

R051-24-09-103152-1/A Ed. 2

“This report cancels and replaces the test report N°R051-24-09-103152-1/A Edition 1”

FCC CERTIFICATION Modular Approval RADIO Measurement Technical Report

standard to apply:
FCC Part 15.249

Equipment under test:
WAVEPORT CF 915 MHZ

FCC ID :
S28-WPOCF

Company:
CORONIS SAS

DISTRIBUTION: Mr RAMI

Company: CORONIS SAS

Number of pages: 44 including 3 annexes

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			Name	Visa	Name	Visa
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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 manufactured products of the tested sample.



PRODUCT: **WAVEPORT CF 915 MHZ**

Reference / model: WAVEPORT CF 915 MHz

Serial number: Sample n° 1: 1853054005d3 (radio address product with PDA)
Sample n° 2: 185305400590 (radio address product without PDA)

Auxiliary equipment: PDA ACER Pocket PC n50-31BW

MANUFACTURER: CORONIS SAS

COMPANY SUBMITTING THE PRODUCT:

Company: CORONIS SAS

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DATES OF TEST: 18, 22 and 23 September 2009
31 October 2009

TESTING LOCATION: EMITECH ATLANTIQUE laboratory at ANGERS (49) FRANCE
EMITECH ATLANTIQUE open area test site in LA POUEZE (49)
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Registration Number by FCC: 101696/FRN: 0006 6490 08

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1. INTRODUCTION

This document presents the result of RADIO test carried out on the following equipment: WAVEPORT CF 915 MHZ in accordance with normative reference.

2. PRODUCT DESCRIPTION

Class: B (residential environment)

Utilization: the waveport CF is the product compatible with all PDA and that permit to communicate with all wavenis product.

Antenna type: dedicated antenna – SMA reverse connector

Operating frequency range: from 904.8384 MHz to 925.4592 MHz

Number of channels: 64

Channel spacing: 172.5 kHz

Frequency generation: ☐ SAW Resonator ☐ Crystal ☒ Synthesizer

Modulation: ☐ Amplitude ☐ Digital ☒ Frequency ☐ Phase

Power source: 115 Vac regulated in 5 Vd.c. through the PDA (Sample 1)
5 Vd.c. by an external power source (Sample 2)

Power level, frequency range and channels characteristics are not user adjustable.

The details pictures of the product and the circuit boards are joined with this file.

3. NORMATIVE REFERENCE

The standards and testing methods related throughout this report are those listed below. They are applied on the whole test report even though the extensions (version, date and amendment) are not repeated.

FCC Part 15 (2008)	Code of Federal Regulations Title 47 - Telecommunication Chapter 1 - Federal Communications Commission Part 15 - Radio frequency devices Subpart C - Intentional Radiators
ANSI C63.4 (2003)	Methods of Measurement of Radio-Noise Emissions from Low-voltage Electrical and Electronics Equipment in the range of 9 kHz to 40 GHz.
Public notice DA 00-705	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems.

4. TEST METHODOLOGY

Radio performance tests procedures given in part 15:

Subpart A- General

- Paragraph 33: frequency range of radiated measurements
- Paragraph 35: measurement detector functions and bandwidths

Subpart B- unintentional radiators

- Paragraph 107: conducted limits
- Paragraph 109: radiated emission limits

Subpart C-intentional radiator

- Paragraph 203: antenna requirement
- Paragraph 205: restricted bands of operation
- Paragraph 207: conducted limits
- Paragraph 209: radiated emission limits; general requirements
- Paragraph 249: operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, 5725 - 5875 MHz and 24.0 - 24.25 GHz

5. ADD ATTACHMENTS FILES

“Synoptic “
“Block diagram “
“External photos and Product labeling “
“Assembly of components “
“Internal photos “
“Layout pcb “
“Bil of materials “
“Schematics “
“Product description “
“User guide “

6. TESTS AND CONCLUSIONS

6.1 subpart B: Unintentional radiators

Test procedure	Description of test	Respected criteria ?				Comment
		Yes	No	NAP	NAs	
FCC Part 15.107	CONDUCTED LIMITS	X				Note 5
FCC Part 15.109	RADIATED EMISSION LIMITS	X				Note 6

NAP: Not Applicable

NAs: Not Asked

6.2 subpart C: Intentional radiators

Test procedure	Description of test	Respected criteria ?				Comment
		Yes	No	NAP	NAs	
FCC Part 15.203	ANTENNA REQUIREMENT				X	Note 1
FCC Part 15.205	RESTRICTED BANDS OF OPERATION	X				
FCC Part 15.207	CONDUCTED LIMITS	X				Note 5
FCC Part 15.209	RADIATED EMISSION LIMITS; general requirements	X				Note 2
FCC Part 15.249	OPERATION WITHIN THE BANDS 902-928 MHZ, 2400-2483.5 MHZ, 5725-5875 MHZ AND 24.0-24.25 GHZ					
	(a) field strength fundamental and harmonics	X				Note 6
	(b) fixed point-to-point operation			X		
	(c) field strength distance	X				Note 3
	(d) radiated emissions outside specified frequency bands	X				Note 6
	(e) peak measurements	X				
	(f) requirement note of section 15.37 (d)	X				Note 4
DA 00-705	BAND EDGE COMPLIANCE	X				Note 6

NAP: Not Applicable

NAs: Not Asked

Note 1: dedicated antenna (see photo in annex 1) SMA reverse connector.

Note 2: see FCC part 15.249 (d).

Note 3: radiated measurements are realized at a distance of 3 meters.

Note 4: operating frequency range: from 904.8384 MHz to 925.4592 MHz.

Note 5: test realized only on Sample 1.

Note 6: test realized on Samples 1 and 2.

Conclusion:

The sample WAVEPORT CF 915 MHZ submitted for testing complies with the standard prescriptions FCC Part 15 according to limits or criteria defined in this report.

7. MEASUREMENT OF THE CONDUCTED DISTURBANCES**Standard:** FCC Part 15**Test procedure:** FCC Part 15

Unintentional Radiators: Sec.15.107

Intentional Radiators: Sec.15.207

Limits: Class B**Test equipment:**

TYPE	BRAND	EMITECH NUMBER
Test receiver ESH3	Rohde & Schwarz	1058
Pulse limiter ESH3-Z2	Rohde & Schwarz	976
Artificial main network L3-25	PMM	834
Spectrum analyzer FSEA	Rohde & Schwarz	5071
Transient limiter 11947A	Hewlett Packard	2565
Power source ALT 2000	K-SERRAS	2441

Software used: BAT-EMC V3.5.0.2**Test set up:**

The test unit is placed on a wooden table at 0.8 m over a horizontal reference plane and 0.4 m from a vertical reference plane. It is powered by an LISN placed on the ground reference plane.

See photos in the annex 2.

Equipment under test operating condition:

The equipment is powered with the AC power operating voltage of 115 V / 60 Hz.

See 15.107: the equipment is on without radio module active.

See 15.207: the equipment is on with radio module active.

Frequency range: 150 kHz - 30 MHz**Detection mode:** Peak / Average**Bandwidth:** 10 kHz (Peak)
9 kHz (Average)

Results:

Sample 1 (with PDA)

Measurement on the mains power supply (radio module not activated):

The measurement is made with peak detector.

Curve N° 1: measurement on the Neutral with peak detector

Curve N° 2: measurement on the Line with peak detector

Measurement on the mains power supply (radio module activated):

The measurement is made with peak detector.

Curve N° 3: measurement on the Neutral with peak detector

Curve N° 4: measurement on the Line with peak detector

The frequencies which are not 6 dB under the limit are analyzed with average detector. The results are noted if necessary on the following curves.

Curve N° 5: measurement on the Neutral with average detector from 150 kHz to 500 kHz

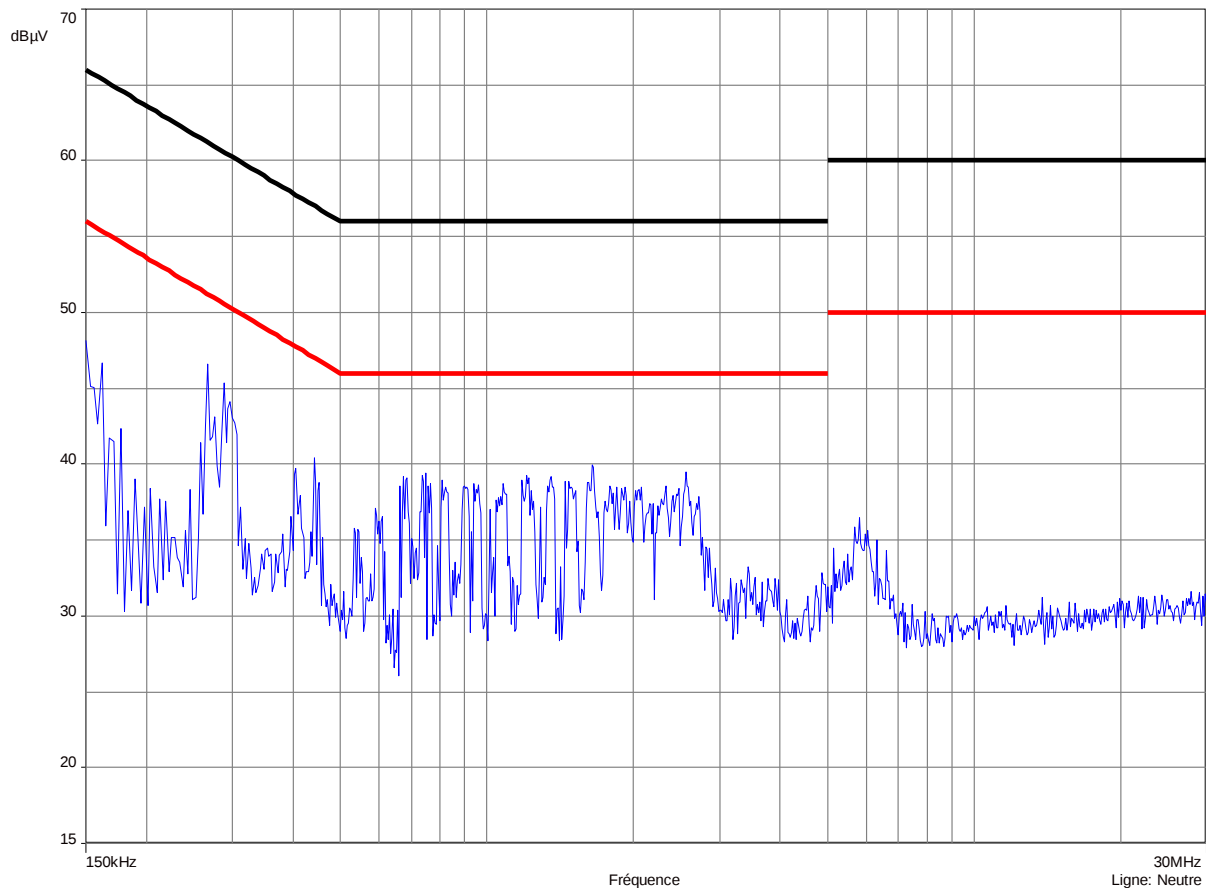
Curve N° 6: measurement on the Line with average detector from 150 kHz to 500 kHz

Test conclusion:

RESPECTED STANDARD

CURVE N°: 1.

