

FCC PART 18

EMI MEASUREMENT AND TEST REPORT

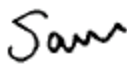
For

Whirlpool Microwave Products Development Ltd

16/F, Paliburg Plaza, 68 Ye Wo Street, Causeway Bay, Hong Kong

FCC ID: PR46261Y

March 25, 2005

This Report Concerns: ☒ Class II Permissive Change	Equipment Type: Microwave Oven
Test Engineer: Sam Lin 	
Report Number: RSZ05030356	
Test Date: March 16-18, 2005	
Reviewed By: Chris Zeng 	
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Note: The test report is specially limited to the above company and this particular sample only.
It may not be duplicated without prior written consent of Bay Area Compliance Lab
Corp. (ShenZhen)

This report **must not** be used by the client to claim product certification, approval, or endorsement by
NVLAP, NIST or any agency of the US Government.

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *Whirlpool Microwave Products Development Ltd*'s FCC ID: PR46261Y or the "EUT" as referred to in this report is a Microwave Oven which measures approximately 76.0 cmL x 39.0cmW x 41.5cmH, rated input voltage: AC 120 V/60 Hz.

* The test data gathered are from production sample, serial number: TR S 53 10002, provided by the manufacturer.

Objective

The following test report is prepared on behalf of *Whirlpool Microwave Products Development Ltd* in accordance with Part 2, Subpart J, and Part 18, Subparts A, B and C of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine compliance with FCC Part 18 limits

This is the C2PC application of the device. The difference between the original device and the current one is as follows:

Original transformer model	New transformer model
HK-JK100V (AL)-N	S-950-1

For the change made to the device, conducted emission testing was performed.

Related Submittal(s)/Grant(s)

This is a C2PC application. The original application was granted on 2005-5-25.

Test Methodology

All measurements contained in this report were conducted with MP-5, FCC Methods of Measurements of Radio Noise Emissions from ISM Equipment, February 1986. All measurement was performed at Bay Area Compliance Laboratory Corporation. The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The Test site used by Bay Area Compliance Lab Corp. (ShenZhen) to collect radiated and conducted emission measurement data is located in the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, Guangdong 518038, P.R.China.

Test site at Bay Area Compliance Lab Corp. (ShenZhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003 and FCC MP-5.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, BACL is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at <http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm>

External Cable List and Details

Cable Description	Length (M)	From/Port	To
Unshielded Undetachable AC Line	1.0	EUT	AC Power

OPERATING CONDITION/TEST CONFIGURATION

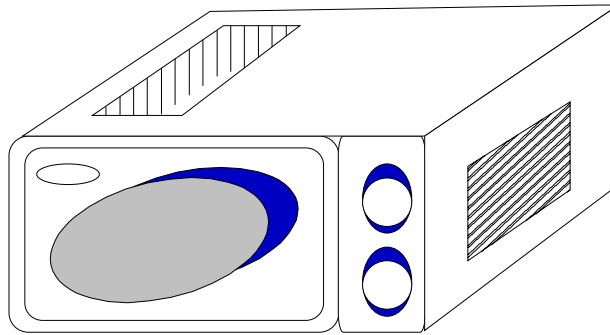
Justification

The EUT was provided for tests as a stand-alone device. It was prepared for testing in accordance with the manufacturer's instructions. The EUT was operated at maximum (continuous) RF output power. The loads consisted of water in a glass beaker in the amounts specified in the test procedure.

