

# CENTRE OF TESTING SERVICE INTERNATIONAL

**OPERATE ACCORDING TO ISO/IEC 17025** 

# FCC ID /IC TEST REPORT

TEST REPORT NUMBER: CGZ3130726-00672-EFI



**CENTRE OF TESTING SERVICE CO., LTD.** 

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China





	TEST REPORT For FCC ID/IC
Report Reference No	CGZ3130726-00672-EFI
Date of issue	19 August 2013
Testing Laboratory Name	CENTRE OF TESTING SERVICE CO., LTD.
Address	A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China
Testing location/ procedure	Full application of Harmonised standards ■
	Partial application of Harmonised standards $\square$
	Other standard testing method $\square$
Applicant's name	Thermor Ltd.
Address	16975 Leslie Street, Newmarket, ON L3Y 9A1
Test specification	
Standard	47 CFR PART 15 OCT, 2012 , ANSI C63.4-2009,
	RSS-210 Issue 8,RSS-Gen Issue 3
Test Report Form No	CTSEMC-1.0
TRF Originator	CENTRE OF TESTING SERVICE CO., LTD.
Master TRF	Dated 2009-01
CENTRE OF TESTING SERVICE C	O., LTD. All rights reserved.
CENTRE OF TESTING SERVICE C material. CENTRE OF TESTING SE	in whole or in part for non-commercial purposes as long as the CO., LTD is acknowledged as copyright owner and source of the ERVICE CO., LTD takes no responsibility for and will not assume liability er's interpretation of the reproduced material due to its placement and
Test item description	:Indoor/Outdoor Digital Thermometer with Coloured Screen
Trade Mark	. National Geographic, BIOS Weather
Manufacturer	. FUZHOU RISE ELECTRONIC CO., LTD.
Model/Type reference	. 356NC
Ratings	. Battery 1.5V*2
Operating Frequency	434 MHz
Result	PASSED

Kate zhang / Fileadministrators

Compiled by:

Duke yang / Technique principal

Supervised by:

Vincent yao / Manager

Approved by:

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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. :	CGZ3130726-00672-EFI	19 August 2013 Date of issue
-------------------	----------------------	---------------------------------

Type / Model	356NC
EUT	Indoor/Outdoor Digital Thermometer with Coloured Screen
Applicant	Thermor Ltd.
Address	16975 Leslie Street, Newmarket, ON L3Y 9A1
Telephone	+905-952-3737 Ext.6119
Fax	+905-952-3731
Contact	Joanna Biniek
Manufacturer	FUZHOU RISE ELECTRONIC CO., LTD.
Address	1
Telephone	1
Fax	1
Contact	
Factory	FUZHOU RISE ELECTRONIC CO., LTD.
Address	1
Telephone	1
Fax	1
Contact	

**PASSED Test Result** according to the standards on page 3:

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.

Copyright 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.** 

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

Fax: +86-20-38780406 Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn



# **TABLE OF CONTENTS**

<u>Description</u>	<u>Page</u>
1. TEST STANDARDS	5
2. SUMMARY	5
2.1 GENERAL REMARKS	
2.2 FINAL ASSESSMENT	
3. EQUIPMENT UNDER TEST	6
3.1 Power supply system utilised	6
3.2 SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT)	
3.3 EUT OPERATION MODE	
3.4 EUT CONFIGURATION	7
4. TEST ENVIRONMENT	8
4.1 Address of the test laboratory	
4.2 TEST FACILITY	
4.3 ENVIRONMENTAL CONDITIONS	
4.4 DEFINITIONS OF SYMBOLS USED IN THIS TEST REPORT	
4.6 MEASUREMENT UNCERTAINTY	
5. Summary of standards and results	9
5.1.Description of Standards and Results	9
6. Power Line Conducted Emission Test	10
6.1.1 DESCRIPTION OF THE TEST LOCATION	10
6.1.2Test Equipment	
6.2.1 BLOCK DIAGRAM OF TEST SETUP	
6.2.2 DESCRIPTION OF THE TEST SET-UP	
6.2.3 LIMITS OF DISTURBANCE (CLASS B)	
6.2.4 POWER LINE CONDUCTED EMISSION TEST RESULTS	I I
7. Radiated disturbance (electric field)	12
7.1.Test Equipment	
7.2.BLOCK DIAGRAM OF TEST SETUP	
7.3.RADIATED EMISSION LIMIT STANDARD: FCC 15.231,209	
7.4.Test Procedure	
1.3.RADIATED EMISSION TEST RESULTS	14
8. 20 dB Bandwidth test	22
8.1. Test Equipment	22

