

This report cancels and replaces the report N° RM-10814 Ed 0

E.M.C TEST REPORT

According to the standard :
RTCA DO 160 D - Issue 1997

Equipment under test :
ADT 406 AF/AP
P/N : 01N63735A S/N : Proto 007-2001

Company :
ELTA

Distribution : Mr CRESP

(Company : ELTA)

Number of pages : 15

Ed.	Date	Pages modified	Written by		Verified by		Approved by	
			Name	Visa	Name	Visa	Name	Visa
0	26.12.01	First edition	F. CADIOU		P. SEZILLE			
1	25.10.02	8-9	F. CADIOU		P. SEZILLE		Le Responsable Qualité C. VINAT	

Duplication of this document is only permitted for an integral photographic facsimile. It includes the number of pages referenced above. This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole production to the item tested.

EMITECH ILE DE FRANCE

Centres de MONTIGNY
3, rue des Coudriers - CAP 78
ZA de l'Observatoire
78180 MONTIGNY LE BX
Tél. 01 30 57 55 55
Fax 01 30 43 74 48
Siret : 344 545 645 00022

Centre de SATORY
Bâtiment 147
13, route de la Minière
78000 VERSAILLES
Tél. 01 30 97 05 70
Fax 01 39 51 84 79
Siret : 344 545 645 00071

GRAND SUD

Centre de MONTPELLIER
Z.I. de la Vallée du Salaison
145, rue du Massacan - BP 25
34741 VENDARGUES Cedex
Tél. 04 67 87 11 02
Fax 04 67 70 94 55
Siret : 344 545 645 00063

ATLANTIQUE

Centre d'ANGERS
Z.I. Angers - Beaucouzé
15, rue de la Claire
49070 BEAUCOUZE
Tél. 02 41 73 26 27
Fax 02 41 73 26 40
Siret : 344 545 645 00055

europcem Groupe EMITECH

364, rue Armand Japy
Technoland - BP 39
25461 ETUPES Cedex
Tél. 03 81 90 75 90
Fax 03 81 32 36 28
Siret : 384 552 659 00029

E-mail : commercial@emitech.fr - URL : www.emitech.fr

Groupe EMITECH - S.A. au capital de 480 000 € - R.C. VERSAILLES B 344 545 645 - APF 742 C

NAME OF THE EQUIPMENT UNDER TEST : ADT 406 AF/AP
P/N : 01N63735A
S/N : Proto 007-2001

MANUFACTURER'S NAME : ELTA

COORDINATES OF THE COMPANY INTRODUCING THE EQUIPMENT :

Company : ELTA

Address : Service PBA
14 Place Marcel Dassault
BP48
31702 BLAGNAC CEDEX
FRANCE

Responsible : Mr. CRESP

DATE OF TEST : The 03rd December 2001

TEST LOCATION : EMITECH laboratory at Montigny le Bretonneux (78) - France

TEST OPERATOR : F. CADIOU

CONTENTS

1. INTRODUCTION.....	4
2. REFERENCE DOCUMENT	4
3. EQUIPMENT UNDER TEST CONFIGURATION.....	4
4. CONCLUSIONS.....	5
5. RESULT OF THE RADIATED EMISSION - ELECTRIC FIELD	6

1. INTRODUCTION

This document provides EMC test results performed on **ADT 406 AF/AP P/N : 01N63735A**
S/N : Proto 007.2001 according to the document referenced here below.

2. REFERENCE DOCUMENT

RTCA DO 160 D - Issue 1997

3. EQUIPMENT UNDER TEST CONFIGURATION

The equipment ADT 406 AF / AP is supplied with lithium cell.

Equipment control procedure :

- Activation control
- Test control (Auto test)
- Activation (Led)
- Reset

4. CONCLUSIONS

TEST PERFORMED	SPECIFICATION		REMARKS
	Successful	Failed	
Radiated emission - Electric Field		✓	Successful, mode ARMED failed, mode ACTIVATED See results chapter 5.

5. RESULT OF THE RADIATED EMISSION - ELECTRIC FIELD

(According to RTCA DO 160 D specification - Section 21 - Category M)

- Purpose of the test

The equipment powered and operating in its functional mode defined chapter 3 must not emit, itself and its harness, RF radiated field levels in excess of the specified limits.

- Specified limits

From 2 MHz to 6 GHz.

- Specified limits

They are plotted on test figures and compared with spectrum measurements.

