REV	Δ	Description	Sheet Effected	Date	Drawn	Checked
A				15.07.04	D.Lanuel	S.Cohen
B		New Document		07.06.05	D.Lanuel	S.Cohen
C		New Document		09.06.05	D.Lanuel	S.Cohen

EMC Laboratory

DCU -2010

FCCID: LSQ-DCU-2010
Manufactured by
Elmotech Ltd.

EMC Test Report

According FCC Part 15 Requirements

June 2005

	Function/Title	Name	Signature	Date
Prepared by	Test Engineer	D.Lanuel		09.06.05
Checked by	Test Engineer	D.Lanuel		09.06.05
Approved by	EMC Lab. Manager	S.Cohen		09.06.05

Table of Contents

Para Page

1 Introduction

a. Scope

This document describes the measurement procedures and tests for FCC part 15 of the LSQ-DCU-2010 Manufactured by Elmotech Ltd.

2 Test Data Information

a. Description of equipment Under Test

Equipment Under Test:	DCU-2010
FCCID	LSQ-DCU-2010
Manufacturer:	Elmotech Ltd.
Serial Numbers:	031CE507280
Mode of Operation:	RX MODE
Receiver operating frequency:	318MHZ
Year of Manufacture:	2003

b. Applicant Information:

Applicant:	Elmotech Ltd.
Applicant Address	2, Habarzel Street Tel-Aviv
Telephone:	+972-3-6478871
FAX:	+972-3-6478872
The testing was observed by: following applicant's personnel:	Natan Galperin

c. Test Performance:

Date of reception for testing:	06.06.05
Dates of testing	06.06.05
Test Laboratory Location	TADIRAN EMC LAB , Hashoftim 26 Holon 58102 ISRAEL Tel: 972-3-5574476 Fax: 972-3-5575320
Applicable EMC Specification:	Federal Communication Commission (FCC), Part 15: Radio Frequency Devices, Sections 15.107 & 15.109

3 Test Summary and Signatures.

TADIRAN EMC Laboratory has completed testing of E.U.T in accordance with the requirements of the FCC Part 15 Regulations for Class B equipment.

a. The E.U.T has been found to comply with the emission requirements of the FCC Part 15 Regulations given below

b. The results of the measurements for the frequency range 450 kHz to 30 MHz contained in Report No ELMEMC_FCC.14591 (Hermon Lab.) are still valid

Test	Test Description	Section	Pass/Fail
1	Unintentional Conducted Emission	15.107	Pass

c. Test performed by:

Mr. D. Lanuel Test Engineer

d. Test Report prepared by:

Mr. D. Lanuel Test Engineer

e. Test Report Approved by:

Mr. Samuel Cohen EMC Lab. Manager

4 E.U.T information

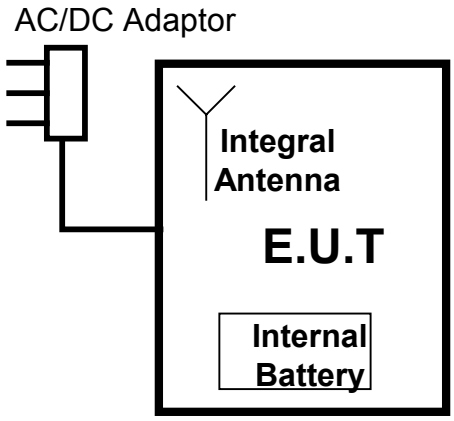
a. E.U.T description

The EUT, LSQ-DCU-2010, is a data collection unit, which receives data from 318MHz alarm transmitters. It provides communication with monitoring center through modem and POTS lines and infrared communication with a computer.