Measurement on the neutral with peak detection



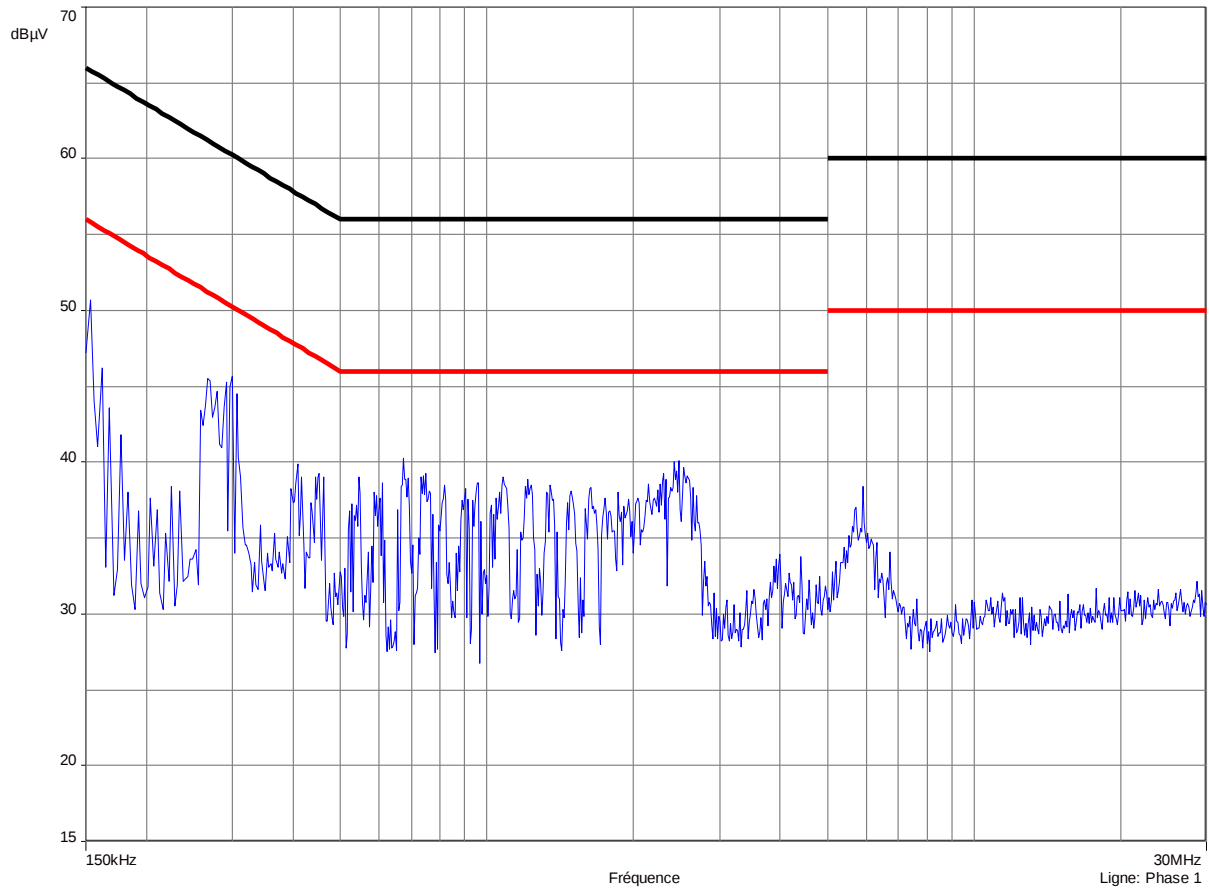
RBW filter: 10 kHz

VBW filter: 10 kHz

Sweep time: 500 ms/MHz

CURVE N°: 2.

Measurement on the line with peak detection



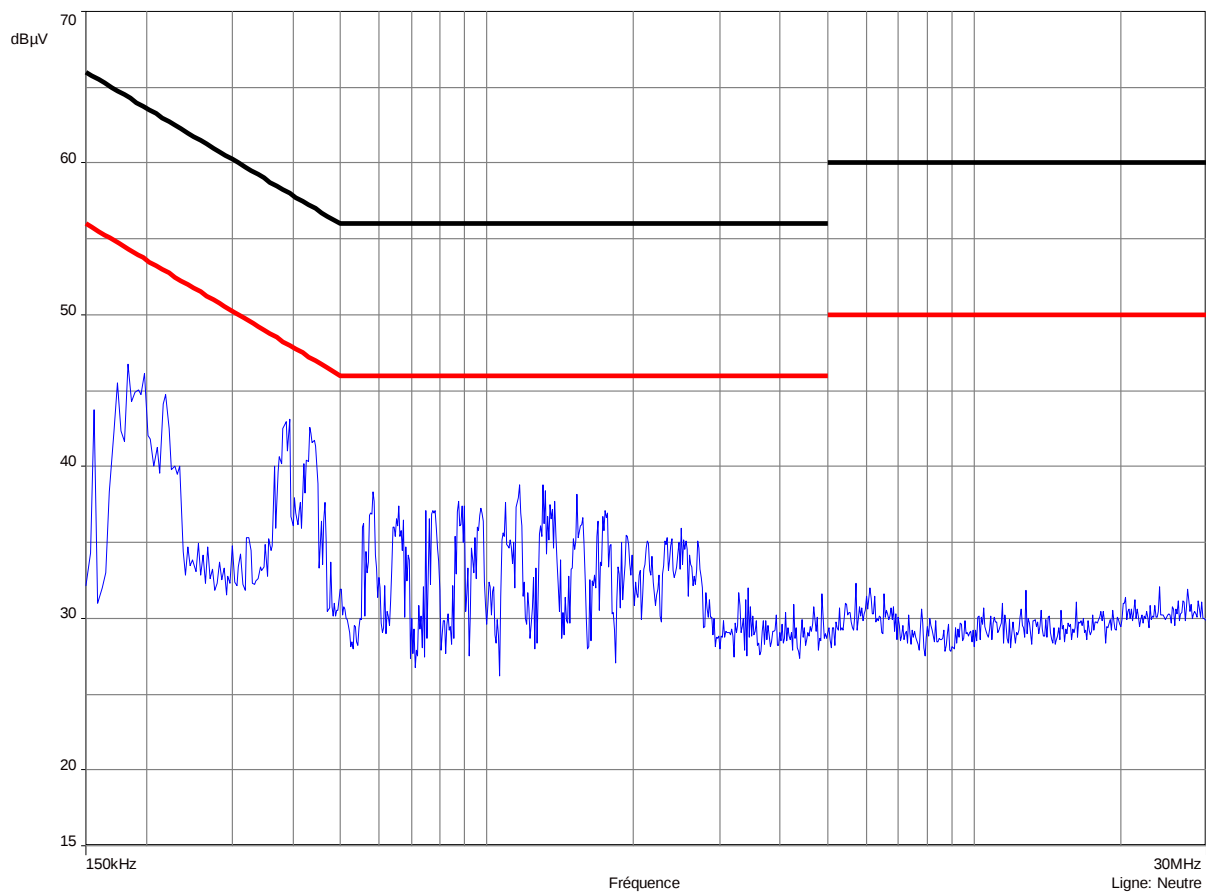
RBW filter: 10 kHz

VBW filter: 10 kHz

Sweep time: 500 ms/MHz

CURVE N°: 3.

