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Report On

FCC Testing of the Beijing Choice Electronic Company Co., Ltd
Bluetooth Pulse Oximeter MD300C318
In accordance with FCC CFR 47 Part 15 Part B

COMMERCIAL-IN-CONFIDENCE

FCC ID: WWIMD300C318

Document 57008073 Report 02 Issue 1

April 2009



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COMMERCIAL-IN-CONFIDENCE

REPORT ON

FCC CRF 47 Parts 15 B: 2008 Testing of the
Beijing Choice Electronic Company Co., Ltd
Bluetooth Pulse Oximeter MD300C318

Document 57008073 Report 02 Issue 1

April 09

PREPARED FOR

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DATED

24 April 2009

ENGINEERING STATEMENT

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47: Part 15B. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineer(s);

C Zhang

X Zhang



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SECTION 1

REPORT SUMMARY

FCC Testing of the Beijing Choice Electronic Company Co., Ltd
Bluetooth Pulse Oximeter MD300C318 in accordance with FCC CFR 47 Part 15B



1.1 INTRODUCTION

The information contained in this report is intended to show limited verification of the Beijing Choice Electronic Company Co., Ltd Bluetooth Pulse Oximeter MD300C318 to the requirements of FCC CFR 47 Part 15B: 2008.

Testing was carried out in support of an application for Grant of Equipment Authorisation of Bluetooth Pulse Oximeter MD300C318.

Objective	To perform FCC Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Beijing Choice Electronic Company Co., Ltd
Model Number(s)	Bluetooth Pulse Oximeter MD300C318
Serial Number(s)	Engineering sample
Antenna Gain	2dBi
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 15B: 2008
Incoming Release Date	Declaration of Build Status 08 February 2009
Start of Test	17 February 2009
Finish of Test	26 February 2009
Name of Engineer(s)	C Zhang X Zhang
Related Document(s)	ANSI C63.4:2003



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1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results in accordance with FCC CFR 47 Part 15B: 2008 is shown below.

Configuration - Bluetooth Pulse Oximeter						
Section	FCC Clause	Test Description	Mode	Mod State	Result	Comments
2.1	15.107	Conducted Emissions on Power Line	Idle/receive	0	Pass	
2.2	15.109	Enclosure Radiated Emissions	Idle/receive	0	Pass	-



1.3 DECLARATION OF BUILD STATUS

MAIN EUT	
MANUFACTURING DESCRIPTION	Bluetooth Pulse Oximeter
MANUFACTURER	Beijing Choice Electronic Company Co., Ltd
TYPE	MD300C318
PART NUMBER	--
SERIAL NUMBER	Engineering sample
HARDWARE VERSION	--
SOFTWARE VERSION	--
TRANSMITTER OPERATING RANGE	2400-2483.5MHz
RECEIVER OPERATING RANGE	2400-2483.5MHz
COUNTRY OF ORIGIN	P.R. CHINA
INTERMEDIATE FREQUENCIES	--
ITU DESIGNATION OF EMISSION	1M00F1D
HIGHEST INTERNALLY GENERATED FREQUENCY	2480MHz (Channel 78)
OUTPUT POWER (mW or dBm)	2.51mW / 4dBm
FCC ID	WWIMD300C318
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	MD300C318 is a Bluetooth Pulse Oximeter

Signature

Chen Lei

Date

20 April 2009

D of B S Serial No

57008073

No responsibility will be accepted by TÜV Product Service as to the accuracy of the information declared in this document by the manufacturer.



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1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) MD300C318 is a Beijing Choice Electronic Company Co., Ltd Bluetooth Pulse Oximeter as shown below. A full technical description can be found in the Manufacturers documentation.



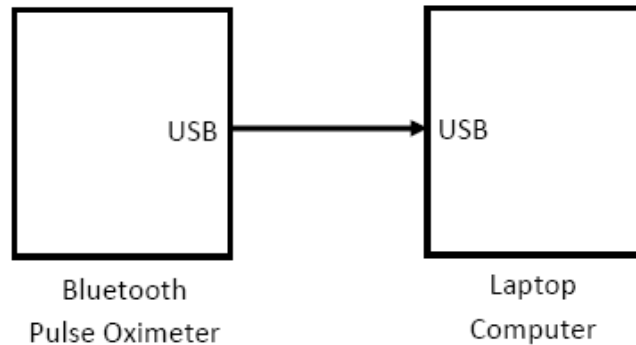
Equipment Under Test



1.4.2 Test Configuration

The Bluetooth Pulse Oximeter was connected with a console computer by the USB cable and made in Idle mode during the testing.