- Resolution bandwidths

Frequency range	Resolution
2 MHz - 10 MHz	1 kHz
10 MHz - 30 MHz	1 kHz
30 MHz - 400 MHz	10 kHz
400 MHz - 1 GHz	100 kHz
1 GHz - 6 GHz	1 MHz

- Test set-up

The test set-up is performed according to Figure 5.1.

The equipment is bonded on the ground plane inside the shielded enclosure.

All interconnecting cables are spaced 5 cm above the ground plane with insulating support and run in a distance of 10 cm in parallel to the leading edge of the ground plane.

The receiving antenna is placed at 1 meter in front of equipment and cables.

Below 25 MHz, the measurement is performed in vertical polarization (rod antenna).

Beyond 25 MHz, the both vertical and horizontal polarizations are measured ; if necessary, a low noise amplifier is used.

Photographies are given Pictures 5.2 and 5.3.

- Apparatus list

Emitech number	Category	Manufacturer	Type
1/02/18/032	Spectrum analyzer	Hewlett Packard	8566 B
3/01/12/018	Preamplifier	Mini-Circuits	ZFL-1000LN
3/01/12/022	Preamplifier	Hewlett Packard	8449B
3/24/18/145	Biconical antenna	Electro-Métries	BIA-30HF
3/24/18/151	Log-periodic antenna	Electro-Métries	LPA-30
3/24/18/270	Rod antenna	Rohde & Schwarz	HFH2-Z6
4/16/00/010	Shielded enclosure	Ray proof	C.8
4/34/00/012	Software	Emitech	UTEM3H4

1

- Test results

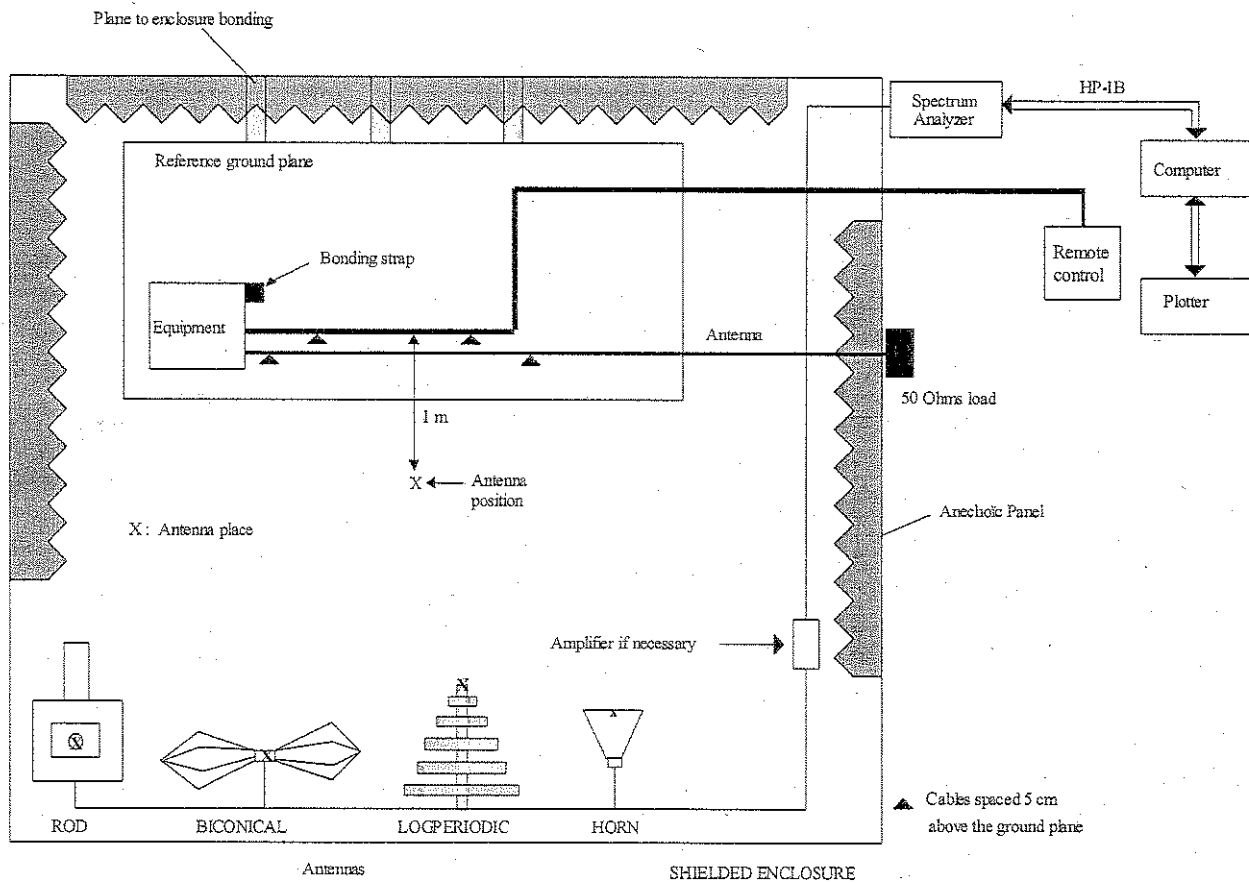
Tested modes	Figure number	Antenna polarization (VP or HP)	Remarks
Not powered	5.2.4	VP	Ambient noise
	5.2.5	HP	Ambient noise
Activated	5.2.6	VP	No compliant (*) at: 121.5 MHz (17 dB) 243 MHz (8.5 dB) 1579.5 MHz (5 dB)
	5.2.7	HP	No compliant at: 121.5 MHz (10 dB) 243 MHz (3 dB)

