

CENTRE OF TESTING SERVICE INTERNATIONAL

OPERATE ACCORDING TO ISO/IEC 17025

FCC ID TEST REPORT

TEST REPORT NUMBER: CGZ3091111-03285-O



CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China.





TEST REPORT For FCC ID				
	47 CFR PART 15 OCT, 2009			
Report Reference No	·			
Date of issue	23 November 2009			
Testing Laboratory Name	CETRE OF TESTING SERVICE CO., LTD			
Address	Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China.			
Testing location/ procedure	Full application of Harmonised standards ■			
	Partial application of Harmonised standards \square			
	Other standard testing method \square			
Applicant's name	BELLMATE HOLDINGS LTD.			
Address	Unit 206, Sterling Centre, 11 Cheung Yue Street, Cheung sha Wan, Kowloon, Hong Kong.			
Test specification				
Standard	47 CFR PART 15 OCT, 2009			
Test Report Form No	CTSEMC-1.0			
TRF Originator	CENTRE OF TESTING SERVICE CO., LTD			
Master TRF	Dated 2009-01			
CENTRE OF TESTING SERVICE CO)., LTD. All rights reserved.			
TESTING SERVICÉ CO., LTD is ackr	n whole or in part for non-commercial purposes as long as the CENTRE OF nowledged as copyright owner and source of the material. CENTRE OF TESTING sibility for and will not assume liability for damages resulting from the reader's rial due to its placement and context.			
Test item description	THERMOSTAT			
Trade Mark	PRO 1			
Manufacturer	BELLMATE HOLDINGS LTD.			
Model/Type reference	T955WH			
Ratings	(1)Battery 1.5V*2			
	(2)24V~50Hz			
Operating Frequency	915.678MHz			
Result	Positive			

Compiled by:

Supervised by:

Approved by:

Quty Liu / File administrators

Jackson Zhang / Technique principal

Kevin Liang / Manager

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Complaint line: +86-20-85533471 Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn





FCCID-TEST REPORT

Test Report No. : CGZ3091111-03285-O

03. December 2009
Date of issue

Type / Model	T955WH	
EUT	THERMOSTAT	
Applicant	BELLMATE HOLDINGS LTD.	
Address	Unit 206, Sterling Centre, 11 Cheung Yue Street, Cheung sha Wan, Kowloon, Hong Kong.	
Telephone	(852) 2785 0364	
Fax	(852) 2785 0493	
Contact	Mr. Xie Gui zhi	
Manufacturer	BELLMATE HOLDINGS LTD.	
Address	Unit 206, Sterling Centre, 11 Cheung Yue Street, Cheung sha Wan, Kowloon, Hong Kong.	
Telephone	(852) 2785 0364	
Fax	(852) 2785 0493	
Contact	Mr. Xie Gui zhi	
Test report holder	BELLMATE HOLDINGS LTD.	
Address	Unit 206, Sterling Centre, 11 Cheung Yue Street, Cheung sha Wan, Kowloon, Hong Kong.	
Telephone	(852) 2785 0364	
Fax		
Contact	Mr. Xie Gui zhi	
_		

Test Result according to the standards on page 3: Positive

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service





TABLE OF CONTENTS

<u>D</u>	Description	Page
1	TEST STANDARDS	5
2	SUMMARY	5
	2.1 GENERAL REMARKS	
	2.2 FINAL ASSESSMENT	5
3	EQUIPMENT UNDER TEST	5
	3.1 Power supply system utilised	Ę
	3.2 SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT)	
	3.3 EUT OPERATION MODE	
	3.4 EUT CONFIGURATION	6
4	TEST ENVIRONMENT	7
	4.1 Address of the test laboratory	7
	4.2 Test facility	7
	4.3 ENVIRONMENTAL CONDITIONS	
	4.4 DEFINITIONS OF SYMBOLS USED IN THIS TEST REPORT	
	4.5 STATEMENT OF THE MEASUREMENT UNCERTAINTY	
5	SUMMARY OF STANDARDS AND RESULTS	8
	5.1.Description of Standards and Results	s
6	POWER LINE CONDUCTED EMISSION TEST	9
	6.1.Test Equipment	
	6.2.BLOCK DIAGRAM OF TEST SETUP	
	6.3. POWER LINE CONDUCTED EMISSION TEST LIMITS	
	6.4.Configuration of EUT on Test	
	6.6.TEST PROCEDURE	
	6.7.Power Line Conducted Emission Test Results	
7	RADIATED DISTURBANCE (ELECTRIC FIELD)	15
	7.1.TEST EQUIPMENT	15
	7.2.BLOCK DIAGRAM OF TEST SETUP	15
	7.3.RADIATED EMISSION LIMIT STANDARD: FCC 15.249	
	7.4.EUT CONFIGURATION ON TEST	
	7.5.OPERATING CONDITION OF EUT	
	7.6.TEST PROCEDURE	
ор	Virght of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.	I <i>i</i>

