



TEST REPORT

Report Reference No.: TZ0028260608ERF01

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Date of issue : 2026-06-18



Testing Laboratory Name : Shenzhen Tongzhou Testing Co.,Ltd.

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Applicant's name : Mid Ocean Brands B.V.

Address : Unit 711 716, 7/F., Tower A, 83 King Lam Street, Cheung Sha Wan,
Kowloon, Hong Kong.

Manufacturer's name : Mid Ocean Brands B.V.

Address : Unit 711 716, 7/F., Tower A, 83 King Lam Street, Cheung Sha Wan,
Kowloon, Hong Kong.

Test specification :

Standard : ETSI EN 301 489-1 V2.2.3 (2019-11),
ETSI EN 301 489-17 V3.3.1 (2024-09),
EN 55032:2015+A11:2020,
EN 55035:2017+A11:2020,
EN IEC 61000-3-2:2019+A1:2021+A2:2024,
EN 61000-3-3:2013+A1:2019+A2:2021

TRF Originator : SZTZ

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The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Test item description : Bluetooth Earbuds

Trade Mark : /

Model/Type reference : MO2206

Ratings : DC 3.7V by battery, Input: DC 5V

Result : PASS





**** Report Revise Record ****

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	2026-06-18	Valid	Initial release

Notes:

The original test report Ref. No: TZ0028260503ERF01 (dated 2026/5/25, tested 2026/5/8~2026/5/21), was modified on 2026/6/18 to include the following changes:

- change the manufacturer information.

Based on above changes, no further testing necessary.





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1. TEST STANDARDS

The tests were performed according to following standards:

[ETSI EN 301 489-1 V2.2.3 \(2019-11\)](#)

ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;
Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility

[ETSI EN 301 489-17 V3.3.1 \(2024-09\)](#)

ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;
Part 17: Specific conditions for Broadband and Wideband Data Transmission Systems;
Harmonised Standard for ElectroMagnetic Compatibility

[EN 55032:2015+A11:2020](#)

Electromagnetic compatibility of multimedia equipment - Emission Requirements

[EN 55035:2017+A11:2020](#)

Electromagnetic compatibility of multimedia equipment - Immunity requirements

[EN IEC 61000-3-2:2019+A1:2021+A2:2024](#)

Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase)

[EN 61000-3-3:2013+A1:2019+A2:2021](#)

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





2. SUMMARY

2.1. General Remarks

Date of receipt of test sample : 2026-05-08
Testing commenced on : 2026-05-08
Testing concluded on : 2026-05-21

2.2. Product Description

The Model: MO2206 or the “EUT” as referred to in this report; more general information as follows, for more details, refer to the user’s manual of the EUT.

Name of EUT	:	Bluetooth Earbuds
Model/Type reference	:	MO2206
Test Model	:	MO2206
Difference description	:	N/A
Hardware version	:	V5.3
Software version	:	V1.0

2.3. Equipment under Test

Power supply system utilised

Power supply voltage	:	☐ 230V / 50 Hz	☐ 120V / 60Hz
		☐ 12 V DC	☐ 24 V DC
		☒ Other (specified in blank below)	

DC 3.7V by battery, Input: DC 5V

2.4. Short description of the Equipment under Test (EUT)

For details, refer to the user’s manual of EUT.

Serial number: Prototype





2.5. EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

Test Mode	BT	Charging
1	■	
2		■

NOTE: 1. ■ is function state of EUT in each operation.

Scan above all test mode, found below test mode which it was worse case mode. Test results reported represents the worst case simultaneous transmission condition.

Test item	Test mode (Worst case operation mode)
Radiated emission	Mode 2
Conducted emission	Mode 2
EMS	All Modes





2.6. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - Supplied by the lab

○	Adapter	Model:	MDY-10-EH
		Input:	100-240V~ 50/60Hz 0.7A
		Output:	DC 5V, 3A

2.7. Internal Identification of EUT used during the test

EUT ID : TZ0028260608-1#





2.8. Performance level

2.8.1. For ETSI EN 301 489-1 V2.2.3 (2019-11)

Refer to clause 6 Performance criteria as following:

Introduction

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 two categories of performance criteria apply:

- Performance criteria for continuous phenomena.
- Performance criteria for transient phenomena.

NOTE: Normally, the performance criteria depends upon the type of radio equipment and/or its intended application. Thus, the present document only contains general performance criteria commonly used for the assessment of radio equipment.

Performance criteria for continuous phenomena applied to transmitters and receivers

During the test, the equipment shall:

- continue to operate as intended;
- not unintentionally transmit;
- not unintentionally change its operating state;
- not unintentionally change critical stored data.

Performance criteria for transient phenomena applied to transmitters and receivers

For all ports and transient phenomena with the exception described below, the following applies:

- The application of the transient phenomena shall not result in a change of the mode of operation (e.g. unintended transmission) or the loss of critical stored data.
- After application of the transient phenomena, the equipment shall operate as intended.

For surges applied to symmetrically operated wired network ports intended to be connected directly to outdoor lines the following criteria applies:

- For products with only one symmetrical port intended for connection to outdoor lines, loss of function is allowed, provided the function is self-recoverable, or can be otherwise restored. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.
- For products with more than one symmetrical port intended for connection to outdoor lines, loss of function on the port under test is allowed, provided the function is self-recoverable. Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.





2.8.2. For ETSI EN 301 489-17 V3.3.1 (2024-09)

Refer to clause 6 Performance criteria as following:

General performance criteria

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.

Performance table

Table 2: Performance criteria

Criteria	During test	After test (i.e. as a result of the application of the test)
A	Shall operate as intended. (See note). Shall be no loss of function. Shall be no unintentional transmissions.	Shall operate as intended. Shall be no degradation of performance. Shall be no loss of function. Shall be no loss of critical stored data.
B	May be loss of function.	Functions shall be self-recoverable. Shall operate as intended after recovering. Shall be no loss of critical stored data.
C	May be loss of function.	Functions shall be recoverable by the operator. Shall operate as intended after recovering. Shall be no loss of critical stored data.
NOTE: Operate as intended during the test allows a level of degradation in accordance with clause 6.2.2.		

Minimum performance level

For equipment that supports a PER or FER, the minimum performance level shall be a PER or FER less than or equal to 10 %.

For equipment that does not support a PER or a FER, the minimum performance level shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Performance criteria for Continuous phenomena

The performance criteria A shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur during the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur during the test.

Performance criteria for Transient phenomena

The performance criteria B shall apply, except for voltage dips greater than or equal to 100 ms and voltage interruptions of 5 000 ms duration, for which performance criteria C shall apply.

Where the EUT is a transmitter in standby mode, unintentional transmission shall not occur as a result of the application of the test.

Where the EUT is a transceiver in receive mode, unintentional transmission shall not occur as a result of the application of the test.





2.8.3. For EN 55035:2017+A11:2020

Refer to clause 8 Performance criteria as following:

General

General performance criteria are defined in Clauses 8.2, 8.3 and 8.4. These criteria shall be used during the testing of primary functions where no relevant annex is applicable

When assessing the impact of a disturbance on a function, the assessment should take into consideration the function's performance prior to the application of the disturbance and only identify as failures those changes in performance that are a result of the disturbance.

Performance criterion A

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

Performance criterion B

During the application of the disturbance, degradation of performance is allowed. However, no unintended change of actual operating state or stored data is allowed to persist after the test.

After the test, the equipment shall continue to operate as intended without operator intervention; no degradation of performance or loss of function is allowed, below a performance level specified by the manufacturer, when the equipment is used as intended.

The performance level may be replaced by a permissible loss of performance.

If the minimum performance level (or the permissible performance loss), or recovery time, is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

Performance criterion C

Loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls by the user in accordance with the manufacturer's instructions. A reboot or re-start operation is allowed.

Information stored in non-volatile memory, or protected by a battery backup, shall not be lost.





2.9. Monitoring EUT in Immunity Test

2.9.1. Monitoring for Continuous Phenomena Applied to the EUT

■ BT Mode

At the start of the test, establish a wireless link between the EUT and CMW500(integrate BT protocol Analyzer);

After the test, Check the function and critical stored data of the EUT with no degradation.

In addition, when EUT working in Idle /Receiver mode, monitor whether the transmitter unintentionally operates.

■ other Mode

for Video, During and after the test, observe the Screen status by eyes or monitor to see whether there is degradation of performance

for Audio, During and after the test, Listen the Audio status by ear to discover whether there is degradation of performance

2.9.2. Monitoring for Transient Phenomena Applied to the EUT

■ BT Mode

At the start of the test, establish a wireless link between the EUT and CMW500(integrate BT protocol Analyzer);

After the test, Check the function and critical stored data of the EUT with no degradation.

In addition, when EUT working in Idle /Receiver mode, monitor whether the transmitter unintentionally operates.

■ other Mode

for Video, after the test, observe the Screen status by eyes or monitor to see whether there is degradation of performance

for Audio, after the test, Listen the Audio status by ear to discover whether there is degradation of performance

2.10. Modifications

No modifications were implemented to meet testing criteria.





3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Tongzhou Testing Co.,Ltd.

1st Floor, Building 1, Haomai High-tech Park, Huating Road 387, Dalang Street, Longhua, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2014) and CISPR Publication 22.