Measurement on the neutral with peak detection



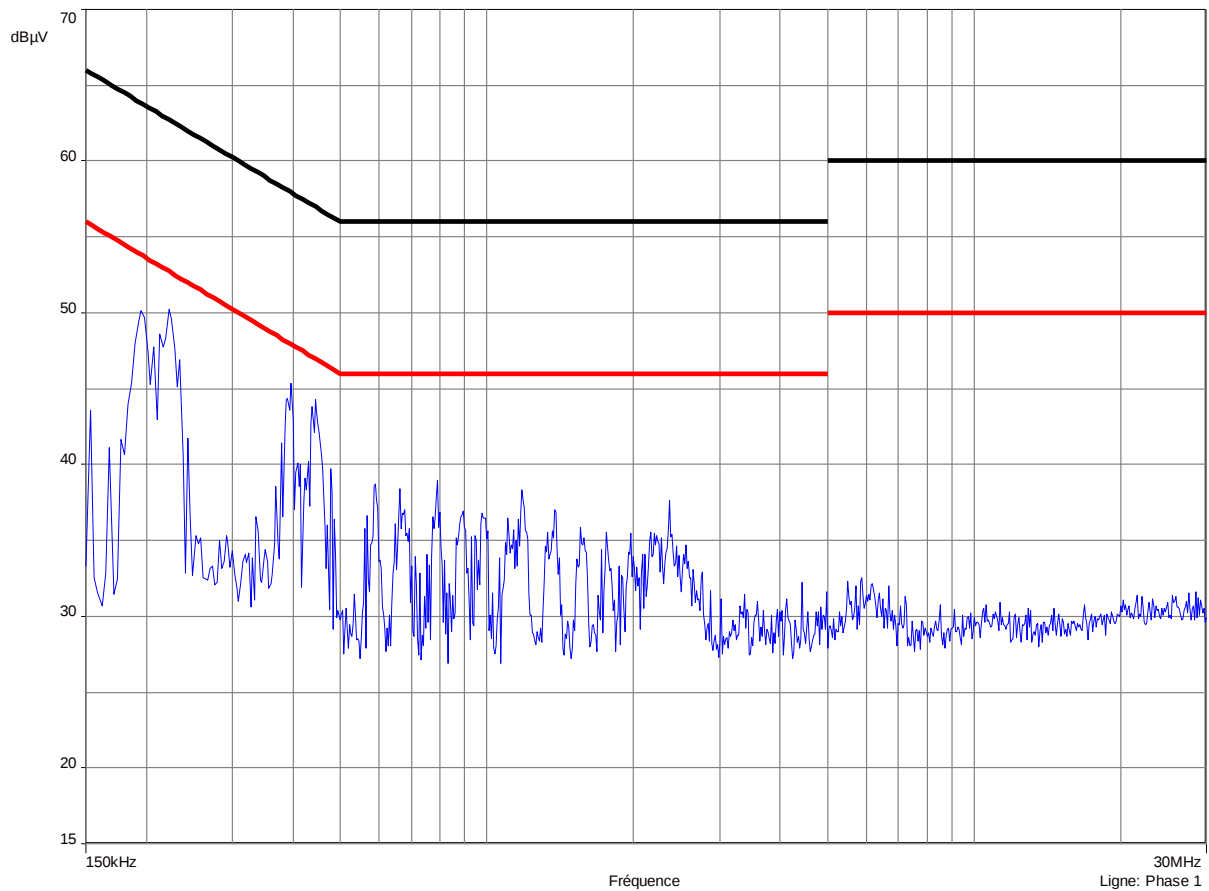
RBW filter: 10 kHz

VBW filter: 10 kHz

Sweep time: 500 ms/MHz

CURVE N°: 4.

Measurement on the line with peak detection



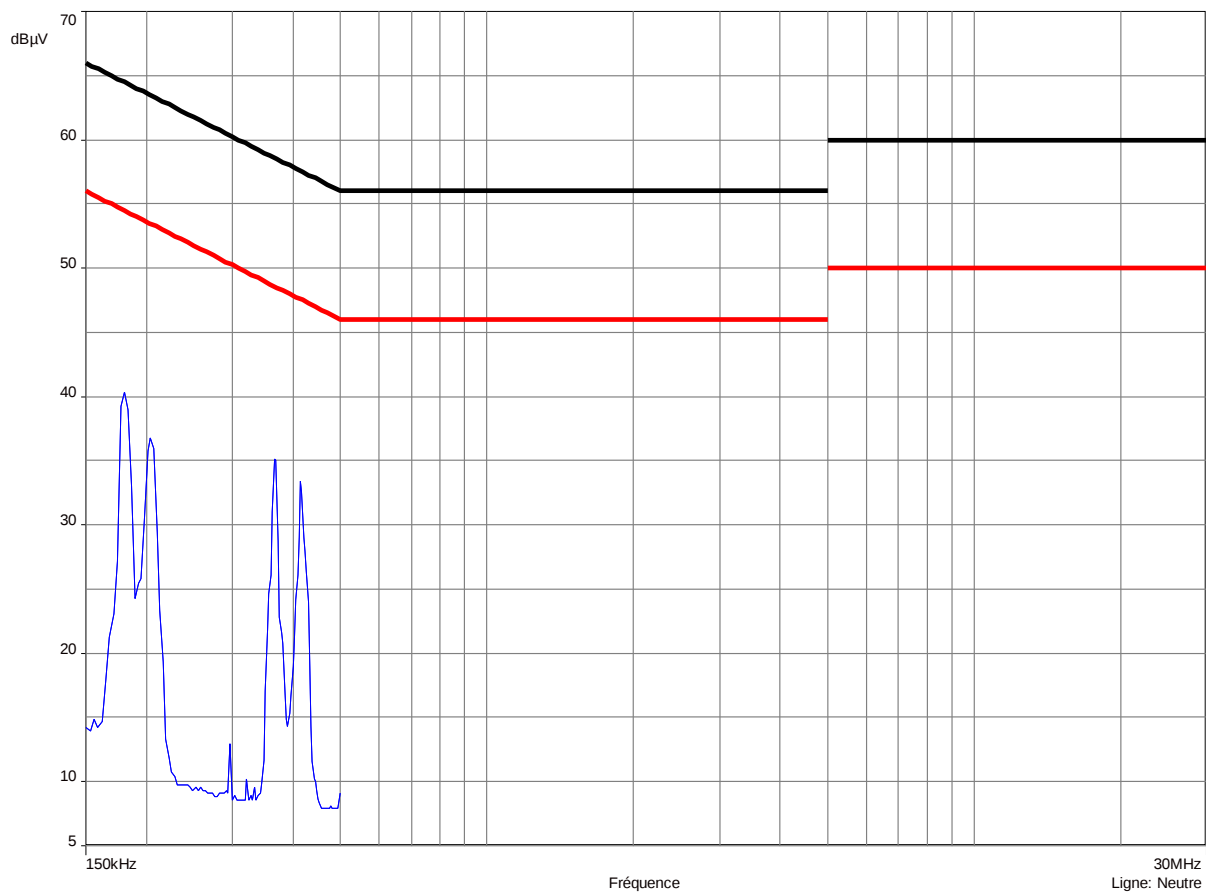
RBW filter: 10 kHz

VBW filter: 10 kHz

Sweep time: 500 ms/MHz

CURVE N°: 5.

Measurement on the Neutral with average detection from 150 kHz to 500 kHz

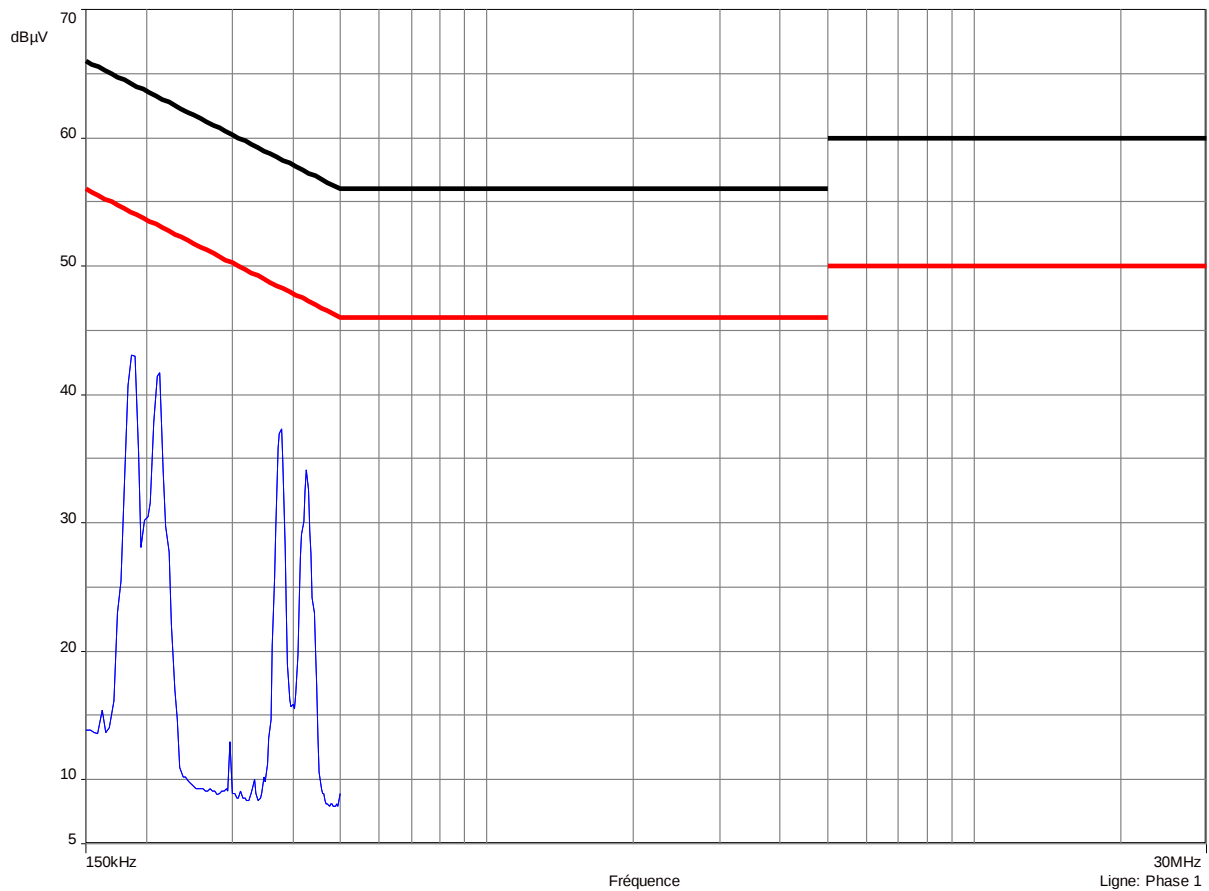


RBW filter: 9 kHz

Sweep time: 500 ms/MHz

CURVE N°: 6.

Measurement on the Line with average detection from 150 kHz to 500 kHz



RBW filter: 9 kHz

Sweep time: 500 ms/MHz

8. MEASUREMENT OF RADIATED INTERFERENCE FIELD STRENGTH

Standard: FCC Part 15

Test procedure: FCC Part 15

Unintentional Radiators: Sec.15.109

Limits: Class B

Test equipment:

TYPE	BRAND	EMITECH NUMBER
Test receiver ESVS10	Rohde & Schwarz	1219
Biconical antenna 11966C	Hewlet Packard	728
Log periodic antenna HL223	Rohde & Schwarz	1999
Double ridged guild antenna EM6961	Electrometrics	1204
Spectrum analyser FSP40	Rohde & Schwarz	4088
Open area test site	EMITECH	1274
Preamplifier ALN02	ALC	2648
High pass filter HPM11630	MICROTRONICS	6609
Variac R213	Dereix	1419
Multimeter 77-2	Fluke	0812

Test set up:

The system is tested in an open area test site (OATS).

