Accreditation
N° 1-0312

TEST REPORT

N° 60049617-550144 A

FCC REGISTRASTION NUMBER 93402
INDUSTRY CANADA NUMBER 6231

ISSUED TO : NORTEL
Parc d'activités de Magny-Châteaufort
78928 YVELINES Cedex 09

SUBJECT : **ELECTROMAGNETIC COMPATIBILITY TESTS ACCORDING TO THE PUBLICATIONS 47 CFR PART 15 CLASS B of 2005 AND ICES003 CLASS B of 2004**

Apparatus under test :

- Product : BASE STATION
- Trade mark : NORTEL
- manufacturer : NORTEL NETWORKS
- type : GSM 1900 BTS 6000 OUTDOOR (A.C.)
- Serial number : -

Test date : October 2006

Composition of document : 11 pages + 2 related documents

Fontenay-aux-Roses, November 16, 2006

The technical manager,

LABORATOIRE CENTRAL
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au capital de 15 745 984 €
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1 – GENERAL

1.1 - Manufacturer identification

Manufacturer : NORTEL
Address : Parc d'activités de Magny-Châteaufort
78928 YVELINES Cedex 09

2 - TESTING PROGRAM

Test have been carried out according to the following specifications :

- Measurement of continuous conducted disturbances in the frequency range 0.15 MHz to 30 MHz - publication 47CFR Part. 15 subpart C (§ 207) class B of 2000 and standard CISPR 22 (§9) class B of 2003
- Measurement of radiated disturbances in the frequency range 30 MHz to 18 GHz - publication 47CFR Part. 15 subpart C (§ 209) ,class B of 2000
- Measurement of radiated disturbances in the frequency range 30 MHz to 1 GHz - standard CISPR 22 (§10) class B of 2003

3 - EQUIPMENT CHARACTERISTICS

3.1 - Label identification

No number plate statement.
(see hardware and software descriptions of the related document provided by NORTEL , reference : PE/BTS/DJD/020820 Issue 01.01/EN).

3.2 - Equipment configuration

The configuration of the equipment under test is described on the related documents reference LCIE 60049617-550144-C-TP-FCC and NORTEL - PE/BTS/DJD/020820 Issue 01.01/EN.

The position of apparatus under test is given in the photograph in annex.

During the measurements, the apparatus was operating in transmitter mode and the output transmitters were connected to 50 Ohms loads.
The emissions frequencies were 1930.2 MHz; 1960MHz; 1989.8MHz for PCS1900, and all transmitters were at maximum power 30W

The frame of the BTS was grounded.

4 - OPERATING CONDITIONS

The apparatus was placed in an open field site located rue Théo Bonhomme at ECUELLES (Seine-et-Marne) was powered with a A.C. source delivering 120/240VAC, Split phase US, 60Hz

. Climatic conditions: ambient temperature : 23 °C
relative humidity : 45%
atmospheric pressure : - hPa

5 - TESTING RESULTS

Apparatus class : B

TEST	TEST SPECIFICATION	RESULTS			
		P	F	NA	Rem
Limits for conducted disturbances at mains ports	Frequency range : 0.15MHz to 30 MHz				
	Diagrams No 1 and 2	[X]	[ ]	[ ]	[ ]
Limits for radiated disturbances					
	Frequency range : 30 MHz to 18000 MHz				
	Antennas :				
	- bilog (30 MHz to 1000 MHz)	[X]	[ ]	[ ]	[ ]
	- Horn (1 GHz to 18 GHz)	[X]	[ ]	[ ]	[1]
	Diagrams No 3 and 4, and table 1				