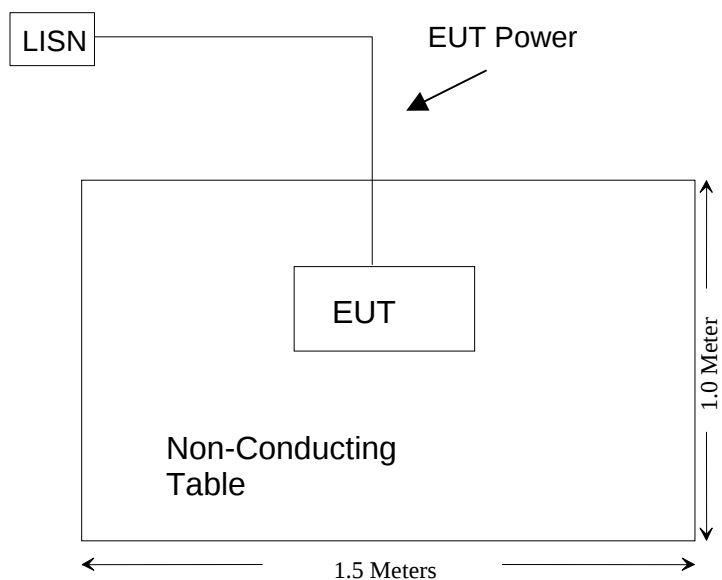
Equipment Modifications

The EUT tested was not modified by BACL.

Configuration of Test Setup



Block Diagram of Test Setup



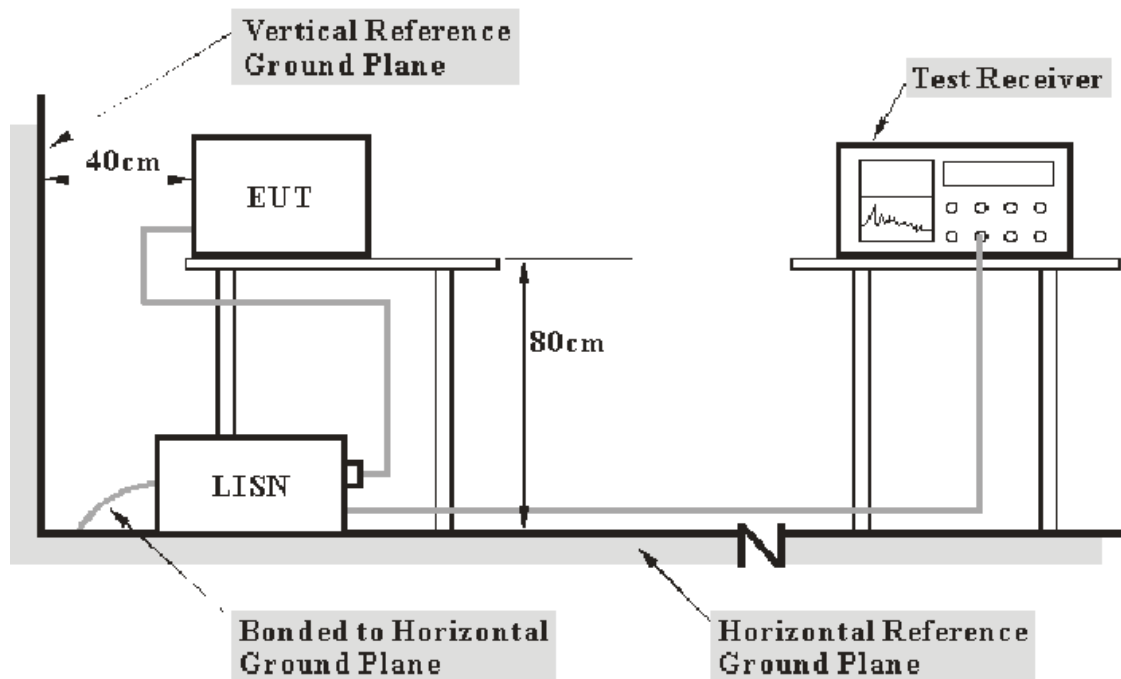
CONDUCTED EMISSION

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at BACL is ± 2.4 dB.

EUT Setup



- Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per MP-5: 1986 measurement procedure. Specification used was with the FCC Part 18.

The EUT was connected to a 120 VAC/ 60Hz power source.

Test Receiver Setup

The EMI Test Receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI Test Receiver was set with the following configurations:

<u>Frequency Range</u>	<u>IFBW</u>
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Com-Power	L.I.S.N.	LI-200	12008	N/A	N/A
Rohde & Schwarz	Test Receiver	ESCS30	830245/006	2005-01-26	2006-01-26
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2005-02-28	2006-02-27
Rohde & Schwarz	Pulse Limiter	ESH3Z2	DE25985	2004-09-01	2005-08-31

* Com-Power's LISN were used as the supporting equipment.

