

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Policies Regarding Mobile Spectrum Holdings)	WT Docket No. 12-269
The State of Mobile Wireless Competition)	WT Docket No. 11-186

REPLY COMMENTS OF PUBLIC KNOWLEDGE

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January 7, 2013

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Introduction and Summary

Spectrum is not an end in itself for wireless competitors or consumers. It is only one of many inputs that operators need to provide service—along with capital, real estate, labor, engineering expertise, and so forth. Carriers need these inputs and more to provide service and compete in the wireless marketplace.

Spectrum holdings deserve the consideration they are given in this proceeding not just because they affect the competitive state of the wireless market, which affects consumer welfare. This is true of the other inputs as well. But unlike those spectrum is a uniquely limited resource. Licenses are limited and allocated by the FCC and other government bodies, physics constrains the number of operators who can use given frequencies at the same time, and standards and technological path-dependence and lock-in sometimes prevent spectrum from being used in the most efficient ways. Therefore it is appropriate to craft specific policies to ensure that spectrum is distributed and used in a way that best promotes competition.

The first step towards doing this is to establish a way to determine the actual utility of different bands. Accordingly, Public Knowledge agrees with the many commenters who argue that all spectrum is not created equal, supports efforts to improve the spectrum screen, and has submitted comments to that effect. Without first weighting spectrum by its utility, the Commission will lack information on the value of spectrum and how acquiring that spectrum will affect competition in a given market. Weighting spectrum will take the value of different frequencies into account in order to help determine how much of different types of spectrum a carrier can have before gaining a substantial competitive advantage that triggers a screen.

It can be challenging to address other aspects of spectrum policy without first settling what the weighting should be, but it is not impossible. It is likely that correlations between post-weighted spectrum holdings in a given market and that market's competitive characteristics can inform the

proper level for a screen on post-weighted spectrum. But even without that predicate, it is clear that the screen should be set at a level that promotes competition, be predictable enough for a carrier to know when a proposed transaction will trigger the screen, and also be flexible enough for the Commission to look at specific factors in a transaction to ensure competition in the mobile wireless market. While spectrum caps may have a limited application (*e.g.*, under 1 GHz), a spectrum cap will probably not provide enough flexibility, and tends to cause carriers to claim that transactions under a cap are in a “safe harbor” even if the transactions are otherwise anticompetitive. It is also clear that spectrum policy should be an iterative process—the weighting and the screen should be continually reevaluated to take into account new engineering techniques and the availability of new bands. Finally, the Commission should remember that the purpose of attribution rules is to determine whether a carrier controls or influences a spectrum license, and while percentages of ownership may be a helpful starting point, they may not always provide complete information as to who is benefitting from particular spectrum licenses.

I. The Commission should continue implementing a spectrum screen but weigh the spectrum by frequency.

As Public Knowledge discussed in its comments, an effective spectrum screen should 1) detect when a carrier's regional spectrum holdings would give it an advantage that would harm competition, but also 2) be flexible enough to let carriers manage their spectrum portfolios to the greatest extent possible.¹ Unlike a cap on all spectrum, a screen offers the flexibility that may make it easier to achieve both competing interests, and quiets notions that spectrum transactions below the cap—no matter how anticompetitive—are a “safe harbor.”² A spectrum screen with enough flexibility to consider all the factors in a transaction should help with the challenge of promoting competition in an increasingly anticompetitive wireless market while trying to give carriers enough spectrum to develop

1 Public Knowledge and Jon Peha Comments, WT Docket No. 12-269, at 2.

2 See Verizon Wireless Comments, WT Docket No. 12-269, at 5, 7; AT&T Comments, WT Docket No. 12-169, at 54.

better mobile wireless products and services.

