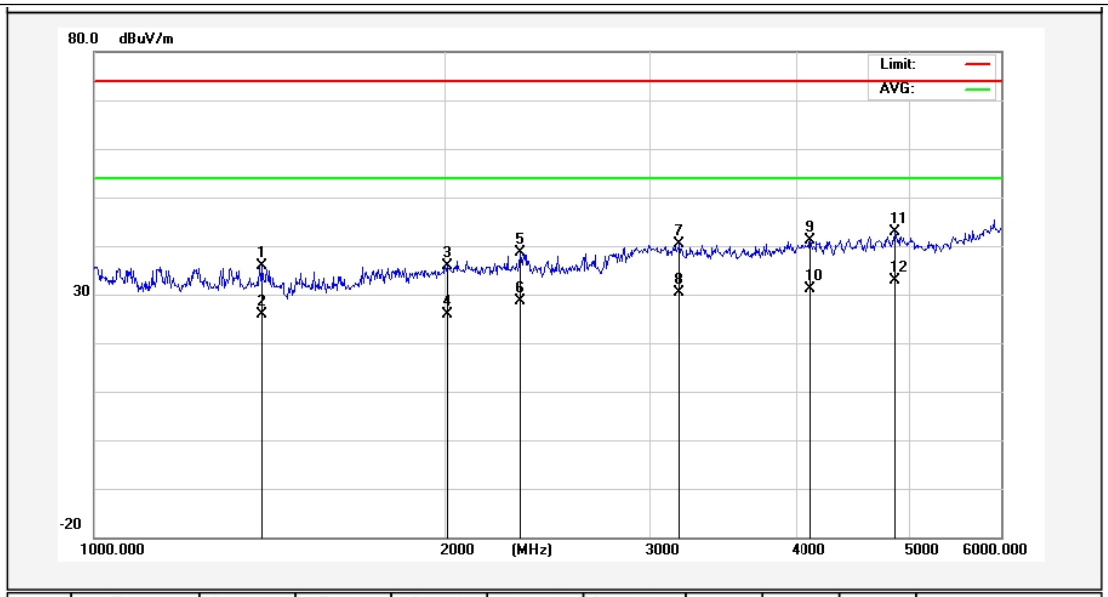
TM2 / Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	1135.661	63.87	-27.54	36.33	74.00	-37.67	peak			
2	1135.661	54.87	-27.54	27.33	54.00	-26.67	AVG			
3	1313.043	62.86	-27.09	35.77	74.00	-38.23	peak			
4	1313.043	52.86	-27.09	25.77	54.00	-28.23	AVG			
5	2088.431	62.86	-25.08	37.78	74.00	-36.22	peak			
6	2088.431	52.86	-25.08	27.78	54.00	-26.22	AVG			
7	2771.839	62.92	-23.54	39.38	74.00	-34.62	peak			
8	2771.839	53.92	-23.54	30.38	54.00	-23.62	AVG			
9	3327.664	62.44	-21.62	40.82	74.00	-33.18	peak			
10	3327.664	52.44	-21.62	30.82	54.00	-23.18	AVG			
11	4962.119	60.84	-17.43	43.41	74.00	-30.59	peak			
12	4962.119	50.84	-17.43	33.41	54.00	-20.59	AVG			

Temperature:	23.8 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa

TM2 / Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	1393.022	55.74	-19.92	35.82	74.00	-38.18	peak			
2	1393.022	45.74	-19.92	25.82	54.00	-28.18	AVG			
3	2011.310	54.14	-18.34	35.80	74.00	-38.20	peak			
4	2011.310	44.14	-18.34	25.80	54.00	-28.20	AVG			
5	2321.299	56.09	-17.49	38.60	74.00	-35.40	peak			
6	2321.299	46.09	-17.49	28.60	54.00	-25.40	AVG			
7	3176.198	55.10	-14.84	40.26	74.00	-33.74	peak			
8	3176.198	45.10	-14.84	30.26	54.00	-23.74	AVG			
9	4118.504	53.51	-12.44	41.07	74.00	-32.93	peak			
10	4118.504	43.51	-12.44	31.07	54.00	-22.93	AVG			
11	4865.277	53.43	-10.57	42.86	74.00	-31.14	peak			
12	4865.277	43.43	-10.57	32.86	54.00	-21.14	AVG			

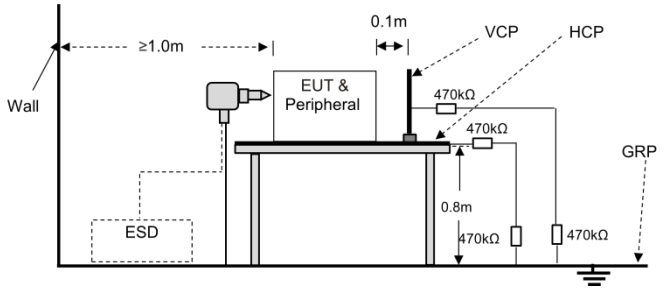
5. Electrostatic discharges

Test Requirement:	Contact Discharge: +/- 4kV Air Discharge: +/- 8kV
Test Method:	EN 55035:2017+A11:2020
Procedure:	Discharge Impedance: 330Ω/150pF Number of Discharge: Minimum 10 times at each test point Discharge Mode: Single Discharge Discharge Period: 1 second minimum
Performance Criteria:	B

5.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

5.2. Test Setup



5.3. Test Data

Temperature:	21.2 °C	Humidity:	52 %	Atmospheric Pressure:	101 kPa

Discharge type	Volt (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

Test Point: 1. All insulated enclosure and seams.
2. All accessible metal parts of the enclosure.
3. All side.
A: No degradation in the performance of the EUT was observed.