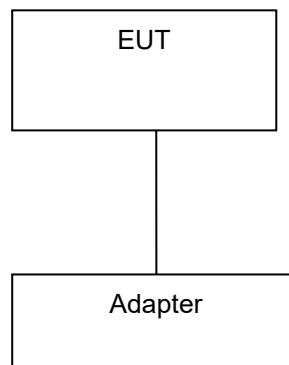
3.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 °C
Humidity:	30-60%
Atmospheric pressure:	950-1050mbar

3.3. Configuration of Tested System

Fig. 3.3.1 Configuration of Tested System(Mode1)





3.4. Test Description

Requirements		
Radiated Emission	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.1 EN 55032:2015+A11:2020 Annex A.2	PASS
Conducted Emission(AC Mains)	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.1 EN 55032:2015+A11:2020 Annex A.3	PASS
Conducted Emission(Telcommunication Ports)	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.1 EN 55032:2015+A11:2020 Annex A.3	N/A
Harmonic Current Emissions	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.1 EN IEC 61000-3-2:2019+A1:2021+A2:2024	N/A
Voltage Fluctuations and Flicker	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.1 EN 61000-3-3:2013+A1:2019+A2:2021	PASS
Electrostatic Discharge	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	PASS
RF Electromagnetic Field	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	PASS
Fast Transients Common Mode	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	PASS
RF Common Mode 0,15 MHz to 80 MHz	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	PASS
Transients and Surges	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	N/A
Voltage Dips and Interruptions	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	PASS
Surges, Line to Line and Line to Ground	ETSI EN 301 489-1 V2.2.3 (2019-11) Clause 7.2	PASS
Power Frequency Magnetic Field Susceptibility Test	EN 55035:2017+A11:2020	PASS
Boardband impulsive conducted disturbance	EN 55035:2017+A11:2020	N/A

Remark: The measurement uncertainty is not included in the test result.





3.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Tongzhou Testing Co.,Ltd. quality system acc. to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Tongzhou Testing Co.,Ltd. is reported:

Test Item		Frequency Range	Uncertainty	Note
Radiation Uncertainty	:	9KHz~30MHz	±3.08dB	(1)
		30MHz~1000MHz	±4.42dB	(1)
		1GHz~40GHz	±4.06dB	(1)
Conduction Uncertainty	:	150kHz~30MHz	±2.23dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.





3.6. Equipments Used during the Test

Conducted emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI-7	100849/003	2025-12-31	2026-12-30
2	Artificial Mains	ROHDE & SCHWARZ	ENV 216	101333-IP	2025-12-31	2026-12-30
3	EMI Test Software	ROHDE & SCHWARZ	ESK1	V1.71	N/A	N/A
4	ISN T8	TESEQ	ISN T800	42789	2025-12-31	2026-12-30
5	ISN T8-CAT6	TESEQ	ISN T8-CAT6	39898	2025-12-31	2026-12-30
6	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30

Radiated emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	Test Receiver	R&S	ESCI-7	100849/003	2025-12-31	2026-12-30
2	wideband Antenna	Schwarzbeck	VULB 9163	958	2025-10-18	2028-10-17
3	Horn Antenna	Schwarzbeck	BBHA 9120D	01989	2025-10-18	2028-10-17
4	Amplifier	Schwarzbeck	BBV 9743	209	2025-12-31	2026-12-30
5	Amplifier	Tonscend	TSAMP-0518SE	--	2025-12-31	2026-12-30
6	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30
7	Postional Controller	MF	MF7802	--	--	--
8	RE test software	Tonscend	JS32-RE	V5.0.0.0	--	--

Voltage Fluctuation and Flicker						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	Harmonic & Flicker Tester	SCHAFFNER	CCN1000-1	72046	2025-06-10	2026-06-09
2	Power Source	SCHAFFNER	NSG1007-3-240	HK54238	2025-06-10	2026-06-09
3	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30
4	software	AMETEK	CTS 4	V 4.6.2	--	--

Electrostatic Discharge						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	ESD Simulator	TESEQ	NSG 437	976	2026-01-03	2027-01-02
2	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30





RF Electromagnetic Field						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	Stacked Double Log.-Per. Antenna	SCHWARZBECK	STLP 9129	00279	2025-12-31	2026-12-30
2	Power Amplifier	Micotop	MPA-80-1000-250	MPA23077313	2025-12-31	2026-12-30
3	Power Amplifier	Micotop	MPA-1000-6000-100	MPA23077314	2025-12-31	2026-12-30
4	Radio Frequency Switch	TONSCEND	JS0806s	24H806S0912	2025-12-31	2026-12-30
5	Signal generator	R&S	SMB 100A	110728	2025-12-31	2026-12-30
6	Power Sensor	TONSCEND	JS0806-P	24G806P0899	2025-12-31	2026-12-30
7	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30
8	RS test software	TONSCEND	JS35-RS	V5.0.0.0.0	--	--

Fast transient common mode						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	Ultra Compact Simulator	HTEC	HCOMPACT 7	162904	2025-12-31	2026-12-30
2	Coupling Clamp	HTEC	H3C	162908	2025-12-31	2026-12-30
3	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30

Surges, line to line and line to ground						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	Ultra Compact Simulator	HTEC	HCOMPACT 7	162904	2025-12-31	2026-12-30
2	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30

PFMF						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	PFMF test system	HTEC	HPFMF 100	TZE067	2025-12-31	2026-12-30
2	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30

RF common mode 0,15 MHz to 80 MHz						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	EM-Clamp	TESEQ	KEMZ 801	24017	2025-06-10	2026-06-09
2	COUPLING AND DECOUPLING NETWORK	TESEQ	CDN M2+M3	A2210223/2013	2025-06-10	2026-06-09
3	Conducted disturbances test system	SCHLODER GmbH	CDG-6000	102286	2025-06-10	2026-06-09
4	6dB Attenuator	Luthi	75-A-MFN-06	0065693	2025-06-10	2026-06-09
5	CS Test software	Farad	CS-35	V:2.0.1.3	--	--
6	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30





Voltage Dips and Interruptions						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due
1	Ultra Compact Simulator	HTEC	HCOMPACT 7	162904	2025-12-31	2026-12-30
2	Voltage Dips and interruption Simulator	HTEC	HV1P16T	162907	2025-12-31	2026-12-30
3	Wideband Radio Communication Tester	R&S	CMW500	101855	2025-12-31	2026-12-30





4. TEST CONDITIONS AND RESULTS

4.1. REQUIREMENTS

4.1.1. Radiated Emission

LIMIT

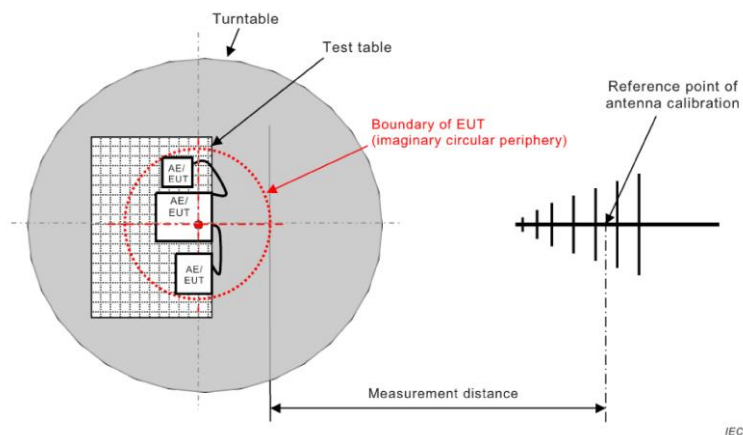
Please refer to ETSI EN 301 489-1 Clause 8.2.3

The ancillary equipment shall meet the class B limits given in CENELEC EN 55032 [1], annex A tables A.4 and A.5.

Alternatively, for ancillary equipment intended to be used exclusively in an industrial environment or telecommunication centres, the class A limits given in CENELEC EN 55032 [1], annex A tables A.2 and A.3 may be used.

If EUT is also a FM Receiver, it shall meet CENELEC EN 55032 [3], annex A tables A.6

TEST CONFIGURATION



Note: Cable on the RGP must be insulated.

TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 8.2.2 and The test method shall be in accordance with CENELEC EN 55032 [1], annex A.2. for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar





TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo

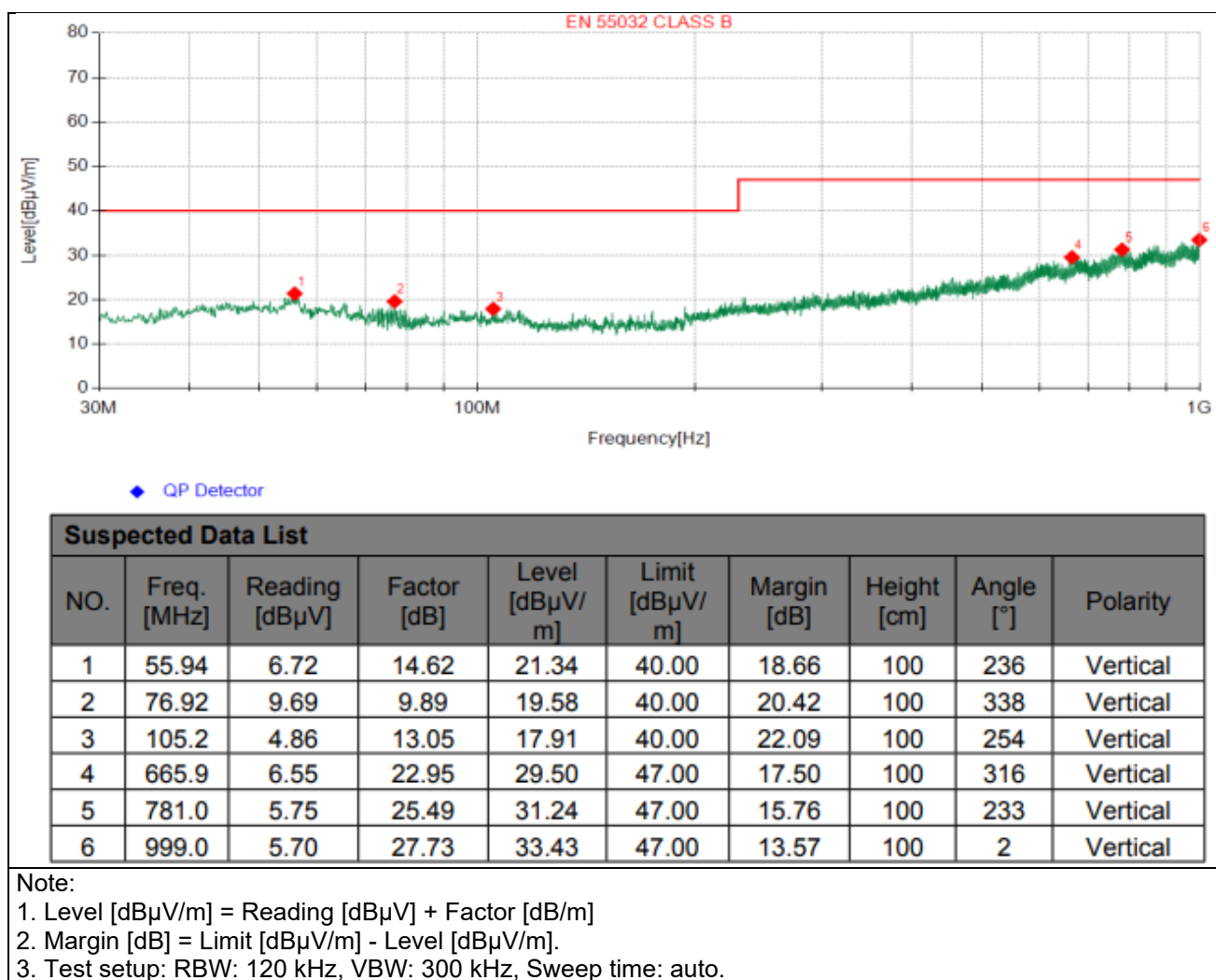
Pass

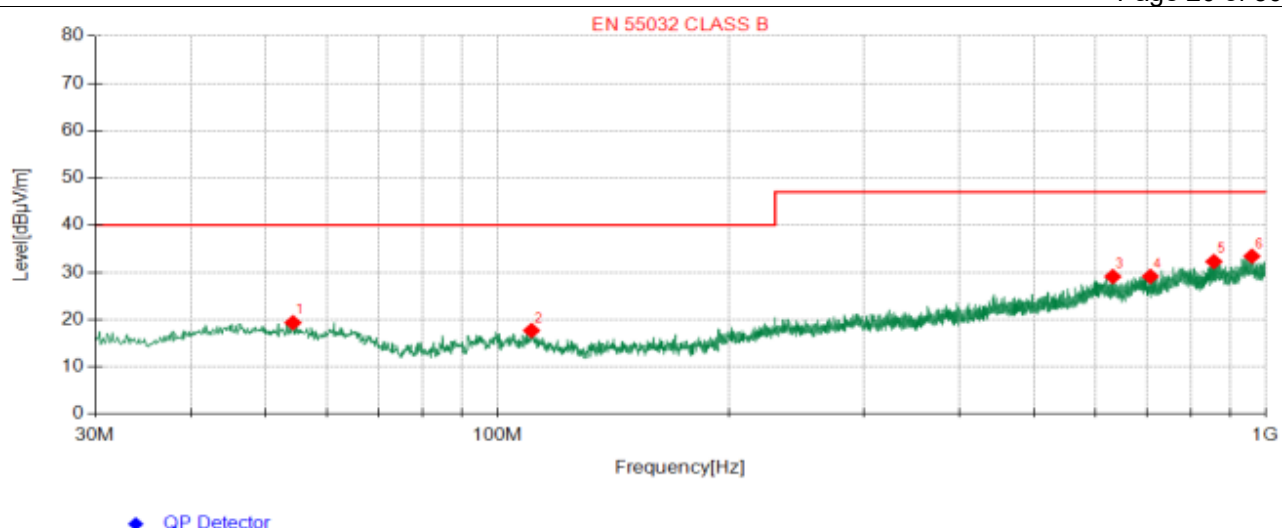
Note 1: All Modes has been tested only list the worst case in this report.

Note 2: While performing the testing, the Band Reject Filter Box is used to filter the fundamental emission for avoiding test instrument overload.

Note 3: This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position

Radiated Emission Below 1000MHz





Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	54.25	4.54	14.79	19.33	40.00	20.67	100	152	Horizontal
2	110.8	4.06	13.61	17.67	40.00	22.33	100	197	Horizontal
3	632.7	6.33	22.76	29.09	47.00	17.91	100	267	Horizontal
4	708.1	5.66	23.47	29.13	47.00	17.87	100	118	Horizontal
5	856.6	6.39	25.87	32.26	47.00	14.74	100	353	Horizontal
6	959.9	5.84	27.55	33.39	47.00	13.61	100	24	Horizontal

Note:

1. Level [dBμV/m] = Reading [dBμV] + Factor [dB/m]

2. Margin [dB] = Limit [dBμV/m] - Level [dBμV/m].

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

Frequency	MaxPeak	Average	Limit	Margin	Meas. Time	Bandwidth	Height	Pol	Azimuth
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	(ms)	(KHz)	(cm)		(deg)
1104.95	41.52	---	70	28.48	100	1000	100	V	251
1062.01	41.31	---	70	28.69	100	1000	100	V	274
2686.65	47.31	---	70	22.69	100	1000	100	H	18
2437.63	47.89	---	70	22.11	100	1000	100	H	272
2822.35	48.54	---	70	21.46	100	1000	100	V	190
2791.84	49.05	---	70	20.95	100	1000	100	H	316





4.1.2. Conducted Emission (AC Mains)

LIMIT

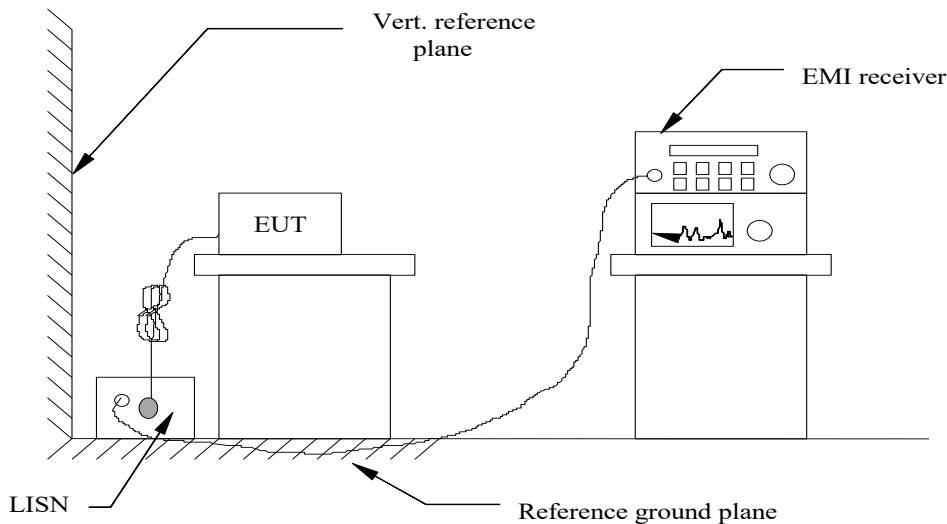
Please refer to ETSI EN 301 489-1 Clause 8.4.3

The equipment shall meet the class B limits given in CENELEC EN 55032 [1], annex A table A.10.

Alternatively, for equipment intended to be used in an industrial environment or a telecommunication centre, the class A limits given in CENELEC EN 55032 [1], annex A table A.9 can be used.

