

FCC PART 18
EMI MEASUREMENT AND TEST REPORT

For

Exald Corporation

166 California Street, unit C Arcadia, CA 91006. USA

FCC ID:T4ZZYZM001

June 22, 2006

This Report Concerns: ☒ Original Report	Equipment Type: CFL
Test Engineer: William Chan	<i>William . Chan .</i>
Report Number: RSH06021581	
Test Date: March 21, 2006	
Reviewed By: Boni Baniqued	<i>Boni</i>
Prepared By:	Bay Area Compliance Lab Corp. (ShenZhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone, ShenZhen, GuangDong 518038, P.R.China Tel: +86-755-33320018 Fax: +86-755-33320008

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.

TABLE OF CONTENTS

GENERAL INFORMATION.....	3
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	3
OBJECTIVE	3
RELATED SUBMITTAL(S)/GRANT(S).....	3
TEST METHODOLOGY	3
TEST FACILITY	3
EXTERNAL I/O CABLE.....	4
SYSTEM TEST CONFIGURATION.....	5
JUSTIFICATION	5
EQUIPMENT MODIFICATIONS	5
CONFIGURATION OF TEST SETUP	5
BLOCK DIAGRAM OF TEST SETUP	5
CONDUCTED EMISSION.....	6
MEASUREMENT UNCERTAINTY	6
EUT SETUP	6
EMI TEST RECEIVER SETUP.....	7
TEST EQUIPMENT LIST AND DETAILS.....	7
TEST PROCEDURE	7
TEST RESULTS SUMMARY	7
TEST DATA	7
PLOT(S) OF TEST DATA	8

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Exald Corporation's* model: *G-9, S-14*, or the "EUT" as referred to in this report is a *CFL* which measures approximately G-9W: 12.0 cm L x 6.5 cm W, S-14W: 10.5 cm L x 4.5cmW, rated input voltage: AC 120V/60Hz.

** The test data gathered are from production sample, serial number: 0602204. Provided by the manufacturer, we received EUT on 2006-2-15.*

Objective

The following test report is prepared on behalf of *Exald Corporation* in accordance with Part 2, Subpart J, and Part 18, Subparts A, B and C of the Federal Communication Commissions rules and regulations.

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

Related Submittal(s)/Grant(s)

No related submittal(s).

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 Lab Corp. (ShenZhen). 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, Bay Area Compliance Lab Corp. (ShenZhen) 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 I/O Cable

Cable Description	Length (M)	From/Port	To
Unshielded Detachable AC Cable	1.2	Test Device	AC Power

SYSTEM TEST CONFIGURATION

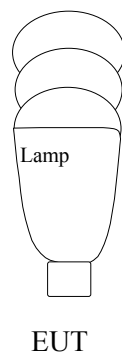
Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

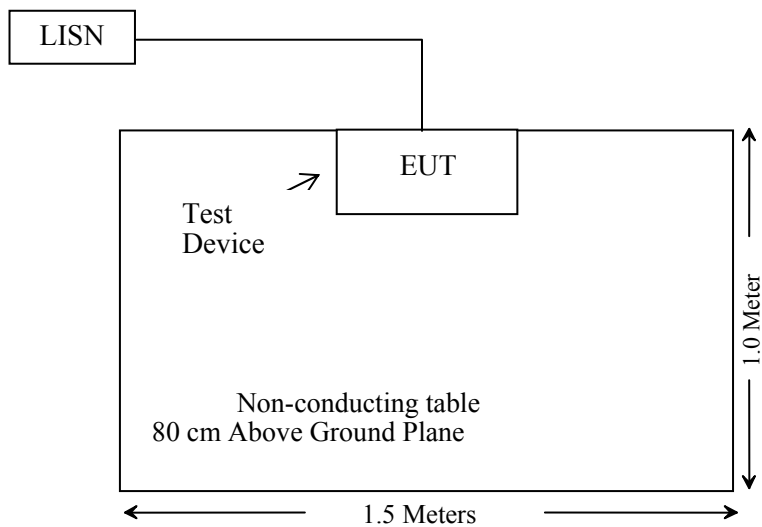
Equipment Modifications

Bay Area Compliance Lab Corp. (Shenzhen) has not done any modification on the EUT.