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

# FCC ID:A6N-356TX IC :6356A-356TX CENTRE OF TESTING SERVICE





8.2. TEST INFORMATION	22
8.3. TEST RESULTS	23
9. 99% bandwidth	24
9.1 TEST PROCEDURE	24
9.2. TEST EQUIPMENT	24
9.3. TEST INFORMATION	
9.4. TEST RESULTS	
10. Stop Transmitting Time Test	26
10.1. TEST EQUIPMENT	26
10.2. TEST INFORMATION	
10.3. TEST RESULTS	
11. Pulse Desensitization Correction Factor	28
11.1. TEST EQUIPMENT	28
11.2. TEST INFORMATION	28
11.3. TEST RESULTS	
12. Manufacturer/ Approval holder Declaration	31

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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, 2012
- ANSI C63.4-2009
- RSS-210 Issue 8
- RSS-Gen Issue 3

#### 2. SUMMARY

#### 2.1 GENERAL REMARKS

Date of receipt of test sample	26 July 2013
Testing commenced on	26 July ~ 19 August 2013
Testing concluded on	19 August 2013

#### 2.2 FINAL ASSESSMENT

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

_	fu	lfil	led

□ - **not** fulfilled.

The equipment under test

- fulfils the FCC requirements cited on page 1.
- does not fulfil the FCC requirements cited on page 1.

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





#### 3. EQUIPMENT UNDER TEST

#### 3.1 Power supply system utilised

Power supply voltage : ■ Battery 1.5V\*2

□ Other

#### 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: For Radiation emission:

■ -TX +X position

□ -TX +Y position

☐ −TX +Z position

Operation mode 1: TX +X position

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

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI Page 6 of 31





### 3.4 EUT configuration

#### 3.4.1. Description of configuration (EUT)

Description	:	Indoor/Outdoor Digital Thermometer with Coloured Screen
Model Number	:	356NC
Operation frequency	:	434 MHz
Radio Technology	:	ASK
Modulation Technology	:	ASK modulation
Antenna	:	Internal Antenna

#### 3.4.2. Tested Supporting System Details

N/A

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





#### 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.: 8374A

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. 8374A on June 6, 2011 .

#### 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 13,2012.

#### 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.

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI Page 8 of 31





#### 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)
	1GHz~18GHz	±3.54dB	(1)

<sup>(1).</sup> 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 Emission Test	ANSI C63.4-2009 FCC Part 15 C: 15.207 RSS-Gen:7.2.4	N/A		
Radiated Emission Test	ANSI C63.4-2009 FCC Part 15 C: 15.231 RSS-Gen:7.2 RSS-210 A5	PASSED		
20 dB Bandwidth Test	ANSI C63.4-2009 FCC Part 15 C: 15.231 RSS-Gen:4.6.3	PASSED		
Stop Transmitting Time Test	ANSI C63.4-2009 FCC Part 15 C: 15.231	PASSED		
99% Bandwidth	RSS-210 Annex 8 RSS-Gen 4.6.1	PASSED		
N/A is an abbreviation for Not Applicable.				

