

**FCC LISTED, REGISTRATION  
NUMBER: 905266**

**IC LISTED REGISTRATION NUMBER  
IC 4621**

**AT4 wireless, S.A.**

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## TEST REPORT

### REFERENCE STANDARD:

**USA FCC Part 15.225, 15.207 and Part 15.209**

**NIE** ..... : 28384RET.006

Approved by  
(name / position & signature) ..... : A. Llamas / RF Lab. Manager

Elaboration date ..... : 2009-06-19

**Identification of item tested** ..... : BLUETOOTH RFID BARCODE READER

Trademark ..... : BARACODA

Model and/or type reference ..... : BDR-L, BDR-LA, BDR-FS, BDR-FE

Serial number ..... : PROTOTYPE

Other identification of the product ..... : Commercial name: DUALRUNNERS

FCC ID: QSHAIRRFI

HW version: 3.1 / SW version: 1.37

Features ..... : 3.7 V Rechargeable Li-ion battery, SPP, Bluetooth EDR, Torus antenna,  
13.56 MHz RFID

Description ..... : BLUETOOTH RFID TAG (HF) READER/WRITER & BARCODE  
READER

**Applicant** ..... : BARACODA

Address ..... : 36 rue de Turin, 75008 Paris, FRANCE

CIF/NIF/Passport ..... : 42876860000051

Contact person: ..... : Thierry Fortune

Telephone / Fax ..... : +33 1 30 08 89 00

e-mail: ..... : thierry.fortune@baracoda.com

**Test samples supplier** ..... : Same as applicant

**Manufacturer** ..... : Same as applicant

|                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|
| <b>Test method requested</b> .....                                                                                                                                                        | See Standard                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                      |
| <b>Standard</b> .....                                                                                                                                                                     | USA FCC Part 15.225: Operation within the band 13.110 -14.010:<br>-15.225 Subclause (a). Field strength of emissions within the band 13.553 MHz -13.567 MHz<br>-15.225 Subclause (b). Field strength of emissions within the band 13.410 - 13.553 MHz and 13.567 – 13.710 MHz<br>-15.225 Subclause (c). Field strength of emissions within the band 13.110 - 13.410 MHz and 13.710 – 14.010 MHz<br>-15.225 Subclause (d). Field strength of emissions outside of the band 13.110 MHz -14.010 MHz<br>USA FCC Part 15.209: Radiated emission limits, general requirements<br>USA FCC Part 15.207: Conducted limits |                       |                      |
| <b>Test procedure</b> .....                                                                                                                                                               | PEET000: Medidas de equipos radioeléctricos en condiciones radiadas.<br>PEEM002: Medida de la emisión conducida según EN55022                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |                      |
| <b>Non-standardized test method</b> .....                                                                                                                                                 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |                      |
| <b>Used instrumentation</b> .....                                                                                                                                                         | <u>Conducted Measurements</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                       |                      |
|                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Last Cal. date</b> | <b>Cal. due date</b> |
| 1.                                                                                                                                                                                        | EMI Test Receiver R&S ESIB26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2007/08               | 2009/08              |
| 2.                                                                                                                                                                                        | Transient limiter. HP 11947A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2007/01               | 2010/01              |
| 3.                                                                                                                                                                                        | Line Impedance Stabilization Network (L.I.S.N.) R&S. ESH2-Z5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2008/01               | 2010/01              |
|                                                                                                                                                                                           | <u>Radiated Measurements</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                       |                      |
|                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Last Cal. date</b> | <b>Cal. due date</b> |
| 1.                                                                                                                                                                                        | Semianechoic Absorber Lined Chamber IR 11. BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | N.A.                  | N.A.                 |
| 2.                                                                                                                                                                                        | Control Chamber IR 12.BC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N.A.                  | N.A.                 |
| 3.                                                                                                                                                                                        | Hybrid Bilog antenna Sunol Sciences Corporation JB6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2007/10               | 2010/10              |
| 4.                                                                                                                                                                                        | Antenna mast EM 1072 NMT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N.A.                  | N.A.                 |
| 5.                                                                                                                                                                                        | Rotating table EM 1084-4. ON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N.A.                  | N.A.                 |
| 6.                                                                                                                                                                                        | Loop antenna HP 1196 A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2007/08               | 2009/08              |
| 7.                                                                                                                                                                                        | EMI Test Receiver R&S ESIB26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2007/08               | 2009/08              |
| 8.                                                                                                                                                                                        | Multi Device Controller EMCO 2090                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | N.A.                  | N.A.                 |
| 9.                                                                                                                                                                                        | RF pre-amplifier Schaffner CPA 9231.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2009/03               | 2011/03              |
| 10.                                                                                                                                                                                       | Antenna tripod EMCO 11968C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N.A.                  | N.A.                 |
| <b>Report template No.</b> .....                                                                                                                                                          | FDT08_11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                       |                      |
| IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of AT4 wireless, S.A. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |                      |

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## Competences and guarantees

AT4 wireless is a laboratory with a measurement facility in compliance with the requirements of Section 2.948 of the FCC rules and has been added to the list of facilities whose measurements data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Registration Number: 905266.

AT4 wireless is a laboratory with a measurement site in compliance with the requirements of RSS 212, Issue 1 (Provisional) and has been added to the list of filed sites of the Canadian Certification and Engineering Bureau. Reference File Number: IC 4621.

In order to assure the traceability to other national and international laboratories, AT4 wireless has a calibration and maintenance programme for its measurement equipment.

AT4 wireless guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at AT4 wireless at the time of performance of the test.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

## General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of AT4 wireless.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

## Uncertainty

Uncertainty (factor  $k=2$ ) was calculated according to the AT4 wireless internal document:

PODT000: Procedimiento para el cálculo de incertidumbres de medida.

## Usage of samples

Samples undergoing test have been selected by: **the client**.