(*) The equipment is a transmitter of distress frequencies of emissions:
121.5 MHz, 243 MHz and 406.028 MHz.

Note : Mode ACTIVATED is the after crash condition or non permanente condition (manual / or automatic activation). Could be stopped manually with the remote control panel (RESET).

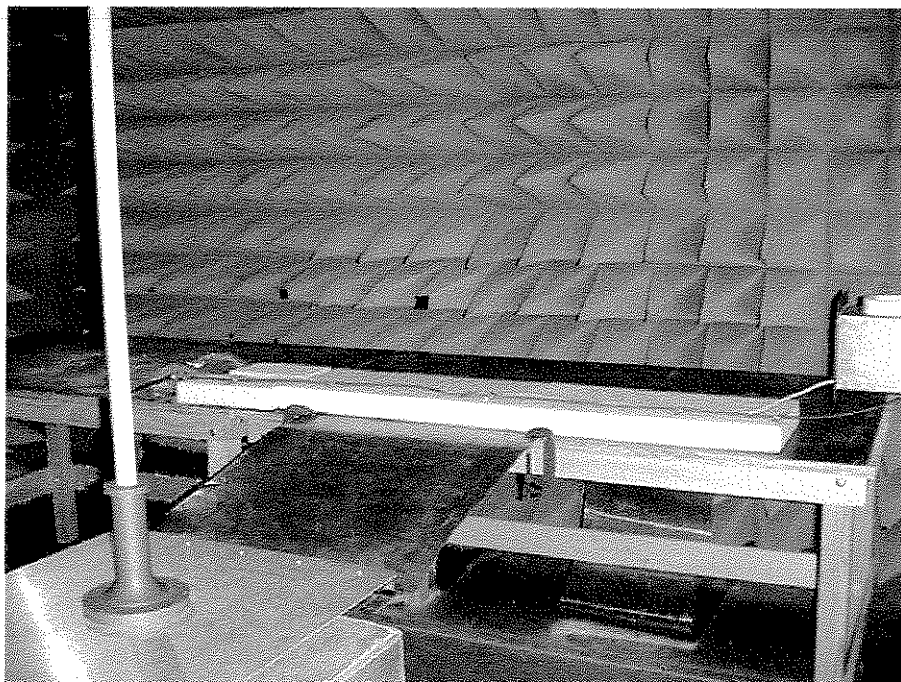
Figure 5.1

RADIATED EMISSION - ELECTRIC FIELD

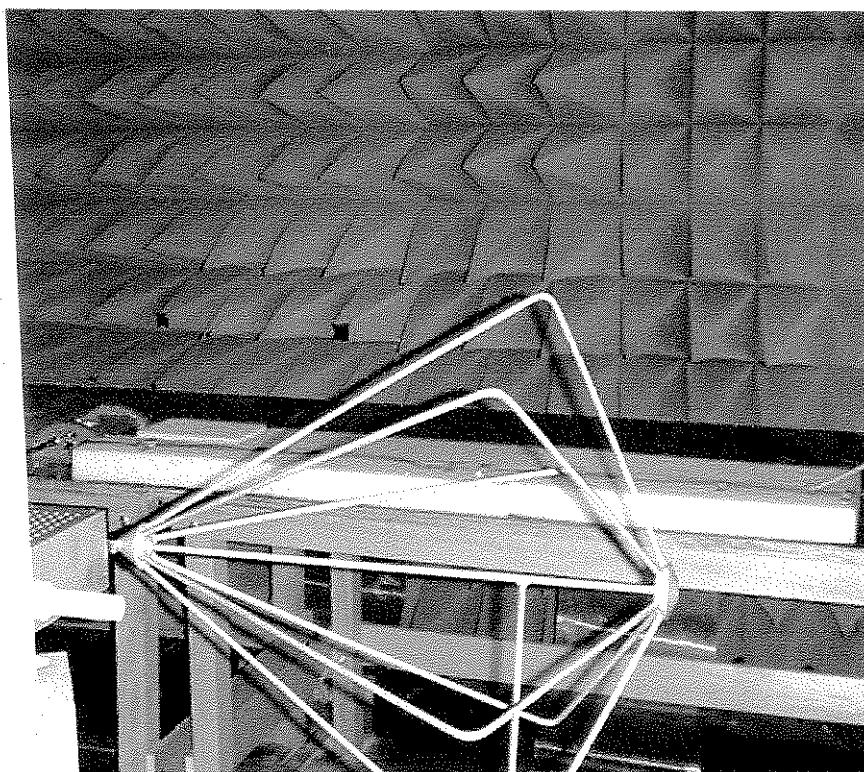


Picture 5.2

RADIATED EMISSION - ELECTRIC FIELD



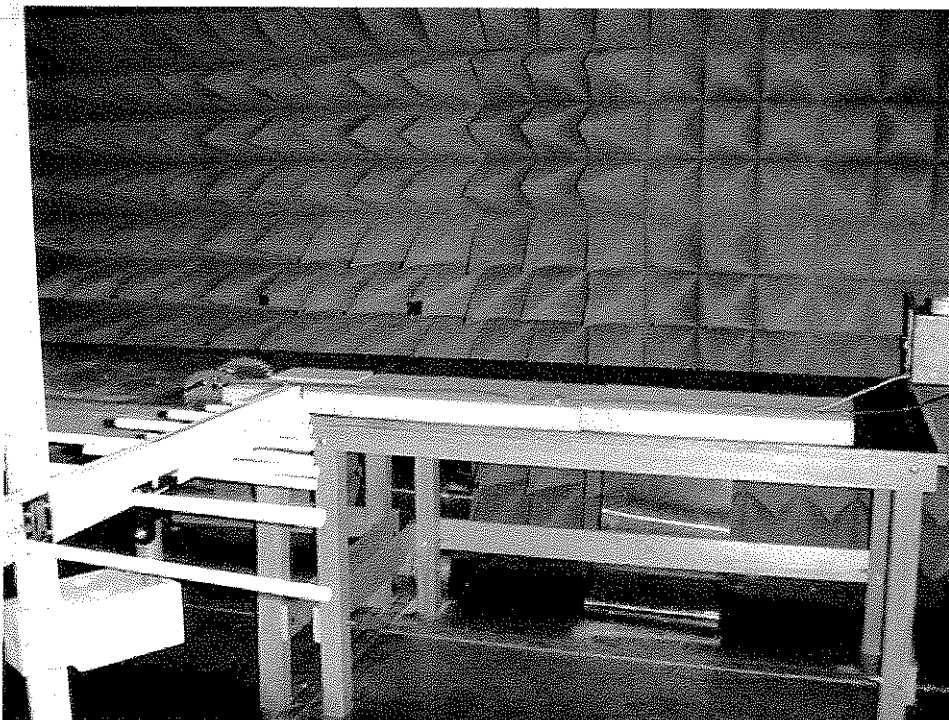