P : pass - F : Fail - NA : not applicable - Rem : remark

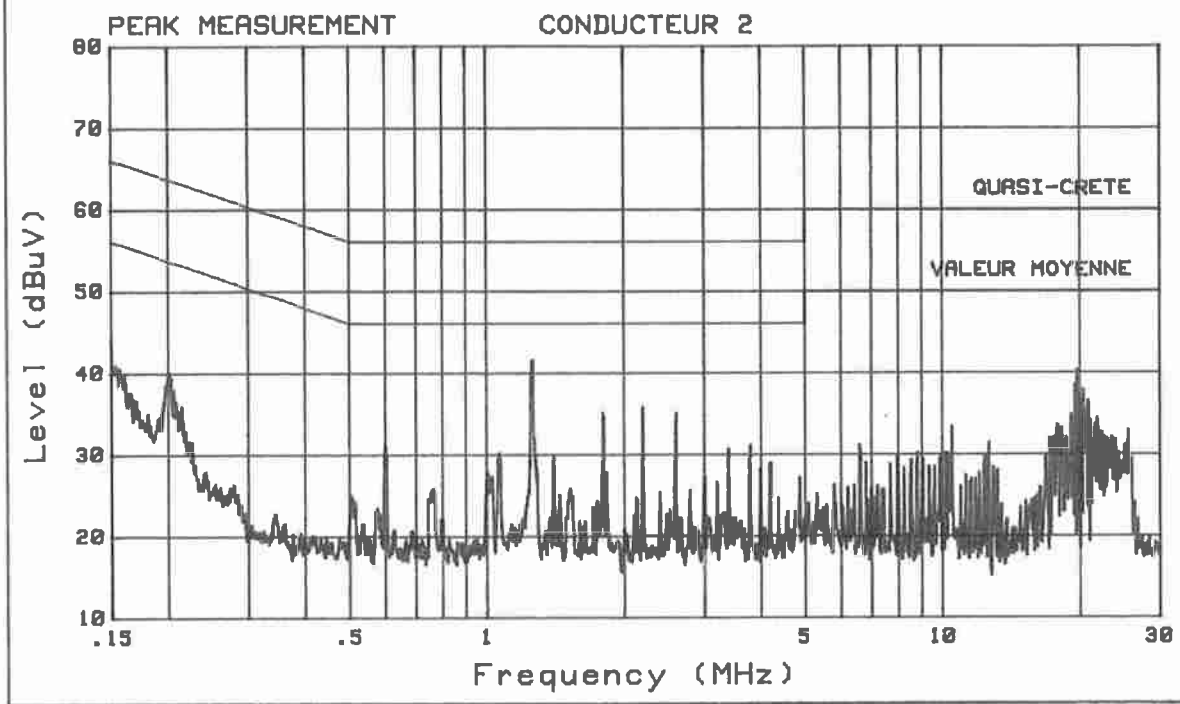
Remark N° 1 : no frequency between 2 GHz to 18 GHz

6 - CONCLUSION

The apparatus of manufacturer NORTEL and model GSM 1900 BTS 6000 OUTDOOR is in compliance with the requirements of the publications 47 CFR PART 15 Subpart C (§207 and § 209 in the frequency range 30 MHz to 18 GHz) class B and ICES003 class B.

