

least 10 video and 24 audio channels using the new Digital Video Broadcasting--Transmission System for Handheld Terminals (DVB-H)¹⁸¹ standard.¹⁸² Crown Castle later limited its request to thirty initial markets¹⁸³ and stated that it would operate using a 5-MHz carrier bandwidth at each base station.¹⁸⁴

53. In February 2007, we conditionally granted Crown Castle authority to deploy its proposed system using PSD at 4 kW/MHz and 8 kW/MHz for non-rural and rural areas, respectively, which we limited to thirty markets and the White Mountain Apache Reservation in Arizona, for which Crown Castle had been the recipient of a tribal lands bidding credit in the Commission's 2003 Auction No. 46.¹⁸⁵ More importantly, in order to limit interference, we expanded the geographic area currently set forth in our Part 1 rules within which Crown Castle must coordinate its 1670-1675 MHz band operations with certain incumbent federal government users.¹⁸⁶ We also adopted detailed coordination and consultation conditions to protect vital National Weather Service and radio astronomy facilities from harmful interference.¹⁸⁷ The waiver grant was subject to several other conditions, including that waiver relief was "subject to any future Commission action in WT Docket 03-264 [the instant proceeding]."¹⁸⁸

54. In July 2007, Crown Castle announced that it would not deploy a nationwide DVB-H system to provide Modeo service for which it had sought increased power levels.¹⁸⁹ Rather, effective July 23, 2007, Crown Castle leased, via a *de facto* transfer lease,¹⁹⁰ its spectrum

¹⁸¹ Additional information regarding DVB-H technology is available at <http://www.dvb-h.org/technology.htm>.

¹⁸² See Presentation to the FCC on the use of the 1670-1675 MHz Band at 3 (September 28, 2006), filed with Letter dated September 29, 2006, from Ari Q. Fitzgerald, counsel to Crown Castle, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 03-264 (Crown Castle September 28, 2006 Presentation).

¹⁸³ See Letter dated October 4, 2006, from Ari Q. Fitzgerald, counsel to Crown Castle, to Fred Campbell, Legal Advisor to FCC Chairman Kevin Martin, Attachment A (Initial Market Deployment Plan) (requesting relief in thirty markets corresponding to CMAs 1-20, 22, 24, 26, 27, 30, 33, 35, 72, 75, and 93).

¹⁸⁴ Crown Castle Petition at 2.

¹⁸⁵ OP LLC (Crown Castle International Corp.), Licensee of WPYQ831, Petition for Waiver of Section 27.50(f)(1) of the Commission's Rules, *Memorandum Opinion and Order*, 22 FCC Rcd 4322 (2007) (*Crown Castle Waiver Order*).

¹⁸⁶ See 47 C.F.R. § 1.924(g)(1). The expanded coordination zones were the result of discussions between Crown Castle and NTIA as reflected in the exhibit attached in support of Crown Castle's waiver filing. See Department of Defense Joint Spectrum Center, *NOAA GOES Sensor Data Downlink Coordination Zones for Proposed Transmitters in the 1670 to 1675 MHz Frequency Band (JSC report)*, attachment to ULS File No. 00022271317. The expanded zones were also approved by the Interdepartmental Radio Advisory Committee (IRAC). See <http://www.ntia.doc.gov/osmhome/irac.html>.

¹⁸⁷ *Crown Castle Waiver Order*, 22 FCC Rcd at 4329-30, and at 4332, Appendix.

¹⁸⁸ *Id.* at 4329-30.

¹⁸⁹ See "Crown Castle Announces Long-Term Modeo Spectrum Lease," available at <http://investor.crowncastle.com/releasedetail.cfm?ReleaseID=255947> (Crown Castle Press Release).

¹⁹⁰ See 47 C.F.R. § 1.9030 (long term *de facto* transfer leasing arrangements).

in the 1670-1675 MHz band to TVCC One Six Holdings, LLC (TVCC). The Crown Castle/TVCC lease arrangement provides that it “will enable [TVCC] to provide a variety of fixed and/or mobile services nationwide, including broadband services, consistent with the Commission’s rules for the 1670-1675 MHz band.”¹⁹¹