Test from 2 MHz to 25 MHz



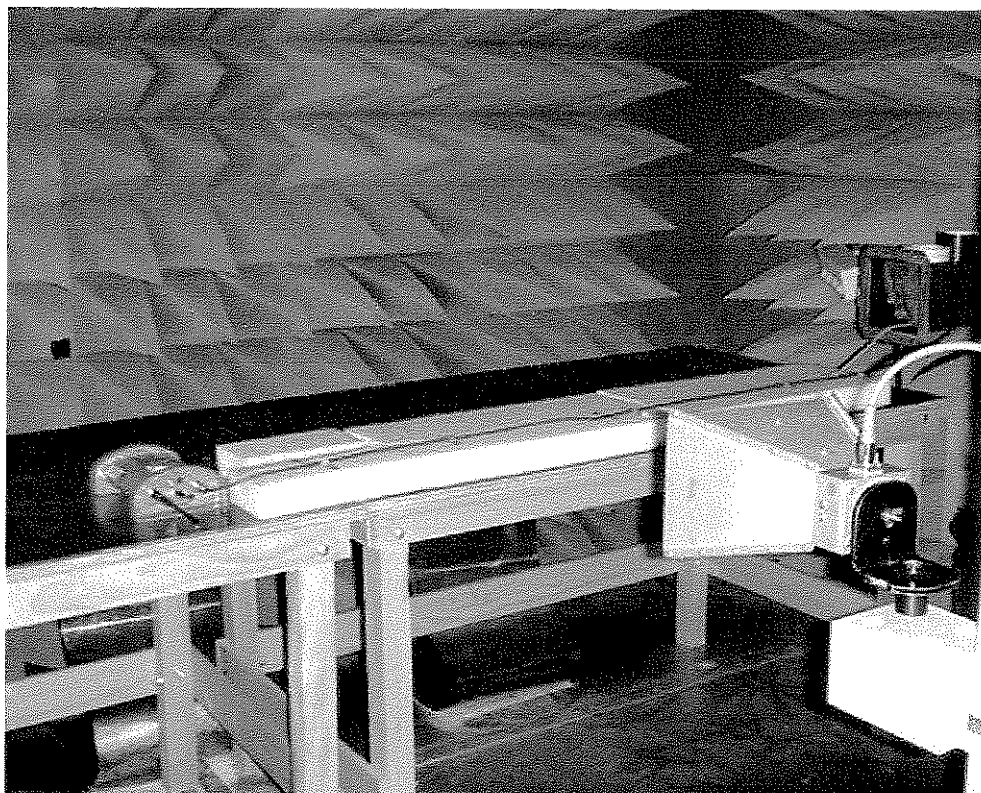
Test from 25 MHz to 200 MHz

Picture 5.3

RADIATED EMISSION - ELECTRIC FIELD



Test from 200 MHz to 1 GHz



Test from 1 GHz to 6 GHz

ADT 406 AF/AP

RADIATED EMISSION - ELECTRIC FIELD

