Prüfbericht - Nr.: *Test Report no.:*	**16016647 001**	**Seite 1 von 27** *Page 1 of 27*

Auftraggeber: *Client:*	**Braukmann GmbH** **Raiffeisenstr. 32** **Arnsberg 59757** **Germany**		
Gegenstand der Prüfung: *Test item:*	**Induction Hotplate**		
Bezeichnung: *Identification:*	**CJ-511B** **CJ-511C**	**FCC ID:** *FCC ID:*	**XPECJ-511B511C**
Wareneingangs-Nr.: *Receipt no.:*	**173043435**	**Eingangsdatum:** *Date of receipt:*	**16.Mar.2009**
Prüfort: *Testing location:*	**TÜV Rheinland (Guangdong) Ltd. EMC Laboratory** **Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou 510650** **P. R. China**	Listed test laboratory according to FCC rules section 2.948 for measuring devices under Parts 18	
Prüfgrundlage: *Test specification:*	**FCC Part 18: 2007-11-10** **Conduct Emissions with limits described at section 18.307 (a)** **Radiated Emissions with limits described at section 18.305 (b)**		
Prüfergebnis: *Test result:*	**Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n).** *The test item passed the test specification(s).*		
Prüflaboratorium: *Testing laboratory:*	**TÜV Rheinland (Guangdong) Ltd.**		

geprüft */ tested by:*

Datum / Date	Name/ Stellung / Name/Position	Unterschrift / Signature
17.Sep.2009	Cherry He Project Manager	Cherry He

kontrolliert/ *reviewed by:*

Datum / Date	Name/ Stellung / Name/Position	Unterschrift / Signature
18. Sep. 2009	Liangdong Xie Project Manager	

Sonstiges/ *Other aspects:*

Abkürzungen:	*P(ass)*	=	*entspricht Prüfgrundlage*	*Abbreviations:*	*P(ass)*	=	*passed*
	F(ail)	=	*entspricht nicht Prüfgrundlage*		*F(ail)*	=	*failed*
	N/A	=	*nicht anwendbar*		*N/A*	=	*not applicable*
	N/T	=	*nicht getestet*		*N/T*	=	*not tested*

TEST SUMMARY

5.1 CONDUCTED EMISSION FOR FCC PART 18 PER SECTION 18.307 (A)
RESULT: *Pass*

5.2 RADIATED EMISSION FOR FCC PART 18 PER SECTION 18.305 (B)
RESULT: *Pass*

Contents

1 General Remarks

1.1 Complementary Materials

None

2 Test Sites

2.1 Test Facilities

1) TÜV Rheinland (Guangdong) Ltd. EMC Laboratory

Guangzhou Auto Market, Yuan Gang Section of Guangshan Road
Guangzhou 510650
P. R. China

2) SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

198 Kezhu Road, Scientech Park,
Guangzhou Economic & Technology Development District
Guanghzou, Guangdong, China 510663

The test at these test sites has been conducted under the supervision of a TÜV Rheinland engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Type	Manufacturer	S/N	Calibrated until
TÜV Rheinland (Guangdong) Ltd. EMC Laboratory				
EMI Test Receiver	ESCI	Rohde & Schwarz	100216	26.11.2009
Trilog-Broadband Antenna	VULB9168	Schwarzbeck	210	08.05.2010
Loop Antenna	HFH2-Z2	Rohde & Schwarz	100111	26.11.2009
Band Reject Filter	BRM50702	Micro-Tronics	023	14.03.2010
3m Semi-anechoic chamber	---	Albatross Projects	---	16.04.2010
EMI Test Receiver	ESCS30	Rohde & Schwarz	100316	16.04.2010
Noise generator	DM8899	DM	607014	17.07.2010
Artificial Mains Network	ESH2-Z5	Rohde&Schwarz	100114	27.03.2010
SGS-CSTC Standards Technical Services Co., Ltd.				
EMI Test Receiver	Rohde&Schwarz	ESCS30	100085	14.12.2009
Bi-log Type Antenna	Schaffner-Chase	CBL6112B	2966	08.10.2009
Bi-log Type Antenna	Schaffner-Chase	CBL6143	5070	08.10.2009
310N Amplifier	Sonama	310N	272683	10.09.2010
10m Semi-Anechoic Chamber	ETS	N/A	N/A	10.08.2010
Active Loop Antenna	EMCO	6502	00042963	09.08.2010
EMI Test Receiver	Rohde&Schwarz	ESIB26	100249	28.01.2010

2.3 Trace ability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for conducted emissions measurements is ± 2.68 dB. The estimated combined standard uncertainty for radiated emissions measurements at TUV is ± 4.94 dB, at SGS is ± 2.468 dB.

2.6 Location of original data

The original copies of all test data taken during actual testing were attached on Page 14-17, 20-27 of this report and delivered to the applicant. A copy has been retained in the TUV Rheinland (Guangzhou) file for certification follow-up purposes.

2.7 Status of facility used for testing

TÜV Rheinland (Guangdong) Ltd. EMC Laboratory; Guangzhou Auto Market, Yuan Gang Section of Guangshan Road, Guangzhou 510650, P. R. China is listed on the US Federal Communications Commission list of facilities approved to perform measurements, the register no. 833845.

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch, 198 Kezhu Road, Scientech Park, Guangzhou Economic & Technology Development District, Guanghzou, Guangdong, China 510663, is listed on the US Federal Communications Commission list of facilities approved to perform measurements, the register no. 282399.

3 General Product Information

Brief description of the test sample:

The submitted samples CJ-511B and CJ-511C are Induction Hotplates for household use. They are all the same except the appearance, CJ-511C has decorative stainless steel strip wrapped on the four margins, while CJ-511B has not. The two models have the same circuit diagram and PCB layout.

According to above information, all the tests are performed on CJ-511B.

3.1 Product Function and Intended Use

For details, refer to Technical Documentation and the User Manual.

3.2 Ratings and System Details

Type designation	CJ-511B, CJ-511C
Power Consumption	1500W
System input voltage	AC 120V, 60Hz
Protection class	I

Refer to this report Technical Documentation for further information.

3.3 Independent Operation Modes

The basic operation modes are:
On Power adjustable
Temperature adjustable
Booster
Timer
Keep warm
Off

3.4 Submitted Documents

Block Diagram
Circuit Diagram
PCB Layout
External Photo
Internal Photo
Label and Location
User Manual

4 Test Set-up and Operation Mode

4.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Refer to Test set-up in chapter 5.

