



Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

May 20, 2008

Re: ExParte Presentation in ET Docket 04-186

Dear Ms. Dortch:

Motorola hereby submits the white paper referenced in our May 15, 2008 ExParte in the above referenced docket regarding our meeting of May 14, 2008 with FCC OET representatives. The white paper expands on Motorola's recommendation for appropriate sensing requirements of DTV signals in the presence of a strong DTV signal on adjacent channels. The recommendations are based on the need to ensure that viewable TV signals in those areas can continue to be received without interference from TV White space devices, while not unnecessarily restricting use of spectrum by TV white space devices.

As discussed in the paper, White Space Devices (WSDs) will need to detect incumbent TV signals in challenging RF environments where much stronger signal levels may be present on adjacent and alternate channels. This type of environment is challenging not only for TVWS devices, but also for the television tuners trying to successfully receive a television signal. A TV signal that would be viewable absent strong adjacent signals will not be viewable when strong adjacent channel signals are present. This impact must be taken into account as the Commission determines appropriate levels for protection in the variety of conditions in which TVWS devices will operate. While it is important to protect incumbent signals when these strong adjacent channel signals are present, it is equally important to set protection and sensing levels that take into account the usability of the desired signal by the intended receiver. Accordingly, the required protection or sensing level in the presence of strong adjacent channel signals should be adjusted to reflect the impact that strong adjacent channel signals have on the usability of the TV or other protected signal. This approach fully protects the desired signal without negatively impacting the usability of the TVWS spectrum by building in unnecessarily extreme protection margins. The table below is an example of applying the proposed sensing requirements for channel 25 when the adjacent/alternate channel has any of three power levels ATSC designated as "weak", "moderate" and "strong".¹

Adjacent / alternate channel which has strong power level	Adjacent / Alternate Channel Power Level		
	Weak (-68 dBm)	Moderate (-53 dBm)	Strong (-28 dBm)
23	-116 dBm	-104 dBm	-79 dBm
24	-110 dBm	-95 dBm	-70 dBm
26	-108 dBm	-93 dBm	-68 dBm
27	-116 dBm	-104 dBm	-79 dBm

¹ Advanced Television Systems Committee, "ATSC Recommended Practice: Receiver Performance Guidelines", ATSC Doc. A/74, 17 June 2004, p.13-14.



Although Motorola continues to advocate an approach to protecting incumbents that relies primarily on use of a geolocation database, it is important that, as the Commission also considers sensing, it fully take into account the impacts that DTV and other signals have on the overall usability and protection requirements for the spectrum. Reliable protection of higher priority users along with provisions that provide reasonable access to open spectrum are the cornerstones for successfully allowing use of TV White space. Motorola recommends a multilevel approach that combines geolocation, sensing and beacon detection to provide a highly reliable mechanism for protecting incumbents while enabling new opportunities for broadband services. The same approach can be successfully applied to fixed, mobile and portable operations in a variety of configurations without an undue cost or technical impact. Motorola urges the Commission to adopt rules based on this multilevel approach.

Pursuant to the Commission's Rules, one copy of this notice is being filed electronically with the Commission. If you require any additional information please contact the undersigned at (202) 371-6953.

Sincerely,

/s/ Steve B. Sharkey

Steve B. Sharkey, Senior Director
Regulatory and Spectrum Policy

/s/ Robert D. Kubik

Robert D. Kubik, Ph. D., Director
Telecom Relations Global

Cc: Rashmi Doshi
Julius Knapp