Sample M/01 is composed of the following elements:

| <u>Control N°</u> | <u>Description</u>                | <u>Model</u> | <u>Serial N°</u> | <u>Date of reception</u> |
|-------------------|-----------------------------------|--------------|------------------|--------------------------|
| 28384/59          | RFID device with integral antenna | BDR-FS       | Prototype        | 04/02/2009               |

Sample S/01 is composed of the following elements:

| <u>Control N°</u> | <u>Description</u>                | <u>Model</u>    | <u>Serial N°</u> | <u>Date of reception</u> |
|-------------------|-----------------------------------|-----------------|------------------|--------------------------|
| 28384/76          | RFID device with integral antenna | BDR-FS          | Prototype        | 05/03/2009               |
| 28384/61          | Power Supply                      | Iu15-2050050-wp | 0833             | 04/02/2009               |

1. Sample M/01 has undergone following test(s).  
Radiated tests indicated in appendix A (field strength of emissions).
2. Samples S/01 has undergone the next test(s):  
Continuous conducted emission, power leads, in appendix B

## Testing period

The performed test started on 2009-02-09 and finished on 2009-03-30

The tests have been performed at AT4 wireless.

## Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

|                               |                              |
|-------------------------------|------------------------------|
| Temperature                   | Min. = 19 °C<br>Max. = 21 °C |
| Relative humidity             | Min. = 60 %<br>Max. = 61 %   |
| Shielding effectiveness       | > 100 dB                     |
| Electric insulation           | > 10 kΩ                      |
| Reference resistance to earth | < 0,5 Ω                      |

In the semianechoic chamber (21 meters x 11 meters x 8 meters), the following limits were not exceeded during the test.

|                               |                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------|
| Temperature                   | Min. = 19 °C<br>Max. = 21 °C                                                                |
| Relative humidity             | Min. = 60 %<br>Max. = 61 %                                                                  |
| Air pressure                  | Min. = 1019 mbar<br>Max. = 1019 mbar                                                        |
| Shielding effectiveness       | > 100 dB                                                                                    |
| Electric insulation           | > 10 kΩ                                                                                     |
| Reference resistance to earth | < 0,5 Ω                                                                                     |
| Normal site attenuation (NSA) | < ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz) |
| Field homogeneity             | More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).            |

In the chamber for conducted measurements the following limits were not exceeded during the test:

|                               |                                      |
|-------------------------------|--------------------------------------|
| Temperature                   | Min. = 22 °C<br>Max. = 23 °C         |
| Relative humidity             | Min. = 41 %<br>Max. = 42 %           |
| Air pressure                  | Min. = 1020 mbar<br>Max. = 1020 mbar |
| Shielding effectiveness       | > 100 dB                             |
| Electric insulation           | > 10 kΩ                              |
| Reference resistance to earth | < 0,5 Ω                              |

## Summary

Considering the results of the performed test according to standard USA FCC Parts 15.225, 15.207 and 15.209, the item under test is **IN COMPLIANCE** with the requested specifications specified in the standard.

NOTE: The results presented in this Test Report apply only to the particular item under test established in page 1 of this document, as presented for test on the date(s) shown in section, "USAGE OF SAMPLES, TESTING PERIOD AND ENVIRONMENTAL CONDITIONS".

## Remarks and comments

1: Test not requested.

### Testing verdicts

Not applicable .....: NA  
 Pass.....: P  
 Fail .....: F  
 Not measured.....: NM

| FCC PART 15 PARAGRAPH                                                                                         | VERDICT |   |   |                 |
|---------------------------------------------------------------------------------------------------------------|---------|---|---|-----------------|
|                                                                                                               | NA      | P | F | NM              |
| 15.225 Subclause (a). Field strength of emissions within the band 13.553 MHz - 13.567 MHz                     |         | P |   |                 |
| 15.225 Subclause (b). Field strength of emissions within the band 13.410 - 13.553 MHz and 13.567 – 13.710 MHz |         | P |   |                 |
| 15.225 Subclause (c). Field strength of emissions within the band 13.110 - 13.410 MHz and 13.710 – 14.010 MHz |         | P |   |                 |
| 15.225 Subclause (d). Field strength of emissions outside of the band 13.110 MHz -14.010 MHz                  |         | P |   |                 |
| 15.225 Subclause (e). Frequency tolerance of the carrier signal                                               |         |   |   | NM <sup>1</sup> |
| 15.207. Conducted limits                                                                                      |         | P |   |                 |

1: See section “Remarks and comments”.

## **APPENDIX A: Test result**



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## TEST CONDITIONS

Power supply (V):

$$V_{\text{nominal}} = 3.7 \text{ Vdc}$$

Type of power supply = DC voltage from rechargeable Li-Ion battery.

Type of antenna = Integral antenna

Operating Temperature Range (°C):

$$T_n = +15 \text{ to } +35$$

TEST FREQUENCIES:

Nominal Operating frequency: 13.56 MHz

The test set-up was made in accordance to the general provisions of ANSI C63.4: 2003.

### RADIATED MEASUREMENTS

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna (Loop antenna for the range between 9 kHz to 30 MHz and Bilog antenna for the range between 30 MHz to 200 MHz) is situated at a distance of 3 m.

For radiated emissions in the range 9 kHz to 30 MHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 40 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive (wooden) platform one meter above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and in the range between 30 MHz and 200 MHz the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

In the range between 9 kHz and 30 MHz the measurements were made in the three different orientation planes of the loop antenna to determine the maximum received field.

In the range between 30 MHz and 200 MHz the measurements were made in both horizontal and vertical planes of polarization.