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Complaint line: +86-20-85533471 Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn



CT5

CENITOE	ΛE	TESTING	SERVICE
L'ENIRE		1 - 5 1 11/11/13	SERVILE

8	BAND EDGE COMPLIANCE MEASUREMENT	26
	8.1.Test Equipment	26
	8.2.Test Information	26
	8.3.Test Results	26
9	DEVIATION TO TEST SPECIFICATIONS	

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Complaint line: +86-20-85533471 Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn





1 TEST STANDARDS

The tests were performed according to following standards:

- 47 CFR PART 15 OCT, 2009
- ANSI C63.4-2003

2 SUMMARY

2.1 GENERAL REMARKS

Date of receipt of test sample	11 November 2009		
Testing commenced on	16 November 2009		
_			
Testing concluded on	20 November 2009		

2.2 FINAL ASSESSMENT

The FCC requirements pertaining to the technical standards and tested operation modes are

fulfilled.

□ - **not** fulfilled.

The equipment under test

fulfils the FCC requirements cited on page 3.

does not fulfil the FCC requirements cited on page 3.

3 EQUIPMENT UNDER TEST

3.1 Power supply system utilised

Power supply voltage : ■ (1)Battery 1.5V*2 (2)24V~50Hz

3.2 Short description of the Equipment under Test (EUT)

Number of tested samples: 1

Serial number: Prototype

3.3 EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

□ - Standby

Test program (customer specific)

Operation mode 1: 915.678MHz

Note: X position of EUT is the worst case, so only these test results be recorded in the test report.

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service





3.4 EUT configuration

3.4.1. Description of configuration (EUT)

3.4.1.1. EUT Information

Description	:	THERMOSTAT
Model Number	:	T955WH
Operation frequency	:	915.678MHz ISM Band
Radio Technology	:	MSK
Modulation Technology	:	MSK modulation
Antenna	:	Integral antenna, met requirement of FCC 15.203
Antenna Assembly Gain	:	0dBi (maximum)

3.4.2. Tested Supporting System Details

3.4.2.1. Adapter

M/N	H3-12/1A
S/N	CN-OT0486-42940-37M-OBXB
Manufacturer	FRIWO EMC.Inc
Power Cord	Unshielder, Undetachabled, 1.8m, 2Pin
Certificate	By DoC

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 6 of 29





4 TEST ENVIRONMENT

4.1 Address of the test laboratory

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

4.2 Test facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L3394

CENTRE OF TESTING SERVICE CO., LTD has been assessed and proved to be in compliance with CNAS-CL01: 2006 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

IC-Registration No.: 8374

The 3m Alternate Test Site of CENTRE OF TESTING SERVICE CO., LTD has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 8374 on June 24, 2009.

FCC-Registration No.: 971995

CENTRE OF TESTING SERVICE CO., LTD, EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration No.791995, July 21, 2009.

4.3 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35 °C
Humidity:	25~75 %
Atmospheric pressure:	86~106 kPa

4.4 Definitions of symbols used in this test report

- The black square indicates that the listed condition, standard or equipment is applicable for this report.
- □ The empty square indicates that the listed condition, standard or equipment is **not** applicable for this report.