If EUT is also a FM Receiver, it shall meet CENELEC EN 55032 [3], annex A tables A.13

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 8.4.2 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo

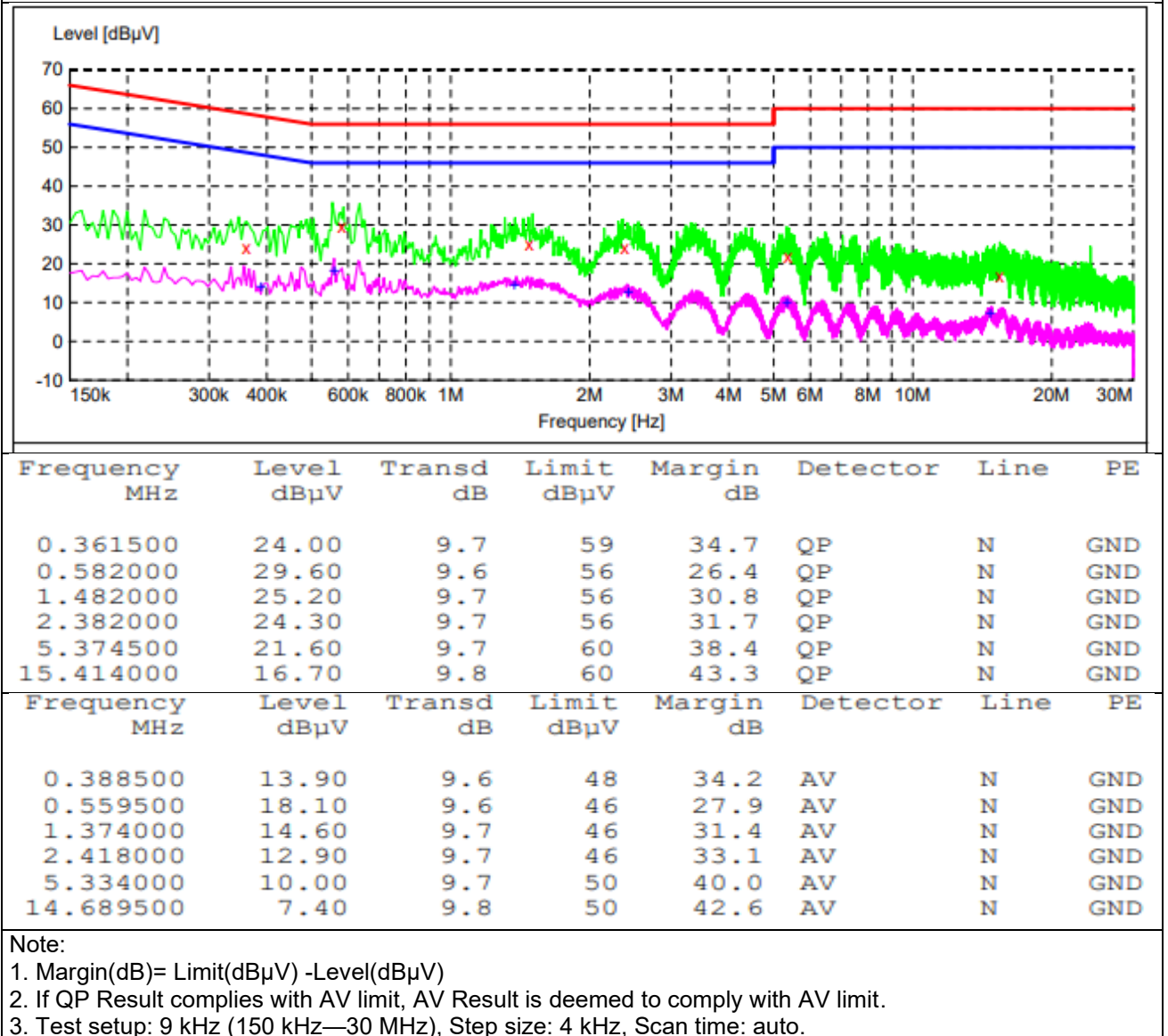


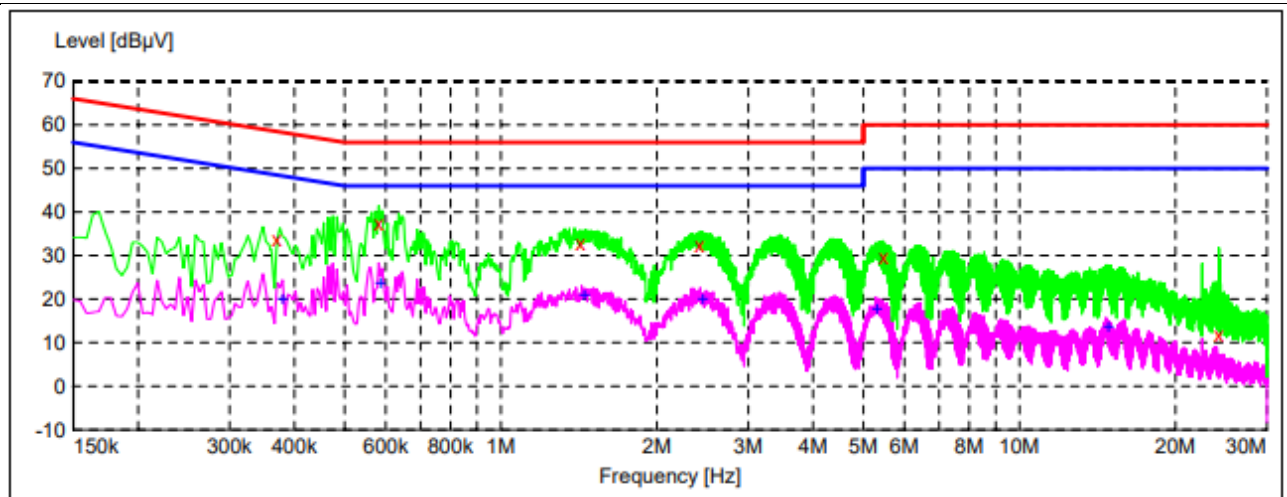


Pass

Note: All Modes has been tested only list the worst case in this report.

Neutral Line



**Live Line**

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.370500	33.50	9.7	59	25.0	QP	L1	GND
0.582000	37.50	9.6	56	18.5	QP	L1	GND
1.423500	32.70	9.7	56	23.3	QP	L1	GND
2.418000	32.50	9.7	56	23.5	QP	L1	GND
5.464500	29.40	9.7	60	30.6	QP	L1	GND
24.234000	11.80	9.8	60	48.2	QP	L1	GND
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.379500	19.80	9.7	48	28.5	AV	L1	GND
0.586500	23.70	9.6	46	22.3	AV	L1	GND
1.446000	20.90	9.7	46	25.1	AV	L1	GND
2.449500	20.10	9.7	46	25.9	AV	L1	GND
5.307000	17.60	9.7	50	32.4	AV	L1	GND
14.824500	13.40	9.8	50	36.6	AV	L1	GND

Note:

1. $\text{Margin(dB)} = \text{Limit(dB}\mu\text{V)} - \text{Level(dB}\mu\text{V)}$
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: 9 kHz (150 kHz—30 MHz), Step size: 4 kHz, Scan time: auto.





4.1.3. Conducted Emission (Telecommunication Ports)

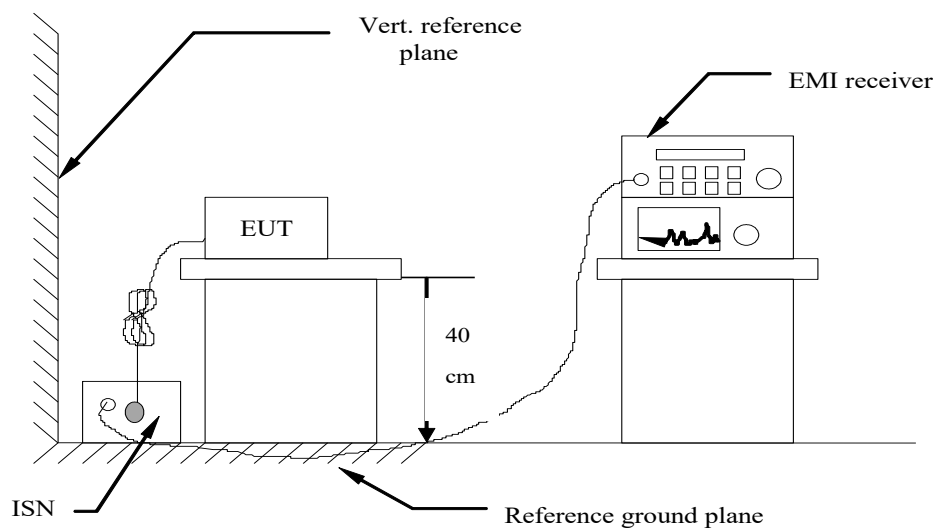
LIMIT

Please refer to ETSI EN 301 489-1 Clause 8.7.3

The wired network ports shall meet the class B limits given in CENELEC EN 55032 [1], annex A table A.12.

Alternatively, for equipment intended to be used exclusively in an industrial environment or a telecommunication centre, the class A limits given in CENELEC EN 55032 [1] annex A table A.11 can be used.