The device is a powered via external AC/12VDC adapter, manufactured by Egeston Ltd, model number N2UFSW3

b. E.U.T Test Configuration

The E.U.T test configuration is shown in figure bellow



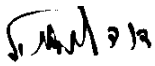
c. E.U.T Mode of Operation description

(1) The test was performed to measure emission at RX Mode

(2) Operating Voltage 110 V, AC 60Hz

5 Conducted Emission, AC Power Leads According to FCC 15.107 (150 kHz – 30 MHz)

E.U.T:	LSQ-DCU-2010
Test Method:	ANSI C63.4
Date:	**06**/06/05
Relative Humidity:	30%
Ambient Temperature:	20c
Air Pressure:	1046hpa
Test Setup:	Figure 1

Testing Engineer: D.Lanuel  Date : 07/06/05

a. Test Results Summary & Conclusions

The LSQ-LPU-800 complies with FCC, Part 15.107 conducted emissions requirement.

b. Limits of Conducted Emission at Mains Terminals

The test unit shall meet the limits of Table 1 for FCC Part 15 Para 15.107 equipment.

Table 1 -Limits for intentional radiator according 15.107

Frequency Range MHz	Quasi-peak Limits dBμV	Average Limits dBμV
0.15 – 0.50	66 to 56*	56 to 46*
0.50 - 5	56	46
5 - 30	60	50

*Decreases with the logarithm of the frequency

c. Test Instrumentation and Equipment

Table 2 – Test Instrumentation and Equipment

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/06
Signal Generator	2017	Marconi	21/06/05
LISN	FCC-LISN-3B	FISCHER	31/08/05

d. Test Procedure

1) The EUT was placed on the top of table 1m by 1.5m, raised 0.8 meters above the conducting ground plane
2) The rear panel of the EUT was located 40cm to the vertical wall of the screen room
3) Each EUT power leads were individually connected through an LISN to the input power source. Unused 50 ohm connector of the LISN was terminated in 50ohm and other was connected to the spectrum analyzer through 20db attenuator for maximum conducted interference

