



# RF Exposure Evaluation Declaration

Report No.: S2023082958130106

Issue Date: 12-15-2023

**Applicant:** Polaris Industries Inc.  
**Address:** 1600 SE 18th Ave Battle Ground, Washington 98604  
 United States  
**FCC ID:** 2AOW7-RGB-XKG-CTL  
**Product:** HANDGUARD ACCENT LIGHT KIT  
**Model No.:** 2890509,2890566  
**Trade Mark:** POLARIS  
**FCC Classification:** Digital Transmission System (DTS)  
**FCC Rule Part(s):** Part 15 Subpart C (15.247)  
**Test Procedure(s):** KDB 447498 D01v06  
**Item Receipt date:** Sep. 19, 2023  
**Test Date:** Sep. 23, 2023

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 (Guangze Ding)  
 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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## Revision History

Report No.	Version	Description	Issue Date
S2023082958130106	Rev. 01	/	12-15-2023

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name:	HANDGUARD ACCENT LIGHT KIT
Additional Product Name :	GRILL INSERT ACCENT LIGHT KIT
Model Name:	2890509
Additional Model:	2890566
Model Description:	2890509 and 2890566 are the same on the board, Schematic,Hardware version, Software version and internal photos are same, only the lights are different, RF is not affected.
Trade Mark:	POLARIS
Input Voltage Range:	DC: 12V
Bluetooth Version:	4.0

### 1.2. Product Specification Subjective to this Report

Bluetooth Frequency	2402~2480MHz
Type of modulation	GFSK
Data Rate	1Mbps
Antenna Type:	PCB Antenna
Antenna Gain:	-0.57 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 <sup>2</sup> )	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/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

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

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. 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 <sup>2</sup> )	MPE Limits (mW/cm <sup>2</sup> )
				(dBm)	(mW)		
BLE	2402~2480	0.99	-0.57	0.42	1.1	0.0002	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) = 0.0002mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>.

So the EUT complies with the requirement.

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