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





#### 6. Power Line Conducted Emission Test

#### 6.1.1 Description of the test location

Test location : Shielding Room

#### 6.1.2Test Equipment

Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESHS10	842884/012	2012/11
2	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/025	2012/11
3	Artificial Mains	ROHDE & SCHWARZ	ESH3-Z5	832479/026	2012/11
4	Pulse Limiter	ROHDE & SCHWARZ	ESHSZ2	100301	2012/11
5	EMI Test Software	ROHDE & SCHWARZ	ESK1	N/A	2012/11

#### 6.2.1 Block Diagram of Test Setup

ТХ

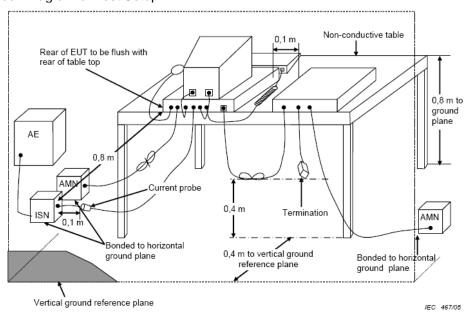
**EUT** 

(EUT: Indoor/Outdoor Digital Thermometer with Coloured Screen)

#### 6.2.2 Description of the test set-up

6.1.2.1 Operating Condition

The EUT is engraving during the test, and the results of the maximum emanation are recorded 6.1.2.2 Block Diagram of Test Setup



Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI





#### 6.2.3 Limits of disturbance (Class B)

		Maximum RF I	ine Voltage
Frequ	uency	Quasi-Peak Level	Average Level
rioquonoy		dB(μV)	dB(μV)
150kHz	~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz	~ 5MHz	56	46
5MHz	~ 30MHz	60	50

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

#### **6.2.4 Power Line Conducted Emission Test Results**

Power supply by battery, Not applicable.

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





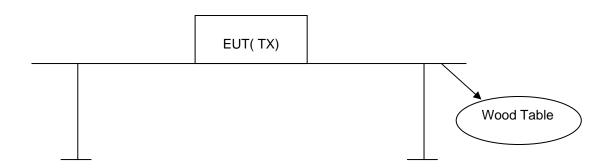
# 7. Radiated disturbance (electric field)

#### 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	2012/11		
2	Biconical Antenna	ROHDE & SCHWARZ	HK116	100221	2013/03		
3	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2013/03		
4	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2013/03		
5	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03		
6	Loop Antenna	A.R.A	PLA-1030/B	1030	2012/11		

#### 7.2.Block Diagram of Test Setup

#### 7.2.1 Block Diagram of connection between EUT and simulators



(EUT:Indoor/Outdoor Digital Thermometer with Coloured Screen)

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

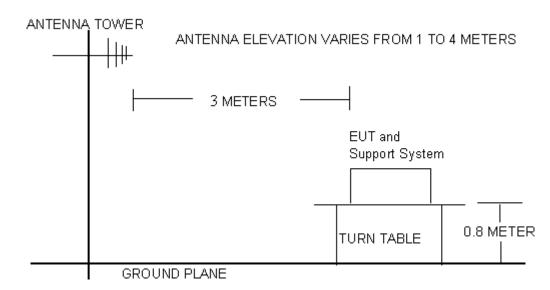
See Reverse For Terms And Conditions of Service

Page 12 of 31





#### 7.2.2 Anechoic Chamber Setup Diagram



#### 7.3. Radiated Emission Limit Standard: FCC 15.231,209

FRE	QUEN	CY	DISTANCE	FIELD STREN	GTHS LIMIT
	MHz		Meters	μV/m	dB(μV)/m
0.009	~	0.490	300	2400/F(KHz)	
0.490		1.705	30	24000/F(KHz)	
1.705		30	3	30	
30	~	88	3	100	40.0
88	~	216	3	150	43.5
216	~	960	3	200	46.0
960	~	1000	3	500	54.0
٨١	Above 1000		3	Other:74.0 dB(μV)/m (Peak)	
"			3	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.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 C63.4-2009on 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,