e. Test setup

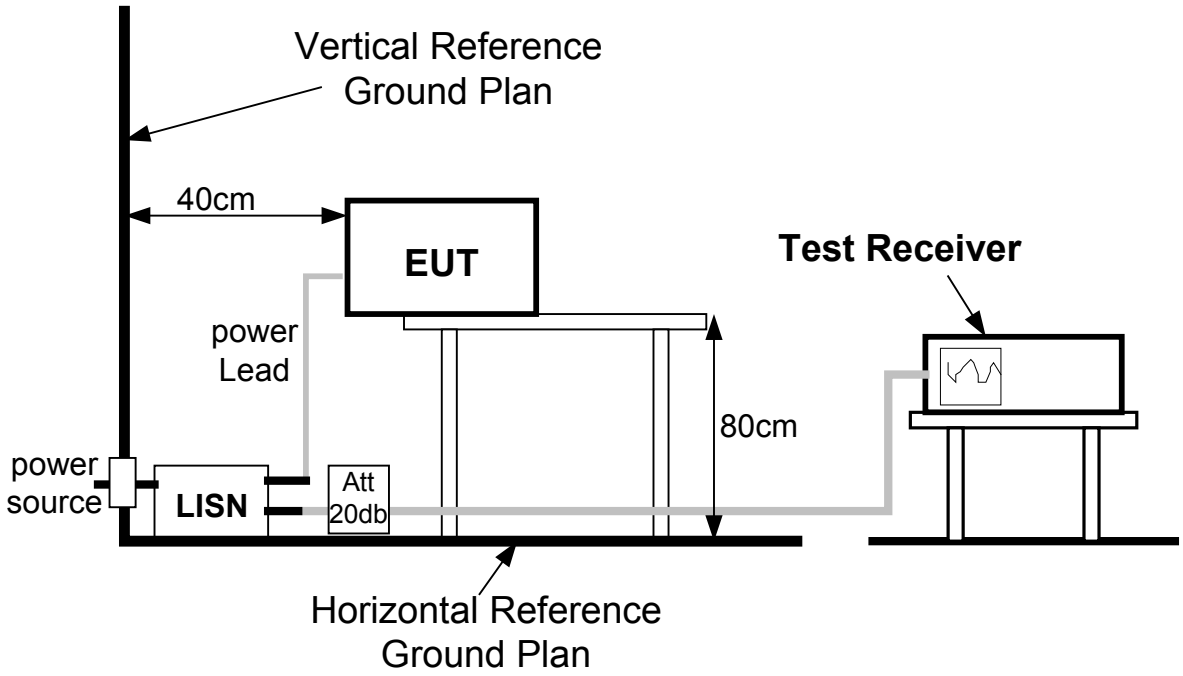


Figure 1 Conducted emission Test Configuration

f. Results

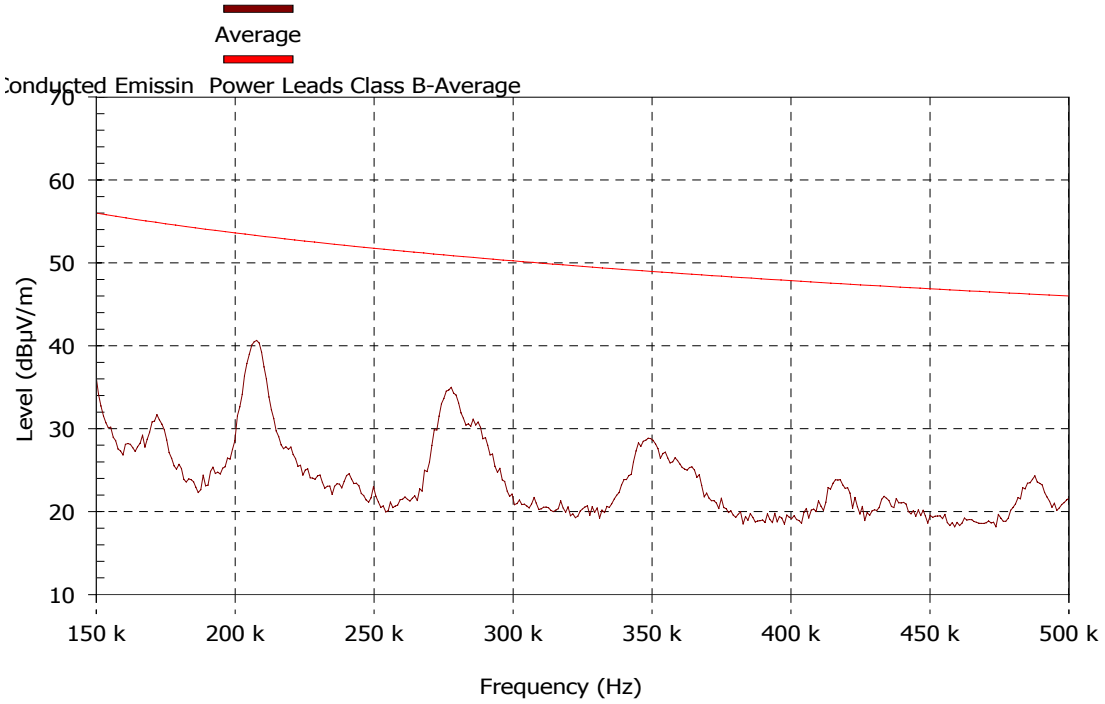
Table 3- Test Results 15.107

Lead P/N	Frequency Range (MHz)	Detector	Resolution BW (kHz)	Plot No.	Comply. Y/N
Phase	0.15 – 0.5	Average	9	1	Y
Neutral			9	3	Y
Phase	0.15 – 0.5	Quasi Peak	9	2	Y
Neutral			9	4	Y

