

Responses to Non-Comformitites (Ref #1001)

Item 1: Please resubmit, a letter requesting confidentiality with reference to the rule sections of 0.457 and 0.459 under which the information is to be held confidential. Specifically identify what information is to be held confidential. Normally schematics, detailed block diagrams, and detailed theories of operation are the only information held confidential. Internal photographs and users manuals are only held confidential in certain circumstances where the access to the information isn't available to the end user. Test reports, cover letters, external photos, ID labels, setup photos, attestation statements and RF exposure reports will not be held confidential.

An updated confidentiality request letter is attached.

Item 2: Please provide a copy of the users manual. Only pages 1-10 were received. Please provide information on any accessories as stated in 15.27 if applicable. Please also update manual and provide a compliance statement similar to the one in 15.105.

A complete NCL1135 Users Manual is attached (in .pdf format). Part 15.27 requirements are addressed through the marketing, installation training, sale, and shipment of all necessary accessories (i.e. antennas, RF transmission line) with the NCL1135 product. Furthermore, the manual specifies a warning/requirement that the "Antennas and associated transmission cable must be installed by qualified personnel" - see users manual pages xii, 12, 16, 33, 36, 37, and 39. Part 15.105 requirements are addressed on pages iv and x.

Item 3: Please provide an FCC ID label with appropriate statement as contained in 15.19.

Label has been provided July 26, 2000.

Item 4: Please provide a block diagram showing the frequency of all oscillators in the device as stated in 2.1033(b)(5).

A block diagram of the WRM-1151 is attached (i.e. within the Block Diagram with Functional Overview document).

Item 5: Please provide a brief description of how the device operates as stated in 2.1033(b)(4).

A Functional Overview of the WRM-1151 is attached.

Item 6: Out of Cal equipment was used for the Conducted Emissions. Please provide data with calibrated equipment.

A corrected calibration list has been provided. Acme's test equipment was in-calibration, however, the test results somehow provided an incorrect indication of this. The EUT has been returned to Acme so that this issue may be dealt with accordingly.

Item 7: The measured output power of 10.2dBm conflicts with what is listed in the manual (15dBm), please explain and/or correct accordingly. The output power is also different from the conducted spurious emissions. When, $20 \log(3\text{MHz}/100\text{kHz})$ is used to compare the conducted emissions reading to the output power reading a value of 30.3dBm is obtained, which conflicts with the 10.2dBm reading with 3MHz resolution. Was there external attenuation used? Please explain.

(Acme) When measured with 3 MHz resolution bandwidth versus a 100MHz bandwidth the difference is 9.4dB. I have included the plot (RBW 3MHz vs. 100kHz) of this and I am not sure why the formula does not work here. Please let me know if you have any further questions regarding this.

Item 8: Antennas used in point to point applications should clearly be stated in the installation manual. Please indicate in the manual where this is stated.

The product will be configured in a point-to-point mode through software. That is, software configuration will restrict a 'Station' to communications with a single 'Master'. The 'Master' software load will be capable of communication with multiple 'Stations'... i.e. Point-to-Multipoint. It is obvious that the best range performance for a 'Station' will be achieved through the use of a high-gain directional antenna. All antennas, which the product has been tested with, are within the rules and regulations of the FCC and IC. Regulatory notices within the User Manual (e.g. pages iv, x, xi, xii) reinforce the requirement to meet the FCC and IC rules and regulations.

Item 9: Please provide the theoretical Gp (processing gain).

I have attached an analysis which was conducted by L.S. Research. This is an in-depth analysis which was used by the FCC in determination of permissible test methodology for the Processing Gain requirement.

Item 10: According to the processing gain data Channel 11 fails, however, the engineer has stated that if one were to normalize the jamming signal weighting due to the receiver gain slope, one would probably find that the demodulator produces the necessary processing gain. No supporting data was provided to support this assumption. Please provide data

The following should address Item 10:

The comments which CKC have provided are extracted from the Jamming Margin test report which I had previously supplied. That test report came directly from Intersil (previously Harris Semiconductor). The test report presented results from an implementation of the Intersil chipset which, in conjunction with a receiver circuit that exhibited a gain slope, weighted the jamming signal at the low end of the band. This is not representative of high linearity that we offer in the receive section of our radio products. Therefore, the demodulator in our radio product does, in fact, produce the necessary processing gain. This can be seen in the attachment to this e-mail.

I have attached a scanned copy of the Jamming Margin test report from a previously certified product, FCC ID:LXX-11. This product is the 1100TSE wireless bridge, from a company that WaveRider has acquired (i.e. TTI Wireless). We have used this test report for other Intersil PRISM-based radio products (e.g. WaveRider NCL1100 and NCL1101) to demonstrate that we clearly meet the minimum 10 dB processing gain requirement. Since it is this same baseband processor (Intersil HFA3860) that is used in the WRM-1151 radio module of our NCL1135 product, I propose that this test report suffice as validation of our product's processing gain compliance.

Item 11: Please provide the antenna installation instructions in which the installers use to satisfy RF exposure requirements.

The RF exposure requirement is communicated and enforced through the installation ["Warning!"] statement on page xii of the User Manual.