

Return address: P.O. Box 15, 9822 ZG Niekerk, The Netherlands

ATCB
Attn.: Mrs. M. Bosley
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Subject

Reply to ATCB comments

Date

April 14, 2009.

Our reference

17_CGDVELO3_ReplyToAT
CBcomments

Your reference

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Our General Terms and Conditions, as filed at the Chamber of Commerce in Groningen, are applicable to all orders given to TÜV Rheinland EPS B.V.

TÜV Rheinland EPS B.V. is registered at the Chamber of Commerce in Groningen with no. 27247331.

Dear Mrs. Bosley,

Related to your comments based on our request for certification for the following product,:

FCC ID : CGDVELO3
Brand : Nedap
Model : VP1101
Description : A proximity tag reader operating on 134 kHz.

We would like to provide you with the following information:

Question 1:

The test configuration for measuring emissions from this 134 kHz transmitter is questionable. The configuration appears to contain three separate 134 kHz transmitters on the turntable. Placing so many cases and wires in such close proximity to a 134 kHz transmitter may reduce the radiated emissions from this transmitter. There is nothing wrong with the test configuration and the radiated emission test results between 30 and 1000 MHz for the digital emissions. However, you must confirm that the test results provided below 30 MHz are representative of the 134 kHz transmitter under test. To do so, I suggest that you place only the EUT on the turntable, place the loop antenna 3 (or 10 meters) away and place the accessories to the EUT another 3 meters (10 would be better) away from the turntable (all in a straight line) to ensure that the accessories are not affecting the radiated emission test results on the 134 kHz transmitter. (See attachment entitled "test diagram.pdf"). Then measure the radiated emissions below 30 MHz from the EUT while rotating the turntable, rotating the loop antenna and moving the EUT through 3 orthogonal axes. If there is no change in results, please document that you have tested the transmitter in this manner. If the results change, please provide new radiated emissions test data below 30 MHz. I note that this request is in line with the ATCB response attached (See attachment entitled "ATCB Reply on This System.pdf.")

Answer 1:

The idea was to test the system in whole to simulate worst case situation and if proven to be within limits it can be assumed that the transmitter solely would comply. I retested the transmitter together with the VP8001-2 and VP2001 (minimally needed for normal operation) on the test table, so I was able to still turn the table around. With these minimal parts around no influence on the transmitter is expected nor is it seen in the results. The measurement results did not differ from the results noted in the test report. The re-test was only done

at 3m and with the common procedure, which you also suggested. See the uploaded document: 14_CGDVELO3_Rev01_Photo Report_Testsetup.pdf for updated photograph.

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Question 2:

The tested system details in Section 1.3 of the test report do not agree with the block diagram and interface cable list in Section 1.3.1 of the test report. For example, in Section 1.3, the transmitter being approved in this application is called EUT1 but in Section 1.3.1 it is called the VP1101. There is no consistency between these two sections. The interface cable list above the block diagram is missing information or also has inconsistencies. There is no information on the cable connecting the VP1007 with the mini antenna to the VP1007 that acts strictly as an I/O module. There is also no information on the cables that connect the VPU to VP2001. In the list of cables, cable 2 connects the VPU to the VP1101 (the transmitter being approved in this application). Cable 8 also connects the VP1101 to the VP8001 (Is the VP8001 the VPU?) I suggest the block diagram be relabeled to agree with the names EUT1 through EUT 10 and AUX given in Section 1.3 of the test report. Also supply all the information on the interconnecting cables and possibly label the individual cables so the references are clear.

Answer 2:

Corrected, see uploaded document: 13_CGDVELO3_fcc01_Rev01_Test report.pdf

Question 3:

Please provide the resolution bandwidth (RBW) of the measuring instrument during AC line conducted emissions testing.

Answer 3:

Corrected and stated in Note 2 of Table 5 on page 14 of revised test report, see uploaded document: 13_CGDVELO3_fcc01_Rev01_Test report.pdf.

Question 4:

Please provide the detector function and RBW of the measuring instrument used during radiated emission measurements reported in Table 2 (except the frequency bands 9 to 90 and 110 to 490 kHz).

Answer 4:

Corrected and stated in Notes 2 and 3 of Table 2 on page 12 of revised test report, see uploaded document: 13_CGDVELO3_fcc01_Rev01_Test report.pdf.

Question 5:

In Table 2 of the test report, do the measured results already include the antenna factor and cable loss or do they need to be added to achieve the measured level? If they are already included, just confirm that they are. If these factors are not included in the measured level, please provide a sample calculation of the final field strength using the attenuation factor and formulas mentioned in Appendix 1 of the test report.

Answer 5:

Corrected in Note 1 of Table 2 and Appendix 1 of revised test report, see uploaded document: 13_CGDVELO3_fcc01_Rev01_Test report.pdf.

Question 6:

The FCC ID label for this device does not contain the statement required by Section 15.19(a)(3) of the FCC Rules. The FCC requires this statement to be on a device if the device is larger than the palm of a person's hand. Since this device is approximately 16 x 30 cm in size, the 15.19(a)(3) statement must be on the device. Please provide an amended label that contains this statement.

Answer 6:

Label was not finished at the time of testing. The correction can be found in the uploaded document: 11_CGDVELO3_Label_Info_Rev01.pdf

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Question 7:

IC also requires the model number and applicant name to be on the equipment label according to Section 5.2 of RSS-Gen Issue 2 dated June 2007 (RSS-Gen). Please provide an amended label with this information on the label. Instead of the applicant name, a Trade Name may be used on the IC label. If NADEP is a registered Trade Name for the applicant in Canada, I will need information on where I can verify this fact.