Table 4- Six Highest Emissions 15.107

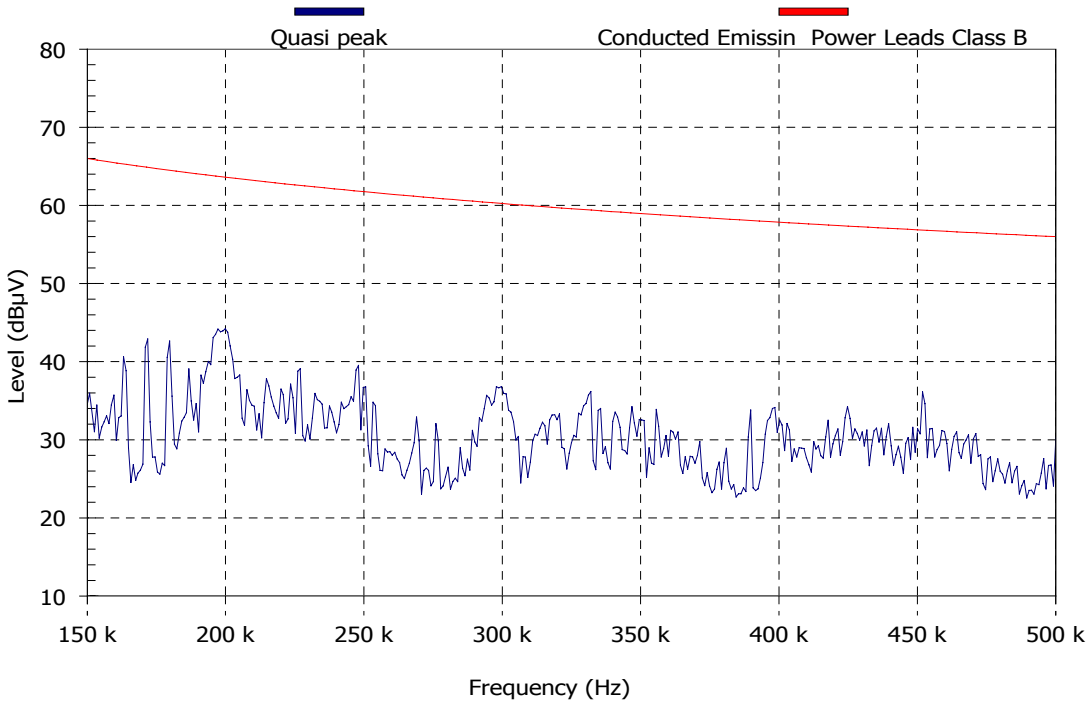
Freq. (MHz)	Quasi-peak Reading (dBμV/m)	Limit dBμV/m	Margin (dB)	Pass/Fail
0.205	57.5	63.4	5.9	Pass

g. Tested Line—Phase



REF.LEVEL	ATTENUATOR	RBW	VBW	SWEEP TIME
70 dBµV	0 dB	9 kHz	1000 kHz	Auto: 33.33 ms

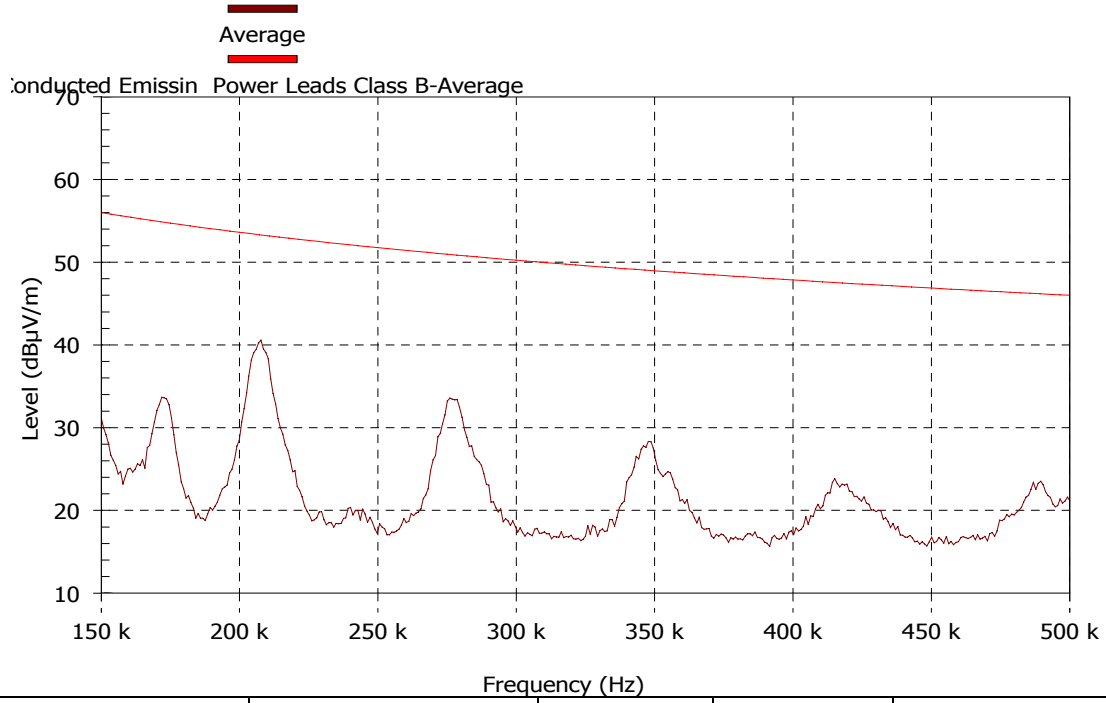
Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.