Configuration of Test Setup



Block Diagram of Test Setup



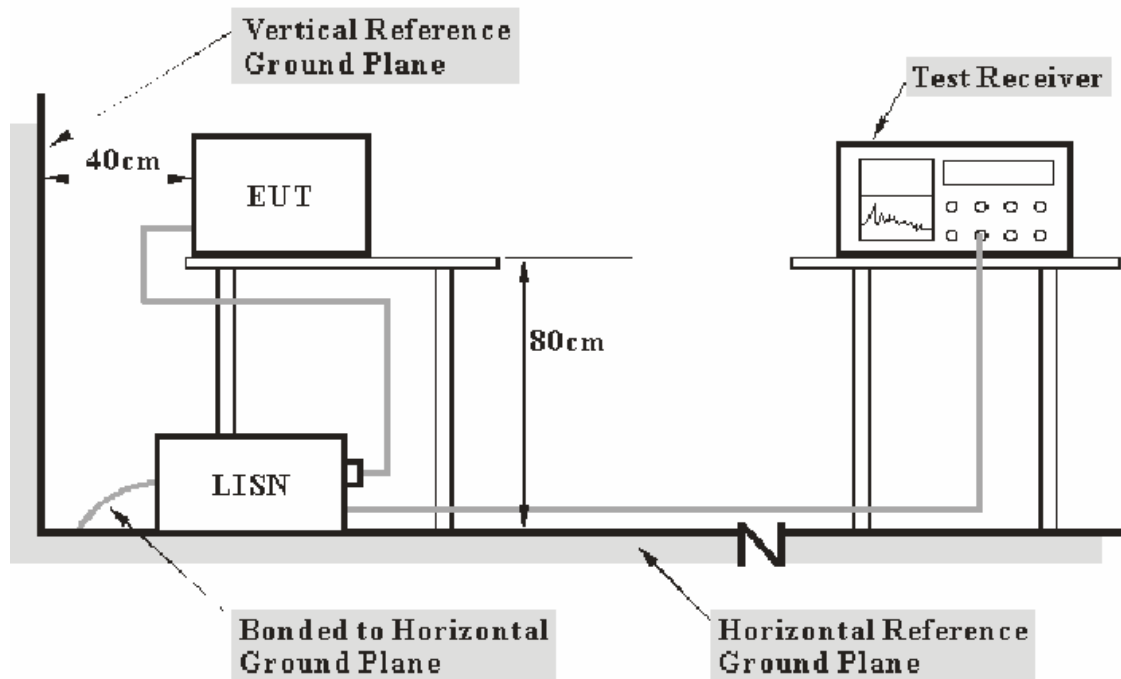
CONDUCTED EMISSION

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 Bay Area Compliance Lab Corp. (ShenZhen) 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 MP-5: 1986 measurement procedure. Specification used was with the FCC Part 18 limits.

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

EMI 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:

<i>Frequency Range</i>	<i>IFBW</i>
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	EMI Test Receiver	ESCI	100028	2005-8-17	2006-8-17
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2006-2-28	2007-2-28

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

* **Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) 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 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:

G-9W: -19.07 dB at 0.625 MHz in the **Live** conductor mode.
S-14W: -10.23 dB at 0.700 MHz in the **Live** conductor mode.

Test Data

Environmental Conditions

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	940mbar

Testing was performed by William Chan on 2006-3-21.

Test mode: On (G-9W)

LINE CONDUCTED EMISSIONS					FCC Part 18		
Frequency MHz	Amplitude dBμV	Detector		Phase	Limit (dBμV)		Margin
		QP	AV	Neutral/Live	QP	AV	dB
0.625	28.93	QP	*	Live	48.00	N/A	-19.07
1.378	27.34	QP	*	Neutral	48.00	N/A	-20.66
0.700	26.14	QP	*	Neutral	48.00	N/A	-21.86
0.625	24.95	QP	*	Neutral	48.00	N/A	-23.05
0.700	24.04	QP	*	Live	48.00	N/A	-23.96
0.946	20.50	QP	*	Live	48.00	N/A	-27.50
0.946	18.21	QP	*	Neutral	48.00	N/A	-29.79
1.378	17.44	QP	*	Live	48.00	N/A	-30.56
2.826	17.86	QP	*	Live	69.50	N/A	-51.64
2.646	17.20	QP	*	Live	69.50	N/A	-52.30
2.646	15.78	QP	*	Neutral	69.50	N/A	-53.72
2.826	14.34	QP	*	Neutral	69.50	N/A	-55.16

Test mode: On (S-14W)