55. *Discussion.* Based on the record before us and for the reasons stated below, we decline to apply the PSD model by rule to the entire 1670-1675 MHz band as Crown Castle requests. In the *Crown Castle Waiver Order*, we reasoned that the grant of relief should be limited to 30 markets to enable the Commission to “assess whether there are any unanticipated issues associated with Crown Castle’s proposed use of higher power limits in the 1670-1675 MHz band.”¹⁹² Because Crown Castle has chosen not to deploy a DVB-H system in the band,¹⁹³ the record before us is insufficient to determine whether the public interest would be served by granting additional power for other markets for the 1670-1675 MHz band. We continue to believe that it would be prudent for the Commission to have actual operational data to evaluate the potential consequences of applying the PSD model to other markets in this band. Thus, our action today leaves intact the relief afforded previously to Crown Castle. Accordingly, in view of the foregoing, we decline to amend our rules to permit use of the PSD model nationwide in this band. TVCC is entitled to avail itself of the relief granted through waiver for the 30 markets specified in Crown Castle’s Initial Market Deployment Plan, subject to the conditions in the *Crown Castle Waiver Order*. In addition, TVCC may submit a waiver request, with appropriate justification, for similar relief in additional markets.

IV. PROCEDURAL MATTERS

A. Congressional Review Act

56. The Commission will send a copy of the *Third Report and Order*, including the Final Regulatory Flexibility Certification, in a report to Congress pursuant to the Congressional Review Act.¹⁹⁴ In addition, this *Third Report and Order* (including the Final Regulatory Flexibility Certification) will be sent to the Chief Counsel for Advocacy of the SBA, and will be published in the Federal Register.¹⁹⁵

¹⁹¹ See ULS File No. 0003108073 (filed July 17, 2007) (Lease ID L000002305).

¹⁹² *Crown Castle Waiver Order*, 22 FCC Rcd at 4328.

¹⁹³ On August 31, 2007, OP LLC (the subsidiary of Crown Castle that holds the license) filed a “Tribal Land Construction Certification and Demonstration,” which states that a DVB-H “network and service offering has been launched and is operating that covers 86% of the population” of the White Mountain Apache Reservation. See ULS File No. 0003160142. This certification is currently pending before the Wireless Telecommunications Bureau.

¹⁹⁴ See 5 U.S.C. § 801(a)(1)(A).

¹⁹⁵ See 5 U.S.C. § 605(b).

B. Final Regulatory Flexibility Certification

57. The Regulatory Flexibility Act of 1980, as amended (RFA),¹⁹⁶ requires that a regulatory flexibility analysis be prepared for notice-and-comment rule making proceedings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.”¹⁹⁷ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁹⁸ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹⁹⁹ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).²⁰⁰

58. As required by the RFA, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Further Notice* in this proceeding,²⁰¹ which the Commission launched in 2004 to fulfill its Section 11 mandate to conduct biennial reviews.²⁰² With the goal of streamlining and harmonizing certain WRS licensing provisions, the Commission sought written comment, as explained above in more detail, on certain proposed amendments to its radiated power rules.²⁰³ The Commission also requested written comment on whether changes to other technical rules might be warranted in conjunction with changes to the radiated power rules.²⁰⁴ Additionally, the Commission sought written public comment on the IRFA.²⁰⁵ No comments specifically addressed the IRFA. This Final Regulatory Flexibility Certification conforms to the RFA.²⁰⁶

59. In this *Third Report and Order*, the Commission takes further steps to streamline and harmonize its rules related to WRS by adopting modifications to the rules governing radiated

¹⁹⁶ The RFA, *see* 5 U.S.C. § 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

¹⁹⁷ 5 U.S.C. § 605(b).

¹⁹⁸ 5 U.S.C. § 601(6).

¹⁹⁹ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

²⁰⁰ 15 U.S.C. § 632.

²⁰¹ *See Further Notice*, 20 FCC Rcd at 13948, Appendix B.

²⁰² *See supra* note 11 and accompanying text.

²⁰³ *See supra* ¶ 1.

²⁰⁴ *See id.*

²⁰⁵ *See Further Notice*, 20 FCC Rcd at 13935.

²⁰⁶ *See* 5 U.S.C. § 605(b).

power limits for PCS and AWS (as defined above). Specifically, whereas the existing rules set the radiated power limits in terms of watts-per-emission regardless of bandwidth size, the Commission will now permit use of a PSD model, with radiated power levels calculated on a watts-per-megahertz basis, when operating with greater than 1 MHz bandwidth.²⁰⁷ The PSD approach offers more flexibility, is more technologically neutral, and will better accommodate newer technologies employing wider bandwidths. Also, the PSD model will potentially reduce infrastructure costs, thus enabling rural service providers to offer enhanced service in these areas. The Commission also will now permit PCS and AWS licensees to measure and express radiated power on an average rather than peak basis.²⁰⁸ This approach is more realistic and more appropriate for newer wireless technologies producing emissions with sub-microsecond power spikes.

