



December 20, 2013

Roger Noel  
Chief, Mobility Division  
Wireless Telecommunications Bureau  
FCC  
445 12 St SW  
Washington DC 20554

Re: FCC § 1.925 waiver supplement to December 9, 2013 original request: "WAIVER-EXPEDITED ACTION REQUESTED"

Dear Mr. Noel,

Please accept this letter as a formal request to the WTB to supplement the original waiver request letter, dated December 9, 2013. The original letter was submitted with the intent of filing a waiver to *47 CFR Part 20 §20.21(g)*, under FCC § 1.925(b)(3). Section 20.21(g) requires that no Consumer Signal Booster can be offered for sale that does not comply with the requirements of this section on or after March 1, 2014. As requested in the December 9, 2013 letter, this waiver would allow ClearRF's FCC approved signal boosters (FCC ID XS7WRE2700), certified prior to the April 11, 2013 amendment (*78 FR 21555*), to be offered for sale in the United States until at least August 31, 2014, but more preferably until December 31, 2014. The original letter sent to the WTB provided four arguments for consideration to approve the waiver request. Below are additional details and supporting information to each of the arguments for granting a waiver to section 20.21(g).

First, the XS7WRE2700 signal boosters already include the safeguards, such as anti-oscillation and automatic gain control features, that the FCC emphasizes in the new Part 20 rules. If the waiver is granted, the public and FCC can take comfort that the ClearRF boosters utilize patented (and patent pending) technologies, which negates unnecessary noise on the spectrum. These same technologies will be incorporated into the design of the signal booster, which will be submitted in the coming days to the FCC for certification, under these new Part 20 rules. However, FCC certification, manufacturing of the new device and ultimately being made available for sale to the public won't fully occur until well after the section 20.21(g) requirement date. The timeline of these events will be expanded upon in the remaining arguments.

Second, as stated in the December 9, 2013 letter, our Company has been working diligently with the TCB Lab (CKC in California) and representatives of the FCC to successfully test and submit for certification signal boosters under the new Part 20 requirements. The testing procedures have been evolving as evident from the October 2013 TCB presentation. In fact, the new Part 20 rules did not become effective until 9/11/2013. ClearRF began testing at the CKC lab on 9/30/2013. Between this time and 11/22/13, the testing of our signal booster under the new Part 20 was not passing the OOBE

12825 E. Mirabeau Parkway, Ste 104 \* Spokane Valley, WA. 99216 \* (509) 321-9520 \* [www.clearrf.com](http://www.clearrf.com)

measurements under FCC §24.238. On 11/22/13, ClearRF's design Engineer found an interpretation issue with the test measurements that the Lab was using. Below is an excerpt from a conversation with the Lab:

[ClearRF Engineer] It appears we are at an impasse. You are interpreting the standard differently than I. Why are you using the caveat method you listed below when we could just measure OOB like in the report I attached? The second sentence in (b), in both sections you reference, state the method that should be used.

22.917

*In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.*

24.238

*However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.*

As I stated prior, the emissions bandwidth is approximately 1.25MHz for CDMA. Shouldn't it be as simple as; measure the first 1 MHz band outside the passband with at least a 12.5KHz RBW as it is listed in the standard? It doesn't state a requirement for a 1 MHz IBW. I have consulted a third party and they are asking the same question. Why would all the other reports I have looked at display the measurements this way?

I need to seek a third party opinion (FCC or other TCB) and I will let you know what I find. I feel the measurements taken are not valid. Sorry to be argumentative but I am under pressure to ensure this is done right.

The Lab's engineer's response was:

After communicating with our TCB Manager, Randy, I must admit a miss-interpretation on my part has occurred on the OBE measurement.

Actual email correspondence regarding this testing interpretation issue is available to the FCC, but due to the public nature of this document, I would respectfully request that such information remain confidential and strictly for FCC staff review.

On 12/13/2013, ClearRF was informed from the Lab that OOB and other measurements passed the new Part 20 rules and during week of December 30th, ClearRF expects submission to the FCC for certification. Best estimate for FCC grant of the booster under the new rules would be the end of January 2014. This leaves only one month to manufacture and restock our resellers, before the March 1, 2014 date per §20.21(g).

The third argument for granting the waiver extension to section 20.21(g) as indicated on the December 9, 2013 letter is due to the two week government shut down in October. During the Lab interpretation issue on the OOB measurement, ClearRF had requested FCC input into the matter. Specifically, the Lab informed ClearRF to participate in the 10/10/13 KDB meeting with Art Wall and with representatives from the FCC. Steven Jones from the FCC noted on a 10/4/13 email to Art Wall that the FCC would not be at this meeting due to the government shut down. ClearRF's design engineer asked pointed questions at this 10/10/13 meeting regarding the OOB measurements, but no one from the FCC was available for comment or to give ClearRF direction on the testing procedures being used. On 10/23/13, Pete Wilhite from ClearRF sent an email to Steve Jones again asking for assistance on the OOB requirement. This email was not replied to until 11/19/13, which Steve Jones again referenced a delay in responding due to the "furlough". Mr Jones referred ClearRF to Joyce Jones, whom was copied on this 11/19/13 email, along with William Hurst and Rashmi Doshi. However, as stated earlier in this

letter, on 11/22/13 Mr. Wilhite pointed out the OOB testing error to the Lab, which had delayed final testing for at least 70 days (9/30/13 Lab start date to 12/13/13 final passing).

Finally, there is a lengthy time period between receiving FCC certification of a new product to the point of the product being made available for sale to the public. With the expectation of FCC certification of the XS7WRE2710 product by the end of January 2014, there would only be 31 days left to make the product available for sale to the public. The timeline of manufacturing and providing for sale the new product are as follows:

- 2/1/14 – 3/31/14: Initial PCB and subcomponent long lead time parts ordered and delivered.
- 4/1/14 – 4/30/14: Manufacturing of small run to insure the proper operation and performance of new signal booster.
- 5/1/14 – 6/30/14: Long lead time parts ordered and delivered for production run.
- 7/1/14 – 7/31/14: Manufacturing of production run.
- 8/1/14 – 8/31/14: New signal booster available for sale at ClearRF and resellers.

This timeline assumes standard manufacturing processes, acceptable yields and component availability. Any negative deviations from the standards above would result in the signal booster being unavailable for sale to the public until after August 2014. Thus, ClearRF respectfully requests the Commission to grant a waiver to §20.21(g) until at least 8/31/2014.

Thank you for your consideration,



Shawn Taylor  
Chief Operating Officer  
ClearRF LLC