Proposal for Alternate DFS Test Procedure for Summit Data Communications, Model SDC-MSD10AG, FCC ID: TWG-SDCMCF10AG

Product Description:

The Summit Data Communications, model SDC-MSD10AG, is an 802.11abg radio module in a mini Compact Flash form factor. Its primary market space is targeted at industrial inventory control systems.

The module would be installed in the CF slot of a Windows CE handheld device. The module has a 16bit interface which limits the data rate between the host device and the radio, as compared to 32bit cards.

The module supports operation in the DFS bands of 5250-5350 MHz and 5470-5725 MHz bands and is a client device without radar detection.

The Windows CE will not support the playing the movie file specified in FCC 06-96. There is no driver for the module for use in a typical Windows computer, therefore streaming the movie file is not possible.

Proposed Alternate Method:

The Windows CE will not support the playing the movie file specified in FCC 06-96. There is no driver for the module for use in a typical Windows computer; therefore streaming the movie file is not possible.

Instead, we propose performing the DFS testing while the system is performing a FTP file transfer of the DFS movie file. The data rates will be adjusted to allow for the highest channel loading allowed by the system, up to a maximum loading of 20%. The 20% is based on the expected channel loading of a typical 802.11a radio link streaming the movie file.

General Test Setup Procedure:

1) Connect FCC approved Master AP (Cisco Aironet 1250AG, FCC ID: LDK102061) to a network, via wired Ethernet, that allows connection to FTP server.
2) Install Summit CF radio into the extender card and install extender card into the HP iPaq.
3) Connect the lowest gain antenna to the "5G Main" antenna port on the EUT.

4) Using the Summit SCU application, associate the EUT with the Master AP
5) Launch the FTP application on the iPaq
6) Connect to the FTP server application to the FTP server hosting the movie file
7) Initiate a FTP download of the movie file from the host
8) Monitor the channel loading during transfer
9) If the channel loading is less than 20%, stop the file transfer and clear the cache on the iPaq.
10) Reduce the maximum allowed data rate for the Master AP, using the AP's GUI interface.
11) Repeat steps 4 thru 9 till the channel loading is as close to 20% as possible.
12) Record the data rate setting on the Master AP and the channel loading.
13) While the system is performing a FTP transfer using the settings from item 11 above, perform the Channel Closing Transmission Time and Channel Move Time measurements as required by FCC 06-96 using a radiated test.

Results:

Testing showed that the maximum channel loading achievable by the system was 14.9%, see Figure 1 below. This was achieved by setting the Master AP to the lowest allowed data rate for 802.11a, 6Mb/s.

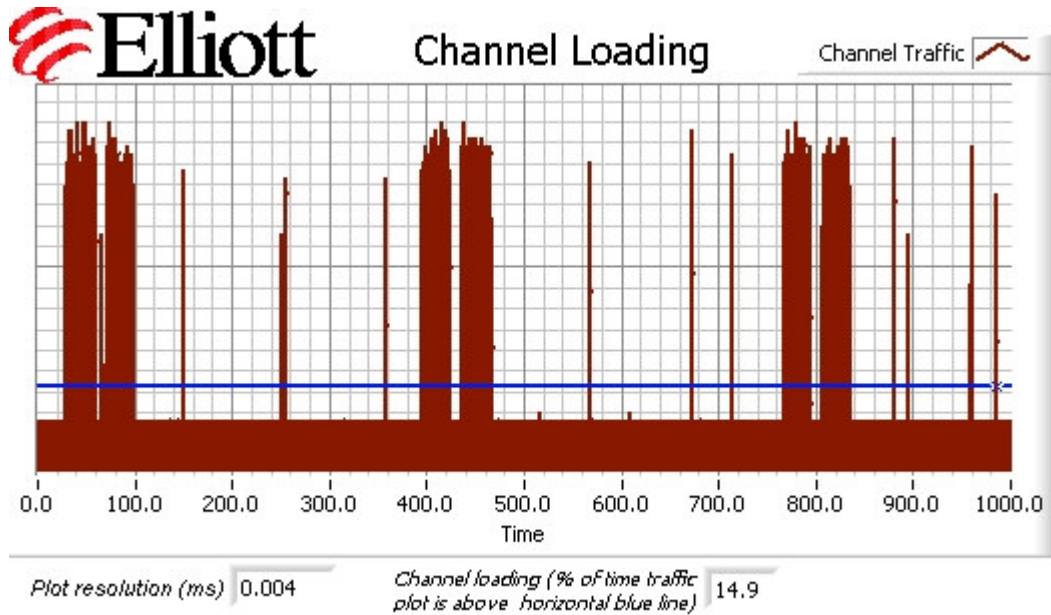DFS testing to be performed using these conditions.

Figure 1 - Channel Loading at 6 MB/s

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

Conclusion:

The HP iPaq system is typical of the end-use host systems for the Summit 802.11 Compact Flash radio module, FCC ID: TWG-SDCCF10AG. The maximum channel loading achieve was 14.9% using the lowest data rate setting for 802.11a.

This represents the worst case situation in a real world application for DFS testing; as the EUT is not designed for operation in systems that would allow for (a) greater data transfer over the digital interface to the host system, and (b) the operating system of the end-use host devices do not support streaming video.