TEST REPORT

Reference No.	:	WTF20S03013053W003
Manufacturer*	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Factory	:	103221
Product	:	Bluetooth Speaker
Model(s)	:	MO9260
Standards	:	ETSI EN 301 489-1 V2.1.1 (2017-02) ETSI EN 301 489-17 V3.1.1 (2017-02)
Date of Receipt sample	:	2020-03-25
Date of Test	:	2020-03-26 to 2020-05-11
Date of Issue	:	2020-05-12
Test Result	:	Pass

Remarks:
1. The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.
2. "*" **manufacturer** means any natural or legal person who manufactures radio equipment or has radio equipment designed or manufactured, and markets that equipment under his name or trade mark.

Prepared By:
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2 Contents

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTF20S03013053W003	2020-03-25	2020-03-26 to 2020-05-11	2020-05-12	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Bluetooth Speaker
Model(s):	MO9260
Model Description:	N/A
Bluetooth Version:	Bluetooth v5.0
Hardware Version:	V1.0
Software Version:	V1.0

4.2 Details of E.U.T.

Ratings:	DC 3.7V 450mAh by battery

4.3 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: /

Lab address: /

Test items: /

4.4 Abnormalities from Standard Conditions

None.

5 Test Summary

EMC PART		
Test Items	**Test Requirement**	**Result**
Conducted Emissions	EN 301 489-17	N/A
Radiated Emissions	EN 301 489-17	PASS
Harmonic Current Emissions	EN 301 489-17	N/A
Voltage Fluctuations and Flicker	EN 301 489-17	N/A
Electrostatic Discharge(ESD)	EN 301 489-17	PASS
Radiated Immunity (R/S)	EN 301 489-17	PASS
Electrical Fast Transients (EFT)	EN 301 489-17	N/A
Surge Immunity	EN 301 489-17	N/A
Conducted Immunity (C/S)	EN 301 489-17	N/A
Voltage Dips and Interruptions	EN 301 489-17	N/A
Remark: PASS: Test item meets the requirement N/A: Not Applicable		

6 Equipment Used during Test

6.1 Equipments List

Conducted Emissions						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMI Test Receiver	R&S	ESCI	101155	2019-09-17	2020-09-16
2	LISN	SCHWARZBECK	NSLK 8128	8128-259	2019-09-17	2020-09-16
3	Limiter	CYBERTEK	EM5010	261115-001-0024	2019-09-17	2020-09-16
4	Cable	Laplace	RF300	-	2019-09-17	2020-09-16
5	Universal Radio Communication Tester	R&S	CMU 200	121315	2020-04-20	2021-04-19
6	Universal Radio Communication Tester	R&S	CMW500	127818	2020-04-20	2021-04-19
3m Semi-anechoic Chamber for Radiation Emissions						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Spectrum Analyzer	R&S	FSP	100091	2020-04-20	2021-04-19
2	Amplifier	Agilent	8447D	2944A10178	2020-04-20	2021-04-19
3	Active Loop Antenna	Beijing Dazhi	ZN30900A	0703	2020-04-20	2021-04-19
4	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2019-08-11	2020-08-10
5	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2020-04-20	2021-04-19
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2020-04-19	2021-04-18
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2020-04-20	2021-04-19
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	2020-04-20	2021-04-19
9	Universal Radio Communication Tester	R&S	CMU 200	121315	2020-04-20	2021-04-19
10	Universal Radio Communication Tester	R&S	CMW 500	127818	2020-04-20	2021-04-19
Harmonic/ Flicker						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Digital Power Analyzer	SCHAFFNER	CCN 1000-1	72625	2020-04-20	2021-04-19
2	Power Source	SCHAFFNER	NSG 1007	58477	2020-04-20	2021-04-19
3	Universal Radio	R&S	CMU 200	112461	2020-04-20	2021-04-19

	Communication Tester					
4	Universal Radio Communication Tester	R&S	CMW500	127818	2020-04-20	2021-04-19

Electrostatic Discharge

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Electrostatic Discharge Simulator	SCHLODER	SESD 216	606144	2020-04-24	2021-04-23
2	Universal Radio Communication Tester	R&S	CMU 200	112461	2020-04-20	2021-04-19

Conducted Immunity

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	RF Generator	TESEQ	NSG4070	25781	2019-09-17	2020-09-16
2	CDN M-Type	TESEQ	CDN M016	25112	2019-09-17	2020-09-16
3	EM-Clamp	TESEQ	KEMZ 801	25453	2019-09-17	2020-09-16
4	Attenuator 6dB	TESEQ	ATN6050	25365	2019-09-17	2020-09-16
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2020-04-20	2021-04-19
6	Audio Analyzer	R&S	UPV	102011	2019-09-17	2020-09-16
7	Universal Radio Communication Tester	R&S	CMW500	127818	2020-04-20	2021-04-19

Surge, EFT, Voltage dips and Interruption

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	All Modules Generator	SCHAFFNER	6150	34579	2019-09-17	2020-09-16
2	EMS Modules Generator	EMC PARTNER TRANSIENT	2000	494	2019-09-17	2020-09-16
3	Capacitive Coupling Clamp	SCHAFFNER	CDN 8014	25311	2019-09-17	2020-09-16
4	Signal and Data Line Coupling Network	SCHAFFNER	CDN 117	25627	2019-09-17	2020-09-16
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2020-04-20	2021-04-19
6	Universal Radio Communication Tester	R&S	CMW500	127818	2020-04-20	2021-04-19

Radio-frequency electromagnetic fields

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Signal Generater	R&S	SMB100A	105942	2019-09-17	2020-09-16
2	Power Amplifier	BONN Elektronik	BLWA0830-160/100/40D	128740	2019-09-17	2020-09-16

3	Gestockte Breitband (S tacked) Log.-per.Antenna	SCHWARZBECK	STLP9128D	043	2019-09-17	2020-09-16
4	Power Meter	R&S	NRP2	102031	2020-04-20	2021-04-19
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2020-04-20	2021-04-19
6	Audio Analyzer	R&S	UPV	102011	2019-09-17	2020-09-16
7	Universal Radio Communication Tester	R&S	CMW500	127818	2020-04-20	2021-04-19
3m Semi-anechoic Chamber for Radiation(TDK)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	2020-04-20	2021-04-19
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	2021-04-24
3	Amplifier	ANRITSU	MH648A	M43381	2020-04-20	2021-04-19
4	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20	2021-04-19
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2020-04-20	2021-04-19
6	Universal Radio Communication Tester	R&S	CMW500	127818	2020-04-20	2021-04-19

Electrostatic Discharge						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Electrostatic Discharge Simulator	HAEFELY	PESD 1610	20011086	2019-05-31	2020-05-30
2	Universal Radio Communication Tester	R&S	CMU 200	112461	2019-04-13	2020-04-12
Conducted Immunity						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	RF Generator	TESEQ	NSG4070	25781	2019-09-12	2020-09-11
2	CDN M-Type	TESEQ	CDN M016	25112	2019-09-12	2020-09-11
3	EM-Clamp	TESEQ	KEMZ 801	25453	2019-09-12	2020-09-11
4	Attenuator 6dB	TESEQ	ATN6050	25365	2019-09-12	2020-09-11
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2019-04-13	2020-04-12
6	Audio Analyzer	R&S	UPV	102011	2019-09-12	2020-09-11
7	Universal Radio Communication Tester	R&S	CMW500	127818	2019-04-13	2020-04-12
Surge, EFT, Voltage dips and Interruption						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	All Modules Generator	SCHAFFNER	6150	34579	2019-09-22	2020-09-21
2	EMS Modules Generator	EMC PARTNER TRANSIENT	2000	494	2019-09-22	2020-09-21
3	Capacitive Coupling Clamp	SCHAFFNER	CDN 8014	25311	2019-09-22	2020-09-21
4	Signal and Data Line Coupling Network	SCHAFFNER	CDN 117	25627	2019-09-22	2020-09-21
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2019-04-13	2020-04-12
6	Universal Radio Communication Tester	R&S	CMW500	127818	2019-04-13	2020-04-12
Radio-frequency electromagnetic fields						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Signal Generater	R&S	SMB100A	105942	2019-09-12	2020-09-11
2	RF Power Amplifier	BONN Elektronik	BLWA0830-160/100/40D	128740	2019-09-12	2020-09-11
3	Gestockte Breitband (S tacked) Log.-per.Antenna	SCHWARZBECK	STLP9128D	043	2019-09-12	2020-09-11
4	Power Meter	R&S	NRP2	102031	2019-09-12	2020-09-11
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2019-04-13	2020-04-12
6	Audio Analyzer	R&S	UPV	102011	2019-09-12	2020-09-11
7	Universal Radio Communication Tester	R&S	CMW500	127818	2019-04-13	2020-04-12

3m Semi-anechoic Chamber for Radiation(TDK)						
Item	Equipment	Manufacturer	Model No.	Serial No	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	2019-04-13	2020-04-12
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2019-04-09	2020-04-08
3	Amplifier	ANRITSU	MH648A	M43381	2019-04-13	2020-04-12
4	Cable	HUBER+SUHNER	CBL2	525178	2019-04-13	2020-04-12
5	Universal Radio Communication Tester	R&S	CMU 200	112461	2019-04-13	2020-04-12
6	Universal Radio Communication Tester	R&S	CMW500	127818	2019-04-13	2020-04-12

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

6.3 Measurement Uncertainty

Parameter	Uncertainty
Conduction disturbance(150kHz~30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±5.08dB
Radiated Emission(1GHz~6GHz)	±4.99dB

6.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

6.5 Test Modes

Radiated Emissions	
TM1*	Bluetooth link
Electrostatic Discharge(ESD)	
TM1*	Bluetooth link
Radiated Immunity(R/S)	
TM1*	Bluetooth link
All test mode were tested and passed, only Conducted Emissions, Radiated Emissions Harmonic Current Emissions and Voltage Fluctuations and Flicker shows the worst case mode which were recorded in this report.	

7 EMC Requirements for Emissions

7.1 Radiated Emissions

Test Method	:	EN 301 489-1, EN 55032
Frequency Range	:	30MHz to 1GHz, 1GHz to 6GHz
Class/Severity	:	Class B/ Table A.4 of EN 55032 (30MHz to 1GHz) Class B/ A.5 of EN 55032 (1GHz to 6GHz)
Detector	:	Peak for pre-scan (120kHz Resolution Bandwidth Below 1GHz; 1MHz Resolution Bandwidth Above 1GHz)

7.1.1EUT Operation:

Operating Environment :

Temperature	:	22.5°C
Humidity	:	52.1 % RH
Atmospheric Pressure	:	101.2kPa

EUT Operation :

Refer to section 7.5.

7.1.2Test Setup

The radiated emission tests were performed using the setup accordance with the EN 55032.

