

**Before the
Federal Communications Commission
Washington, D.C. 20554**

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In the Matter Of) 940660 D02
CBSD-CBSD Handshake) CBSD FAQ v01
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COMMENTS OF THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION

The Wireless Internet Service Providers Association (WISPA) strongly supports the draft KDB, which addresses an issue that its members and many fixed wireless users of CBRS spectrum will require in order to deploy their networks.. There are certain matters that, in WISPA’s view, require clarification or adjustment.

Power levels

WISPA respectfully requests that the clause “but at levels no higher than those authorized by SAS for the BTS-CBSD” be deleted from the KDB. The draft states that “at the lowest power level necessary for communications with the BTS-CBSD but at levels no higher than those authorized by SAS for the BTS-CBSD”. WISPA has no issue with the first half of that requirement; a client device (CPE-CBSD) should make its best estimate of the required transmission power before commencing the handshake, and not initially use its category or equipment-authorization maximum power.

However, WISPA takes exception to the second half of that requirement because the CPE-CBSD has no way of knowing the actual power level authorized by the SAS for the BTS-CBSD (access point). For most of the handshake, the CPE-CBSD has not yet communicated with the SAS, and its power level is only based on what the BTS-CBSD transmits. Virtually all CBRS air interfaces implement some form of closed-loop power control, such that the CPE-CBSD will adjust its power under BTS-CBSD control as part of the initial radio connection stage, even before it communicates with the SAS. This will limit power levels during the handshake. CPE-CBSD power after authorization is then the lower of the limit set by the SAS and the level requested by the BTS.

A CPE-CBSD both implements client functions and meets CBRS ecosystem capabilities, without burdening other devices. Requiring the CPE-CBSD to know the grant power of a BTS-CBSD would likely require substantial changes to the BTS-CBSD, the SAS, every air interface specification, or some combination thereof, and possibly a change in the rules to make this information available.

Requiring the CPE-CBSD to not exceed the power level authorized by the BTS-CBSD would provide no real benefit because the first half of the requirement limits the handshake to the “lowest power level necessary”. A CPE-CBSD should initiate its first handshake attempt with its power set to its *best estimate* of the lowest level necessary. If that first attempt to make a connection to the BTS-CBSD fails, then the CPE-CBSD may retry the handshake at a higher power level. If this higher power level turns out to be higher than the power level of the grant it receives from the SAS, then it must immediately lower its power level. Only a very few brief transmissions, of less than one second total air time, would then have been made at the higher EIRP level.

Equipment class

It is critical that the introduction of CPE-CBSDs have no impact upon existing testing and approval procedures for BTS-CBSDs or End User Devices (EUDs). Equipment manufacturers have noted that equipment may currently be submitted for Part 96 approval as either a CBSD base station *or* as an EUD. Neither category correctly fits the CPE-CBSD; thus there is not yet a clear way to submit a CPE-CBSD into the Equipment Authorization system. An additional equipment class should therefore be created for CPE-CBSDs. These devices should then be authorized to operate both as an EUD and as a CPE-CBSD (Category A and/or Category B, as submitted), though not as a base station.

A CPE-CBSD should be permitted to operate as an EUD, as it is not permitted to transmit at a power level greater than +23 dBm/10 MHz, except for handshake purposes, or after receipt of a grant and authorization. Except for the handshake itself, which will only be above +23 dBm if necessary, its operational parameters prior to authorization should be those of an EUD. Many CPE-CBSD devices will, in practice, be deployed as EUDs where path loss is low enough, and registered as CPE-CBSDs only where the additional power is necessary. Devices would thus be operated as either EUDs or as CPE-CBSDs, determined at installation time, and should not require separate FCC IDs or labels.

CBSDs are subject to more stringent emission standards than EUDs, both in terms of power spectral density and out-of-channel emission. The only additional requirement of an EUD is that it cease transmitting within 10 seconds of receiving an order from a BTS-CBSD to do so. This testable requirement should implicitly apply to CPE-CBSDs as well, as they too should only transmit under

control of a BTS-CBSD, and the BTS-CBSD may not know, nor should it need to know, whether its client device is an EUD or a CPE-CBSD.

Pre-Approval Guidance

WISPA understands the need for Pre-Approval Guidance, WISPA agrees that a test lab must have a compatible BTS-CBSD in order to perform the tests, and that in some cases, especially when using a proprietary, new, or unusual air interface, a manufacturer may need to provide the BTS-CBSD to the lab.

However, the KDB draft essentially requires each manufacturer to create its own proposed set of requirements and a corresponding test plan. The KDB itself outlines the requirements. Test labs should have a test suite applicable to all vendors. Thus the KDB need merely adapt the Pre-Approval Guidance language of footnote 2 in *KDB 940660 D01 Part 96 CBRs Eqpt v01*, already applicable to other CBSDs and EUDs.

Respectfully Submitted,

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