

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Expanding the Economic and Innovation)	GN Docket No. 12-268
Opportunities of Spectrum Through Incentive)	
Auctions)	
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**COMMENTS OF VULCAN WIRELESS LLC
AND
SKYHIGH WIRELESS LLC**

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I. INTRODUCTION

Vulcan Wireless LLC (“Vulcan”) and SkyHigh Wireless LLC (“SkyHigh”) jointly submit these comments in response to the Public Notice released by the Federal Communications Commission (the “Commission”) in the above-captioned proceeding.¹ Vulcan is a telecommunications company and 700 MHz A Block licensee that is committed to developing innovative new wireless broadband technologies. SkyHigh Wireless LLC is an early-stage company devoted to deploying and expanding next-generation wireless technologies. SkyHigh’s investors include a major strategic partner with a track record for identifying and funding new opportunities in the media and telecommunications industries.

Vulcan and SkyHigh endorse the adoption of the Down from 51 band plan because it allows for the allocation of more spectrum, will cause less interference with other services, and uses spectrum more efficiently. A majority of other commenters support the Down from 51 band plan.² In contrast, most commenters have opposed the Down from 51 Reversed proposal.³

¹ *In the Matter of Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, Public Notice, GN Docket No. 12-268, DA 13-1157 (rel. May 17, 2013).

² Comments of AT&T, GN Docket No. 12-268, 7 (filed June 14, 2013) (“AT&T Comment”) (The Down from 51 plan “provides the best arrangement of scarce spectrum resources.”); Comments of CIT Group Inc., GN Docket No. 12-268, 3 (filed June 14, 2013) (arguing that the Down from 51 plan will increase private funding at auction); Comments of Consumer Electronics Association, GN Docket No. 12-268, 1 (filed June 14, 2013) (“Consumer Electronics Association Comment”) (“The Down from 51 consensus approach resolves several technical issues and advances the public interest.”); Comments of CTIA—The Wireless Association, ® GN Docket No. 12-268, 6 (filed June 14, 2013) (“CTIA Comment”) (“By selecting a ‘Down from 51’ approach, the FCC will be best positioned to maximize paired, licensed spectrum above TV 37.”); Comments of GE Healthcare, GN Docket No. 12-268, 6 (filed June 14, 2013) (“GE Healthcare Comment”) (“With patient safety on the line, the Commission should avoid possible interference from mobile uplink operations to wireless medical telemetry and adopt a Down from 51 plan.”); Comments of Mobile Future, GN Docket No. 12-268, 4 (filed June 14, 2013) (“Mobile Future Comment”) (arguing that the Down from 51 plan “would facilitate clearing as much 600 MHz spectrum as possible”); Comments of Motorola Mobility LLC, GN Docket No. 12-268, 1 (filed June 14, 2013) (“Motorola Mobility Comment”) (concluding that the Down from 51 plan is superior “with respect to both interference protection and handset design”); Comments of National Cable & Telecommunications Association, GN Docket No. 12-268, 8-9 (filed June 14, 2013) (“National Cable & Telecommunications Association Comment”) (supporting the Down from 51 plan); Comments of Qualcomm, Inc., GN Docket No. 12-268, 3-4 (filed June 14, 2013) (“Qualcomm Comment”) (asserting that the Down from 51 band

II. THE DOWN FROM 51 REVERSED PROPOSAL IS INEFFICIENT AND INCREASES INTERFERENCE PROBLEMS

Striking consensus exists among stakeholders—the Commission’s Down from 51 Reversed proposal is almost universally opposed.⁴ The Down from 51 Reversed band plan is inefficient because it allocates valuable spectrum to an additional guard band between the 600 MHz downlink and 700 MHz uplink blocks. The extra guard band is unnecessary in the Down

plan is “most readily integrated into existing smartphone and tablet form factors”); Comments of Research in Motion, GN Docket No. 12-268, 1 (filed June 14, 2013) (“Research in Motion Comment”) (advocating for the adoption of the Down from 51 plan); Comments of Spectrum Management Consulting, GN Docket No. 12-268, 10-11 (filed June 14, 2013) (“Spectrum Management Comment”) (urging the Commission to adopt the Down from 51 plan because it avoids introducing inefficiencies into the 600 MHz band plan and protects the existing uses of the Lower 700 MHz spectrum); Comments of Telecommunications Industry Association, GN Docket No. 12-268, 5 (filed June 14, 2013) (concluding that the Down from 51 plan “represents the best collective engineering judgment not just of equipment manufacturers, but also of other companies affected by the auction”); Comments of the WMTS Coalition, GN Docket No. 12-268, 5 (filed June 14, 2013) (“WMTS Coalition Comment”) (noting that the Down from 51 plan avoids the problem of creating interference to medical telemetry devices); Comments of Verizon and Verizon Wireless, GN Docket No. 12-268, 2 (filed June 14, 2013) (“Verizon and Verizon Wireless Comment”) (joining “various other wireless stakeholders in supporting” the Down from 51 band plan).