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 8.7.2 and The test method shall be in accordance with CENELEC EN 55032 [1], annex A.3. for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Not applicable



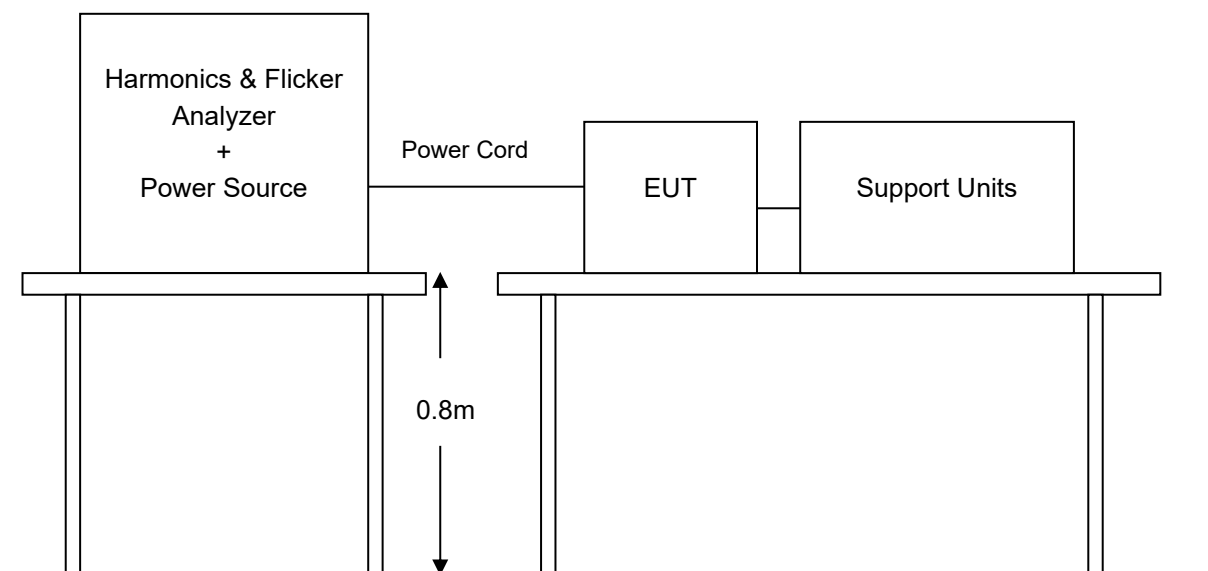


4.1.4. Harmonic Current Emission

LIMIT

Please refer to IEC 61000-3-2

TEST CONFIGURATION



TEST PROCEDURE

Please refer to IEC 61000-3-2 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Not applicable (<75W)





4.1.5. Voltage Fluctuation and Flicker

LIMIT

Please refer to IEC 61000-3-3

TEST CONFIGURATION

Same as the configuration of the Harmonic Current Emission.

TEST PROCEDURE

Please refer to IEC 61000-3-3 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Standard used:	EN/IEC 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	120 min (12 Flicker measurements)
Customer:	Mid Ocean Brands B.V.
Mains supply voltage:	AC 230V/50Hz
E. U. T.:	Bluetooth Earbuds M/N: MO2206
Date of test:	2026-05-08
Tester:	Tony Luo

Test Result	PASS
-------------	------

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.028	1.00	PASS
Plt	0.028	0.65	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.127	4.00	PASS
dt [s]	0.000	0.50	PASS





Detail Flicker data

Flicker measurement 1	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.127	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 2	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.093	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 3	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.093	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 4	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.091	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 5	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.092	4.00	PASS
dt [s]	0.000	0.50	PASS





Flicker measurement 6	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.095	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 7	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.091	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 8	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.094	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 9	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.093	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 10	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.094	4.00	PASS
dt [s]	0.000	0.50	PASS





Flicker measurement 11	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.095	4.00	PASS
dt [s]	0.000	0.50	PASS

Flicker measurement 12	EUT values	Limit	Result
Pst	0.028	1.00	PASS
dc [%]	0.000	3.30	PASS
dmax [%]	0.093	4.00	PASS
dt [s]	0.000	0.50	PASS





4.1.6. Electrostatic Discharge

LIMIT

Please refer to IEC 61000-4-2

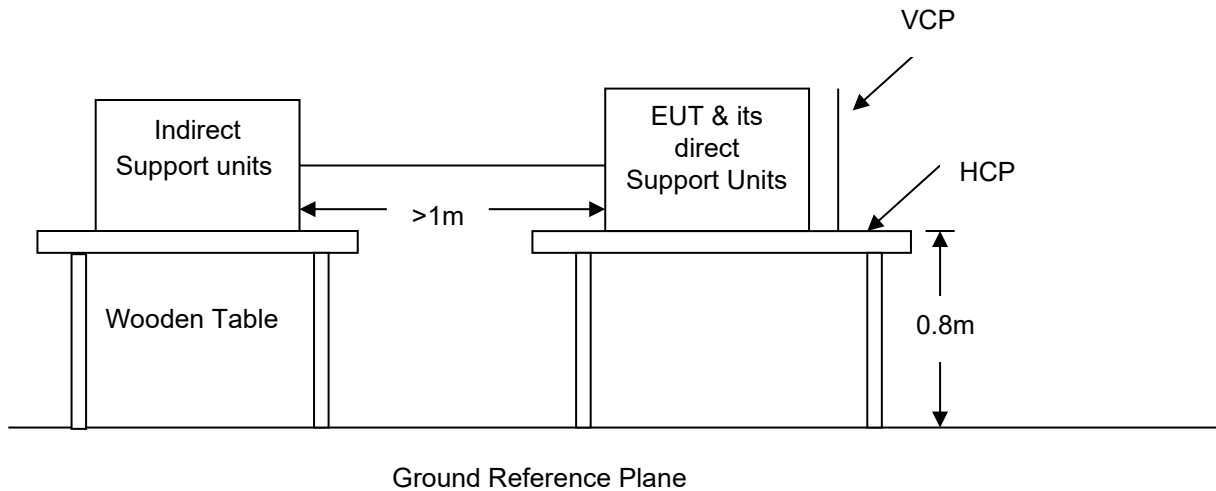
SEVERITY LEVELS OF ELECTROSTATIC DISCHARGE

Test level: Contact Discharge at $\pm 2\text{KV}, \pm 4\text{KV}$ Air Discharge at $\pm 2\text{KV}, \pm 4\text{KV}, \pm 8\text{KV}$

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1	2	2
2	4	4
3	6	8
4	8	15
X	Special	Special

Performance criterion: **B**

Test Configuration



Test procedure

Please refer to ETSI EN 301 489-1 Clause 9.3.2 and IEC 61000-4-2 for the measurement methods.

Test results

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo





Contact Discharge:

The ESD generator is held perpendicular to the surface to which the discharge is applied and the tip of the discharge electrode touch the surface of EUT. Then turn the discharge switch. The generator is then re-triggered for a new single discharge and repeated at least 10 times for each pre-selected test point.

This procedure shall be repeated until all the air discharge completed

Air Discharge:

Air discharge is used where contact discharge can't be applied. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated at least 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Indirect discharge for horizontal coupling plane:

At least 10 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT.

Indirect discharge for vertical coupling plane:

At least 10 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

Description of the Electrostatic Discharges (ESD)

Point of Discharge	Applied Voltage (KV)	Total No. of Discharge (Each Point)	Results	Criteria Level	Remark
Air Test Point	±2	50	Pass	B	-
	±4	50	Pass	B	-
	±8	50	Pass	B	-
Contact Discharge Test Points	±2	50	Pass	B	
	±4	50	Pass	B	
VCP (4 sides)	±2	50	Pass	B	-
	±4	50	Pass	B	-
HCP (4 sides)	±2	50	Pass	B	-
	±4	50	Pass	B	-





PERFORMANCE CRITERIA	
Criteria requested	☐ A / ☒ B / ☐ C
Criteria meet	☐ A / ☒ B / ☐ C

Remarks: The ancillary equipment's specification for an acceptable level of performance or degradation of performance during and/or after the tests.