Diagram n°1

FCC PART 15 CLASSE B	NORTEL BTS MODEL GSM1900 BTS6000 OUTDOOR



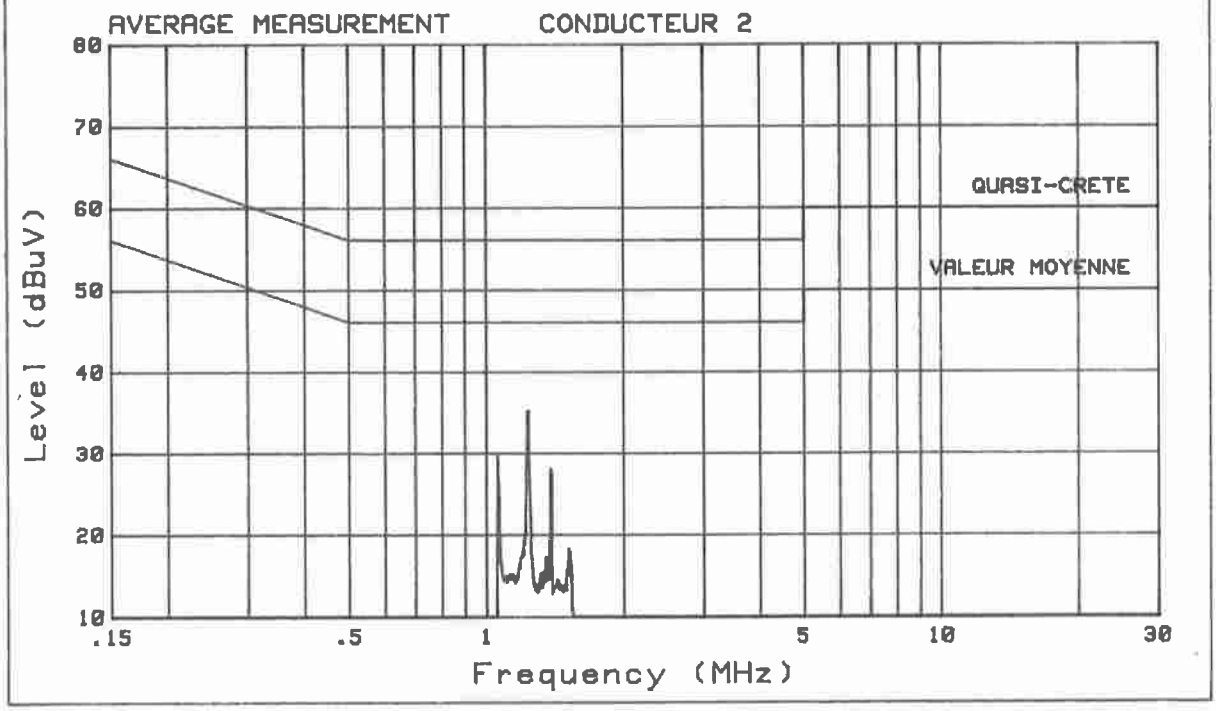
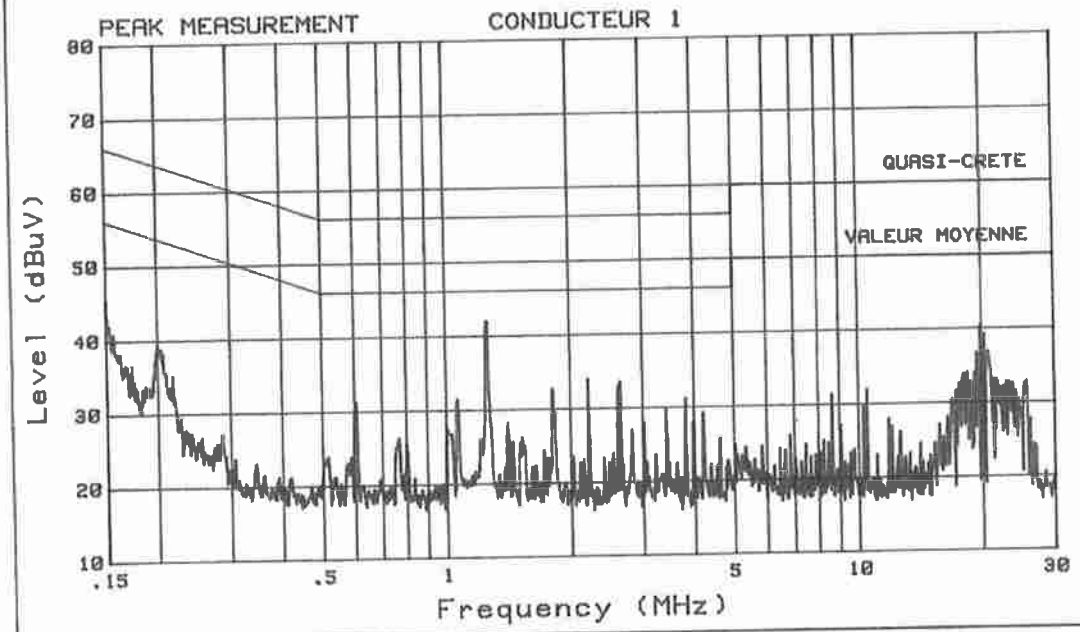