The EUT was configured as shown below:



Product	Model Type	Manufacturer	Serial Number
Laptop	Compaq NC4400	Hewlett-Packard	CDN6460KCL
AC/DC Adaptor	PA-1650-02HC	Hewlett-Packard	384019-001

1.4.3 Modes of Operation

Operation Modes

Mode 1 – Idle

Information on the specific test modes utilised are detailed in the test procedure for each individual test.



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1.5 TEST CONDITIONS

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure, test laboratories or an open test area as appropriate.

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.7 MODIFICATION RECORD

Modification State	Description of Modification fitted to EUT	Sample S/N
0	Initial sample supplied by customer	Engineering sample

No modifications were made to the EUT during testing.

1.8 ALTERNATIVE TEST SITE

The testing was conducted at following site registrations:

FCC Accreditation

910917 The State Radio Monitoring Center, No.80 Beilishi Road Xicheng District Beijing, China.



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SECTION 2

TEST DETAILS

FCC Testing of the Beijing Choice Electronic Company Co., Ltd
Bluetooth Pulse Oximeter MD300C318 in accordance with FCC CFR 47 Part 15B



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2.1 CONDUCTED EMISSIONS ON POWER LINE

2.1.1 Specification Reference

FCC CFR 47 Part 15: 2008, Subpart B, Clause 15.107

2.1.2 Equipment Under Test

Bluetooth Pulse Oximeter MD300C318

2.1.3 Date of Test and Modification State

20 February 2009 – Modification State 0

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of ANSI C63.4.

The EUT was placed 0.4 meters from the conducting wall of the shield room with the USB port of the EUT being connected to a notebook which was connected to the power mains through an artificial mains network (AMN). The distance between the computer and AMN was 80cm.

Emissions were formally measured using a Quasi-Peak and Average Detectors, which meet the CISPR requirements. The details of the worst-case emissions for the Live and Neutral Lines are presented in the tables below.

Conducted Emission were measured on Live and Neutral Lines of the power mains connected to the notebook in turn.

Measurements were made over the frequency range 0.15MHz to 30MHz.

The EUT was supplied from a 120V, 60Hz supply.

The test was performed with the EUT in the following configurations and modes of operation:

- Mode 1

2.1.6 Environmental Conditions

20 February 2009

Ambient Temperature 23.5°C

Relative Humidity 24.7%



2.1.7 Test Results

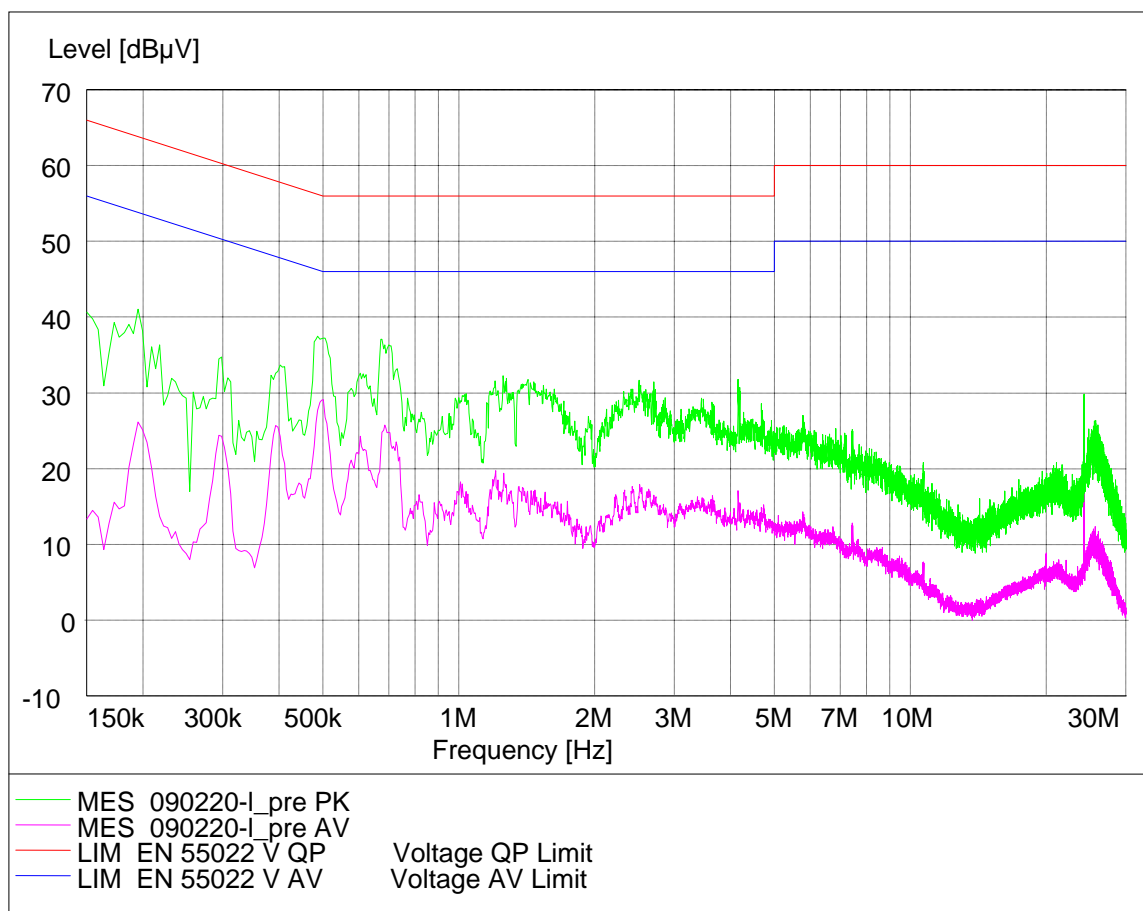
For the period of test the EUT met the Class B requirements of