

# FCC Part 1 Subpart I FCC Part 2 Subpart J INDUSTRY CANADA RSS 102 ISSUE 5

## RF EXPOSURE REPORT

**FOR** 

**HEALTH MONITORING DEVICE** 

**MODEL NUMBER: 848766** 

FCC ID: 2AB8ZND6 IC: 1000X-ND6

**REPORT NUMBER: 15U20766-E3V3** 

ISSUE DATE: December 9, 2015

Prepared for

INTEL CORPORATION 2200 MISSION COLLEGE BOULEVARD, SANTA CLARA, CA 95052, U.S.A

Prepared by

UL VERIFICATION SERVICES INC. 47173 BENICIA STREET FREMONT, CA 94538, U.S.A.

TEL: (510) 771-1000 FAX: (510) 661-0888



NVLAP LAB CODE 200065-0

REPORT NO: 15U20766-E3V3 DATE: December 9, 2015 FCC ID: 2AB8ZND6 IC: 1000X-ND6

# **Revision History**

Rev.	Issue Date	Revisions	Revised By
V1	10/30/2015	Initial Issue	C. Pang
	12/4/2015	Updated KDB 447498 version and FCC and IC IDs	D. Weaver
V3	12/9/2015	Section 6.1 - Corrected separation distance	D.Weaver

## DATE: December 9, 2015 IC: 1000X-ND6

# **TABLE OF CONTENTS**

1.	ΑT	ITESTATION OF TEST RESULTS	4
2.	TE	ST METHODOLOGY	5
3.	RE	EFERENCES	5
_			_
4.	FA	ACILITIES AND ACCREDITATION	5
5.	De	evice under test	5
_			_
6.	ST	TANDALONE SAR TEST EXCLUSION CONSIDERATIONS	6
	6.1.	FCC	6
	62	INDLISTRY CANADA	-

REPORT NO: 15U20766-E3V3 DATE: December 9, 2015 FCC ID: 2AB8ZND6 IC: 1000X-ND6

## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** INTEL CORPORATION

2200 MISSION COLLEGE BOULEVARD

SANTA CLARA, CA 95052, U.S.A.

**EUT DESCRIPTION**: HEALTH MONITORING DEVICE

**MODEL:** 848766

#### APPLICABLE STANDARDS

STANDARD TEST RESULTS

FCC PART 1 SUBPART I & PART 2 SUBPART J Pass
INDUSTRY CANADA RSS 102 ISSUE 5 Pass

UL Verification Services Inc. calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations of these calculations. The results show that the equipment is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL Verification Services Inc. By:

Calculated By:

CHIN PANG
SENIOR ENGINEER
UL Verification Services Inc.

CHRIS XIONG
LAB TECHNICIAN/ ENGINEER
UL Verification Services Inc.

REPORT NO: 15U20766-E3V3 DATE: December 9, 2015 FCC ID: 2AB8ZND6 IC: 1000X-ND6

## 2. TEST METHODOLOGY

All calculations were made in accordance with FCC 447498 D01 v06 and IC RSS-102 issue 5.

# 3. REFERENCES

Output power, Duty cycle and Antenna gain data is excerpted from the applicable test reports or client declarations.

# 4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

# 5. Device under test

The EUT is a wearable health monitoring device with a BLE transmitter.

The minimum user separation distance is 0mm from the body of the user.

The maximum output power is 5dBm

The antenna gain is 0dBi

REPORT NO: 15U20766-E3V3 DATE: December 9, 2015 FCC ID: 2AB8ZND6 IC: 1000X-ND6

# 6. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

## 6.1. FCC

SAR test exclusion in accordance with KDB 447498.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

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

- f<sub>(GHz)</sub> is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

These test exclusions are applicable only when the minimum test separation distance is  $\leq$  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 is applied to determine SAR test exclusion.

**SAR Exclusion Calculations Table for Portable Devices (separation distance < 50mm)** 

Antenna	Tx	Frequency	Avg Output power		Separation	Calculated
Antenna	IX	(MHz)	dBm	mW	distance (mm)	Threshold
BLE Main	BLE	2483.5	5.00	3	0	0.9

#### Conclusion:

The computed value is < 3; therefore, Bluetooth qualifies for Standalone SAR test exclusion.

REPORT NO: 15U20766-E3V3 DATE: December 9, 2015 FCC ID: 2AB8ZND6 IC: 1000X-ND6

## 6.2. INDUSTRY CANADA

Industry Canada notice 2013 DRS0911 states that the SAR exclusion limits contained in Draft RSS-102 issue 5 will be accepted prior to its release. The SAR exclusion table from Draft RSS-102 issue 5 is reproduced below:

Table 1: SAR evaluation - exemption limits for routine evaluation based on frequency and separation distance.

und Separation distancei							
	Exemption Limits (mW)						
Frequency MHz	At separation distance of ≤5mm	At separation distance of 10mm	At separation distance of 15mm	At separation distance of 20mm	At separation distance of 25mm		
≤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 Limits (mW)						
Frequency MHz	At separation distance of 30mm	At separation distance of 35mm	At separation distance of 40mm	At separation distance of 45mm	At separation distance of ≥50mm		
≤300	223 mW	254 mW	284 mW	315 mW	345 mW		
450	141 mW	159 mW	177 mW	195 mW	213 mW		
835	80 mW	92 mW	105 mW	117 mW	130 mW		
1900	99 mW	153 mW	225 mW	316 mW	431 mW		
2450	83 mW	123 mW	173 mW	235 mW	309 mW		
3500	86 mW	124 mW	170 mW	225 mW	290 mW		
5800	56 mW	71 mW	85 mW	97 mW	106 mW		

Tx	Frequency	Maximum Avg Power	Antenna Gain	0.0 dBi
	(MHz)	Maximum Avg Fower	(dBm)	(mW)
BLE	2440	Conducted	5.0	3.2
		E.I.R.P	5.0	3.2

The minimum antenna to user distance that will be encountered in normal use is 0mm. This results in an exemption limit of 4mW at 2450 MHz.

As the maximum output power is 3.2mW, the DUT qualifies for SAR test exclusion.

## **END OF REPORT**