

RF Exposure Report

Report No.: SA170918E12

FCC ID: BKMFBJ26H006

Test Model: J26H006

Received Date: Sep. 18, 2017

Test Date: Sep. 25, 2017

Issued Date: Nov. 07, 2017

Applicant: Seiko Epson Corporation

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Release Control Record

Issue No.	Description	Date Issued
SA170918E12	Original release.	Nov. 07, 2017

1 Certificate of Conformity

Product: 11n+BT Combo Module

Brand: Epson

Test Model: J26H006

Sample Status: ENGINEERING SAMPLE

Applicant: Seiko Epson Corporation

Test Date: Sep. 25, 2017

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 (H.K.) Ltd., Taoyuan 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 :

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Date: Nov. 07, 2017

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Approved by :

May Chen

Date: Nov. 07, 2017

May Chen / Manager

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

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

where

Pd = power density in mW/cm²

Pout = 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

Ant No.	Antenna Gain (dBi)	Frequency rang (GHz)	Antenna type	Connector type
1	1.93	2.4~2.4835	PIFA	none
2	1.1	2.4~2.4835	PIFA	none

2.5 Calculation Result of Maximum Conducted Power

For WLAN:

Frequency Band (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	423.643	1.93	20	0.13144	1

For Bluetooth:

BT-EDR

Frequency Band (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402-2480	10.447	1.93	20	0.00324	1

BT-LE

Frequency Band (MHz)	Max. Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402-2480	26.669	1.93	20	0.00827	1

Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

WLAN 2.4GHz + Bluetooth = $0.13144 / 1 + 0.00827 / 1 = 0.13971$

Therefore the maximum calculations of above situations are less than the "1" limit.

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