

RF Exposure Evaluation Report

Product : Electronic Blood Pressure Monitor
Trade mark : JUMPER
Model/Type reference : JPD-HA121, JPD-HA120
Serial Number : N/A
Report Number : EED32K00171302
FCC ID : 2ADYL-JPDHA121
Date of Issue : Aug. 01, 2018
47 CFR Part 1.1307
Test Standards : 47 CFR Part 1.1310
KDB447498D01v06
Test result : PASS

Prepared for:

Shenzhen Jumper Medical Equipment Co., Ltd
D Building, No. 71, Xintian Road, Fuyong Street, Baoan, Shenzhen,
Guangdong, China

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Tested by:

Tom - chen

Tom chen (Test Project)

Compiled by:

Max liang

Max Liang (Project Engineer)

Reviewed by:

Kevin Yang

Kevin yang (Reviewer)

Approved by:

Sheek Luo

Sheek Luo (Lab supervisor)

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Jumper Medical Equipment Co., Ltd
Address of Applicant:	D Building, No. 71, Xintian Road, Fuyong Street, Baoan, Shenzhen, Guangdong, China
Manufacturer:	Shenzhen Jumper Medical Equipment Co., Ltd
Address of Manufacturer:	D Building, No. 71, Xintian Road, Fuyong Street, Baoan, Shenzhen, Guangdong, China
Factory:	Shenzhen Jumper Medical Equipment Co., Ltd
Address of Factory:	D Building, No. 71, Xintian Road, Fuyong Street, Baoan, Shenzhen, Guangdong, China

4.2 General Description of EUT

Product Name:	Electronic Blood Pressure Monitor
Model No.(EUT):	JPD-HA121, JPD-HA120
Test Model No.:	JPD-HA120
Trade Mark:	JUMPER
EUT Supports Radios application	BT4.0 Single Mode, 2402-2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402-2480MHz
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
Antenna Gain:	-5dBi
Power Supply:	Battery 6V(1.5V(AA)×4) Supply by USB port DC 5V
Conduct Peak Power:	-1.378dBm The Conduct Peak Power data refer to the report EED32K00171301.
Hardware Version:	V1.3 (manufacturer declare)
Firmware Version:	V1.0(manufacturer declare)
Sample Received Date:	Jul. 02, 2018
Sample tested Date:	Jul. 02, 2018 to Jul. 31, 2018
<p>The tested sample(s) and the sample information are provided by the client. Model No.: JPD-HA121, JPD-HA120 Only the model of JPD-HA120 is tested, since their electrical circuit design, layout, components used and internal wiring are identical, only the outer decoration is different.</p>	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*(900/f ²)	6
30–300	61.4	0.163	1.0	6
300–1500 .....	.....	.....	f/300	6
1500–100,000 .....	.....	.....	5	6
(B) 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

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limit S, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually.

5.1.3 EUT RF Exposure Evaluation

Antenna Gain: -5dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP* (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
Lowest	2402	-1.378	-5	-6.378	0.23	20	0.00005	1.0	Pass

Note: Refer to report No. EED32K00171301 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32K00171301 for EUT external and internal photos.

*** End of Report ***

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