Testing Laboratory
3023

Test Report No:
2450683R-RFUSV05S-A

TEST REPORT
FCC Rules & Regulations

Product Name	Bluetooth Speakerphone
Brand Name	Jabra
Model No.	PHS060Wa
FCC ID	BCE-PHS060WA
Applicant´s Name / Address	GN Audio USA Inc. 900 Chelmsfort St, Tower 2, Floor 8 , Lowell, Massachusetts, 01851 United States
Manufacturer's Name	GN Audio A/S
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart B ANSI C63.4-2014
Verdict Summary	IN COMPLIANCE
Documented by Jinn Chen	Jinn Chen
Tested by Bill Lin	Bill Lin
Approved by Steven Tsai	Steven Tsai
Date of Receipt	2024/05/27
Date of Issue	2024/08/09
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.
In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	2024/08/09

Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	Radiated Emission	PASS	-

Comments and Explanations
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1. General Information

1.1. EUT Description

Frequency Range	2400 ~ 2483.5 MHz
Operating Frequency/ Channel Number	Bluetooth BR / EDR: 2402 ~ 2480 MHz / 79 Channels Bluetooth LE: 2402 ~ 2480 MHz / 40 Channels
Type of Modulation	Bluetooth BR / EDR: BR uses a GFSK (1 Mbps) EDR uses a combination of π/4 DQPSK (2 Mbps) and 8DPSK (3 Mbps) Bluetooth LE: GFSK (1 Mbps, 2 Mbps)

Accessories Information				
No.	Equipment Name	Brand Name	Model No.	Remark
1	Bluetooth USB Dongle	Jabra	END060W	TYPE A (FCC ID: BCE-END060W)
2	Bluetooth USB Dongle	Jabra	END080W	TYPE C (FCC ID: BCE-END080W)

Antenna Information				
Item.	Brand Name	Part No.	Type	Gain (dBi)
1	Jabra	50-10129-C	PIFA	5.49

Note: The antenna of EUT conforms to FCC 15.203.

1.2. EUT Information

EUT Power Type	DC 3.6V by Battery / DC 5V by USB			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point

1.3. Testing Location Information

USA	FCC Designation Number: TW0033
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No.5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan, R.O.C.
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist.,Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual	Test Date
AC Power Line Conducted Emission	Temperature (°C)	10~40 °C	26.2 °C	2024/06/13
	Humidity (%RH)	10~90 %	45.0 %	
Radiated Emission	Temperature (°C)	10~40 °C	23.6 °C	2024/06/04
	Humidity (%RH)	10~90 %	63.0 %	

1.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty
AC Power Line Conducted Emission	±3.50 dB
Radiated Emission	9 kHz~30 MHz: ±3.30 dB 30 MHz~1 GHz: ±4.79 dB 1 GHz~18 GHz: ±4.17 dB 18 GHz~40 GHz: ±3.32 dB

1.5. List of Test Equipment

For Conduction Measurements / HY-SR01

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	EMI Test Receiver	R&S	ESR7	101601	2023/06/20	2024/06/19
V	Two-Line V-Network	R&S	ENV216	101306	2024/04/01	2025/03/31
V	Two-Line V-Network	R&S	ENV216	101307	2023/08/17	2024/08/16
V	Coaxial Cable	SUHNER	RG400_BNC	RF001	2024/01/10	2025/01/09

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “V” are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