Frequency Range: Below 1 GHz

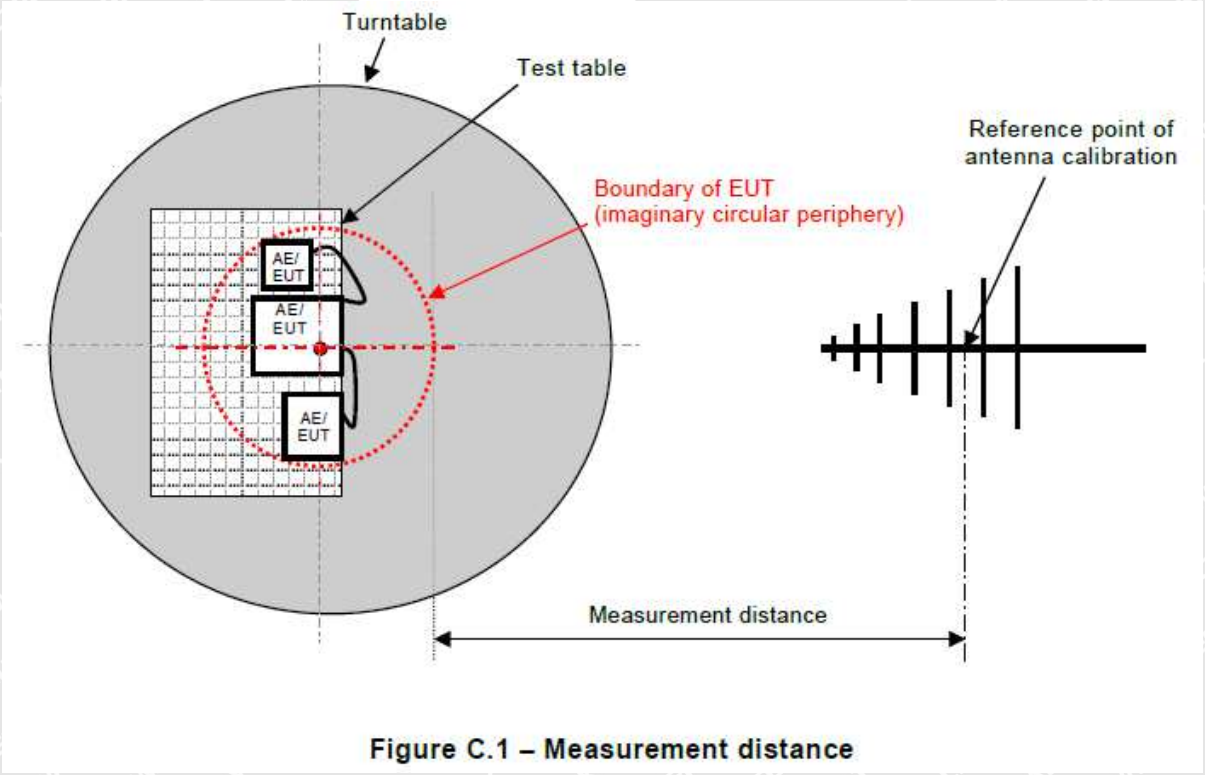


Figure C.1 – Measurement distance

Frequency Range: Above 1 GHz

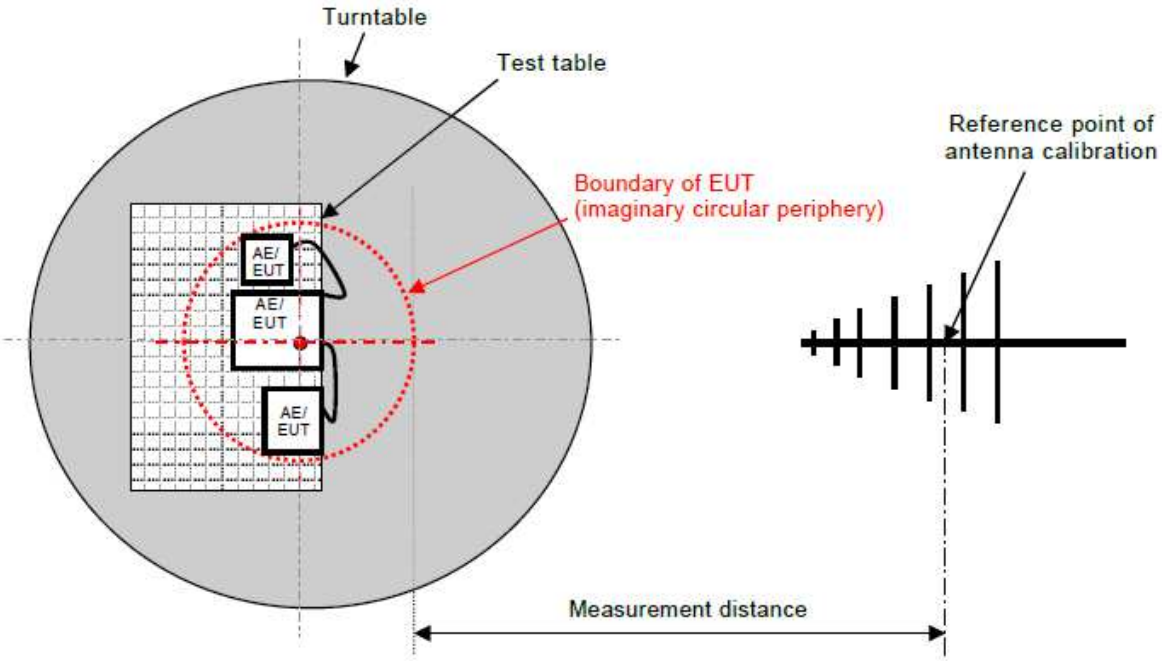


Figure C.1 – Measurement distance

7.1.3Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

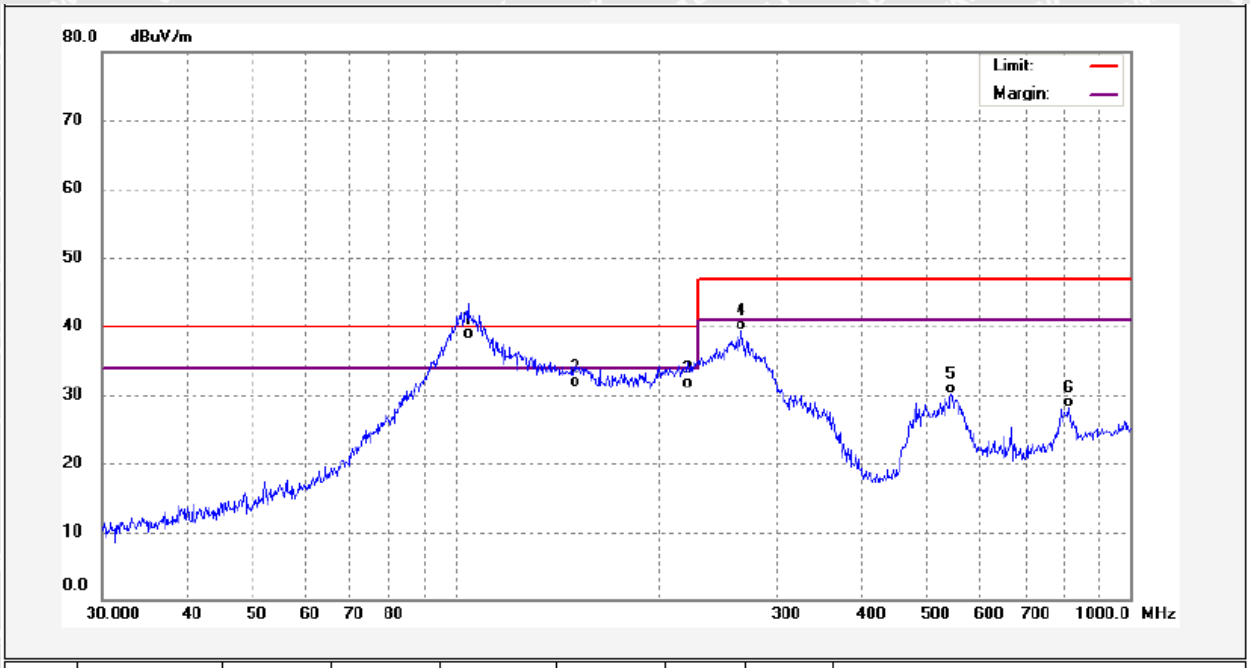
The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – Class B Limit

7.1.4Test Result

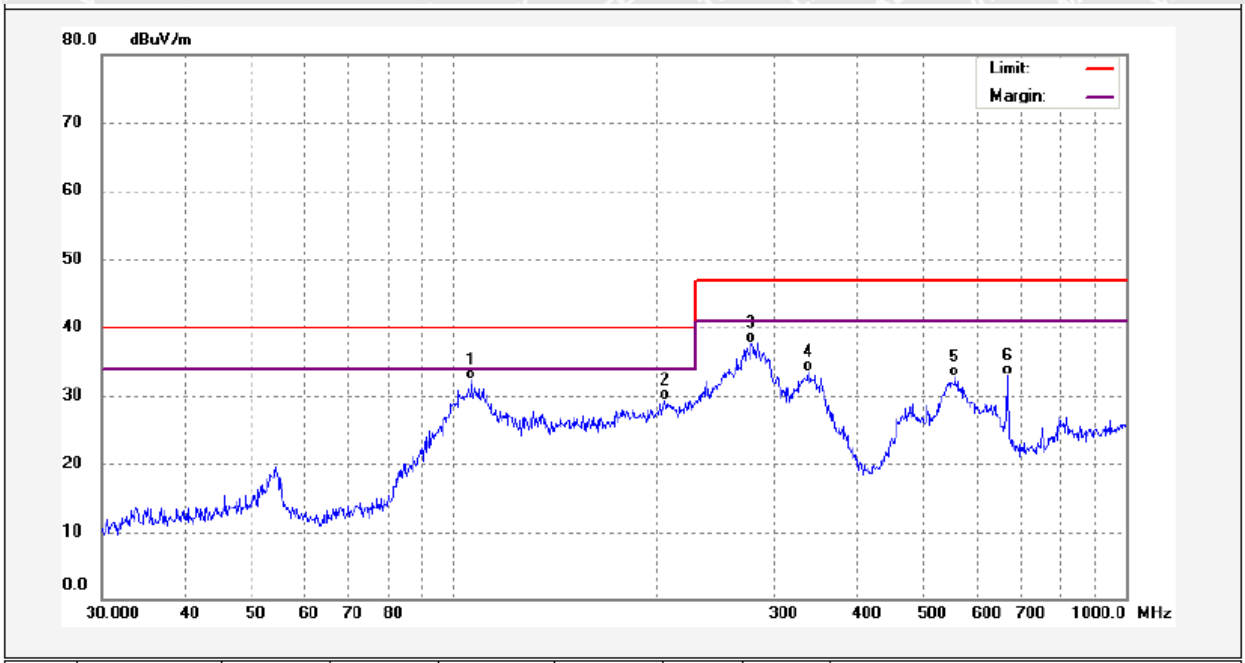
Frequency Range: 30MHz ~ 1000MHz

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	104.5361	55.64	-17.54	38.10	40.00	-1.90	QP	
2	150.5377	51.91	-20.71	31.20	40.00	-8.80	QP	
3	221.3920	48.34	-17.34	31.00	40.00	-9.00	QP	
4	265.6757	55.20	-15.99	39.21	47.00	-7.79	QP	
5	543.2741	40.09	-9.96	30.13	47.00	-16.87	QP	
6	810.2653	34.11	-6.09	28.02	47.00	-18.98	QP	

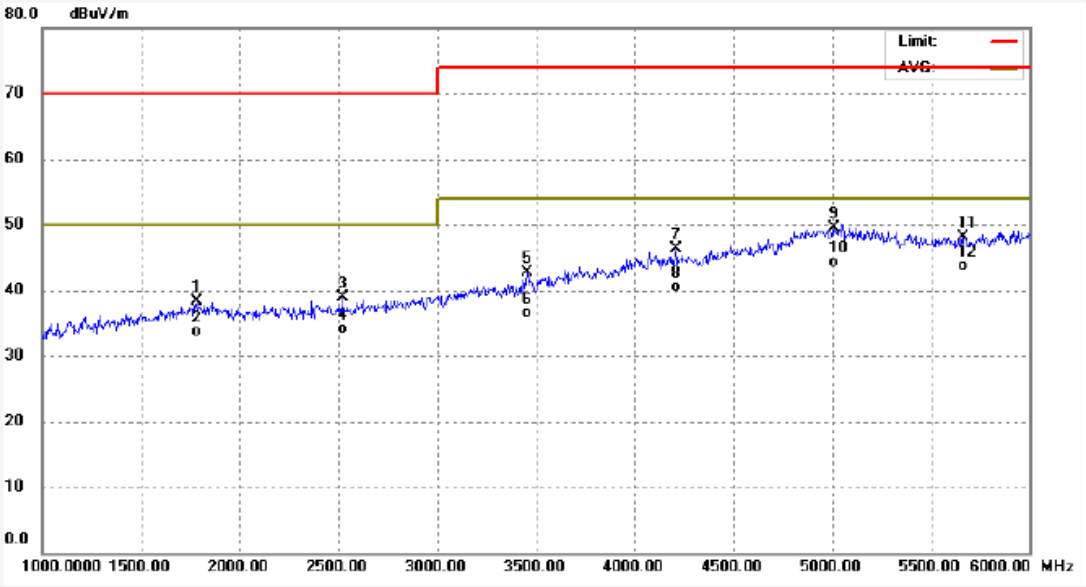
Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	106.3850	50.06	-17.72	32.34	40.00	-7.66	QP	
2	206.3975	46.94	-17.63	29.31	40.00	-10.69	QP	
3	277.0935	53.29	-15.55	37.74	47.00	-9.26	QP	
4	337.2155	47.50	-14.00	33.50	47.00	-13.50	QP	
5	556.7743	42.43	-9.66	32.77	47.00	-14.23	QP	
6	665.8034	41.09	-8.26	32.83	47.00	-14.17	QP	

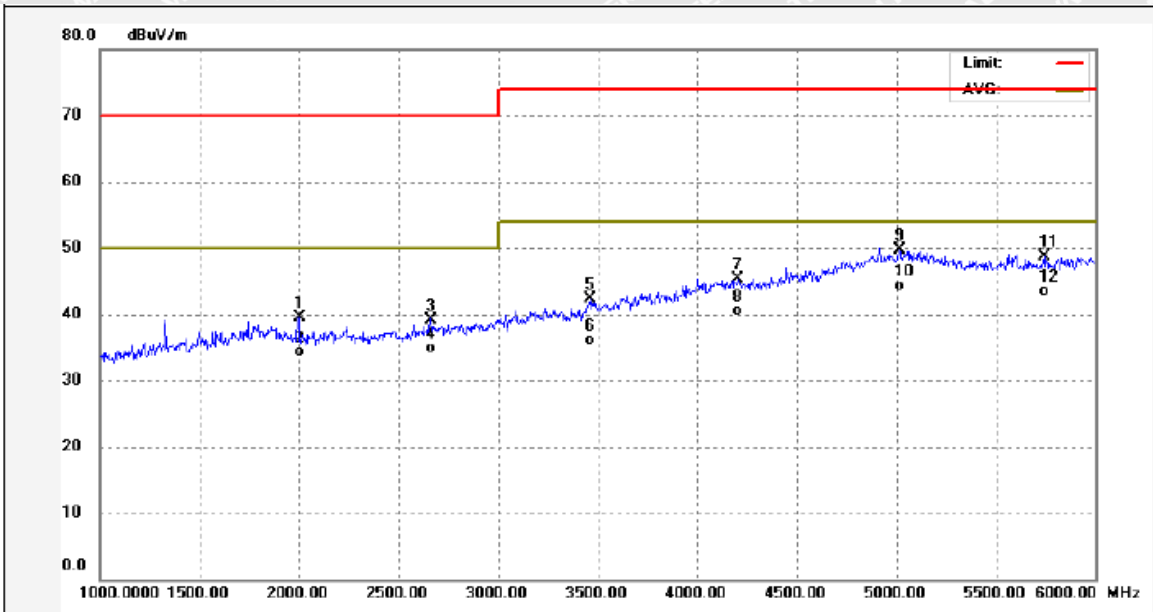
Frequency Range: 1000MHz ~ 6000MHz

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	1780.000	48.05	-9.73	38.32	70.00	-31.68	peak	
2	1780.000	43.38	-9.73	33.65	50.00	-16.35	AVG	
3	2520.000	46.85	-7.95	38.90	70.00	-31.10	peak	
4	2520.000	42.13	-7.95	34.18	50.00	-15.82	AVG	
5	3455.000	48.79	-6.15	42.64	74.00	-31.36	peak	
6	3455.000	42.62	-6.15	36.47	54.00	-17.53	AVG	
7	4210.000	50.89	-4.58	46.31	74.00	-27.69	peak	
8	4210.000	45.10	-4.58	40.52	54.00	-13.48	AVG	
9	5010.000	51.74	-2.33	49.41	74.00	-24.59	peak	
10	5010.000	46.61	-2.33	44.28	54.00	-9.72	AVG	
11	5660.000	49.44	-1.42	48.02	74.00	-25.98	peak	
12	5660.000	45.17	-1.42	43.75	54.00	-10.25	AVG	

Antenna Polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	2000.000	51.95	-12.48	39.47	70.00	-30.53	peak	
2	2000.000	46.77	-12.48	34.29	50.00	-15.71	AVG	
3	2665.000	50.44	-11.31	39.13	70.00	-30.87	peak	
4	2665.000	46.15	-11.31	34.84	50.00	-15.16	AVG	
5	3460.000	50.76	-8.41	42.35	74.00	-31.65	peak	
6	3460.000	44.58	-8.41	36.17	54.00	-17.83	AVG	
7	4205.000	49.90	-4.64	45.26	74.00	-28.74	peak	
8	4205.000	45.16	-4.64	40.52	54.00	-13.48	AVG	
9	5015.000	49.37	0.29	49.66	74.00	-24.34	peak	
10	5015.000	43.97	0.29	44.26	54.00	-9.74	AVG	
11	5740.000	49.98	-1.24	48.74	74.00	-25.26	peak	
12	5740.000	44.79	-1.24	43.55	54.00	-10.45	AVG	

8 EMC Requirement for Immunity

8.1 Performance Criteria Description

EN 301 489-1 V2.2.0 Clause 6 requirements:

The performance criteria are used to take a decision on whether a radio equipment passes or fails immunity tests.

For the purpose of the present document four categories of performance criteria apply:

• performance criteria for continuous phenomena applied to transmitters(CT);

• performance criteria for transient phenomena applied to transmitters(TT);

• performance criteria for continuous phenomena applied to receivers(CR);

• performance criteria for transient phenomena applied to receivers(TR).

Normally, the performance criteria depend on the type of radio equipment. Thus, the present document only contains general performance criteria commonly used for the assessment of radio equipment. More specific and product-related performance criteria for a dedicated type of radio equipment may be found in the part of EN 301 489 series [i.13] dealing with the particular type of radio equipment.

Performance Criteria	Description
CT,CR	If no further details are given in the relevant part of EN 301 489 series [i.13] dealing with the particular type of radio equipment, the following general performance criteria for continuous phenomena shall apply. During and after the test, the apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a permissible performance level specified by the manufacturer when the apparatus is used as intended. In some cases this permissible performance level may be replaced by a permissible loss of performance. During the test the EUT shall not unintentionally transmit or change its actual operating state and stored data. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deduced from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.
TT,TR	If no further details are given in the relevant part of EN 301 489 series [i.13] dealing with the particular type of radio equipment, the following general performance criteria for transient phenomena shall apply.After the test, the apparatus shall continue to operate as intended. No degradation of performance or loss of function is allowed below a permissible performance level specified by the manufacturer, when the apparatus is used as intended.In some cases this permissible performance level may be replaced by a permissible loss of performance. During the EMC exposure to an electromagnetic phenomenon, a degradation of performance is, however, allowed. No change of the actual mode of operation (e.g. unintended transmission) or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be deduced from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.

EN 301 489-17 V3.2.0 Clause 6 requirements:

The performance criteria are:

• performance criteria A for immunity tests with phenomena of a continuous nature;

• performance criteria B for immunity tests with phenomena of a transient nature;

• performance criteria C for immunity tests with power interruptions exceeding a certain time.