4.3 Special Accessories and Auxiliary Equipment

Cooking Vessel (provided by manufacturer):

Material: stainless steel

Contact surface diameter 18cm, Top surface diameter 27.5cm

4.4 Countermeasures to achieve EMC Compliance

No additional countermeasures to the submitted test sample(s) were employed to achieve compliance.

4.5 Test set-up

Diagram 1 of Measurement Equipment Configuration for Testing Conducted Emission

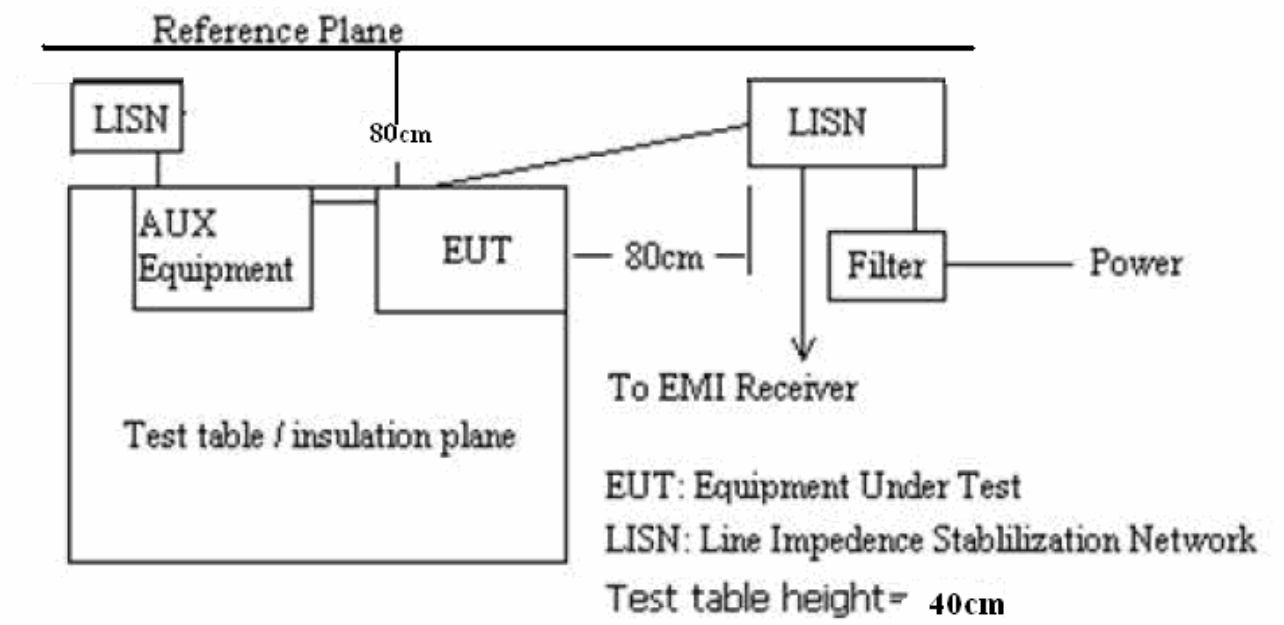
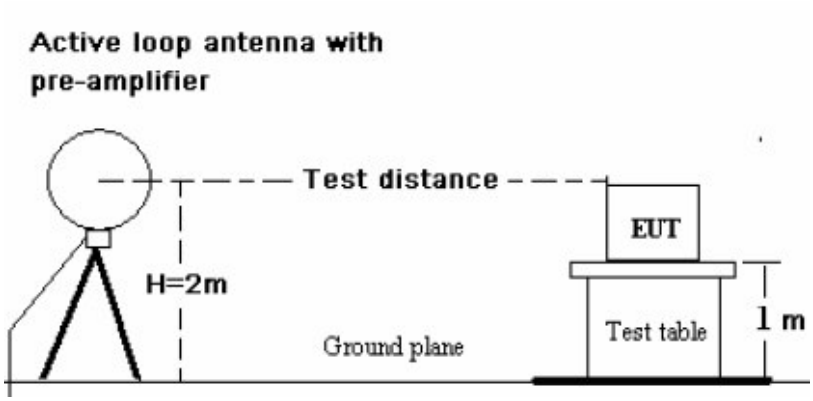
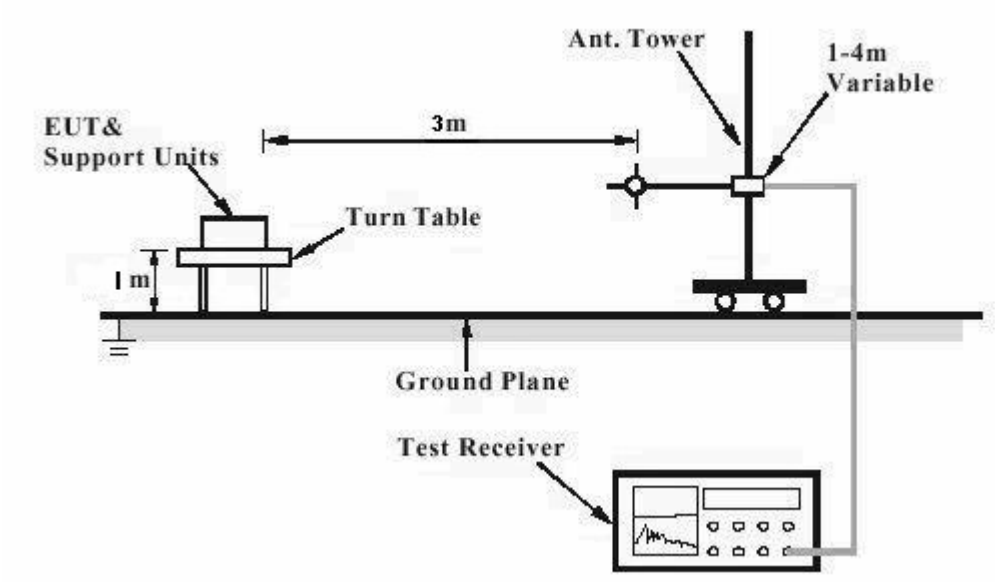


Diagram 2 of Measurement Equipment Configuration for Testing Radiated Emission



10m Semi-anechoic chamber (for 9 kHz-30 MHz)



