November 14, 2011

Federal Communication Commission
Office of Engineering and Technology
USA

RE: FCC ID:Q3KRW2030
Subject: CRN 40536

Dear Mr. Chen,

I. Please find attached our response according to your questions.
FCC:
My main concern is still the unrestricted contention based protocol. You have a protocol that does all the tasks but overall its effectiveness to minimize interference to other like and unlike systems is questionable because of the design. The -65 dBm threshold is too high that it can only "see" other systems that are close. Ideally the detection radius should be the same as the operation radius, i.e., near the receiver sensitivity level. Please review your detection algorithm. An improvement should be made to increase detection probability at lower RSSI. What are the receive sensitivity specifications of the uplink and the downlink? The current design does not detect very far.
RADWIN:
1. Regarding the detection algorithm:
    a. We have improved the threshold sensitivity level for interference detection to -75dBm, to result 100% interference detection success, in all system operation configurations.
    b. An improvement was also made to increase the probability at lower than -75dBm down to -85dBm interfering signal levels, to result 90% interference detection success
    c. Note that our system sensitive specification for downlink and uplink are the same (up to -87 dBm)
    d. In order to establish a robust link our planning tools guide the customer to preserve 6 dB fade margin from the sensitivity threshold of the operational link. This leads to a minimum value of -81dBm.

FCC:
And when it does detect a neighbor, its retry interval (jitter buffer in the TDM case, and no waiting period if "Ethernet service") is too short and retry attempts too often - it does not give up until reaching 60% packet error rate. In other words, your unrestricted contention based protocol can still very much be a source of interference to other systems within your operation range. Please improve protocol (describe in detail) and revise description.

RADWIN:
2. Regarding the retry question. The detection algorithm never transmits or re-transmits packets without scanning for an interference signal. No transmission (including retries) will take place in case of interference detection.
    In this case the 60% packet error rate to achieve a sync loss includes the packets loss caused by the interference detection algorithm

II. File "Unrestricted_contention_based_protocol_22534_rev2" uploaded.

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