The equipment shall meet the minimum performance criteria as specified in the following clauses.

Criteria	During test	After test
A	Shall operate as intended. May show degradation of performance (see note 1). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance (see note 2). Shall be no loss of function. Shall be no loss of stored data or user programmable functions.
B	May show loss of function (one or more). May show degradation of performance (see note 1). No unintentional transmissions.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2). Shall be no loss of stored data or user programmable functions.
C	May be loss of function (one or more).	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no degradation of performance (see note 2).
NOTE 1: Degradation of performance during the test is understood as a degradation to a level not below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended. NOTE 2: No degradation of performance after the test is understood as no degradation below a minimum performance level specified by the manufacturer for the use of the apparatus as intended. In some cases the specified minimum performance level may be replaced by a permissible degradation of performance. After the test no change of actual operating data or user retrievable data is allowed. If the minimum performance level or the permissible performance degradation is not specified by the manufacturer then either of these may be derived from the product description and documentation (including leaflets and advertising) and what the user may reasonably expect from the apparatus if used as intended.		

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

TT	The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply. Tests shall be repeated with the EUT in standby mode (if applicable) to ensure that unintentional transmission does not occur. In systems using acknowledgement signals, it is recognized that an acknowledgement (ACK) or not-acknowledgement (NACK) transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.
CR	The performance criteria A shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.
TR	The performance criteria B shall apply, except for voltage dips of 100 ms and voltage interruptions of 5 000 ms duration for which performance criteria C shall apply. Where the EUT is a transceiver, under no circumstances, shall the transmitter operate unintentionally during the test. In systems using acknowledgement signals, it is recognized that an ACK or NACK transmission may occur, and steps should be taken to ensure that any transmission resulting from the application of the test is correctly interpreted.

Emission

1. General

EN 301 489-1 [1], table 2 contains the applicability of EMC emission measurements to the relevant ports of radio equipment.

2. Special conditions

No special conditions shall apply to radio equipment in the scope of the present document.

Immunity

1. General

EN 301 489-1 [1], table 2, contains the applicability of EMC immunity measurements to the relevant ports of radio equipment.

2. Special conditions

No special conditions are relevant for products covered in the present document

8.2 Electrostatic Discharge(ESD)

Test Method	:	EN 301 489-1, EN 61000-4-2
Discharge Impedance	:	330 Ω / 150 pF
Discharge Voltage	:	Air Discharge: +/-2,4,8 KV Contact Discharge:+/-2,4 kV HCP & VCP: +/-2,4 kV
Polarity	:	Positive & Negative
Discharge Repeat Times	:	At Least 20 times at each test point
Discharge Mode	:	Single Discharge
Discharge Period	:	1 second minimum

8.2.1 E.U.T. Operation

Operating Environment:

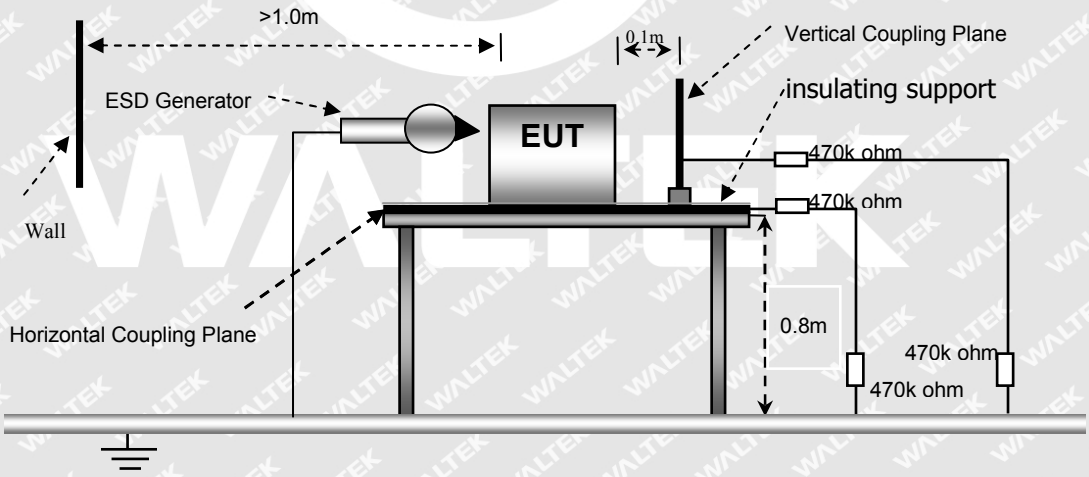
Temperature	:	21.5°C
Humidity	:	52.0 % RH
Barometric Pressure	:	101.3kPa

EUT Operation:

Refer to section 7.5.

8.2.2 Block Diagram of Setup

The ESD test was performed in accordance with the EN 61000-4-2.



8.2.3 Test Results

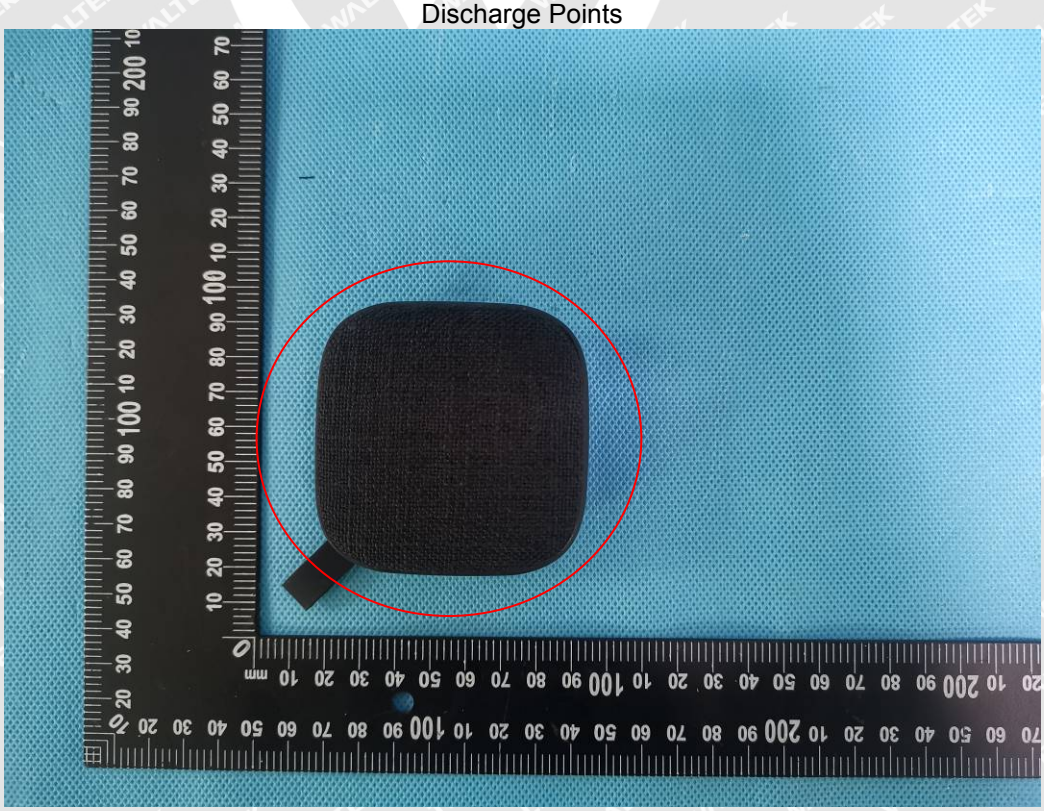
Indirect Application			Performance Criteria	
Discharge Level (kV)	Polarity (+/-)	Test Point	Horizontal Coupling	Vertical Coupling
2,4	+/-	1	TT/TR	TT/TR
Remark: Test points : 1. All sides(Front/Top/ Back/ Left/Right Sides).				

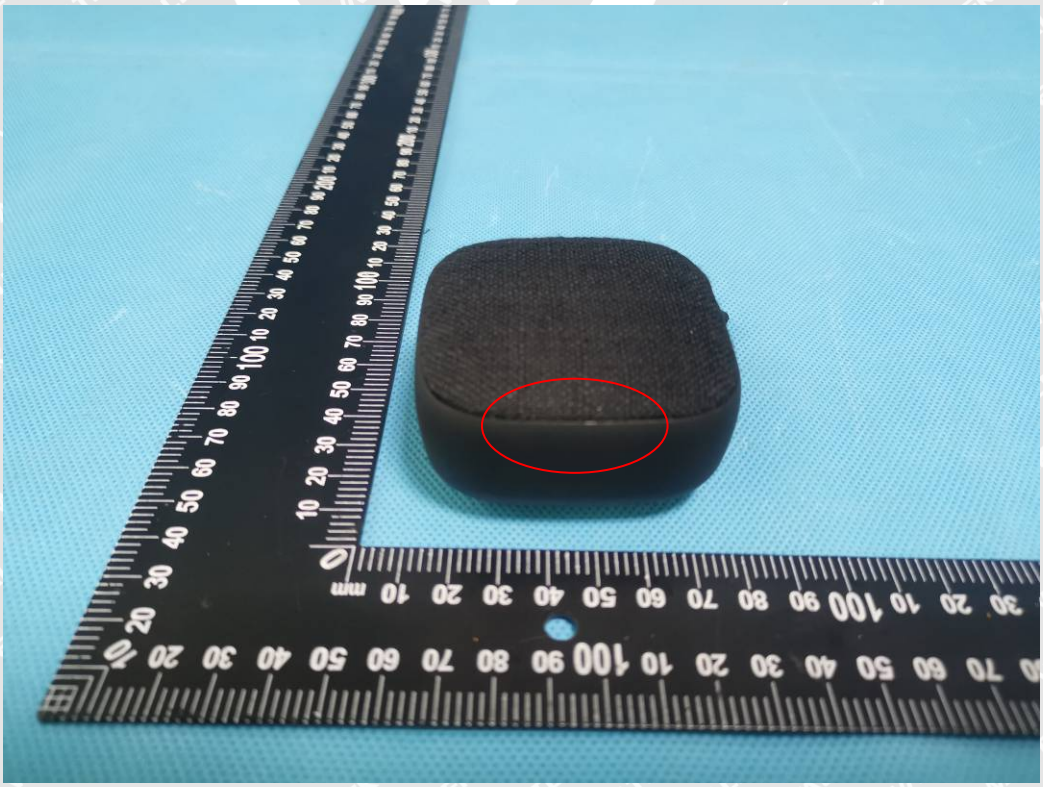
Direct Application			Performance Criteria	
Discharge Level (kV)	Polarity (+/-)	Test Point	Contact Discharge	Air Discharge
2,4,8	+/-	1	N/A	TT/TR
2,4	+/-	2	TT/TR	N/A
Remark: Test points : 1. All Exposed Surface & Seams; 2. All metallic part N/A: Not applicable.				

Air discharge ○

Contact discharge △

Discharge Points





8.3 Radiated Immunity(R/S)

Test Method	:	EN 301 489-1, EN 61000-4-3
Face Under Test	:	Three Mutually Orthogonal Faces
Severity	:	3V/m, 1kHz, 80% Amp. Mod. from 80MHz to 3GHz, 3GHz to 6GHz
Test Result	:	PASS

8.3.1 E.U.T. Operation

Operating Environment:

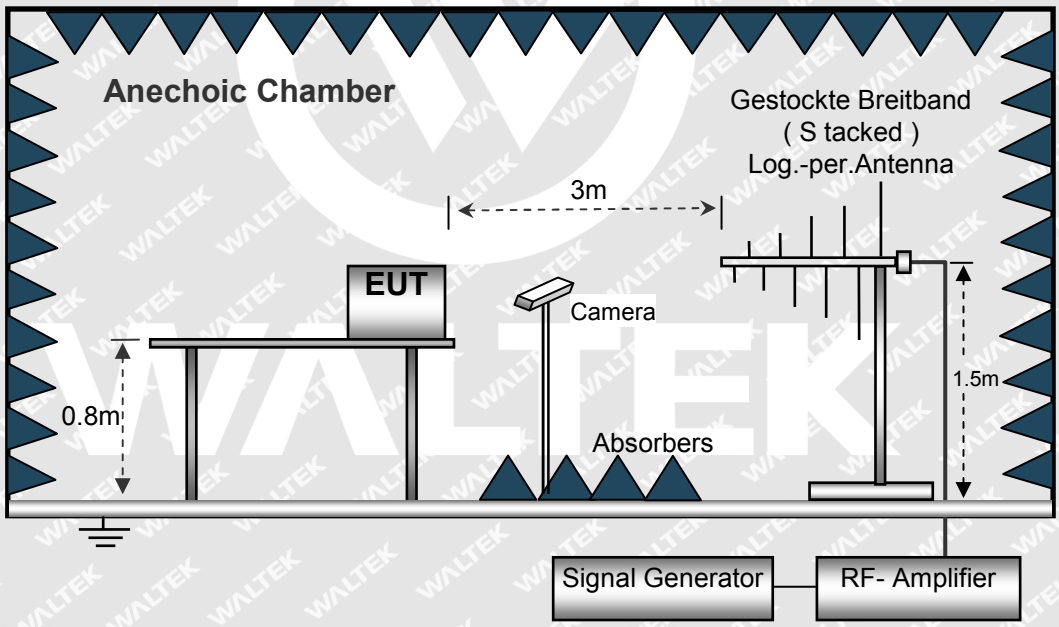
Temperature	:	21.4°C
Humidity	:	52.1 % RH
Barometric Pressure	:	101.2kPa

EUT Operation :

Refer to section 7.5.

8.3.2 Block Diagram of Setup

The Radiated Immunity test was performed in accordance with the EN 61000-4-3.



8.3.3 Test Results

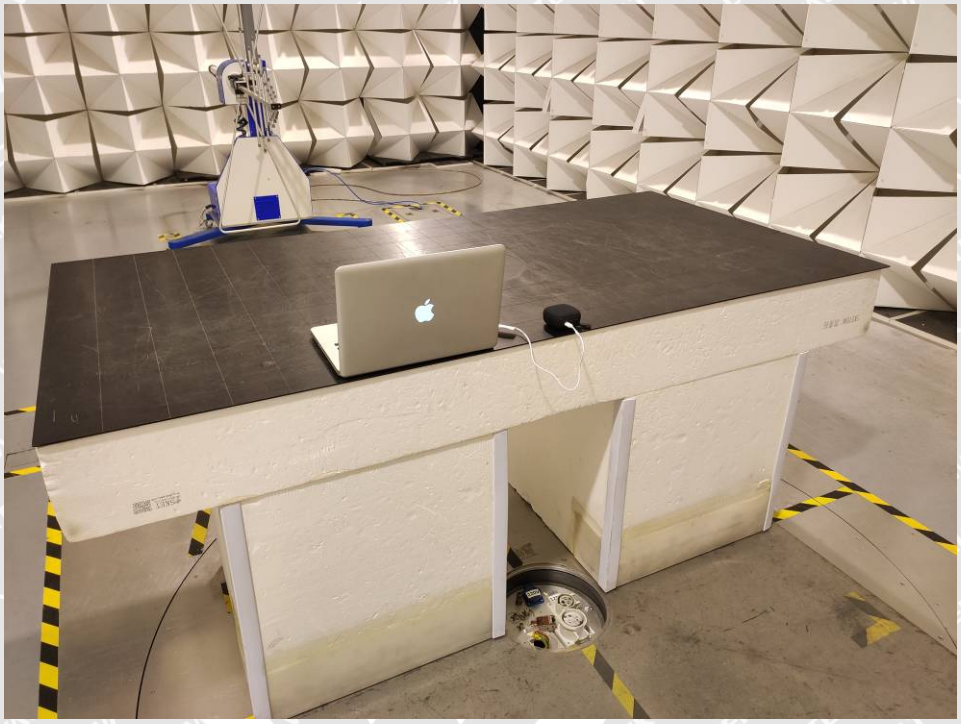
Frequency	Level	Modulation	EUT Face	Performance Criteria	BER
80MHz -3GHz,	3V/m	1kHz, 80%, Amp. Mod.	Front, Back Left, Right	CT/CR	0.000%
3GHz - 6GHz	3V/m	1kHz, 80%, Amp. Mod.	Front, Back Left, Right	CT/CR	0.000%

Note 1: The stepped frequency increments may be 50 kHz increment of the momentary frequency in the frequency range 150 kHz to 5 MHz. When using the max hold detector method, initially at each test frequency step an unmodulated immunity test signal shall be applied. Then the modulation of the immunity RF test signal (1 kHz tone) shall be applied as specified in the EN 301 489-1 [1].
Note 2: The receiver mode, BER was recorded during test.

