

Test report No: 6199394.51

ASSESSMENT REPORT

RF Exposure Evaluation

Identification of item tested	AquaPrecise
Trademark	GARDENA
Model and /or type reference	16000
Features	5 Vdc
FCC ID	2BPOQ-16000
Applicant's name / address	Gardena Germany AB PO Box 16089, SE-103 92 Stockholm, Sweden
Test method requested, standard	FCC CFR Title 47 Part 2 Subpart J Section 2.1091 IEEE Std C95.3:2002
Verdict Summary	IN COMPLIANCE
Prepared by (name / position & signature)	Lei Chen Senior Project Manager 
Approved by (name / position & signature)	Adrian Shi Technical Supervisor 
Date of issue	2025-06-12
Report template No	TRF_MPE_RF01 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.

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GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.
5. The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.
6. This report will not be used for social proof function in China market.

UNCERTAINTY

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in the product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

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%. Refer to the Annex 1 for further information.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit. It is not necessary to calculate the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

<input checked="" type="checkbox"/> Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.		
<input type="checkbox"/> Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.		
Decimal separator used in this report	<input checked="" type="checkbox"/> Comma (,)	<input type="checkbox"/> Point (.)

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
T_x	: Transmitter
R_x	: Receiver
N/A	: Not Applicable

N/M : Not Measured

DOCUMENT HISTORY

Report nr.	Date	Description
6199394.51	2025-06-12	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).

The test results relate only to the samples tested.

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1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item	AquaPrecise			
Model / Type number	16000			
Trademark.....	GARDENA			
FCC ID	2BPOQ-16000			
Manufacturer.....	Gardena Germany AB PO Box 16089, SE-103 92 Stockholm, Sweden			

Mode of Operation	Bluetooth BLE					
Operating frequency range(s).....	2402~2480 MHz					
Type of Modulation	GFSK					
PHYs	<input checked="" type="checkbox"/>	LE 1M	<input checked="" type="checkbox"/>	LE 2M	<input checked="" type="checkbox"/>	LE Coded S=2/8
Data Rate	<input checked="" type="checkbox"/>	1 Mbps	<input checked="" type="checkbox"/>	2 Mbps	<input checked="" type="checkbox"/>	500/125 Kbps
Antenna type.....	PCB Antenna					
Antenna gain.....	3.3 dBi					

Note:

1. The antenna gain is provided by the manufacturer

Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	<input type="checkbox"/>	AC:	<input type="checkbox"/>				
	<input checked="" type="checkbox"/>	DC: 5 Vdc					
	<input type="checkbox"/>	Battery:					
Mounting position.....	<input checked="" type="checkbox"/>	Table top equipment					
	<input type="checkbox"/>	Wall/Ceiling mounted equipment					
	<input checked="" type="checkbox"/>	Floor standing equipment					
	<input type="checkbox"/>	Hand-held equipment					
	<input type="checkbox"/>	Other					

Intended use of the Equipment Under Test (EUT)

The product is AquaPrecise which supports BLE function.

1.2 Test date

Test Location	DEKRA Testing and Certification (Shanghai) Ltd. No.250, Jiangchangsan Road, Shanghai, 200436 P.R. China
Date of receipt of test item	2024-08-01
Date (s) of performance of tests	2024-08-26 to 2025-02-26

1.3 Test Facility

FCC Designation Number	:	CN1358
ISED CAB identifier Number	:	CN0155

2 Maximum Permissible Exposure (MPE)

2.1 Limit

According to FCC Part 1.1310(e), the criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation.

Table 1 – Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

2.2 MPE Calculation Method

Calculation Formula from FCC OET 65:

$$S = \frac{P * G}{4 * \pi * R^2}$$

Where:

S = Power Density (mW/cm²)

P = onput power of the antenna (mW)

G = antenna gain relative to an isotropic antenna

R = distance from the antenna to the point of investigation (cm)

2.3 Result

Mode	Frequency Range (MHz)	Max Tune-up Power (dBm)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
BLE	2402 ~ 2480	6.5	3.3	0.02	1.0

2.4 Conclusion

The result at the position which is 20 cm far from the EUT is comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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