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7 **NEWLY APPROVED IEEE REVISION PROJECT TO ADD ADVANCED BEACONING**
8 **CAPABILITIES TO THE IEEE 802.22.1™-2010 STANDARD, ENABLING SPECTRUM**
9 **SHARING IN THE 2 GHz to 4 GHz BAND IN SUPPORT OF PCAST**
10 **RECOMMENDATIONS**

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12 **PISCATAWAY, N.J., USA, XX March 2013** – IEEE, the world's largest professional
13 organization advancing technology for humanity, today announced that it has authorized
14 the revision project to add advanced beaconing capabilities to the IEEE 802.22.1™-
15 2010 to enable spectrum sharing in the 2 GHz to 4GHz band with existing radars and
16 fixed satellite earth stations. This revision project was introduced to support the United
17 States President's Council of Advisors on Science and Technology (PCAST) [report](#)
18 promoting the sharing and more efficient use of spectrum through new cognitive radio
19 technologies and interference mitigation techniques.
20

21 “Such a standardized advanced beacon is an innovative way to enable spectrum
22 sharing in many bands and for many innovative applications,” said Dr. Apurva N. Mody,
23 chairman of the IEEE 802.22™ Standards Working Group.
24

25 In June 2010, the President of the United States signed a memorandum calling for the
26 National Telecommunications and Information Administration (NTIA), in collaboration
27 with the Federal Communications Commission (FCC), to make 500 megahertz of
28 spectrum available for fixed and mobile wireless broadband.

29 One of the portions of the spectrum identified to achieve this goal is the S-Band (2000-
30 3700 MHz) where radars have been deployed. The current plan is to use database
31 service driven operation, which will enforce large exclusion zones along the United
32 States coastline to protect U.S. Navy coastal operations and other Department of
33 Defense (DOD) test and training areas. Such large exclusion zones will not allow the
34 majority of the large American cities along the coast to gain benefits from this spectrum.
35

36 However, advanced beaconing approaches, such as the one developed in IEEE
37 802.22.1-2010 originally designed for interference protection of licensed wireless
38 microphones may be used for these bands. Such an advanced beacon will be
39 transmitted by the primary users of these bands to enable real and semi-real time
40 spectrum sharing and make 100 MHz of spectrum (3550 MHz – 3650 MHz) available
41 nationwide, and especially in the significantly populated coastal areas. Such a
42 beaconing approach allows spectrum sharing operation dynamically, which otherwise
43 could not be supported through any other means easily.
44

45 The IEEE 802.22 Working Group (WG), recipient of the IEEE Standards Association
46 (IEEE-SA) Emerging Technology Award, has completed and published the IEEE

1 802.22-2011™ Standard on cognitive radio based Wireless Regional Area Networks
2 that provides broadband access to wide regional areas globally and bring reliable and
3 secure high-speed communications to under-served and un-served rural communities.
4

5 The IEEE P802.22.1 Task Group is accepting calls for contribution from interested
6 participants for the development of this standard. Work on this project will begin
7 following the March 2013 IEEE 802® plenary session in Orlando, Florida.
8

9 Additional information on the standard can be found at the IEEE-SA standards page. To
10 purchase IEEE 802.22 Standards, visit the [IEEE Standards Store](#).
11

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13 follow us on Twitter at <http://www.twitter.com/ieeesa> or connect with us on the
14 Standards Insight Blog at <http://www.standardsinsight.com>.
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18 IEEE, develops consensus standards through an open process that engages industry
19 and brings together a broad stakeholder community. IEEE standards set specifications
20 and best practices based on current scientific and technological knowledge. The IEEE-
21 SA has a portfolio of over 900 active standards and more than 500 standards
22 under development. For more information visit <http://standards.ieee.org/>.
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31 computers and telecommunications to biomedical engineering, electric power and
32 consumer electronics. Learn more at <http://www.ieee.org>.
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