For Radiated Measurements / HY-CB01

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
	Loop Antenna	AMETEK	HLA6121	49611	2024/02/23	2025/02/22
V	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2023/08/09	2025/08/08
V	Horn Antenna	RF SPIN	DRH18-E	210802A18ES	2024/03/28	2025/03/27
V	Horn Antenna	Com-Power	AH-840	101101	2023/12/04	2025/12/03
V	Pre-Amplifier	SGH	0301	20211007-7	2024/01/10	2025/01/09
V	Pre-Amplifier	EMCI	EMC051845SE	980632	2024/01/10	2025/01/09
	Pre-Amplifier	EMCI	EMC05820SE	980362	2024/01/10	2025/01/09
V	Pre-Amplifier	EMCI	EMC184045SE	980369	2024/01/10	2025/01/09
V	Coaxial Cable	EMCI	EMC102-KM-KM-600	1160314	2024/01/10	2025/01/09
V	Coaxial Cable	EMCI	EMC102-KM-KM-7000	170242	2024/01/10	2025/01/09
V	Filter	MICRO TRONICS	BRM50702	G251	2024/01/05	2025/01/04
	Filter	MICRO TRONICS	BRM50716	067	2024/01/05	2025/01/04
V	EMI Test Receiver	R&S	ESR3	102792	2024/01/05	2025/01/04
V	Spectrum Analyzer	R&S	FSV3044	101115	2024/01/11	2025/01/10
V	Coaxial Cable	SUHNER	SUCOFLEX 106	25450/6	2024/01/10	2025/01/09
V	Coaxial Cable	SGH	SGH18	2021003-8	2024/01/10	2025/01/09
V	Coaxial Cable	SGH	HA800	GD20110222-8	2024/01/10	2025/01/09
V	Coaxial Cable	EMCI	EMC106	151113	2024/01/10	2025/01/09

Note:

1. Bi-Log Antenna and Horn Antenna (AH-840) is calibrated every two years, the other equipments are calibrated every one year.
2. The test instruments marked with “V” are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	DC 5V by USB

2.2. Test Frequency Mode

Test Software Version	BlueTest3 Version 3.3.5.817

2.3. Measurement Configuration

Test Mode	Mode 1 (Receive)	8DPSK
		GFSK

Note:

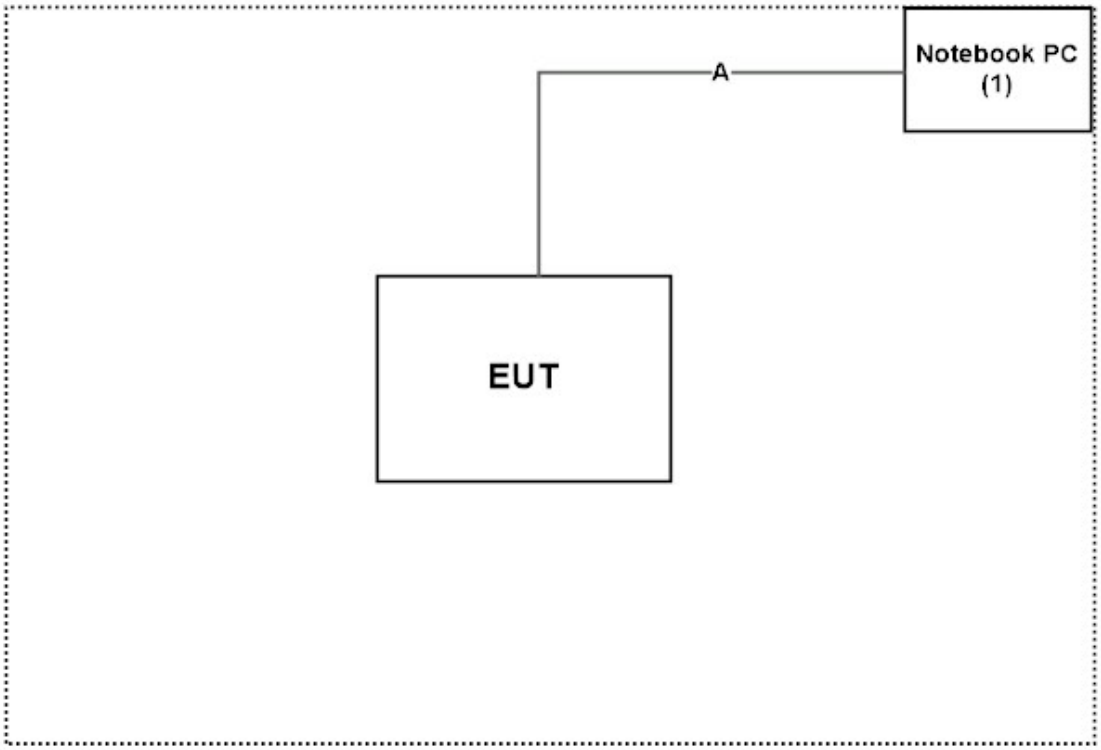
1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. For radiated emission above 1GHz, radiated emission below 1 GHz and AC power line conducted emission have performed all modes of operation were investigated and the worst-case emissions are reported.
3. The EUT was performed at X axis, Y axis and Z axis position for radiated emission and band edge tests. Only the worst case is shown in the report.