Result (Pass / Fail)
Pass



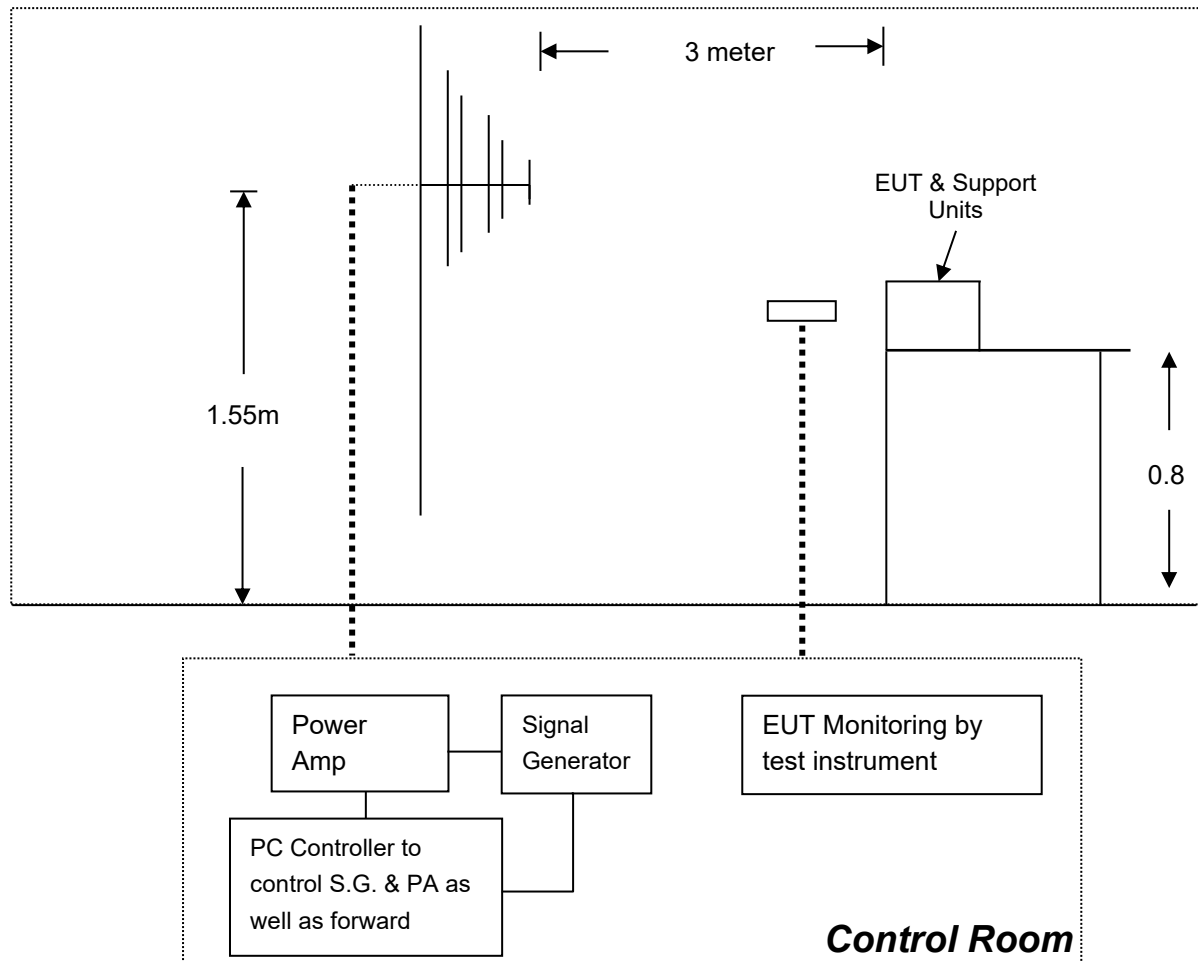


4.1.7. RF Electromagnetic Field

LIMIT

Please refer to IEC 61000-4-3

Test Configuration



Test Levels of RF Electromagnetic Field

Test level: RF Field Strength: 3V/m

Level	RF Field Strength(V/m)
1	1
2	3
3	10
X	Special

Performance criterion: **A**





TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.2.2 and IEC 61000-4-3 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo

☒ Result of Final Tests (Operating Mode & Standby (Receiving) Mode)

Freq. Range (MHz)	Field	Modulation	Polarity	Position
80-1000	3V/m	Yes	H / V	Front
1000-6000	3V/m	Yes	H / V	Front
80-1000	3V/m	Yes	H / V	Right
1000-6000	3V/m	Yes	H / V	Right
80-1000	3V/m	Yes	H / V	Back
1000-6000	3V/m	Yes	H / V	Back
80-1000	3V/m	Yes	H / V	Left
1000-6000	3V/m	Yes	H / V	Left

Special conditions for EMC immunity tests(Bluetooth/WiFi):

EUT operating Mode	Max PER During test	PER Limit
Bluetooth	2.5%	10%

☒ Result of Final Tests(EN 55035)

☒ Swept Test

Freq. Range (MHz)	Field	Modulation	Polarity	Position	Mode
80-1000	3V/m	Yes	H / V	Front	Normal Operating
80-1000	3V/m	Yes	H / V	Right	Normal Operating
80-1000	3V/m	Yes	H / V	Back	Normal Operating
80-1000	3V/m	Yes	H / V	Left	Normal Operating





☒ Spot Test

Freq. Range (MHz)	Field	Modulation	Polarity	Position	Mode
1800, 2600, 3500, 5000	3V/m	Yes	H / V	Front	Normal Operating
1800, 2600, 3500, 5000	3V/m	Yes	H / V	Right	Normal Operating
1800, 2600, 3500, 5000	3V/m	Yes	H / V	Back	Normal Operating
1800, 2600, 3500, 5000	3V/m	Yes	H / V	Left	Normal Operating

PERFORMANCE CRITERIA	
Criteria requested	☒ A / ☐ B / ☐ C
Criteria meet	☒ A / ☐ B / ☐ C

Remarks: During the test no deviation was detected to the selected operation mode(s).

Result (Pass / Fail)
Pass



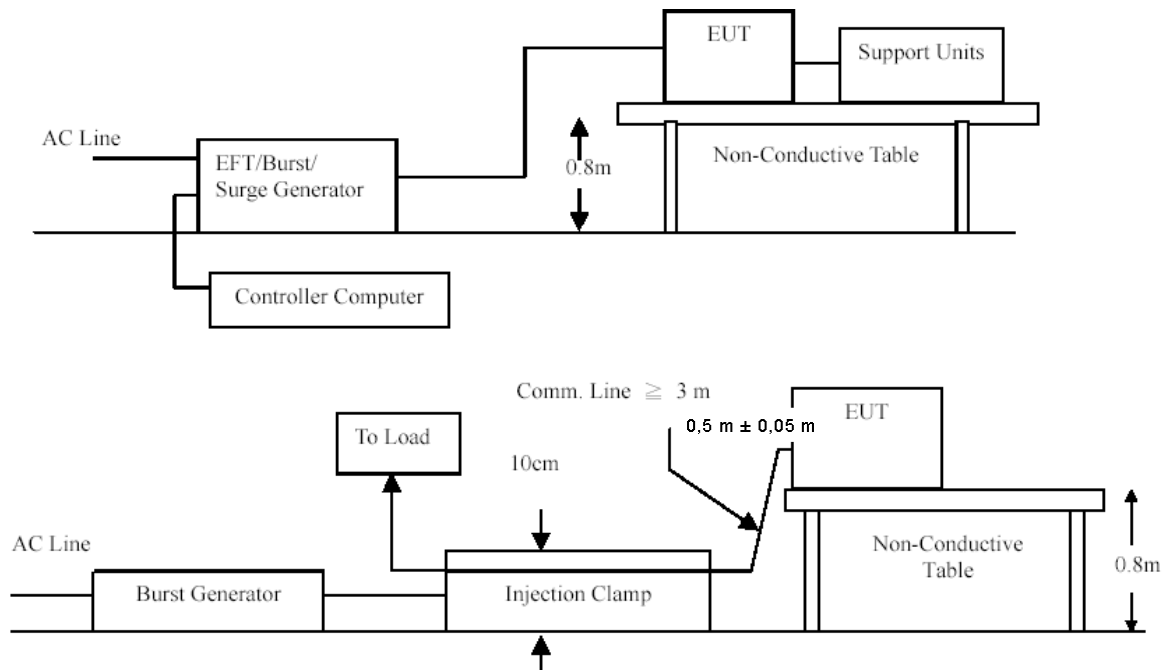


4.1.8. Fast Transients Common Mode

LIMIT

Please refer to IEC 61000-4-4

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.4.2 and IEC 61000-4-4 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo

☒ Results of Final Tests (Operating Mode)

Impulse Frequency: 5 kHz

Tr/Th: 5/50ns

Burst Duration: 15ms

Burst Period: 300ms

Shenzhen Tongzhou Testing Co., Ltd.

Add: 1st Floor, Building 1, Haomai High-tech Park, Huating Road 387, Dalang Street, Longhua, Shenzhen, China

<https://www.sztz-testing.com>

E-mail: sztz@sztz-testing.com

Tel: +86-755-3209 2199





Test duration: 120s

Injection Line	Voltage (kV)	Injected Method
☒ Line	±1	Direct
☒ Neutral	±1	Direct
☐ PE	± 1	Direct
☒ Line + Neutral	±1	Direct
☐ L + PE	± 1	Direct
☐ N + PE	± 1	Direct
☐ L + N + PE	± 1	Direct
☐ RJ45 port (LAN cable)	±0.5	Clamp
☐ RJ11 port (Line cable)	±0.5	Clamp

PERFORMANCE CRITERIA	
Criteria requested	☐ A / ☒ B / ☐ C
Criteria meet	☐ A / ☒ B / ☐ C

Remarks: During the test no deviation was detected to the selected operation mode(s).

Result (Pass / Fail)
Pass



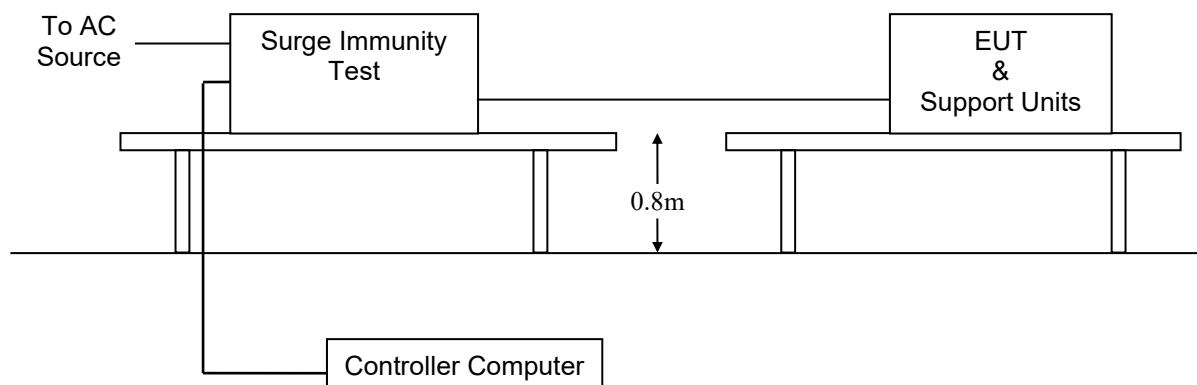


4.1.9. Surges, Line to Line and Line to Ground

LIMIT

Please refer to IEC 61000-4-5

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.8.2 and IEC 61000-4-5 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo

☒ Results of Final Tests (Operating Mode)

Voltage Waveform: 1.2/50 us

Current Waveform: 8/20 us

Polarity: Positive/Negative

Phase angle: 0°, 90°, 180°, 270°

Coupling Line	Voltage (kV)	Polarity	Coupling Method
☒ Line + Neutral	1	Pos./ Neg.	Capacitive
☐ L + PE	2	Pos./ Neg.	Capacitive
☐ N + PE	2	Pos./ Neg.	Capacitive
☐ T, R-Ground	0.5	Pos./ Neg.	Capacitive
☐ RJ45 port (LAN)	0.5	Pos./ Neg.	Capacitive
☐ RJ11 port (Line cable)	0.5	Pos./ Neg.	Capacitive





PERFORMANCE CRITERIA	
Criteria requested	☐ A / ☒ B / ☐ C
Criteria meet	☒ A / ☐ B / ☐ C

Remarks: During the test no deviation was detected to the selected operation mode(s).

