| | | | | |
|---|---|---|---|---|
| **Prüfbericht-Nr.:** *Test report no.:* | **CN2151J1 002** | **Auftrags-Nr.:** *Order no.:* | 168322127 | Seite 1 von 16 *Page 1 of 16* |
| **Kunden-Referenz-Nr.:** *Client reference no.:* | N/A | **Auftragsdatum:** *Order date:* | 2021-06-02 | |
| **Auftraggeber:** *Client:* | **UP Global Sourcing Ltd.** UP Global Sourcing, Manor Mill, Victoria Street, Chadderton, Oldham, OL9 0DD, United Kingdom | | | |
| **Prüfgegenstand:** *Test item:* | Tower Speaker | | | |
| **Bezeichnung / Typ-Nr.:** *Identification / Type no.:* | EE2928 (Trademark: PRIMARK) | | | |
| **Auftrags-Inhalt:** *Order content:* | Type test | | | |
| ***Prüfgrundlage:*** *Test specification:* | CFR47 FCC Part 15: Subpart B Section 15.107<br>CFR47 FCC Part 15: Subpart B Section 15.109 | | | |
| **Wareneingangsdatum:** *Date of sample receipt:* | 2021-06-18 | | | |
| **Prüfmuster-Nr.:** *Test sample no.:* | A003068369-007 to 008 | | | |
| **Prüfzeitraum:** *Testing period:* | 2021-06-24 – 2021-06-29 | | | |
| **Ort der Prüfung:** *Place of testing:* | TÜV Rheinland (Shenzhen) Co., Ltd. | | | |
| **Prüflaboratorium:** *Testing laboratory:* | TÜV Rheinland (Shenzhen) Co., Ltd. | | | |
| **Prüfergebnis*:** *Test result*:* | Pass | | | |

| | | | |
|---|---|---|---|
| ***geprüft von:*** *tested by:* | X Winnie Hou<br>Signed by: Winnie Hou | **genehmigt von:** *authorized by:* | X<br>Signed by: Sam Lin |
| ***Datum:*** *Date:* 2021-08-03 | | **Ausstellungsdatum:** *Issue date:* 2021-08-13 | |
| **Stellung** / Position | Department Manager | **Stellung** / Position | Department Manager |

**Sonstiges /** *Other:*

**Zustand des Prüfgegenstandes bei Anlieferung:** *Condition of the test item at delivery:* Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged:*

| | | | | | |
|---|---|---|---|---|---|
| * Legende: | 1 = sehr gut | 2 = gut | 3 = befriedigend | 4 = ausreichend | 5 = mangelhalt |
| | P(ass) = entspricht o.g. Prüfgrundlage(n) | | F(ail) = entspricht nicht o.g. Prüfgrundlage(n) | N/A = nicht anwendbar | N/T = nicht getestet |
| *Legend:* | *1 = very good* | *2 = good* | *3 = satisfactory* | *4 = sufficient* | *5 = poor* |
| | *P(ass) = passed a.m test specifications(s)* | | *F(ail) = failed a.m test specifications(s)* | *N/A = not applicable* | *N/T = not tested* |





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Mail: service@de.tuv.com · Web: www.tuv.com

# *Test Summary*

*5.1 Conducted emissions*
*RESULT: Pass*
*5.2 Radiated emissions*
*RESULT: Pass*

# *Contents*

# 1 General Remarks

## 1.1 Complementary Materials

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

Appendix A: Test result.

# 2 Test Sites

## 2.1 Test Facilities

**TÜV Rheinland (Shenzhen) Co., Ltd.**

No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China

FCC Registration No.: 694916

IC Registration No.: 25069

## 2.2 List of Test and Measurement Instruments

**Table 1: List of Test and Measurement Equipment**

| **Radiated Emission** | | | | |
|---|---|---|---|---|
| **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Cal. Until** |
| 3m SAC | ETS-Lindgren | SAC3 | CT001632-Q1362 | 2021-08-23 |
| EMI Test Receiver | R&S | ESR7 | 102111 | 2021-12-16 |
| Horn Antenna | R&S | HF907 | 102706 | 2022-08-07 |
| Preamplifier (1-18GHz) | FIT | SCU-18F | 180077 | 2021-08-16 |
| Trilog-Broadband antenna | SCHWARZBECK | VULB9168 | 0945 | 2022-12-12 |
| EMC32 test software | R&S | EMC32(Ver.10.50.00) | N/A | N/A |
| **Conducted Emissions** | | | | |
| **Equipment** | **Manufacturer** | **Model No.** | **Serial No.** | **Cal. Until** |
| EMI Test Receiver | R&S | ESR3 | 102680 | 2022-04-24 |
| Artificial Mains Network | R&S | ENV216 | 101445 | 2022-04-24 |
| EMC32 test software | R&S | EMC32(Ver.10.50.00) | N/A | N/A |