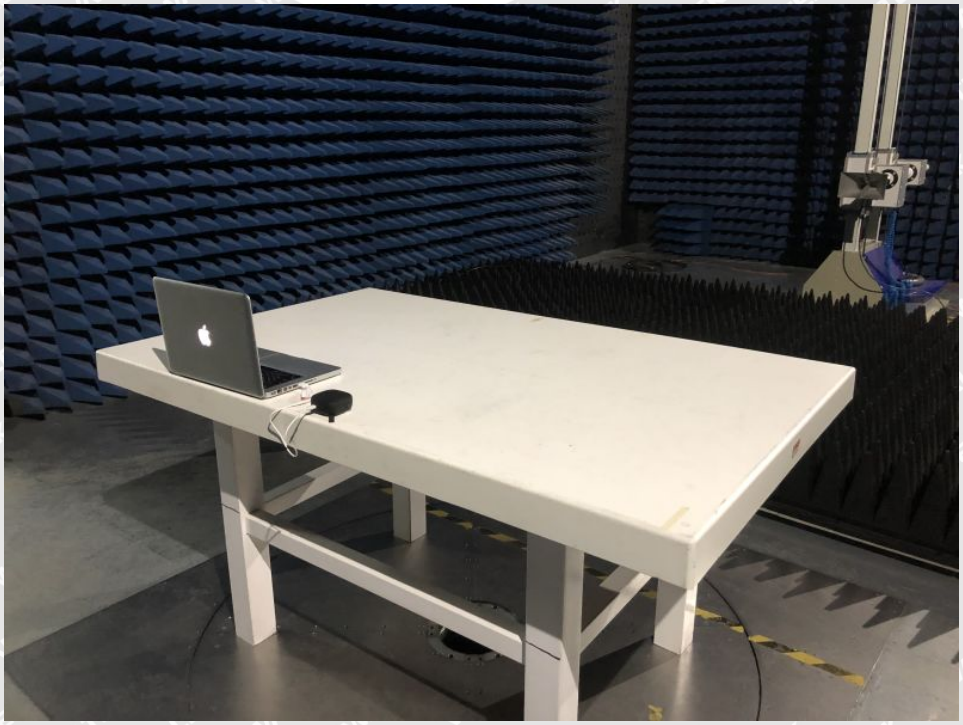
9 Photographs – Test Setup

9.1 Photograph - Radiated Emissions Test Setup

For 30MHz-1000MHz



For Above 1GHz



9.2 Photograph - Radiated immunity Test Setup

9.3 Photograph - ESD Test Setup

10 Photographs of EUT

Note: Please refer to appendix: Appendix-MO9260-Photos.

======End of Report======

TEST REPORT

Reference No.	:	WTF20S03013048E
Manufacturer*	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Factory	:	103221
Product	:	Bluetooth Speaker
Model(s)	:	MO9260
Standards	:	EN 55032: 2015 EN 55035: 2017 EN 61000-3-2: 2014 EN 61000-3-3: 2013
Date of Receive sample	:	2020-03-25
Date of Test	:	2020-03-26 to 2020-05-11
Date of Issue	:	2020-05-12
Test Result	:	Pass

Remarks:
1. The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.
2. "*" **manufacturer** means any natural or legal person who manufactures radio equipment or has radio equipment designed or manufactured, and markets that equipment under his name or trade mark.

Prepared By:
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Compiled by:

Ford Wang

Ford Wang / Project Engineer

Approved by:

Philo Zhong / Manager

2 Contents

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTF20S03013048E	2020-03-25	2020-03-26 to 2020-05-11	2020-05-12	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Bluetooth Speaker
Model(s):	MO9260
Model Description:	N/A
Bluetooth Version:	Bluetooth v5.0
Hardware Version:	V1.0
Software Version:	V1.0

4.2 Details of E.U.T.

Ratings:	DC 3.7V 450mAh by battery

4.3 Standards Applicable for Testing

EN 55032	Electromagnetic compatibility of multimedia equipment - Emission Requirements
EN 55035	Electromagnetic compatibility of multimedia equipment - Immunity requirements
EN 61000-3-2	Electromagnetic compatibility (EMC) -- Part 3-2:Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)
EN 61000-3-3	Electromagnetic compatibility (EMC) -- Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.

4.4 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

☐ Yes ☒ No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5 Abnormalities from Standard Conditions

None.

4.6 Test Mode Description

Radiated Emissions	
TM1*	Bluetooth link+USB
TM2	Audio in
Electrostatic Discharge(ESD)	
TM1*	Bluetooth link+USB
TM2	Audio in
Radiated Immunity(R/S)	
TM1*	Bluetooth link+USB
TM2	Audio in
"*" shows the worst case mode which were recorded in this report.	

5 Test Summary

EMISSION (EN 55032)		
Test Items	**Test Requirement**	**Result**
Conducted Disturbance at Mains Terminal,	EN 55032: 2012+AC: 2013	N/A
Conducted Common Mode (asymmetric mode) Disturbance at Telecommunication Ports	EN 55032: 2012+AC: 2013	N/A
Radiation Emission, 30MHz to 1000MHz	EN 55032: 2012+AC: 2013	PASS
Radiation Emission, Above 1GHz	EN 55032: 2012+AC: 2013	PASS
Harmonic Current	EN 61000-3-2:2014	N/A
Voltage Fluctuation and Flicker	EN 61000-3-3:2013	N/A
IMMUNITY (EN 55035)		
Test Items	**Test Requirement**	**Result**
Electrostatic Discharge(ESD)	IEC 61000-4-2:2008	PASS
Radiation Immunity	IEC 61000-4-3:2010	PASS
Electrical Fast Transients (EFT)	IEC 61000-4-4:2012	N/A
Surges	IEC 61000-4-5:2005	N/A
Injected Currents, 0.15MHz to 80MHz	IEC 61000-4-6:2008	N/A
Power-frequency magnetic fields	IEC 61000-4-8:2009	N/A
Voltage Dips	IEC 61000-4-11:2004	N/A
Voltage interruptions	IEC 61000-4-11:2004	N/A
Remark: PASS: Test item meets the requirement N/A: Not Applicable		

6 Equipment Used during Test

6.1 Equipment List

Conducted Emissions at Mains Terminals Disturbance Voltage (Conducted Emission)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMI Test Receiver	R&S	ESCI	100947	2019-09-17	2020-09-16
2	LISN	R&S	ENV216	100115	2019-09-17	2020-09-16
4	Cable	Top	TYPE16(3.5M)	-	2019-09-17	2020-09-16
Radiated electromagnetic disturbance(9kHz to 30MHz)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	EMI Test Receiver	R&S	ESCI	101155	2019-09-17	2020-09-16
2	LARGE LOOP ANTENNA	Laplace	RF300	9057	2019-09-17	2020-09-16
3	Cable	Laplace	RF300	-	2019-09-17	2020-09-16
3m Semi-anechoic Chamber for Radiation(TDK)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	2020-04-20	2021-04-19
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	2021-04-24
3	Amplifier	ANRITSU	MH648A	M43381	2020-04-20	2021-04-19
4	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20	2021-04-19
Harmonic and Flicker Measuring System						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Digital Power Analyzer	SCHAFFNER	CCN 1000-1	72625	2020-04-20	2021-04-19
2	Power Source	SCHAFFNER	NSG 1007	58477	2020-04-20	2021-04-19
Electrostatic Discharge						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Electrostatic Discharge Simulator	SCHLODER	SESD 216	606144	2020-04-24	2021-04-23
Radio-frequency electromagnetic fields						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Signal Generater	R&S	SMB100A	105942	2019-09-17	2020-09-16
2	RF Power Amplifier	BONN Elektronik	BLWA0830-160/100/40D	128740	2019-09-17	2020-09-16
3	Gestockte Breitband	SCHWARZBECK	STLP9128D	043	2019-09-17	2020-09-16

	(S tacked) Log.-per.Antenna					
4	Power Meter	R&S	NRP2	102031	2020-04-20	2021-04-19
Surge, EFT, Voltage dips and Interruption						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	All Modules Generator	SCHAFFNER	6150	34579	2019-09-17	2020-09-16
2	Capacitive Coupling Clamp	SCHAFFNER	CDN 8014	25311	2019-09-17	2020-09-16
3	Signal and Data Line Coupling Network	SCHAFFNER	CDN 117	25627	2019-09-17	2020-09-16
4	AC Power Supply	HENGYUAN	DTDGC-4	-	2019-09-17	2020-09-16
Conducted Immunity						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	RF Generator	TESEQ	NSG4070	25781	2019-09-17	2020-09-16
2	CDN M-Type	TESEQ	CDN M016	25112	2019-09-17	2020-09-16
3	EM-Clamp	TESEQ	KEMZ 801	25453	2019-09-17	2020-09-16
4	Attenuator 6dB	TESEQ	ATN6050	25376	2019-09-17	2020-09-16

Surge, EFT, Voltage dips and Interruption						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	All Modules Generator	SCHAFFNER	6150	34579	2019-09-22	2020-09-21
2	EMS Modules Generator	EMC PARTNER TRANSIENT	2000	494	2019-09-22	2020-09-21
3	Capacitive Coupling Clamp	SCHAFFNER	CDN 8014	25311	2019-09-22	2020-09-21
4	Signal and Data Line Coupling Network	SCHAFFNER	CDN 117	25627	2019-09-22	2020-09-21
Radio-frequency electromagnetic fields						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Calibration Due Date**
1	Signal Generater	R&S	SMB100A	105942	2019-09-12	2020-09-11
2	RF Power Amplifier	BONN Elektronik	BLWA0830-160/100/40D	128740	2019-09-12	2020-09-11
3	Gestockte Breitband (S tacked) Log.-per.Antenna	SCHWARZBECK	STLP9128D	043	2019-09-12	2020-09-11
4	Power Meter	R&S	NRP2	102031	2019-09-12	2020-09-11
3m Semi-anechoic Chamber for Radiation(TDK)						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No**	**Last Calibration Date**	**Calibration Due Date**
1	Test Receiver	R&S	ESCI	101296	2019-04-13	2020-04-12
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2019-04-09	2020-04-08
3	Amplifier	ANRITSU	MH648A	M43381	2019-04-13	2020-04-12
4	Cable	HUBER+SUHNER	CBL2	525178	2019-04-13	2020-04-12

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

6.3 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±3.64dB	(1)
Radiation	30MHz~1000MHz	±5.08dB	(1)
	1000MHz~6000MHz	±4.99dB	(1)
This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.			

7 Emission Test Results

7.1 Radiation Emission, 30MHz to 1000MHz

Test Requirement	:	EN 55032
Test Method	:	EN 55032
Test Result	:	Pass
Frequency Range	:	30MHz to 1000MHz
Class/Severity	:	Class B/ Table A.4 and A.6 of EN 55032

7.1.1 E.U.T. Operation

Operating Environment:

Temperature	:	23°C
Humidity	:	53.8%RH
Atmospheric Pressure	:	101.5kPa

EUT Operation:

Input Voltage	:	(1)DC 5V by Adapter Input AC 230V/50Hz (2)DC 5V by PC (3)DC 3.7V by Battery
Operating Mode	:	Refer to section 5.6.
Remark	:	The worst case is under the condition of AC 230V/50Hz adapter input and the data is shown as follow.

7.1.2 Block Diagram of Test Setup

The Radiation Emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the EN 55032.

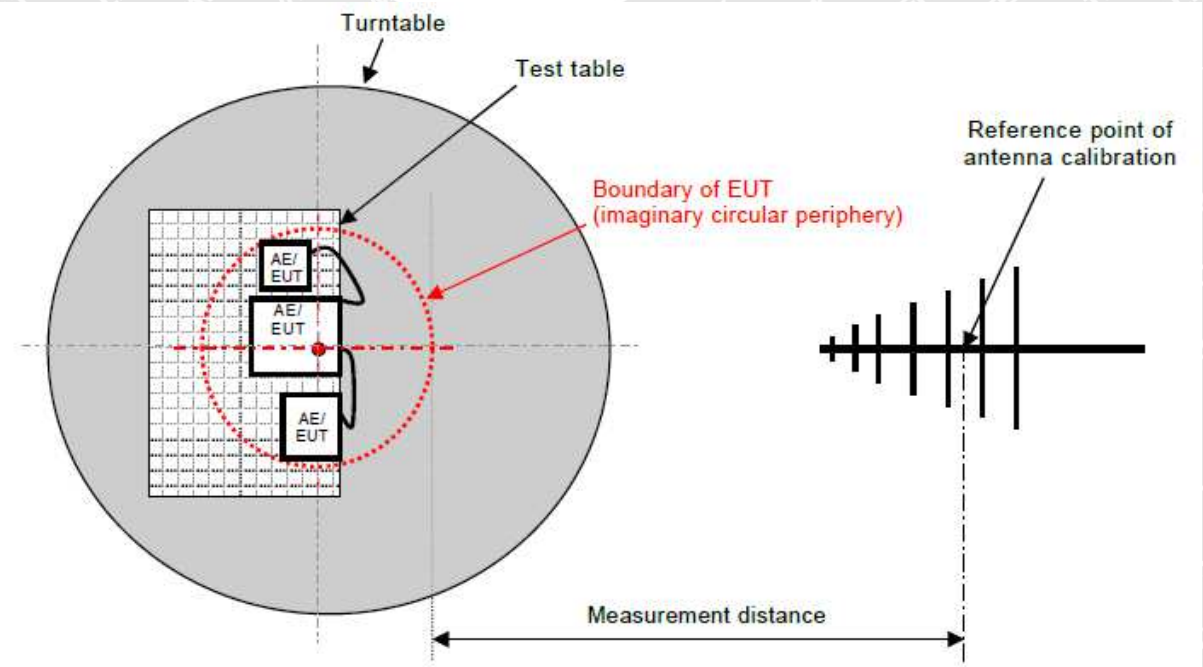


Figure C.1 – Measurement distance

7.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

7.1.4 Radiation Emission Test Data, 30MHz to 1000MHz

Antenna polarization: Vertical

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	112.5244	51.21	-18.32	32.89	40.00	-7.11	QP	
2	178.1327	45.91	-15.80	30.11	40.00	-9.89	QP	
3	263.8190	56.87	-15.83	41.04	47.00	-5.96	QP	
4	344.3855	40.11	-13.70	26.41	47.00	-20.59	QP	
5	572.6144	41.07	-8.64	32.43	47.00	-14.57	QP	
6	665.8035	40.39	-6.79	33.60	47.00	-13.40	QP	

Antenna polarization: Horizontal

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	110.5687	57.01	-18.51	38.50	40.00	-1.50	QP	
2	151.0666	45.66	-14.66	31.00	40.00	-9.00	QP	
3	226.8936	53.03	-17.03	36.00	40.00	-4.00	QP	
4	257.4222	56.79	-15.99	40.80	47.00	-6.20	QP	
5	564.6389	39.32	-8.85	30.47	47.00	-16.53	QP	
6	801.7863	33.41	-4.42	28.99	47.00	-18.01	QP	

7.2 Radiation Emission, Above 1000MHz

Test Requirement	:	EN 55032
Test Method	:	EN 55032
Test Result	:	Pass
Frequency Range	:	1000MHz to 6000MHz
Class/Severity	:	Class B/ A.5 of EN 55032

7.2.1 E.U.T. Operation

Operating Environment:

Temperature	:	23.3°C
Humidity	:	52.9%RH
Atmospheric Pressure	:	101.3kPa

EUT Operation:

Input Voltage	:	(1)DC 5V by Adapter Input AC 230V/50Hz (2)DC 5V by PC (3)DC 3.7V by Battery
Operating Mode	:	Refer to section 5.6.
Remark	:	The worst case is under the condition of AC 230V/50Hz adapter input and the data is shown as follow.

