TEST REPORT

FCC REGISTRATION NUMBER: 888863
INDUSTRY CANADA NUMBER: 6231A

N° 80249-569265-A

ISSUED TO : **EMKA TECHNOLOGIES**
59 boulevard du Général Martial Valin
75015 PARIS
FRANCE

SUBJECT : **ELECTROMAGNETIC COMPATIBILITY TESTS ACCORDING TO THE STANDARD 47 CFR PART 15, SUBPART C, 15.249 and RSS-GEN, RSS-210, RSS-102**

Apparatus under test	:	
Product	:	Non-invasive telemetry transmitter
Trade mark	:	EMKA TECHNOLOGIE
Manufacturer	:	EMKA TECHNOLOGIE
Model	:	emkaPACK TLE-E03-US
Serial number	:	-
Test date	:	March to April, 2008
Composition of document	:	15 pages

Fontenay-Aux-Roses, August 7, 2008

The technical manager,

LABORATOIRE CENTRAL
DES INDUSTRIES ELECTRIQUES
S.A. au capital de 15.745.984 €
RCS Nanterre B 408 363 174
33 Avenue du Général Leclerc
92260 FONTENAY AUX ROSES

Eric ROUSSEL

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1 – GENERAL

1.1 – Summary of test results

Radiated emissions are made on open area test site located "rue Théo Bonhomme, Moret-Sur-Loing (77, France)". A description of the test facility is on file with the FCC (FCC registration number 888863).

47 CFR Part 15			
Paragraph No.	**Name of test**	**Remarks**	**Result**
§ 15.207 (a)	Power line conducted limits	N.A.	-
§ 15.249 (a) (c) (d) (e)	Field strength within the band 902-928 MHz and harmonics		PASS
§ 15.209 (d)	Field strength outside of the bands 902-928 MHz and harmonics of fundamental		PASS
§ 15.205 (a) (b) (c)	Restricted bands of operation		PASS

NA : Not Applicable

1.2 – References

Measurements were performed in accordance with the following standards:

47 CFR Part 15 of September 9, 200 7 : Code of federal regulations – Telecommunication – Radiofrequency devices

RSS-Gen of June 2007: General Requirements and Information for the Certification of Radiocommunication Equipment

RSS-102 of November 2005: Radio Frequency Exposure Compliance of Radiocommunication Apparatus

RSS-210 of June 2007 - Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment

ANSI C63.4 of December 11, 2003 : American national standard for methods of measurement of radio noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.

CISPR 16-4-2 of November, 2003 : International electrotechnical commission - Specification for radio disturbance and immunity measuring apparatus and methods – Uncertainties, statistics and limit modeling – Uncertainty in EMC measurements.

1.3 - Equipment under test specification

1.3.1 – General equipment information

Applicant : **EMKA TECHNOLOGIES**
59 boulevard du Général Martial Valin
75015 PARIS
FRANCE

Manufacturer : **EMKA TECHNOLOGIES**
59 boulevard du Général Martial Valin
75015 PARIS
FRANCE

Frequency band : 903-927MHz
Number of channel : 49
Channel spacing : 500kHz
Modulation : FSK
User frequency adjustment : NO
User power adjustment : NO
Type of antenna : Integrated
Is the operation point to point? NO

Cables :

Type	EUT port	Long (m)	Shielded	Number of wire
data	ECG connector	20 cm	NO	5
Optional input data	Optional input (1,2,3)	1 m	YES	4

