Proposal for Alternate DFS Test Procedure for
Samsung Electronics Co., Ltd.
Model: XE503C12, FCC ID: A3LXE503C12

Product Description:
The device is a cloud-based portable computer that supports 802.11a/n/ac operation in the DFS bands as a client-only device. This device does not have radar detection capabilities and, as such, only supports an infrastructure mode of operation and does not support ad-hoc networks in the DFS bands.

The operating system resident on the device is Chrome OS and does not support the Windows based Media Player or the format of the streaming video file specified in FCC 06-96.

Proposed Alternate Method:
Since the operating system will not support the preferred method for data transfer from master to client device, we propose performing the DFS test while the system is performing a WLAN data stream transfer from the master device to the client device under test using iPerf software package.

Results:
Testing showed that the maximum channel loading achievable by the system was approximately 24.3% for 20MHz bandwidth (See Figure 1) and approximately 21.42% for 40MHz bandwidth (See Figure 2). DFS testing will be performed using these conditions.

Note:
Manually adjusting the master AP data rate did not alter the results. For this reason the default data rate parameters of the master AP were used, allowing auto-negotiation of the data rate between the master AP the client EUT.
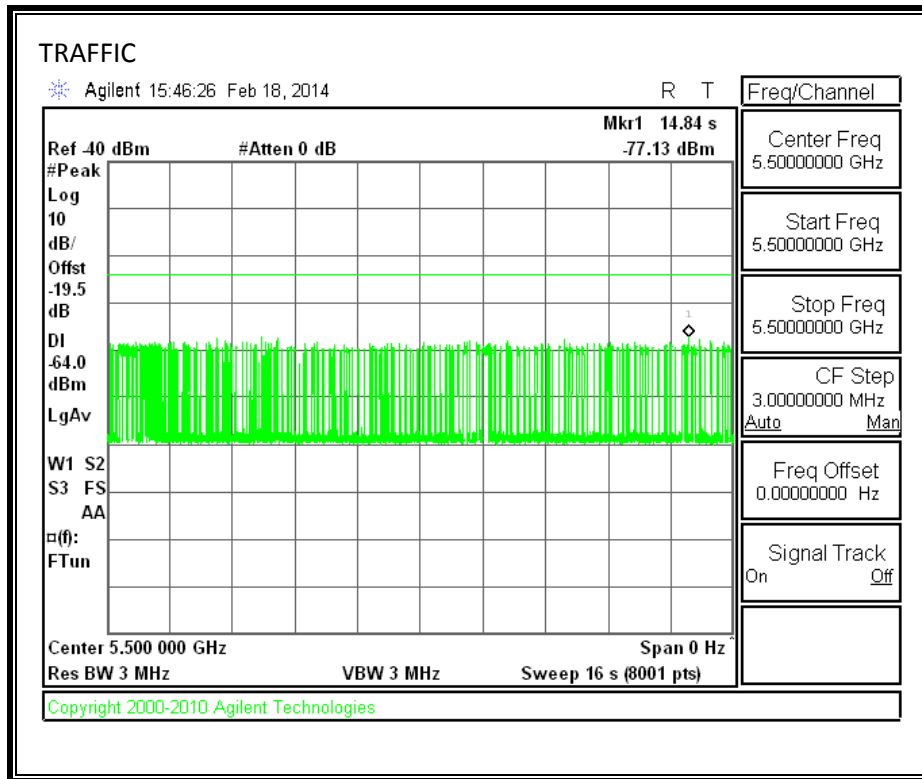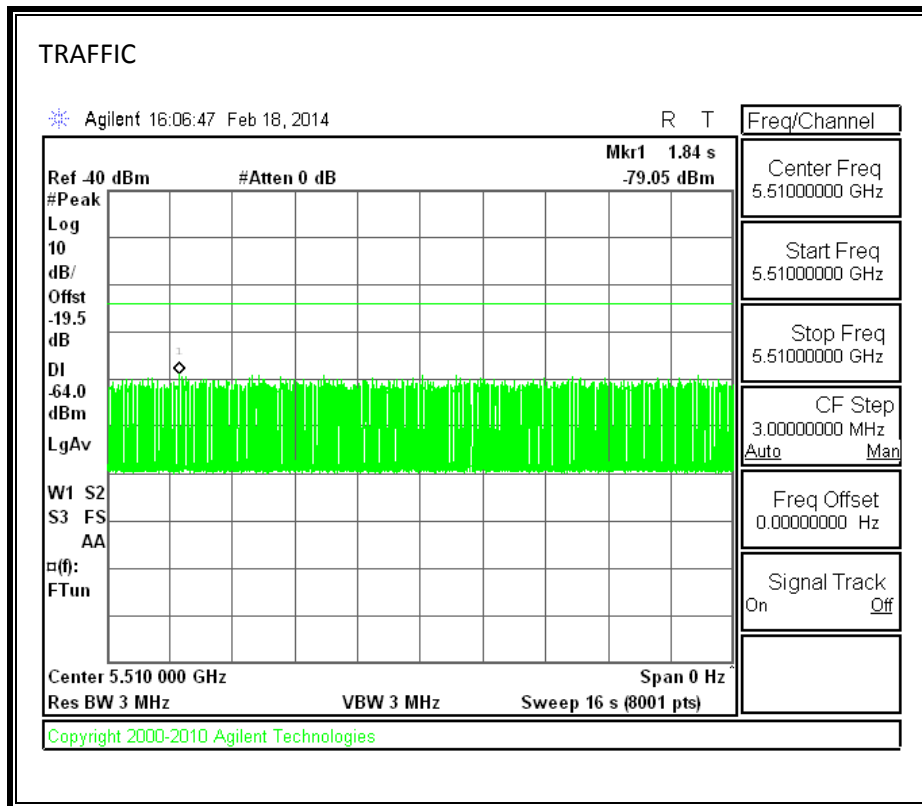
Figure 1 – 20MHz Channel Bandwidth Traffic Loading

Figure 2 – 40MHz Channel Bandwidth Traffic Loading

Results from the DFS testing will be reported in the final DFS report section of the FCC WLAN UNII report submitted as part of the application.

Conclusion:
The proposed method loads the channel sufficiently to allow the channel closing and channel move times for the client device under test to be measured appropriately.