

INSULET CORPORATION

SAR EXCLUSION EVALUATION REPORT

SCOPE OF WORK

SAR Exclusion Evaluation on Ominipod 5 Automated Insulin Delivery System, Model PT-000438 With Alternate Booster Chip

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SAR EXCLUSION EVALUATION REPORT

(FULL COMPLIANCE)

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Model(s) Tested: PT-000438

Standards: FCC Part 1.1310 (12/23)
FCC KDB Publication 447498 D01 v06
ISED RSS-102 Issue 5; March 19, 2015

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1 Introduction and Conclusion

This evaluation report covers for a mobile device subject to routine environmental evaluation for RF exposure. A mobile device is defined as a transmitting device designed to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons.

The evaluation indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining sections are the verbatim text from the actual evaluation during the investigation. These sections include the evaluation name, the specified Method, and Results. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product evaluated **complies** with the requirements of the standard(s) indicated. The results obtained in this report pertain only to the item(s) evaluated. Intertek does not make any claims of compliance for samples or variants which were not evaluated.

2 Evaluation Summary

Section	Test full name	Result
3	Client Information	-
4	Description of Equipment Under Evaluation and Variant Models	-
5	SAR Exclusion Evaluation FCC KDB Publication 447498 D01 v06 ISED RSS-102 Issue 5; March 19, 2015	Compliant
6	Revision History	-

3 Client Information

This EUT was tested at the request of:

Client: Insulet Corporation
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 Acton, MA 01720
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Contact: Rachel Zhang
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4 Description of Equipment Under Test and Variant Models

Manufacturer: Insulet Corporation
 100 Nagog Park
 Acton, MA 01720
 USA

Description of Equipment Under Test (provided by client)
Ominipod 5 Automated Insulin Delivery System with Alternate Booster Chip

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
4.5 V (3 x 1.5 V Batteries)	120 mAhr per battery	DC	N/A

Variant Models:

The following variant models have been identified by the manufacturer as being electrically identical models, depopulated models, or with reasonable similarity to the model(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

None

5 SAR Exclusion Evaluation

FCC SAR Test Exclusion Thresholds (FCC KDB Publication 447498 D01 v06):

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

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

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation³¹
 - The result is rounded to one decimal place for comparison
 - The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

Calculation:

$$\text{SAR Test Exclusion Thresholds} = [1.22\text{mW}/5\text{mm}] \cdot [\text{sqrt}(2.480\text{GHz})] = 0.38$$

Cond. Power	Cond. Power	Antenna Gain	EIRP Power	EIRP Power	Min Separation Distance	Frequency	SAR Test Exclusion Thresholds For 1-g SAR	SAR Test Exclusion Thresholds ≤ 7.5 For 10-g Extremity SAR	Test Result
(dBm)	(mW)	(dBi)	(dBm)	(mW)	(mm)	GHz	≤ 3.0	≤ 7.5	
0.85	1.22	1.5	2.35	1.72	5	2.480	0.38	0.38	Compliant

Note: The maximum conducted power of 0.85 dBm at 2.480 GHz was taken from Intertek Report # 105595039BOX-006.

ISED RSS-102 Issue 5 §2.5.2 Exemption:

Table 1: SAR evaluation — Exemption limits for routine evaluation based on frequency and separation distance ^{4,5}					
Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤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

SAR evaluation is not required when the maximum of the conducted output power or EIRP is less than the exemption limits given in RSS-102 Issue 5 Table 1, above.

Frequency (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm)	EIRP Power (mW)
2480	0.85	1.5	2.35	1.72

Evaluation Results: The EUT met the SAR exemption since the EIRP power is less than 4 mW at a separation distance of 5 mm. The separation distance of the radio’s antenna structure to the human body is more than 5 mm.

6 Revision History

Revision Level	Date	Report Number	Prepared By	Reviewed By	Notes
0	01/30/2024	105595039BOX-006c	KPS <i>KPS</i>	VFV <i>VFV</i>	Original Issue