3m Semi-anechoic chamber (for 30 MHz-1 GHz)

Diagram 3 of Equipment Configuration for Testing Conducted Emission

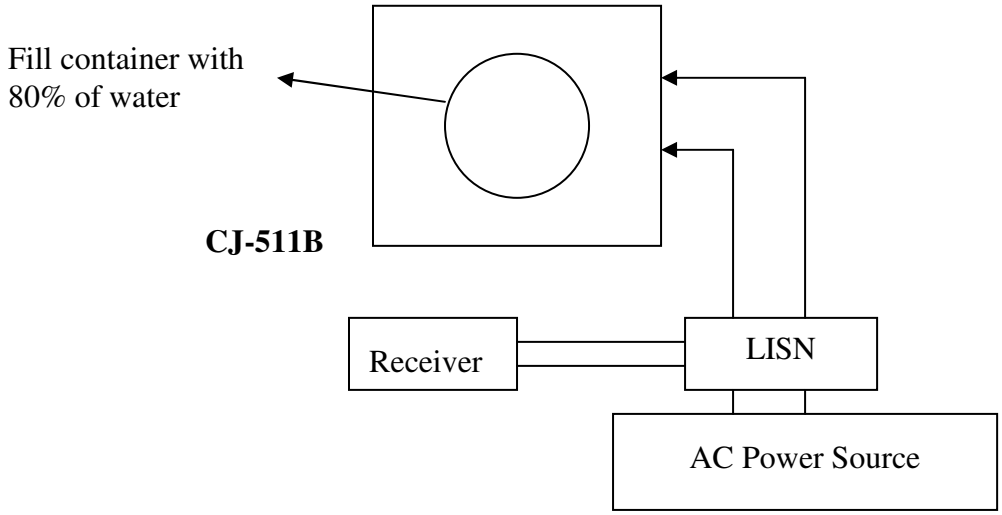
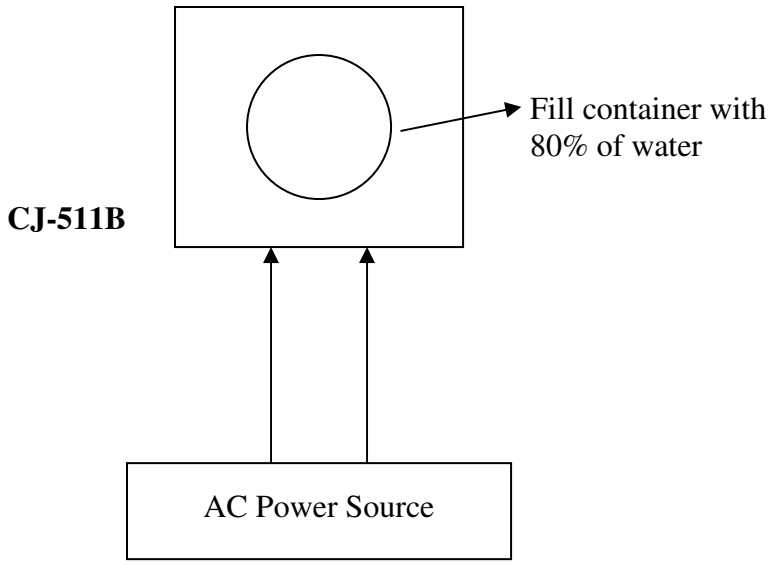


Diagram 4 of Equipment Configuration for Testing Radiated Emission



5 Test Results E M I S S I O N

5.1 Conducted Emission for FCC Part 18 per Section 18.307(a)

RESULT: **Pass**

Date of testing	:	21.Apr.2009
Test specification	:	FCC Part 18 Per Section 18.307(a)
Limits	:	FCC Part 18 Per Section 18.307(a)
Deviations from Standard Test procedures	:	None
Test procedure		Procedure specified in FCC/OST MP-5 were followed
Kind of test site	:	Shielded room
Operation mode	:	A: On with max. power
Temperature	:	22°C
Humidity	:	50%

Test procedure:
1. Place the EUT as specified in FCC/OST MP-5 Clause 7. 1

2. Plug the LISN to a correct power source (pay attention to: AC/DC, voltage, frequency).

3. Connect the EUT to LISN and choose N or L1 on the LISN.

4. Connect ESCS30 and LISN via a 50-ohm coaxial cable and a pulse limiter then begin exploratory measurement.

5. Make final measurement.

6. Switch to the other line on the LISN and repeat step 3 to 5.
.
If the result of the measurement with the Quasi Peak detector is below the Average limit, the measurement with Average Detector may be omitted.

Please refer to the following graphs. Disturbances are far below the limit.

001/008

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

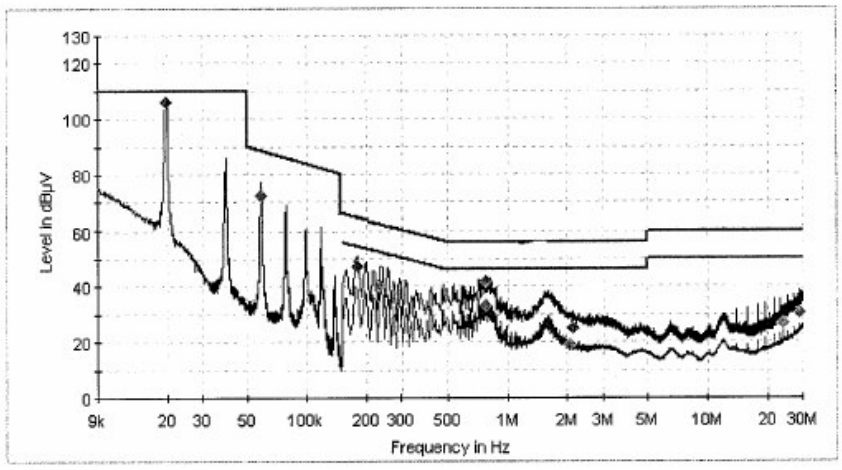
Test Information

Manufacturer:	Eternal
Test Item:	Induction Hotplate
Identification:	CJ-511B
Test Standard:	FCC Part 18
Test Detail:	Conducted Emission
Operation Mode:	A
Climate Condition:	22℃; 50%RH; 101 kPa.
Test Voltage/ Freq.:	AC120V/ 50 Hz
Port / Line:	L
Receipt No.:	/
Report No.:	/
Result:	Pass
Comment:	/