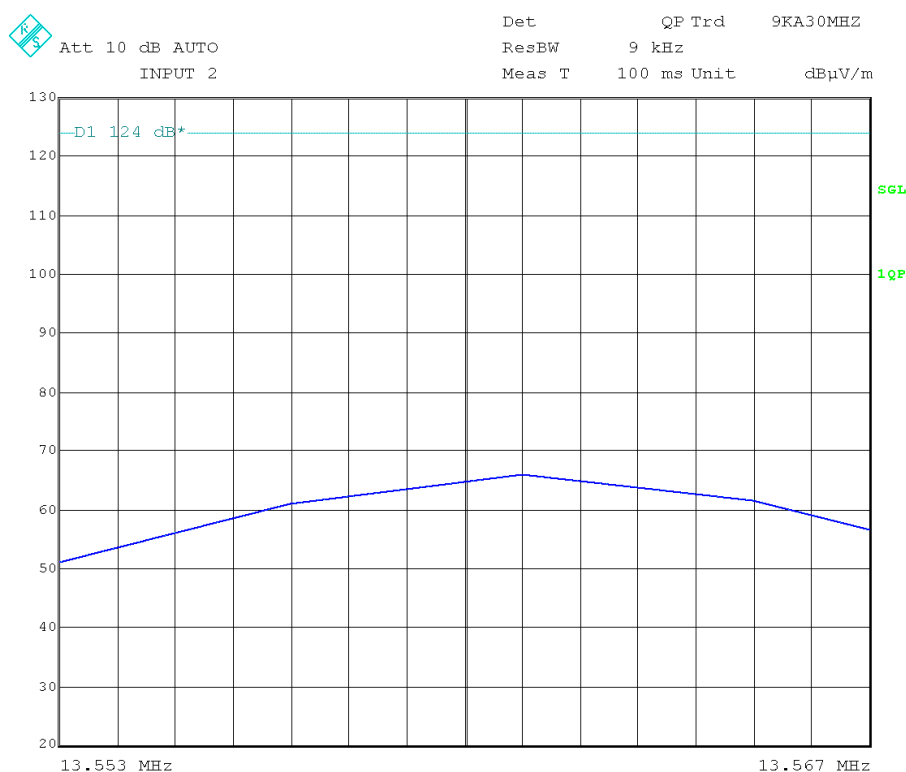
## Section 15.225 Subclause (a). Field strength of emissions within the band 13.553 MHz -13.567 MHz

### SPECIFICATION

The field strength of any emissions within the band 13.553 – 13.567 MHz shall not exceed 15,848 microvolts/meter (84 dB $\mu$ V/m) at 30 meters.

### RESULTS

Measurement distance: 3 meters



Note: The limit shown in the above plot is extrapolated to 3 meters

| Frequency (MHz)              | Maximum field strength (dB $\mu$ V/m) measured at 3 m (quasi-peak detector) | Maximum field strength (dB $\mu$ V/m) extrapolated to 30 m (40 dB/decade) |
|------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 13.561                       | 65.01                                                                       | 25.01                                                                     |
| Measurement uncertainty (dB) | $\pm 3.2$                                                                   |                                                                           |

Verdict: PASS

## Section 15.225 Subclause (b). Field strength of emissions within the band 13.410 MHz -13.553 MHz and 13.567 MHz -13.710 MHz

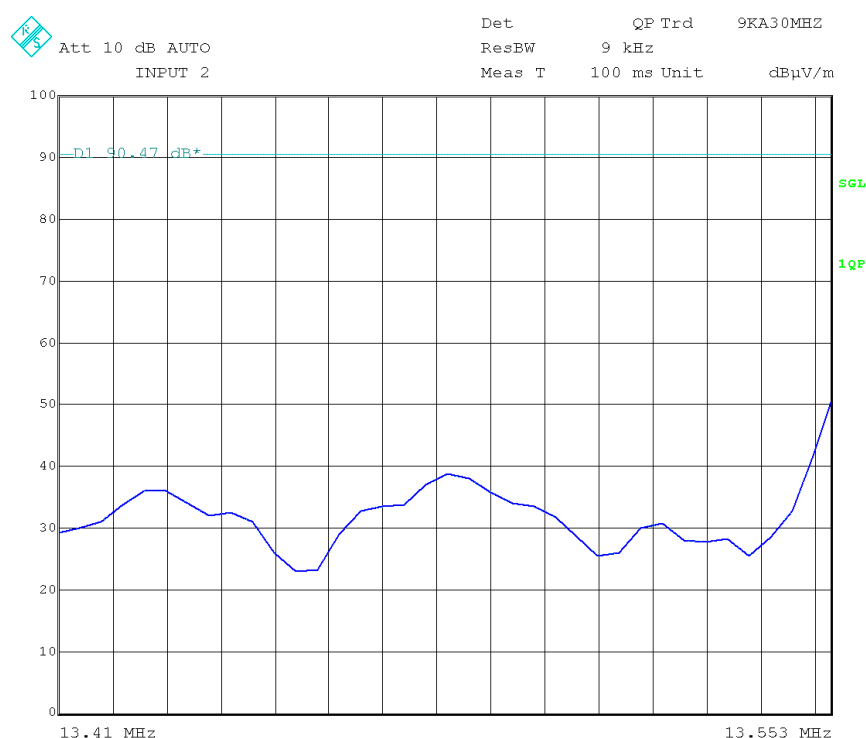
### SPECIFICATION

Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter (50.47 dB $\mu$ V/m) at 30 meters.