REF.LEVEL	ATTENUATOR	RBW	VBW	SWEEP TIME
80 dBµV	0 dB	9 kHz	1000 kHz	Auto: 33.33 ms

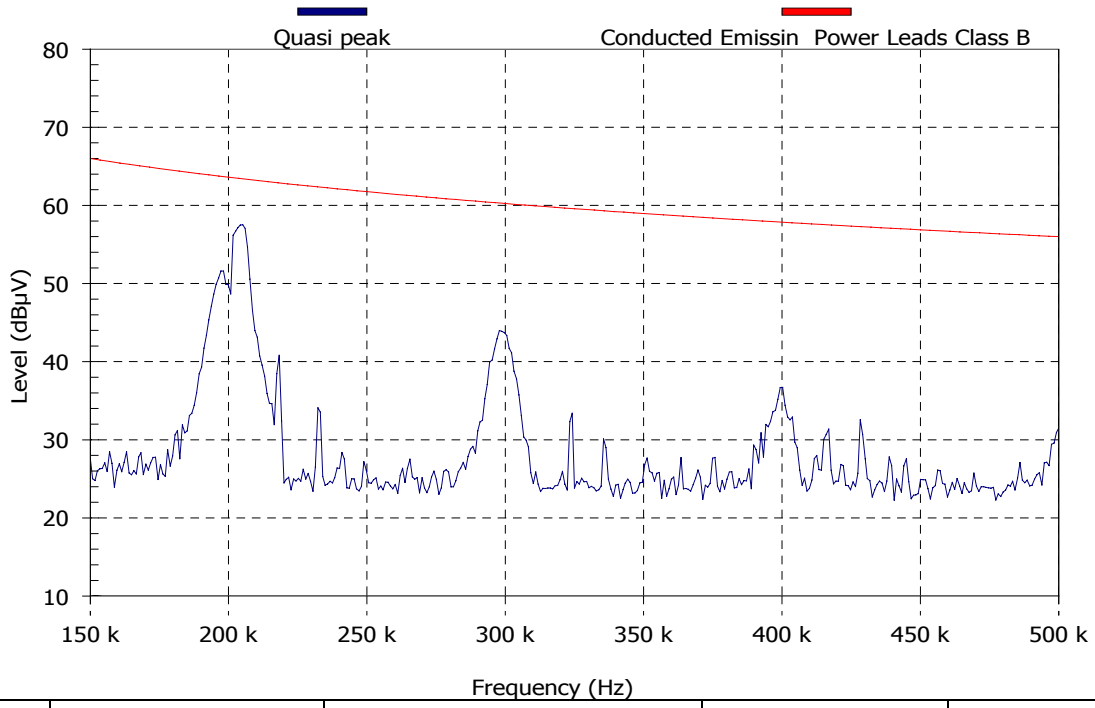
Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.

h. Tested Line—Neutral



EF.LEVEL	ATTENUATOR	RBW	VBW	SWEEP TIME
70 dBµV	0 dB	9 kHz	1000 kHz	Auto: 33.33 ms

Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.



Nr	Frequency(MHz)	PK Max Hold (dBµV)	Result	Line
1	0.205	57.5	Pass	Line 1

REF.LEVEL	ATTENUATOR	RBW	VBW	SWEEP TIME
80 dBµV	0 dB	9 kHz	1000 kHz	Auto: 33.33 ms

Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.

Conducted Emission, AC Power Leads Testing Setup

Conducted Emission, AC Power Leads Testing Setup