## 2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

## 2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

## 2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table

| Test | Parameters | Expanded uncertainty ($U_{lab}$) | Expanded uncertainty ($U_{cispr}$) |
|---|---|---|---|
| Conducted Emission | Level accuracy<br>(9kHz to 150kHz)<br>(150kHz to 30MHz) | ± 3.70 dB<br>± 3.30 dB | ±3 dB |
| Radiated Emission (3m SAC) | Level accuracy<br>(30MHz to 1000MHz) | ± 4.52 dB | ±6 dB |
| | Level accuracy<br>(above 1000MHz) | ± 4.37 dB | ±6 dB |

## 2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

## 2.7 Status of Facility Used for Testing

The TÜV Rheinland (Shenzhen) Co., Ltd. Test facility located at No. 362 Huanguan Road Middle, Longhua District, Shenzhen 518110, People's Republic of China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

# 3 General Product Information

## 3.1 Product Function and Intended Use

The EUT is a Tower Speaker which supports Bluetooth wireless technology.

For details refer to the User Manual, Technical Description and Circuit Diagram.

## 3.2 Ratings and System Details

**Table 2: Technical Specification of EUT**

| Technical Specification | Value |
|---|---|
| Kind of Equipment | Tower Speaker |
| Type Designation | EE2928 |
| Trademark | PRIMARK |
| Operating Voltage | DC 5V via MicroUSB interface for charging<br>DC 3.7V, 1200mAh |
| **Technical Specification of Bluetooth (BR & EDR)** | |
| Operating Frequency band | 2402 - 2480 MHz |
| Channel Number | GFSK, π/4DQPSK, 8DPSK |
| Channel separation | 79 channels |
| Extreme Temperature Range | 1MHz |
| Modulation | Bluetooth Core Version 5.0 |
| Antenna Type | Integral Antenna |
| Antenna Gain | 1.00 dBi |

## 3.3 Independent Operation Modes

The basic operation modes are:

A. On, Play via Bluetooth
B. On, Play via Aux
C. On, Play via Micro SD card
D. On, Play via USB
E. On, Charging
F. Off

## 3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

## 3.5 Submitted Documents

- Application Form
- Block Diagram
- Schematics
- Technical Description
- FCC/IC Label and Location Info
- Photo Document
- User Manual

# 4 Test Set-up and Operation Modes

## 4.1 Principle of Configuration Selection

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

## 4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.4: 2014.

## 4.3 Special Accessories and Auxiliary Equipment

**Table 3: List of Accessories and Auxiliary Equipment**

| Description | Manufacturer | Model | Rating |
|---|---|---|---|
| Mobile Phone | Huawei | STK-AL00 | N/A |
| AC/DC Adapter | Huawei | HW-050100C01 | H779KBHAZ3 |

## 4.4 Countermeasures to Achieve EMC Compliance

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

No additional measures were employed to achieve compliance.

