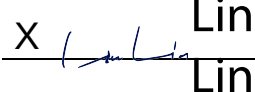


Prüfbericht-Nr.: Test report no.:	CN24ATPT 001	Auftrags-Nr.: Order no.:	168488499	Seite 1 von 16 Page 1 of 16
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2024-06-11	
Auftraggeber: Client:	Gopod Group Limited 6/F., 235 Wing Lok Trade Centre, Sheung Wan, Hong Kong, China			
Prüfgegenstand: Test item:	Wireless Charger			
Bezeichnung / Typ-Nr.: Identification / Type no.:	HJ3004			
Auftrags-Inhalt: Order content:	Test Report			
Prüfgrundlage: Test specification:	CFR47 FCC Part 15: Subpart C Section 15.215 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 15: Subpart C Section 15.207			
Wareneingangsdatum: Date of sample receipt:	2024-06-28	Please refer to Photo Document		
Prüfmuster-Nr.: Test sample no.:	S202406283774-ZJA01/2			
Prüfzeitraum: Testing period:	2024-07-08 - 2024-07-24			
Ort der Prüfung: Place of testing:	Refer to section 2.1			
Prüflaboratorium: Testing laboratory:	TÜV Rheinland (Shenzhen) Co., Ltd.			
Prüfergebnis*: Test result*:	Pass			
geprüft von: tested by:	 Lin		genehmigt von: authorized by:	 Hardy
Datum: Date:	2024-07-30		Ausstellungsdatum: Issue date:	2024-07-30
Stellung / Position:	Sachverständige(r)/Expert		Stellung / Position:	Sachverständige(r)/Expert
Sonstiges / Other:	FCC ID: 2AQZH-HJ3004			
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:	Prüfmuster vollständig und unbeschädigt Test item complete and undamaged			
* Legende:	P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet			
* Legend:	P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested			
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report only relates to the above mentioned test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.				

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Test report no.:

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Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2021, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2021, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</i>

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Test Summary

5.1.1 ANTENNA REQUIREMENT

RESULT: Pass

5.1.2 20dB BANDWIDTH

RESULT: Pass

5.1.3 RADIATED SPURIOUS EMISSION

RESULT: Pass

5.1.4 CONDUCTED EMISSION ON AC MAINS

RESULT: Pass

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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 Results of FCC Part 15C.

Appendix B: Photographs of the Test Set-up.

2 Test Sites

2.1 Test Facilities

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China 518109

A2LA Certificate Number: 4312.01

FCC Accreditation Designation No.: CN1194

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radiated Emission Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
☒	3m SAC	ETS-LINDGREN	3M	Euroshiedpn-CT001270-1317	11-Nov-2023	10-Nov-2026
☒	Receiver	R&S	ESIB26	100114	27-Oct-2023	26-Oct-2024
☒	Loop Antenna	ETS-LINDGREN	6502	00202525	30-Oct-2023	29-Oct-2024
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	30-Oct-2023	29-Oct-2024
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	30-Oct-2023	29-Oct-2024
☒	Preamplifier	HP	8447F	2805A02960	31-Oct-2023	30-Oct-2024
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		

Conducted Emission Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
☒	Receiver	R&S	ESR7	101181	27-Oct-2023	26-Oct-2024
☒	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	27-Oct-2023	26-Oct-2024
☒	LISN	R&S	ESH2-Z5	860014/024	27-Oct-2023	26-Oct-2024
☐	LISN	ETS-Lindgren	3816/2SH	00201088	27-Oct-2023	26-Oct-2024
☒	Test Software	EZ-EMC	EZ-CON	Software Version: EMC-CON 3A1.1		

Bandwidth Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
☒	Spectrum analyzer	R&S	FSV40-N	101653	29-Mar-2024	28-Mar-2025
☒	Loop Antenna	ETS-LINDGREN	6502	00202525	30-Oct-2023	29-Oct-2024

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 basis 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

Table 2: Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Conducted emission 9kHz-150kHz	±3.2 dB
2	Conducted emission 150kHz-30MHz	±2.7 dB
3	Radiated emission 9kHz-30MHz	±4.7 dB
4	Radiated emission 30MHz-1GHz	±4.6 dB
5	Radiated emission 1GHz-18GHz	±4.4 dB
6	Radiated emission 18GHz-40GHz	±4.6 dB

2.6 Location of Original Data

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

2.7 Status of Facility Used for Testing

The Shenzhen UnionTrust Quality and Technology Co., Ltd. Test facility located at Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China 518109 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 Wireless Charger, which supports wireless charging (WPT) function.