Result (Pass / Fail)
Pass



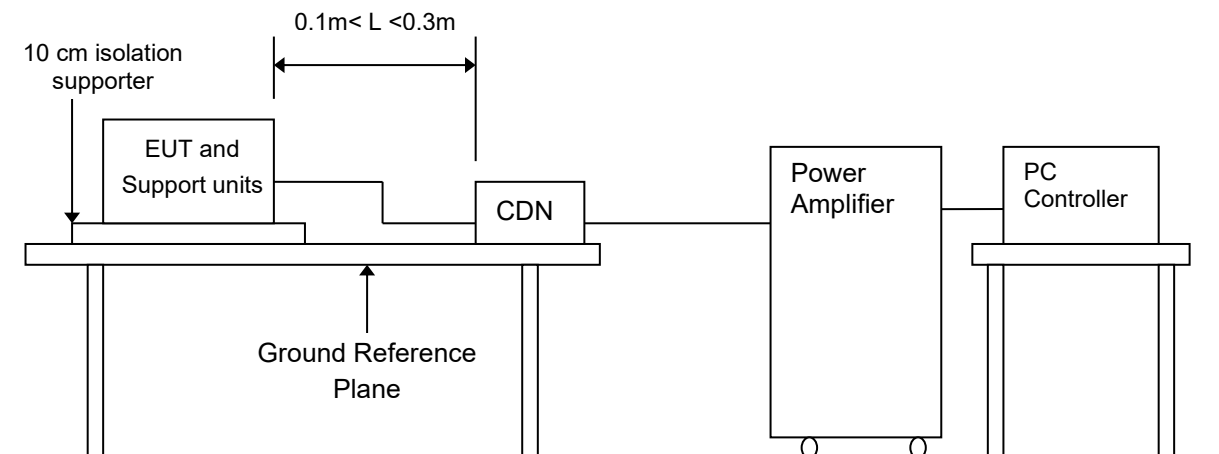


4.1.10. RF- Common Mode 0.15MHz to 80MHz

LIMIT

Please refer to IEC 61000-4-6

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.5.2 and IEC 61000-4-6 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo

Test conditions

☒ Results of Final Tests (Operating Mode)

Frequency Range: 0.15MHz~80MHz
Frequency Step: 1% of fundamental
Dwell time: 1 Sec.

- ☒ **80% A.M., 1 kHz Sine wave (Field Strength: 3 V/m)**
- ☒ **Coupling type:** ☒ **CDN** / ☐ **RF Current Probe** / ☐ **EM CLAMP (LÜTHI)**





Range (MHz)	Field	Modulation	Injected Position
0.15-80	3V	Yes	AC Main

Special conditions for EMC immunity tests

EUT operating Mode	Max PER During test	PER Limit
Bluetooth	2.5%	10%

☒ **Results of Final Tests (EN 55035)**

Range (MHz)	Field	Modulation	Injected Position
0.15-10	3V	Yes	AC Main
10-30	3V – 1V	Yes	AC Main
30-80	1V	Yes	AC Main

PERFORMANCE CRITERIA

Criteria requested	☒ A / ☐ B / ☐ C
Criteria meet	☒ A / ☐ B / ☐ C

Remarks: During the test no deviation was detected to the selected operation mode(s).

Result (Pass / Fail)
Pass



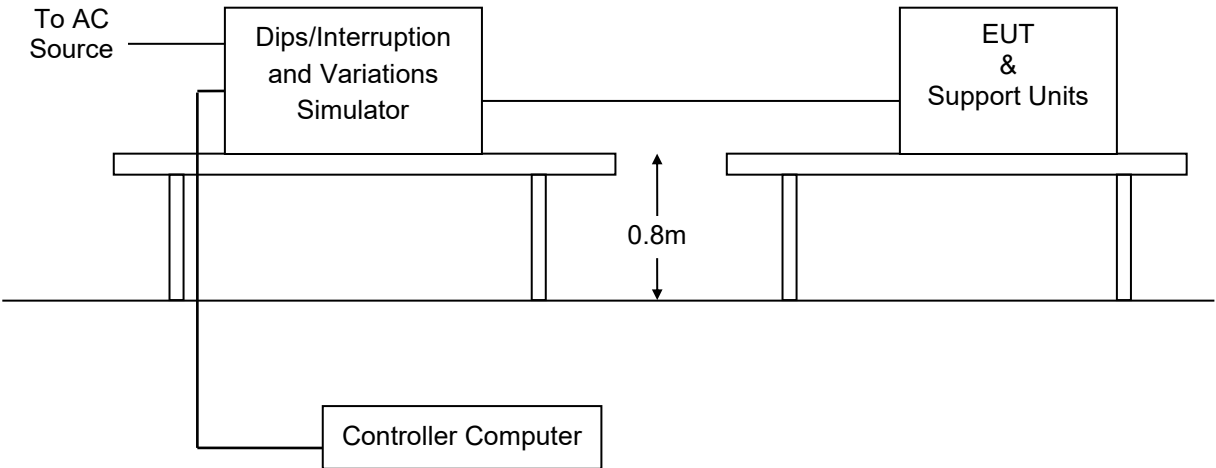


4.1.11. Voltage Dips and Interruptions

LIMIT

Please refer to IEC 61000-4-11

TEST CONFIGURATION



TEST PROCEDURE

Please refer to ETSI EN 301 489-1 Clause 9.7.2 and IEC 61000-4-11 for the measurement methods.

Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

TEST RESULTS

Temperature:	22.8° C
Humidity:	56%
Test Engineer:	Tony Luo





Test conditions

☒ Interruption at phase angles of 0, 45, 90, 135, 180, 225, 270 and 315 degree in a 10 sec-interval.

	Test Level (% UT)	Reduction (%)	Duration		Criterion
			Peiod	ms	
Voltage Dips	0	100%	0.5	10	B
	0	100%	1	20	B
	70	30%	25	500	B
Voltage Interruption	0	100%	250	5000	C

Note: The duration with a sequence of three dips/interruptions with a minimum interval of 10 s between each test event. The test level is $U_T=100V$ and $U_T=240V$.

☒ Results of Final Tests (Operating Mode)

$U_T=100V$

☒ *Voltage Dips*

Test Level (% UT)	Reduction (%)	Duration		Observation	Criterion
		Peiod	ms		
0	100%	0.5	10	Normal	A
0	100%	1	20	Normal	A
70	30%	25	500	Normal	B

☒ *Interruptions*

Test Level (% UT)	Reduction (%)	Duration		Observation	Criterion
		Peiod	ms		
0	100%	250	5000	Normal	B

$U_T=240V$

☒ *Voltage Dips*

Test Level (% UT)	Reduction (%)	Duration		Observation	Criterion
		Peiod	ms		
0	100%	0.5	10	Normal	A
0	100%	1	20	Normal	A
70	30%	25	500	Normal	B

☒ *Interruptions*

Test Level (% UT)	Reduction (%)	Duration		Observation	Criterion
		Peiod	ms		
0	100%	250	5000	Normal	B

Remarks: During the test no deviation was detected to the selected operation mode(s) for Criterion A.

Remarks: The ancillary equipment's specification for an acceptable level of performance or degradation of performance during and/or after the tests for Criterion B.

Result (Pass / Fail)
Pass





4.1.12. Power Frequency Magnetic Field Susceptibility Test

LIMIT

Please refer to IEC 61000-4-8

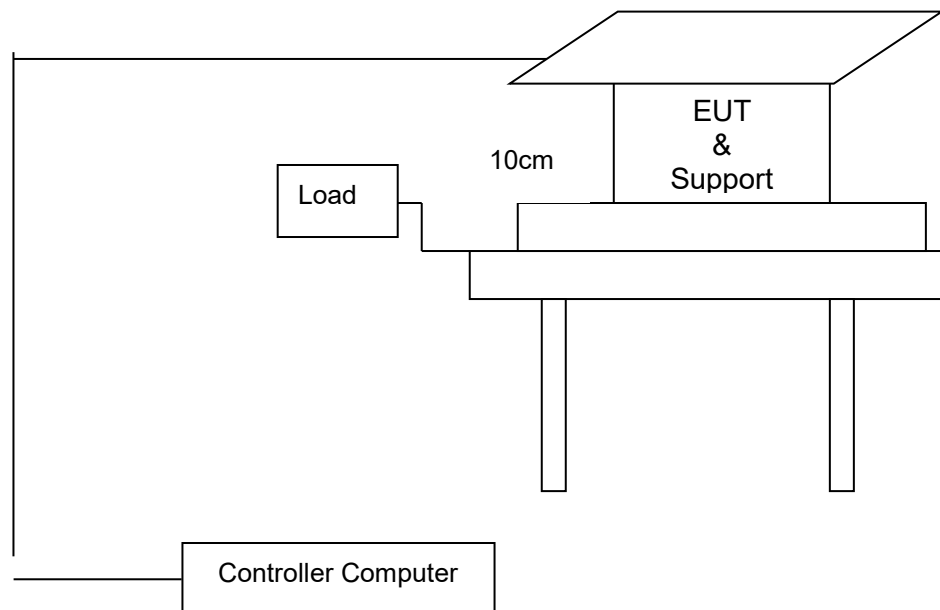
TEST LEVELS OF POWER FREQUENCY FIELD SUSCEPTIBILITY TEST

Test Level: 1A/m

Level	Magnetic Field Strength (A/m)
1	1
2	3
3	10
4	30
5	100
X.	Special

Performance criterion: A

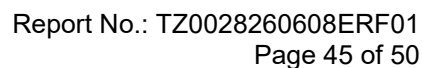
TEST CONFIGURATION



TEST PROCEDURE

Please IEC 61000-4-8 for the measurement methods.





