

## RF Exposure Evaluation Report

**Client:** Garmin International  
1200 E 151st Street  
Olathe Kansas 66062 USA

**Model:** A04535

**FCC ID:** IPH-04535  
**IC:** 1792A-04535

**Test Report No.:** RFE20221003-20-01A

**ISED CAB Identifier:** US0177

**Approved By:**



**Fox Lane,**  
EMC Test Engineer

**Date:** February 27, 2023

**Total Pages:** 6

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## Revision Page

| Rev. No. | Date             | Description                     |
|----------|------------------|---------------------------------|
| Original | 2 February 2023  | Prepared by – FLane             |
| A        | 27 February 2023 | Changed to Body Worn Limit - FL |

**Regulatory Requirements:**

FCC Part 1.1310, 2.1091, 2.1093  
KDB 447498 D01  
RSS-102, Issue 5

**Summary:**

The EUT's EIRP and conducted output power were used to evaluate for exemption from routine SAR testing.

**EUT:**

|                                |   |
|--------------------------------|---|
| FCC ID:                        | IPH-04535                                     |
| IC:                            | 1792A-04535                                   |
| MPE Lab                        | Nebraska Center for Excellence in Electronics |
| MPE Labs FCC Cab Designation:  | US1060  |
| MPE Labs ISED Cab Designation: | US0177  |
| EIRP:                          | 3.78 dBm EIRP / 0.00238 W                     |
| Conducted Power:               | 2.543 dBm / 0.001796 W                        |
| EIRP + 10% tune-up tolerance:  | 4.158 dBm / 0.002605 W                        |
| Antenna gain:                  | 1.237 dBi / 1.330 numeric                     |

$EIRP \text{ (mW)} = \text{Conducted power (mW)} \times \text{antenna gain (numeric)}$

Antenna gain was measured by lab by comparing radiated sample to conducted sample

**Calculations:**

Parameters:

Test separation < 5 mm

max. EIRP of channel, including tune-up tolerance, mW = 2.38 mW

f(GHz) = 2.480 GHz (highest frequency of range chosen for worse-case)

EIRP + 10% tolerance was used as it is higher than the conducted value.

**KDB 447498 D01, Section 4.3.1(a):**

*For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:*

*$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{\text{(GHz)}}}] \leq 3.0$  for 1-g SAR, and  $\leq 7.5$  for 10-g extremity SAR,<sup>30</sup> where*

- $f_{\text{(GHz)}}$  is the RF channel transmit frequency in GHz

Limit / numeric threshold = 7.5 for extremity SAR

$[ 7 / 5 ] \times \text{SQRT}(2.480) = 2.20 \leq 7.5$  **EXEMPT**

EIRP + power tolerance was rounded up to the nearest mW as instructed in the KDB

## RSS 102, Issue 5, Section 2.5.1

### 2.5.1 Exemption Limits for Routine Evaluation — SAR Evaluation

SAR evaluation is required if the separation distance between the user and/or bystander and the antenna and/or radiating element of the device is less than or equal to 20 cm, except when the device operates at or below the applicable output power level (adjusted for tune-up tolerance) for the specified separation distance defined in Table 1.  $f(\text{MHz}) = 2.400 \text{ GHz}$  (lowest limit frequency within range)

| Table 1: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance <sup>4,5</sup> |   |   |   |   |   |
|---|---|---|---|---|---|
| Frequency (MHz)   | Exemption Limits (mW)                         |   |   |   |   |
|   | At separation distance of $\leq 5 \text{ mm}$ | At separation distance of $10 \text{ mm}$ | At separation distance of $15 \text{ mm}$ | At separation distance of $20 \text{ mm}$ | At separation distance of $25 \text{ mm}$ |
| $\leq 300$  | 71 mW   | 101 mW                                    | 132 mW                                    | 162 mW                                    | 193 mW                                    |
| 450   | 52 mW   | 70 mW                                     | 88 mW                                     | 106 mW                                    | 123 mW                                    |
| 835   | 17 mW   | 30 mW                                     | 42 mW                                     | 55 mW                                     | 67 mW                                     |
| 1900  | 7 mW  | 10 mW                                     | 18 mW                                     | 34 mW                                     | 60 mW                                     |
| 2450  | 4 mW  | 7 mW                                      | 15 mW                                     | 30 mW                                     | 52 mW                                     |
| 3500  | 2 mW  | 6 mW                                      | 16 mW                                     | 32 mW                                     | 55 mW                                     |
| 5800  | 1 mW  | 6 mW                                      | 15 mW                                     | 27 mW                                     | 41 mW                                     |

Exemption limit = 3.94 mW (extrapolated to 2480 MHz and x2.5)  
 EIRP with 10% tolerance = 2.605 mW  
 Conducted power with 10% tolerance = 1.904 mW

Both EIRP and conducted power with tolerance are **EXEMPT**

**Result:**

The EUT was found to be exempt from routine SAR testing and **COMPLIANT** with RF exposure requirements

**REPORT END**