ACCORDING TO DO 1800 - SECTION 21 - CAT. M

VERTICAL POLARIZATION

NOISE AMBIANT MEASUREMENT

LEVEL IN $\mu\text{V}/\text{m}$

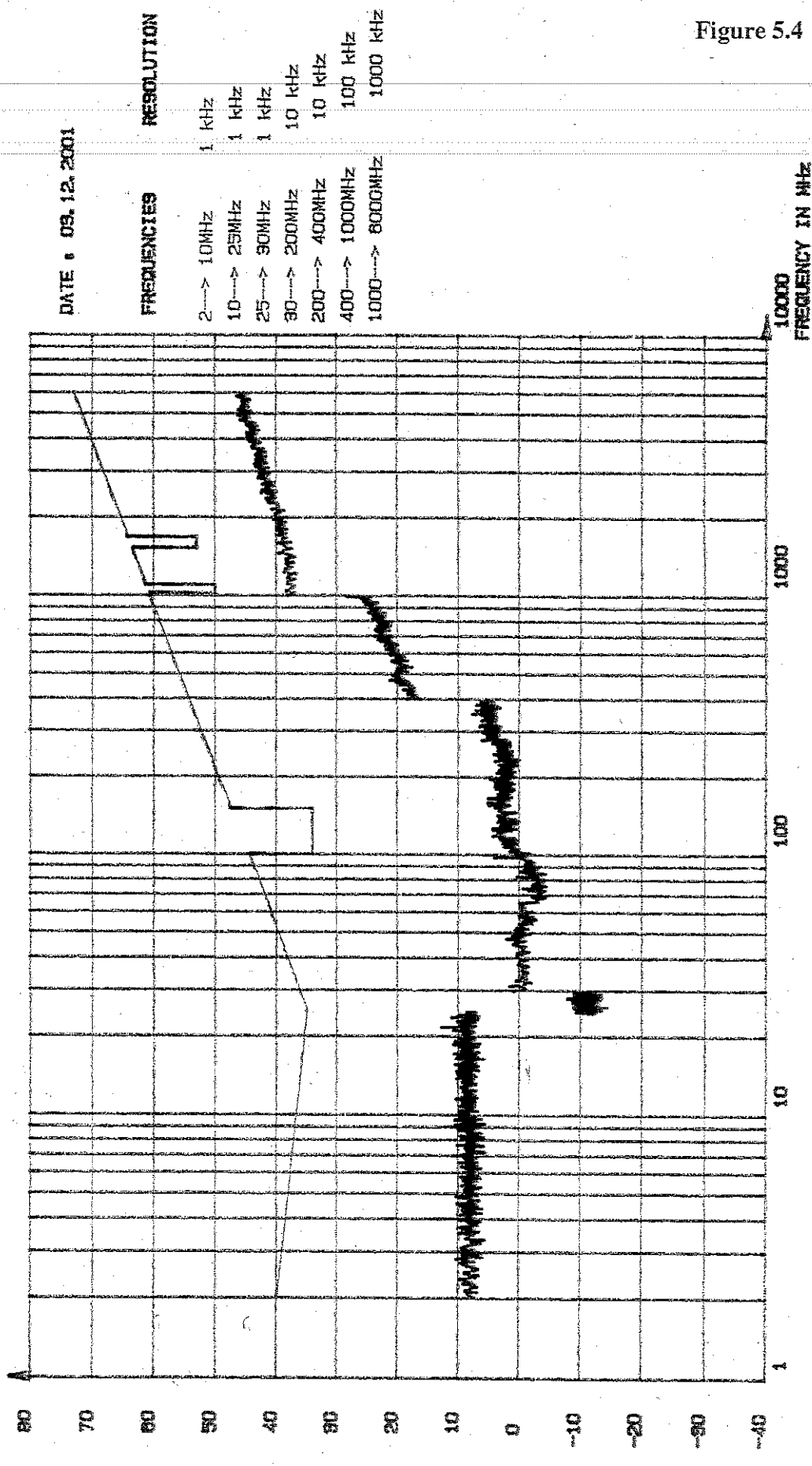


Figure 5.4

ADT 406 AF/AP

RADIATED EMISSION - ELECTRIC FIELD