Climatic conditions

- ambient temperature : 25 °C
- relative humidity: 55%
- atmospheric pressure: 960 mbar

Test frequency: ■ 50 Hz ■ 60 Hz

Continuous field: ■ 1 A/m

Test duration: ■ 5 m

Antenna factor: 0.917 A/m

Axis: ■ x-axis ■ y-axis ■ z-axis

PERFORMANCE CRITERIA	
Criteria requested	☒ A / ☐ B / ☐ C
Criteria meet	☒ A / ☐ B / ☐ C

Remarks: During the test no deviation was detected to the selected operation mode(s).

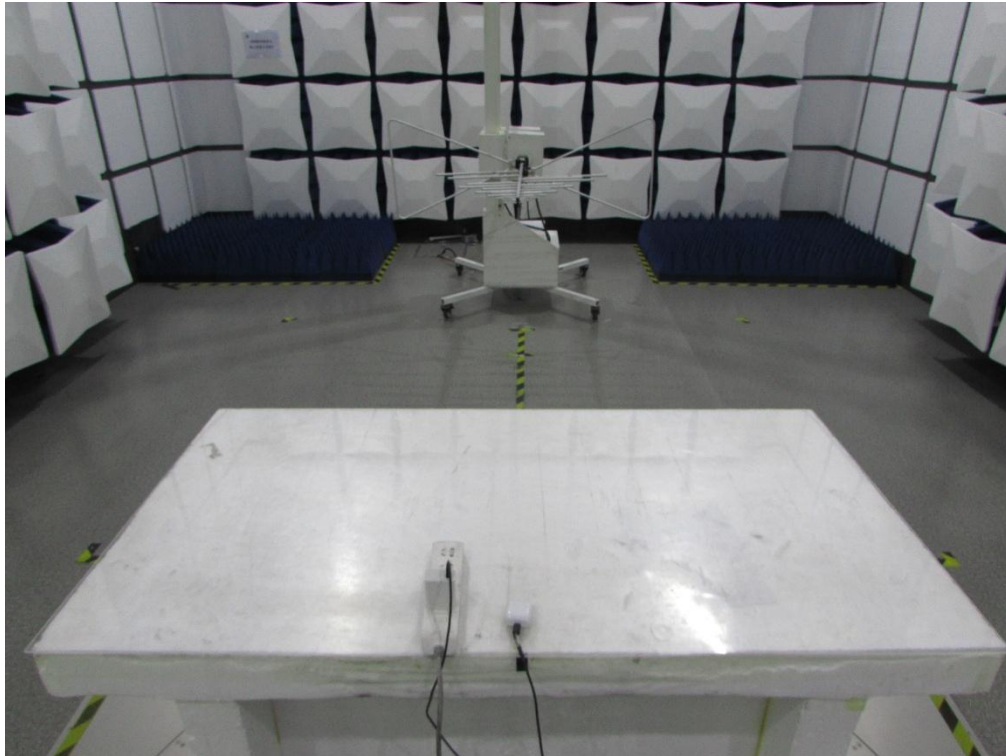
Result (Pass / Fail)
Pass



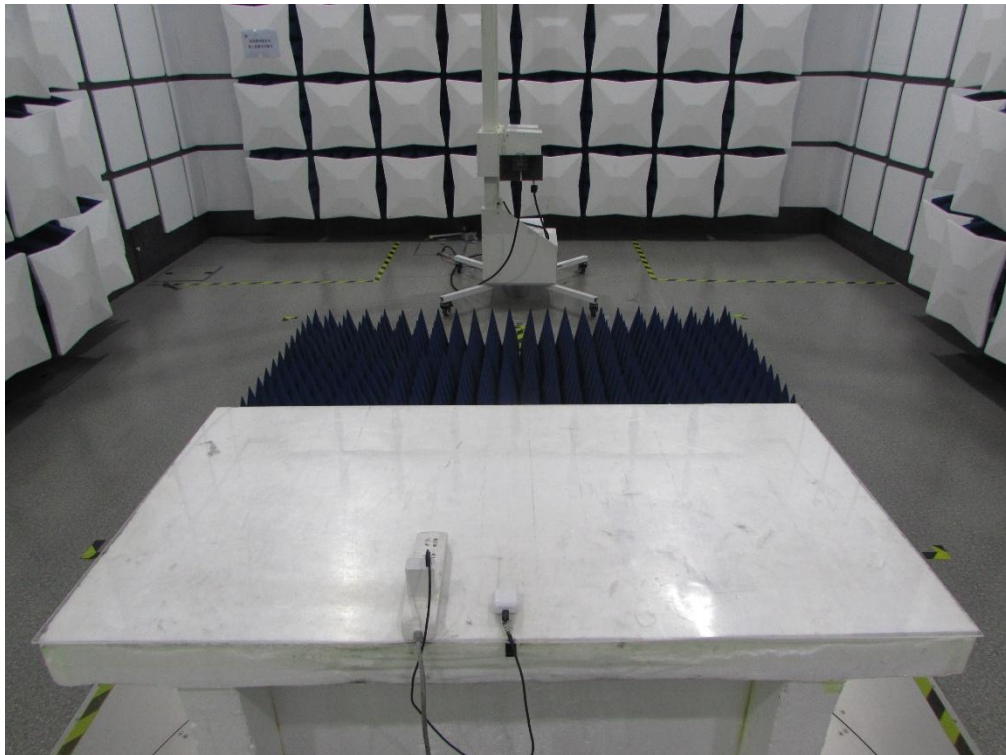


5. Test Set-up Photos of the EUT

Radiated Emission (30MHz-1GHz)



Radiated Emission (1GHz-6GHz)



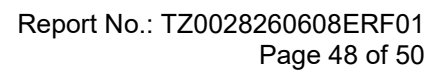


Conducted Emission (AC Mains)



RF Electromagnetic Field



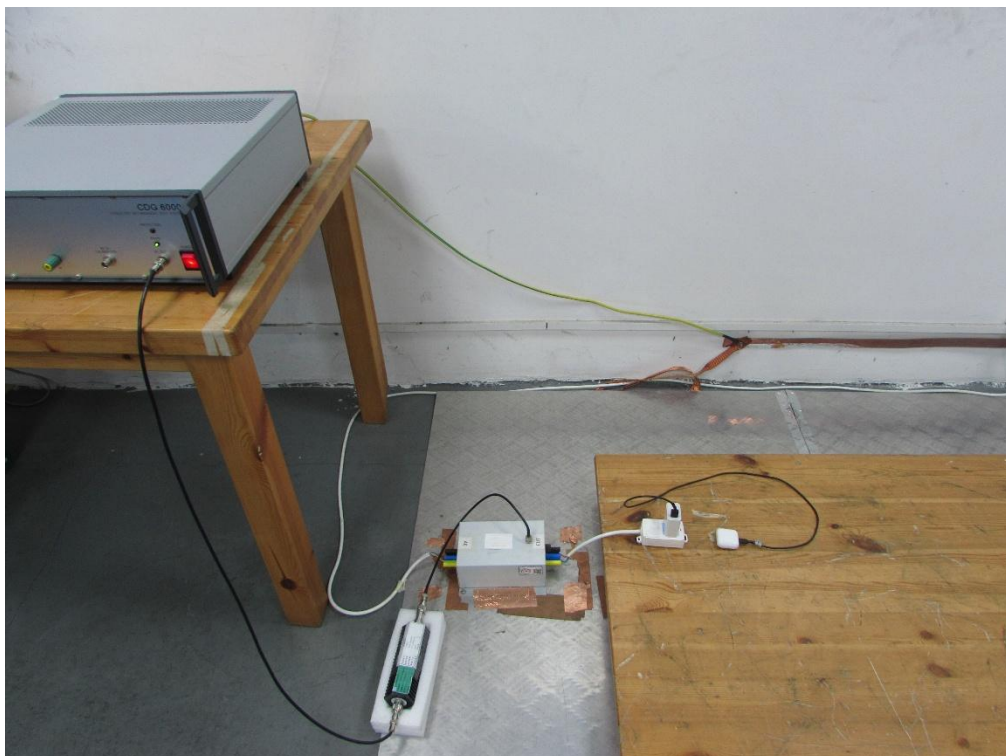




Voltage Fluctuation and Flicker



RF- Common Mode 0.15MHz to 80MHz





6. PHOTOS OF THE EUT

Reference to the test report No. TZ0028260608PH10

.....**End of Report**.....