The equipment was powered by 2 new batteries: 2 x 1.5 V dc

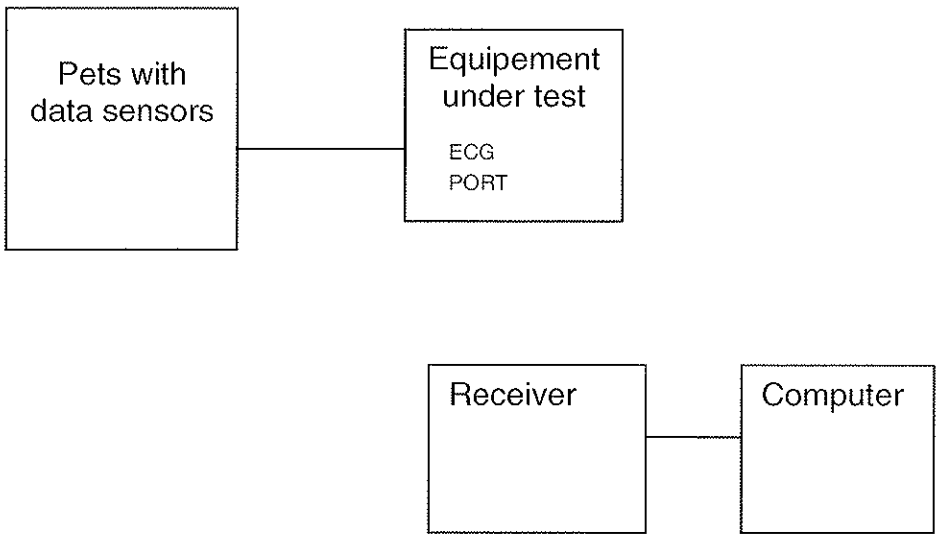
1.3.2 – Description of modifications

The equipment has not been modified during tests.

1.3.3 – Description of operation

The equipment was configured in the following operation mode:
- Data emission in a specific channel

1.3.4 – System diagram



1.3.5 – Photograph of the sample

2 – TEST RESULTS

2.1 – Field strength within the band 902-928MHz and its harmonics

2.1.1 – General

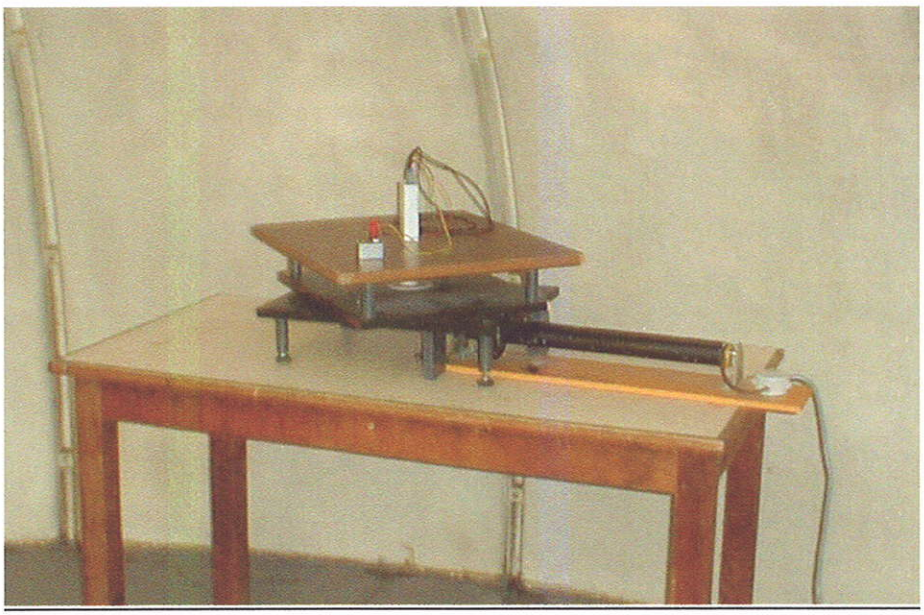
The product has been tested with new batteries and compared to the FCC part 15 subpart C §15.249 (a) (c) (d) and (e) limits.

The 6dB resolution bandwidth was 120 kHz from 30MHz to 1GHz.The measurements were performed with a Quasi-peak detector.

Above 1 GHz The 6dB resolution bandwidth was 1 MHz and VBW= 1 MHz, peak detection mode. The 6dB resolution bandwidth 1 MHz and VBW= 100 Hz (video filtering) was used for average detection mode.

2.1.2 – Test setup

The EUT is placed at 3m distance of the bilog (902-928MHz) or horn (harmonics above 1GHz) antenna on a table with a turning mechanism at 80cm height. Different positions of the EUT are checked to determine the worst case. The level has been maximised by turning the EUT with the small mechanism on the table and with the antenna in horizontal and vertical polarity from 1 to 4m.



