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Report On

FCC Testing of the Beijing Choice Electronic Company Co., Ltd
Heart Observer MD100P10
In accordance with FCC CFR 47 Part 15 Part B

COMMERCIAL-IN-CONFIDENCE

FCC ID: WWIMD100P10

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REPORT ON

FCC CRF 47 Parts 15 B: 2009 Testing of the
Beijing Choice Electronic Company Co., Ltd
Heart Observer MD100P10

Document 57010015 Report 01 Issue 1

April 2010

PREPARED FOR

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DATED 13 April 2010

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.

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SECTION 1

REPORT SUMMARY

FCC Testing of the Beijing Choice Electronic Company Co., Ltd
Heart Observer MD100P10 in accordance with FCC CFR 47 Part 15B

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1.1 INTRODUCTION

The information contained in this report is intended to show limited verification of the Beijing Choice Electronic Company Co., Ltd Heart Observer MD100P10 to the requirements of FCC CFR 47 Part 15B: 2009.

Testing was carried out in support of an application for Grant of Equipment Authorisation of Heart Observer MD100P10.

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)	Heart Observer MD100P10
Serial Number(s)	Engineering sample
Antenna Gain	N/A
Number of Samples Tested	1
Test Specification/Issue/Date	FCC CFR 47 Part 15B: 2009
Incoming Release Date	Declaration of Build Status 09 March 2010
Start of Test	26 March 2010
Finish of Test	13 April 2010
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: 2009 is shown below.

Configuration - Heart Observer						
Section	FCC Clause	Test Description	Mode	Mod State	Result	Comments
2.1	15.107	Conducted Emissions on Power Line	Normal Operation	0	Pass	-
2.2	15.109	Enclosure Radiated Emissions	Normal Operation	0	Pass	-

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1.3 DECLARATION OF BUILD STATUS

MAIN EUT	
MANUFACTURING DESCRIPTION	Heart Observer
MANUFACTURER	Beijing Choice Electronic Company Co., Ltd
TYPE	MD100P10
PART NUMBER	--
SERIAL NUMBER	Engineering sample
HARDWARE VERSION	--
SOFTWARE VERSION	--
TRANSMITTER OPERATING RANGE	--
RECEIVER OPERATING RANGE	--
COUNTRY OF ORIGIN	P.R. CHINA
INTERMEDIATE FREQUENCIES	--
ITU DESIGNATION OF EMISSION	--
HIGHEST INTERNALLY GENERATED FREQUENCY	--
OUTPUT POWER (mW or dBm)	--
FCC ID	WWIMD100P10
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	MD100P10 is a Heart Observer with USB Port

Signature Chen Lei
Date 01 April 2010

No responsibility will be accepted by Jiangsu TÜV Product Service Ltd. Beijing Branch 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) MD100P10 is a Beijing Choice Electronic Company Co., Ltd Heart Observer as shown below. A full technical description can be found in the Manufacturers documentation.

Equipment Under Test

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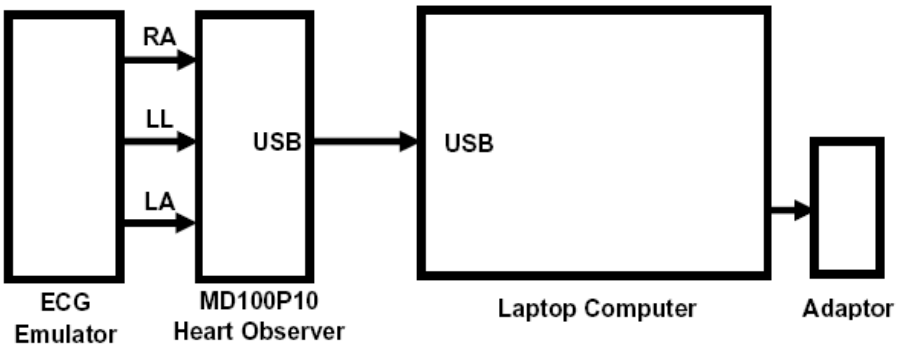
1.4.2 Test Configuration

The Heart Observer was connected with a console computer by the USB cable; an ECG Generator signals were connected to the Finger Electrobes and made it in normal operation during the testing.