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

3.2 Ratings and System Details

Table 3: Technical Specification of EUT

General Information of EUT	Value
Kind of Equipment:	Wireless Charger
Type Designation:	HJ3004
FCC ID:	2AQZH-HJ3004
Operating Voltage:	AC 100-240V, 50/60Hz or USB-C operated (15V, 3A)
Operating Temperature Range:	0 °C ~ +40 °C
AC/DC Adapter:	Model: DCT48W150300ZZ-D0 Input: 100-240Vac, 50/60Hz, 1.3A Output: 15Vdc, 3A
Wireless output power:	Output1: 5W/7.5W/10W Output2: 5W/7.5W/15W Output3: 5W Max for Apple Watch Output4: 5W Max for AirPods/Pro
Technical Specification of WPT	
Frequency Range:	Output 1: 110.5kHz to 205kHz/ 127.7kHz
	Output 2: 110.5kHz to 205kHz/ 360kHz/ 127.7kHz
	Output 3: 326.5kHz/ 1.778MHz
	Output 4: 110.5kHz to 205kHz
Type of Modulation:	FSK, ASK
Antenna Number:	Wireless Charging 1: 1 Wireless Charging 2: 1 Wireless Charging 3: 1 Wireless Charging 4: 1
Antenna Type:	Induction coil antenna

3.3 Independent Operation Modes

Mode	Test Description	Frequency	Client
1	Standby, Powered by AC/DC Adapter	None	None
2	Direct contact During charging / operating between the EUT& WPT Client. EUT is powered by AC/DC adapter.	Output 1: 110.5-205kHz	Output 1: Android Phone or test module (10W)
3		Output 1: 127.7kHz	Output 1: iPhone 11 or test module (7.5W)
4		Output 1: 110.5-205kHz	Output 1: AirPods Case or test module (5W)
5		Output 2: 360kHz	Output 2: iPhone 14 (15W)
6		Output 2: 127.7kHz	Output 2: iPhone 11 (7.5W)
7		Output 2: 127.7kHz	Output 2: AirPods Pro Case (5W)
8		Output 3: 326.5kHz	Output 3: Apple Watch S5 (5W)
9		Output 3: 1.778MHz	Output 3: Apple Watch S8 (5W)
10		Output 4: 110.5-205kHz	Output 4: AirPods Case (5W)
11		Output 1: 110.5-205kHz Output 2: 360kHz Output 3: 326.5kHz Output 4: 110.5-205kHz	Output 1: Android Phone (10W) Output 2: iPhone 14 (15W) Output 3: Apple Watch S5 (5W) Output 4: AirPods Case (5W)
12	Worst case from Test mode 1~11, 230V~50Hz		
13	Worst case from Test mode 1~12, powered by USB port input (45W PD).		

3.4 Noise Generating and Noise Suppressing Parts

Refer to Circuit Diagram for further details.

3.5 Submitted Documents

- Application Form
- Block Diagram
- ID Label and Location Info
- User Manual
- Schematics
- Operation Description

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.

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted 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 & 6. All testing were performed according to the procedures in ANSI C63.10: 2013.

According to clause 3.1, all tests were performed on model HJ3004 in this report.

4.3 Special Accessories and Auxiliary Equipment

Table 4: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
iPhone 14 Plus	Apple	MQ3D3CH/A	LYY3Q7X4QM	UnionTrust
iPhone 11	Apple	MHF13CH/A	F4GF78NTN746	UnionTrust
Air Pods Case	Apple	A2564	D4L5XXFMXG	UnionTrust
Apple Watch Series 5	Apple	MWV82CH/A	G99CCKJ7MLTK	UnionTrust
Apple Watch Series 8	Apple	MNP63CH/A	JQWXPWC26D	UnionTrust
Air Pods Pro Case	Apple	A2190	N/A	UnionTrust
Intelligent wireless charging full function test module	YBZ	F18/19	A1240303B	UnionTrust
Switching power adapter	HUAWEI	HW-200325CP1	FL1303NAL01655	UnionTrust
USB-C Power Adapter	Apple	A1947	N/A	UnionTrust

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 30MHz)