FCC CFR 47 Part 15: 2008 for Conducted Emissions on AC Power Ports.

Measurements were made with the EUT in idle Mode (See section 1.4.10 for details).

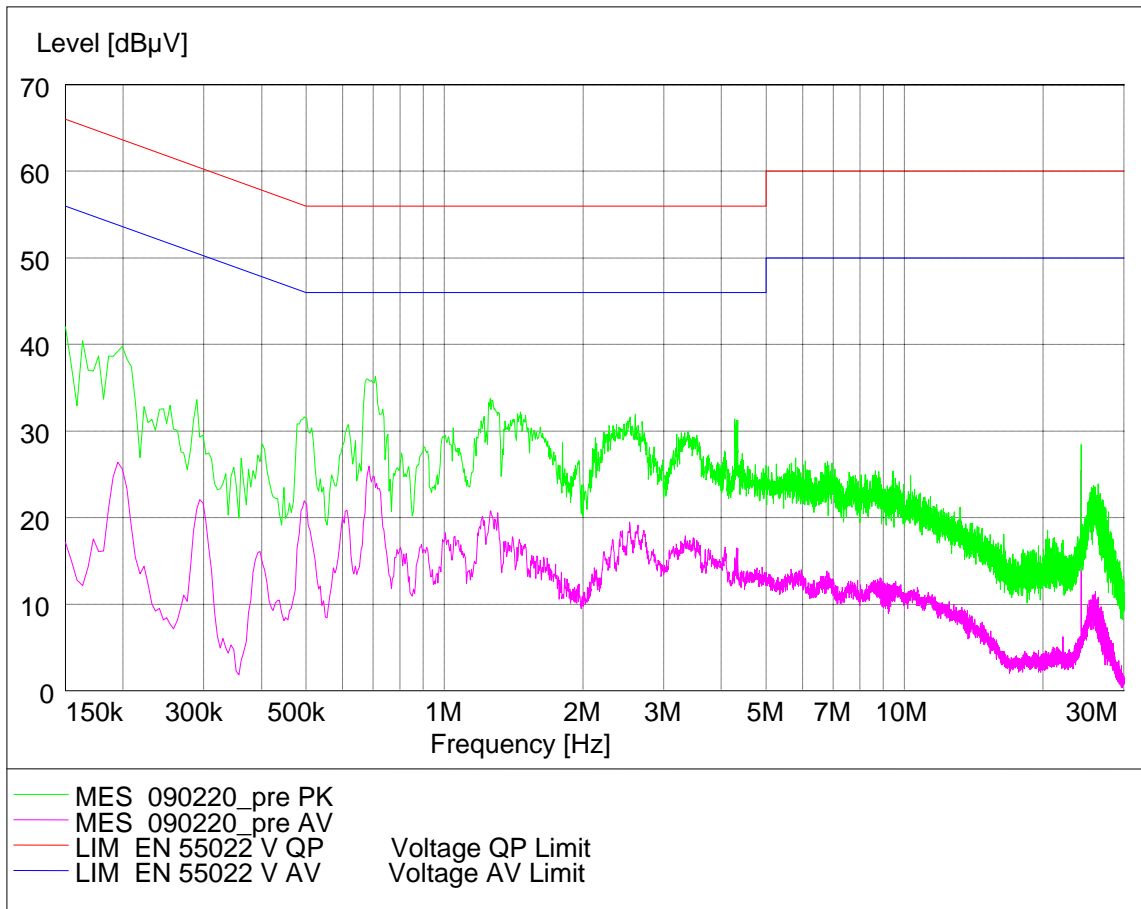
Test results are shown in the following tables.