2.1.3 – Equipment list

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyseur	HEWLETT PACKARD	8566B	A4060004	07/2007	07/2008
Preselector	HEWLETT PACKARD	85685A	A4069001	07/2007	07/2008
Quasi-Peak adaptator	HEWLETT PACKARD	85650A	A4069003	07/2007	07/2008
Bilog antenna	CHASE	CBL 6112A	C2040040	06/09/2007	09/2008
Horn antenna	EMCO	3115	C2042016	11/09/07	09/2008
Small turning table	SOMFY	-	-	-	-

2.1.4 – Uncertainty

Kind of measurement	Wide uncertainty laboratory (k=2) ±x	CISPR uncertainty limit ±y
Measurement of radiated electric field on the open area test site	5.07 dB	5.2 dB

2.1.5 – Test results

Fundamental measurements

Measurement distance: **3m**
The 6dB resolution bandwidth was 120 kHz, Q-peak detection mode.

Frequency MHz	Maximum field strength $dB_{\mu V/m\ (quasi\text{-}peak)}$	Limit at 3m $dB_{\mu V/m\ (quasi\text{-}peak)}$
903.1	88.0	93.9
915.0	85.3	93.9
927.0	86.3	93.9

Harmonics measurements

Measurement distance: **3m**
The 6dB resolution bandwidth was 1 MHz and VBW= 1 MHz, peak detection mode.
The 6dB resolution bandwidth was 1 MHz and VBW= 100 Hz (video filtering), average detection mode.

Frequency MHz	Maximum field strength $dB_{\mu V/m\ (average)}$	Limit at 3m $dB_{\mu V/m\ (average)}$
1830	51.3 (Peak)	54
2744	28.1	54
3660	32.3	54
4575	38.9	54
5490	41.9	54
6405	48.4	54
7319	49.6	54
8235	47.6	54
9149	48.6	54

Frequency MHz	Maximum field strength $dB_{\mu V/m\ (average)}$	Limit at 3m $dB_{\mu V/m\ (average)}$
1806	49.7	54
2709	27.8	54
3612	30.3	54
4515	37.4	54
5418	42.8	54
6321	48.6	54
7224	47.9	54
8127	48.0	54
9030	48.4	54

Frequency MHz	Maximum field strength $dB_{\mu V/m\ (average)}$	Limit at 3m $dB_{\mu V/m\ (average)}$
1854	51.1 (Peak)	54
2781	30.4	54
3708	31.5	54
4635	38.9	54
5562	41.4	54
6489	47.9	54
7416	48.0	54
8343	47.2	54
9270	48.3	54

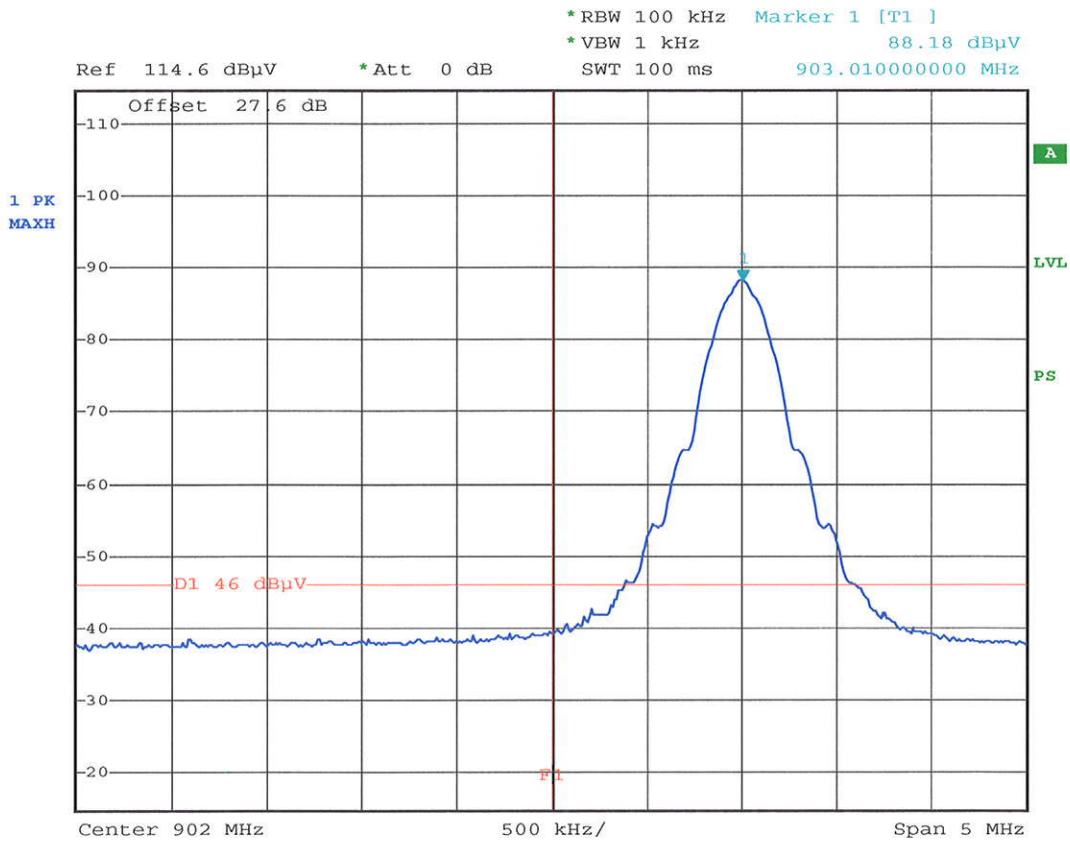
None Peak measurement of harmonics are higher than 74dBµV/m.