The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

Cables disposition of unit under test:

See photos of the test unit configuration in annex 2.

Frequency range: The highest frequency generated in the device is $f = 925.4592$ MHz
According the Sec.15.33 of the FCC Part 15 standard, the frequency range measured is indicated in the following table:

For unintentional radiator, including a digital device (Sec.15.33, §(b)(1) of the FCC Part 15 standard) :

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
500 – 1000	5000

Detection mode: Quasi-peak for the range 30 MHz - 1 GHz
Average for $f > 1$ GHz

Bandwidth: 120 kHz for the range 30 MHz - 1 GHz
1 MHz for $f > 1$ GHz

Distance of antenna: class B: 3 meters

Antenna height: 1 to 4 m

Antenna polarization: vertical and horizontal

Equipment under test operating condition:

The equipment is powered with the AC power operating voltage of 115 V regulated in 5 Vd.c. through the PDA (Sample 1).

The equipment is powered in 5 Vd.c. by an external power source (Sample 2).

The equipment under test is blocked in continuous reception mode.

Results:

Sample 1 (with PDA)

For the range 30 MHz - 1 GHz, the initial measurements are made in Peak detection mode with a spectrum analyser. Emissions with peak levels within 6 dB of the prescribed limits are re-measured using a Quasi-peak detector and noted in the following table.

For $f > 1$ GHz, the measurements are made only with average detector with a spectrum analyser and noted in the following table.

The polarity column refers to the antenna polarity at which the maximum emissions level is measured.

FREQUENCIES (MHz)	Antenna height (cm)	Polarization H: Horizontal V: Vertical	Azimuth (degrees)	Field strength (dB μ V/m)	Limits (dB μ V/m)
292.49	133	V	44	40.9	46.02
305.49	122	V	39	39.3	46.02
318.49	156	V	27	36.3	46.02
331.49	150	V	312	35.7	46.02
344.48	149	V	0	35.4	46.02
357.48	137	V	10	38.6	46.02

Sample 2 (without PDA)

Not any unintentional radiated emission has been observed during this test.

Applicable limits: for $30 \text{ MHz} \leq F < 88 \text{ MHz}$: 40 dB μ V/m
 $88 \text{ MHz} \leq F < 216 \text{ MHz}$: 43.52 dB μ V/m
 $216 \text{ MHz} \leq F < 960 \text{ MHz}$: 46.02 dB μ V/m
Above 960 MHz: 53.98 dB μ V/m

Note: any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.

Test conclusion:

RESPECTED STANDARD

9. FIELD STRENGTH OF FUNDAMENTAL AND HARMONICS

Standard: FCC Part 15

Test procedure: paragraph 15.249 (a)

Test equipment:

TYPE	BRAND	EMITECH NUMBER
Test receiver ESVS10	Rohde & Schwarz	1219
Spectrum analyzer FSP40	Rohde & Schwarz	4088
Log periodic antenna HL223	Rohde & Schwarz	1999
Open site	EMITECH	1274
Multimeter 77-2	Fluke	0812
Variac R213	Dereix	1419
Low-noise amplifier 1-18 GHz	ALC	2648
High pass filter HPM11630	MICROTRONICS	6609
Meteo station AB888	Oregon scientific	1539
Antenna RGA-60	Electrometrics	1204

Test set up:

The system is tested in an open area test site (OATS).

The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

Frequency range: from 9 kHz to harmonic 10 ($F_{\text{carrier}} \leq 10 \text{ GHz}$)

Detection mode: Quasi peak ($F \leq 1 \text{ GHz}$)
Peak or average ($F > 1 \text{ GHz}$)

Bandwidth: 120 kHz ($F \leq 1 \text{ GHz}$)
1 MHz ($F > 1 \text{ GHz}$)

Distance of antenna: 3 meters

Antenna height: 1 to 4 meters

Antenna polarization: vertical and horizontal

Equipment under test operating condition:

The equipment is blocked in continuous transmission mode, modulated by internal data signal.

Results:

Sample 1 (with PDA)

Ambient temperature (°C): 25

Relative humidity (%): 56

Power source: 115 Va.c by a variac regulated in 5 Vd.c. through the PDA

The polarity column refers to the antenna polarity at which the maximum emissions level is measured.

Low channel

FREQUENCIES (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
904.83 (1)	QP	135	183	120	V	92.5	93.98	1.48
1809.67 (2)	Peak	100	289	1000	V	44.05	73.98	29.93
1809.67 (2)	Average	100	289	1000	V	38.89	53.98	15.09

Central channel

FREQUENCIES (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
915.32 (1)	QP	131	184	120	V	93.7	93.98	0.28
1830.64 (2)	Peak	306	280	1000	V	48.73	73.98	25.25
1830.64 (2)	Average	306	280	1000	V	45.50	53.98	8.48

High Channel

FREQUENCIES (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
925.45 (1)	QP	132	178	120	V	93.8	93.98	0.18
1850.92 (2)	Peak	204	339	1000	V	50.59	73.98	23.39
1850.92 (2)	Average	204	339	1000	V	48.82	53.98	5.16

QP: Quasi-Peak

(1): Fundamental

(2): Harmonic

Sample 2 (without PDA)

Ambient temperature (°C): 17

Relative humidity (%): 74

Power source: 5 Vd.c. by an external power source

The polarity column refers to the antenna polarity at which the maximum emissions level is measured.

Low channel

FREQUENCIES (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
904.83 (1)	QP	201	114	120	V	90.3	93.98	3.68
1809.67 (2)	Peak	307	0	1000	V	44.19	73.98	29.79
1809.67 (2)	Average	307	0	1000	V	33.02	53.98	20.96

Central channel

FREQUENCIES (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
915.32 (1)	QP	197	114	120	V	91.3	93.98	2.68
1830.64 (2)	Peak	352	271	1000	V	49.72	73.98	24.26
1830.64 (2)	Average	352	271	1000	V	43.92	53.98	10.06

High Channel

FREQUENCIES (MHz)	Detector	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
925.45 (1)	QP	190	113	120	V	92.3	93.98	1.68
1850.92 (2)	Peak	352	0	1000	V	49.38	73.98	24.60
1850.92 (2)	Average	352	0	1000	V	45.59	53.98	8.39

QP: Quasi-Peak

(1): Fundamental

(2): Harmonic

Note: any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.

Test conclusion:

RESPECTED STANDARD

10. RADIATED EMISSION OUTSIDE SPECIFIED FREQUENCY BANDS

Standard: FCC Part 15

Test procedure: paragraph 15.205
paragraph 15.209
paragraph 15.249 (d)

Test equipment:

TYPE	BRAND	EMITECH NUMBER
Test receiver ESH3	Rohde & Schwarz	1058
Test receiver ESVS 10	Rohde & Schwarz	1219
Spectrum analyzer FSP 40	Rohde & Schwarz	4088
Loop antenna	EMCO	1406
Biconical antenna HP 11966C	Hewlett Packard	728
Log periodic antenna HL 223	Rohde & Schwarz	1999
Open site	Emitech	1274
Antenna RGA-60	Electrometrics	1204
Variac R213	Dereix	1419
Multimeter 77-2	Fluke	0812
Meteo station AB 888	Oregon scientific	1539

Test set up:

The system is tested in an open area test site (OATS).

The test unit is placed on a rotating table, 0.8 m from a ground plane. Zero degree azimuth corresponds to the front of the equipment under test.

Frequency range: from 9 kHz to harmonic 10 ($F_{\text{carrier}} \leq 10 \text{ GHz}$)

Detection mode: Quasi peak ($F \leq 1 \text{ GHz}$)
Peak or average ($F > 1 \text{ GHz}$)

Bandwidth: 120 kHz ($F < 1 \text{ GHz}$)
1 MHz ($F > 1 \text{ GHz}$)

Distance of antenna: between 30 m and 3 m according the frequencies and the limits.

Antenna height: 1 to 4 meters

Antenna polarization: vertical and horizontal, only the highest level is recorded.

Equipment under test operating condition:

The equipment is blocked in continuous transmission mode, modulated by internal data signal.

Results:

Sample 1 (with PDA)

Ambient temperature (°C): 24

Relative humidity (%): 62

Power source: 115 Va.c by a variac regulated in 5 Vd.c. through the PDA

The polarity column refers to the antenna polarity at which the maximum emissions level is measured.

Low channel

FREQUENCIES (MHz)	Detector QP: Quasi- Peak	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
292.49	QP	133	44	120	V	40.9	46.02*	5.12
305.49	QP	122	39	120	V	39.3	46.02*	6.72
318.49	QP	156	27	120	V	36.3	46.02*	9.72
331.49 **	QP	150	312	120	V	35.7	46.02*	10.32
344.48	QP	149	0	120	V	35.4	46.02*	10.62
357.48	QP	137	10	120	V	38.6	46.02*	7.42
370.49	QP	138	0	120	V	41.6	46.02*	4.42

Central channel

FREQUENCIES (MHz)	Detector QP: Quasi- Peak	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
292.49	QP	133	44	120	V	40.9	46.02*	5.12
305.49	QP	122	39	120	V	39.3	46.02*	6.72
318.49	QP	156	27	120	V	36.3	46.02*	9.72
331.49 **	QP	150	312	120	V	35.7	46.02*	10.32
344.48	QP	149	0	120	V	35.4	46.02*	10.62
357.48	QP	137	10	120	V	38.6	46.02*	7.42
370.49	QP	138	0	120	V	41.6	46.02*	4.42

High channel

FREQUENCIES (MHz)	Detector QP: Quasi- Peak	Antenna height (cm)	Azimuth (degree)	resolution bandwidth (kHz)	Polarization H: Horizontal V: Vertical	Field strength (dBμV/m)	Limits (dBμV/m)	Margin (dB)
292.49	QP	133	44	120	V	40.9	46.02*	5.12
305.49	QP	122	39	120	V	39.3	46.02*	6.72
318.49	QP	156	27	120	V	36.3	46.02*	9.72
331.49 **	QP	150	312	120	V	35.7	46.02*	10.32
344.48	QP	149	0	120	V	35.4	46.02*	10.62
357.48	QP	137	10	120	V	38.6	46.02*	7.42
370.49	QP	138	0	120	V	41.6	46.02*	4.42

*: general radiated emission limits in section 15.209

**: restricted bands of operation in 15.205

Note: any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.