4.5 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the CTS quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406
Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn

ts-lab.com.cn See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 7 of 29







4.6 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction disturbance	150kHz~30MHz	±1.22dB	(1)
Power disturbance	30MHz~300MHz	±1.38dB	(1)
Radiation emission (3m)	30MHz~300MHz	±3.14dB	(1)
	300MHz~1000MHz	±3.18dB	(1)

^{(1).} This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5 Summary of standards and results

5.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION					
Description of Test Item Standard Results					
Conducted Disturbance Emission Test	FCC Part 15 C: 15.207 ANSI C63.4-2003	PASS			
Radiated Emission Test	FCC Part 15 C: 15.249 ANSI C63.4-2003	PASS			
20 dB Bandwidth Test	FCC Part 15 C: 15.249 ANSI C63.4-2003	PASS			
Band Edge Compliance Test	FCC Part 15 C: 15.249 ANSI C63.4-2003	PASS			
N/A is an abbreviation for Not Applicable.					

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471 E-

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 8 of 29





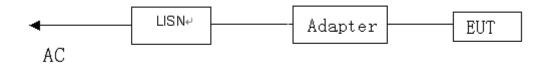
6 Power line conducted Emission Test

6.1.Test Equipment

Condu	Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2008/12	
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2008/12	
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/026	2008/12	
4	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2008/12	
5	EMI Test Software	ROHDE & SCHWARZ	ESK1	N/A	2008/12	

6.2.Block Diagram of Test Setup

6.2.1 Block Diagram of connection between EUT and simulators



(EUT: THERMOSTAT)

6.3. Power Line Conducted Emission Test Limits

	Maximum RF Line Voltage		
Frequency	Quasi-Peak Level	Average Level	
	dB(μV)	dB(μV)	
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*	
500kHz ~ 5MHz	56	46	
5MHz ~ 30MHz	60	50	

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

6.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471 E-mai

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 9 of 29





Page 10 of 29

6.5. Operating Condition of EUT

- 6.5.1. Setup the EUT and simulator as shown as Section 6.2.
- 6.5.2. Turn on the power of all equipment.
- 6.5.3.Let the EUT work in test mode (TX) and measurement it.

6.6.Test Procedure

The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N.#1). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC Part 15C on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS 10) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test result are reported on Section 6.7.

6.7.Power Line Conducted Emission Test Results PASSED

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn See Reverse For Terms And Conditions of Service

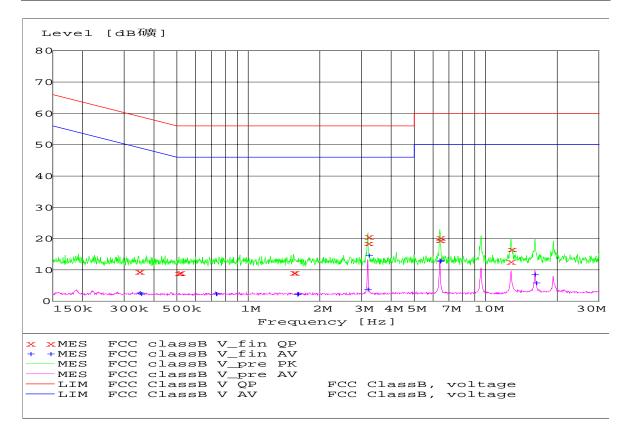
CENTRE OF TESTING SERVICE





Channel:	915.678MHz	Result:	■ - passed
Test point	Va		☐ - not passed

EUT	THERMOSTAT		
Firm Name	BELLMATE HOLDINGS LTD.		
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz		
Test Condition	Ambient Temperature: 20°C Humidity: 50%		
Operator	Roy		
MODEL NO	T955WH		



opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China

Tel: +86-20-85543113 (32 lines) Complaint line: +86-20-85533471 Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn







MEASUREMENT RESULT: "FCC classB V_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμV	dB	$dB\mu V$	dB		
0.345487	9.50	10.1	59	49.6	Va	GND
0.346869	9.50	10.1	59	49.5	Va	GND
0.506840	9.00	10.1	56	47.1	Va	GND
0.515000	9.10	10.1	56	46.9	Va	GND
1.549925	9.20	10.1	56	46.8	Va	GND
1.562350	9.10	10.1	56	46.9	Va	GND
3.192377	18.60	10.1	56	37.4	Va	GND
3.205146	20.60	10.1	56	35.4	Va	GND
6.394125	19.60	10.0	60	40.4	Va	GND
6.419701	20.40	10.0	60	39.6	Va	GND
12.705148	12.70	9.9	60	47.3	Va	GND
12.806993	16.70	9.9	60	43.3	Va	GND