Yet the Commission must weight spectrum by frequency to know its value and include in its screen all the different bands of spectrum that are licensed exclusively to terrestrial CMRSs over reasonably large regions.³ Public Knowledge and other commenters⁴ made clear that not all spectrum is created equal—“radio transmissions at different frequencies have different physical properties, and no man-made law or regulation can change this.”⁵ Weighting spectrum will reflect the costs of deployment and equipment operation at a particular frequency, so the Commission will better understand the value of the spectrum.⁶

Without weighting spectrum as described in Public Knowledge's comments, a carrier could acquire a large amount of low-value spectrum and trigger the screen, while another carrier could acquire a smaller amount of high-value spectrum (*e.g.*, below 1 GHz) without triggering the screen.⁷ And without including the bands that carriers use, a carrier could end up controlling an excluded band and also dominate a large portion of a band that is included in the screen without triggering the screen.⁸ Therefore, by weighting spectrum by frequency and including spectrum bands licensed exclusively to terrestrial CMRSs, the Commission will have a more effective screen that prevents a carrier from limiting the competition in a wireless market by acquiring too much of a certain type or types of spectrum.

A. The Commission should base the spectrum screen on competition policy in order to effectively promote a vibrant and competitive wireless market.

Once the Commission weights the spectrum by frequency to determine the value of different types of spectrum, it should use its findings to set the screen at a level that reflects competition policy,

3 Public Knowledge and Jon Peha Comments, WT Docket No. 12-269, at 4.

4 *See, e.g., Id.*; Competitive Carriers Association Comments, WT Docket No. 12-269, at 10, n. 33; Computer and Communication Industry Association Comments, WT Docket No. 12-269, at 11; Free Press Comments, WT Docket No. 12-269, at 11; Writers Guild of America, West, Inc. Comments, WT Docket No. 12-269, at 4.

5 Public Knowledge and Jon Peha Comments, WT Docket No. 12-269, at 4.

6 *Id.* at 5.

7 *Id.*

8 *Id.*

since promoting competition is the purpose of the screen. The key is to set a screen that conforms to competition and antitrust law by determining the type of competition that the market should have and how much post-weighted spectrum competitors can have before the market loses competition. Free Press suggests that the Commission use the Department of Justice's *Horizontal Merger Guidelines* to determine an appropriate level for review.⁹

The *Horizontal Merger Guidelines* discuss Herfindahl-Hirschman Indices (HHIs), which illustrate local market concentration.¹⁰ The Commission should look at local market HHIs to see the amounts of carriers' post-weighted spectrum. If the Commission finds a correlation between the HHIs and carriers' post-weighted spectrum holdings, then the correlation may indicate that the carriers' spectrum holdings play a role in the competitive nature of the local market. (The causal relationship may be complex. A carrier with higher spectrum holders may be able to attract more customers due to higher network quality. A carrier with more customers might be incentivized to seek out more spectrum as the lowest-cost way to increase quality. Or a carrier with high spectrum holders might be able to reduce its capital expenditure and devote more money to marketing, increasing its customer base in that way. To note that spectrum holdings are correlated to marketshare is not to adopt a simplistic theory as to why this is the case—but it may show that new spectrum policies could have pro-competitive effects.) The amount of carriers' post-weighted spectrum holdings in highly concentrated markets (HHIs above 2500)¹¹ may be above the limit that a competitive market can withstand. The Commission can then use the amounts of carriers' post-weighted spectrum holdings in highly concentrated markets as a starting point toward setting the spectrum screen at a lower level that will increase market competition and improve consumer choice.

9 Free Press Comments, WT Docket No. 12-269, at 2-3, 12-13.

10 Department of Justice and Federal Trade Commission, "Horizontal Merger Guidelines" (2010), at 18-19.

11 *Id.* at 19.

B. Weighting spectrum frequencies will help ensure certainty, transparency, and predictability.

The Commission and commenters both agree that certainty, transparency, and predictability are vital to a successful spectrum screen that promotes competition.¹² Carriers should know what types of spectrum transactions will or will not trigger the screen and be able to determine how the transactions will affect the market based on competition policy. Weighting spectrum by frequency will give carriers more predictability and transparency.¹³ Depending on whether spectrum is weighted by technical properties¹⁴ or market signals,¹⁵ carriers can easily determine how valuable the Commission will find spectrum frequencies. If carriers are more likely to know how a spectrum screen review will turn out, they may even be more likely to bid on or otherwise acquire spectrum that keeps them under or near the percentage that triggers the screen.