Sample 2 (without PDA)

Ambient temperature (°C): 17

Relative humidity (%): 74

Power source: 5 Vd.c. by an external power source

Not any unintentional radiated emission has been observed during this test.

Note: *any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.*

Applicable limits: 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Test conclusion:

RESPECTED STANDARD

11. BAND EDGE COMPLIANCE

Standard: FCC part 15.247

Test procedure: Public Notice DA 00-705, Delta Marker method.

Test equipment used:

TYPE	MANUFACTURER	EMITECH NUMBER
Spectrum analyzer FSP 40	Rohde & Schwarz	4088
Variac R213	Dereix	1419
Multimeter 77-2	Fluke	0812

Measured condition:

Requirements: Emissions that fall in the restricted bands (part 15.205). These emissions must be less than or equal to 500 $\mu\text{V/m}$ (54 $\text{dB}\mu\text{V/m}$). Part 15.35b applies in the restricted bands.

Test procedure: An in band field strength measurement of the fundamental Emission using the RBw and detector function required by C63.4-2003 and FCC Rules.

Test operating condition of the equipment:

The equipment is powered with the AC power operating voltage of 115 V regulated in 5 Vd.c. through the PDA (Sample 1).

The equipment is powered in 5 Vd.c. by an external power source (Sample 2).

The equipment is blocked in continuous transmission mode, modulated by internal data signal.

Results:

Sample n° 1 (with PDA)

Lower Band Edge: from 608 MHz to 614 MHz (curve n°1)

Upper Band Edge: from 960 MHz to 1240 MHz (curve n°2)

Fundamental Frequency (MHz)	Field Strength Level of fundamental (dBμV/m)	Peak Or Average	Frequency of maximum Band-edges Emission (MHz)	Delta Marker (dB)*	Calculated Max Out of Band Emission Level (dBμV/m)**	Limit (dBμV/m)	Margin (dB)
905	92.5	Peak	609.2	-41.60	50.90 (1)	74	23.10
925.2	93.8	Peak	1169.5	-40.90	52.90 (1)	74	21.10

* According to step 2 of Marker-Delta Method DA 00-705

** According to step 3 of Marker-Delta Method:

Calculated Emission Level = Field Strength Level – Delta Marker Level

(1) the peak level recorded is below the average limit

Sample n° 2 (without PDA)

Lower Band Edge: from 900 MHz to 902 MHz (curve n°3)

Upper Band Edge: from 928 MHz to 930 MHz (curve n°4)

Fundamental Frequency (MHz)	Field Strength Level of fundamental (dBμV/m)	Peak Or Average	Frequency of maximum Band-edges Emission (MHz)	Delta Marker (dB)*	Calculated Max Out of Band Emission Level (dBμV/m)**	Limit (dBμV/m)	Margin (dB)
904.85	90.3	Peak	903.38	-48.74	41.56 (1)	74	32.44
925.45	92.3	Peak	926.67	-45.97	46.33 (1)	74	27.67

* According to step 2 of Marker-Delta Method DA 00-705

** According to step 3 of Marker-Delta Method:

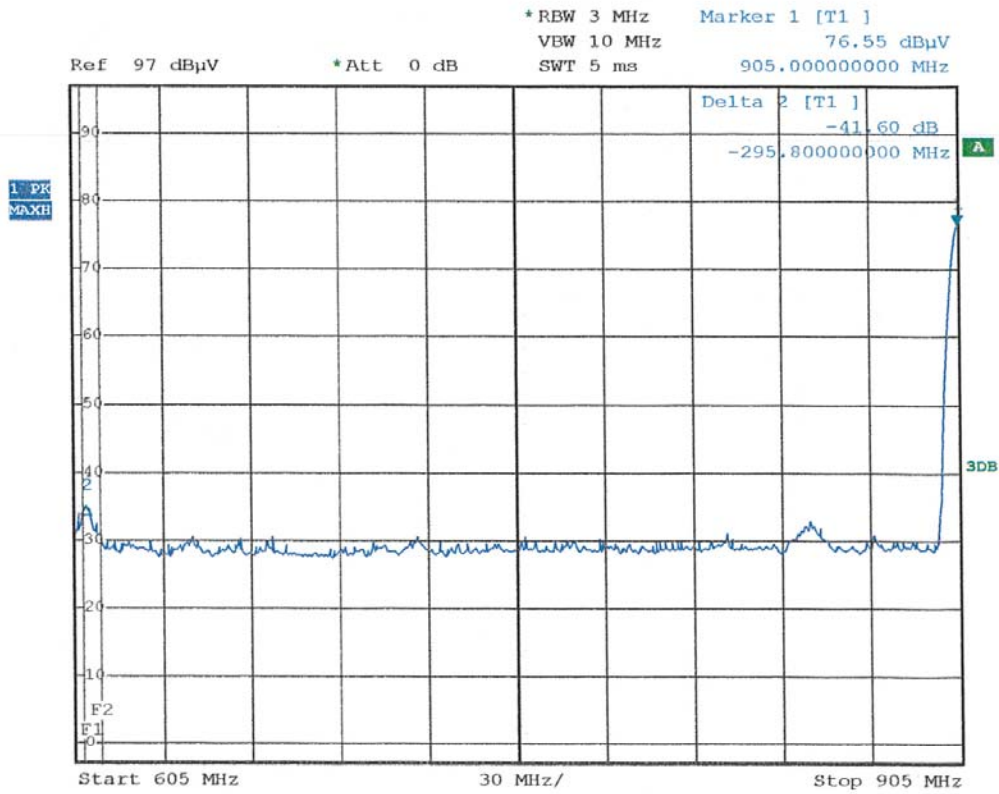
Calculated Emission Level = Field Strength Level – Delta Marker Level

(1) the peak level recorded is below the average limit

Test conclusion:

RESPECTED STANDARD

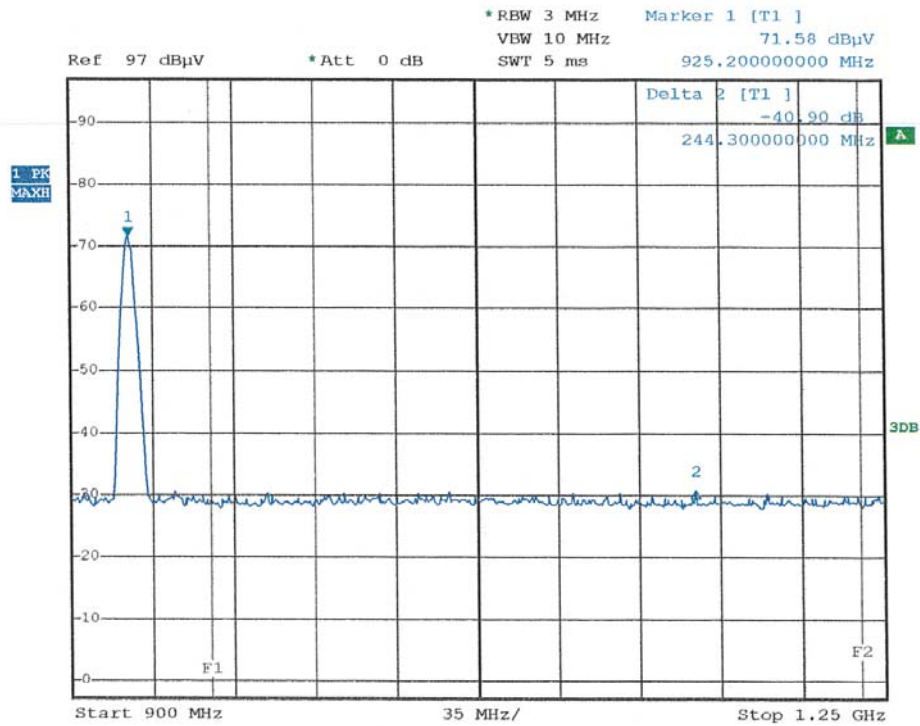
CURVE N°1.



223

Date: 22.SEP.2009 06:48:32

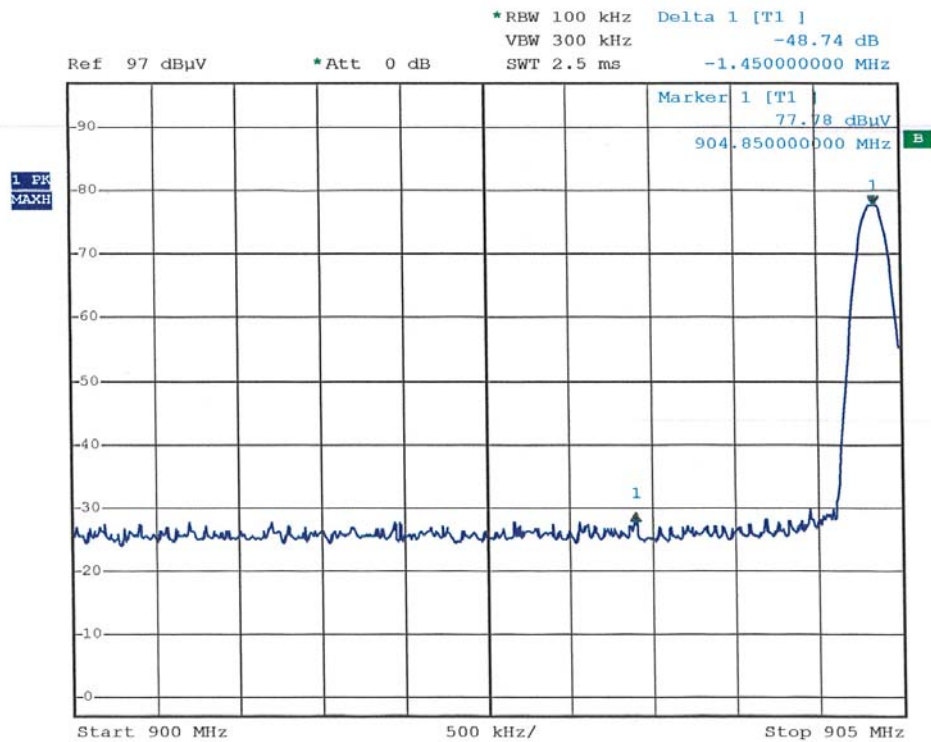
CURVE N°2.