Diagram n°2

FCC PART 15 CLASSE B	NORTEL BTS MODEL GSM1900 BTS6000 OUTDOOR



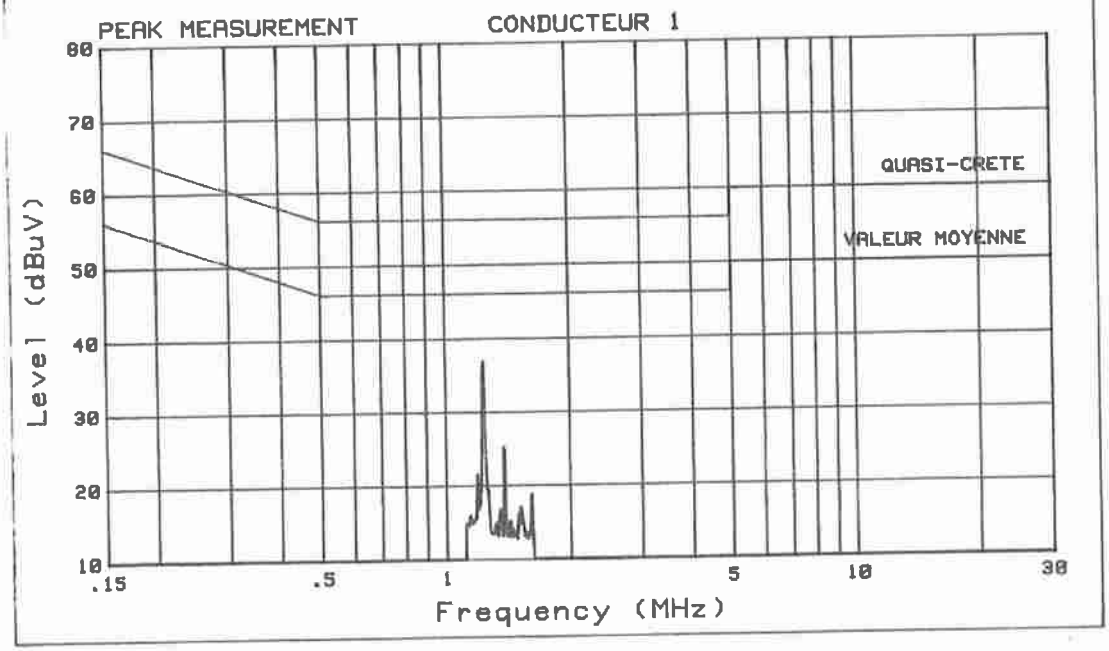


Diagram n°3

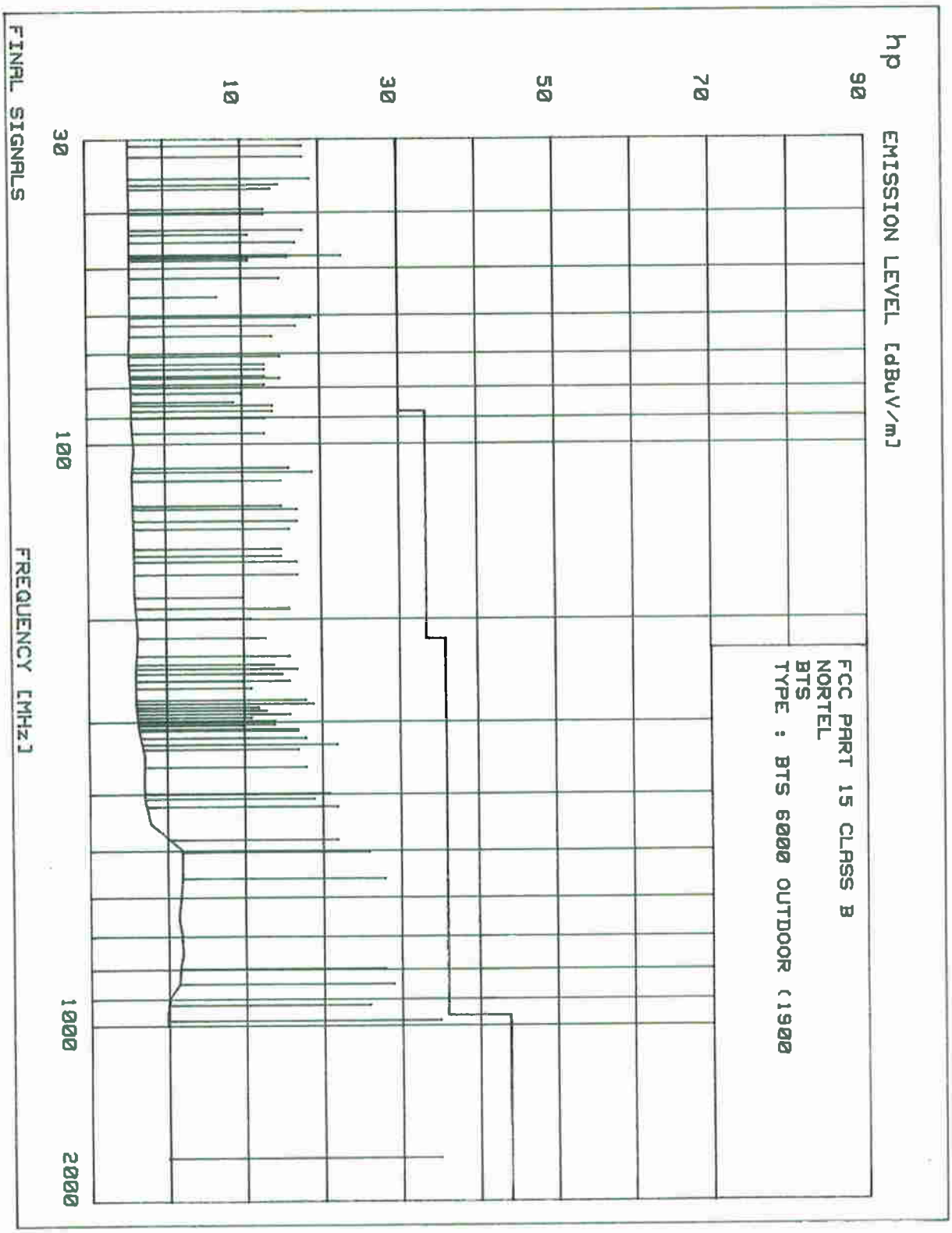

hp
EMISSION LEVEL [dBuV/m]
90
70
50
30
10
FCC PART 15 CLASS B
NORTEL
BTS
TYPE : BTS 6000 OUTDOOR (1900
FINAL SIGNALS
30
100
1000
2000
FREQUENCY [MHz]