### RESULTS

Band 13.410-13.553 MHz

Measurement distance: 3 meters



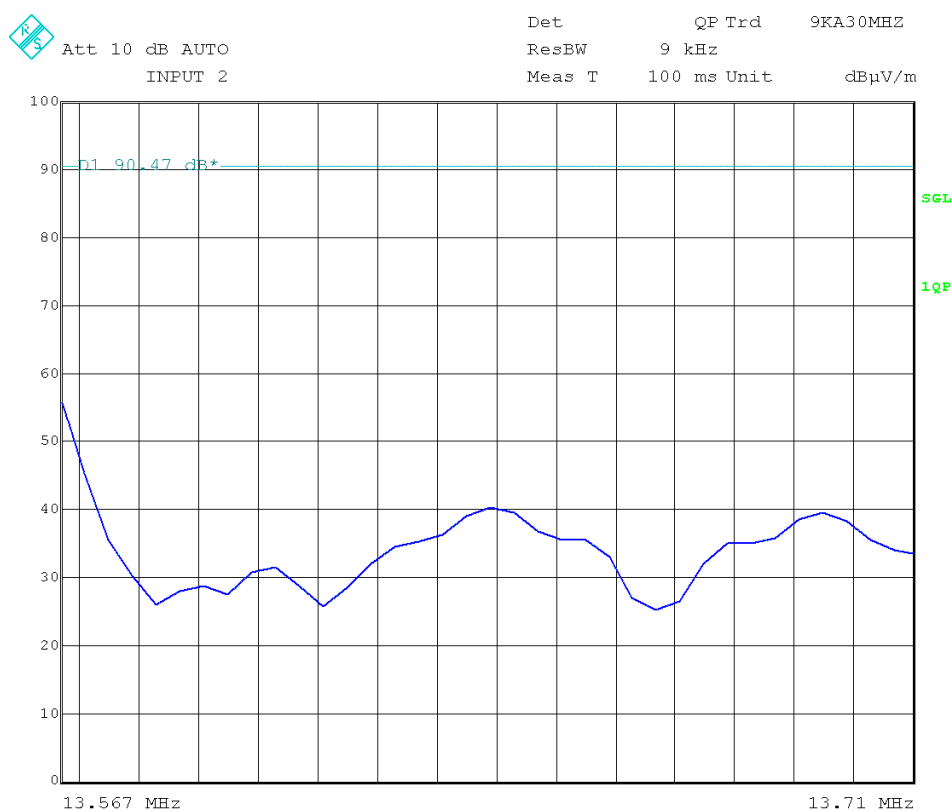
Note: The limit shown in the above plot is extrapolated to 3 meters

| Frequency (MHz)              | Maximum field strength (dB $\mu$ V/m) measured at 3 m (quasi-peak detector) | Maximum field strength (dB $\mu$ V/m) extrapolated to 30 m (40 dB/decade) |
|------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 13.429                       | 36.22                                                                       | -3.78                                                                     |
| 13.483                       | 39.04                                                                       | -0.96                                                                     |
| 13.553                       | 50.11                                                                       | 10.11                                                                     |
| Measurement uncertainty (dB) | $\pm 3.2$                                                                   |                                                                           |

Verdict: PASS

Band 13.567-13.710 MHz

Measurement distance: 3 meters



Note: The limit shown in the above plot is extrapolated to 3 meters

| Frequency (MHz)              | Maximum field strength (dBμV/m)<br>measured at 3 m (quasi-peak detector) | Maximum field strength (dBμV/m)<br>extrapolated to 30 m (40 dB/decade) |
|------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------|
| 13.567                       | 56.51                                                                    | 16.51                                                                  |
| 13.641                       | 40.02                                                                    | 0.02                                                                   |
| 13.695                       | 39.11                                                                    | -0.89                                                                  |
| Measurement uncertainty (dB) | ±3.2                                                                     |                                                                        |

Verdict: PASS

## Section 15.225 Subclause (c). Field strength of emissions within the band 13.110 MHz -13.410 MHz and 13.710 MHz -14.010 MHz

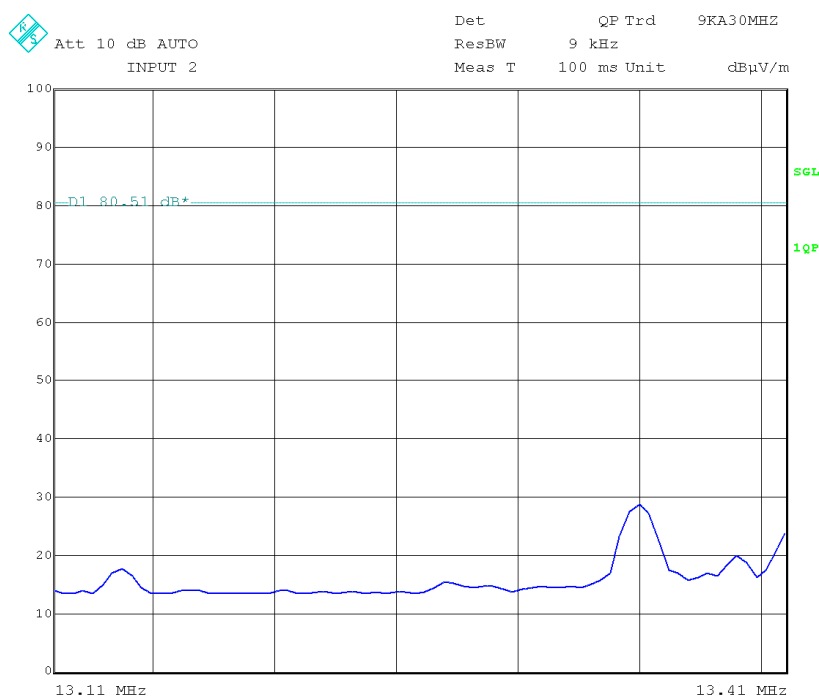
### SPECIFICATION

Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz, the field strength of any emissions shall not exceed 106 microvolts/meter (40.51 dB $\mu$ V/m) at 30 meters.