The Communications Liberty and Innovation Project (CLIP) commented that the current screen provides too much uncertainty because the Commission alters the screen while in the midst of reviewing transactions.¹⁶ CLIP suggests that the Commission only change the screening process during a rulemaking. Public Knowledge acknowledges the value of certainty and predictability, but believes the best approach to improving wireless competition is a generally applicable rule (the screen) followed by a case-by-case review that takes account of possibly unique considerations. This way, the Commission will set precedents with screenings of proposed spectrum transactions, but will also have the flexibility to fill holes in a particular screening with unpredictable technological factors or other transaction-specific information. From a carriers' perspective certainty is not an unalloyed good—it could mean the Commission's answer to proposed spectrum transactions is always “no.” And in this

12 See e.g., *Policies Regarding Mobile Spectrum Holdings*, WT Docket No. 12-269, Notice of Proposed Rulemaking (2012), at ¶ 15 (Notice) (asking for comments to “afford all interested parties greater certainty, transparency and predictability”); Internet Innovation Alliance Comments, WT Docket No. 12-269, at 1-2; Communications Liberty and Innovation Project Comments, WT Docket No. 12-269, at 2-6.

13 Public Knowledge and Jon Peha Comments, WT Docket No. 12-269, at 6.

14 *Id.*

15 *Id.* at 12.

16 Communications Liberty and Innovation Project Comments, WT Docket No. 12-269, at 2.

case, too much certainty goes too far—more certainty would effectively require a spectrum cap with less room to consider relevant factors, which could take away Commission authority to allow an otherwise competitive spectrum transaction that goes over the cap or deny an anticompetitive spectrum transaction that falls under the cap. The Commission should be able to consider all necessary factors in an analysis, even if those factors lessen certainty. The screen still provides enough predictability, and there is an amount of certainty to knowing that the Commission can consider any and all factors.

C. While a cap on below 1 GHz spectrum may be effective, the Commission properly eliminated the inflexible spectrum cap in 2003 and should not reinstate it for all spectrum bands because neither the Commission nor carriers should take the view that acquiring spectrum below the cap is a “safe harbor.”

Most commenters¹⁷ agree that the Commission should not implement a cap on all spectrum bands, because as the Commission itself recognizes, a spectrum cap “would limit the Commission's flexibility to consider individualized circumstances and to respond swiftly to the changing needs of the mobile wireless industry and consumers.”¹⁸ Because a cap would limit the Commission's ability to consider all factors in a transaction, it could block a proposed spectrum transaction above the cap that would otherwise produce greater innovation and competition in the market. If the Commission implements a cap, then there will be a widespread view that acquiring spectrum below the cap is a “safe harbor”¹⁹ and these transactions will be allowed regardless of anticompetitive effects on the wireless market. This view is not aligned with the purpose of either a screen or cap, nor is it aligned with competition policy—the Commission should not allow anticompetitive spectrum transactions even if they fall below a cap. Accordingly, the Commission should implement a spectrum screen instead of a cap as a screen offers more flexibility to resolve these problems.

If the Commission does decide to implement a cap, it should do so only for spectrum below 1

17 See e.g., Verizon Wireless Comments, WT Docket No. 12-269, at 13-17; AT&T Comments, WT Docket No. 12-269, at 24-27. CTIA – The Wireless Association Comments, WT Docket No. 12-269, at 8-9.

