Oct 31, 2012

RE: FCC ID: XYMPICO4A351WDC

Attn: Stan Lyles

Below, you may find our response, to your comments, sent Oct 22, 2012.

Q1: Your information in Appendix A of your CBO attestation is acceptable. However, to be consistent please add this to your test report.

A1: Done. See attached "contention based protocol - test report - 31.10.12.pdf".

Q2: I am confused by the statement "In addition the system provides opportunity to other systems, by freeing the current frequency, every configured number of frames (default=200 frames=1sec) for configured number of frames (default=200)." How does this relate to: In case master detect noisy channel, it will stop transmitting immediately and look for another "clean" frequency. Freeing the frequency in 1 sec and immediately contradict each other.

A2: The opportunity procedure is performed in constant duration. Every 1 sec (configurable), the BST is freeing the frequency (fx) and transmit in another frequency (fy). It should be emphasized that the other frequency (fy) was checked that it is not busy. If (fy) found to be busy the BST will not transmit at (fy) and it will look after third frequency (fz) and so on.

The procedure described above doesn't relate to the case that the master is detecting noisy channel in its frame by frame measuring. As mentioned, the BST is measuring the noise every frame (frame =5msec) in special slots. If the BST detects noise, during this measurement, it will stop transmitting immediately. It will not wait for the opportunity procedure (1 sec) and will look after the next free frequency to transmit.

The following figure describes typical frame structure, in two cases:

Case 1 – interfering system was detected, while operating in frequency f1. Interference was detected on frame number 57. Immediately, on the next frame number 58, which is actually frame number 1, for frequency f2, base station listens to frequency f2. No transmission is made, on this frame, means this frame is used as observation frame, only. In case f2 is detected as clean frequency, base station will start transmission on the next frame. In case f2 is detected as busy frequency, base station will have additional observation frame, on frequency f3. This last case is not shown in the figure.

Case 2 – interfering system was not detected, throughout frequency f1 operation. On the next frame - number 1 of frequency f2 - base station listens to frequency f2. No transmission is made, on this frame. In case f2 is clean, base station will start transmission on the next frame – number 2.

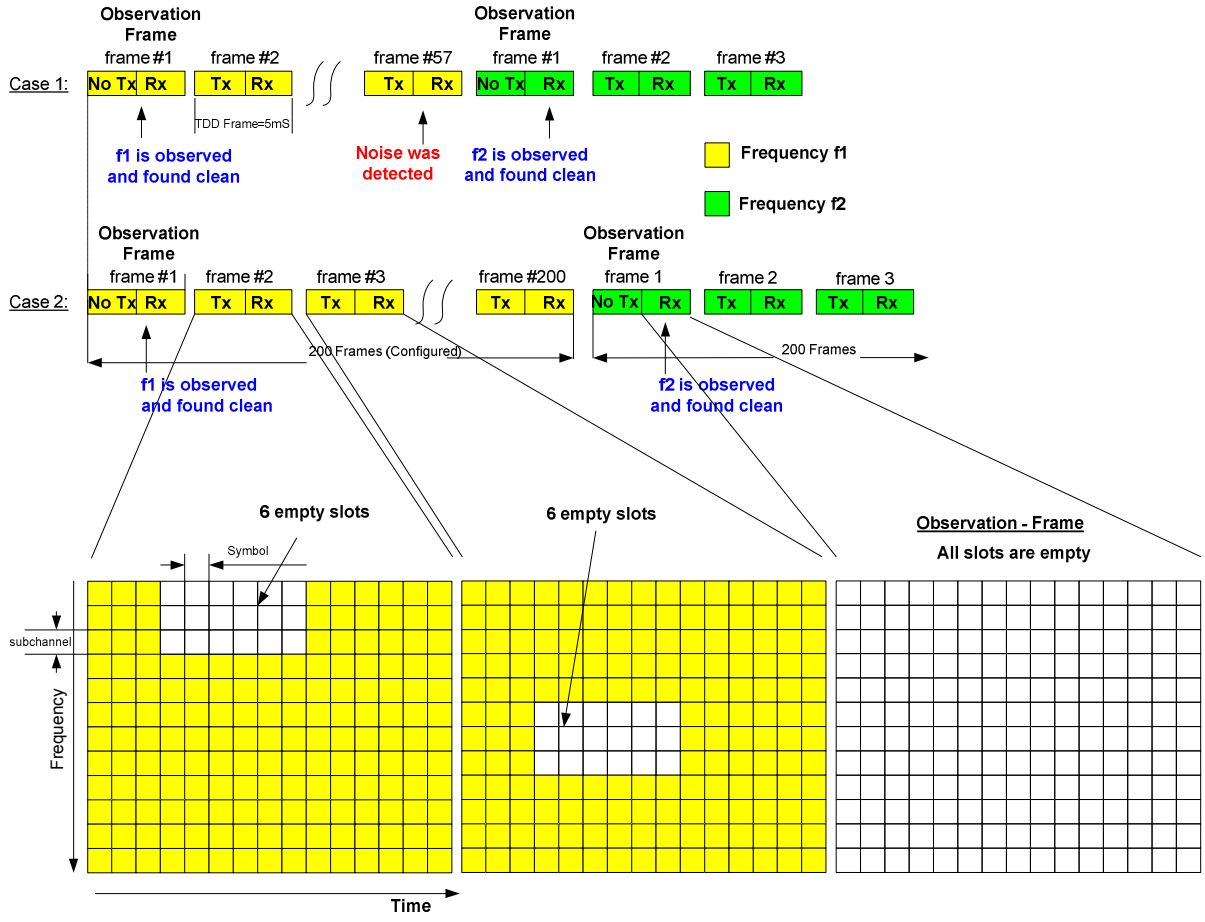

Figure 1: Typical frame structure - contention based mode

Q3: Please provide some typical range of time values for "The BST always leaves empty slots, in each frame, for observing the channel".

A3: As shown in the figure, above, 6 empty slots are allocated, in each frame (frame=5msec). Slots are spreads over two dimensions (time and frequency domains, as defined by the OFDMA standard). Empty slots are span over 6 symbols (102Usec per symbol, 612Usec per 6 symbols), in time domain, and 3 subchannels (out of 35 Sub channels), in the frequency domain. Each subchannel consists of 1024 subcarriers, which represent all bandwidth, due-to permutation technique.

Q4: Your CBP description also needs some minor edits to make it clear. The introduction should start with a sentence saying this Contention Based Protocol description is for the base station operating in the unrestricted band. Then in section 1. Restricted Certification under Part 90Z (3650-3675 Band) just note not applicable. Then when you certify a remote, just change the first sentence just identify the Base Station by FCC ID.

A4: Done. See attached "contention based protocol - runcom reply - 31.10.12.pdf"

Q5: Your User manual does not address the CBP and the threshold configuration. Also the configured number of frames. This also needs to be better explained.

A5: Up-to-date user manual, which address CBP, will be sent, within few days. The manual will not address the threshold configuration, since only WEB configuration is presented. WEB configuration only contains user related parameters, such as IP, RF frequency, BW, etc. All other parameters are exists as MIB parameters.