

PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Internet: <http://www.fcc.gov>
TTY: 1-888-835-5322

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Office of Engineering and Technology Authorizes TV White Space Database Administrators to Provide Service to Unlicensed Devices Operating on Unused TV Spectrum Nationwide

ET Docket No. 04-186

The Commission's Office of Engineering and Technology (OET) announces that it is authorizing approved TV white space database systems (database systems) to provide service to unlicensed radio devices that operate on unused spectrum in the TV bands (TV white space devices) on a nationwide basis.

This action follows a related action by OET and the Wireless Telecommunications Bureau (WTB) which on December 6, 2012, launched, on a nationwide basis, the Commission's on-line registration system for large entertainment, sports, and similar venues where a significant number of unlicensed wireless microphones are used (unlicensed wireless microphone registration system).¹ That registration system allows qualifying major event/production venues to register with the database systems so that their operations of unlicensed wireless microphones and other low power auxiliary station devices will be protected from potential interference caused by TV white space devices. Previously, OET had authorized database systems to only provide service to TV white space devices in the East Coast region, specifically in the states of New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina and in the District of Columbia (Washington, DC).²

This action will allow the nationwide roll-out of TV white space devices that use new methods for efficiently using unused spectrum (white space) in bands allocated for licensed services. The propagation characteristics of the TV bands spectrum will allow operation of unlicensed radio devices that provide extended coverage and improved performance for wireless "hot-spots" and campus networks and also increase the amount of spectrum available for unlicensed wireless technologies. It is expected that the opportunities afforded by allowing unlicensed devices in these bands will fuel innovation and investment in new unlicensed wireless technologies, such as Wi-Fi and Bluetooth have changed the landscape of communications today.

¹ See Office of Engineering and Technology and Wireless Telecommunications Bureau Announce the Nationwide Launch of Unlicensed Wireless Microphone Registration System, *Public Notice*, DA 12-1557 (rel. Dec. 6, 2012).

² See Office of Engineering and Technology Authorizes TV White Space Database Administrators to Provide Service to Unlicensed Devices Operating on Unused TV Spectrum in the East Coast Region, *Public Notice*, DA 12-1956 (rel. Dec. 6, 2012).

The Commission's rules (47 C.F.R. § 15.701 *et seq.*) permit unlicensed radio devices to transmit on white space in the spectrum bands used by the broadcast television service, *i.e.*, 54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-698 MHz.³ In order to protect TV broadcast and other licensed services operating in these bands, the rules require these TV white space devices to obtain a list of channels that are available for their operation (*i.e.*, in general, channels not occupied by authorized radio services) at their individual locations from a database system authorized by the Commission and to operate only on those channels.⁴ The database systems protect authorized services by preventing TV white space devices from operating on channels on which they could cause interference to the authorized services and unlicensed wireless microphones used by eligible venues.

The FCC rules require that TV white space database systems protect the following radio services and receive-only operations (authorized services): 1) broadcast television stations (including full power, TV translator, low power TV, and Class A stations); 2) fixed broadcast auxiliary service (BAS) links (regular licensed and temporary); 3) receive sites (and received channels) of TV translator, low power and Class A TV stations, and multichannel video programming distributors (MVPDs); 4) public safety and private land mobile operations; 5) offshore radio telephone service operations; 6) radio astronomy service operations at specific sites; and 7) low power auxiliary service operations (licensed and certain approved unlicensed wireless microphone venue sites).⁵ Except for MVPD receive sites, sites where licensed wireless microphones are used, and approved unlicensed wireless microphone venues, the necessary protection data are either extracted by the database systems from the Commission's databases or are specified in the rules. Operators of MVPD receive sites, licensed wireless microphones and approved unlicensed wireless microphone venues obtain protection by registering with one of the database administrators (these registrations are also exchanged among the several database systems). For venues where unlicensed wireless microphones are used, operators must first request approval from the Commission to register with one of the database administrators, and must file their requests for registration at least 30 days prior to operation.⁶

At the beginning of the implementation of the TV white space rules, the database systems that were approved for operation were restricted to providing service in specific local areas because the Commission's system for accepting and approving requests to register venues where unlicensed wireless microphones are used was under development and not operational. On September 19, 2012, OET and WTB issued a *Public Notice* that opened that registration system to qualifying venues in the limited area

³ 47 C.F.R. § 15.701 *et seq.* As noted above, we refer to these devices herein as TV white space devices. We also have termed these devices as "TV bands devices." See *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, *Second Memorandum Opinion and Order*, 25 FCC Rcd 18661 (2010).

⁴ There are currently 10 authorized TV bands white space database administrators, two of which are currently approved by OET to provide service to TV white space devices. The two currently "approved" database systems are those operated by Spectrum Bridge, Inc. and Telcordia Technologies, Inc. See *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04,186, DA 11-131, *Order* (rel. Jan. 26, 2011); *Unlicensed Operation in the TV Broadcast Bands*, ET Docket No. 04-186, DA 11-1291, *Order* (rel. July 29, 2011).

⁵ The TV bands white space database administrators each operate a database system that include records for all licensed facilities and additional facilities in the TV bands that are to be protected from interference.

⁶ 47 C.F.R. § 15.713(h)(9). See generally Office of Engineering and Technology and Wireless Telecommunications Bureau Announce the Nationwide Launch of Unlicensed Wireless Microphone Registration System, *Public Notice*, DA 12-1557 (rel. Dec. 6, 2012) (providing general guidance on registration process for unlicensed wireless microphones).

of the East Coast Region.⁷ This limited deployment was intended to accommodate the 30-day processing cycle for venues where unlicensed wireless microphones are used and to allow the Commission's staff an opportunity to validate the operation of the registration system in this limited area before commencing nationwide operation.

On December 6, 2012, OET and WTB found that the registration system was ready for nationwide operation and issued the *Public Notice* to permit the acceptance and processing of venue registration requests nationwide.⁸ In addition, OET found that a sufficient period of time had been provided for qualifying venues in the East Coast Region to seek and obtain approval for unlicensed wireless microphone registrations and, concurrently with the opening of the registration system for nationwide operation, issued a *Public Notice* that allowed the database systems to provide service to TV white space devices in the East Coast Region.⁹

We find that there has now been sufficient time since the opening of the unlicensed wireless microphone venue registration system for nationwide operation to allow the TV white space database systems to provide service to TV white space devices on a nationwide basis. Accordingly, the Office of Engineering and Technology is hereby authorizing TV white space database administrators that have been approved for operation to provide service to TV white space devices located anywhere in the United States and its territories and possessions. Specifically, this nationwide operating authority applies to those database systems that have already been approved by OET, *i.e.*, the systems of Spectrum Bridge, Inc. and Telcordia Technologies, Inc., and will subsequently apply to any other TV white space database system approved by OET.

Further Questions

Questions regarding TV white space devices and TV white space database administration and/or this Public Notice may be directed to Alan Stillwell at (202) 418-2470 or Hugh L. Van Tuyl at (202) 418-7506 (OET).

By the Chief, Office of Engineering and Technology.

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⁷ See Office of Engineering and Technology and Wireless Telecommunications Bureau Announce the Initial Launch of Unlicensed Wireless Microphone Registration System, *Public Notice*, DA 12-1514 (rel. Sept. 19, 2012).

⁸ See footnote 1 above.

⁹ See footnote 2 above.