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI Page 13 of 31

# FCC ID:A6N-356TX IC :6356A-356TX CENTRE OF TESTING SERVICE





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 be caluclated from peak value using duty cycle factor Both 30MHz to 1000MHz and 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 and RX Mode) is tested in Anechoic Chamber and all the scanning waveforms are reported on section 7.5

#### 7.5. Radiated Emission Test Results

#### PASSED.

The frequency range from 9KHz to 30MHz,30MHz to 230MHz, 230MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

lines) Fax: +86-20-38780406 3471 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3130726-00672-EFI Page 14 of 31

# FCC ID:A6N-356TX IC:6356A-356TX CENTRE OF TESTING SERVICE





Result: Test Mode: TX -X Position Mode - passed Frequency range: 9KHz~30MHz  $\square$  - not passed

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBµV/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.
	nark:Other freq icable Limit)	uency no sp	ecific emissi	on form the	EUT (Margin :	> 10dB for	m the

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI Page 15 of 31

# FCC ID:A6N-356TX IC :6356A-356TX CENTRE OF TESTING SERVICE





Channel:	434 MHz (TX)	Result:	■ - passed
Test point:	Horizontal		☐ - not passed
Frequency range:	30MHz ~18GHz		

EUT	Indoor/Outdoor Digital Thermometer with Coloured Screen		
Operating Condition	BATTERY 1.5V*2		
Test Condition	Ambient Temperature: 25°C Humidity: 56%		
Test Date:	26 July ~ 08 August 2013		
Operator	Duke		
MODEL NO	356NC		

Fundamental and Harmonics Average Result							
Frequency (MHz)	Factor (dB/m)	Reading (dBµV)	Duty Cycle Correction Factor(dB)		Limit (dBµV/m)	Margin (dB)	Det.
434.00	-15.64	88.08		72.44	92.87	-20.43	Peak
434.00	-15.64	88.08	-16.68	55.76	72.87	-17.11	AVG

Note:Level=Reading+Factor. Margin= Limit-Level. Average Level=Peak level + Duty Factor

Copyright 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.

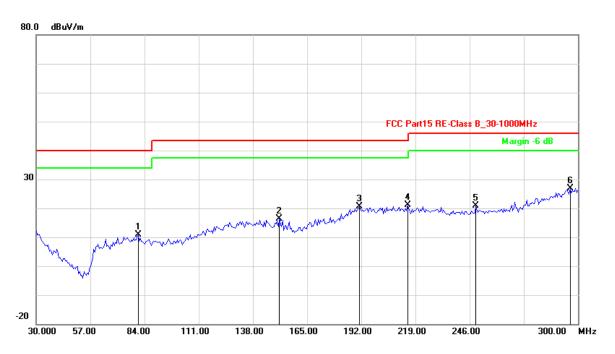
CENTRE OF TESTING SERVICE CO., LTD.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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







No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.
	(MHz)	(dB/m)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	80.8617	-21.60	32.36	10.76	40.00	-29.24	QP
2	151.2024	-17.53	33.88	16.35	43.50	-27.15	QP
3	191.2425	-12.09	32.69	20.60	43.50	-22.90	QP
4	215.0501	-12.25	33.39	21.14	43.50	-22.36	QP
5	249.1383	-12.80	33.70	20.90	46.00	-25.10	QP
6	296.2124	-6.13	33.03	26.90	46.00	-19.10	QP

Copyright 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.