The EUT was configured as shown below:



Product	Model Type	Manufacturer	Serial Number
Laptop	Compaq NC4400	Hewlett-Packard	CDN646
AC/DC Adaptor	PA-1605-02HC	Hewlett-Packard	384019-001
HS201	ECG Simulator	Hubtech	--

1.4.3 Modes of Operation

Operation Modes

Mode 1 – Normal Operation

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

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
767285 Jiangsu TÜV Product Service Ltd. 10 Huaxia M. Rd, Wuxi, Jiangsu, 214100

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SECTION 2

TEST DETAILS

FCC Testing of the Beijing Choice Electronic Company Co., Ltd
Heart Observer MD100P10 in accordance with FCC CFR 47 Part 15B

2.1 CONDUCTED EMISSIONS ON POWER LINE

2.1.1 Specification Reference

FCC CFR 47 Part 15: 2009, Subpart B, Clause 15.107

2.1.2 Equipment Under Test

Heart Observer MD100P10

2.1.3 Date of Test and Modification State

26 March 2010 – 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 artificical 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 2 x 1.5V AAA Batteries.

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

- Mode 1

2.1.6 Environmental Conditions

	26 March 2010
Ambient Temperature	21.5°C
Relative Humidity	24.9%

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2.1.7 Test Results

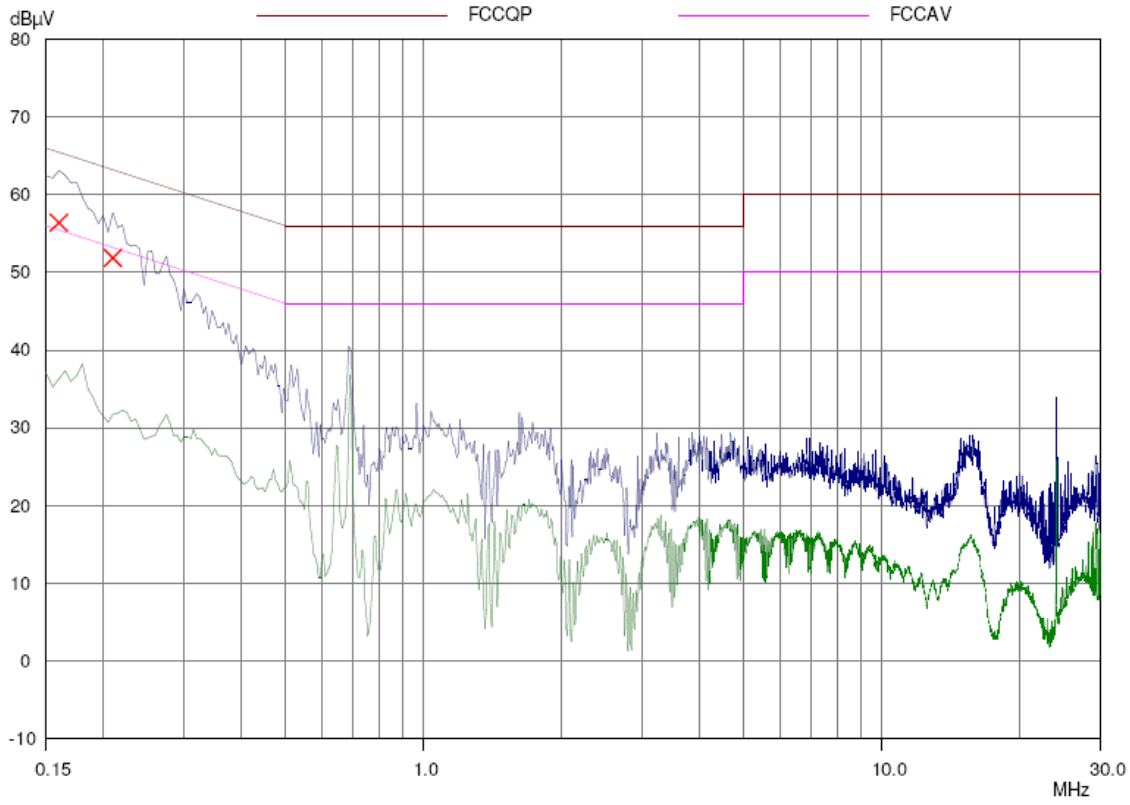
For the period of test the EUT met the Class B requirements of FCC CFR 47 Part 15: 2009 for Conducted Emissions on AC Power Ports.