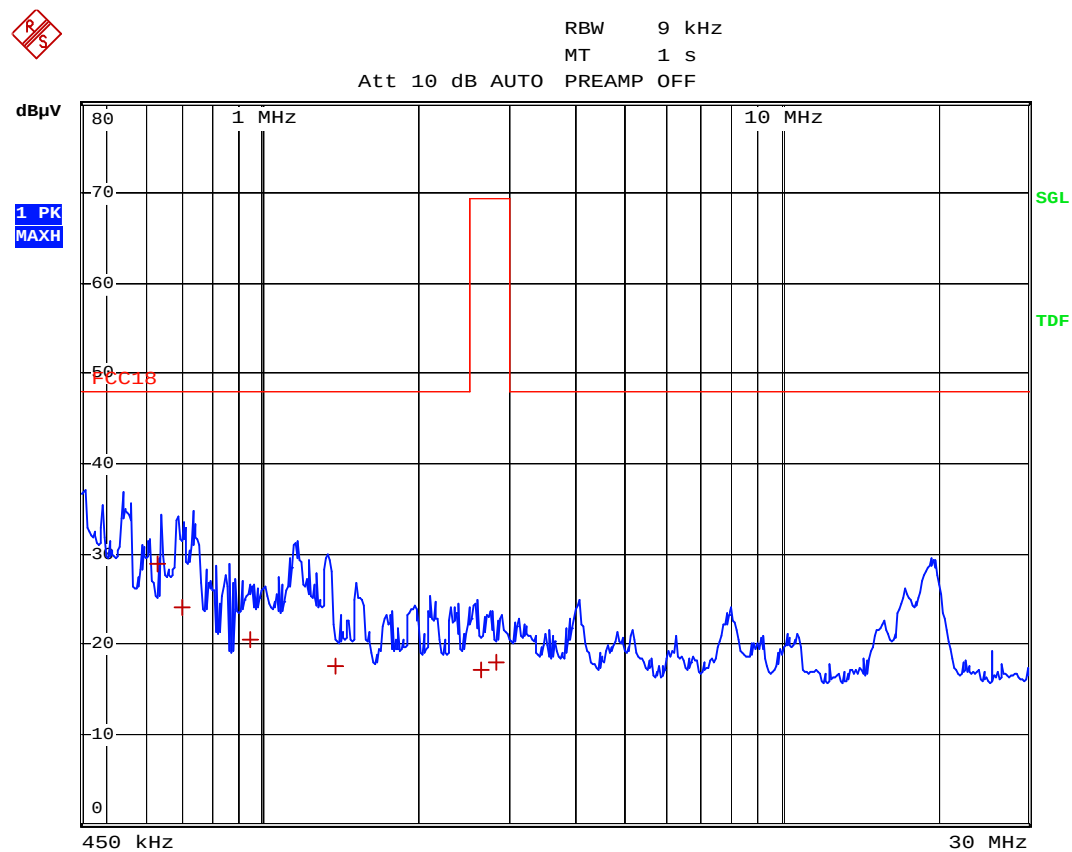
LINE CONDUCTED EMISSIONS					FCC Part 18		
Frequency MHz	Amplitude dBμV	Detector		Phase	Limit (dBμV)		Margin
		QP	AV	Neutral/Live	QP	AV	dB
0.700	37.77	QP	*	Live	48.00	N/A	-10.23
0.700	36.62	QP	*	Neutral	48.00	N/A	-11.38
0.946	33.30	QP	*	Live	48.00	N/A	-14.70
0.946	31.24	QP	*	Neutral	48.00	N/A	-16.76
0.625	30.24	QP	*	Neutral	48.00	N/A	-17.76
0.625	29.73	QP	*	Live	48.00	N/A	-18.27
1.378	17.33	QP	*	Neutral	48.00	N/A	-30.67
1.378	17.14	QP	*	Live	48.00	N/A	-30.86
2.826	17.47	QP	*	Neutral	69.50	N/A	-52.03
2.826	17.39	QP	*	Live	69.50	N/A	-52.11
2.646	16.01	QP	*	Neutral	69.50	N/A	-53.49
2.646	15.33	QP	*	Live	69.50	N/A	-54.17

REMARKS:

1. If the data table appeared with symbol “*” means the value was too low and the QP value is under the limit for Average, so the Average level value had been omitted.