Diagram n°4

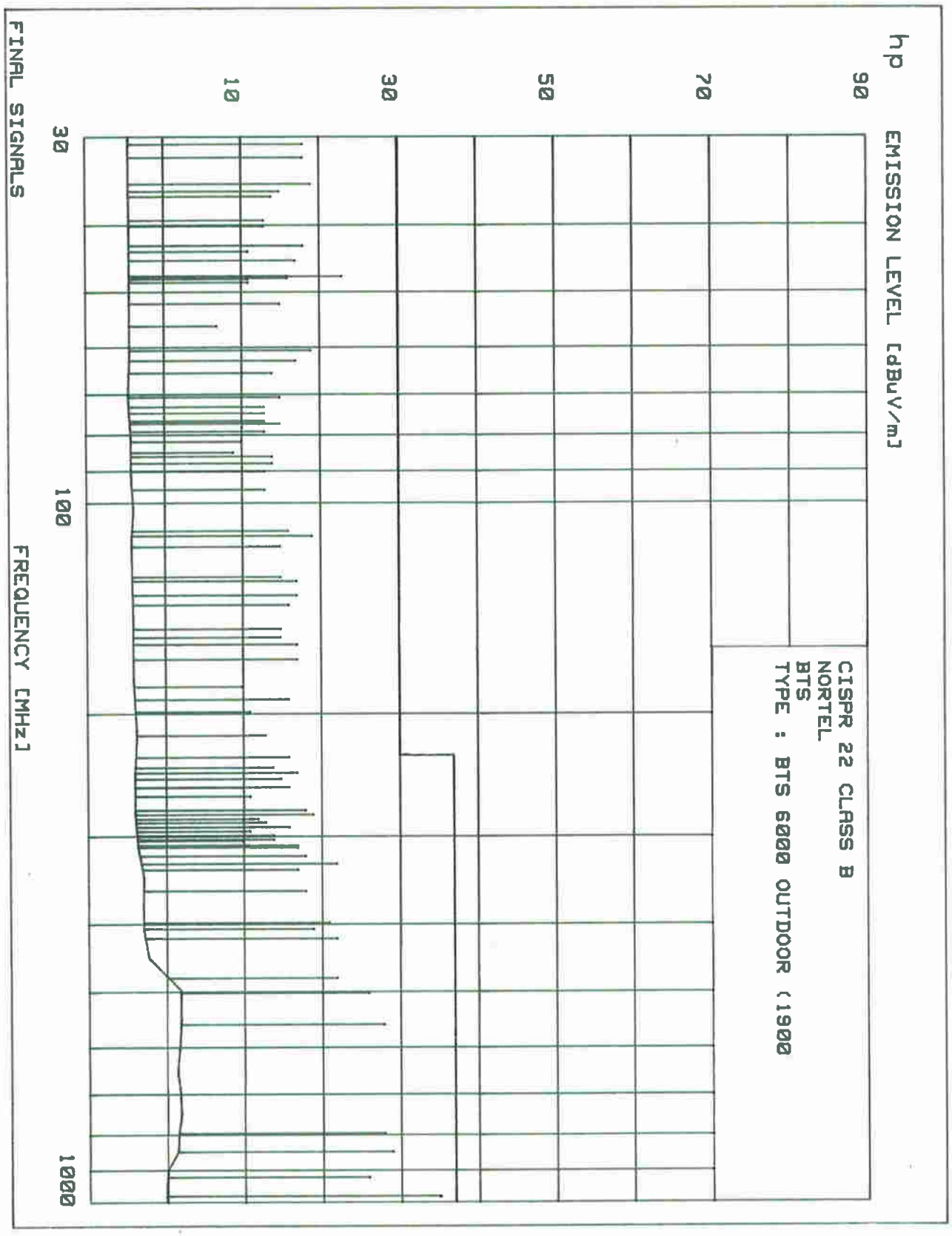