7.2.2 Block Diagram of Test Setup

The Radiation emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the EN 55032.

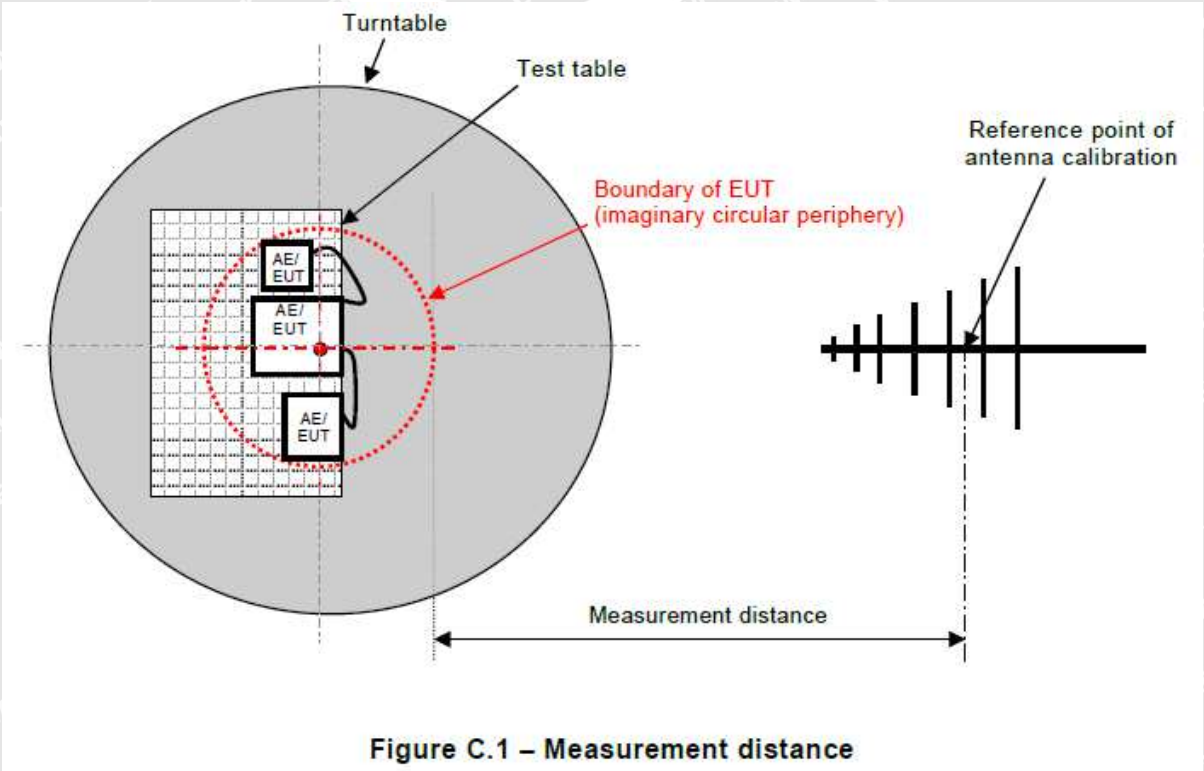


Figure C.1 – Measurement distance

7.2.3 Frequency Range of Measurement

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Average measurements were performed if peak emissions were within 6dB of the average limit line.

The test Frequency range judgment basis:

If the highest frequency of the internal sources of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz.

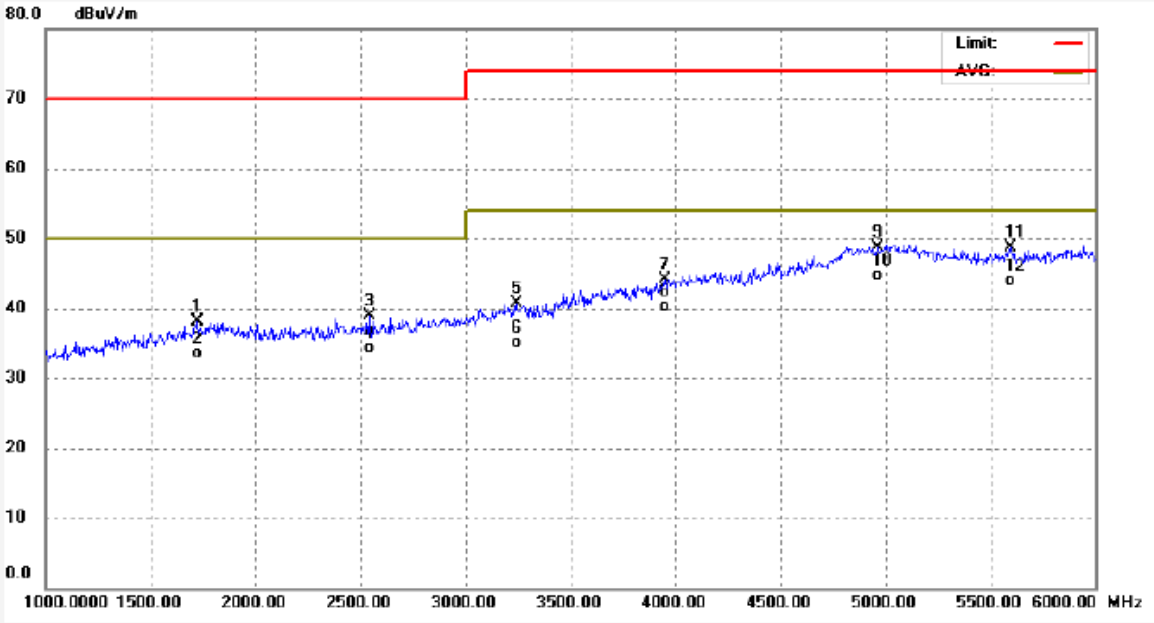
If the highest frequency of the internal sources of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.

If the highest frequency of the internal sources of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.

If the highest frequency of the internal sources of the EUT is above 1 GHz, the measurement shall be made up to 5 times the highest frequency or 6 GHz, whichever is less.

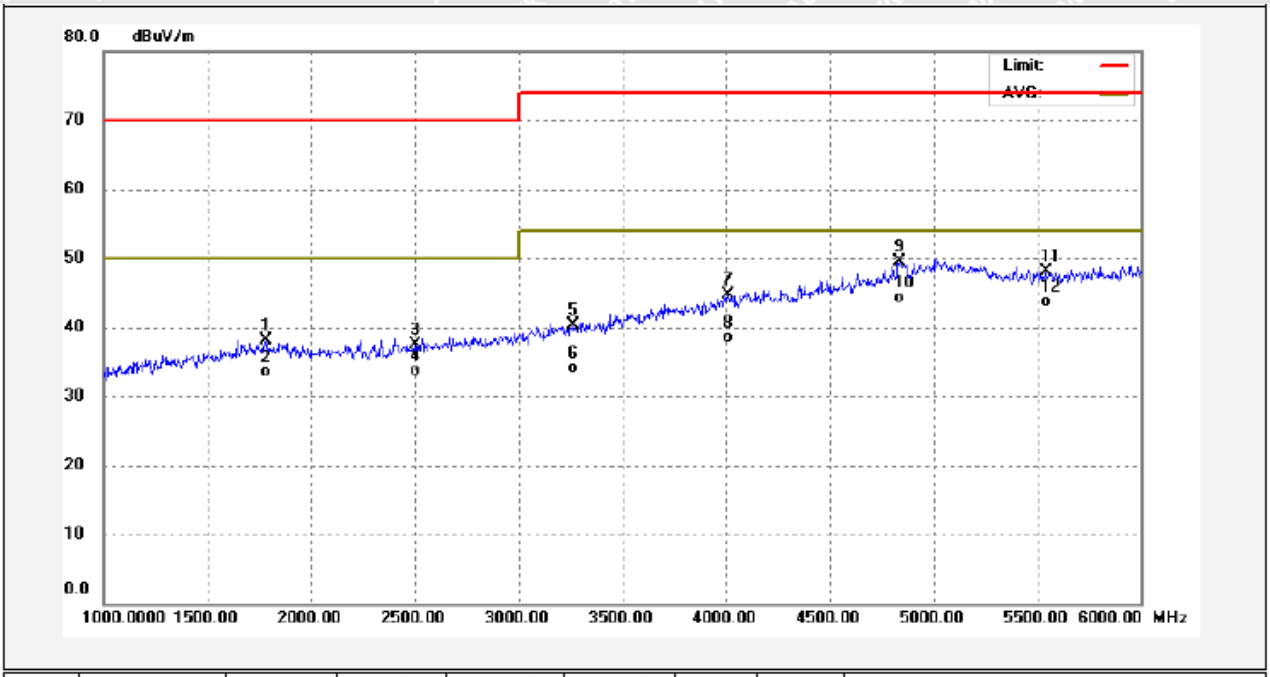
7.2.4 Radiation Emission Test Data, Above 1000MHz

Antenna polarization: Vertical



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	1720.000	50.18	-12.05	38.13	70.00	-31.87	peak	
2	1720.000	45.63	-12.05	33.58	50.00	-16.42	AVG	
3	2540.000	50.94	-12.02	38.92	70.00	-31.08	peak	
4	2540.000	46.31	-12.02	34.29	50.00	-15.71	AVG	
5	3240.000	49.90	-9.28	40.62	74.00	-33.38	peak	
6	3240.000	44.44	-9.28	35.16	54.00	-18.84	AVG	
7	3950.000	49.89	-5.70	44.19	74.00	-29.81	peak	
8	3950.000	46.02	-5.70	40.32	54.00	-13.68	AVG	
9	4965.000	48.64	0.06	48.70	74.00	-25.30	peak	
10	4965.000	44.61	0.06	44.67	54.00	-9.33	AVG	
11	5595.000	50.14	-1.51	48.63	74.00	-25.37	peak	
12	5595.000	45.36	-1.51	43.85	54.00	-10.15	AVG	

Antenna polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	1780.000	47.81	-9.73	38.08	70.00	-31.92	peak	
2	1780.000	43.25	-9.73	33.52	50.00	-16.48	AVG	
3	2505.000	45.46	-8.05	37.41	70.00	-32.59	peak	
4	2505.000	41.74	-8.05	33.69	50.00	-16.31	AVG	
5	3265.000	46.74	-6.49	40.25	74.00	-33.75	peak	
6	3265.000	40.67	-6.49	34.18	54.00	-19.82	AVG	
7	4010.000	49.72	-5.10	44.62	74.00	-29.38	peak	
8	4010.000	43.63	-5.10	38.53	54.00	-15.47	AVG	
9	4835.000	52.50	-2.91	49.59	74.00	-24.41	peak	
10	4835.000	47.17	-2.91	44.26	54.00	-9.74	AVG	
11	5540.000	49.66	-1.46	48.20	74.00	-25.80	peak	
12	5540.000	45.13	-1.46	43.67	54.00	-10.33	AVG	

7.3 Electrostatic Discharge (ESD)

Test Requirement	:	EN 55035
Test Method	:	IEC 61000-4-2
Test Result	:	Pass
Discharge Impedance	:	330Ω / 150pF
Discharge Voltage	:	Air Discharge: ±8kV Contact Discharge: ±4kV HCP & VCP: ±4kV
Polarity	:	Positive & Negative
Number of Discharge	:	Minimum 50 times at each test point(25 of each polarity)
Discharge Mode	:	Single Discharge
Discharge Period	:	1 second minimum

7.3.1 E.U.T. Operation

Operating Environment:

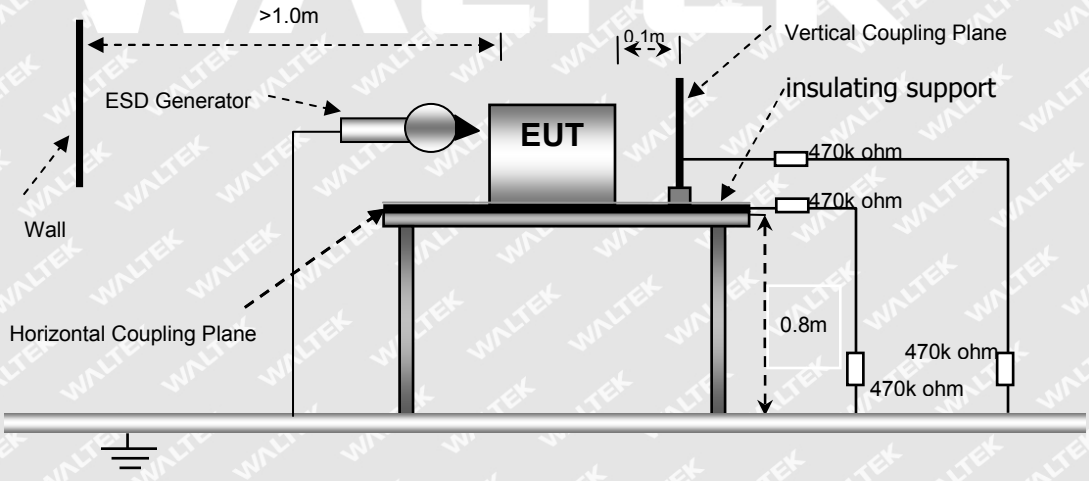
Temperature	:	21.5°C
Humidity	:	52.8%RH
Atmospheric Pressure	:	101.6kPa

EUT Operation:

Input Voltage	:	(1)DC 5V by Adapter Input AC 230V/50Hz (2)DC 5V by PC (3)DC 3.7V by Battery
Operating Mode	:	Refer to section 5.6.

7.3.2 Block Diagram of Setup

The ESD test was performed in accordance with the IEC 61000-4-2.