60. Because of interference concerns, the Commission is declining to double the baseline radiated power limits for PCS/AWS. In addition, to mitigate the potential for increased interference to other licensees that could result from measuring average (rather than peak) radiated power, the Commission is adopting a PAR limit of 13 dB.²⁰⁹ At this time, the Commission is not adopting similar changes to the radiated power rules for other services,²¹⁰ but maintains the February, 2007 waiver relief granted to Crown Castle in the 1670-1675 MHz band.²¹¹ As Crown Castle is the sole national licensee of spectrum in that band, the waiver relief does not directly affect any other licensees.

61. The above-described rule changes we adopt today are generally supported by the commenting parties. None of the modifications imposes increased reporting burdens on PCS or AWS licensees, nor do we expect the rule changes to result in increased costs for such licensees. As noted above, infrastructure costs potentially will be reduced, particularly in rural areas. The changes are designed to improve flexibility for licensees employing wideband technologies used to provide advanced, high speed services, while maintaining interference control. We believe they will prove beneficial to such PCS and AWS licensees and not have any adverse economic impact on them. Therefore, we certify that the rule changes adopted in this *Third Report and Order* will not have a significant economic impact on a substantial number of small entities.

C. Paperwork Reduction Act of 1995

62. This document does not contain any proposed, new, or modified information collection subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for

²⁰⁷ See *supra* Section III.A.

²⁰⁸ See *supra* Section III.C.

²⁰⁹ See *supra* ¶ 42.

²¹⁰ See *supra* ¶ 48 (explaining, however, that similar changes have already been adopted for operations in the Upper and Lower 700 MHz bands).

²¹¹ See *supra* ¶¶ 52-55.

small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198.²¹²

D. Contact Information

63. The primary Wireless Telecommunications Bureau contact for this proceeding is Nina Shafran of the Mobility Division (202-418-0620). Press inquiries should be directed to Chelsea Fallon, Wireless Telecommunications Bureau, at (202) 418-7991, TTY at (202) 418-7233, or e-mail at Chelsea.Fallon@fcc.gov.

V. ORDERING CLAUSES

64. IT IS ORDERED that, pursuant to the authority of sections 4(i), 7, 11, 303(c), 303(f), 303(g), 303(r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(c), 303(f), 303(g), 303(r), and 332, the rule changes specified in Appendix A ARE ADOPTED.

65. IT IS FURTHER ORDERED that the rule changes set forth in Appendix A WILL BECOME EFFECTIVE 30 days after publication in the *Federal Register*.

66. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau SHALL SEND a copy of this *Third Report and Order*, including the Final Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

²¹² See 44 U.S.C. § 3506(c)(4).

APPENDIX A

Rule Changes

Part 24 of Title 47 of the Code of Federal Regulations is amended as follows:

1. Section 24.232 is revised to read as follows:

§ 24.232 Power and antenna height limits.

- (a) (1) Base stations with an emission bandwidth of 1 MHz or less are limited to 1640 watts equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.
- (2) Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT, except as described in paragraph (b) below.
- (3) Base station antenna heights may exceed 300 meters HAAT with a corresponding reduction in power; *see* Tables 1 and 2 of this section.
- (4) The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply.

Table 1--Reduced Power for Base Station Antenna Heights Over 300 Meters, With Emission Bandwidth of 1 MHz or Less.

HAAT in meters	Maximum EIRP watts
≤300	1640
≤500	1070
≤1000	490
≤1500	270
≤2000	160

Table 2--Reduced Power for Base Station Antenna Heights Over 300 Meters, With Emission Bandwidth Greater than 1 MHz.