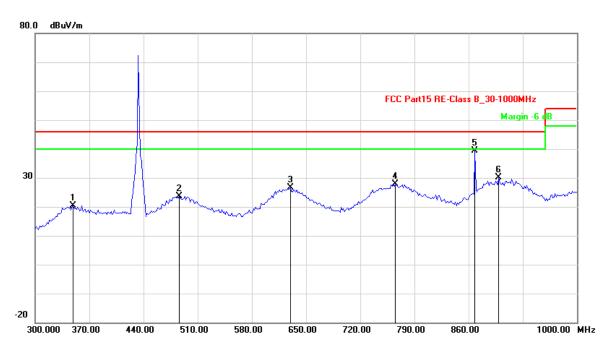
CENTRE OF TESTING SERVICE CO., LTD.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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







No.	Frequency (MHz)	Factor (dB/m)	Reading (dBµV/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.
1	349.0981	-13.46	33.76	20.30	46.00	-25.70	QP
2	486.5731	-9.85	33.50	23.65	46.00	-22.35	QP
3	629.6593	-7.33	33.93	26.60	46.00	-19.40	QP
4	765.7314	-5.62	33.60	27.98	46.00	-18.02	QP
5	868.1362	-7.54	46.87	39.33	52.87	-13.54	Peak
6	898.9979	-3.96	34.06	30.10	46.00	-15.90	QP

#### Above 1GHz

No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.
	(MHz)	(dB/m)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	1484.970	-1.51	40.93	39.42	74.00	-34.58	peak
2	1484.970	-1.51	28.87	27.36	54.00	-26.64	AVG
3	2322.645	2.02	41.45	43.47	74.00	-30.53	peak
4	2322.645	2.02	29.00	31.02	54.00	-22.98	AVG
5	2939.880	6.26	42.96	49.22	74.00	-24.78	peak
6	2939.880	6.26	31.39	37.65	54.00	-16.35	AVG
7	3513.026	8.25	40.74	48.99	74.00	-25.01	peak
8	3513.026	8.25	28.23	36.48	54.00	-17.52	AVG
9	3887.776	9.45	40.01	49.46	74.00	-24.54	peak
10	3887.776	9.45	27.03	36.48	54.00	-17.52	AVG
11	4593.186	11.20	37.70	48.90	74.00	-25.10	peak
12	4593.186	11.20	26.08	37.28	54.00	-16.72	AVG

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

# FCC ID:A6N-356TX IC:6356A-356TX CENTRE OF TESTING SERVICE





Channel:	434 MHz (TX)	Result:	■ - passed
Test point:	Vertical		☐ - not passed
Frequency range:	30MHz ~18GHz		

EUT	Indoor/Outdoor Digital Thermometer with Coloured Screen		
Operating Condition	BATTERY 1.5V*2		
Test Condition	Ambient Temperature: 25°C Humidity: 56%		
Test Date:	17 July 2013		
Operator	Duke		
MODEL NO	356NC		

Fundamental and Harmonics Average Result							
Frequency (MHz)	Factor (dB/m)	Reading (dBµV)	Duty Cycle Correction Factor(dB)		Limit (dBµV/m)	Margin (dB)	Det.
434.0	-15.64	93.07		77.43	92.87	-15.44	Peak
434.0	-15.64	93.07	-16.68	60.75	72.87	-12.12	AVG

Note:Level=Reading+Factor. Margin= Limit - Level. Average Level=Peak level + Duty Factor

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

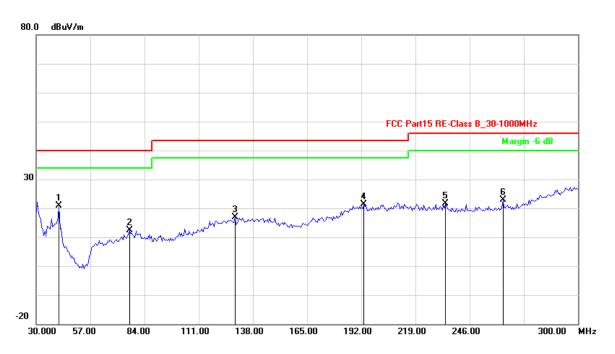
Fax: +86-20-38780406 Complaint line: +86-20-85533471 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Page 19 of 31