³ See e.g. AT&T Comment at 3-4 (explaining that the Reversed Plan overvalues flexibility, wastes spectrum, and presents technical problems); CTIA Comment at 9-10 (arguing that the Reversed Plan is inefficient); Consumer Electronics Association Comment at 4-5 (concluding that the Down from 51 Reversed Plan is inefficient because it wastes spectrum and causes potential harmonic interference); Mobile Future Comment at 4 (asserting that the Reversed plan is inefficient because it requires an extra guard band); Motorola Mobility (concluding that the Reversed plan is inefficient and increases the potential for intermodulation interference); National Cable & Telecommunications Association Comment at 4-6 (noting that the Down from 51 Reversed plan will allocate spectrum less efficiently and could cause additional interference problems); Qualcomm Comment at 12-14 (concluding that the Reversed plan would be less efficient, result in interference, and would not accommodate market variation); Research in Motion Comment at 6-8 (arguing that the Down from 51 Reversed plan is impractical and inefficient); Comments of Sinclair Broadcast Group, Inc. GN Docket No. 12-268, 1-2 (filed June 14, 2013) (“Sinclair Broadcast Comment”); Spectrum Management Comment at 2 (concluding that the Reversed plan threatens interference and is inefficient); Comments of Sprint Nextel Corporation, GN Docket No. 12-268, 9 (filed June 14, 2013) (“Sprint Nextel Comment”) (arguing that the Reversed plan would limit auction revenues); Verizon and Verizon Wireless Comment at 4-5 (concluding that the Down from 51 Reversed plan is flawed because it adds an unnecessary guard band, creates device inefficiencies, limits the amount of downlink, and increases interference risks). *But see* Comments of National Association of Broadcasters, GN Docket No. 12-268, 2 (filed June 14, 2013) (endorsing the Down from 51 Reversed plan if the Commission decides that it must proceed with a variable plan).

⁴ See note 3, *supra*.

from 51 band plan and the resulting loss in spectrum means less potential revenue, less spectrum available for consumer use, and an increased likelihood of auction failure.⁵

However, failing to allocate a sufficiently large guard band in the Down from 51 Reversed band plan would likely cause harmful interference. Specifically, potential out-of-band emissions, mobile-to-mobile interference, and receiver overload interference could interfere with both 600 MHz and 700 MHz operations. In addition, the Down from 51 Reversed plan will increase the potential for interference by placing uplink operations closer to other uses such as Channel 37 Wireless Medical Telemetry Services.⁶ Avoiding this interference would require an additional guard band, further reducing the spectrum available for auction.

III. THE DOWN FROM 51 PLAN OFFERS THE LEAST INTERFERENCE WITH WIRELESS MEDICAL TELEMETRY SERVICES HOSTED ON CHANNEL 37

As the Commission has recognized, Wireless Medical Telemetry Services (“WMTS”) hosted on Channel 37 should “operate without interference.”⁷ Thousands of hospitals and hundreds of thousands of patients depend on WMTS systems.⁸ The Down from 51 Reversed plan allocates uplink operations adjacent to Channel 37 and the resultant interference could cause “disastrous consequences” for medical devices, according to GE Healthcare.⁹ Because of the

⁵ AT&T Comment at 3-4. *See* Consumer Electronics Association Comment at 4; CTIA Comment at 9-10; Ericsson Comment at 4; National Cable & Telecommunications Association Comment at 4-5; Qualcomm Comment at 12-13; Spectrum Management Comment at 2; Sprint Nextel Comment at 2; Verizon and Verizon Wireless Comment at 4-5.

⁶ Alcatel-Lucent Comment at 5; AT&T Comment at 3-4; Consumer Electronics Association Comment at 5; CTIA Comment at 9-10; Ericsson Comment at 6-7; Mobile Future Comment at 5; National Cable & Telecommunications Association Comment at 6; Motorola Mobility Comment at 4; Sinclair Broadcast Comment at 1; Qualcomm Comment at 4; Spectrum Management Comment at 2; Verizon and Verizon Wireless Comment at 4.

⁷ *Amendment of Parts 2 and 95 of the Commission’s Rules to Create a Wireless Medical Telemetry Service*, Report and Order, 15 FCC Rcd 11206, ¶ 11 (2000).

⁸ GE Healthcare Comment at 6.

⁹ GE Healthcare Comment at 6; *see also* WMTS Coalition Comment at 5; Qualcomm Comment at 14, 17; Research in Motion Comment at 7-9; Verizon and Verizon Wireless Comment at 5.

interference caused by the Down from 51 Reversed plan, GE Healthcare and the WMTS Coalition both support the Down from 51 plan.¹⁰ GE Healthcare’s contention that “[w]ith patient safety on the line, the Commission should avoid possible interference from mobile uplink operations to wireless medical telemetry and adopt a Down from 51 plan” further argues against the Down from 51 Reversed plan.¹¹

IV. CONCLUSION

The Commission should heed the advice of the majority of commenters and adopt a Down from 51 band plan.

Respectfully submitted,

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¹⁰ GE Healthcare Comment at 6; WMTS Coalition Comment at 5; *see also* Qualcomm Comment at 14, 17; Research in Motion Comment at 7-9; Verizon and Verizon Wireless Comment at 5.

¹¹ GE Healthcare Comment at 6.