7.3.3 Direct Discharge Test Results

Observations: **Test points:** **1. All Exposed Surface & Seams;**
2. All metallic part

Direct Discharge			Test Results	
Applied Voltage (kV)	Performance Criterion	Test Point	Contact Discharge	Air Discharge
±8	B	1	N/A	Pass*
±4	B	2	Pass*	N/A
Remark: * During the test no deviation was detected to the selected operation mode(s)				

7.3.4 Indirect Discharge Test Results

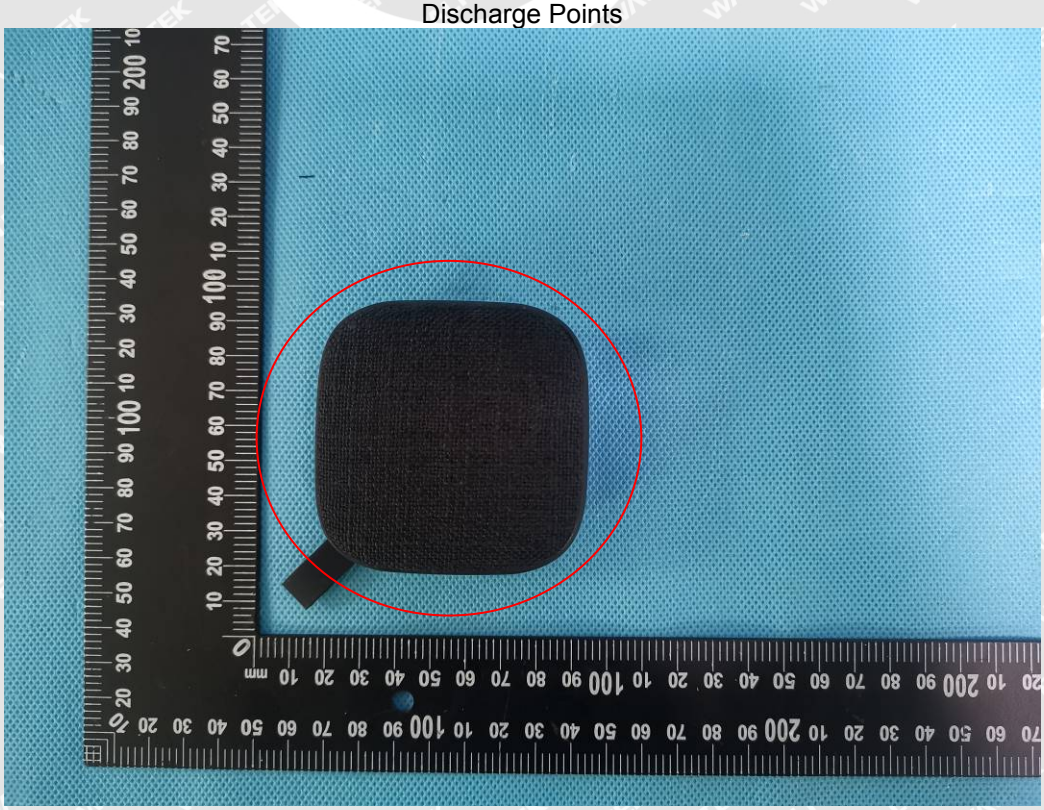
Observations: **Test points:** **1. All sides.**

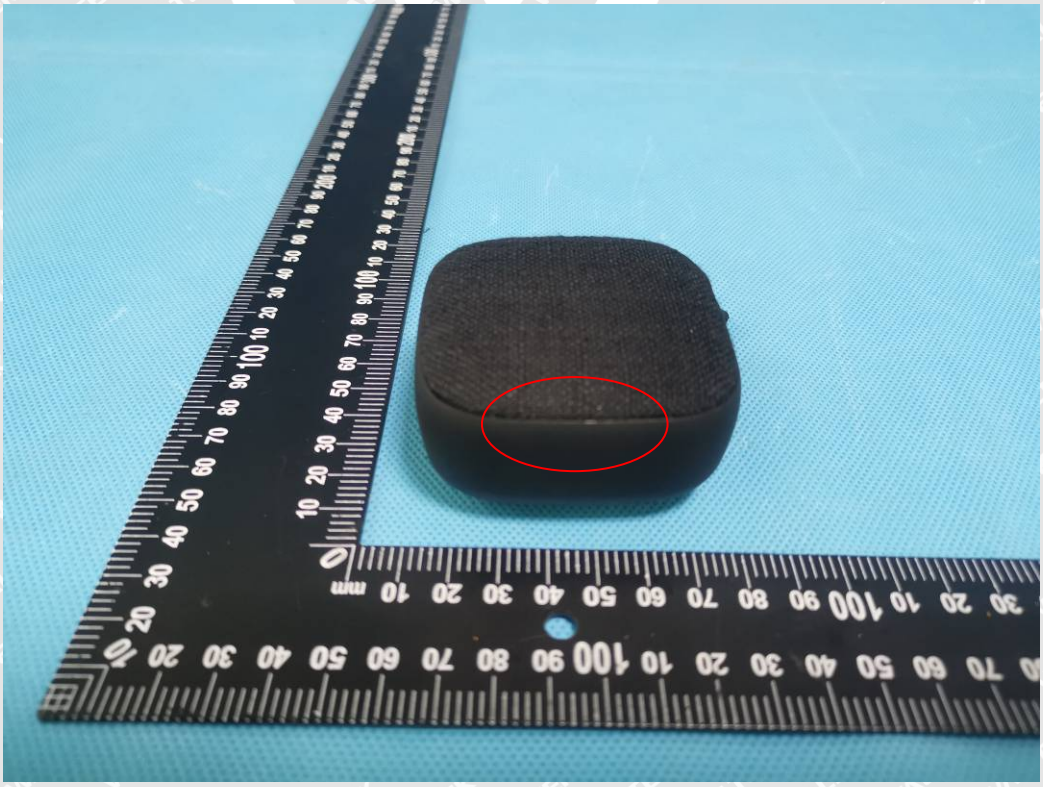
Indirect Discharge			Test Results	
Applied Voltage (kV)	Performance Criterion	Test Point	Horizontal Coupling	Vertical Coupling
±4	B	1	Pass*	Pass*
Remark: * During the test no deviation was detected to the selected operation mode(s)				

Air discharge ○

Contact discharge △

Discharge Points





7.4 Radio-frequency electromagnetic fields

Test Requirement.....	:	EN 55035
Test Method.....	:	IEC 61000-4-3
Test Result.....	:	Pass
Frequency Range	:	80MHz to 1GHz 1.8GHz, 2.6GHz, 3.5GHz, 5GHz
Test level	:	3V/m
Modulation	:	80%, 1kHz Amplitude Modulation.
Face of EUT.....	:	Front, Back, Left, Right
Antenna polarisation.....	:	Horizontal & Vertical

7.4.1 E.U.T. Operation

Operating Environment:

Temperature	:	23°C
Humidity.....	:	53.0% RH
Barometric Pressure.....	:	101.1kPa

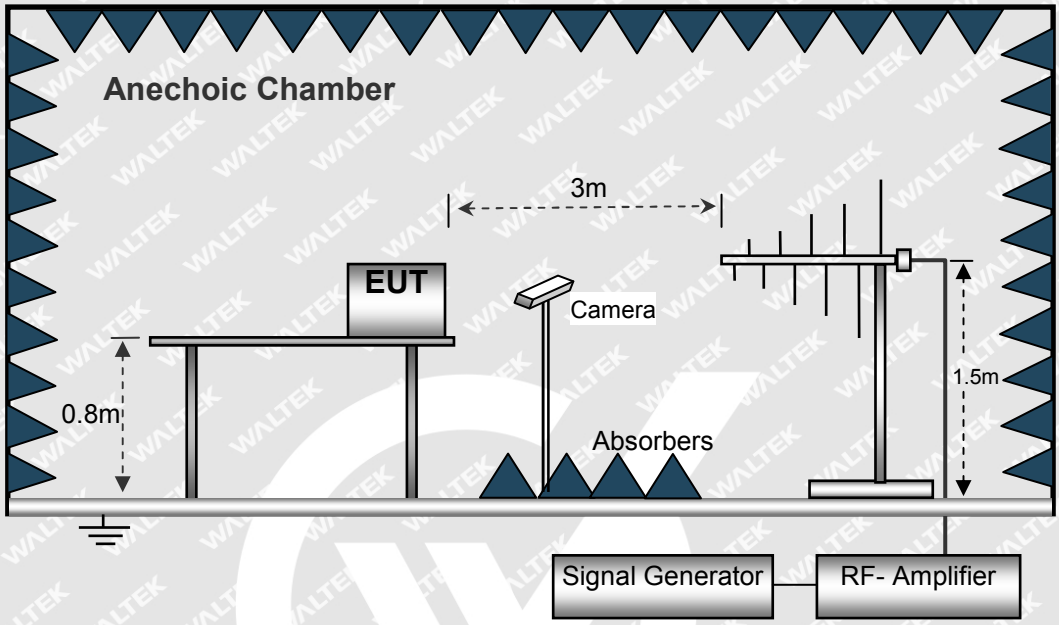
EUT Operation:

Input Voltage.....	:	(1)DC 5V by Adapter Input AC 230V/50Hz (2)DC 5V by PC (3)DC 3.7V by Battery
Operating Mode.....	:	Refer to section 5.6.

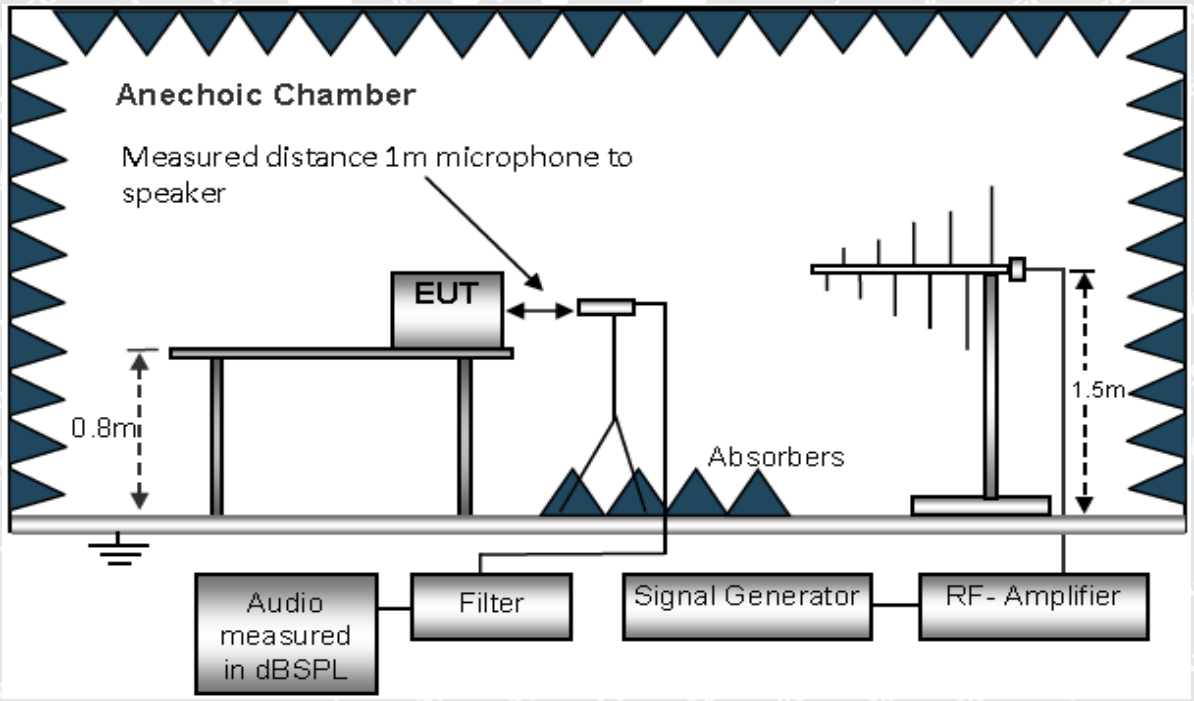
7.4.2 Block Diagram of Setup

8 Photographs – Test Setup

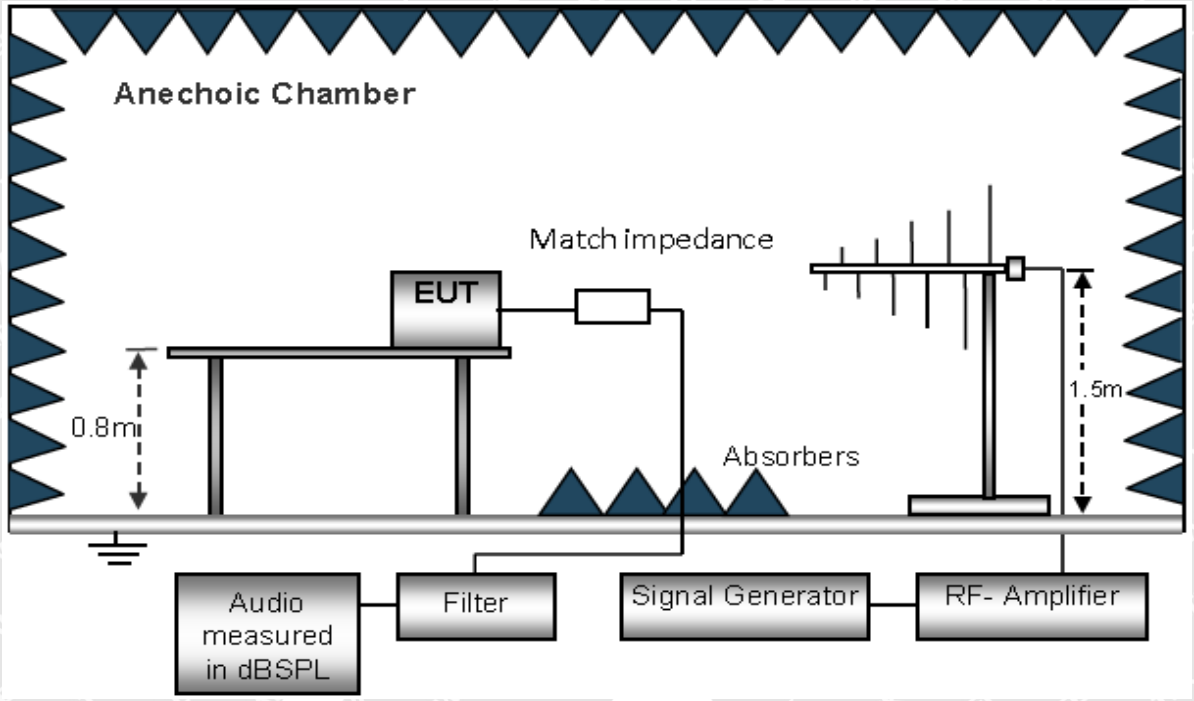
The Radio-frequency electromagnetic fields Immunity test was performed in accordance with the IEC 61000-4-3.



For Acoustic mode:



For Electrical mode:



NOTE:

1. The EUT installed in a representative system as described in section 7 of IEC 61000-4-3 was placed on a non-conductive table 0.8 meters in height. The system under test was connected to the power and signal wire according to relevant installation instructions.
2. Filter:1kHz 3dB band pass filter.
3. The measurement distance: EUT to interference antenna was 3m.