MEASUREMENT RESULT: "FCC classB V_fin AV"

Frequency	Level	Transd	Limit	Margin	Line	PΕ
MHz	dΒμV	dB	$dB\mu V$	dB		
0.346872	2.80	10.1	49	46.2	Va	GND
0.351050	2.50	10.1	49	46.5	Va	GND
0.725943	2.50	10.1	46	43.5	Va	GND
0.728847	2.50	10.1	46	43.5	Va	GND
1.600230	2.30	10.1	46	43.7	Va	GND
1.613057	2.50	10.1	46	43.5	Va	GND
3.166998	3.90	10.1	46	42.1	Va	GND
3.205150	14.80	10.1	46	31.2	Va	GND
6.394125	12.90	10.0	50	37.1	Va	GND
6.419701	13.20	10.0	50	36.8	Va	GND
16.015300	8.70	9.9	50	41.3	Va	GND
16.208253	5.90	9.9	50	44.1	Va	GND

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 12 of 29

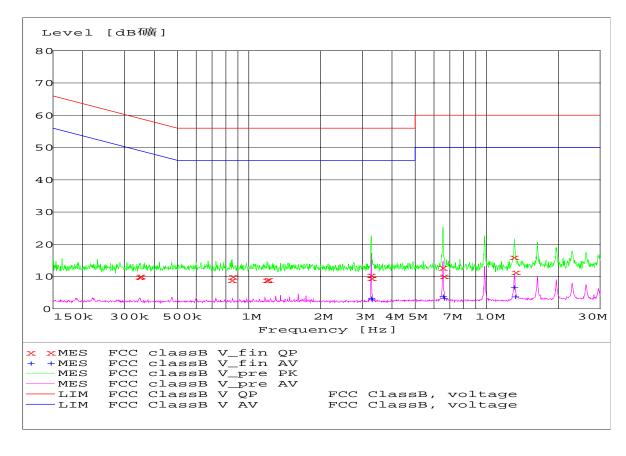
CENTRE OF TESTING SERVICE





Channel:	915.678MHz	Result:	■ - passed
Test point	Vb		□ - not passed

EUT	THERMOSTAT		
Firm Name	BELLMATE HOLDINGS LTD.		
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz		
Test Condition	Ambient Temperature: 20°C Humidity: 50%		
Operator	Roy		
MODEL NO	T955WH		



opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

CENTRE OF TESTING SERVICE





MEASUREMENT RESULT: "FCC classB V_fin QP"

Frequency	Level	Transd	Limit	Margin	Line	PE
MHz	dΒμV	dB	dΒμV	dB		
0.345487	9.80	10.1	59	49.2	Vb	GND
0.348260	10.20	10.1	59	48.8	Vb	GND
0.841500	8.90	10.1	56	47.1	Vb	GND
0.851638	10.00	10.1	56	46.0	Vb	GND
1.181460	9.00	10.1	56	47.1	Vb	GND
1.200477	9.10	10.1	56	46.9	Vb	GND
3.243770	10.40	10.1	56	45.6	Vb	GND
3.269772	9.60	10.1	56	46.4	Vb	GND
6.497040	12.80	10.0	60	47.2	Vb	GND
6.575317	10.20	10.0	60	49.8	Vb	GND
12.961290	16.10	9.9	60	43.9	Vb	GND
13.169918	11.40	9.9	60	48.6	Vb	GND

MEASUREMENT RESULT: "FCC classB V_fin AV"

Frequency	Level	Transo	l I imit	Margin	Line	PF
MHz	dBµV		dBµV	dB	20	. –
3.243770	3.30	10.1	46	42.8	Vb	GND
3.269772	2.90	10.1	46	43.1	Vb	GND
6.497040	4.00	10.0	50	46.0	Vb	GND
6.575317	3.30	10.0	50	46.7	Vb	GND
12.961290	6.70	9.9	50	43.3	Vb	GND
13.117448	3.80	9.9	50	46.2	Vb	GND

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 14 of 29





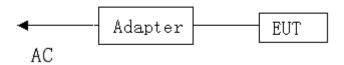
7 Radiated disturbance (electric field)

7.1.Test Equipment

Radia	Radiated disturbance (electric field)						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.		
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	100868	2008/12		
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2008/12		
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2008/12		
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2008/12		
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2008/12		