### RESULTS

Band 13.110-13.410 MHz

Measurement distance: 3 meters



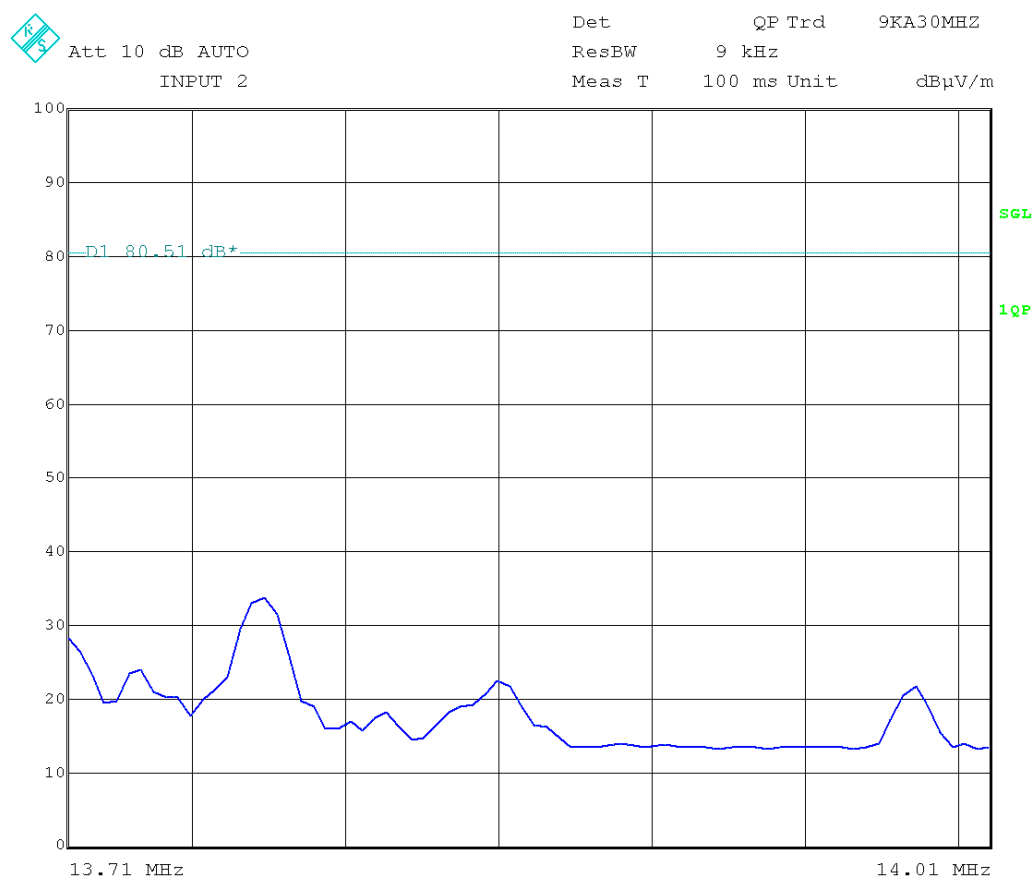
Note: The limit shown in the above plot is extrapolated to 3 meters

| Frequency (MHz)              | Maximum field strength (dB $\mu$ V/m) measured at 3 m (quasi-peak detector) | Maximum field strength (dB $\mu$ V/m) extrapolated to 30 m (40 dB/decade) |
|------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 13.135                       | 17.12                                                                       | -22.88                                                                    |
| 13.345                       | 28.66                                                                       | -11.34                                                                    |
| 13.391                       | 20.01                                                                       | -19.99                                                                    |
| 13.410                       | 23.22                                                                       | -16.78                                                                    |
| Measurement uncertainty (dB) | $\pm 3.2$                                                                   |                                                                           |

Verdict: PASS

Band 13.710-14.010 MHz

Measurement distance: 3 meters



Note: The limit shown in the above plot is extrapolated to 3 meters

| Frequency (MHz)              | Maximum field strength (dBμV/m)<br>measured at 3 m (quasi-peak detector) | Maximum field strength (dBμV/m)<br>extrapolated to 30 m (40 dB/decade) |
|------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------|
| 13.710                       | 28.14                                                                    | -11.86                                                                 |
| 13.736                       | 23.11                                                                    | -16.89                                                                 |
| 13.755                       | 33.62                                                                    | -6.38                                                                  |
| 13.845                       | 22.08                                                                    | -17.92                                                                 |
| 13.981                       | 21.96                                                                    | -18.04                                                                 |
| Measurement uncertainty (dB) | ±3.2                                                                     |                                                                        |

Verdict: PASS

## **Section 15.225 Subclause (d). Field strength of emissions outside of the band 13.110 MHz -14.010 MHz**

### SPECIFICATION

Field strength of any emissions appearing outside of the band 13.110 MHz - 14.010 MHz band shall not exceed the general radiated emission limits in 15.209:

| Frequency Range (MHz) | Field strength ( $\mu\text{V/m}$ ) | Field strength ( $\text{dB}\mu\text{V/m}$ ) | Measurement distance (m) |
|-----------------------|------------------------------------|---------------------------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)                        | -                                           | 300                      |
| 0.490-1.705           | 24000/F(kHz)                       | -                                           | 300                      |
| 1.705 - 30.0          | 30                                 | 29.54                                       | 30                       |
| 30 - 88               | 100                                | 40                                          | 3                        |
| 88 - 216              | 150                                | 43.5                                        | 3                        |
| 216 - 960             | 200                                | 46                                          | 3                        |
| Above 960             | 500                                | 54                                          | 3                        |

### RESULTS:

All tests were performed in a semi-anechoic chamber at a distance of 3 m.

The spectrum was inspected from 9 kHz to 200 MHz searching for spurious signals.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyser. This correction factor includes antenna factor, cable loss and pre-amplifier gain.

### **Frequency range 9 kHz-30 MHz.**

| Spurious frequency (MHz) | Loop antenna orientation | Detector   | Emission Level ( $\text{dB}\mu\text{V/m}$ ) 3 m | Emission Level ( $\text{dB}\mu\text{V/m}$ ) extrapolated to 30 m (40 dB/decade) | Measurement Uncertainty (dB) |
|--------------------------|--------------------------|------------|-------------------------------------------------|---------------------------------------------------------------------------------|------------------------------|
| 27.12019                 | Faced to E.U.T.          | Quasi-Peak | 21.12                                           | -18.88                                                                          | $\pm 3.2$                    |