HAAT in meters	Maximum EIRP watts/MH z
≤300	1640

≤500	1070
≤1000	490
≤1500	270
≤2000	160

- (b) (1) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, with an emission bandwidth of 1 MHz or less are limited to 3280 watts equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT.
- (2) Base stations that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census, with an emission bandwidth greater than 1 MHz are limited to 3280 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT.
- (3) Base station antenna heights may exceed 300 meters HAAT with a corresponding reduction in power; *see* Tables 3 and 4 of this section.
- (4) The service area boundary limit and microwave protection criteria specified in Sec. 24.236 and Sec. 24.237 apply.
- (5) Operation under this paragraph (b) at power limits greater than permitted under paragraph (a) of this section must be coordinated in advance with all broadband PCS licensees authorized to operate on adjacent frequency blocks within 120 kilometers (75 miles) of the base station and is limited to base stations located more than 120 kilometers (75 miles) from the Canadian border and more than 75 kilometers (45 miles) from the Mexican border.

Table 3 --Reduced Power for Base Station Antenna Heights Over 300 Meters, With Emission Bandwidth of 1 MHz or Less.

HAAT in meters	Maximum EIRP watts
≤300	3280
≤500	2140
≤1000	980
≤1500	540
≤2000	320

Table 4 --Reduced Power for Base Station Antenna Heights Over 300 Meters, With Emission Bandwidth Greater than 1 MHz.

HAAT in meters	Maximum EIRP watts/MHz
≤ 300	3280
≤ 500	2140
≤ 1000	980
≤ 1500	540
≤ 2000	320

- (c) Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.
- (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of Sec. 24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
- (e) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, *etc.*, so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

Note to § 24.232: Height above average terrain (HAAT) is to be calculated using the method set forth in § 24.53 of this Part.

* * * * *

Part 27 of Title 47 of the Code of Federal Regulations is amended as follows:

2. The authority citation for Part 27 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 301, 302, 303, 307, 309, 332, 336, and 337 unless otherwise noted.

3. Section 27.50(d) is revised to read as follows:

§ 27.50 Power and antenna height limits.

* * * * *

- (d) The following power and antenna height requirements apply to stations transmitting in the 1710-1755 MHz and 2110-2155 MHz bands:
 - (1) The power of each fixed or base station transmitting in the 2110-2155 MHz band and located in any county with population density of 100 or fewer persons per square

mile, based upon the most recently available population statistics from the Bureau of the Census, is limited to:

- (A) an equivalent isotropically radiated power (EIRP) of 3280 watts when transmitting with an emission bandwidth of 1 MHz or less;
 - (B) an EIRP of 3280 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.
- (2) The power of each fixed or base station transmitting in the 2110-2155 MHz band and situated in any geographic location other than that described in paragraph (d)(1) is limited to:
- (A) an equivalent isotropically radiated power (EIRP) of 1640 watts when transmitting with an emission bandwidth of 1 MHz or less;
 - (B) an EIRP of 1640 watts/MHz when transmitting with an emission bandwidth greater than 1 MHz.
- (3) A licensee operating a base or fixed station in the 2110-2155 MHz band utilizing a power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must coordinate such operations in advance with all Government and non-Government satellite entities in the 2025-2110 MHz band. Operations with power greater than 1640 watts EIRP and greater than 1640 watts/MHz EIRP must be coordinated in advance with the following licensees authorized to operate within 120 kilometers (75 miles) of the base or fixed station operating in this band: all Broadband Radio Service (BRS) licensees authorized under Part 27 in the 2155-2160 MHz band and all advanced wireless services (AWS) licensees authorized to operate on adjacent frequency blocks in the 2110-2155 MHz band.
- (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to 1 watt EIRP. Fixed stations operating in this band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in this band must employ a means for limiting power to the minimum necessary for successful communications.
- (5) Equipment employed must be authorized in accordance with the provisions of Sec. 24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
- (6) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as

detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, *etc.*, so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

* * * * *

APPENDIX B**List of Commenters****I. Comments**

Crown Castle International Corp.
CTIA – The Wireless Association
Ericsson, Inc.
Motorola, Inc.
National Public Safety Telecommunications Council
Powerwave Technologies, Inc.
QUALCOMM Incorporated
TerreStar Networks Inc.
Wireless Communications Association International, Inc.

II. Reply Comments

Crown Castle International Corp.
Ericsson, Inc.
Motorola, Inc.
National Public Safety Telecommunications Council
Sprint Nextel Corporation
WCS Wireless, LLC, jointly with
XM Satellite Radio Holdings, Inc.

III. Ex Parte Filings

Aloha Partners, L.P.
Crown Castle International Corp.
CTIA – The Wireless Association
Ericsson, Inc.
Sirius Satellite Radio Inc.
Wireless Communications Association International, Inc.