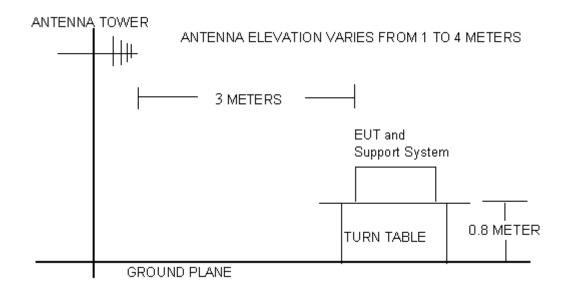
7.2.Block Diagram of Test Setup

7.2.1 Block Diagram of connection between EUT and simulators



(EUT: THERMOSTAT)

7.2.2 Anechoic Chamber Setup Diagram



opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 15 of 29





7.3. Radiated Emission Limit Standard: FCC 15.249

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT	
MHz	Meters	μV/m	dB(μV)/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Local Oscillator:	3	114.0 dB(μV)/m (Peak) 94.0 dB(μV)/m (Average)	
Above 1000	3	Other:74.0 dB(µV)/m (Peak) 54.0 dB(µV)/m (Average)	

- Remark: (1) Emission level $dB\mu V = 20 \log Emission level \mu V/m$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

7.4.EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.5. Operating Condition of EUT

- 7.5.1. Setup the EUT and simulator as shown as Section 7.2.
- 7.5.2. Turn on the power of all equipment.
- 7.5.3.Let the EUT work in test mode (TX) and measurement it.

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 16 of 29

CENTRE OF TESTING SERVICE





7.6.Test Procedure

The EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on Test. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2003 on radiated emission Test.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz and a Peak and Average detector with 1MHz RBW above 1GHz.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz and a Peak detector with 1MHz VBW above 1GHz, A average detector with 10Hz VBW above 1GHz

Pretest x, y, z position of EUT, final, select the worst case x position test and record the test results in the report.

The test modes (TX Mode) is tested in Anechoic Chamber and all the scanning waveforms are reported on section 7.7

7.7. Radiated Emission Test Results

PASSED

The frequency range from 30MHz to 230MHz, 230MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

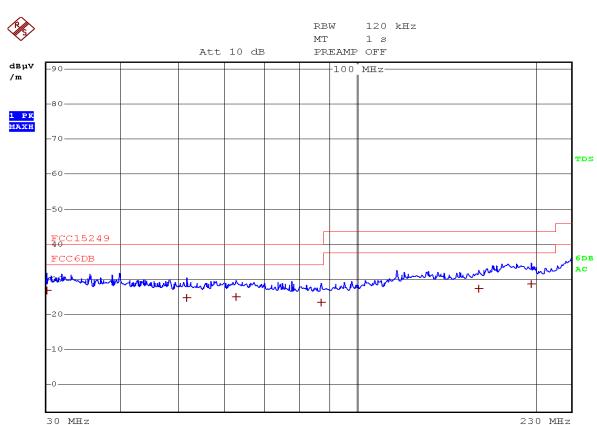
Report No.: CGZ3091111-03285-O Page 17 of 29





Channel:	915.678MHz	Result:	■ - passed
Test point:	Horizontal		□ - not passed
Frequency range:	30-230MHz		

EUT	THERMOSTAT	
Firm Name	BELLMATE HOLDINGS LTD.	
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz	
Test Condition	Ambient Temperature: 20°C Humidity: 50%	
Operator	Roy	
MODEL NO	T955WH	



FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
30.08 MHz	26.87	-13.12
51.76 MHz	24.67	-15.32
62.6 MHz	24.86	-15.13
87.16 MHz	23.38	-16.61
160.52 MHz	27.17	-16.32
197.04 MHz	28.62	-14.87
	30.08 MHz 51.76 MHz 62.6 MHz 87.16 MHz 160.52 MHz	30.08 MHz 26.87 51.76 MHz 24.67 62.6 MHz 24.86 87.16 MHz 23.38 160.52 MHz 27.17

Note: 1. Emission level=Read level + Factor

2. Factor=Antenna factor + Cable loss

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

 $\label{eq:buildingF} \textbf{Building F, Dachuang industrial park, No. 379, Zhongshan Dadao, Guangzhou, China}$

Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406 Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

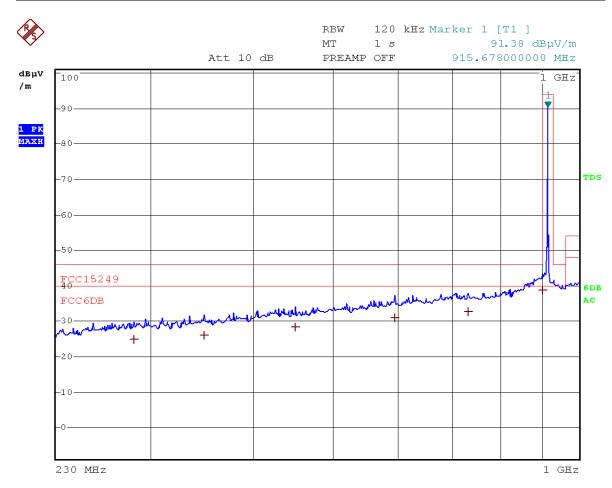
Report No.: CGZ3091111-03285-O Page 18 of 29





Channel:	915.678MHz	Result:	■ - passed
Test point:	Horizontal		□ - not passed
Frequency range:	230-1000MHz		

EUT	THERMOSTAT	
Firm Name	BELLMATE HOLDINGS LTD.	
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz	
Test Condition	Ambient Temperature: 20°C Humidity: 50%	
Operator	Roy	
MODEL NO	T955WH	



opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines)

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

TS.



CENTRE OF TESTING SERVICE

FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
286.48 MHz	24.92	-21.07
349.04 MHz	26.19	-19 . 80
450.28 MHz	28.36	-17 . 63
595.44 MHz	31.04	-14.96
732.64 MHz	32.63	-13 . 36
901.92 MHz	38.71	-7.28
	286.48 MHz 349.04 MHz 450.28 MHz 595.44 MHz 732.64 MHz	286.48 MHz 24.92 349.04 MHz 26.19 450.28 MHz 28.36 595.44 MHz 31.04 732.64 MHz 32.63

Frequency	Result [dBµV]	Limit [c	βμV]	Dlim	it[dBµV]
[MHz]	Average	QP	Average	QP	Average	QP
915.678		91.0		94		3.0

Note: 1. Emission level=Read level + Factor 2. Factor=Antenna factor + Cable loss

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 20 of 29

CENTRE OF TESTING SERVICE





Channel:	915.678MHz	Result:	■ - passed
Test point:	Horizontal		□ - not passed
Frequency range:	1G-10GHz		

EUT	THERMOSTAT		
Firm Name	BELLMATE HOLDINGS LTD.		
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz		
Test Condition	Ambient Temperature: 20°C Humidity: 50%		
Operator	Roy		
MODEL NO	T955WH		

Frequency	Result [dBµV]	Limit [d	βμV]	Dlim	nit[dBµV]
[MHz]	Average	Peak	Average	Peak	Average	Peak
1831.2	50.1	63.3	54	74	3.9	10.7
2374.4	42.2	53.3	54	74	11.8	20.7
2746.0	46.0	58.5	54	74	8.0	15.5
3287.7	47.0	56.5	54	74	7.0	27.5
7897.7	41.3	50.0	54	74	12.7	24.0
8787.4	41.5	51.7	54	74	12.5	22.3
9345.1	43.2	53.4	54	74	10.8	20.6

Note: 1. Emission level=Read level + Factor

2. Factor=Antenna factor + Cable loss

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines)

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

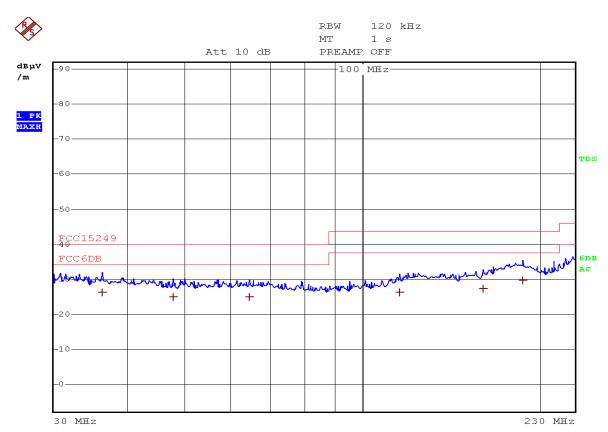
Report No.: CGZ3091111-03285-O Page 21 of 29