ACCORDING TO DO 160D - SECTION 21 - CAT.M

HORIZONTAL POLARIZATION

NOISE AMBIANT MEASUREMENT

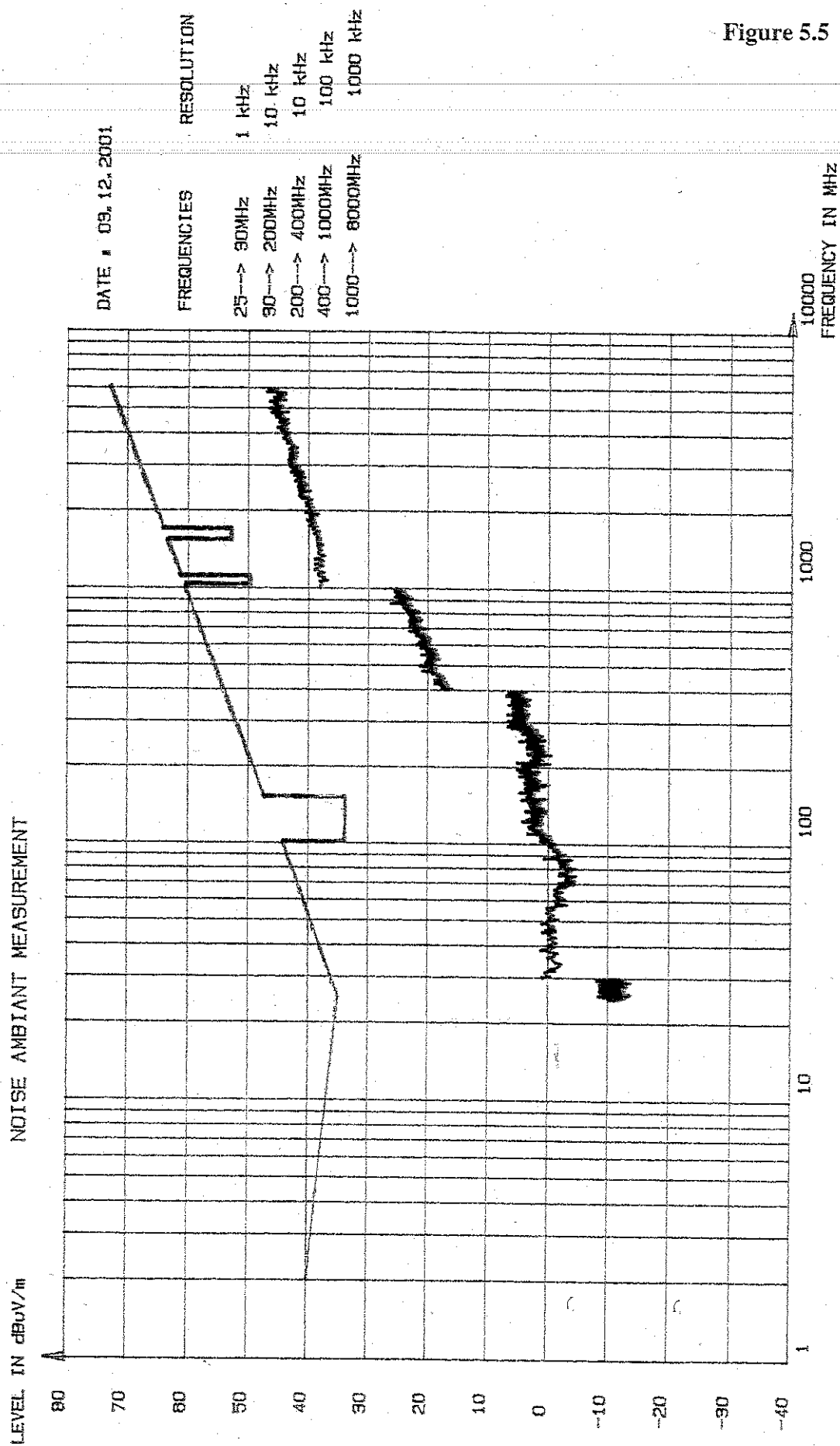


Figure 5.5

ADT 406 AF/AP

RADIATED EMISSION - ELECTRIC FIELD

ACCORDING TO DO 160D - SECTION 21 - CAT. M

VERTICALE POLARIZATION