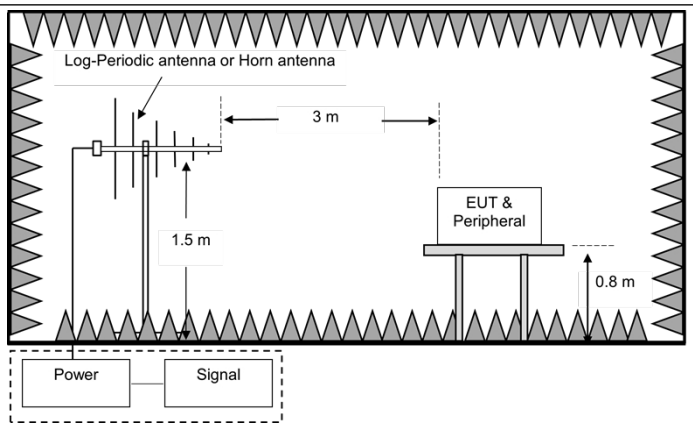
6. RF electromagnetic field disturbances

Test Requirement:	3V/m, 80%, 1kHz Amp. Mod.
Test Method:	EN 55035:2017+A11:2020
Procedure:	Frequency Range: 80MHz to 1GHz, 1800MHz, 2600MHz, 3500MHz, 5000MHz Antenna Polarisation: Vertical and Horizontal Modulation: 1kHz,80% Amp. Mod,1% increment
Performance Criteria:	A

6.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

6.2. Test Setup



6.3. Test Data

Temperature:	22.2 °C	Humidity:	51 %	Atmospheric Pressure:	101 kPa

Frequency	Field Strength (V/m)	EUT face	Dwell time	Result/ Observations
80MHz-1GHz	3	Front	3s	A
80MHz-1GHz	3	Back	3s	A
80MHz-1GHz	3	Left	3s	A
80MHz-1GHz	3	Right	3s	A
80MHz-1GHz	3	Top	3s	A
80MHz-1GHz	3	Bottom	3s	A
1800MHz	3	Front	3s	A
1800MHz	3	Back	3s	A
1800MHz	3	Left	3s	A
1800MHz	3	Right	3s	A
1800MHz	3	Top	3s	A
1800MHz	3	Bottom	3s	A
2600MHz	3	Front	3s	A
2600MHz	3	Back	3s	A
2600MHz	3	Left	3s	A
2600MHz	3	Right	3s	A
2600MHz	3	Top	3s	A
2600MHz	3	Bottom	3s	A
3500MHz	3	Front	3s	A
3500MHz	3	Back	3s	A
3500MHz	3	Left	3s	A
3500MHz	3	Right	3s	A
3500MHz	3	Top	3s	A
3500MHz	3	Bottom	3s	A
5000MHz	3	Front	3s	A
5000MHz	3	Back	3s	A
5000MHz	3	Left	3s	A
5000MHz	3	Right	3s	A
5000MHz	3	Top	3s	A
5000MHz	3	Bottom	3s	A

A: No degradation in the performance of the EUT was observed.

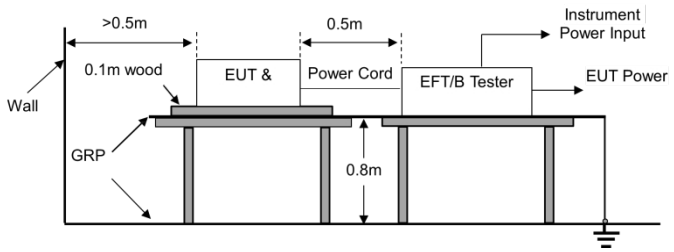
7. Electrical fast transients / burst for AC mains power ports

Test Requirement:	1kV; 5/50ns Tr/Th; 5kHz Repetition Frequency
Test Method:	EN 55035:2017+A11:2020
Procedure:	Repetition Frequency: 5kHz Burst Period: 300ms Test Duration: 2 minute per level & polarity
Performance Criteria:	B

7.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

7.2. Test Setup



7.3. Test Data

Temperature:	21.5 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

Port	Volt (kV)	Polarity	CDN/ Clamp	Result/ Observations
AC power port	1	+	CDN	A
AC power port	1	-	CDN	A

A: No degradation in the performance of the EUT was observed.

