

Test report No: 6215123.51

ASSESSMENT REPORT

RF Exposure Evaluation

Identification of item tested	Bluetooth speaker
Trademark	 BOSCH
Model and /or type reference	GPB18V-1C (3601DA7010), GPB 18V-1 C (3 601 DA7 0E0), GPB 18V-1 C (3 601 DA7 080)
Features	18 Vdc (powered by external battery pack) USB Input Type C: 12 Vdc, 1.55 A or 20 W (powered by external power supply) USB Output Type C: 5 Vdc, 3 A
FCC ID	TXTGPB18V-1C
ISED Number	909H-GPB18V1C
Applicant's name / address	Robert Bosch Tool Corp 1800 W Central Rd Mount Prospect, Illinois 60056 United States
Test method requested, standard	FCC CFR Title 47 Part 2 Subpart J Section 2.1093 RSS-102 Issue 6 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	2025-08-25
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

☒ Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.			
☐ Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.			
Decimal separator used in this report	☒	Comma (,)	☐ 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
Tx	: Transmitter
Rx	: Receiver
N/A	: Not Applicable

N/M : Not Measured

DOCUMENT HISTORY

Report nr.	Date	Description
6215123.51	2025-08-25	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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USAGE OF SAMPLES

Samples undergoing test have been selected by: Robert Bosch Power Tools GmbH

Samples are composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
6215121-12	Bluetooth speaker	GPB18V-1C (3601DA7010)	432000379	2025-02-21

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item	Bluetooth speaker
Model / Type number	GPB18V-1C (3601DA7010), GPB 18V-1 C (3 601 DA7 0E0), GPB 18V-1 C (3 601 DA7 080)
Trademark	 BOSCH
FCC ID	TXTGPB18V-1C
ISED Number	909H-GPB18V1C
Test Sample Number	6215121-12
Manufacturer	Robert Bosch Power Tools GmbH 70538 Stuttgart, GERMANY
Factory	Dongguan Tuocheng Electronics Technology Co., Ltd. Room 101, Building 2, No.13 Jin Bei Road, Tu Tang, Changping Town, 523581 Dongguan, Guangdong, China

Mode of Operation	Bluetooth BR/EDR
Operating frequency range(s)	2402~2480 MHz
Type of Modulation	BR: GFSK; EDR: $\pi/4$ -DQPSK, 8DPSK
Antenna type	Integral antenna
Antenna gain	2.69 dBi (provided by applicant)

Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC: 220 – 240 V, 50/60 Hz	☐	☐	☐	☐	☐
	☒	DC: 12 Vdc (powered by external power supply)					
	☒	Battery: 18 Vdc;					
Mounting position	☒	Table top equipment					
	☐	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					
	☐	Hand-held equipment					
	☐	Other:					

Intended use of the Equipment Under Test (EUT)
The product is Bluetooth speaker which supports Bluetooth BR/EDR function.

1.2 Test date

Test Location	DEKRA Testing and Certification (Shanghai) Ltd. No.250, Jiangchangsan Road, Jing'an District, Shanghai, China
Date of receipt of test item	2025-01-06
Date (s) of performance of tests	2025-03-10 to 2025-03-26

1.3 Test Facility

FCC Designation Number	:	CN1358
ISED CAB identifier Number	:	CN0155

2 RF Exposure Evaluation

2.1 FCC Limit

According to FCC KDB 447498 D04V01-SAR-Based Exemption

The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

The example values shown in below table are for illustration only.

Table 1 - Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
300		39	65	88	110	129	148	166	184	201	217
450		22	44	67	89	112	135	158	180	203	226
835		9	25	44	66	90	116	145	175	207	240
1900		3	12	26	44	66	92	122	157	195	236
2450		3	10	22	38	59	83	111	143	179	219
3600		2	8	18	32	49	71	96	125	158	195
5800		1	6	14	25	40	58	80	106	136	169

2.2 IC Limit

According to RSS-102 Issue 6 clause 6.3 Exemption Limits for Routine Evaluation – SAR Evaluation

Devices operating at or below the applicable output power levels (adjusted for tune-up tolerance) specified in table 2, based on the separation distance, are exempt from SAR evaluation. The separation distance, defined as the distance between the user and/or bystander and the antenna and/or radiating element of the device or the outer surface of the device, shall be less than or equal to 20 cm for these exemption limits to apply.

Table 2 - Power limits for exemption from routine SAR evaluation based on the separation distance

Frequency (MHz)	≤ 5 mm (mW)	10 mm (mW)	15 mm (mW)	20 mm (mW)	25 mm (mW)	30 mm (mW)	35 mm (mW)	40 mm (mW)	45 mm (mW)	> 50 mm (mW)
≤ 300	45	116	139	163	189	216	246	280	319	362
450	32	71	87	104	124	147	175	208	248	296
835	21	32	41	54	72	96	129	172	228	298
1900	6	10	18	33	57	92	138	194	257	323
2450	3	7	16	32	56	89	128	170	209	245
3500	2	6	15	29	50	72	94	114	134	158
5800	1	5	13	23	32	41	54	74	102	128

2.3 Result of Exemption

Mode	Frequency Range (MHz)	Conducted Peak Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	Distance (mm)	FCC Exclusion threshold (mW)	Exemption
BR/EDR	2402 ~ 2480	-1.28	2.69	1.41	-0.74	0.84	5	2.71	Complies

Note: EIRP = ERP + 2.15

Mode	Frequency Range (MHz)	Conducted Peak Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	Distance (mm)	IC Exclusion threshold (mW)	Exemption
BR/EDR	2402 ~ 2480	-1.28	2.69	1.41	1.38	5	3	Complies

--- END ---