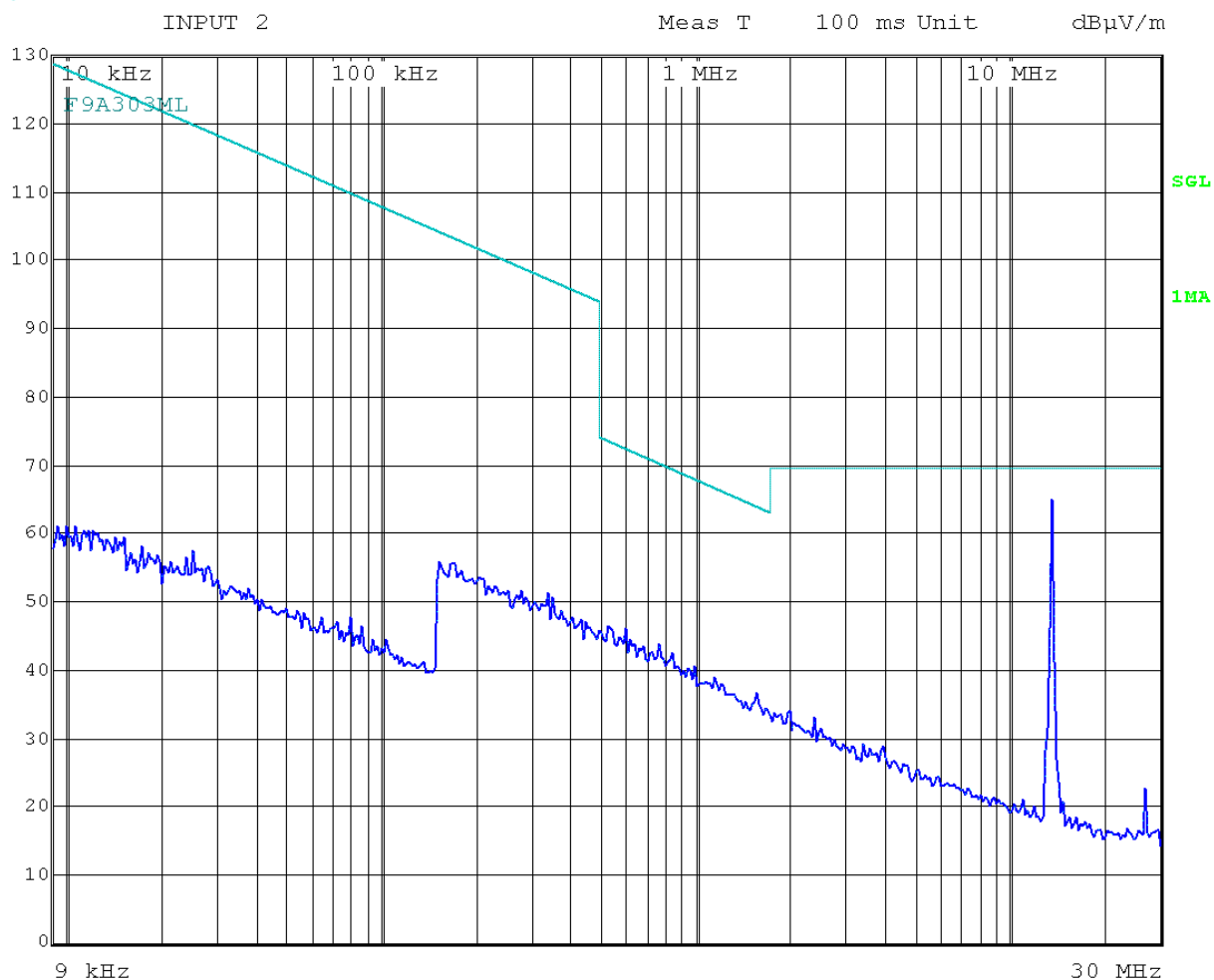


**Frequency range 30 MHz-200 MHz**

| Spurious frequency (MHz) | Polarization | Detector   | Emission Level (dB $\mu$ V/m) | Measurement Uncertainty (dB) |
|--------------------------|--------------|------------|-------------------------------|------------------------------|
| 162.86573                | V            | Quasi-Peak | 23.95                         | $\pm 3.8$                    |
| 176.49299                | V            | Quasi-Peak | 26.50                         | $\pm 3.8$                    |
| 190.12024                | V            | Quasi-Peak | 24.20                         | $\pm 3.8$                    |

Verdict: PASS

# FREQUENCY RANGE 9 kHz-30 MHz.



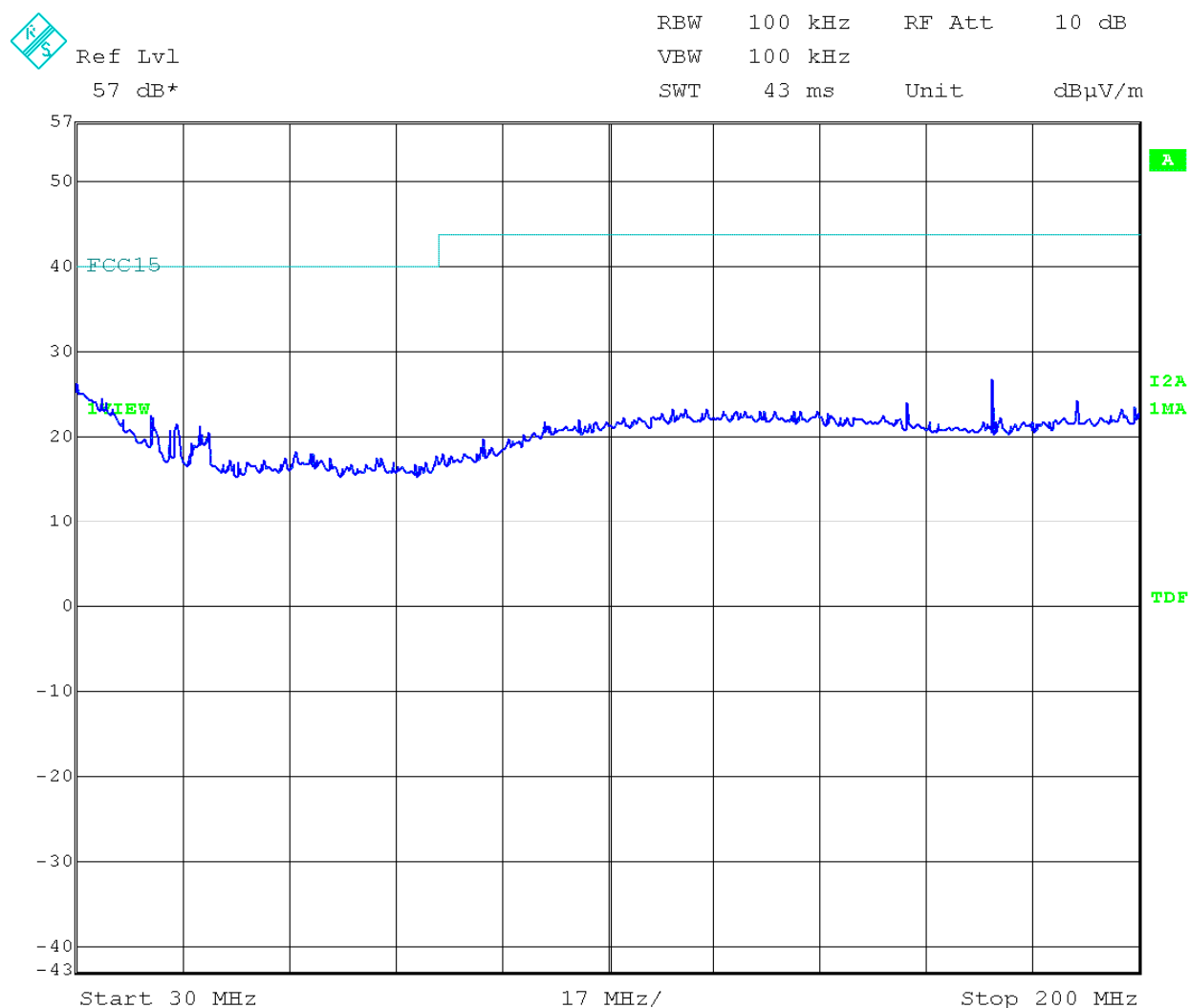
Resolution bandwidth:

