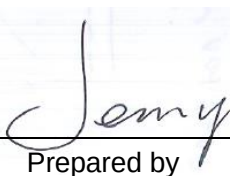


RF EXPOSURE EVALUATION REPORT

Applicant..... : Robert Bosch GmbH
Address..... : Robert-Bosch-Strasse 200, 31139 Hildesheim, Germany
Manufacturer..... : Robert Bosch GmbH
Address..... : Robert-Bosch-Strasse 200, 31139 Hildesheim, Germany
Factory..... : Bosch Car Multimedia Portugal, S.A.
Address..... : Rua Max Grundig, 35-Lomar, 4705-820 Braga
Product Name..... : Multimedia device with Bluetooth and WLAN
Brand Name..... : BOSCH
Model No. : PSAAIO2
FCC ID..... : 2AUXS-PSAAIO2
Measurement Standard..... : 47 CFR FCC Part 2.1091
Receipt Date of Samples.... : August 22, 2022
Date of Tested..... : August 22, 2022 to September 23, 2022
Date of Report..... : November 30, 2022

This report shows that above equipment is technically compliant with the requirements of the standards above. All test results in this report apply only to the tested sample(s). Without prior written approval of Dongguan Nore Testing Center Co., Ltd, this report shall not be reproduced except in full.



Prepared by

Jenny Liu / Project Engineer



Iori Fan
cn=Iori Fan, o=Dongguan
NTC, ou=EMC,
email=iori.fan@ntc-c.com,
c=CN
2022.11.30 19:02:13 +08'00'

Approved by

Iori Fan / Authorized Signatory

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Revision History

Report Number	Description	Issued Date
NTC2209506FV00	Initial Issue	2022-11-17
NTC2209506FV01	Updated address of the applicant and manufacturer	2022-11-25
NTC2209506FV02	Updated address of the manufacturer	2022-11-30

1. General Description of EUT

Product Information	
Product Name:	Multimedia device with Bluetooth and WLAN
Main Model Name:	PSA AIO2
Additional Model Name:	N/A
Model Difference:	N/A
S/N:	750390033105
Brand Name:	BOSCH
Hardware Version:	03
Software Version:	031C
Rating:	DC 9V to 16 V come from vehicle environment
Typical Arrangement:	Tabletop
I/O Port:	Refer to the user manual
Exposure Category:	Uncontrolled environment/general population
Device Category:	Mobile
Evaluation applied:	MPE
Accessories Information	
Adapter:	N/A
Cable:	N/A
Other:	N/A
Additional Information	
Note:	N/A
Remark:	All the information above are provided by the manufacturer. More detailed feature of the EUT please refers to the user manual.

Technical Specification – WIFI 2.4G	
Frequency Range:	2412MHz for IEEE 802.11b/g/n(HT20)
Modulation Technology:	DSSS, OFDM
Modulation Type:	CCK, DQPSK, DBPSK, 64-QAM, 16-QAM, QPSK, BPSK
Number of Channel:	1
Channel Space:	5MHz
Antenna Type:	Integral
Antenna Gain:	-3.3dBi
Remark:	N/A
Technical Specification – WIFI 5.8G	
Frequency Range:	5745MHz / 5755MHz / 5775MHz
Modulation Technology:	OFDM
Modulation Type:	64-QAM,16-QAM, QPSK, BPSK
Number of Channel:	1
Antenna Type:	Integral
Antenna Gain:	5.4dBi
Remark:	N/A

Technical Specification - **Bluetooth**

Bluetooth Version:	V4.2
Frequency Range:	2402-2480MHz
Modulation Type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Number of Channel:	79
Channel Space:	1MHz
Antenna Type:	Integral
Antenna Gain:	-0.7 dBi
Remark:	N/A

2. Maximum Permissible RF Exposure

According to FCC §1.1310: The criteria listed in Table 1 shall be used to evaluate the environmental Impact of human exposure to radio-frequency (RF) radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093 of this chapter.

Limits For Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density(mW/cm ²)	Average Time (minutes)
(A) Limits for Occupational/Control Exposures				
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
300-1500	--	--	f/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
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
300-1500			f/1500	30
1500-100000			1.0	30
f = frequency in MHz				
* = Plane-wave equivalent power density				

The MPE was calculated at **20cm** to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density in mW/cm²

P = Output Power to antenna in mW

G = Gain of antenna in linear scale.

R = Distance to centre of the antenna in cm.

π = 3.14159

3. Test Facility

Test Site	:	Dongguan Nore Testing Center Co., Ltd. (Dongguan NTC Co., Ltd.)
Accreditations and Authorizations	:	The Laboratory has been assessed and proved to be in compliance with CNAS/CL01 Listed by CNAS, August 13, 2018 The Certificate Registration Number is L5795. The Certificate is valid until August 13, 2024 The Laboratory has been assessed and proved to be in compliance with ISO17025 Listed by A2LA, November 01, 2017 The Certificate Registration Number is 4429.01 The Certificate is valid until December 31, 2023 Listed by FCC, November 06, 2017 Test Firm Registration Number: 907417 Listed by Industry Canada, June 08, 2017 The Certificate Registration Number. Is 46405-9743A
Test Site Location	:	Building D, Gaosheng Science and Technology Park, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province, China

4. Maximum RF Output Power of EUT

Mode	Band	RF Output Power (dBm)	Maximum RF Output Power with Tune-up tolerance (dBm)
Bluetooth (BDR)	2.4G	2.159	---
Bluetooth (EDR)	2.4G	5.566	---
WLAN	2.4G	11.599	---
	5.8G	4.554	---

5. RF Exposure Evaluation Results

Band	Frequency (MHz)	Max. RF Power (dBm)	Ant. Gain (dBi)	Max. EIRP (dBm)	Max. EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density Ratio
Bluetooth (BDR)	2402	2.159	-0.7	1.46	1.40	0.0003	1.0000	0.0003
Bluetooth (EDR)	2402	5.566	-0.7	4.87	3.07	0.0006	1.0000	0.0006
WIFI 2.4G	2412	11.599	-3.3	8.30	6.76	0.0013	1.0000	0.0013
WIFI 5.8G	5745	4.554	5.4	9.95	9.89	0.0020	1.0000	0.0020
Remark: 1. For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band.								

RF exposure evaluation for simultaneity transmitting condition:

Maximum Bluetooth Power Density Ratio	Maximum 2.4G WLAN Power Density Ratio	Maximum 5.8G WLAN Power Density Ratio	Total Power Density Ratio	Power Density Ratio Limit
0.0006	0.0013	0.0020	0.0039	1

Conclusion: The EUT compliance with the RF Exposure requirement.

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