

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

In The Matter Of)	
)	
Service Rules for Advanced Wireless Services)	WT Docket No. 07-195
In the 2155-2175 MHz Band)	
)	
Service Rules for Advanced Wireless Services)	WT Docket No. 04-356
In the 1915-1920 MHz, 1995-2000 MHz, 2020-)	
2025, and 2175-2180 MHz Bands)	

To: The Commission

COMMENTS OF QUALCOMM INCORPORATED

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QUALCOMM Incorporated (“Qualcomm”), by its attorneys, hereby submits its comments on the Further Notice of Proposed Rule Making (“FNPRM”) released by the Commission in the above-captioned proceedings on June 20, 2008.

I. Introduction

The FNPRM contains a series of summary descriptions of proposed rules for the AWS-3 band and the PCS H block, but contains virtually no explanation of the proposed rules and no analysis to justify or support any of the proposed rules. The difficulty of responding to the FNPRM was compounded by an unduly short deadline—14 days after publication in the Federal Register. Nevertheless, Qualcomm makes three fundamental points in this filing.

First, the Commission should not mandate any particular business model for a spectrum licensee, and as a result, the Commission should not require the licensee of the 2155 to 2180 MHz band, or any licensee for that matter, to provide free two-way wireless broadband internet service. The American wireless industry is a remarkable engine for economic growth, and a key

reason why that is the case is that the FCC has not mandated any particular business model. The Commission's policy of auctioning spectrum on a technology-neutral, service-neutral basis has raised tens of billions of dollars, helped create tens of thousands of jobs, and lead to an ever-expanding array of choices for consumers in terms of devices and service offerings. On the other hand, whenever the Commission has tried to mandate a business model or restrict eligibility of spectrum, such as the 700 MHz D block or the PCS C block, the efforts have utterly failed, and the spectrum has lied fallow. The marketplace, not the federal government, should determine which business models licensees adopt and which ones survive. The Commission should simply auction spectrum to the highest bidder in an auction to all comers and not dictate any business model. No party should be precluded from offering a free internet service, but no party should be required to do so either.

Second, with respect to the AWS-3 band, as Qualcomm stated in an ex parte filing dated June 3, 2008, it is clear that there are conflicting claims in this proceeding about interference from operations in the AWS-3 band into the AWS-1 mobile receive band. The only proper way for the Commission to resolve these conflicting claims is through definitive testing based upon the proposed parameters. Until such testing is conducted, the Commission should not go forward with the technical rules proposed in the FNPRM.

Qualcomm would like to correct the record of this proceeding in one respect. In a portion of an ex parte presentation filed on July 2, 2008, M2Z suggested that power control could mitigate interference from AWS-3 operations to AWS-1. As explained herein, that is not the case. In the first place, for data, there is no power control employed in downlink data operations using the HSPA or EV-DO technologies which would occur on AWS-1's mobile receive band. Moreover, to the extent that M2Z is referring to power control in an AWS-3 mobile, an AWS-3

mobile operating on one operator's network with power control will not receive any feedback about interference that it might be causing to an AWS-1 mobile operating on a different operator's network. As a result, even if the AWS-3 mobile employs power control, that would not mitigate interference. It is true that an AWS-1 CDMA or WCDMA mobile would employ power control for voice calls. If there is interference into the AWS-1 mobile receive band, for voice calls, the power control on an AWS-1 mobile would increase the mobile's power. The net result will be a reduction in voice capacity for other AWS-1 mobiles and potential call drops. Power control does not adequately mitigate the underlying interference.

Third, with respect to the H block, the FNPRM proposes technical rules, but makes no reference to the extensive interference testing conducted under the auspices of CTIA or the proposals made by Verizon, Sprint, and Nextel (prior to the merger of Sprint and Nextel), AT&T, and T-Mobile for greater interference protections than originally proposed by the FCC. These proposals were all supported by the test results. The Commission cannot simply ignore the test results and propose technical rules without any technical basis. Rather, the Commission should revise its proposed rules to provide greater interference protections based upon the extensive testing in the record.

II. The Commission Should Not Mandate Any Business Model

As Qualcomm has stated in many prior filings, the Commission should not dictate or forbid any particular business model in the wireless business. The Commission should simply auction the spectrum to all comers on a technology-neutral and service-neutral basis and allow the auction winner to use the spectrum as it sees fit. In the past, this policy has created a robustly competitive wireless industry, as the Commission has itself found.¹ In addition, this policy of

¹ See, e.g., Twelfth Report, FCC O8-28, released Feb. 4, 2008 at Pgs. 61-62

auctioning spectrum based upon service rules that do not mandate or preclude any particular business model have raised tens of billions of dollars for the US Treasury and have helped to create a wireless industry here in the US which is the envy of the world.

The FNPRM provides no basis for reversing this policy for the AWS-3 band. Why should this 25 MHz be singled out for a starkly different set of service rules? The FNPRM simply does not attempt to provide any answer. The US wireless market is working. There are over 261 million wireless subscribers in the US. Just a few months ago, in the very first sentence of its annual report on competition in the wireless market, the Commission found that:

“U.S. consumers continue to reap significant benefits- including low prices, new technologies, improved service quality, and choice among providers- from competition in the Commercial Mobile Radio Services (“CMRS”) marketplace, both terrestrial and satellite CMRS.”

Twelfth Report at para. 1.