Channel:	915.678MHz	Result:	■ - passed
Test point:	Vertical		□ - not passed
Frequency range:	30-230MHz		

EUT	THERMOSTAT	
Firm Name	BELLMATE HOLDINGS LTD.	
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz	
Test Condition	Ambient Temperature: 20°C Humidity: 50%	
Operator	Roy	
MODEL NO	T955WH	



TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
Quasi Peak	36.28 MHz	26.19	-13 . 80
Quasi Peak	47.92 MHz	24.83	-15.17
Quasi Peak	64.36 MHz	24.89	-15.10
Quasi Peak	116 MHz	26.15	-17.34
Quasi Peak	160.56 MHz	27.19	-16.30
Quasi Peak	187.68 MHz	29.58	-13.91

Note: 1. Emission level=Read level + Factor

2. Factor=Antenna factor + Cable loss

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

 $\hbox{\bf Building F, Dachuang industrial park, No. 379, Zhongshan Dadao, Guangzhou, China}\\$

Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406 Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 22 of 29

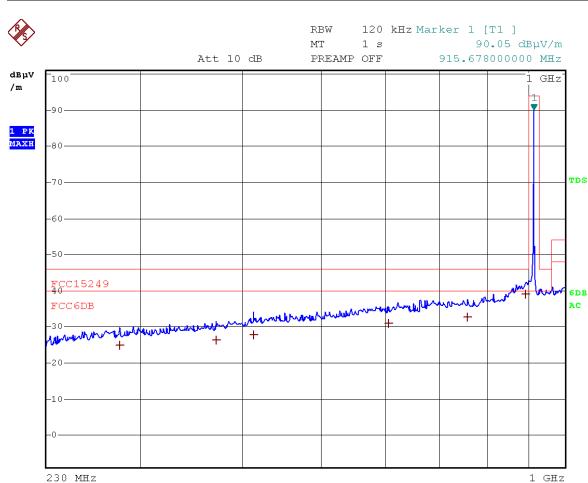
CENTRE OF TESTING SERVICE





Channel:	915.678MHz	Result:	■ - passed
Test point:	Vertical		□ - not passed
Frequency range:	230-1000MHz		

EUT	THERMOSTAT
Firm Name	BELLMATE HOLDINGS LTD.
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz
Test Condition	Ambient Temperature: 20°C Humidity: 50%
Operator	Roy
MODEL NO	T955WH



opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn



TRACE	FREQUENCY	LEVEL dBµV/m	DELTA LIMIT dB
Quasi Peak	283 MHz	24.87	-21.12
Quasi Peak	372.28 MHz	26 . 50	-19.49
Quasi Peak	413.56 MHz	27 . 93	-18.06
Quasi Peak	606.84 MHz	31.10	-14.89
Quasi Peak	758.8 MHz	32 . 67	-13.32
Quasi Peak	895.12 MHz	38.97	-7.02

Frequency	Result [dBµV]	Limit [c	dΒμV]	Dlim	it[dBµV]
[MHz]	Average	QP	Average	QP	Average	QP
915.678		90.0		94		4.0

Note: 1. Emission level=Read level + Factor

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

 $\label{eq:buildingF} \textbf{Building F, Dachuang industrial park, No. 379, Zhongshan Dadao, Guangzhou, China}$

Tel: +86-20-85543113 (32 lines) Complaint line: +86-20-85533471 Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

^{2.} Factor=Antenna factor + Cable loss

CENTRE OF TESTING SERVICE





Channel:	915.678MHz	Result:	■ - passed
Test point:	Vertical		□ - not passed
Frequency range:	1G-10GHz		

EUT	THERMOSTAT	
Firm Name	BELLMATE HOLDINGS LTD.	
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz	
Test Condition	Ambient Temperature: 20°C Humidity: 50%	
Operator	Roy	
MODEL NO	T955WH	