2.1.6 – Band-edge compliance

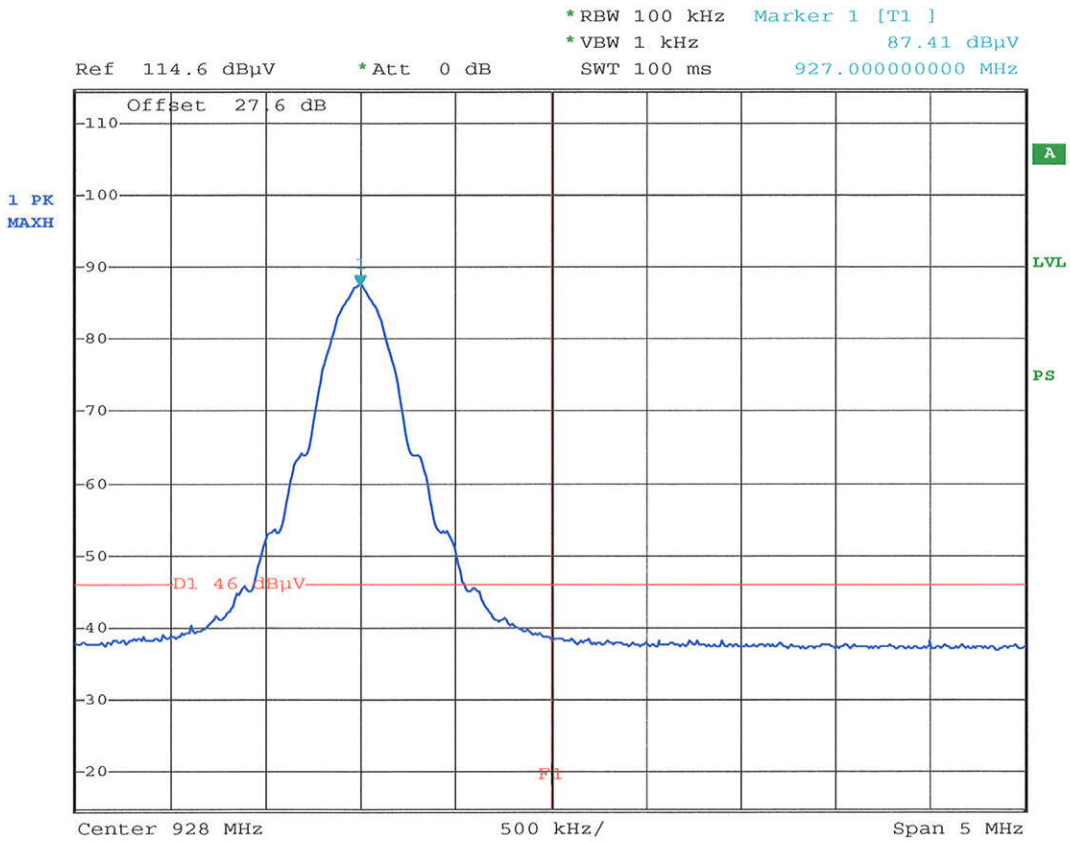
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
902-928	50000 94 dBµV/m	3
Outside 902-928	200 46 dBµV/m	3

The antenna factor and cable loss are corrected for band edge measurements.