HCH 2009.5.11 Checked

Hardware Setup:	1phase LISN ESH3-Z5 to ESCS30
Level Unit:	dBμV

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
9kHz - 150kHz	Peak; Average	200Hz	100Hz	50ms	ESCS 30
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCS 30



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HCH 2009.5.11 Checked

Tested by: _____

CNL 2009.5.12 Checked

Reviewed by: _____

002/008

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.019700	105.9	1000.000	0.200	L1
0.059100	72.4	1000.000	0.200	L1
0.180000	47.6	1000.000	9.000	L1
0.770000	41.7	1000.000	9.000	L1
2.115000	24.8	1000.000	9.000	L1
29.110000	30.4	1000.000	9.000	L1

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.019700	10.5	4.1	110.0	
0.059100	10.1	16.0	88.5	
0.180000	10.1	16.8	64.4	
0.770000	10.1	14.3	56.0	
2.115000	10.1	31.2	56.0	
29.110000	11.4	29.6	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.235000	40.1	1000.000	9.000	L1
0.770000	33.2	1000.000	9.000	L1
2.055000	18.9	1000.000	9.000	L1
24.105000	26.8	1000.000	9.000	L1

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.235000	10.1	12.2	52.3	
0.770000	10.1	12.8	46.0	
2.055000	10.1	27.1	46.0	
24.105000	11.3	23.2	50.0	

003/008

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

EMC Test Record (EMISSION)

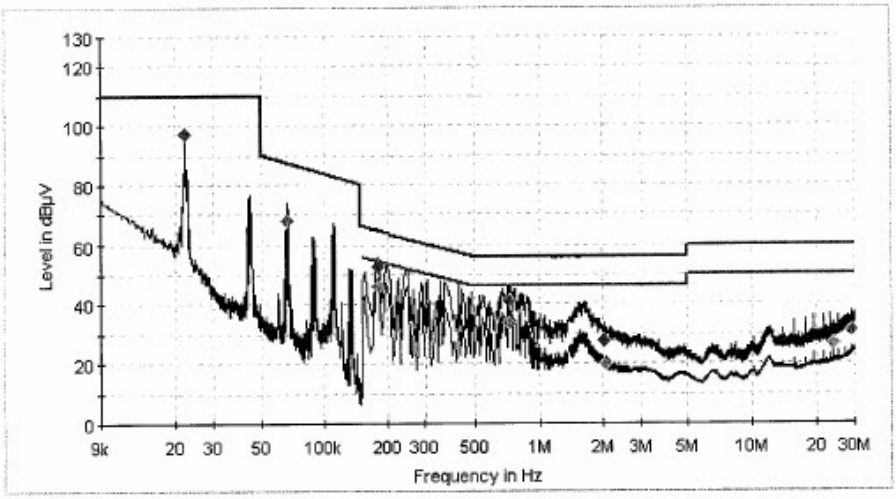
Test Information

Manufacturer:	Eternal
Test Item:	Induction Hotplate
Identification:	CJ-511B
Test Standard:	FCC Part 18
Test Detail:	Conducted Emission
Operation Mode:	A
Climate Condition:	22℃; 50%RH; 101 kPa.
Test Voltage/ Freq.:	AC120V/ 60 Hz
Port / Line:	N
Receipt No.:	/
Report No.:	/
Result:	Pass
Comment:	/

HCH 2009.5.11 Checked

Hardware Setup:	1phase LISN ESH3-Z5 to ESCS30
Level Unit:	dB μ V

Subrange	Detectors	IF Bandwidth	Step Size	Meas. Time	Receiver
9kHz - 150kHz	Peak; Average	200Hz	100Hz	50ms	ESCS 30
150kHz - 30MHz	Peak; Average	9kHz	4.5kHz	10ms	ESCS 30



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Tested by: HCH 2009.5.11 Checked

Reviewed by: CNL 2009.5.12 Checked

004 / 008

TUV Rheinland (Guangdong) Ltd.

EMC Test Service Hotline: +86-20-28391188

Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.022300	97.2	1000.000	0.200	N
0.066600	68.0	1000.000	0.200	N
0.180000	52.8	1000.000	9.000	N
0.725000	41.3	1000.000	9.000	N
2.035000	27.9	1000.000	9.000	N
28.875000	31.0	1000.000	9.000	N

(continuation of the "Final Measurement Detector 1" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.022300	10.5	12.8	110.0	
0.066600	10.1	19.4	87.4	
0.180000	10.1	11.6	64.4	
0.725000	10.1	14.7	56.0	
2.035000	10.1	28.1	56.0	
28.875000	11.2	29.0	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line
0.180000	46.1	1000.000	9.000	N
0.720000	33.9	1000.000	9.000	N
2.065000	20.2	1000.000	9.000	N
24.105000	26.7	1000.000	9.000	N

(continuation of the "Final Measurement Detector 2" table from column 6 ...)

Frequency (MHz)	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.180000	10.1	8.4	54.5	
0.720000	10.1	12.1	46.0	
2.065000	10.1	25.8	46.0	
24.105000	11.2	23.3	50.0	

HCH 2009.5.11 Checked

4/21/2009, 10:01:24 AM

Tested by: _____

Reviewed by: CNL 2009.5.12 Checked

5.2 Radiated Emission for FCC Part 18 per Section 18.305(b)

RESULT: **Pass**

Date of testing	:	29.Apr.2009 / 16.Sep.2009
Test specification	:	FCC Part 18 Per Section 18.305(b)
Limits	:	FCC Part 18 Per Section 18.305(b)
Deviations from Standard Test procedures	:	None
Test procedure		Procedure specified in FCC/OST MP-5 were followed
Kind of test site	:	10m Semi-anechoic chamber (for 9kHz-30MHz) 3m Semi-anechoic chamber (for 30MHz-1GHz)
Operation mode	:	A: On with max. power
Temperature	:	22°C
Humidity	:	50%

Test procedure:

9 kHz-30MHz
1. An initial pre-scan was performed in the 3m chamber using the spectrum analyzer in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by a 0.6m loop antenna.

2. The loop antenna was set to the vertical X, for each suspected emission frequency points the antenna was rotated 180 degrees and the maximum emission value was recorded.

3. Then the loop antenna was set to the horizontal Z axis, step 1 is repeated.

4. Final measurement was performed in the 10m chamber, step 2 and step 3 are repeated, for each suspected emission frequency point, the EUT was arranged to its worst case and the EUT was turned from 0 degrees to 360 degrees to read the maximum emission.