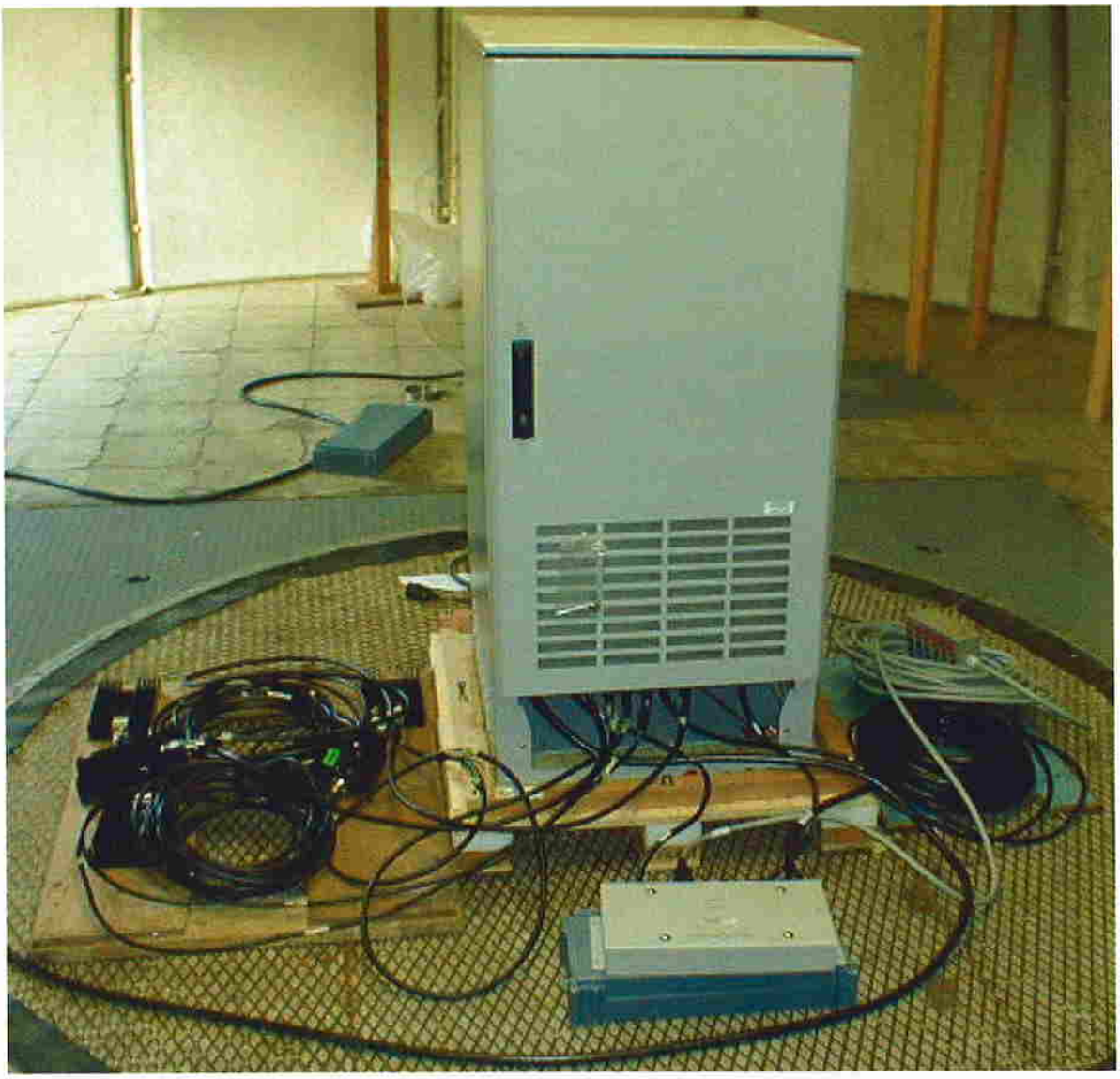