Answer 7:

In fact both model number (VP1101) and applicant name (Nedap) are mentioned on the label, see uploaded document:
05_1444A-VELOS3_Label_Info_Rev01.pdf

Question 8:

Please provide a signed copy of Annex B of RSS-102 Issue 2 dated November 2005 (RSS-102) in accordance with Section 5.1(e) of RSP-100 Issue 9 dated June 2007. Only Annex B is needed in accordance with Section 2.5 of RSS-102 because this device meets the RF exposure exemptions in Sections 2.5.1 and 2.5.2 of RSS-102 because of its low output power.

Answer 8:

See uploaded documents: 07_1444A-VELOS3_IC_Attestation_AnnexB.pdf and 08_1444A-VELOS3_IC_rf_exposure.pdf

Question 9:

Please provide an operational description exhibit for this transmitter. The operational description provided is a copy of the instruction manual for this system of transmitters and receivers. If it really is an instruction manual given to all who purchase this system, it is not eligible for confidentiality under the FCC guidelines. Please provide an operational description for this transmitter that is eligible for confidentiality.

Answer 9:

This instruction manual, in a slightly different layout, was accepted when the CGDVELO1 and CGDVELO2 were submitted for certification. The request for confidentiality will be withdrawn and an additional document is provided, see uploaded document: 12_CGDVELO3_Operational Description_AddOn.pdf.

Question 10:

Please provide a photo of the PRTN SAM VP1101 board (front view) with the RF shield removed to show the components underneath the shield in accordance with Section 2.1033(b)(7) of the FCC Rules to show the component placement on the board. No photo with the shield removed was provided.

Answer 10:

Corrected, see document: 09_CGDVELO3_PhotoReport_Internal_Rev01.pdf

Question 11:

Please provide an IC confidentiality request letter. None was provided with this application. I urge you to provide the same type of letter for IC that was provided to the FCC to protect your client's interests. Sample letters are attached (See attachment entitled "ATCB IC Application Form Letters Rev 14 .doc").

Answer 11:

Corrected, see uploaded document: 09_1444A-VELOS3_IC_Confidentiality.pdf.

Question 12:

The following items need to be corrected on the IC application form because IC reviews all these uploaded documents especially the application form:

- (a) The Specification Standard on page 1 is RSS-210 Issue 7 not Issue 6. Issue 7 has been in effect since its release in June of 2007.*
- (b) The Type of Service on page 1 is Single. You cannot request both a single and existing family for this transmitter because it has not been approved yet.*
- (c) The model number on page 2 (VELOS3) does not agree with the model number on page 1 (VP1101).*
- (d) Type of Equipment is Proximity Reader. This is the closest match to what was typed into this box. Please use the pull-down menu on the ATCB IC application form to the left of this box.*
- (e) R. F. Power in Watts box should be left blank because you did not measure the conducted, ERP or EIRP of this device.*
- (f) Field Strength should be the maximum value of the fundamental emission that you measured and at what distance not the limit for this device. It should be 6.96 dBuV/m @ 300 m.*
- (g) Occupied Bandwidth is incorrect. You measured 660 Hz but list 600 Hz.*
- (h) Emission Designator is wrong because you used the incorrect occupied bandwidth. It should be 660HNON, and*
- (i) Transmitter Spurious (worst case) should be 30 dBuV/m @ 3m not 28.9. The emission at 65.49 is higher than the 28.9 level listed.*

Answer 12:

- (a) Through (i) Corrected, see uploaded document:
03_1444A-VELOS3_IC_Application_Rev01

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Question 13:

IC is now investigating whether the information for the Canadian Representative listed in an IC application is accurate. ATCB is suggesting that you provide a letter from the Canadian Representative that states they accept the responsibility for being the Canadian Representation on this application for IC: 1444A-VELOS3 (See attachment entitled "Master Canadian Rep Letter.doc"). This letter should be on company letterhead paper so IC can verify the company name and address. The letter should also contain the telephone number and fax number of the contact person listed on the IC application form. Please note that this is not a requirement for IC. It is merely a suggestion at this time. If you do not accept ATCB's suggestion, it may delay the appearance of this device on the REL in Canada because IC will check with the Canadian Representative **before** the device is listed on the REL in Canada. Providing the above letter may result in faster listing of this device on the REL in Canada. Please acknowledge if you do not intend to submit the above suggested letter.

Answer 13:

The suggested letter will be submitted, however the applicant request for some time before submitting. Awaiting their work in this process I will get back on that later and submit it when made available.

Question 14:

For Your Information – Internal photos should tell a story of how the product is assembled to show how the chassis is assembled as mentioned in Section 2.1033(b)(7) of the FCC Rules. After each layer is removed, a photo should be taken. In this device, when the shield was removed, the RF TX board was also removed with it so it was not apparent where this board belonged. Careful review had to be used to determine that the RF TX board was located under the first shield and it was removed with it. This type of presentation can cause delays in obtaining equipment approval. Please remember this to help speed the processing of your application filings.

Answer 14:

You are right! I will try to improve this in future submissions by adding some info boxes. Is it a problem if there is a hand showing on the photograph? It can be very hard sometimes to make a photograph of an exploded view without a hand holding some parts or pcb's.

Best regards,
TÜV Rheinland EPS B.V.



R. van der Meer
Test Engineer

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