30MHz-1GHz
1. The EUT was turned on and placed on the top of a rotatable table 1 meter above the ground with 3-orthogonal XYZ direction and be kept close enough to the measurement receiving antenna (especially for the measurement frequency range above 30MHz). The table was then rotated 360 degrees to detect the suspected emission frequency points. The position of the worst radiation case with both horizontal and vertical receiving antenna polarization was then recorded together with the suspected emission frequency points above-mentioned.

2. The EUT was then set 3 meters away from the receiving antenna, which was mounted on a variable-height antenna tower.

3. For each suspected emission frequency point recorded in step 1, the EUT was arranged to its worst case that the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to read the maximum emission.

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200Hz for frequency 9kHz to 150kHz, 9kHz for frequency 150kHz to 30MHz and 120 kHz for frequency 30MHz to 1GHz.

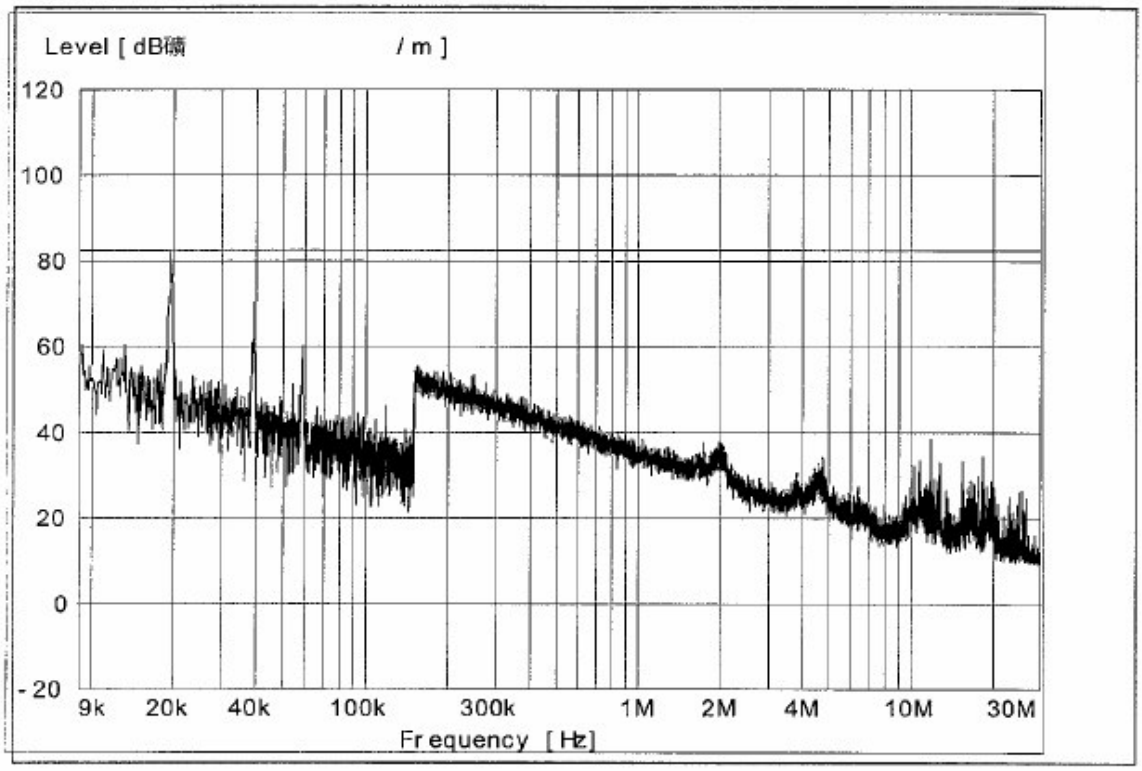
Please refer to the following graphs.

SGS

Radiated Emission Test Data Sheet

Job No.:		Date:	9/16/2009
Applicant:		Standard:	FCC Part 18
E.U.T.:	INDUCTION COOKER	Model:	CJ-511B
Polarization:	☐ Line ☐ Neutr ☐ Power Clamp	Voltage:	120 V, ☑ AC ☐ DC ☐ 50 Hz ☑ 60 Hz
Memo:	**Test the EUT in ON mode, keep EUT max power output.**		

Test Curve



Frequency (MHz)	Transducer (dB)	Receiver QP Reading (dBµV)	QP Level (dBµV)	Limit (dBµV)	Margin (dB)	Receiver AV Reading (dBµV)	AV Level (dBµV)	Limit (dBµV)	Polarity
0.020	14.5	65.9	80.4	82.6	2.2	63.8	78.3		V

