



MPE REPORT

Report No.: SRTC2013-H024-E0023

Product Name: Pulse Oximeter

Product Model: CMS50EW

Applicant: Contec Medical Systems Co.,Ltd.

Manufacturer: Contec Medical Systems Co.,Ltd.

Specification: FCC Part2.1093

OET Bulletin 65 Supplement C[June 2001]

FCC ID: 2ABOGCMS50EW

The State Radio_monitoring_center Testing Center (SRTC)

No.80 Beilishi Road Xicheng District Beijing, China

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1. General information

1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

1.2 Information about the testing laboratory

Company: The State Radio_monitoring_center Testing Center (SRTC)
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Country or Region: China
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1.3 Applicant's details

Company: Contec Medical Systems Co., Ltd.
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City: Qinhuangdao, Hebei Province
Country or Region: P.R.China
Grantee Code: 2ABOG
Contacted person: Xiao Jie
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Email: contecpinzhibu@163.com

1.4 Manufacturer's details

Company: Contec Medical Systems Co., Ltd.
Address: No.112 Qinhuang West Street, Economic & Technical Development Zone, 066004
City: Qinhuangdao, Hebei Province
Country or Region: P.R.China
Contacted person: Xiao Jie
Tel: +86-0335-8015489
Fax: +86-0335-8015490
Email: contecpinzhibu@163.com

1.5 Application details

Date of reception of test sample: 25th December 2013

Date of test: 25th December 2013 to 15th January 2014

1.6 Reference specification

FCC Part2.1093, OET Bulletin 65 Supplement C [June 2001]

1.7 Information of EUT

1.7.1 General information

Name of EUT	Pulse Oximeter
FCC ID	2ABOGCMS50EW
Frequency Range	2.4GHz~2.4835GHz
Number of Channel	79
Modulation Type	GFSK
Duplex Mode	TDD
Channel Spacing	1MHz
Emission Designator	1M00Q1D
Data Rate	1Mbps
Antenna Type	Fixed Internal
Power Supply	Battery or Charger
Rated Power Supply Voltage	3.7V
HW Version	ver 1.1
SW Version	ver 1.4

1.7.2 EUT details

Product Name	Product Model	S/N
Pulse Oximeter	CMS50EW	DX1210100211

1.7.3 Auxiliary equipment details

Equipment	Charger
Manufacturer	SHENZHEN KOSUN INDUSTRIAL CO.,LTD
Model Number	K669008ULR0200
Input Voltage	100V-240V a.c.
Output Voltage	5.0V d.c.
Frequency	50/60Hz


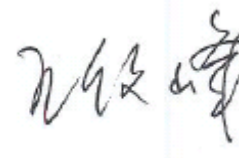
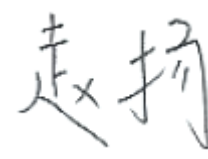
Equipment	Battery
Manufacturer	ShenZhen Rexpower Electronics CO.,LTD
Model Number	552540P
Capacity	480mAh
Rated Voltage	3.7V d.c.

Equipment	Accessory Circuit
Manufacturer	Jinan Huamao Technology
Model Number	HM-DEV-01
Note	Only used in test

2. Test information

2.1 Summary of the calculation results

No.	Test case	FCC reference	Verdict
1	MPE Calculation	FCC Part2.1093, OET Bulletin 65 Supplement [June 2001]	Pass

This Test Report Is Issued by: Mr. Song Qizhu Director of the test lab 	Checked by: Mr. Wang Junfeng Deputy director of the test lab 
Tested by: Mr. Zhao Yang PM department director 	Issued date: 2014.01.17

2.2 Calculation result

2.2.1 Maximum Permissible Exposure (MPE)

Limit:

FCC LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
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

Calculation procedure:

In accordance with 47CFR FCC Part 2.1091, the product has been defined as a mobile device where a distance of 0.2m normally can be maintained between the user and product.

Calculation formula:

$$\text{Power Density: } P_d (\text{W/m}^2) = E^2/377$$

$$E (\text{V/m}) = (30 * P * G)^{0.5} / d$$

E: Electric Field Strength (V/m)

P: Peak RF Output Power (W)

G: Antenna Numeric Gain (Numeric)

d: Separation Distance Between the Radiator and Human Body (m)

So the calculation formula can be changed as:

$$P_d = (30 * P * G) / (377 * d^2)$$

Note:

The EIRP measurement was performed using the peak conducted power measurement in conjunction with the maximum declared antenna gain (1.84dBi).

Calculation result:

Channel No.	Maximum conducted power(mW)	Power Density (S) (mW/cm2)	Limit of Power Density (S) (mW/cm2)	Verdict
0	1.19	0.0004	1.0	Pass
39	1.40	0.0004	1.0	Pass
78	1.58	0.0005	1.0	Pass