Graph of 903 MHz fundamental with RBW=100kHz (measurement @ 3m)



Graph of 927 MHz fundamental with RBW=100kHz (measurement @ 3m)



The 20 dB occupied bandwidth is 505 kHz.

2.2 – Field strength outside the band 902-928MHz and without its harmonics

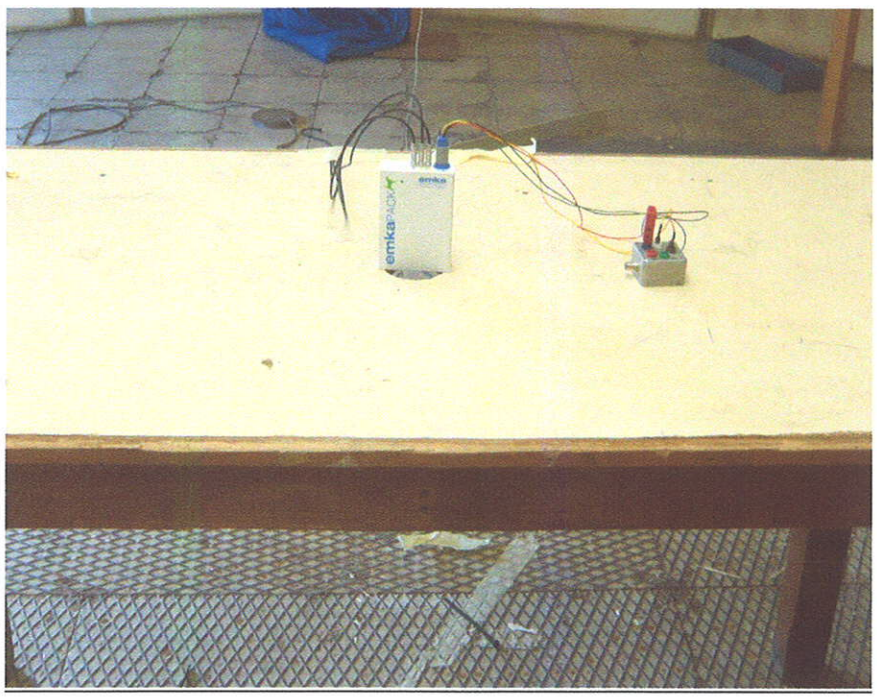
2.2.1 – General

The product has been tested with new batteries and compared to the FCC part 15 subpart C § 15.209 limits.

The 6 dB resolution bandwidth was 120 kHz from 30 to 1000MHz and 1MHz above 1GHz.
The measurements were performed with a Quasi-peak detector from 30 to 1000MHz and peak detector above 1GHz.

2.2.2 – Test setup

The EUT is placed at 10m distance of the bilog (30 to 1000MHz) or horn (above 1GHz) antenna on a table 80cm height. Different positions of the EUT are checked to determine the worst case. The level has been maximised by turning the EUT with the rotating table and with the antenna in horizontal and vertical polarity from 1 to 4m.