200 Hz for  $9 \text{ kHz} \leq f \leq 150 \text{ kHz}$

9 kHz for  $150 \text{ kHz} \leq f \leq 30 \text{ MHz}$

Note: The limits shown in the above plot are extrapolated to 3 meters. The highest peak corresponds to the carrier level.

FREQUENCY RANGE 30 MHz to 200 MHz.



## **APPENDIX B: Measuring results for electromagnetic conducted emission**

**CONTENT:**

|                                                    |    |
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| CONTINUOUS CONDUCTED EMISSION ON POWER LEADS ..... | 23 |

## Description of the operation modes

The operation modes described in this paragraph constitute a functionality of the sample under test for itself. Every operation mode takes a failure criteria for the immunity test that they were applying to it and a monitoring to guarantee performance of the same ones.

In the following table appears the operation modes used by the samples tested to that it refers the present test report.

| OPERATION MODE | DESCRIPTION                                                                                     |
|----------------|-------------------------------------------------------------------------------------------------|
| OM#02          | EUT ON. BT & RFID communication mode. EUT power supplied with an AC voltage of 110 Vac / 60 Hz. |

## CONTINUOUS CONDUCTED EMISSION ON POWER LEADS

|                |                    |                                                      |
|----------------|--------------------|------------------------------------------------------|
| <b>LIMITS:</b> | Product standard : | FCC RULES AND REGULATIONS 47 CFR PART 15, SUBPART C. |
|                | Test standard :    | Part 15, Subpart C section 15.207 of FCC Rules       |

### CLASS B

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart C, section 15.207 in the frequency range 0,15 to 30 MHz, for Class B equipment was:

| Frequency range<br>(MHz) | Limit (dBuV) |         |
|--------------------------|--------------|---------|
|                          | Quasi-peak   | Average |
| 0,15 to 0,5              | 66-56        | 56-46   |
| 0,5 to 5                 | 56           | 46      |
| 5 to 30                  | 60           | 50      |

|                                |                                                                                    |
|--------------------------------|------------------------------------------------------------------------------------|
| <b>TESTED SAMPLES:</b>         | S/01                                                                               |
| <b>TESTED OPERATION MODES:</b> | OM#02                                                                              |
| <b>TEST RESULTS :</b>          | CCmmnnhh: CC, Conducted Condition; mm: Sample number; nn: Operation mode; hh: wire |

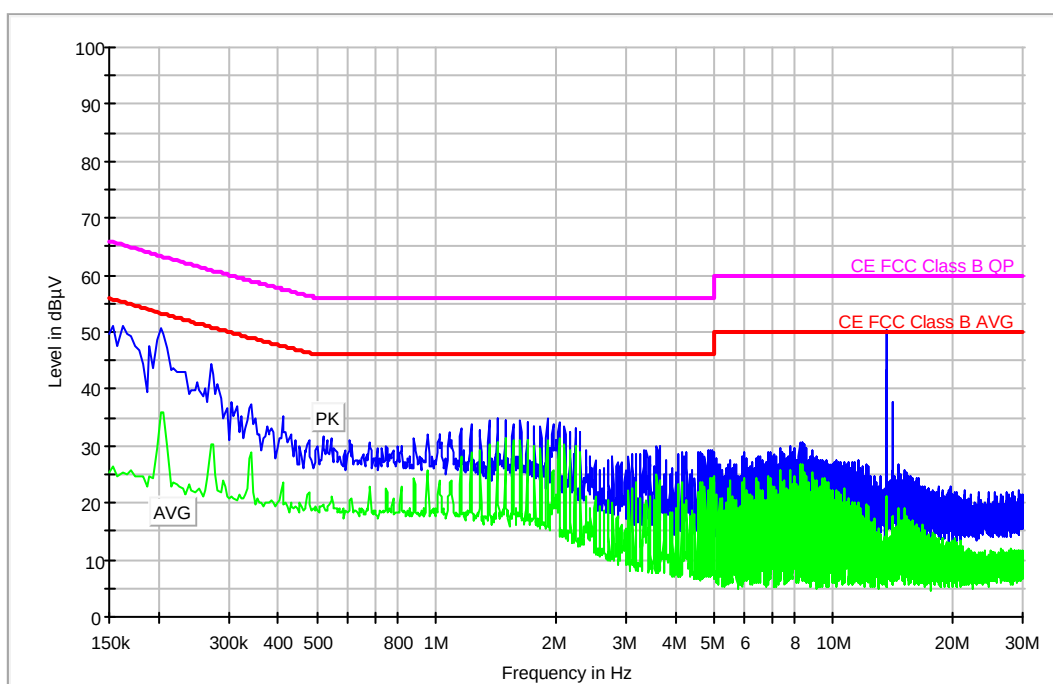
| CCmmnnhh | Description         | Result |
|----------|---------------------|--------|
| CC0102L1 | Positive wire noise | P      |
| CC01020N | Negative wire noise | P      |