8.1.1 Test Results

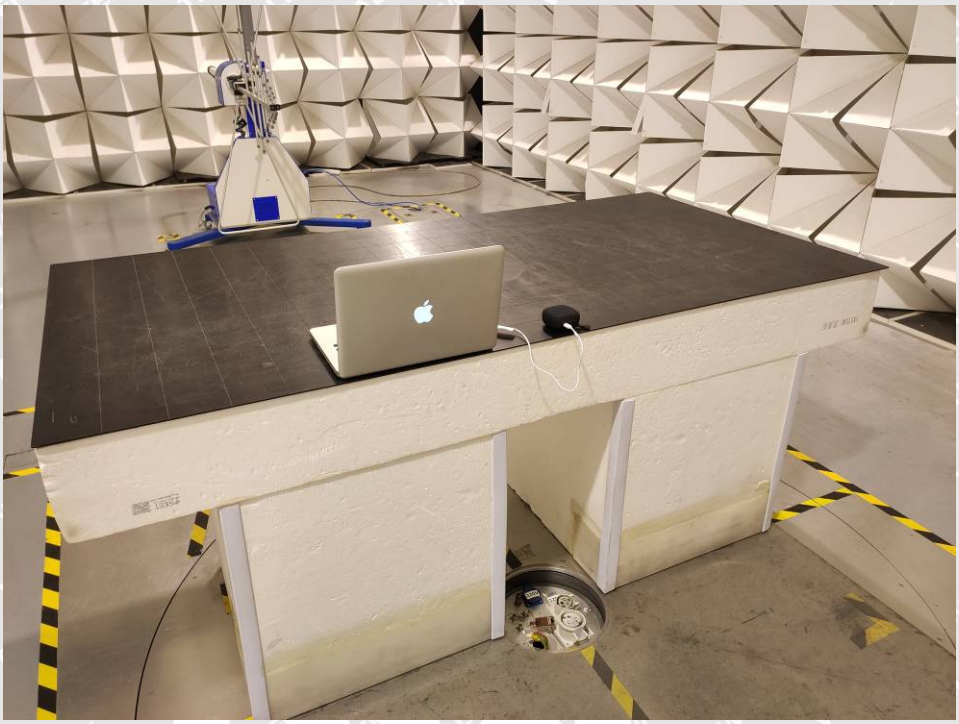
Test Frequency (MHz)	Face of EUT	Antenna polarisation	Test Level	Step Size	Dwell Time	Performance Criterion	Result
80-1000MHz 1800MHz, 2600MHz, 3500MHz, 5000MHz	Front, Back, Left, Right	Horizontal	3V/m	1%	1s	A	Pass
	Front, Back, Left, Right	Vertical	3V/m	1%	1s	A	Pass

Field Strength (V/m)	Test Frequency (MHz)	Polarization of antenna (Horizontal / Vertical)	Test method	Reference Level	Audio output	Interference Ratio
3	80-1000MHz 1800MHz,	H&V	Acoustic	75dBSPL	Integral speaker	-32

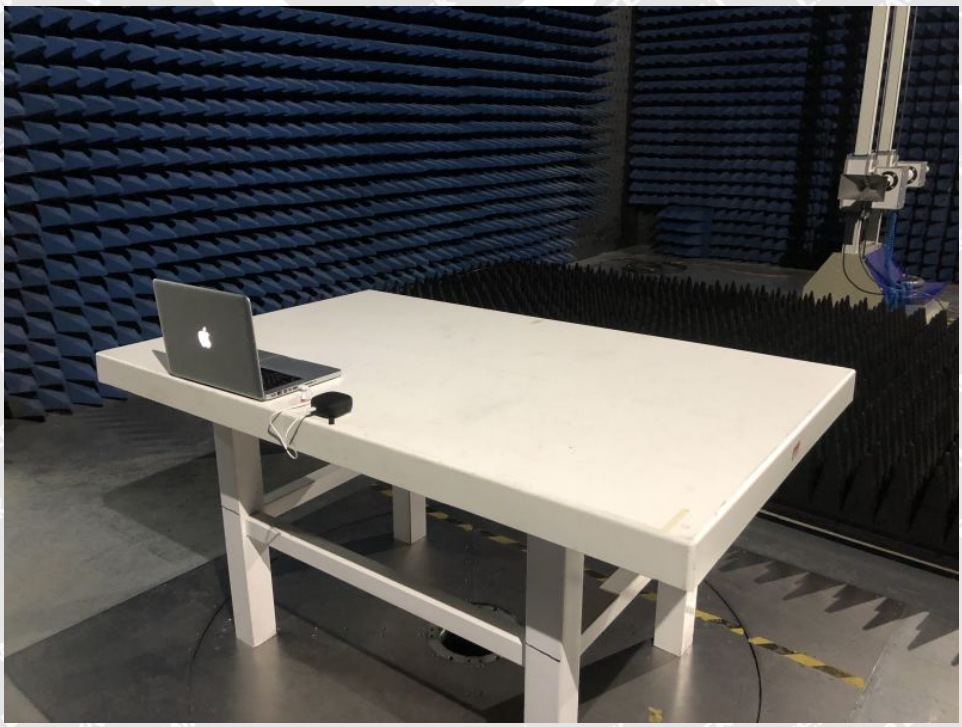
	2600MHz, 3500MHz, 5000MHz		Electrical	75dBSPL	Earphone out port	-43
Limit		≤-20				
Test Result		Pass				

NOTE:For Broadcast reception function: **Group 2** not apply in this test.

8.2 Photograph –Radiation Emission Test Setup for Below 1GHz



8.3 Photograph –Radiation Emission Test Setup for Above 1GHz

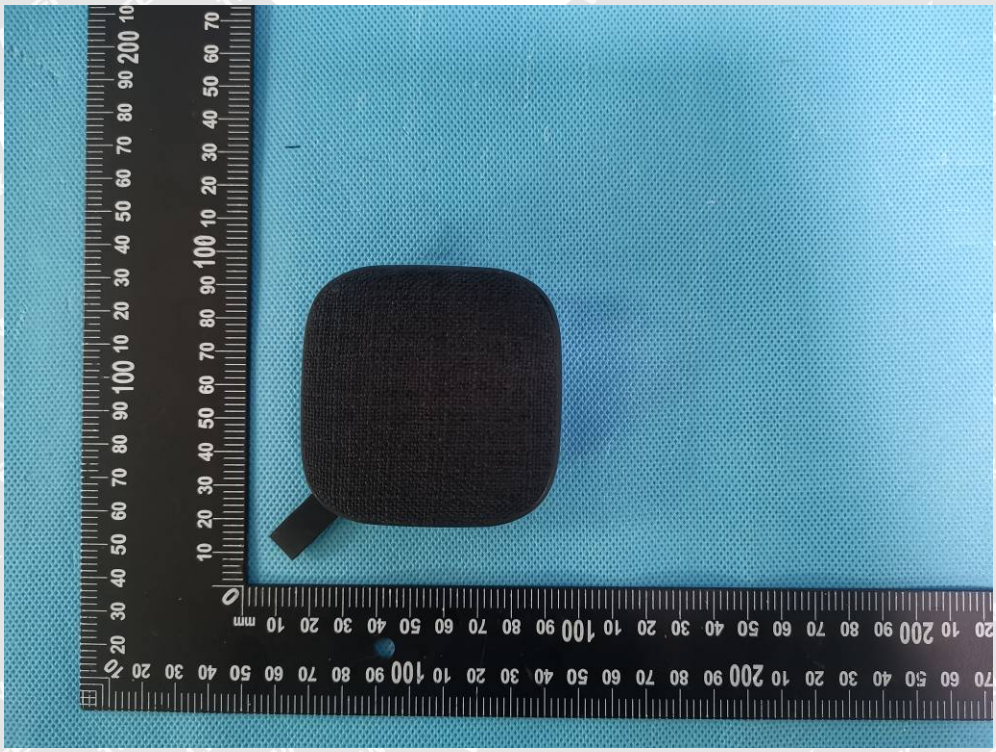


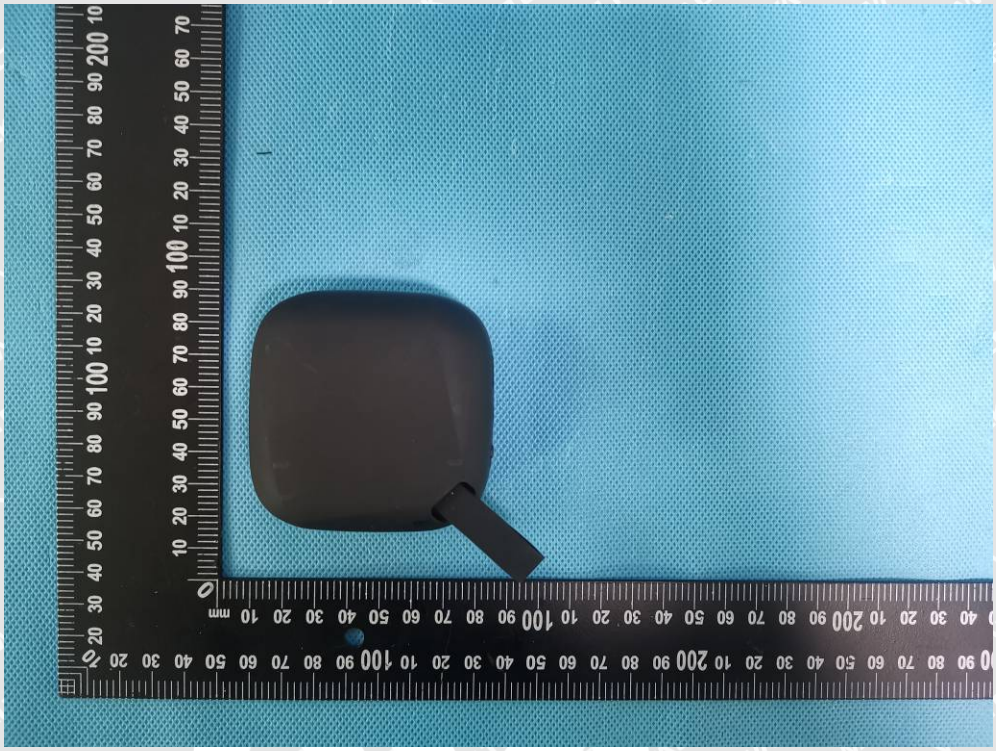
8.4 Photograph – ESD Immunity Test Setup

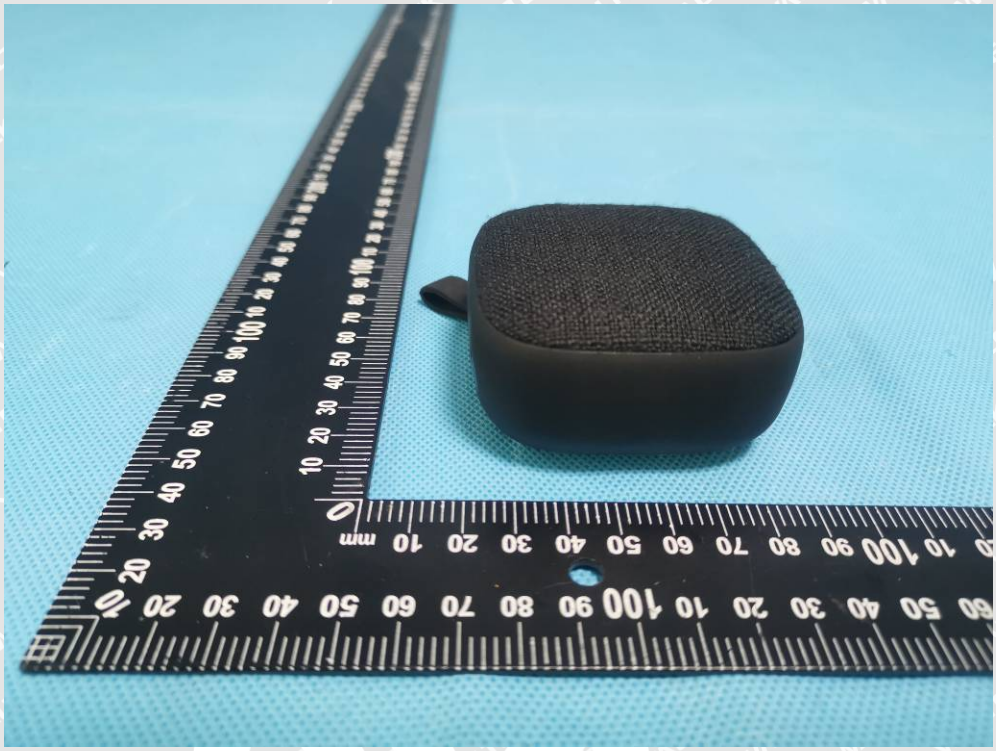
8.5 Photograph – Radio-frequency electromagnetic fields Test Setup