223

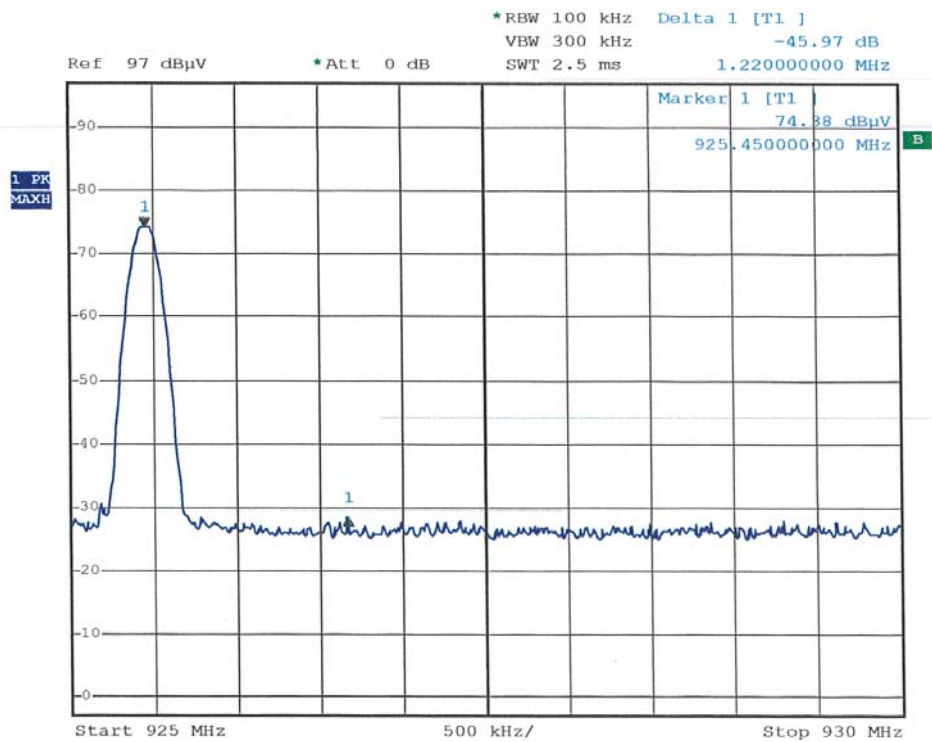
Date: 22.SEP.2009 05:46:44

CURVE N°3.



Date: 31.OCT.2009 16:23:39

CURVE N°4.



Date: 31.OCT.2009 16:28:22

□□□ End of report, 3 annexes to be forwarded □□□

ANNEX 1: PHOTOS OF THE EQUIPMENT UNDER TEST

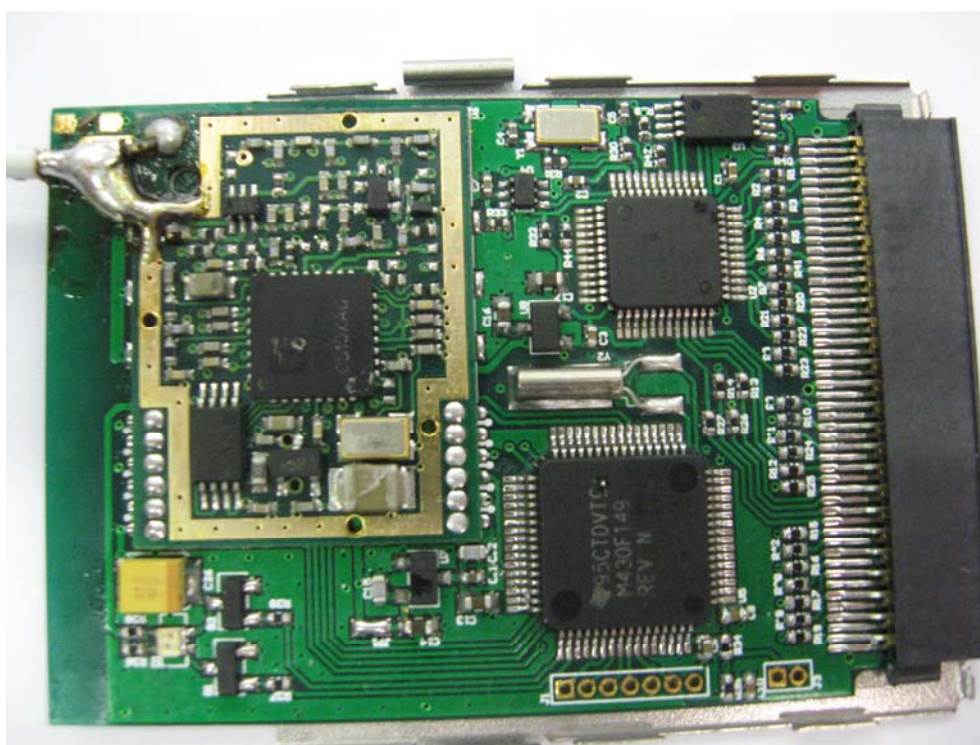
SAMPLE 1

GENERAL VIEW



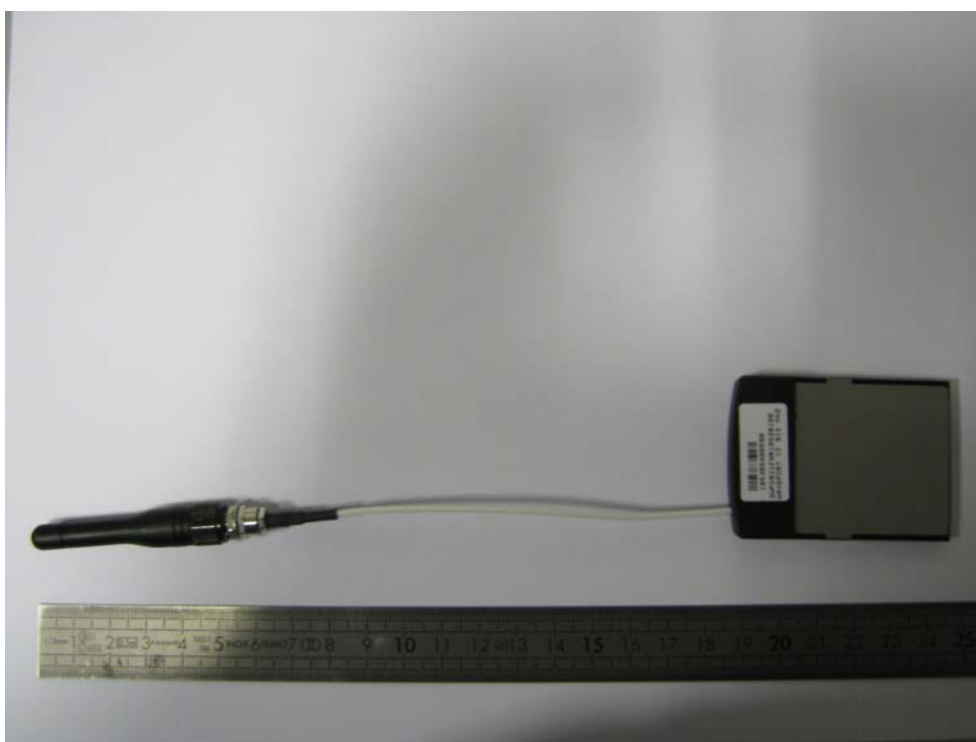
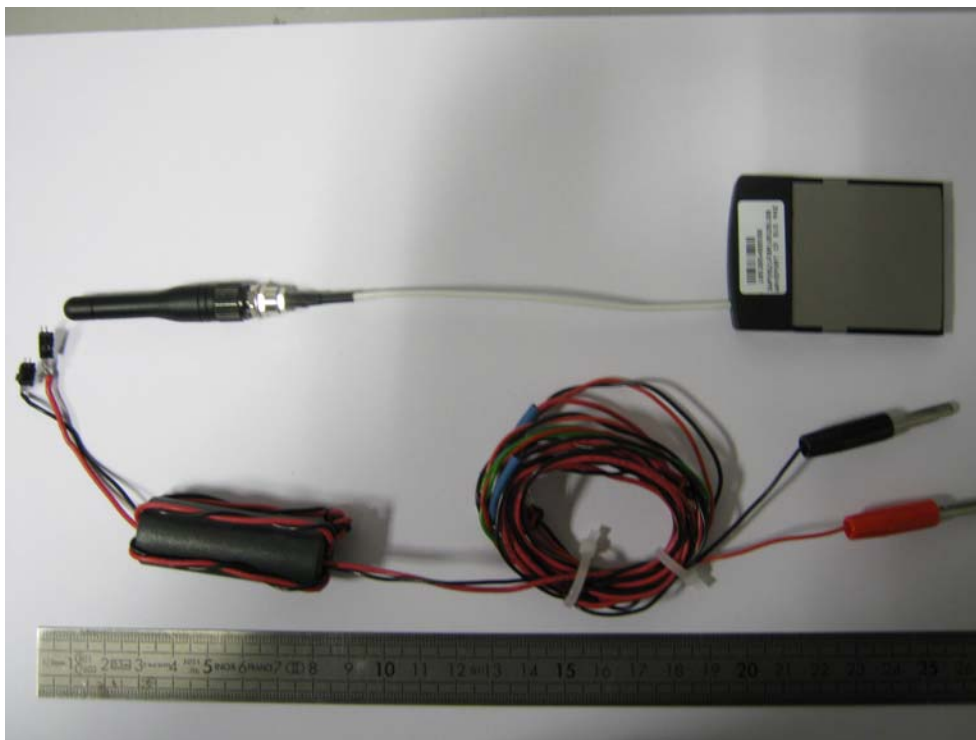