* **Statement of Traceability:** BACL attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

During the conducted emission test, the EUT power cord was connected to the outlet of the LISN.

Maximizing procedure were performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 18, with the worst margin reading of:

-3.10 dB at 0.585 MHz in the **Neutral** conductor mode.

Test Data**Environmental Conditions**

Temperature:	22° C
Relative Humidity:	62%
ATM Pressure:	940mbar

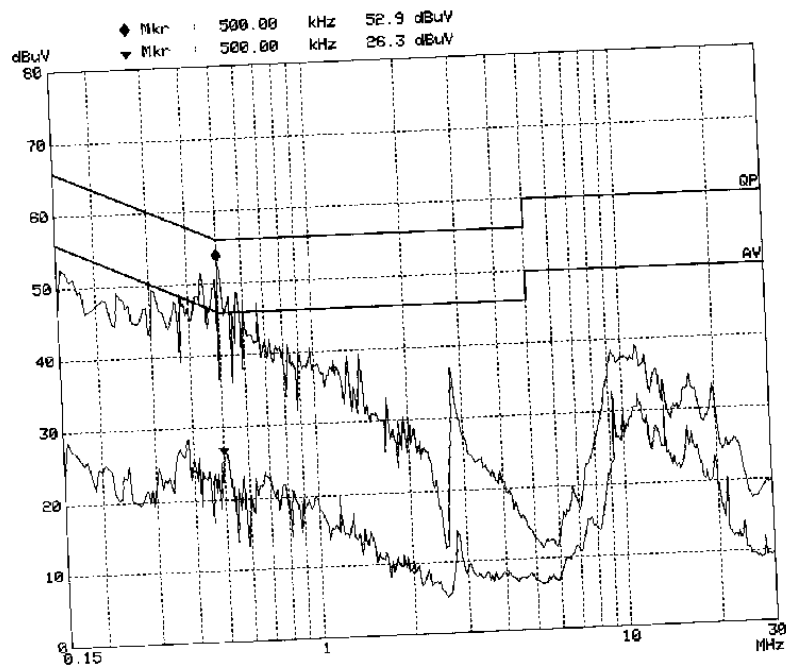
Testing was performed by Sam Lin on 2005-03-17.

LINE CONDUCTED EMISSIONS				FCC PART 18	
Frequency MHz	Amplitude DB μ V	Detector QP/AV	Phase Line/Neutral	Limit dB μ V	Margin dB
0.585	52.90	QP	Neutral	56.00	-3.10
0.500	52.90	QP	Line	56.00	-3.10
0.370	53.20	QP	Neutral	58.50	-5.30
0.440	51.60	QP	Line	57.06	-5.46
0.315	52.70	QP	Neutral	59.84	-7.14
0.570	48.80	QP	Line	56.00	-7.20
0.260	52.10	QP	Neutral	61.43	-9.33
0.305	49.40	QP	Line	60.11	-10.71
0.190	52.70	QP	Neutral	64.04	-11.34
0.155	52.60	QP	Line	65.73	-13.13
0.370	31.50	AV	Neutral	48.50	-17.00
11.170	32.40	AV	Line	50.00	-17.60
0.585	27.10	AV	Neutral	46.00	-18.90
10.550	30.80	AV	Neutral	50.00	-19.20
0.500	26.70	AV	Line	46.00	-19.30
11.170	39.10	QP	Line	60.00	-20.90
0.315	28.50	AV	Neutral	49.84	-21.34
10.550	38.60	QP	Neutral	60.00	-21.40
0.570	23.20	AV	Line	46.00	-22.80
0.440	23.90	AV	Line	47.06	-23.16
0.190	30.10	AV	Neutral	54.04	-23.94
0.260	27.10	AV	Neutral	51.43	-24.33
0.305	24.70	AV	Line	50.11	-25.41
0.155	28.70	AV	Line	55.73	-27.03

Plot(s) of Test Data

Plot(s) of Test Data is presented hereinafter as reference.

Line:



Neutral:

