

Proposal for Alternate DFS Test Procedure for Samsung, Model SHW-M410K, FCC ID: A3LSHWM410K

Product Description:

The device is a GSM/GPRS 1900 Phone with 802.11abgn, BT3.0 (EDR) that support 802.11a operation in the DFS bands as client-only devices.

They do not have radar detection capabilities and, as such, only support an infrastructure mode of operation and do not support ad-hoc networks in the DFS bands.

The Android operating system resident on the devices 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 HTTP file transfer. The file transfer from the master device to the client device under test will consist of a 4.1Gbyte compressed data folder containing multiple copies of a 418 Mbyte file.

General Test Setup Procedure:

- 1) *Connect FCC approved Master AP to a network, via wired Ethernet, that allows connection to an HTTP server.*
- 2) *Associate the EUT with the Master AP*
- 3) *Launch the Web browser application on the EUT*
- 4) *Connect to the HTTP server application to the Web browser hosting the file*
- 5) *Initiate an HTTP download of the file from the host*
- 6) *Monitor the channel loading during transfer*
- 7) *Reduce the maximum allowed data rate for the Master AP, using the AP's GUI interface.*
- 8) *Record the data rate setting on the Master AP and the channel loading.*
- 9) *While the system is performing an HTTP transfer using the settings from item 8 above, perform the Channel Closing Transmission Time and Channel Move Time measurements as required by FCC 06-96 using a conducted test.*

Results:

Testing showed that the minimum target of 20% channel loading was achieved by setting the Master AP to the lowest allowed data rate for 802.11a, 6Mb/s in combination with setting the HTTP transfer software to a speed limit of 386KB/s for a channel bandwidth of 20MHz (see figure 1 below). At these settings approximate traffic loading levels were 68.4% for a channel bandwidth of 20MHz. DFS testing will be performed using these conditions.

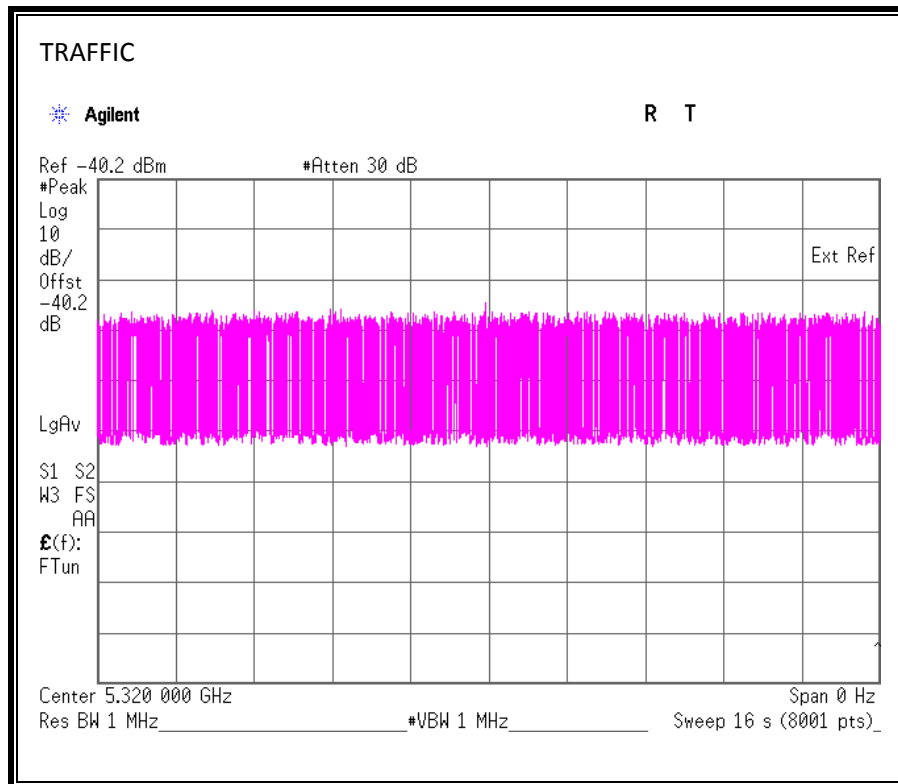


Figure 1 – 20MHz Channel Bandwidth Traffic Loading at 6 Mb/s

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

Conclusion:

The 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.