2.2.3 – Equipment list

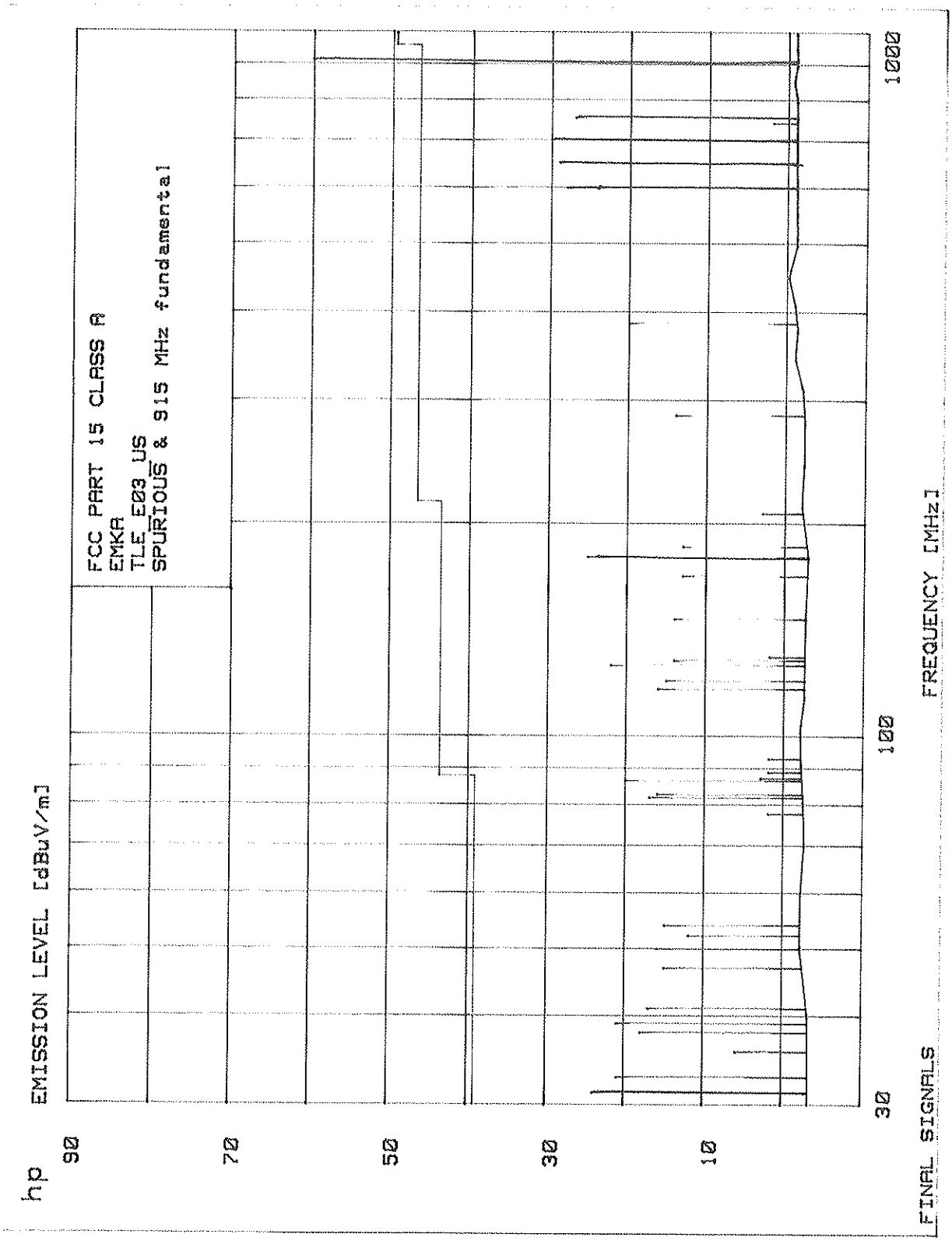
Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum analyseur	HEWLETT PACKARD	8566B	A4060004	07/2007	07/2008
Preselector	HEWLETT PACKARD	85685A	A4069001	07/2007	07/2008
Quas-Peak adaptator	HEWLETT PACKARD	85650A	A4069003	07/2007	07/2008
Bilog antenna	CHASE	CBL 6112A	C2040040	06/09/2007	09/2008
Horn antenna	EMCO	3115	C2042016	11/09/07	09/2008

2.2.4 – Uncertainty

The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the CISPR 16-4-2. The conformity of the sample is directly established by the applicable limits values.

Kind of measurement	Wide uncertainty laboratory (k=2) ±x	CISPR uncertainty limit ±y
Measurement of radiated electric field on the open area test site	5.07 dB	5.2 dB

2.2.5 – Test results



Measurement table result:
Measurement distance: **10m**
Frequency range: **30MHz** to **1000MHz**
The 6dB resolution bandwidth was 120 kHz, Q-peak detection mode.

Frequency (MHz)	Quasi-peak measurements (dBµV/m) at 10 m	Limits (dBµV/m) at 10m
31.2	23.8	29.5
180.3	24.8	29.5
602.9	28.3	35.5
654.9	29.1	35.5
706.9	29.9	35.5
758.9	27.1	35.5

Measurement distance: **10m**
Frequency range: **1GHz** to **18GHz**
The 6dB resolution bandwidth was 1MHz, peak detection mode.

No suspected frequency other than harmonics has been found above 1GHz.

End of test report