



RF Exposure Evaluation Declaration

Report No.: S20230913820602

Issue Date: 11-02-2023

Applicant: INVENTRONICS (HANGZHOU), INC.
Inventronics Science and Technology Park, #459
Address: Jianghong Rd. Binjiang District, Hangzhou, Zhejiang
310052, China
FCC ID: 2BC8G-LUL08
Product: BLE module
Model No.: ETWBCLUL08
Trade Mark: INVENTRONICS
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (15.247)
Item Receipt date: Sep. 14, 2023
Test Date: Sep. 23, 2023

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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.

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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
S20230913820602	Rev. 01	/	11-02-2023

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name:	BLE module
Model Name:	ETWBCLUL08
Trade Mark:	INVENTRONICS
Input Voltage Range:	DC: 3.3V
Bluetooth Version:	5.0

1.2. Product Specification Subjective to this Report

Bluetooth Frequency	2402~2480MHz
Type of modulation	GFSK
Data Rate	1Mbps
Antenna Type:	External Antenna
Antenna Gain:	1 dBi

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.

2.2. Test Result of RF Exposure Evaluation

Product	HANDGUARD ACCENT LIGHT KIT
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)		
BLE	2402~2480	8.53	1	9.53	8.97	0.002	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

Remark: 3.BT and 5G wifi can't transmit simultaneously.

CONCULISON:

The Max Power Density at R (20 cm) = $0.002\text{mW/cm}^2 < 1\text{mW/cm}^2$.

So the EUT complies with the requirement.

_____ The End _____