



Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Washington, DC 20554

August 27, 2008

Re: ExParte Communication in ET Docket 04-186

Dear Ms. Dortch:

Pursuant to Section 1.1206(b)(2) of the Commission's Rules, this is to notify you that the information contained in Attachment 1 was provided to Rashmi Doshi of the Office of Engineering and Technology on August 27, 2008 along with Motorola's portable beacon device that was used in a demonstration on August 21, 2008. Attachment 1 provides the commands required to operate the Motorola demonstration TVWS device in a mode to sense the portable beacon.

Pursuant to the Commission's Rules, one copy of this notice is being filed electronically with the Commission. If you require any additional information please contact the undersigned at (202) 371-6953.

Sincerely,

/s/ Robert D. Kubik

Robert D. Kubik, Ph.D.
Director, Telecom Relations Global

Cc: Rashmi Doshi
Julius Knapp



Attachment 1:

Motorola Cognitive Radio White Space Device

Reference Manual Addendum

802.22.1 Beacon Detection

In the Motorola Cognitive Radio Prototype Test Mode, the “**beaconSense()**” command activates UHF channels scan for presence of the 802.22.1 Beacons. This command can be used in bench and field testing. It has the following optional arguments:

➔ **beaconSense**([*start_channel* [,*stop_channel* [,*tries_number* [,*attenuation*]]]])

where: *start_channel* – first scanned UHF channel number, ≥14,
stop_channel – last scanned UHF channel number, ≤ 68,
tries_number – number of scans performed for each channel, default = 50,
attenuation – sets external switched attenuator, 0..31 dB, default = 0.

Without arguments, the **beaconSense()** command scans UHF channels 21 through 51, with 50 tries on each. If only one *start_channel* argument is used, this channel is scanned 50 times. Approximate duration of one channel scan iteration is 53 ms, so default 50 tries on a channel take about 2.7 sec. Scanning channels from 21 through 51 takes around 80 sec. Increasing number of tries will take more time, but gives more precision in determining Beacon signal presence probability. The *attenuation* parameter allows Beacon detection in presence of strong signals in the adjacent channels and elsewhere in the UHF band. It might be practical to use one of few coarse attenuation values, i.e. 10, 20 or 30 dB, depending on the RF environment.

The results of the scan are displayed in the telnet window, and also appended to the scan log file: **c:\spectrum\carnac\hwtest\sse_test\logs\sse_test.log**. An example of the command output for seven channels scan is shown below.

```
===== THU AUG 21 11:45:09 2008
Look for 802.22 Beacon(s) on channels from 14 to 20 in 10 runs
```

UHF Channel	Pin, dBm min max	Beacon Pdet%	Beacon Detect
14	-71 -70	0.0	No
15	-64 -62	0.0	No
16	-29 -28	100.0	Yes
17	-90 -89	0.0	No
18	-73 -73	100.0	Yes
19	-73 -73	0.0	No
20	-75 -75	0.0	No



MOTOROLA

The graph below shows sample Bench Test measurements for the Motorola 802.22.1 Beacon Detector Prototype: with “clean” channel, and in presence of the lower adjacent DTV signal at -28 dBm. Note that the emission spectrum of the DTV signal source (Agilent ESG), used for the test, is better than a typical full power DTV transmit mask, and thus the detector performance in the presence of adjacent channel appears better.

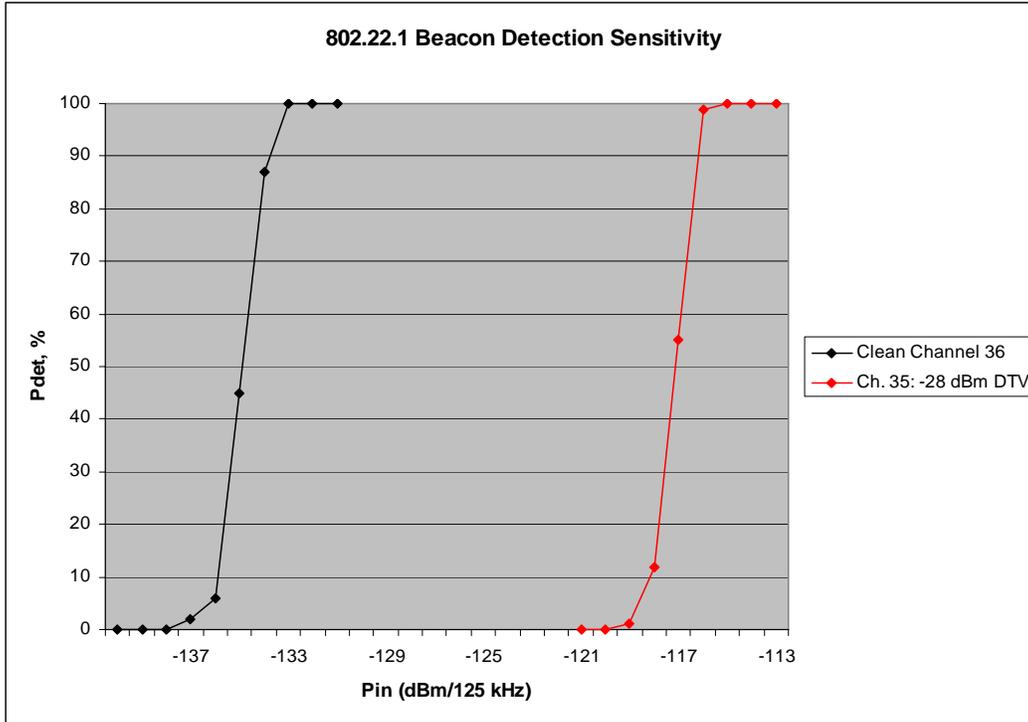


Figure 1. 802.22.1 Beacon Signal Detection Bench Test results