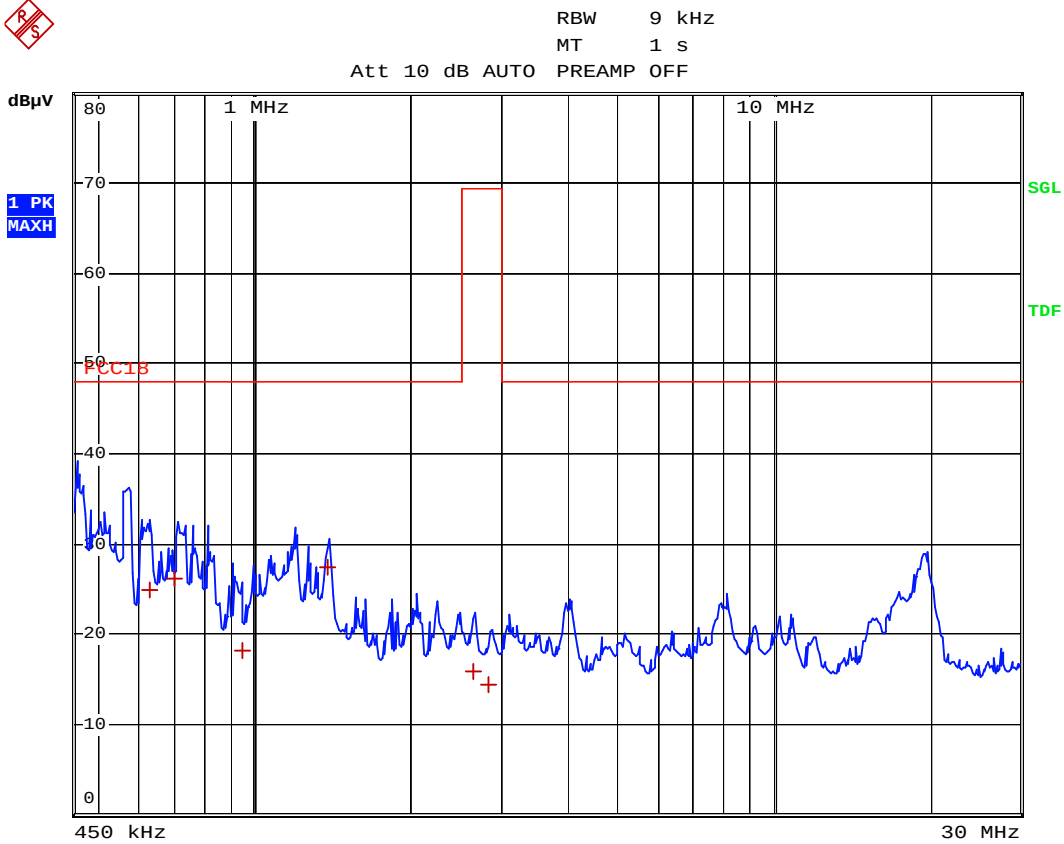
Plot(s) of Test Data

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



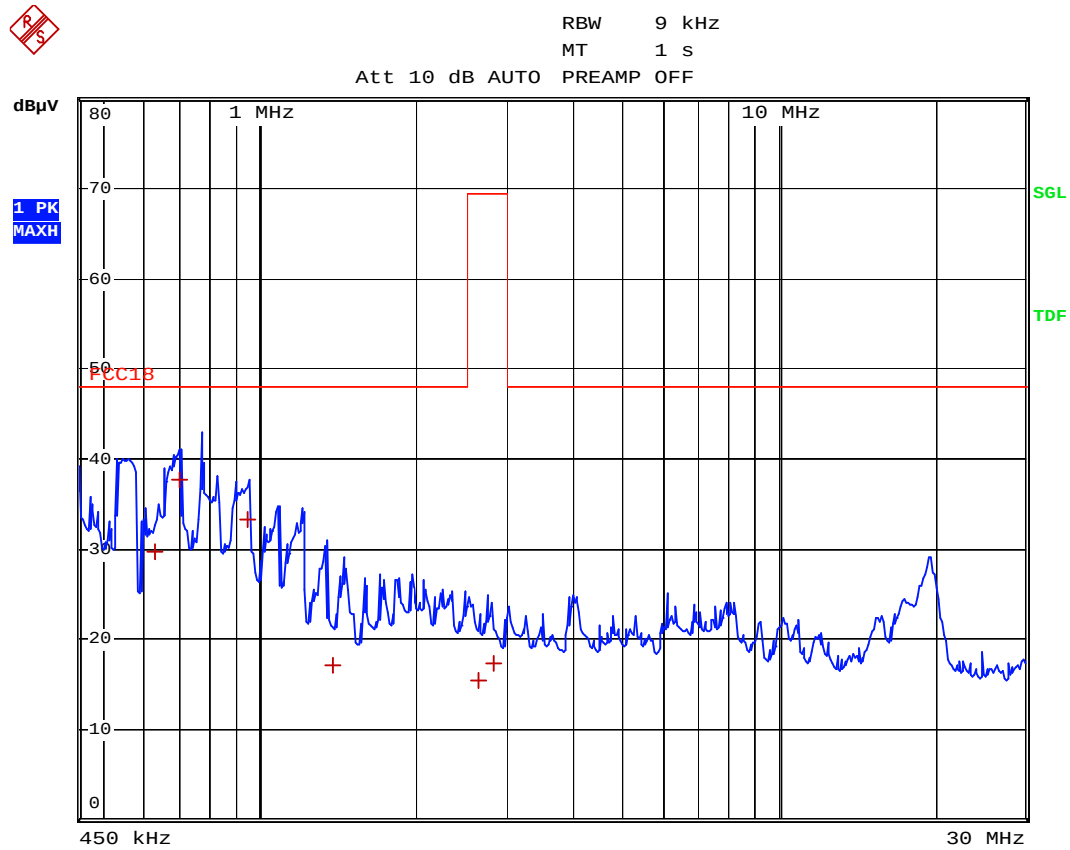
Exald CFL G-09 Conducted test-ON- Live (120V/60Hz)