Measurements were made with the EUT in normal operation.

Test results are shown in the following tables.

Mode 1

Live Line



Frequency (MHz)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Margin (dB)	Average Level (dBµV)	Average Limit (dBµV)	Margin (dB)
0.160000	56.39	65.71	8.77	-	55.71	-
0.210000	51.86	64.28	12.16	-	54.28	-

The margin between the specification requirements and all other emissions was 12dB or more below the specified Quasi-Peak and 15dB or more below the specified Average limit.

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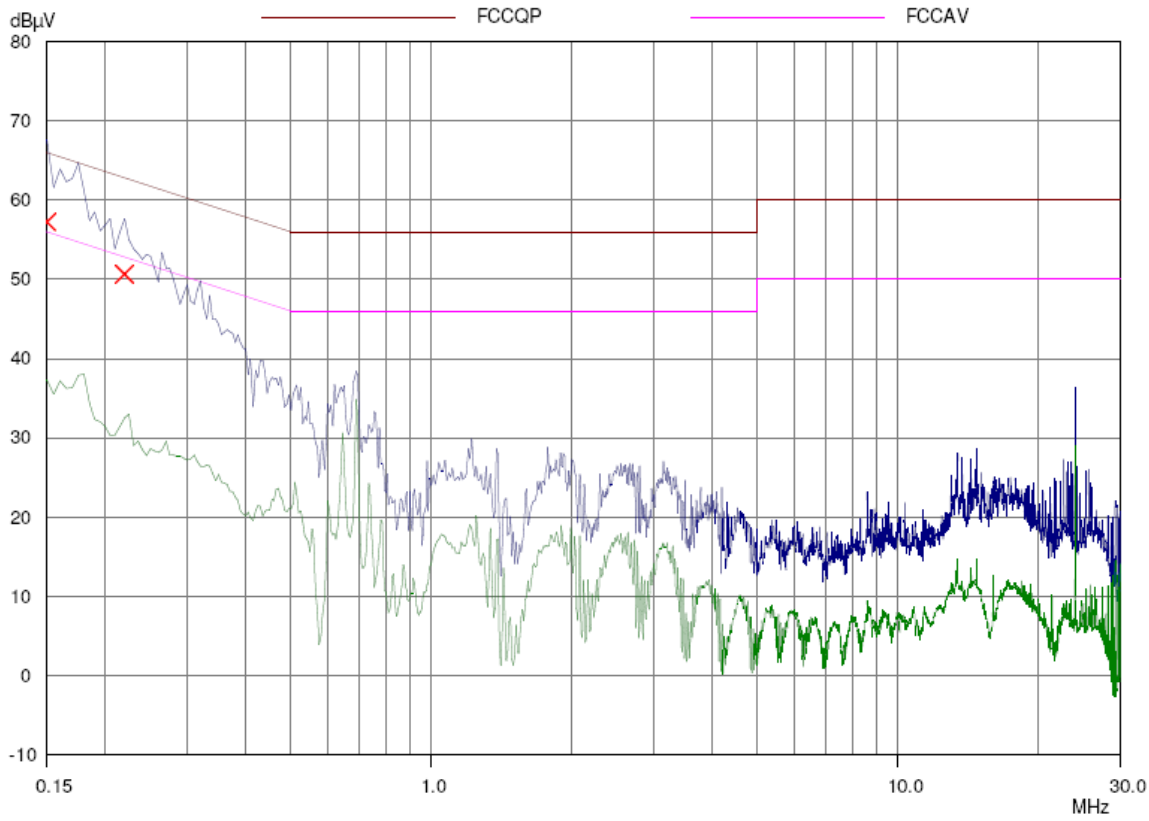
Neutral Line



Frequency (MHz)	Quasi-Peak Level (dBµV)	Quasi-Peak Limit (dBµV)	Margin (dB)	Average Level (dBµV)	Average Limit (dBµV)	Margin (dB)
0.150000	57.23	66.00	8.77	-	56.00	-
0.220000	50.66	64.00	12.16	-	54.00	-

The margin between the specification requirements and all other emissions was 12dB or more below the specified Quasi-Peak and 15dB or more below the specified Average limit.