2.4. Tested System Details

No.	Equipment	Brand Name	Model No.	Serial No.	Power Cord
1	Notebook PC	ASUS	P2438U	H1NXCV11U083025	N/A

2.5. Configuration of Tested System

Connection Diagram



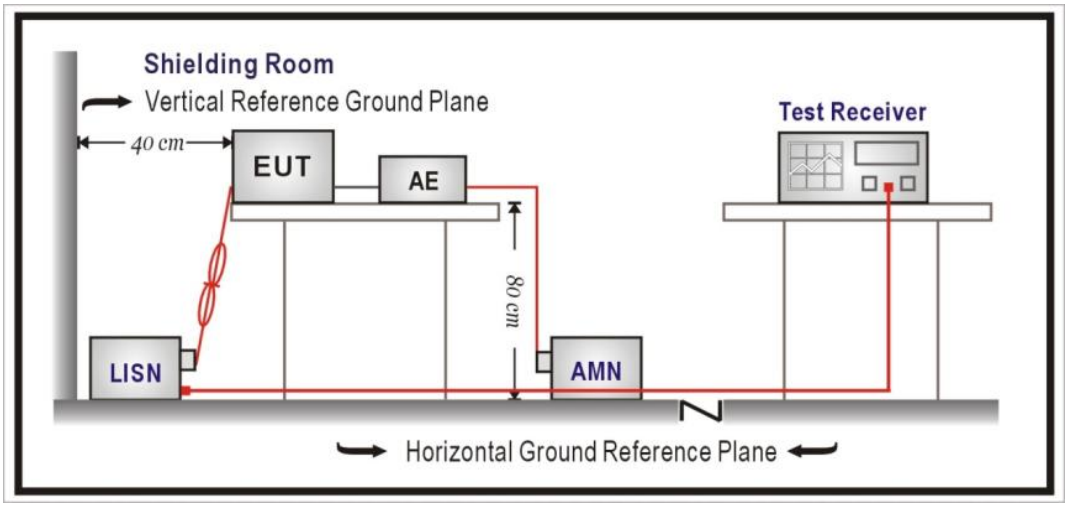
Signal Cable Type		Signal cable Description
A	USB Cable	Non-Shielded, 0.92m

2.6. _EUT Operating Procedures

1	Setup the EUT as shown in Section 2.5.
2	Execute software “BlueTest3 Version 3.3.5.817” on the Notebook PC.
3	Configure the test mode, the test channel, and the data rate.
4	Verify that the EUT works properly.

3. AC Power Line Conducted Emission

3.1. Test Setup



3.2. Test Limit

FCC Part 15 Subpart B Paragraph 15.107 (dBμV) Limit		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

3.3. Test Procedure

The EUT was setup according to ANSI C63.4-2014 for AC Power Line Conducted Emissions.