hp
EMISSION LEVEL [dBµV/m]
90
70
50
30
10
CISPR 22 CLASS B
NORTEL
BTS
TYPE : BTS 6000 OUTDOOR (1900
FINAL SIGNALS
30
100
1000
FREQUENCY [MHz]

Table n°1

Measurement at transmitters frequencies for indicative level

Frequency (MHz)	Channel	Level (dBµV/m)
1930.2	Bottom	67
1960	Middle	69
1989.8	Top	69

Photo N° 1



LISTE DU MATERIEL / EQUIPMENT LIST

Test	Appareil / Apparatus	Marque / Trade Mark	Type / Type	Immatriculation / Registration number
Essais en espace libre / Open area test site				
X	Analyseur de spectre/ Spectrum analyseur	HEWLETT PACKARD	8566B	A4060004
X	Présélecteur / Preselector	HEWLETT PACKARD	85685A	A4069001
X	Adaptateur quasi-crête / Quas-Peak adaptator	HEWLETT PACKARD	85650A	B2163019
X	Préamplificateur / Preamplifier	HEWLETT PACKARD	8449B	A4069002
	Générateur / Signal Generator	HEWLETT PACKARD	8657A	A5442003
	Générateur / Signal Generator	HEWLETT PACKARD	E4433B	A5488014
	Générateur / Signal Generator	ROHDE & SCHWARZ	SMP02	B2163019
	Mire	PHILIPS	PM 5518-TX	A5240009
	RLTE	SECRET	ENS 1039	C2324001
	Coupleur / Coupler	NARDA	3020A	C5364002
	Coupleur / Coupler	SALIES	3060-20	C5364001
X	Réseau V / V ISLN	ROHDE & SCHWARZ	ESH2-Z5	C2322001
	Réseau V / V ISLN	ROHDE & SCHWARZ	ESH3-Z6	C2322020
X	Antenne bilog / Bilog antenna	CHASE	CBL 6112A	C2040040
	Antenne bilog / Bilog antenna	AH SYSTEM	SAS-2001251	C2040025
	Dipole large bande /	ROHDE & SCHWARZ	HUF-Z1	C2040011
	Antenne logpériodique / Logperiodic antenna	ROHDE & SCHWARZ	HL 023 A2	C2040001
	Antenne logpériodique / Logperiodic antenna	E\D	AN112	C2040029
x	Antenne cornet / Horn antenna	AH SYSTEMS	SAS-572	
X	Antenne cornet / Horn antenna	EMCO	.3115	C2042016