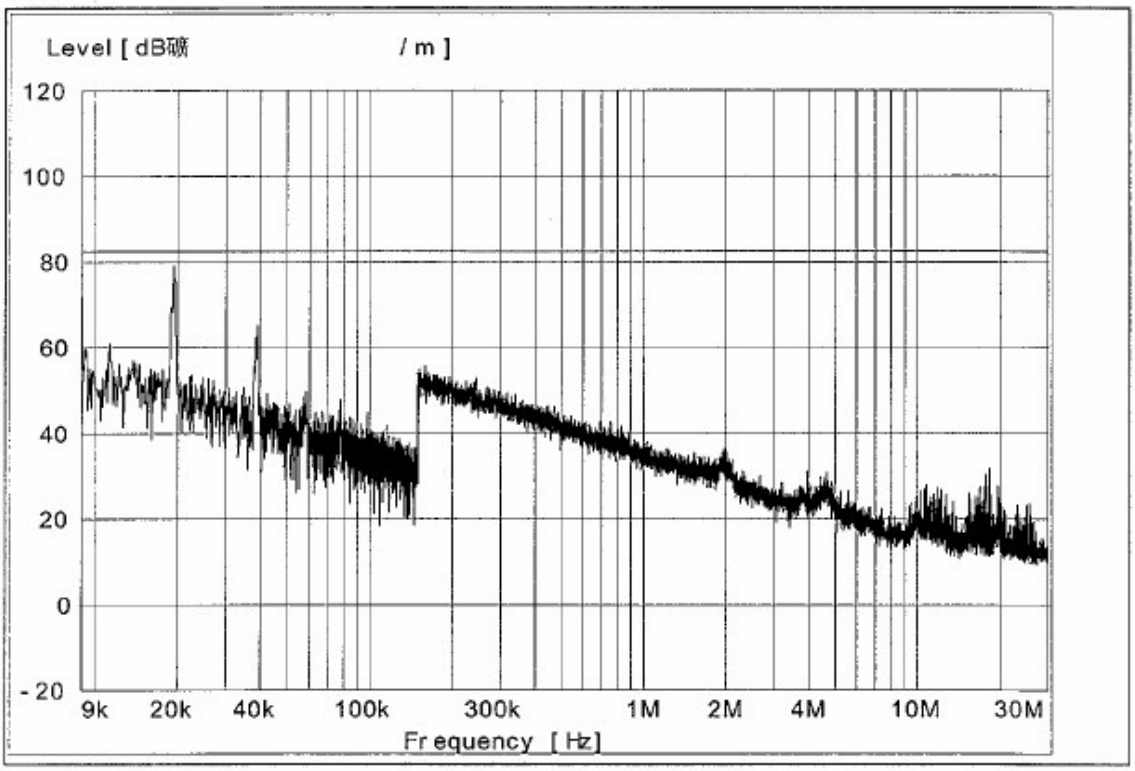
Level = Read Level + Transducer

SGS

Radiated Emission Test Data Sheet

Job No.:		Date: 9/16/2009	
Applicant:		Standard: FCC Part 18	
E.U.T.:	INDUCTION COOKER	Model: CJ-511B	
Polarization:	☐ Line ☐ Neutra ☐ Power Clamp	Voltage:	120 V, ☑ AC ☐ DC ☐ 50 Hz ☑ 60 Hz
Memo:	Test the EUT in ON mode, keep EUT max power output.		

Test Curve



Frequency (MHz)	Transducer (dB)	Receiver QP Reading (dBµV)	QP Level (dBµV)	Limit (dBµV)	Margin (dB)	Receiver AV Reading (dBµV)	AV Level (dBµV)	Limit (dBµV)	Polarity
0.020	19.1	59.1	78.2	82.6	4.4	57.0	76.1		H

Level = Read Level + Transducer

007 / 008

TUV Rheinland (Guangdong) Ltd. EMC Test Service Hotline: +86-20-28391188

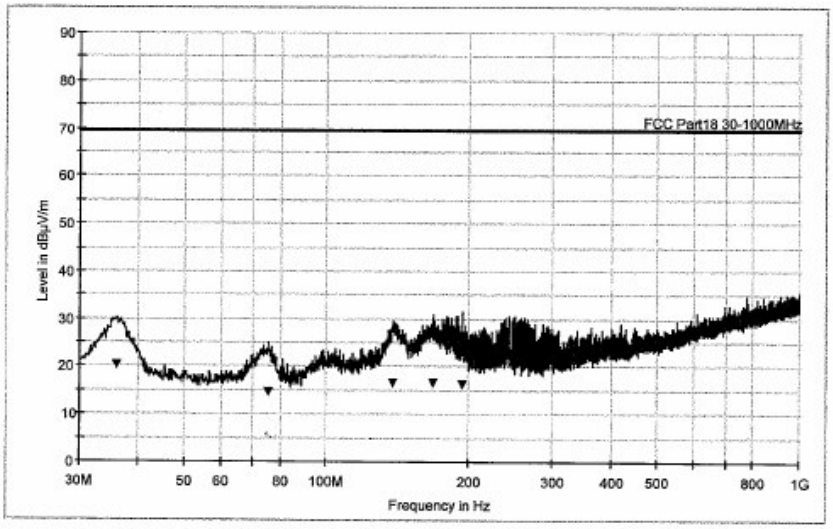
EMC Test Record (EMISSION)

Test Information

Manufacturer:	/		
Test Item:	Induction Hotplate		
Identification	CJ-511B		
Test Standard:	FCC Part 18		
Test Detail:	Radiated Emission		
Operation Mode:	A		
Climate Condition:	22℃;	50%RH;	101 kPa.
Test Voltage / Freq. :	AC120V/	60Hz	
Receipt No.:	/		
Report No.	/		
Result:	Pass		
Comment:	3m Chamber		

Subrange 1

Frequency Range:	30MHz - 1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168



Limit and Margin

Frequency (MHz)	Average (dB µ V/m)	Corr. (dB)	Margin (dB)	Polarity	Limit (dB µ V/m)
36.050000	20.3	14.2	49.2	H	69.5
75.350000	14.5	9.5	55.0	H	69.5
138.300000	16.5	11.3	53.0	H	69.5
168.450000	16.7	13.1	52.8	H	69.5
193.450000	16.1	12.9	53.4	H	69.5
251.300000	20.2	14.5	49.3	H	69.5

Date: 4/29/2009 - Time: 1:10:48 PM

Tested by: HCH 2009.5.11 Checked

Reviewed by: CNL 2009.5.12 Checked

TUV Rheinland (Guangdong) Ltd. EMC Test Service Hotline: +86-20-28391188

008 / 008

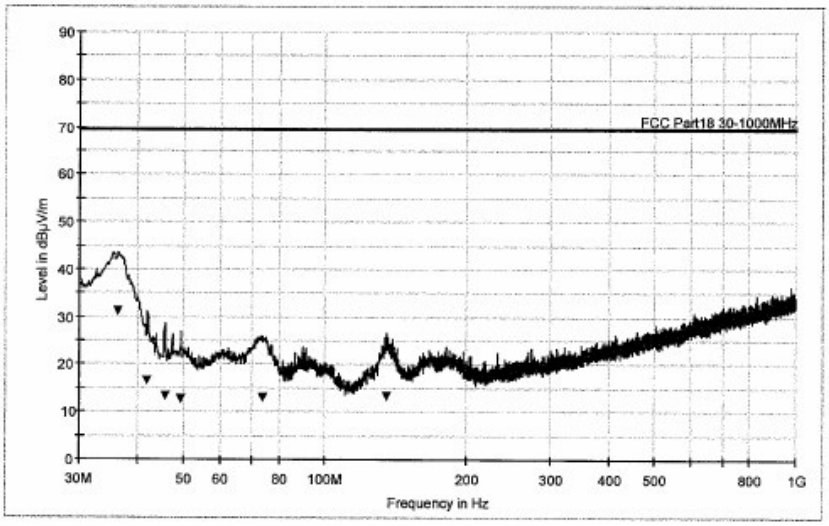
EMC Test Record (EMISSION)