# 4.5 Test Setup Diagram

**Diagram of Measurement Configuration for Radiation Test (Below 1GHz)**

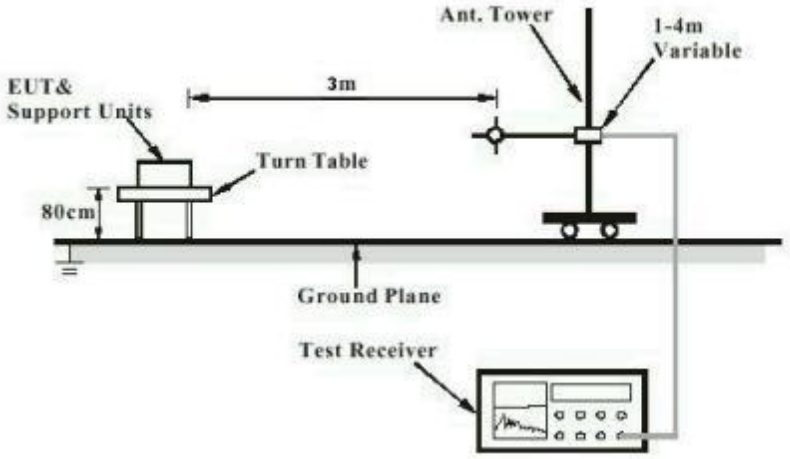



**Diagram of Measurement Configuration for Radiation Test (Above 1GHz)**

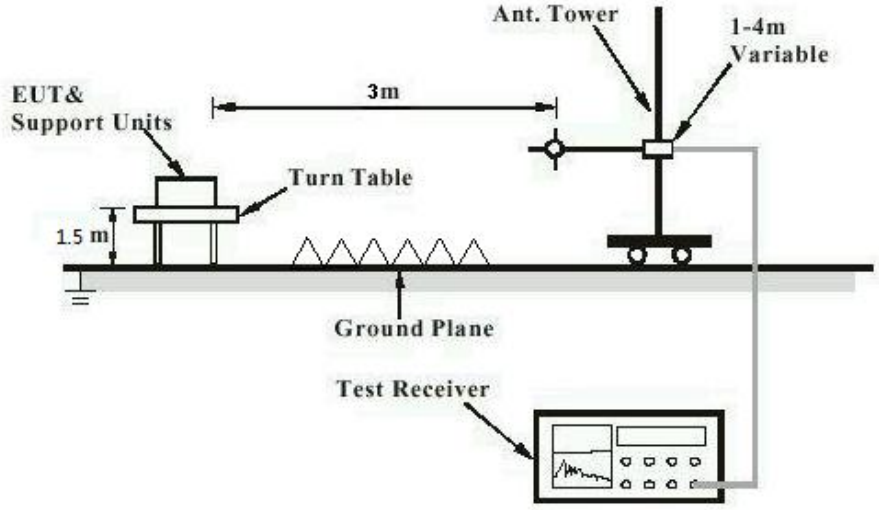
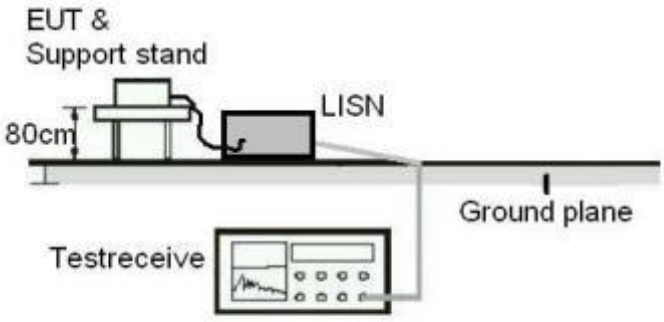


**Diagram of Measurement Configuration for Mains Conduction Measurement**



# 5 Test Results

## 5.1 Conducted emissions

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.107(a) |
| Basic standard | : | ANSI C63.4: 2014 |
| Frequency range | : | 150KHz - 30MHz |
| Classification | : | Class B |
| Limit | : | FCC Part 15.107(a) |
| Kind of test site | : | Shielded Room |

**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 24.06.2021 to 25.06.2021 |
| Input voltage | : | AC 120V, 60Hz |
| Operation mode | : | A+E, B+E, C+E, D+E |
| Earthing | : | Not connected |
| Ambient temperature | : | 25 ℃ |
| Relative humidity | : | 51 % |
| Atmospheric pressure | : | 101 kPa |

For the measurement records, refer to the appendix A

# 5.2 Radiated Emission

**RESULT:** **Pass**

**Test Specification**

| | | |
|---|---|---|
| Test standard | : | FCC Part 15.109(a) |
| Basic standard | : | ANSI C63.4: 2014 |
| Frequency range | : | 30 - 6000MHz |
| Classification | : | Class B |
| Limit | : | FCC Part 15.109(a) |
| Kind of test site | : | 3m Semi-anechoic Chamber |

**Test Setup**

| | | |
|---|---|---|
| Date of testing | : | 25.06.2021 to 29.06.2021 |
| Input voltage | : | AC 120V, 60Hz |
| Operation mode | : | A,B,C,D,E |
| Earthing | : | Not connected |
| Ambient temperature | : | 23 ℃ |
| Relative humidity | : | 52 % |
| Atmospheric pressure | : | 101 kPa |

For the measurement records, refer to the appendix A.

# 7 List of Tables



# 8 List of Photographs