

RF Exposure Evaluation Declaration

Report No.: S20250822905001E17

Issue Date: 11-07-2025

Applicant: Continental Aftermarket & Services GmbH
Address: Sodener Straße 9, 65824 Schwalbach, Germany
FCC ID: 2AVAW-ATRDW7812UB
Product: radio
Model No.: ATRDW7812UB-RGB, TRDW7812UB-RGB,
CBR7812UBA-RGB, BR7812UBA-RGB
Trade Mark: VDO
FCC Rule Part(s): CFR 47, FCC Part 2.1091 Radio frequency radiation exposure
evaluation: mobile devices.
Item Receipt date: Sep. 03, 2025
Test Date: Sep. 05, ~ Oct. 10, 2025

Compiled By Chuang Li
(Chuang Li)
Senior Test Engineer
Approved By Line Chen
(Line Chen)
Engineer Manager



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in KDB 558074 D01. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of Fangguang Inspection & Testing Co., Ltd. Wuxi Branch

The test report must not be used by the client to claim product certifications, approval, or endorsement by NVLAP, NIST or any agency of U.S. Government.

Revision History

Report No.	Version	Description	Issue Date
S20250822905001E17	Rev. 01	/	11-07-2025

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§2.1033 General Information

Applicant:	Continental Aftermarket & Services GmbH
Applicant Address:	Sodener Straße 9, 65824 Schwalbach, Germany
Manufacturer:	Huizhou Foryou General Electronics Co., Ltd.
Manufacturer Address:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi-tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)
Factory:	Huizhou Foryou General Electronics Co., Ltd.
Factory Address:	No.2 District A, Foryou Industry Park, No. 1 North Shangxia Road, Dongjiang Hi-tech Industry Park, 516005 Huizhou city, Guangdong Province, China(PROC)
Test Site:	Fanguang Inspection & Testing Co., Ltd.
LAB ID:	CN5037
Test Site Address:	No.8 Ningyun Rd., Xinwu District Wuxi, Jiangsu 214000 China
FCC Rule Part(s):	FCC Part 2.1091
FCC ID:	2AVAW-ATRDW7812UB
Test Device Serial No.:	S/N.: / ☐ Production ☒ Pre-Production ☐ Engineering

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	radio
Main Test Model:	ATRDW7812UB-RGB
Additional Model:	TRDW7812UB-RGB, CBR7812UBA-RGB, BR7812UBA-RGB
Model Description:	The EUT (radio) Model Numbers ATRDW7812UB-RGB and its additional model TRDW7812UB-RGB, CBR7812UBA-RGB, BR7812UBA-RGB have different models, but their panel appearance, PCB and schematic diagrams are the same. The hardware and software functions have been differentiated according to the requirements. The differences do not affect RF, EMC and Safety performance. The specific differences please refer to Difference Announcement.
Trade Mark:	VDO
Input Voltage Range:	DC 12V
Bluetooth Version:	5.1
Software Version:	V0
Hardware Version:	V04
Note:	This information is provided by the Customer and its authenticity is the responsibility of the Customer.

1.2. Product Specification Subjective to this Report

Operating Frequency:	2402~2480MHz
Channel Number:	BT: 79 BLE: 40
Channel Spacing	BT: 1MHz BLE: 2MHz
Type of modulation:	BT: GFSK BLE: GFSK
Data Rate:	BT: 1Mbps (GFSK) BLE: 1Mbps
Antenna Type:	PCB Antenna
Antenna Gain:	0.98dBi

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

For simultaneous transmission exposure cases, calculation formula is:

$$\sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

2.2. Test Result of RF Exposure Evaluation

Product	radio
Test Item	RF Exposure Evaluation

Mode	Frequency (MHz)	Maximum Conducted OutputPower (dBm)	Antenna Gain (dBi)	PG		MPE (mW/cm ²)	MPE Limits (mW/cm ²)
				(dBm)	(mW)		
BT	2402~2480	8.26	0.98	9.24	8.3946	0.0017	1.00
BLE	2402~2480	7.28	0.98	8.26	6.6988	0.0013	1.00

Remark: 1. MPE use distance is 20cm from manufacturer declaration of user manual.

Remark: 2. Use the maximum gain of all bands when evaluating.

CONCLUSION:

The Max Power Density at R (20 cm) = 0.0017mW/cm² < 1.00mW/cm².

So the EUT complies with the requirement.

Statement

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4. The report content is only applicable to the tested sample(s) this time.
5. If there are any objections to the report content, please submit them to our company in writing within 15 days from the date of receiving the report.
6. If the reports include both Chinese and English versions, when there are any inconsistencies caused by language, the Chinese version shall prevail.
7. Information about laboratory sites involved in our company:

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