Test Information

Manufacturer:	/		
Test Item:	Induction Hotplate		
Identification	CJ-511B		
Test Standard:	FCC Part 18		
Test Detail:	Radiated Emission		
Operation Mode:	A		
Climate Condition:	22℃;	50%RH;	101 kPa.
Test Voltage / Freq. :	AC120V/	60Hz	
Receipt No.:	/		
Report No.	/		
Result:	Pass		
Comment:	3m Chamber		

Subrange 1

Frequency Range:	30MHz - 1GHz
Receiver:	TUV ESCI 3
Transducer:	TUV SAC UVLB 9168 / TUV ESCI3 -TUV SAC UVLB 9168



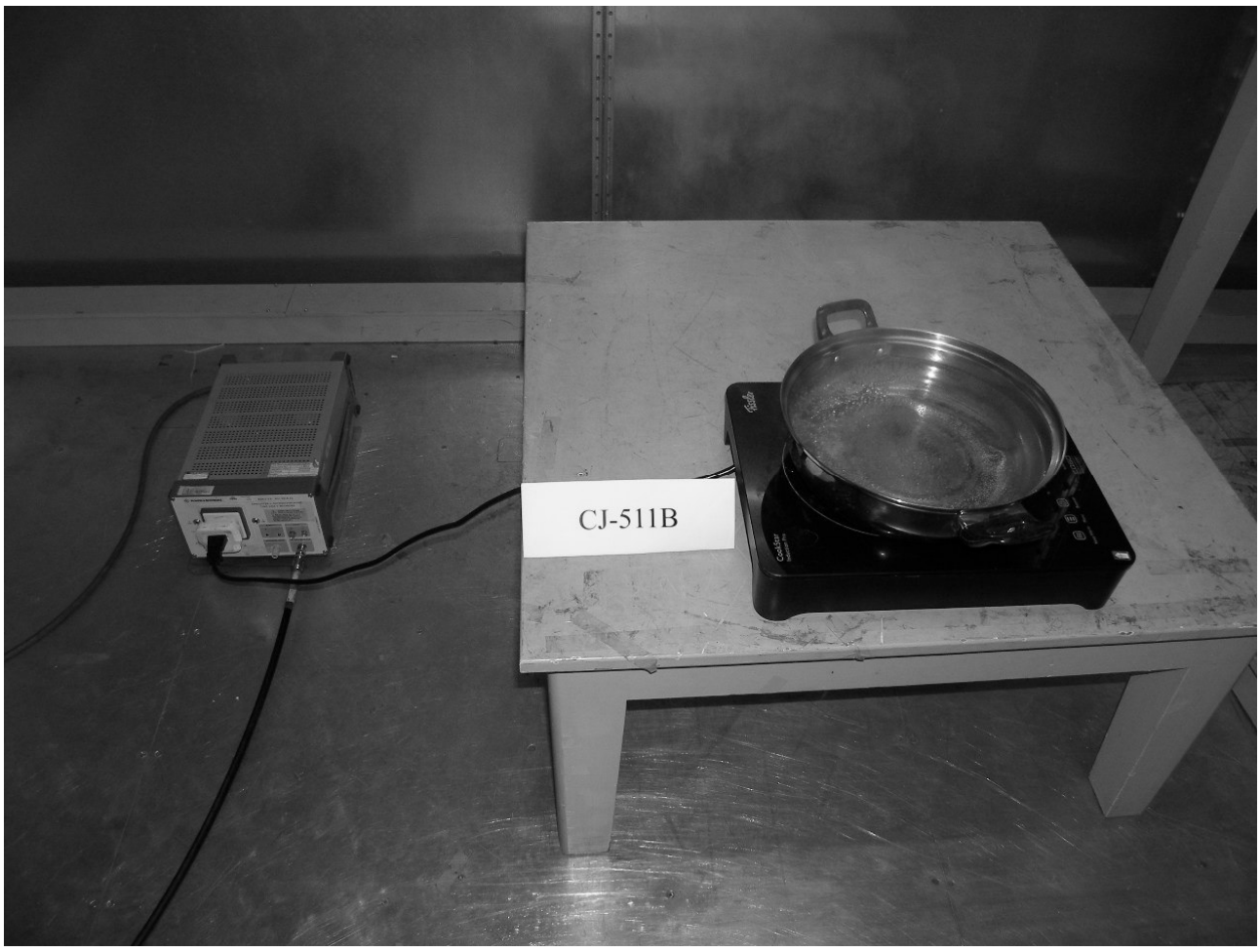
Limit and Margin

Frequency (MHz)	Average (dB µ V/m)	Corr. (dB)	Margin (dB)	Polarity	Limit (dB µ V/m)
36.300000	31.2	14.3	38.3	V	69.5
41.900000	16.4	14.1	53.1	V	69.5
45.650000	13.4	13.5	56.1	V	69.5
49.400000	12.8	13.0	56.7	V	69.5
73.550000	13.1	9.8	56.4	V	69.5
134.500000	13.2	10.8	56.3	V	69.5