Continuous Conducted emission : CC0102L1

Detector : Peak / Average / Cuasi-peak

Project: 28384iem.011  
 Company: BARACODA  
 Sample: S/01  
 Operation Mode: OM#02  
 Date: 2009-03-30 17:00  
 Setup: EMI conducted  
 Mode: EUT ON. BT communication mode. Phase noise.

## EC FCC Clase B ESPI CC



## Max PK-AVG

| Frequency (MHz) | MaxPeak-ClearWrite (dBμV) | Average-ClearWrite (dBμV) |
|-----------------|---------------------------|---------------------------|
| 0.150000        | 49.6                      | 25.4                      |
| 0.154000        | 51.0                      | 26.3                      |
| 0.162000        | 51.1                      | 25.2                      |
| 0.166000        | 49.5                      | 25.1                      |
| 0.170000        | 49.4                      | 25.8                      |
| 0.202000        | 50.7                      | 36.0                      |
| 0.206000        | 49.5                      | 35.8                      |
| 13.582000       | 50.1                      | 19.4                      |
| 13.586000       | 50.4                      | 17.6                      |
| 13.590000       | 43.4                      | 17.4                      |
| 13.598000       | 43.1                      | 17.4                      |
| 13.606000       | 43.2                      | 15.3                      |

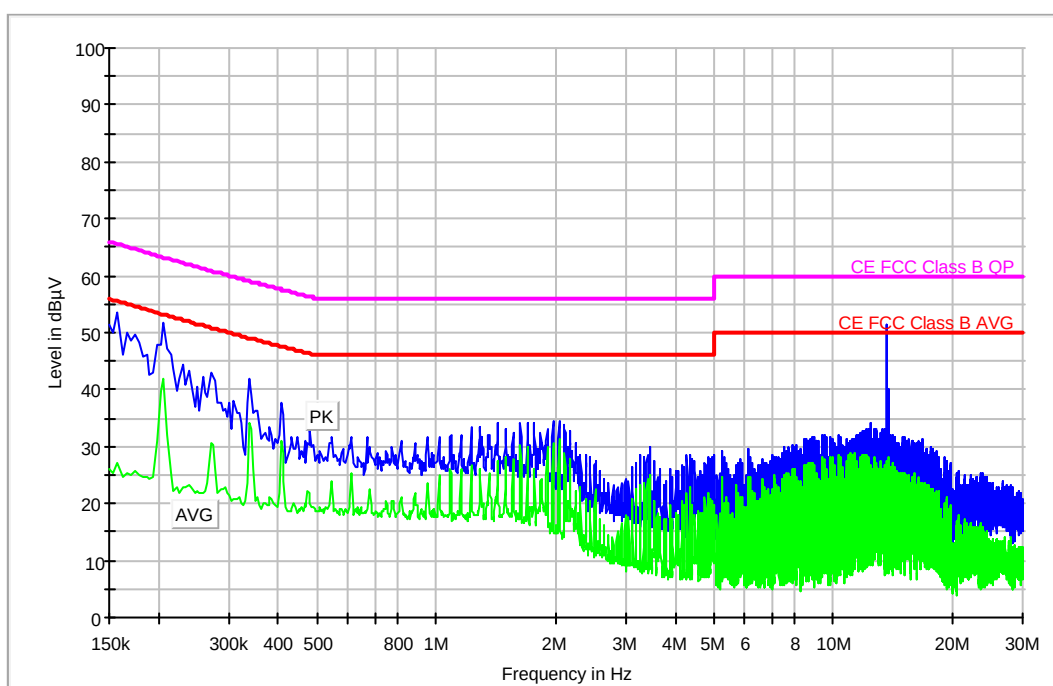


Continuous Conducted emission : CC01020N

Detector : Peak / Average / Cuasi-peak

Project: 28384iem.011  
 Company: BARACODA  
 Sample: S/01  
 Operation Mode: OM#02  
 Date: 2009-03-30 16:56  
 Setup: EMI conducted  
 Mode: EUT ON. BT communication mode. Neutral noise.

## EC FCC Clase B ESPI CC



## Max PK-AVG

| Frequency (MHz) | MaxPeak-ClearWrite (dBμV) | Average-ClearWrite (dBμV) |
|-----------------|---------------------------|---------------------------|
| 0.150000        | 51.3                      | 26.2                      |
| 0.154000        | 49.9                      | 25.3                      |
| 0.158000        | 53.5                      | 27.2                      |
| 0.166000        | 50.0                      | 25.4                      |
| 0.170000        | 48.6                      | 24.9                      |
| 0.174000        | 49.6                      | 25.6                      |
| 0.178000        | 48.3                      | 25.2                      |
| 0.198000        | 47.7                      | 31.1                      |
| 0.202000        | 47.9                      | 39.6                      |
| 0.206000        | 51.8                      | 42.0                      |
| 0.210000        | 47.1                      | 31.9                      |
| 13.650000       | 51.3                      | 27.6                      |

## **APPENDIX C: Photographs**

# EQUIPMENT FOR RADIATED MEASUREMENTS



**TEST SET-UP FOR RADIATED MEASUREMENTS BELOW 30 MHz**



**TEST SET-UP FOR RADIATED MEASUREMENTS ABOVE 30MHz**