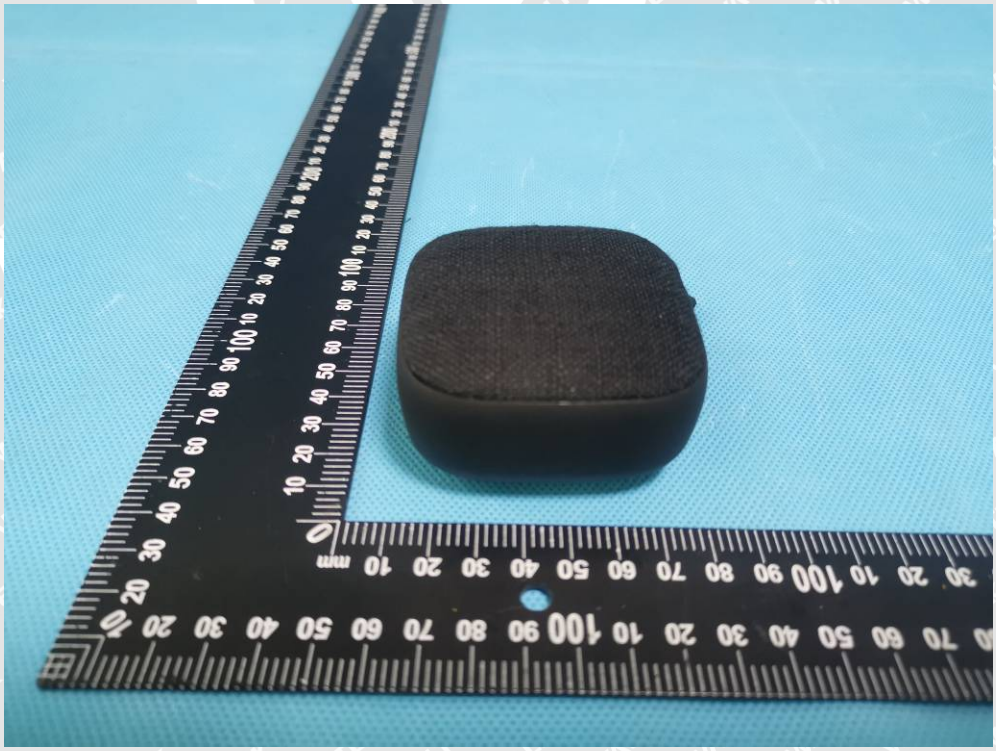
9 Photographs of EUT

9.1 EUT – Appearance View Model: MO9260



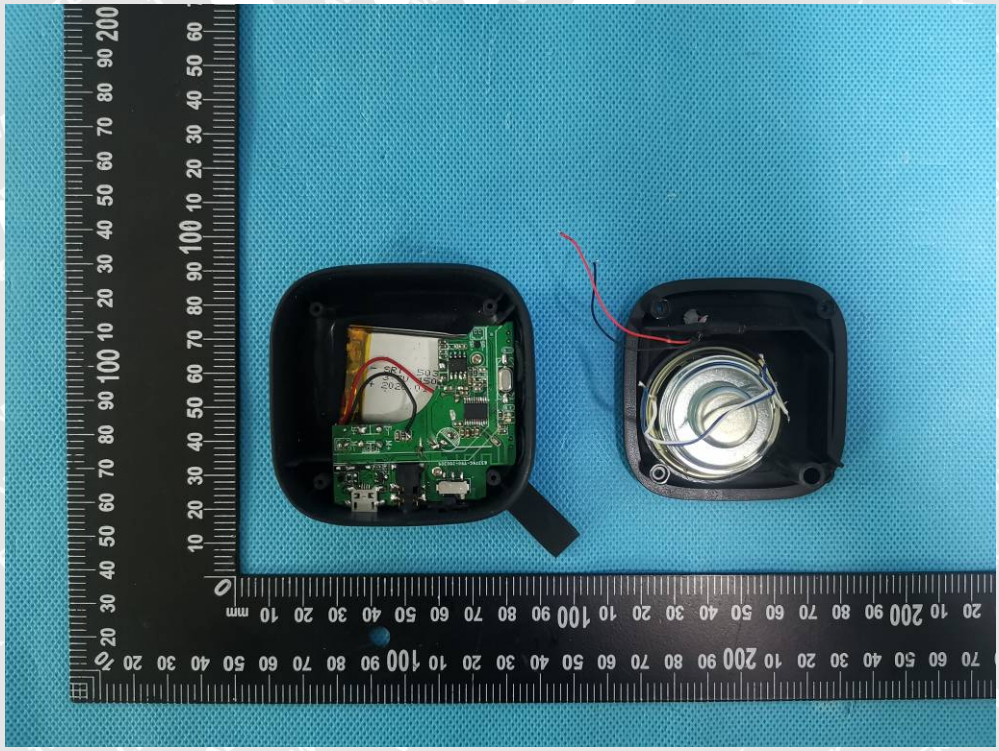


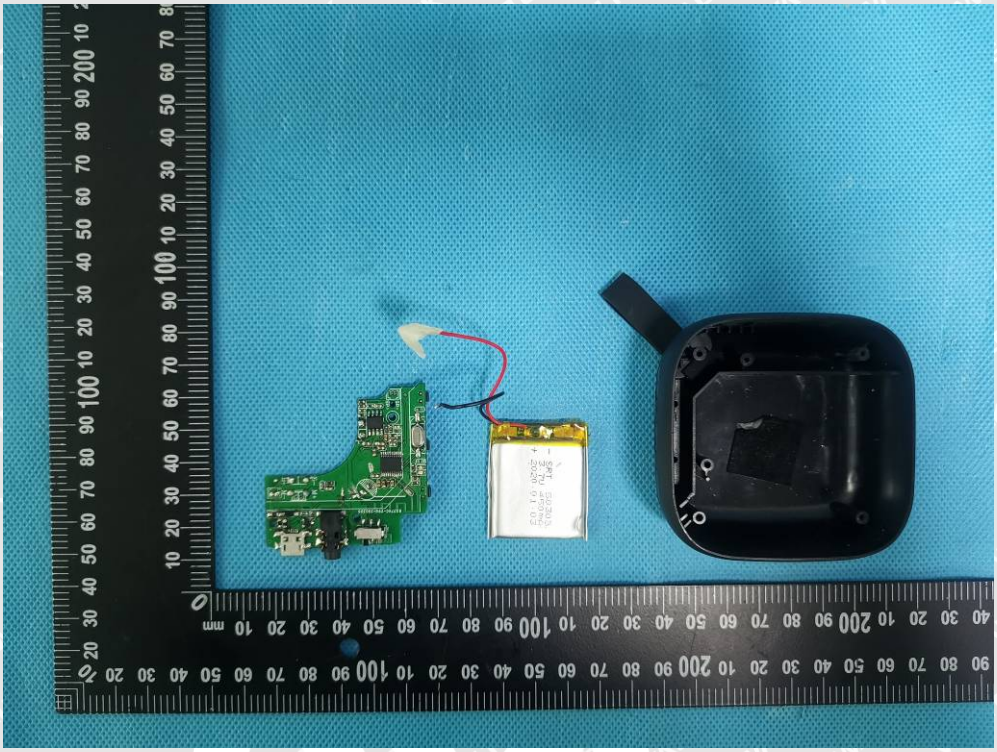


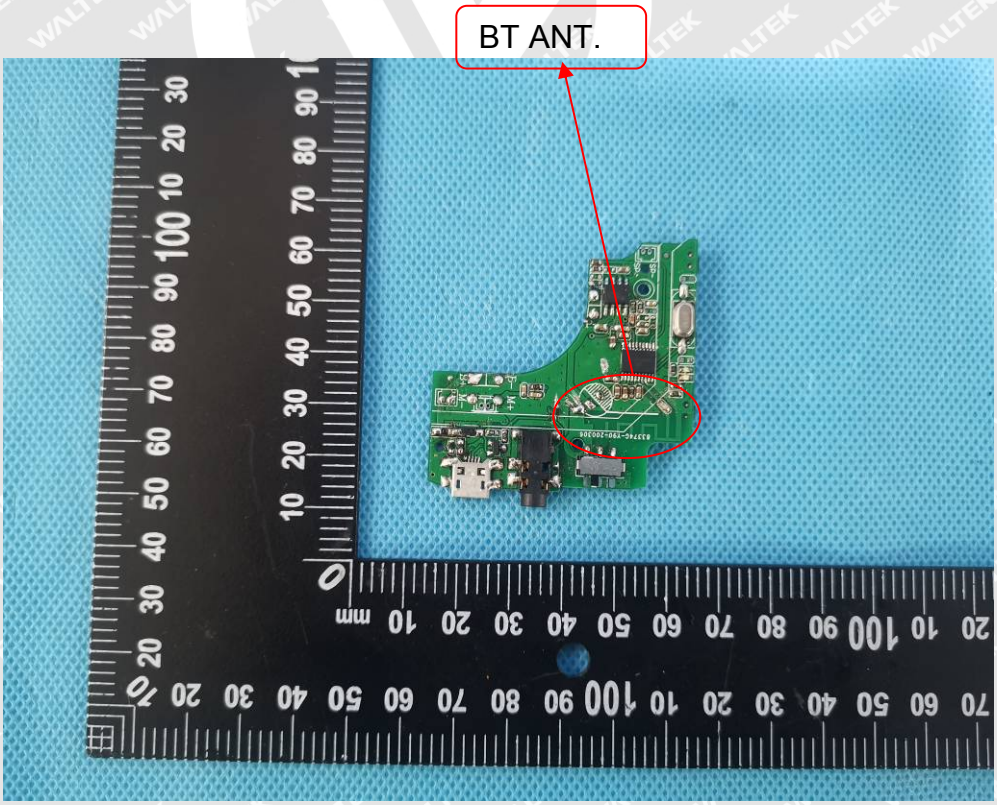


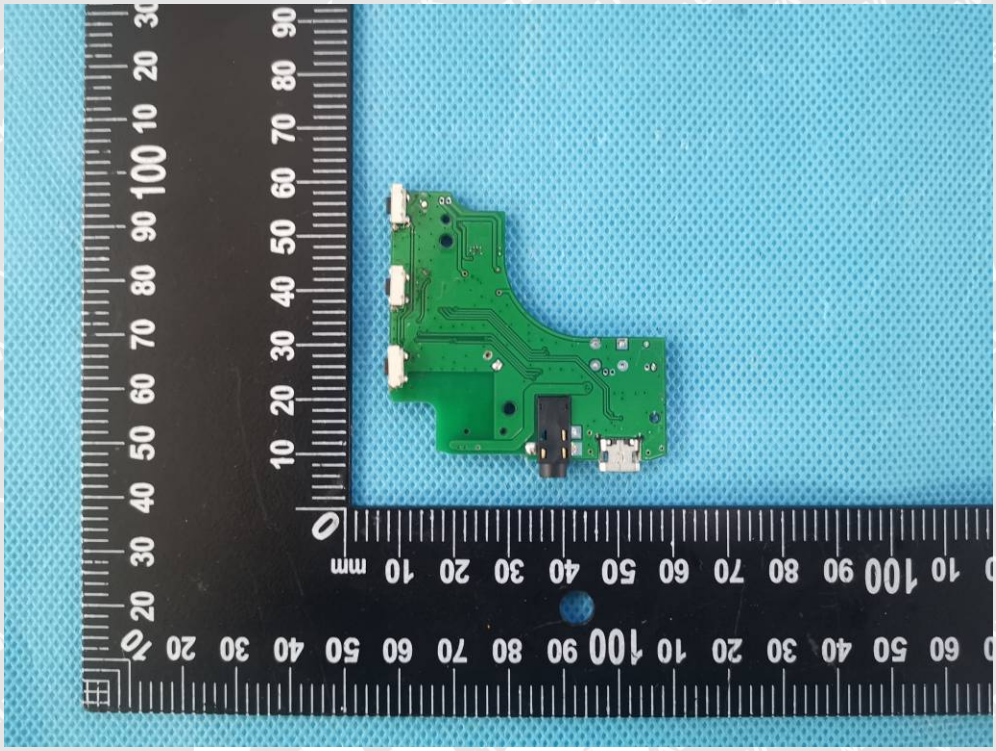

AUX-IN
ON/OFF

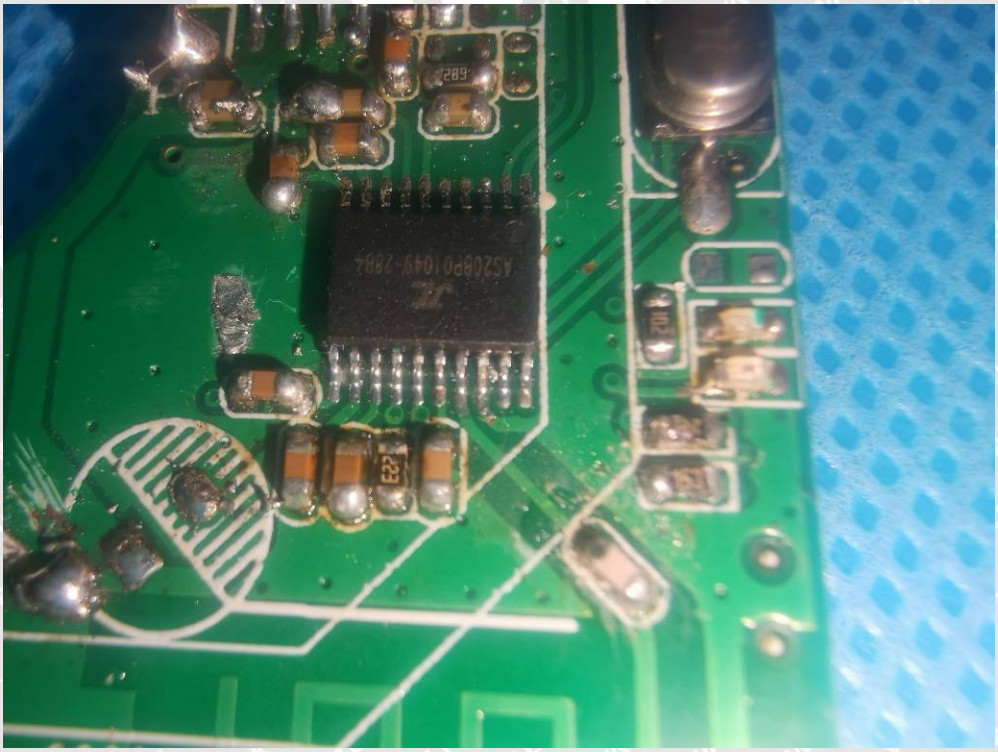
9.2 EUT – Open View Model: MO9260

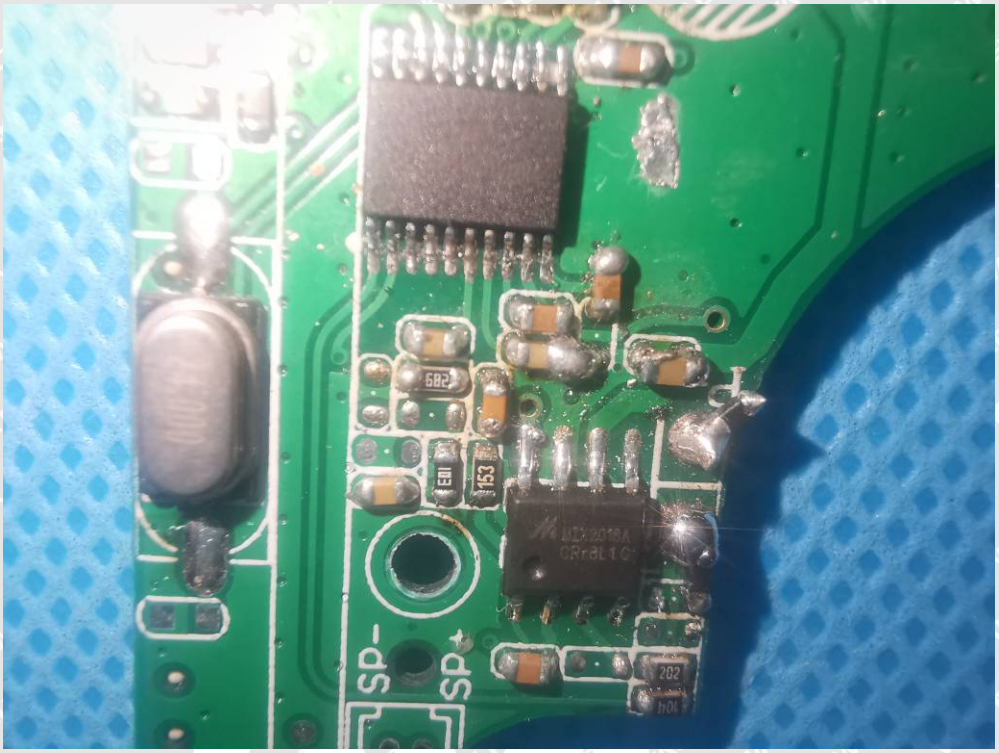


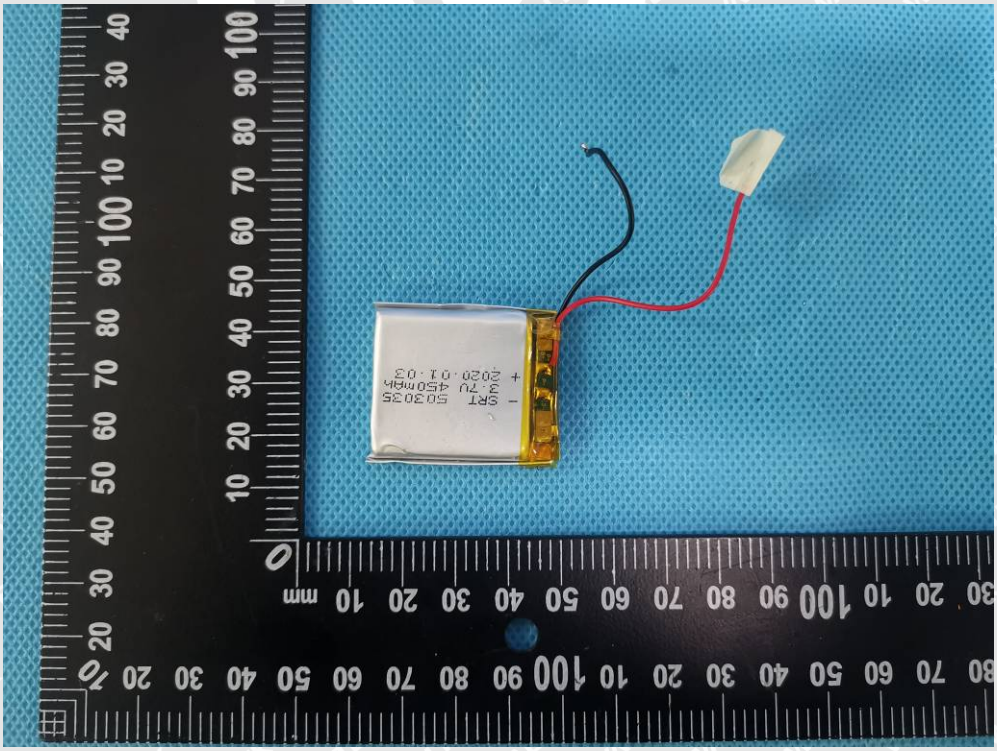



BT ANT.









======End of Report======