No.	Frequency	Factor	Reading	Level	Limit	Margin	Det.
	(MHz)	(dB/m)	(dBµV/m)	(dBµV/m)	(dBµV/m)	(dB)	
1	41.3627	-26.80	47.74	20.94	40.00	-19.06	QP
2	76.5331	-21.44	33.73	12.29	40.00	-27.71	QP
3	129.0180	-17.17	34.12	16.95	43.50	-26.55	QP
4	193.4068	-12.23	33.70	21.47	43.50	-22.03	QP
5	233.9880	-12.66	34.32	21.66	46.00	-24.34	QP
6	262.6653	-12.39	35.24	22.85	46.00	-23.15	QP

Copyright 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.

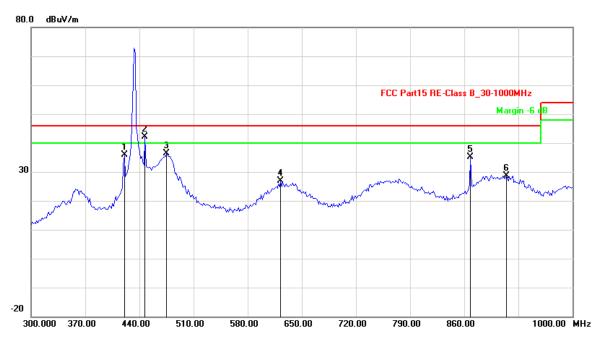
CENTRE OF TESTING SERVICE CO., LTD.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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







No.	Frequency (MHz)	Factor (dB/m)	Reading (dBµV/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.
1	342.0842	-13.19	32.98	19.79	46.00	-26.21	QP
2	479.5591	-9.77	33.29	23.52	46.00	-22.48	QP
3	636.6733	-7.52	33.79	26.27	46.00	-19.73	QP
4	757.3146	-5.72	33.39	27.67	46.00	-18.33	QP
5	868.1363	-7.54	40.96	33.42	52.87	-19.45	Peak
6	901.8036	-3.97	32.51	28.54	46.00	-17.46	QP

Above 1GHz

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBµV/m)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.
1	1286.573	-3.25	43.67	40.42	74.00	-33.58	peak
2	1286.573	-3.25	33.27	30.02	54.00	-23.98	AVG
3	2212.425	0.94	42.38	43.32	74.00	-30.68	peak
4	2212.425	0.94	30.31	31.25	54.00	-22.75	AVG
5	3138.277	7.04	43.05	50.09	74.00	-23.91	peak
6	3138.277	7.04	32.99	40.03	54.00	-13.97	AVG
7	3843.687	9.31	40.54	49.85	74.00	-24.15	peak
8	3843.687	9.31	29.16	38.47	54.00	-15.53	AVG
9	4681.363	11.41	38.51	49.92	74.00	-24.08	peak
10	4681.363	11.41	25.87	37.28	54.00	-16.72	AVG
11	5364.729	13.33	39.10	52.43	74.00	-21.57	peak
12	5364.729	13.33	26.73	40.06	54.00	-13.94	AVG

Remark: Others frequency Radiated Emission level margin all >10dB of Limit.

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





#### 8.20 dB Bandwidth test

# 8.1. Test Equipment

20 dB Bandwidth test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2012/11
2	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2013/03
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03

#### 8.2. Test Information

EUT:	Indoor/Outdoor Digital Thermometer with Coloured Screen
M/N:	356NC
Power supply:	BATTERY 1.5V*2
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.231
Test mode:	Transmitting
Test Frequency:	434. MHz
Test Date:	26 July ~ 08 August 2013
Test By:	Duke

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI Page 22 of 31



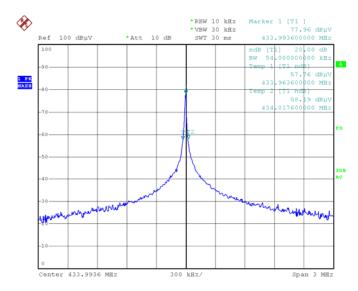


#### 8.3. Test Results

#### PASSED.

The testing data was attached in the next pages.