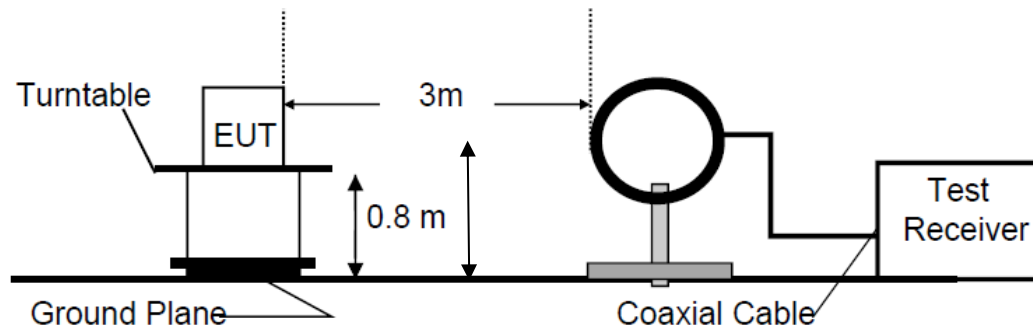


Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

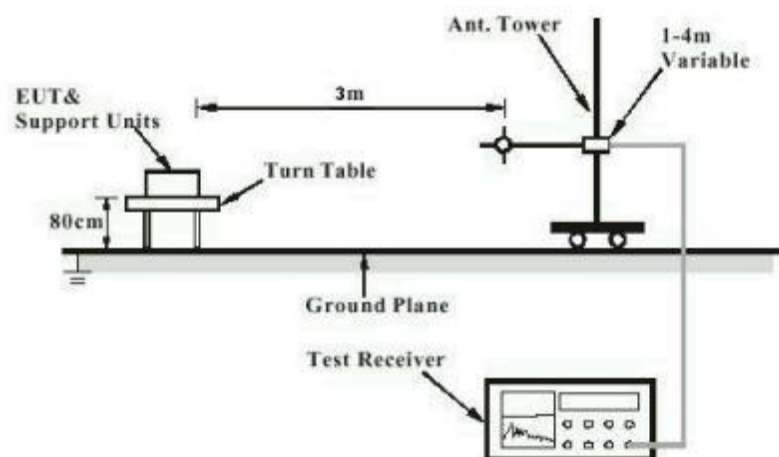
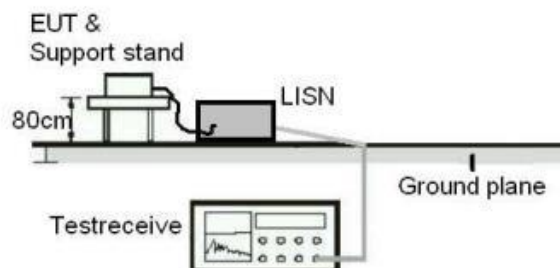


Diagram of Measurement Configuration for Mains Conduction Measurement



5 Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

RESULT:

Pass

Test Specification

Test standard : Part 15.203
the use of antennas with directional gains that do not exceed 6 dBi

According to the manufacturer declared, the EUT has internal antenna, and the antenna is permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

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5.1.2 20dB Bandwidth

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.215(c)
Basic standard	: ANSI C63.10: 2013
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-19 to 2024-07-24
Input voltage	: AC 120V, 60Hz
Operation mode	: Mode 1~13
Ambient temperature	: 24.4 °C
Relative humidity	: 51.8 %
Atmospheric pressure	: 100.3 kPa

For the measurement records, refer to the appendix A.

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5.1.3 Radiated Spurious Emission

RESULT:

Pass

Test Specification

Test standard : FCC Part 15.209 & 15.205
Basic standard : ANSI C63.10: 2013
Limits : Refer to 15.209(a)
Kind of test site : 3m Semi-anechoic Chamber

Test Setup

Date of testing : 2024-07-08 to 2024-07-24
Input voltage : AC 120V, 60Hz
Operation mode : Mode 1~13
Ambient temperature : 25.2 °C
Relative humidity : 56.1 %
Atmospheric pressure : 100.3 kPa

For the measurement records, refer to the appendix A.

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5.1.4 Conducted Emission on AC Mains

RESULT:

Pass

Test Specification

Test standard	: FCC Part 15.207(a)
Basic standard	: ANSI C63.10: 2013
Frequency range	: 0.15 – 30MHz
Limits	: FCC Part 15.207(a)
Kind of test site	: Shielded Room

Test Setup

Date of testing	: 2024-07-08 to 2024-07-24
Input voltage	: AC 120V, 60Hz
Operation mode	: Mode 1~13
Earthing	: Not connected
Ambient temperature	: 22.5 °C
Relative humidity	: 51.6 %
Atmospheric pressure	: 100.1 kPa

For the measurement records, refer to the appendix A.

6 Photographs of the Test Set-Up

For photographs of the test set-up, refer to the appendix B.

7 List of Tables

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