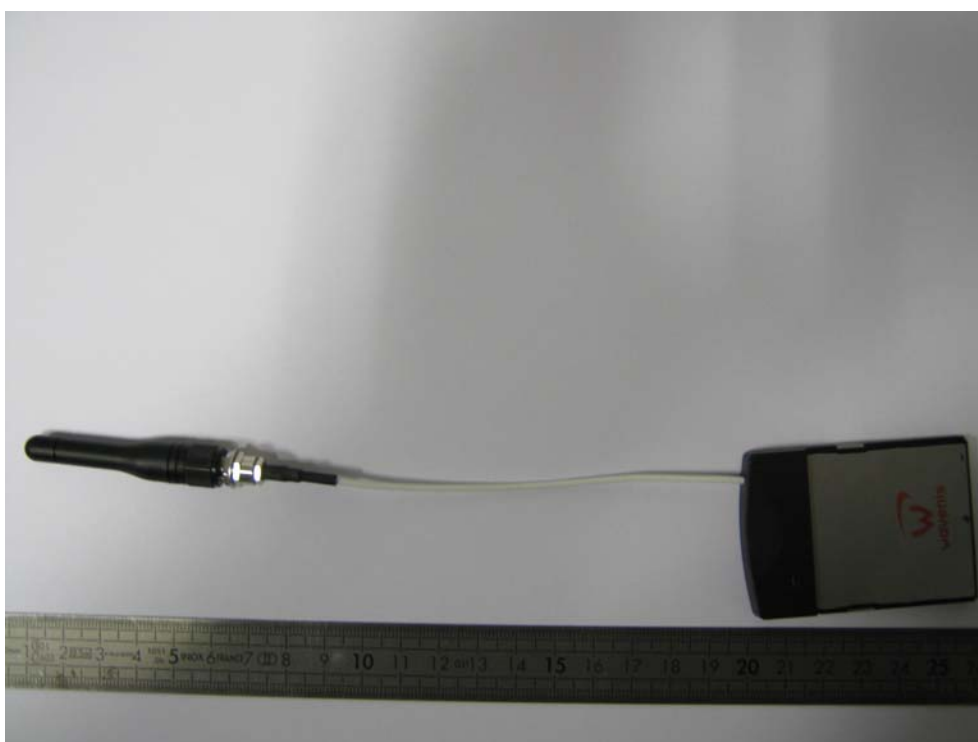
Printed circuit board:



SAMPLE 2

GENERAL VIEW





Printed circuit board:

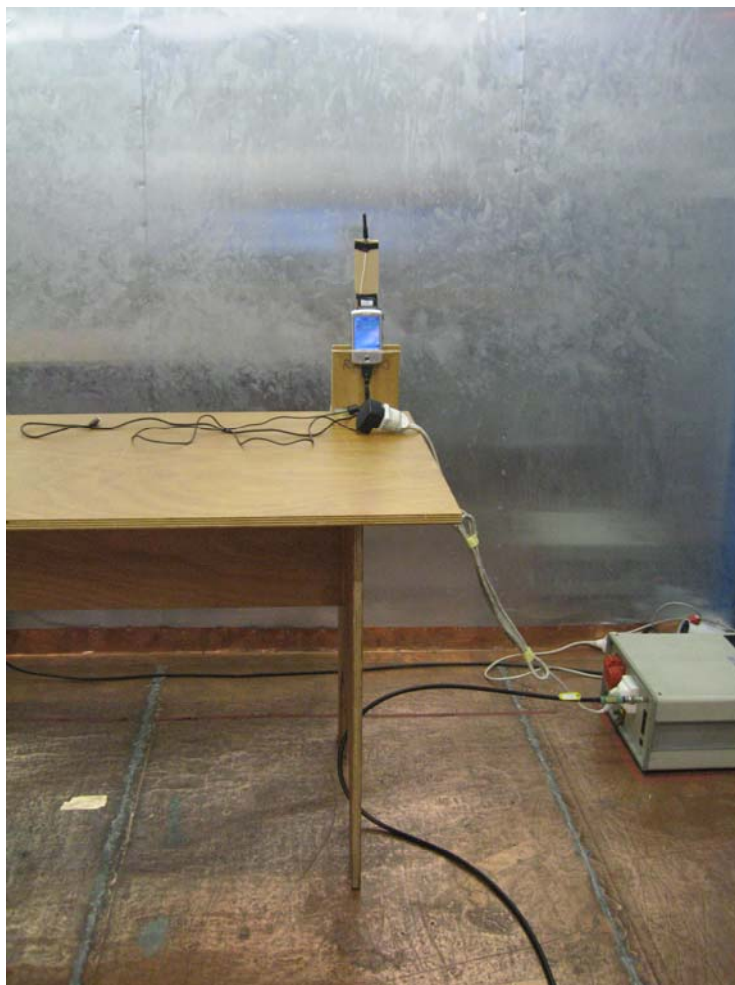


ANNEX 2: TEST SET UP

SAMPLE 1

RADIATED MEASUREMENTS



CONDUCTED MEASUREMENTS

SAMPLE 2

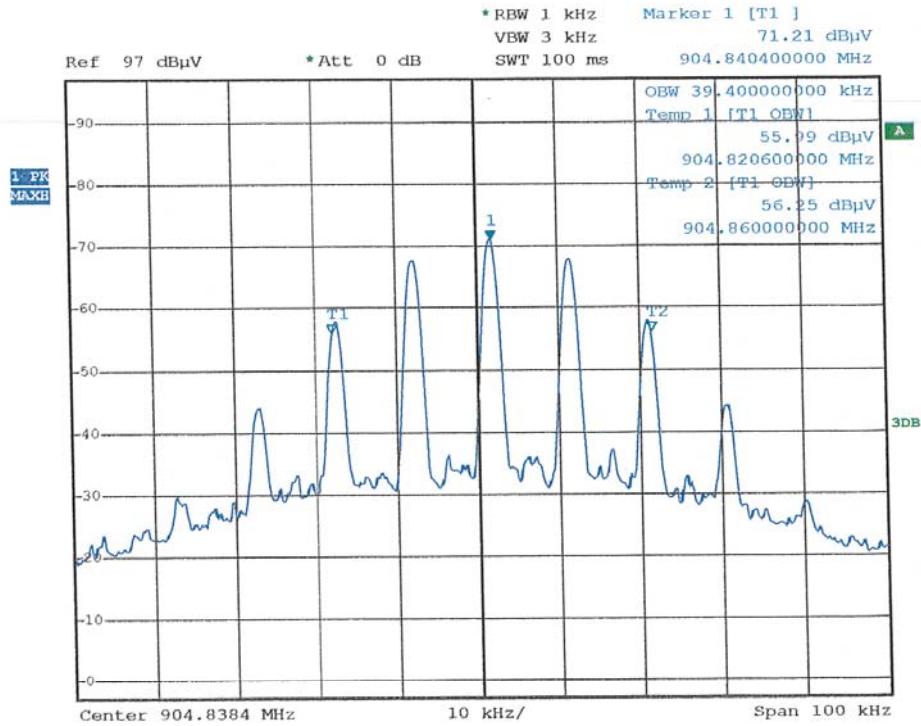
RADIATED MEASUREMENTS



OPEN AREA TEST SITE

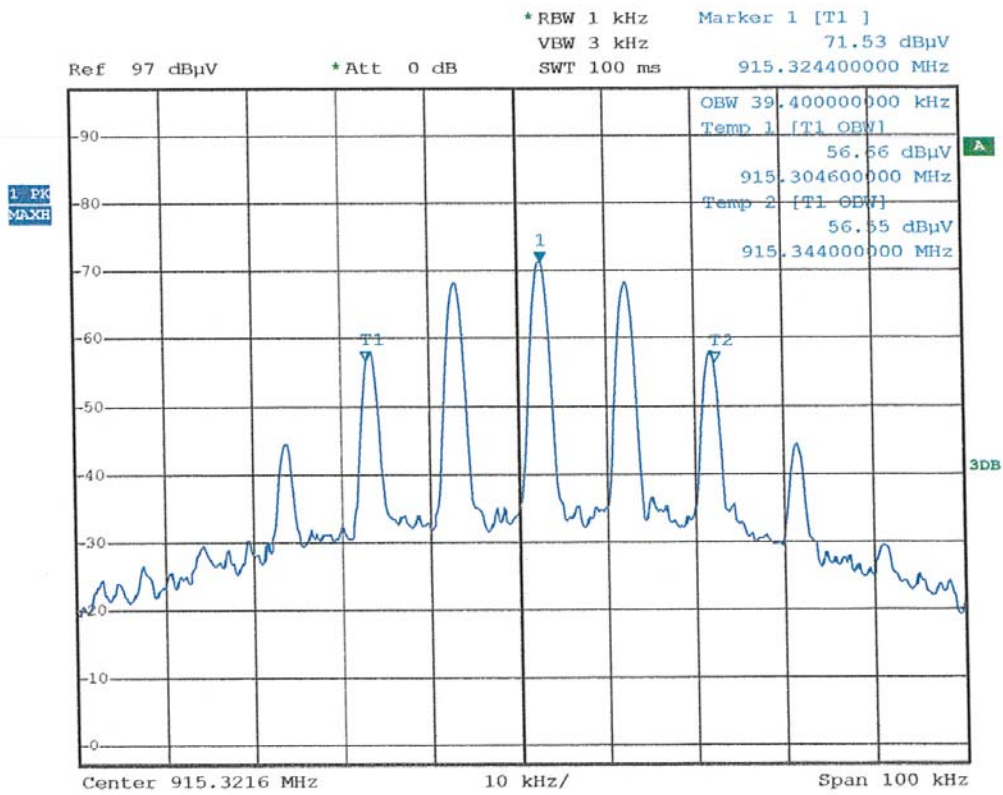
ANNEX 3: OCCUPIED BANDWIDTH

SAMPLE 1



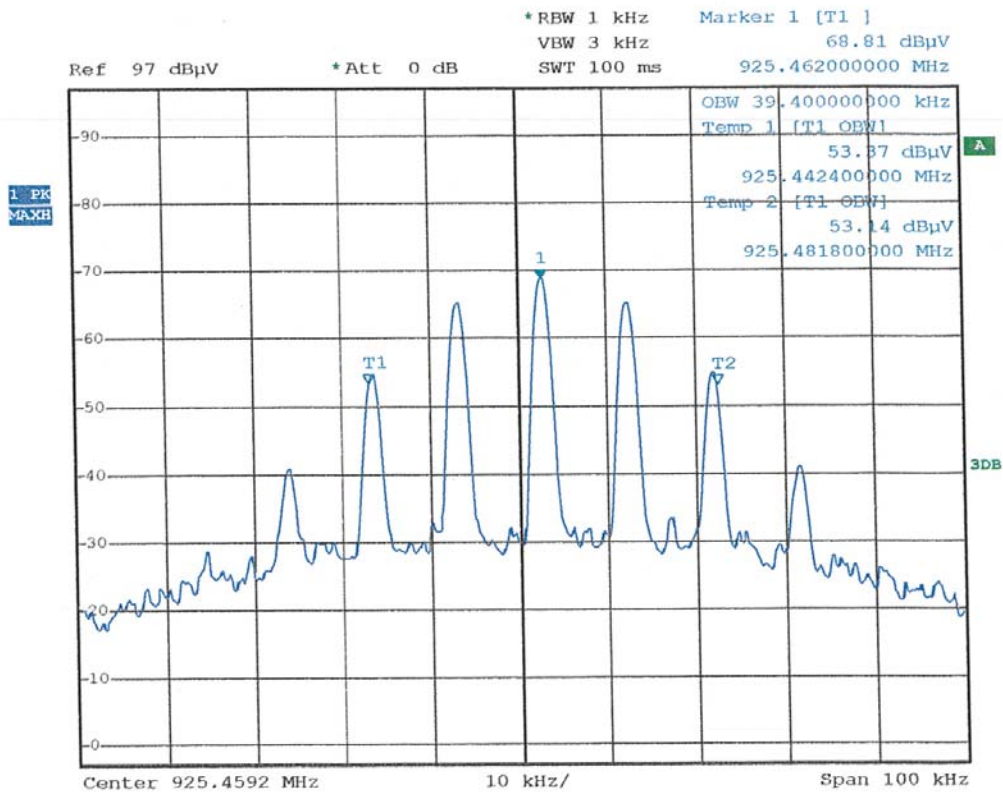
223

Date: 22.SEP.2009 05:24:36



223

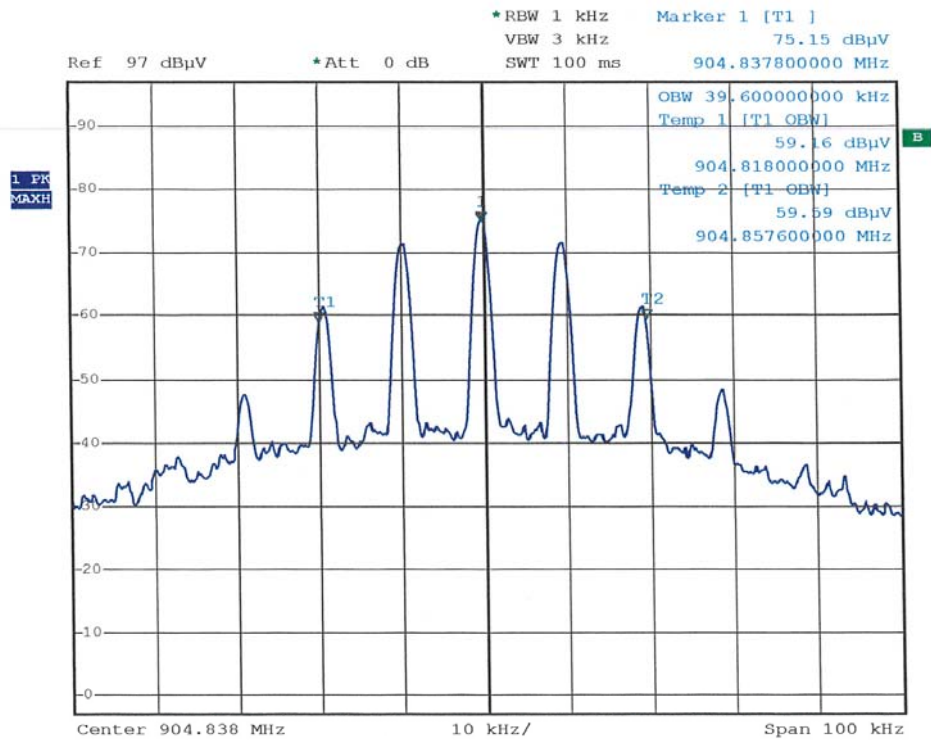
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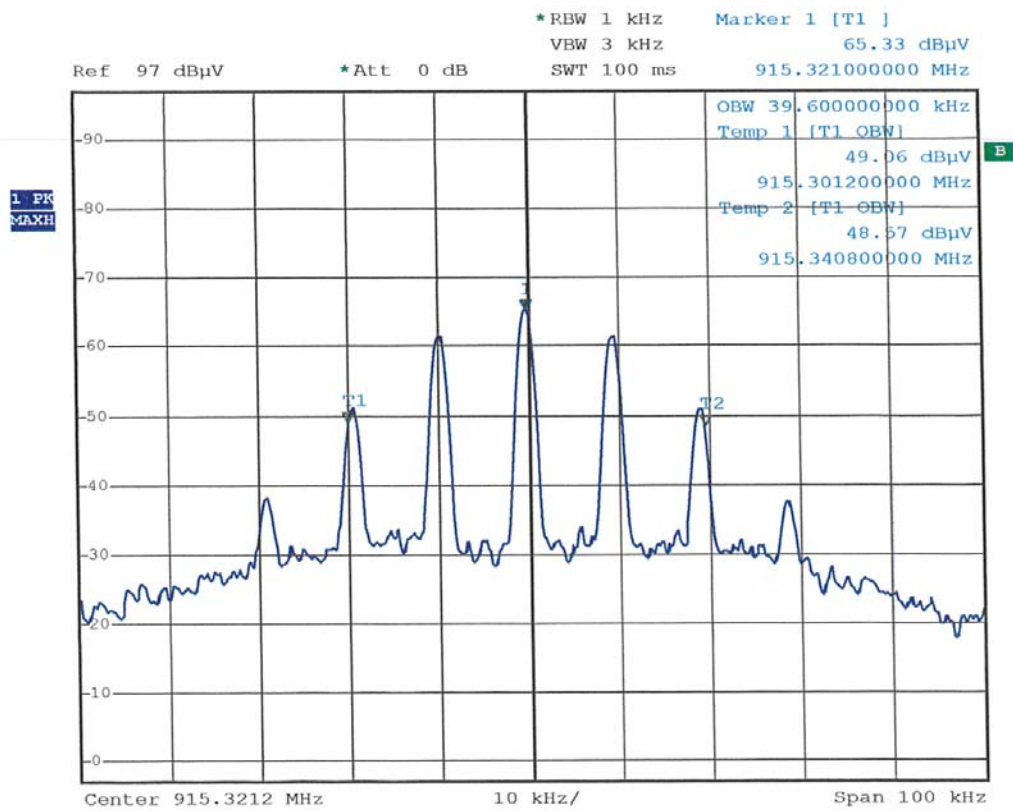
223

Date: 22.SEP.2009 05:39:21

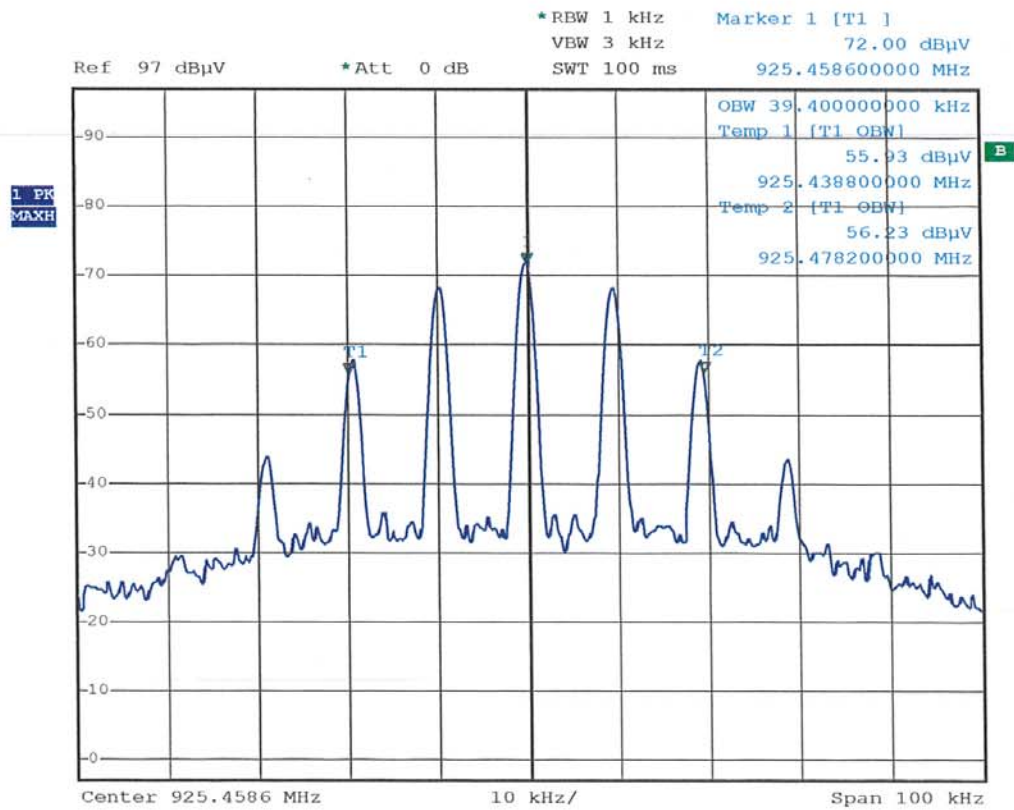
SAMPLE 2



Date: 31.OCT.2009 16:37:25



Date: 31.OCT.2009 16:35:42



Date: 31.OCT.2009 16:33:59