Frequency (MHz)	20 dB Bandwidth (kHz)	Limit(kHz): No wider than 0.25% of the center frequency	Conclusion
434.00	54	434*0.25%=1.085MHz	PASSED



Date: 2.AUG.2013 20:52:59

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





#### 9. 99% bandwidth

#### 9.1 Test procedure

According to RSS-210 Annex 8 and RSS-Gen 4.6.1 The transmitter output is connected to the spectrum analyzer. The resolution bandwidth shall be set to as close to 1% of the selected span as is possible without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used given that a peak or peak hold may produce a wider bandwidth than actual. The sweep time is coupled.

#### 9.2. Test Equipment

Band I	Band Edge Compliance test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2012/11	
2	Log per Antenna	ROHDE & SCHWARZ	HL050	100186	2013/03	
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03	

#### 9.3. Test Information

EUT:	Indoor/Outdoor Digital Thermometer with Coloured Screen	
M/N:	356NC	
Power supply:	BATTERY 1.5V*2	
Test Condition:	Ambient Temperature: 25°C Humidity: 56%	
Test standard:	FCC PART 15C: 15.231	
Test mode:	Transmitting	
Test Frequency:	434 MHz	
Test Date:	26 July ~ 08 August 2013	
Test By:	Duke	

#### 9.4. Test Results

#### PASSED.

Frequency	Bandwidth
(MHz)	(MHz)
434.00	102KHz

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

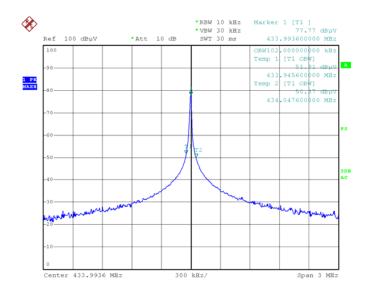
Tel: +86-20-85543113 (32 lines) Fax: +86-20-38780406 Complaint line: +86-20-85533471 Fax: +86-20-38780406 E-mail: cts@cts-lab.com.cn

See Reverse For Terms And Conditions of Service

Report No.: CGZ3130726-00672-EFI Page 24 of 31



#### 99% Bandwidth



Date: 2.AUG.2013 20:52:16

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





# 10. Stop Transmitting Time Test

#### 10.1. Test Equipment

Band Edge Compliance test					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2012/11
2	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2013/03
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03

#### 10.2. Test Information

EUT:	Indoor/Outdoor Digital Thermometer with Coloured Screen
M/N:	356NC
Power supply:	BATTERY 1.5V*2
Test Condition:	Ambient Temperature: 25°C Humidity: 56%
Test standard:	FCC PART 15C: 15.231
Test mode:	Transmitting
Test Frequency:	434 MHz
Test Date:	26 July ~ 19 August 2013
Test By:	Duke

#### 10.3. Test Results

#### PASSED.

The testing data was attached in the next pages.

Set the spectrum to zero span, activated the EUT automatically, And then, we could see the transmitting wave in the spectrum, when the time marker went to "1R", released the EUT, After 800ms, we could see the EUT stop transmitting.

Frequency (MHz)	Duration of each transmission	Limit: not more than 1 seconds duration of each transmission	Conclusion
434.00	800ms	<1s	PASSED

Frequency (MHz)	Silent period between transmission	Limit: At least 30 times the duration of transmission but in no case less the 10s	Conclusion
434.00	49.2s	>24s	PASSED

Copyright 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.