Frequency	Result [dBµV]	Limit [d	βμV]	Dlim	nit[dBµV]
[MHz]	Average	Peak	Average	Peak	Average	Peak
1831.2	49.8	63.2	54	74	4.2	10.8
2374.9	42.1	53.3	54	74	11.9	20.7
2746.0	46.0	58.5	54	74	8.0	15.5
3287.9	47.0	56.3	54	74	7.0	27.7
7897.7	41.3	50.0	54	74	12.7	24.0
8787.1	41.5	51.7	54	74	12.5	22.3
9345.8	43.2	53.5	54	74	10.8	20.5

Note: 1. Emission level=Read level + Factor

2. Factor=Antenna factor + Cable loss

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines)

Complaint line: +86-20-85533471

Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn





8 Band Edge Compliance Measurement

8.1.Test Equipment

Radiated disturbance (electric field)					
Item	tem Test Equipment Manufacturer Model No. Serial No. Last Cal.				
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2008/12
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2008/12
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2008/12

8.2.Test Information

EUT:	THERMOSTAT
M/N:	T955WH
Test Date:	16~20 November 2009
Ambient Temperature:	20℃
Relative Humidity:	50%
Test standard:	FCC PART 15C: 15.249
Test mode:	Transmitting
Test Frequency:	915.678MHz
Test By:	Roy

8.3.Test Results

PASSED.

The testing data was attached in the next pages.

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 26 of 29



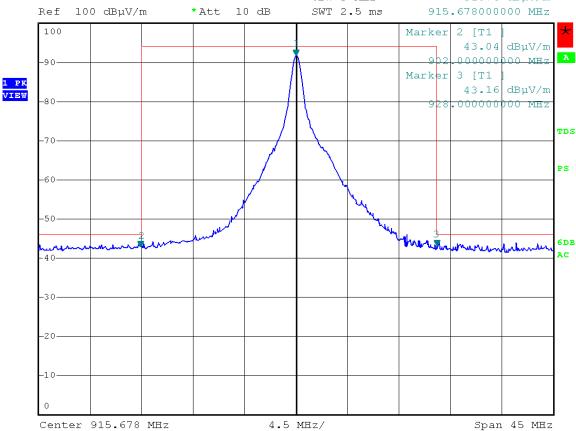


Test point:	Horizontal	Result:	■ - passed
Test Frequency:	915.678MHz		\square - not passed

EUT	THERMOSTAT	
Firm Name	BELLMATE HOLDINGS LTD.	
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz	
Test Condition	Ambient Temperature: 20°C Humidity: 50%	
Operator	Roy	
MODEL NO	T955WH	







opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service





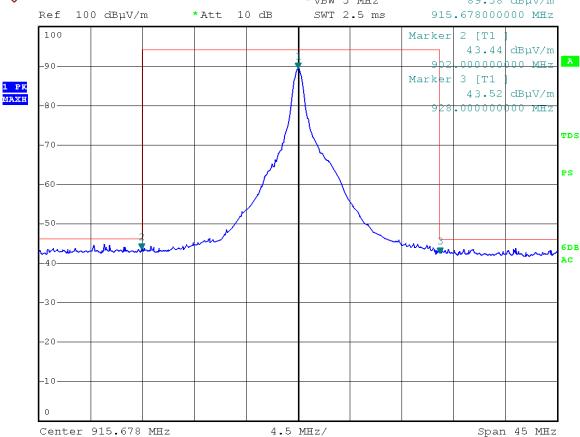
Test point:	Vertical	Result:	■ - passed
Test Frequency:	915.678MHz		□ - not passed

EUT	THERMOSTAT
Firm Name	BELLMATE HOLDINGS LTD.
Operating Condition	(1)Battery 1.5V*2 (2)24V~50Hz
Test Condition	Ambient Temperature: 20°C Humidity: 50%
Operator	Roy
MODEL NO	T955WH



*RBW 1 MHz Marker 1 [T1]

*VBW 3 MHz 89.38 dBµV/m



opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406

 See Reverse For Terms And Conditions of Service

Report No.: CGZ3091111-03285-O Page 28 of 29







9 Deviation to test specifications

[NONE]

opyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

Building F, Dachuang industrial park, No.379, Zhongshan Dadao, Guangzhou, China Fax: +86-20-38780406

Tel: +86-20-85543113 (32 lines) Complaint line: +86-20-85533471

E-mail: cts@cts-lab.com.cn