- Mode 1

Live Line



The margin between the specification requirements and all other emissions was 20dB or more below the specified Quasi-Peak and 20dB or more below the specified Average limit.

**Neutral Line**

The margin between the specification requirements and all other emissions was 20dB or more below the specified Quasi-Peak and 20dB or more below the specified Average limit.



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2.2 ENCLOSURE RADIATED EMISSIONS

2.2.1 Specification Reference

FCC CFR 47 Part 15: 2008, Subpart B, Clause 15.109

2.2.2 Equipment Under Test

Bluetooth Pulse Oximeter MD300C318

2.2.3 Date of Test and Modification State

20 February 2009 – Modification State 0

2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.2.5 Test Method and Operating Modes

The test was applied in accordance with ANSI C63.4.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Emissions identified within the range 30MHz – 1GHz were formally measured using a CISPR Quasi-Peak detector.

The measurements were performed at a 3m distance unless otherwise stated.

The test was performed with the EUT in the following modes of operation:

- Mode 1

2.2.6 Environmental Conditions

20 February 2009

Ambient Temperature 23.5°C

Relative Humidity 24.7%

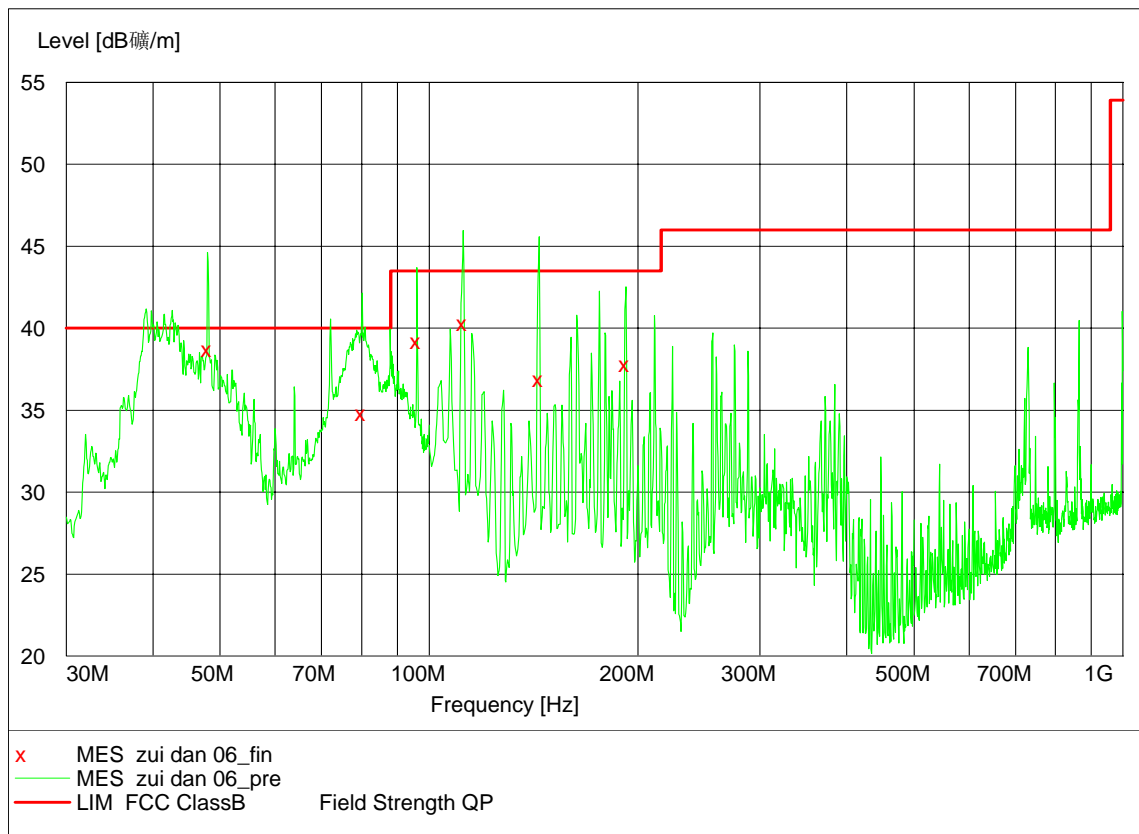


2.2.7 Test Results

For the period of test the EUT met the Class B requirements of FCC CFR 47 Part 15: 2008 Subpart B for Spurious Radiated Emissions (30MHz – 1GHz).

The test results are shown below.

- Mode 1



Emission Frequency (MHz)	Polarisation	Height (cm)	Azimuth (degree)	Field Strength		Limit	
				dBμV/m	μV/m	dBμV/m	μV/m
48.000000	Vertical	100.00	90.00	38.70	86.10	40.00	100.00
79.980000	Vertical	100.00	90.00	34.80	54.95	40.00	100.00
96.000000	Vertical	100.00	180.00	39.20	91.20	43.50	149.62
112.000000	Vertical	100.00	270.00	40.30	103.51	43.50	149.62
144.040000	Vertical	100.00	180.00	36.90	69.98	43.50	149.62
192.040000	Vertical	100.00	270.00	37.80	77.62	43.50	149.62



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SECTION 3

TEST EQUIPMENT USED



3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	Serial No.	Calibration Due
EMI Receiver	Rohde & Schwarz	ESI 40	100015	2009/08/19
Ultra log test antenna	Rohde & Schwarz	HL562	100167	2009/08/19
Antenna master	Frankonia	MA 260	-	TU
Relay Switch Unit	Rohde & Schwarz	331.1601.31	338965002	TU
Turn Table	FRANKONIA	MA260	--	2009/08/19
Semi- Anechoic Chamber	Frankonia	23.18m×16.88m×9.60m	-	2010/09/23
EMI test software	Rohde & Schwarz	ES-K1	-	TU
EMI Test receiver	Rohde & Schwarz	ESCS	100029	2009/08/19
LISN	Rohde & Schwarz	ESH3-Z5	100020	2009/08/19
Thermo-hygrometer	AZ Instruments	8705	9151655	2009/12/16

TU Traceability Unscheduled



3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	Frequency / Parameter	MU
Radiated Emissions, Bilog Antenna, AOATS	30MHz to 1GHz Amplitude	5.1dB*
Radiated Emissions, Horn Antenna, AOATS	1GHz to 40GHz Amplitude	6.3dB*
Substitution Antenna, Radiated Field	30MHz to 22GHz Amplitude	2.6dB
Worst case error for both Time and Frequency measurement 12 parts in 10 ⁶ .		

* In accordance with CISPR 16-4



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SECTION 4

DISCLAIMERS AND COPYRIGHT



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4.1 DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.

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