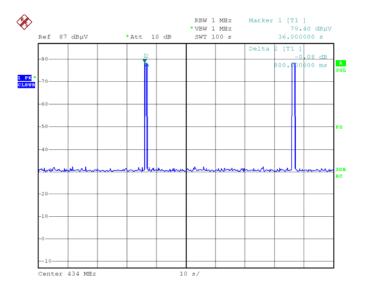
A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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

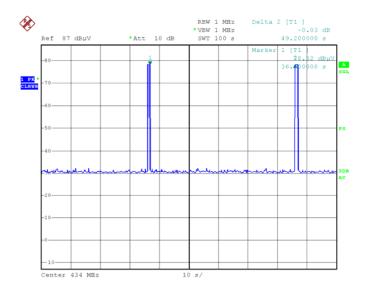
See Reverse For Terms And Conditions of Service

Report No.: CGZ3130726-00672-EFI Page 26 of 31





Date: 19.AUG.2013 12:48:12



Date: 19.AUG.2013 12:48:57

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





### 11. Pulse Desensitization Correction Factor

#### 11.1. Test Equipment

Band E	Band Edge Compliance test						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.		
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	10868	2012/11		
2	Log per Antenna	ROHDE & SCHWARZ	HL223	100226	2013/03		
3	Signal analyzer	ROHDE & SCHWARZ	FSIQ26	100311	2013/03		

#### 11.2. Test Information

EUT:	Indoor/Outdoor Digital Thermometer with Coloured Screen	
M/N:	356NC	
Power supply:	BATTERY 1.5V*2	
Test Condition:	Ambient Temperature: 25°C Humidity: 56%	
Test standard:	FCC PART 15C: 15.231	
Test mode:	Transmitting	
Test Frequency:	434 MHz	
Test Date:	26 July ~ 08 August 2013	
Test By:	Duke	

#### 11.3. Test Results

PASSED.

The testing data was attached in the next pages.

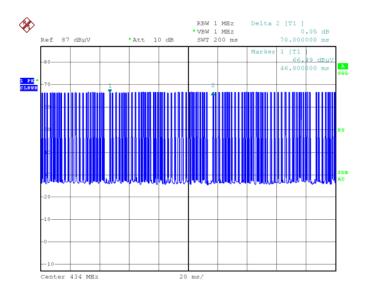
Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

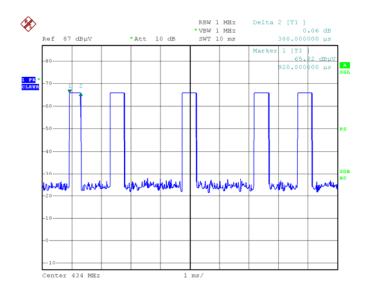
A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





Date: 8.AUG.2013 13:51:57



Date: 8.AUG.2013 13:53:27

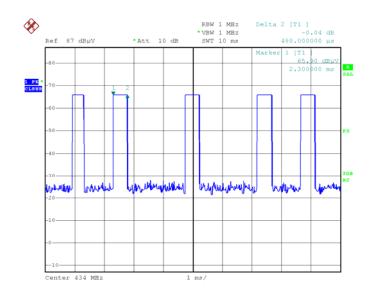
Copyright of this report is owned by Centre of Testing Service and may not be reproduced other than in full except with the written approval of the issuing Company.

CENTRE OF TESTING SERVICE CO., LTD.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





Date: 8.AUG.2013 13:53:59

#### **Test Data**

Ton+off=880 ms(which exceeds 0.1 seconds,and use the formula Ton/100ms to calculate the duty-cycle correction factor)

Ton=0.38\*31+0.48\*6=14.66ms

Duty cycle Correction Factor=20\*log(Ton/Ton+off)= 20\*log 14.66ms /100ms= -16.68dB

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, Guangzhou, China

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





# 12. Manufacturer/ Approval holder Declaration

The following identical model(s):

356BC, 356BU, 356NU, 356TX

Belong to the tested device:

Product description: Indoor/Outdoor Digital Thermometer with Coloured Screen

Model name: 356NC

Copyright 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.

A101, No.65, Zhuji Highway, Tianhe District, 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.: CGZ3130726-00672-EFI