The Commission cannot simply pretend that it has not made this finding or that this description of the marketplace is inaccurate. To the contrary, the Commission’s description of the wireless marketplace is accurate, and as a result, there is no basis for the Commission to mandate or forbid any particular business model for the AWS-3 band.

III. The Commission Should Not Adopt Technical Rules for the AWS-3 Band in the Absence of Definitive Testing in the Band

On June 3, 2008, Qualcomm filed a letter with the Commission noting that there are conflicting claims before the Commission as to whether two-way operations in the AWS-3 band, either 2155 to 2175 MHz or 2155 to 2180 MHz, will cause interference to operations in the AWS-1 mobile receive band, 2110-2155 MHz and asking that the Commission not set technical rules until definitive testing has occurred. Although some limited testing has occurred, there have not been tests with real devices operating in the 2155 to 2180 MHz band. Two weeks after

Qualcomm filed its letter, the Commission issued the FNPRM with proposed technical rules for the AWS-3 band in the absence of any definitive testing.

Qualcomm continues to believe that the Commission should not adopt technical rules for the AWS-3 band until there has been definitive interference testing to help resolve the conflicting claims as to interference. The FNPRM does even attempt to justify the proposed rules. The Commission has no basis to resolve the conflicting claims in this proceeding.

Qualcomm would like to correct the record of this proceeding in one respect. In a portion of an ex parte presentation filed on July 2, 2008, M2Z provided the Commission with a list of interference mitigation techniques. Ex Parte Presentation of M2Z (filed July 2, 2008) at Pg. 15. One of the techniques included on M2Z's list is power control. M2Z appears to be suggesting that power control could mitigate interference from AWS-3 operations to AWS-1. That is not the case. In the first place, downlink data operations via the HSPA or EV-DO technologies operating on AWS-1 would not employ power control. To the extent that M2Z is referring to power control in an AWS-3 mobile, the problem is that an AWS-3 mobile on one operator's network will not receive any feedback about interference that it might be causing to an AWS-1 mobile operating on a different operator's network. As a result, even if the AWS-3 mobile employs power control, that would not mitigate interference in any way.

It is true that CDMA or WCDMA mobiles operating on AWS-1 would employ power control for voice calls. If there is interference into the AWS-1 mobile receive band, for voice calls, the power control on an AWS-1 mobile would cause the mobile's power to increase to overcome the interference. The net result will be a reduction in voice capacity for other AWS-1 mobiles and potential call drops. Power control does not adequately mitigate the underlying interference.

IV. The Commission Should Revise Its Rules for the H Block Based on the Extensive Test Results in the Record

The FNPRM proposes a series of technical rules for the H block, but without providing any explanation of, or basis for, the proposed rules. This omission is particularly important because the proposed rules differ in several respects from proposals made by various industry players, which in turn were based on extensive interference testing conducted by CTIA.

As CTIA's filing of December 8, 2004 in Dockets 04-356 and 02-353 explains, CTIA contracted with two laboratories, PCTEST and Rutgers University's WINLAB, to conduct tests of interference from operations on the H block into the existing PCS mobile receive bands. The tests covered 11 different handsets which use a variety of air interfaces. The testing showed that there would be significant interference if H block mobiles operated in the upper two-thirds of the H block at 23 dBm and an out of band emission limit of -60 dBm/MHz or -66 dBm/MHz. CTIA Comments (filed Dec. 8, 2004) at Pg. iii.

As a result, a number of companies made filings with the FCC seeking more extensive interference. Verizon, Sprint and Nextel filed a joint proposal which called for a power limit of 6 dBm on mobile transmissions at 1917-1920 MHz. (They also called for a limit of 30 dBm on transmissions at 1915 to 1917. Their filing stated that PCS handsets typically operate at or below 23 dBm, the 30 dBm limit was proposed to accommodate and account for variance in antenna gains and permit compliance with existing measurement requirements. Joint Reply Comments of Sprint Corporation, Verizon Wireless and Nextel Communications (filed Feb. 8, 2005) at Pg. 3, n.3. They proposed an out of band emission limit of -76 dBm/MHz. *Id.* at Pg. 3. AT&T proposed a power limit of 13 dBm. Reply Comments of Cingular Wireless (filed Feb. 8, 2005) at Pg. iii. They also proposed an out of band emission spec of -76 dBm/MHz. T-Mobile

also proposed the same out of band emission limit, although they proposed a handset power limit of 200 mW average EIRP. Reply Comments of T-Mobile USA, Inc. (filed Dec. 8, 2004) at Pg. 3, 6. Finally, Qualcomm pointed out that CTIA's test results showed that a H block mobile transmission will produce 2f1-f2 intermodulation effects on a PCS B block victim channel. Comments of Qualcomm (filed Dec. 8, 2004) at Pg. 3. Qualcomm urged the FCC to adopt technical rules to address this issue—in other words, to adopt greater protections than the Commission was considering to ensure that B block mobiles are protected from intermodulation.

Once again, the Commission cannot just pretend that this extensive testing did not occur or just ignore these proposals. But, the FNPRM appears to do just that. It proposes a power limit of 23 dBm across the entire 1915 to 1920 MHz band and an out of band emission limit of -60 dBm/MHz, without any explanation and without referring to any of the test results in the record, which showed that operations at those parameters would cause interference. The Commission should adopt greater interference protections in accordance with the test results.

V. Conclusion

Wherefore, Qualcomm respectfully requests that the Commission adopt rules for the AWS-3 band and the H block consistent with the comments made herein.

Respectfully submitted,

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