2.2 ENCLOSURE RADIATED EMISSIONS

2.2.1 Specification Reference

FCC CFR 47 Part 15: 2009, Subpart B, Clause 15.109

2.2.2 Equipment Under Test

Heart Observer MD100P10

2.2.3 Date of Test and Modification State

13 April 2010 – 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

	13 April 2010
Ambient Temperature	22.3°C
Relative Humidity	24.2%

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2.2.7 Test Results

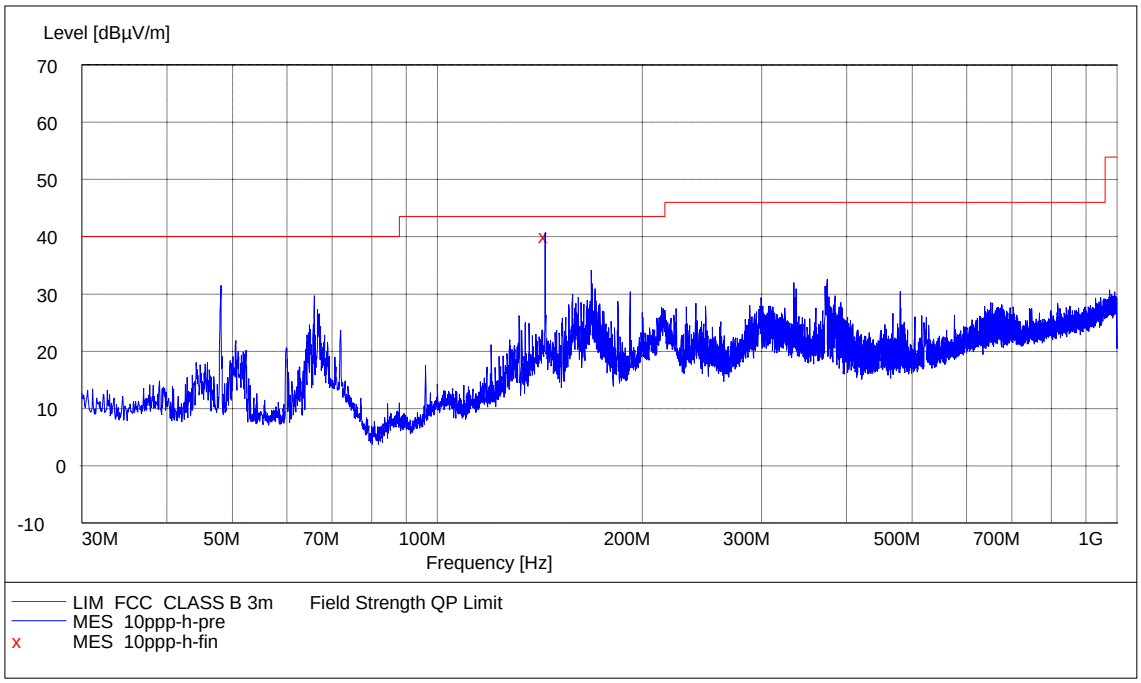
For the period of test the EUT met the Class B requirements of FCC CFR 47 Part 15: 2009 Subpart B for Spurious Radiated Emissions (30MHz – 1GHz).

Measurements were made with the EUT in normal operation.

The test results are shown below.

Mode 1

Horizontal



Emission Frequency (MHz)	Polarisation	Height (cm)	Azimuth (degree)	Field Strength		Limit	
				dBµV/m	µV/m	dBµV/m	µV/m
144.120000	Horizontal	100	180.00	40.23	102.68	43.52	150

The margin between the specification requirements and all other emissions was 15dB or more below the limit.