18 Notice, at ¶ 20.

19 See Verizon Wireless Comments, WT Docket No. 12-269, at 5, 7; AT&T Comments, WT Docket No. 12-169, at 54.

GHz as argued by Sprint and Free Press.²⁰ Spectrum below 1 GHz covers large geographic areas and penetrates through buildings making it extremely useful and in short supply.²¹ A cap might “ensure a more competitive distribution of spectrum below 1 GHz to enhance competition.”²² Although a cap on below 1 GHz spectrum would recognize that 1 GHz spectrum has a higher value to carriers, the Commission should still weight it based on technical properties or market signals.²³

II. The Commission should develop a mechanism to review and update the spectrum screen on a regular basis.

Technology in the mobile wireless market evolves, so the spectrum screen should also evolve to take into account new uses of spectrum and changes in the spectrum inventory. Public Knowledge originally suggested reviewing the screen every five to ten years,²⁴ but AT&T believes that an annual review is necessary.²⁵ While a yearly spectrum screen review, if feasible, might be helpful at times of rapid change, particularly as more spectrum becomes available in the next few years to ensure that new suitable and available spectrum bands are included in the screen,²⁶ the Commission should avoid process for the sake of process, and should bear in mind that too-frequent reevaluations could undermine the carrier’s stated preference for “predictability.” Aside from these considerations, however, the Commission should implement a mechanism to review and update the spectrum screen on a regular basis and should consider both technological changes and predictability when determining the length of time between reviews.

20 See Sprint Comments, WT Docket No. 12-269, at 4; Free Press Comments, WT Docket No 12-269, at 17.

21 Sprint Comments, WT Docket No. 12-269, at 3.

22 Sprint Comments, WT Docket No. 12-269, at 4. See also Public Knowledge and Jon Peha Comments, WT Docket No. 12-269, at 5.

23 See Public Knowledge and Jon Peha Comments, WT Docket No. 12-269, at 6-12, 12-14.

24 *Id.* at 5.

25 AT&T Comments, WT Docket No. 12-269, at 44.

26 Notice, at ¶ 26.

III. The Commission should be mindful that the purpose of attribution rules is to determine whether a carrier has control or influence over a spectrum license in order to evaluate competition in the market, regardless of the percentages set by the rules.

While commenters disagreed over the precise percentages the Commission should employ as attribution rules, the Commission should be mindful that the purpose of attribution rules is to determine whether a carrier has control or influence over a spectrum license in order to count it “toward that [carrier]’s total mobile spectrum holdings” and not to set arbitrary numbers to determine this information.²⁷ While the current attribution rules generally help determine whether a carrier controls or influences the use of a spectrum license, not every transaction fits neatly within the rules. Data from ownership filings in the Universal Licensing System make clear that a carrier that has 85% interest in a spectrum license may lack control²⁸ while a carrier with 10% interest may actually have control. Therefore, if the Commission is trying to determine whether a carrier controls a spectrum license, it may start with a greater than 50% interest rule, and if the Commission is trying to determine influence over a license, it may start with a smaller percentage (commenters suggest 10%, 20% or 25%).²⁹ Although the Commission may use these percentages as guidelines for control or influence, it should always be mindful to look at the context in which carriers operate and not look solely to predetermined attribution rules.

²⁷ *Id.* at ¶ 40.

²⁸ *See e.g.*, MetroPCS’ Ownership Disclosure Filings—Form 602, FRN 0014194476, available at <http://wireless2.fcc.gov/UlsApp/ownershipSearch/query.jsp>.

²⁹ *See e.g.*, Sprint Comments, WT Docket No. 12-269, at 22 (10%); AT&T Comments, WT Docket No. 12-269, at 80-81 (20%); Competitive Carriers Association Comments, WT Docket No. 12-269, at 16 (25%).

Conclusion

The Commission should weight spectrum by frequency to determine its value in the mobile wireless market. Doing so will allow the Commission to know how important different spectrum frequencies are to carriers and how acquiring a certain amount of spectrum will prevent competition in the market. The Commission can then set the screen at the appropriate level that is predictable enough for carriers to determine the potential outcomes of their proposed spectrum transactions while being flexible enough to allow transactions that will promote a competitive wireless market.

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January 7, 2013