TABLE DES INCERTITUDES / UNCERTAINTIES CHART

Type de mesure / *Kind of measurement*	Incertitude élargie laboratoire / *Wide uncertainty laboratory* (k=2) ±x(dB)	Incertitude limite du CISPR / *CISPR uncertainty limit* ±y(dB)
Mesure des perturbations conduites en tension sur le réseau d'énergie « alternatif » sur le site de Fontenay-aux-Roses / *Measurement of conducted disturbances in voltage on the AC power port on the Fontenay-aux-Roses site.*	3.56	3.6
Mesure des perturbations conduites en tension sur le réseau d'énergie « alternatif » sur le site en espace libre d'Ecuelles / *Measurement of conducted disturbances in voltage on the AC power port on the Ecuelles site.*	3.50	3.6
Mesure des perturbations conduites en tension sur le réseau d'énergie « continu » sur le site de Fontenay-aux-Roses / *Measurement of conducted disturbances in voltage on the DC power port on the Fontenay-aux-Roses site.*	3.56	3.6
Mesure des perturbations conduites en tension sur le réseau d'énergie « continu » sur le site en espace libre d'Ecuelles./ *Measurement of conducted disturbances in voltage on the DC power port on the Ecuelles site.*	3.56	3.6
Mesure des perturbations conduites en tension sur le réseau de télécommunication *Measurement of conducted disturbances in voltage on the telecommunication port.*	3.28	A l'étude / *Under consideration*
Mesure des perturbations conduites en courant *Measurement of conducted disturbances in current*	2.90	A l'étude / *Under consideration*
Mesure du champ électrique rayonné de 30 à 200MHz en polarisation horizontale sur le site de Fontenay-Aux-Roses / *Measurement of radiated electric field from 30 to 200MHz in horizontal position on the Fontenay-aux-Roses site*	4.58	5.2
Mesure du champ électrique rayonné de 30 à 200MHz en polarisation verticale sur le site de Fontenay-Aux-Roses / *Measurement of radiated electric field from 30 to 200MHz in vertical position on the Fontenay-aux-Roses site*	4.82	5.2
Mesure du champ électrique rayonné de 200 à 1000MHz sur le site de Fontenay-Aux-Roses / *Measurement of radiated electric field from 200 to 1000MHz on the Fontenay-aux-Roses site*	4.92	5.2
Mesure du champ électrique rayonné de 1 à 18GHz sur le site de Fontenay-Aux-Roses *Measurement of radiated electric field from 1 to 18GHz on the Fontenay-aux-Roses site*	6.54	A l'étude / *Under consideration*
Mesure du champ électrique rayonné de 30 à 1000MHz sur le site en espace libre d'Ecuelles *Measurement of radiated electric field from 30 to 1000MHz on the Ecuelles site*	4.72	5.2
Mesure du champ électrique rayonné de 1 à 6GHz sur le site en espace libre d'Ecuelles *Measurement of radiated electric field from 1 to 6GHz on the Ecuelles site*	5.60	A l'étude / *Under consideration*
Mesure du champ électrique rayonné de 6 à 18GHz sur le site en espace libre d'Ecuelles / *Measurement of radiated electric field from 6 to 18GHz on the Ecuelles site*	5.83	A l'étude / *Under consideration*
Mesure de la puissance perturbatrice / *Measurement of disturbance power*	3.37	4.5
Immunité aux perturbations conduites, induites par les champs radioélectriques *Immunity to conducted disturbances, induced by radio electric field*	2.36	/
Immunité aux perturbations conduites, induites par les champs radioélectriques, méthode de la pince d'injection *Immunity to conducted disturbances, induced by radio electric field, method oh the injection clamp*	2.76	/
Immunité aux champs radioélectriques rayonnés de 80MHz à 2.6GHz *Immunity to radiated radio electric field from 80MHz to 2.6GHz*	2.64	/

Les valeurs d'incertitudes calculées du laboratoire étant inférieures aux valeurs d'incertitudes limites établies par le CISPR, la conformité de l'échantillon est établie directement par les niveaux limites applicables./ *The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the CISPR. The conformity of the sample is directly established by the applicable limits value*