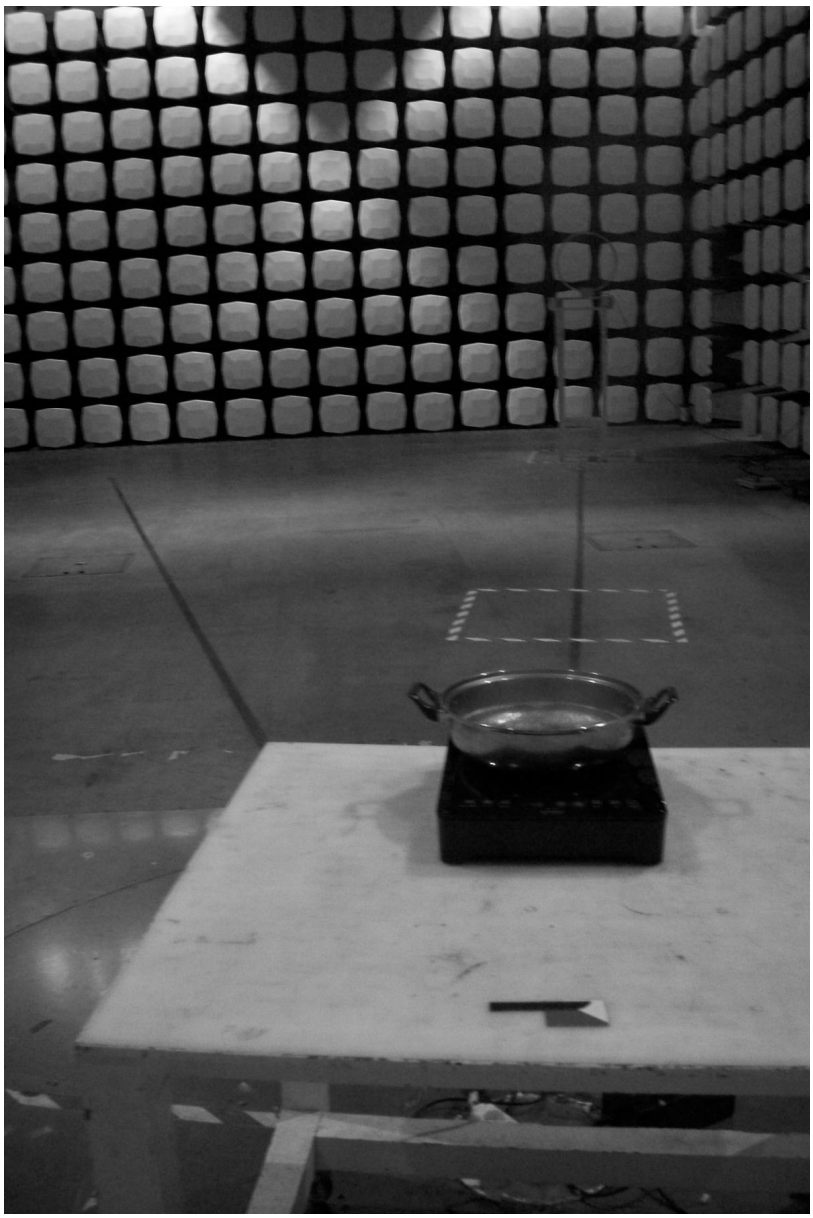
Date: 4/29/2009 - Time: 1:19:09 PM Tested by: BCH 2009.5.11 Checked Reviewed by: CNL 2009.5.12 Checked

6 Photographs of the Test Set-Up

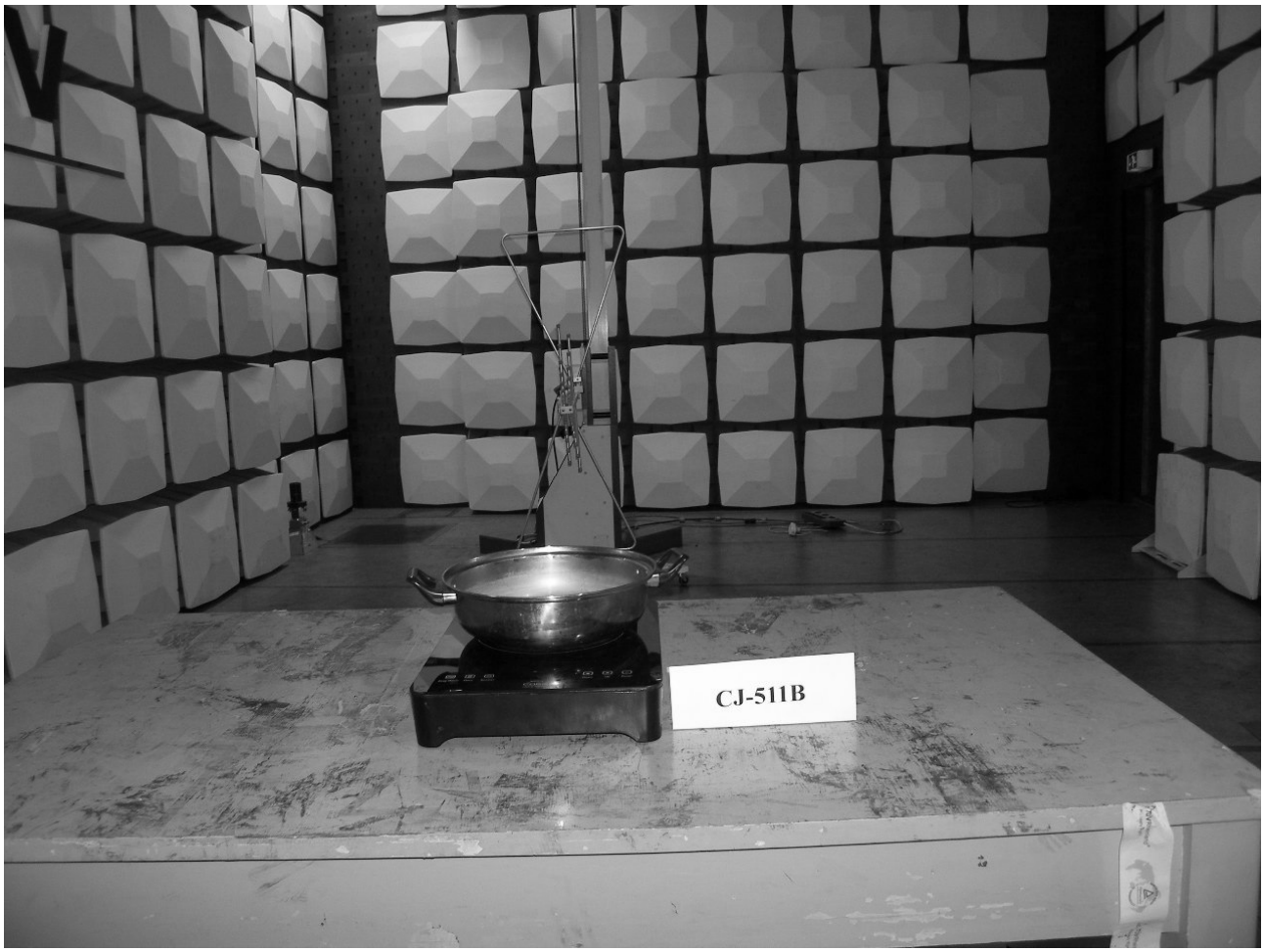
Photograph 1: Set-up for Conducted Emission



Photograph 2: Set-up for Radiated Emission



9 kHz – 30 MHz (10m distance)



30MHz - 1GHz (3m distance)

7 List of Tables

8 List of Photographs