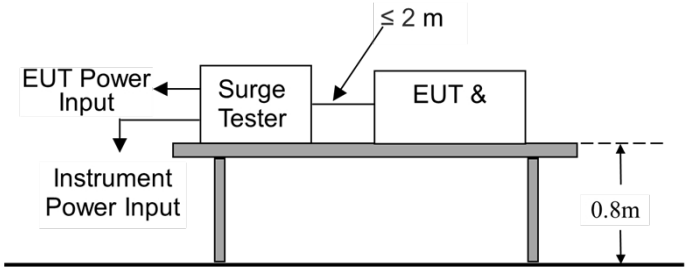
8. Surges for AC mains power ports

Test Requirement:	1.2/50μs Tr/Td; 1kV Line to Line
Test Method:	EN 55035:2017+A11:2020
Procedure:	Interval: 60s between each surge No. of surges: 5 positive, 5 negative at 90°, 270°
Performance Criteria:	B

8.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

8.2. Test Setup



8.3. Test Data

Temperature:	21.5 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

Port	Volt (kV)	Polarity	Phase(degree)	Result/ Observations
L-N	1	+	90°	A
L-N	1	-	270°	A

A: No degradation in the performance of the EUT was observed.

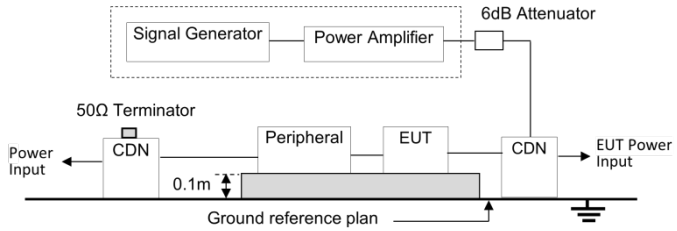
9. Continuous induced RF disturbances for AC mains power ports (150kHz-80MHz)

Test Requirement:	0,15 to 10MHz 3Vrms (emf), 10 to 30MHz 3V to 1Vrms(emf), 30 to 80MHz 1Vrms(emf), 80%,1kHz Amp. Mod.
Test Method:	EN 55035:2017+A11:2020
Procedure:	Frequency Range: 0.15MHz to 80MHz Modulation: 80%, 1kHz Amplitude Modulation Step Size: 1%
Performance Criteria:	A

9.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

9.2. Test Setup



9.3. Test Data

Temperature:	21.5 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

Port	Strength (Vrms)	CDN/Clamp	Dwell time	Result/ Observations
AC power port	3(0.15MHz-10MHz)	CDN	3s	A
AC power port	3 to 1(10MHz-30MHz, Lines)	CDN	3s	A
AC power port	1(30MHz-80MHz)	CDN	3s	A

A: No degradation in the performance of the EUT was observed.

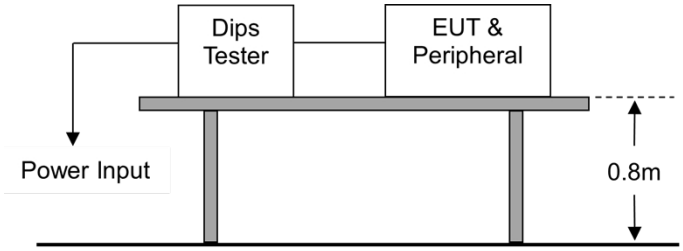
10. Voltage dips and interruptions

Test Requirement:	<5% residual voltage for 0.5 periods 70% residual voltage: 25 periods for 50Hz, 30 periods for 60Hz <5% residual voltage: 250 periods for 50Hz, 300 periods for 60Hz
Test Method:	EN 55035:2017+A11:2020
Procedure:	<5% residual voltage for 0.5 period 70% residual voltage: 25 periods for 50Hz, 30 periods for 60Hz <5% residual voltage: 250 periods for 50Hz, 300 periods for 60Hz No. of Dips / Interruptions: 3 per Level Time between dropout: 10s
Performance Criteria:	B, C, C

10.1. EUT Operation

Operating Environment:	
Test mode:	1: TM1: Adapter+WiFi + TF Card Mode(DC 5V from adapter input AC 230V/50Hz) 2: TM2: Adapter+BT + TF Card Mode(DC 5V from adapter input AC 230V/50Hz)

10.2. Test Setup



10.3. Test Data

Temperature:	21.5 °C	Humidity:	54 %	Atmospheric Pressure:	101 kPa

Level %UT	Phase (degree)	Duration	No. of Dips/ Interruptions	Result/ Observations
0	0°	0.5 Cycles	3	B
0	0°	250 Cycles	3	B
70	0°	25 Cycles	3	B

B: During the test, the power shut down, after the experiment, the function can automatically return to normal.

APPENDIX I -- TEST SETUP PHOTOGRAPH

Please refer to separated files Appendix I -- Test Setup Photograph_EMC

APPENDIX II -- EXTERNAL PHOTOGRAPH

Please refer to separated files Appendix II -- External Photograph

APPENDIX III -- INTERNAL PHOTOGRAPH

Please refer to separated files Appendix III -- Internal Photograph

CE Label

1. The CE conformity marking must consist of the initials ‘CE’ taking the following form:
   If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.
   It must have the same height as the initials ‘CE’.

---------- End of Report ----------