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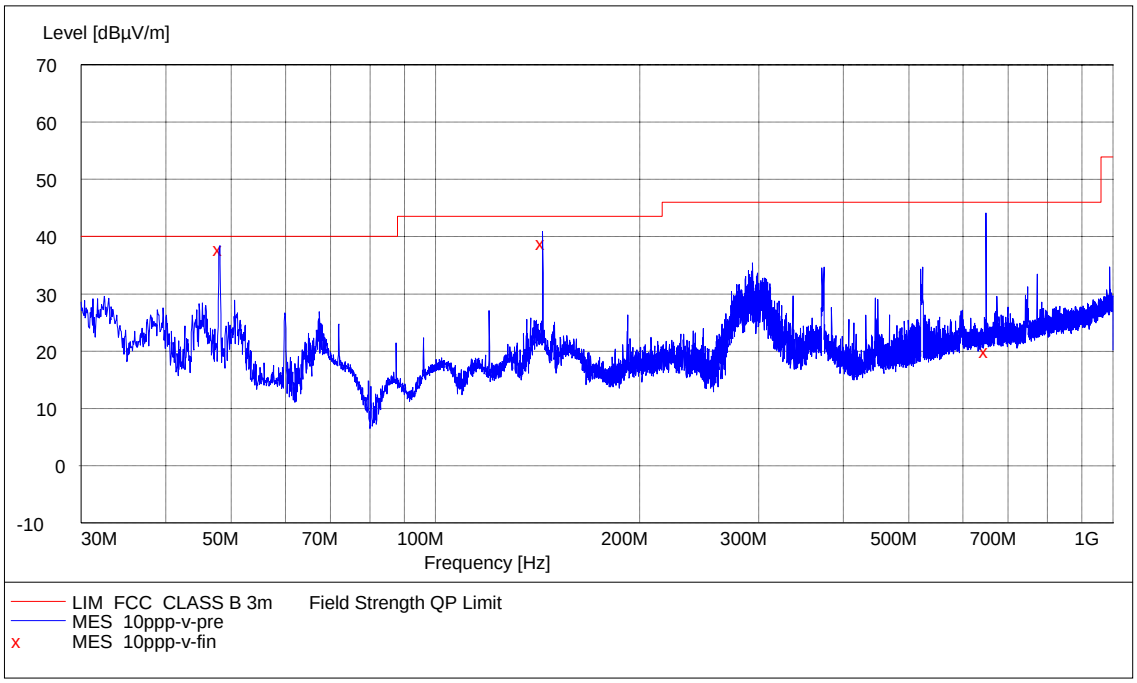
Vertical



Emission Frequency (MHz)	Polarisation	Height (cm)	Azimuth (degree)	Field Strength		Limit	
				dBµV/m	µV/m	dBµV/m	µV/m
48.060000	Vertical	100	90.00	38.01	79.52	40.00	100
144.000000	Vertical	100	270.00	38.98	88.92	43.52	150
649.680000	Vertical	100	90.00	20.14	10.16	46.00	200

The margin between the specification requirements and all other emissions was 15dB or more below the limit.

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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.	TE No.	Calibration Due
Section 2.1 – Conducted Emissions				
EMI Test Receiver	Rohde & Schwarz	ESHS30	70-7/63-97-01	2010/05/31
LISN	Schwarzbeck	NSLK8127	487/600215	2010/05/31
Shielding Room	Jinlida	No.2	-	-
Section 2.2 – Radiated Emissions				
EMI Receiver	Rohde & Schwarz	ESIB 7	487/630408	2011/01/17
Broadband Antenna	Rohde & Schwarz	VULB9168	487/620214	2010/12/26
Semi- Anechoic Chamber	TDK	23.18m×16.88m×9.60m	-	2011/02/13
EMI test software	Rohde & Schwarz	ES-K1	-	TU
Thermo-hygrometer	AZ Instruments	8705	9151655	2010/12/16

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	3.90dB*
Conducted Emissions, LISN	150kHz to 30MHz Amplitude	1.98dB

* In accordance with CISPR 16-4

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SECTION 4

DISCLAIMERS AND COPYRIGHT

4.1 DISCLAIMERS AND COPYRIGHT

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