Date: 21.MAR.2006 18:03:30



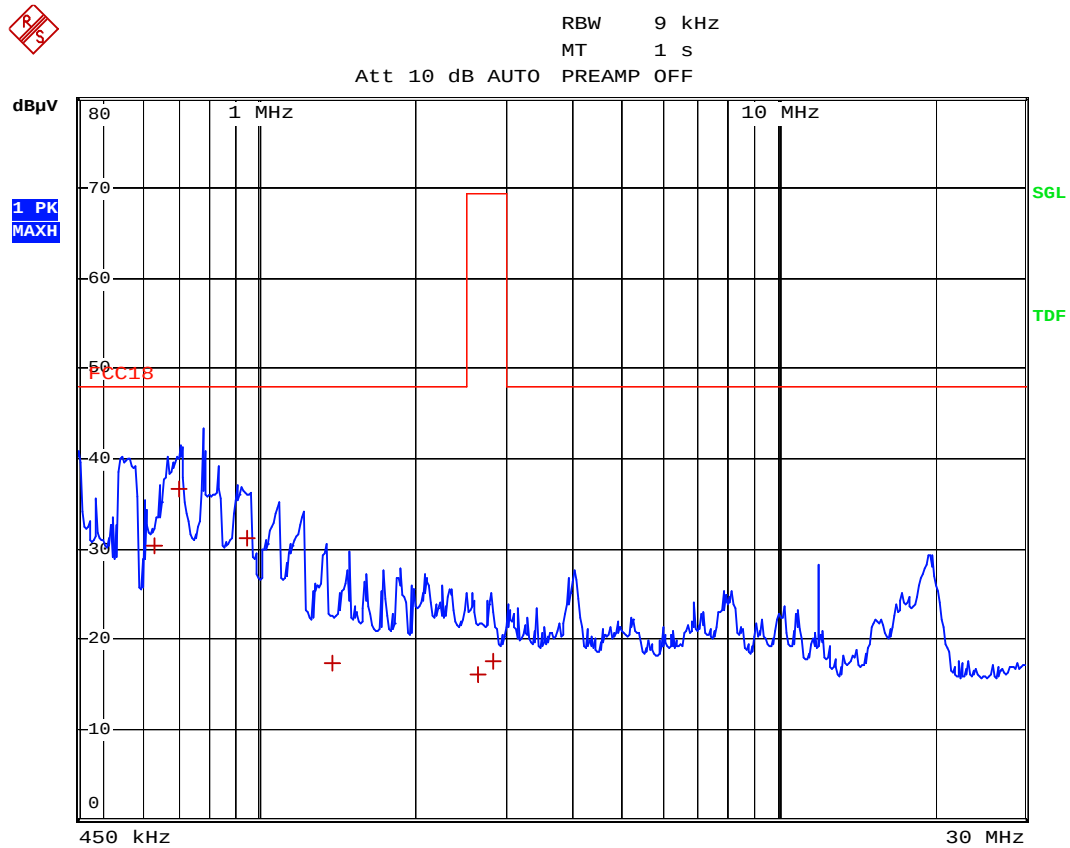
Exald CFL G-09 Conducted test-0N- Neutral (120V/60Hz)

Date: 21.MAR.2006 17:57:39



Exald CFL G-14 Conducted test- Live (120V/60Hz)

Date: 21.MAR.2006 17:38:08



Exald CFL G-14 Conducted test- Neutral (120V/60Hz)

Date: 21.MAR.2006 17:44:19