RF Exposure Report

Report No.: FCC_MPE_SL19082201-JAD-011 Rev 1.0

FCC ID: QV5MERCURY6E-MH

Test Model: M6E-MICRO-A

Variant Model: M6E-M-A

Issued Date: 01/14/2020

Applicant: JADAK, a business unit of Novanta Corporation

Address: 125 Middlesex Turnpike, Bedford, MA 01730

Manufacturer: JADAK, a business unit of Novanta Corporation

Address: 125 Middlesex Turnpike, Bedford, MA 01730

Issued By: Bureau Veritas Consumer Products Services, Inc.

Lab Address: 775 Montague Expressway, Milpitas, CA 95035

Test Location (1): 775 Montague Expressway, Milpitas, CA 95035

FCC Registration / Designation Number: 540430

ISED# / CAB identifier: 4842D

TESTING CERT # 2742-01

Table of Contents

Release Control Record

Issue No.	Description	Date Issued
FCC_MPE_SL19082201-JAD-011	Orignal Release	09/30/2019
FCC_MPE_SL19082201-JAD-011 Rev 1.0	Updated ID and model number	01/14/2020

1   Certificate of Conformity

Product:	RFID module
Brand:	JADAK, a business unit of Novanta Corporation
Test Model:	M6E-MICRO-A
Variant Model:	M6E-M-A
Sample Status:	ENGINEERING SAMPLE
Applicant:	JADAK, a business unit of Novanta Corporation
Standards:	FCC Part 2 (Section 2.1091)
	KDB 447498 D01 General RF Exposure Guidance v06
	IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc., Milpitas Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : _____ ,   **Date:**   09/30/2019

Rachana Khanduri / Test Engineer

Approved by : _____ ,   **Date:**   09/30/2019

Chen Ge / Engineer Reviewer

2 RF Exposure

2.1 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)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f^2)*	30
30-300	27.5	0.073	0.2	30
300-1500	…	…	f/1500	30
1500-100,000	…	…	1.0	30

f = Frequency in MHz; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$P_d = (P_{out} * G) / (4 * pi * r^2)$

Where

P_d = power density in mW/cm^2

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

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.
So, this device is classified as **Mobile Device**.

2.4 Antenna Gain

6dBi for both antennas.

2.5 Calculation Result of Maximum Conducted Power

Type	CH Freq (MHz)	Conducted Power (dBm)	Antenna Gain (dBi)	Tune-Up Tolerance	Tolerance Max Power (dBm)	Measurement Distance (cm)	Calculated MPE (mW/cm²)	MPE Limit (mW/cm²)	Pass/Fail
RFID	927.25	29.45	6.0	±0.5dB	29.95	23	0.592	0.601	Pass

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

The Above Result had shown that the Device complied with MPE requirement.

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