MOD ACTIVATED

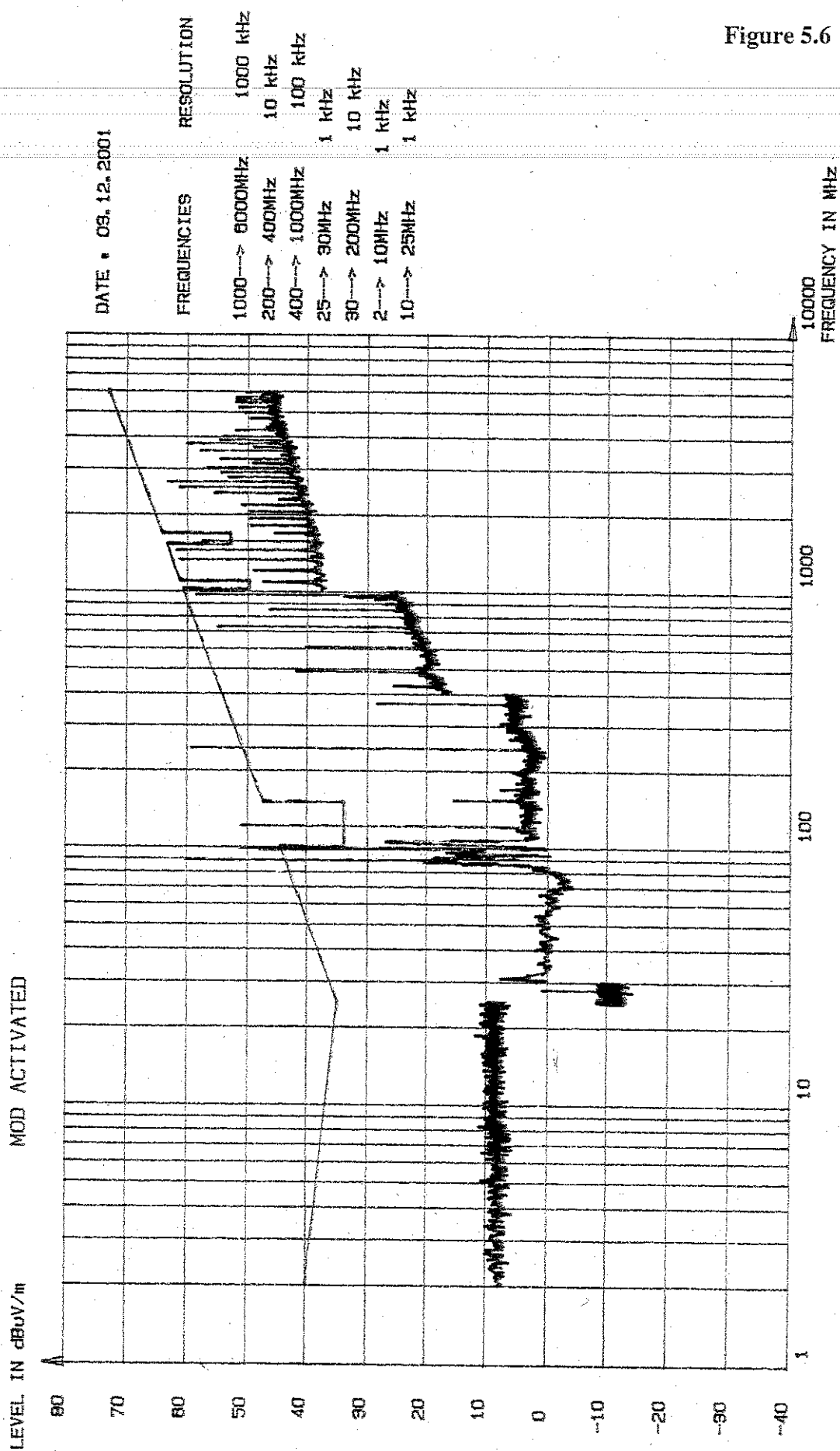


Figure 5.6

ADT 406 AF/AP

RADIATED EMISSION - ELECTRIC FIELD

ACCORDING TO DC 180D - SECTION 21 - CAT. M

HORIZONTAL POLARIZATION

MOD ACTIVATED

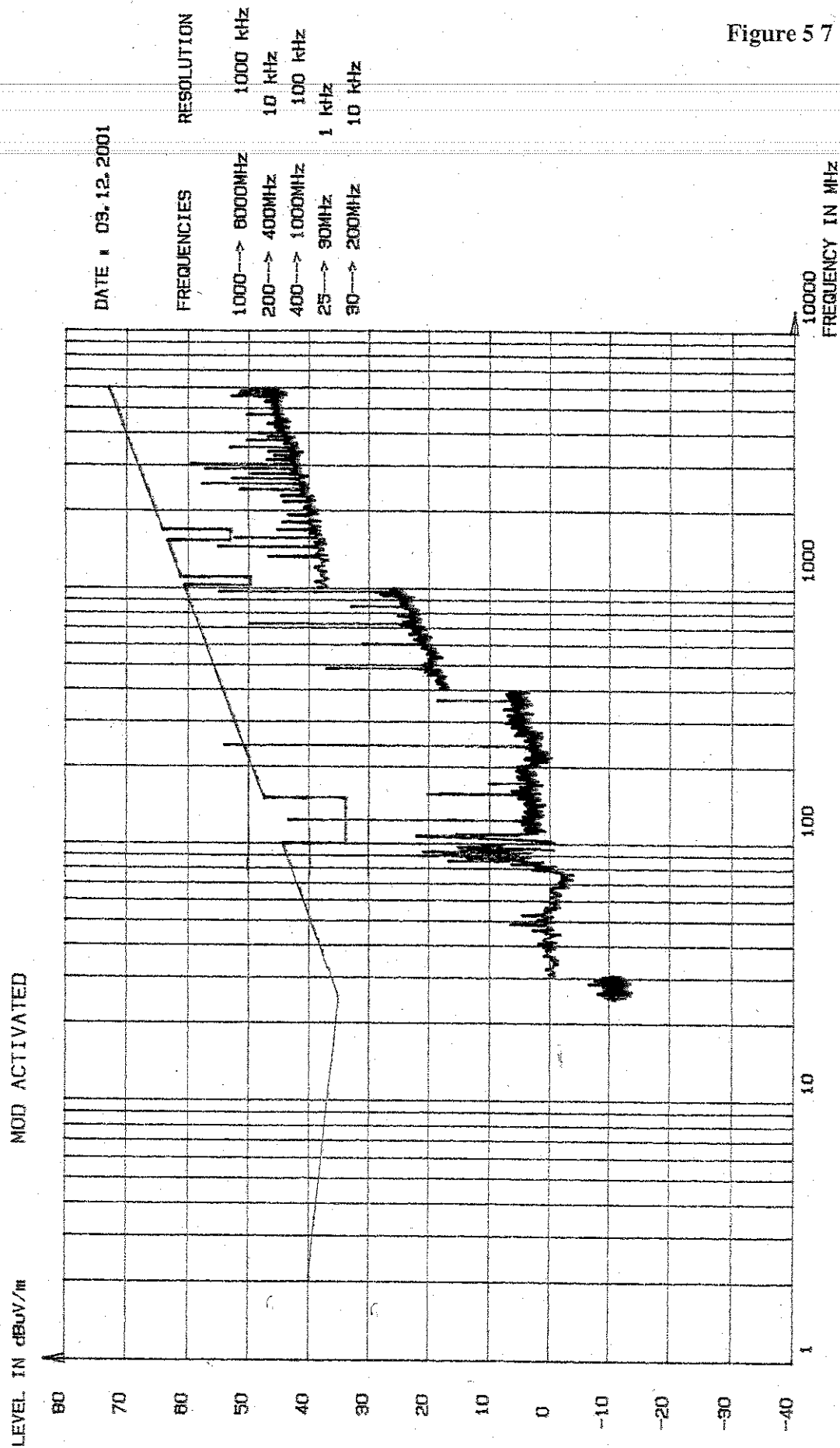


Figure 5 7