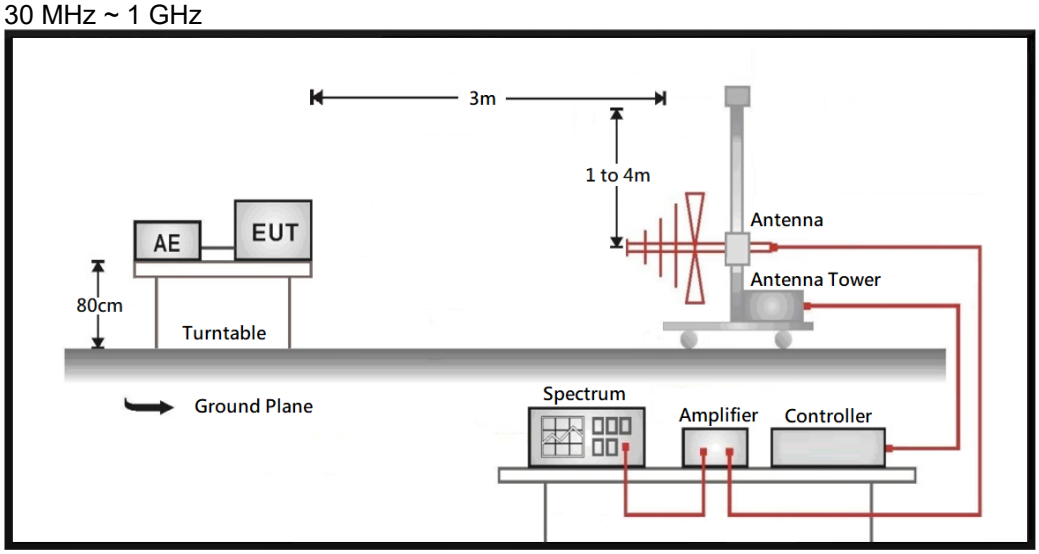
3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

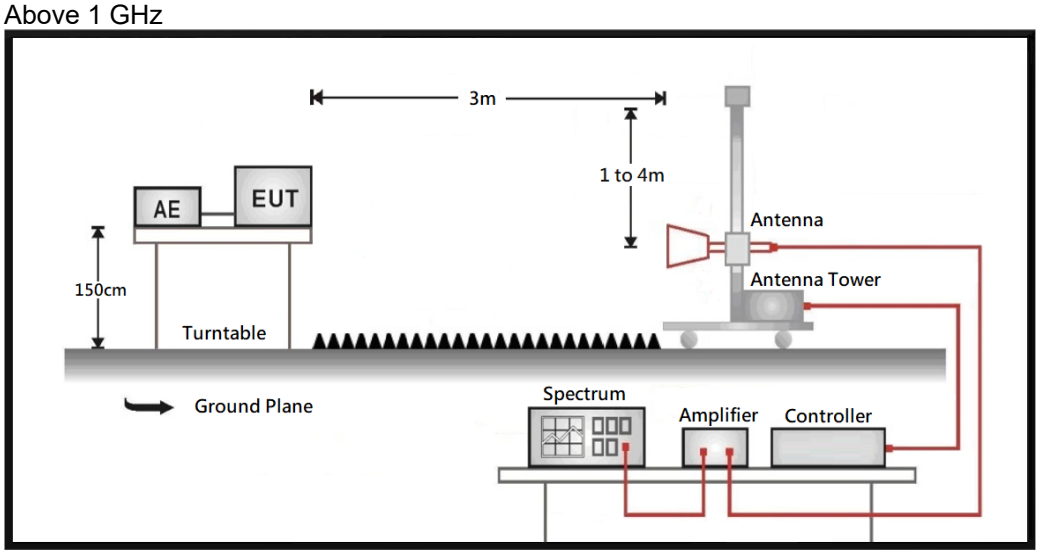
4. Radiated Emission

4.1. Test Setup

30 MHz ~ 1 GHz



Above 1 GHz



4.2. Test Limit

FCC Part 15 Subpart B Paragraph 15.109 Limits			
Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated measurement.

On any frequency or frequencies form 30 MHz(inculde The the lowest oscillator frequency generated within the device up to the 10th harmonic) to 1000 MHz, the limit shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limit shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz.

4.4. Test Result of Radiated Emission

Refer as Appendix B