IEEE P802.11  
Wireless LANs

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| ECC (14)BB comments | | | | |
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Abstract

The IEEE 802.11 response to the ECC (14)BB

<http://www.cept.org/ecc/tools-and-services/ecc-consultation>

18-14/0017r1 deletes reference to ‘high out of band emissions’.

The ECC (14)BB  <http://www.cept.org/ecc/tools-and-services/ecc-consultation>

    text (page 8) being commented on:

A2.1.1  In-block requirements for MFCN base stations

* **2300-2400 MHz:** An in-block e.i.r.p. limit is not obligatory. In case an upper limit is desired by an administration, a value which does not exceed 68 dBm / 5MHz e.i.r.p. per antenna may be applied. For the protection of WLAN above 2400 MHz, administrations may need to apply more stringent in-block e.i.r.p. limit in the upper part of the band 2300-2400 MHz.

   The Ofcom consultation for this band proposes to limit 2390-2400 MHz to 25 mW/5 MHz, but there remains the possibility that RLAN operation on channel 1 will be blocked by LTE base station operation in 2380-2390 MHz.

   2300 MHz-2400 MHz into RLAN sharing analysis is presented in ECC Report 172, section 6.2, page 67

<http://www.erodocdb.dk/docs/doc98/official/pdf/ECCRep172.pdf>

   Note ECC Rep 172 Annex A.1.3 Unwanted Emissions Mask (Table 64, page 82)

   Rather that limiting the power only in 2390 to 2400 (2 x 5 MHz channels), extend that to 4 channels (2380 – 2400 MHz). The reason is that ECC Report 172 indicates a high probability of interference into outdoor 802.11 networks. (82% for WLAN operating on 2412 and still 16% for WLAN operating on 2432 MHz).

Note that the 1st channel (20 MHz wide with 2412 as center) is from 2402 up to 2422 MHz. Just doing something on the upper 10 MHz of the 2300 MHz band is not sufficient.

Proposed Comment:

| **Comment number** | **Section number/ Clause** | **Paragraph Figure/ Table** | **Type of comment** (General/ Technical/Editorial) | **COMMENTS** | **Proposed change** |
| --- | --- | --- | --- | --- | --- |
| IEEE/1 | A2.1.1 |  | Technical | ECC Report 172 indicates very high potential interference into outdoor WLAN. In order to protect these WLANs operating in the 2400 – 2483.5 MHz, the maximum in-block e.i.r.p. for the upper 4 x 5 MHz channels (2380 – 2400 MHz) should be limited to 25 mW/5 MHz.  There is another risk which was not considered when ECC Report 172 was developed. Starting from 1 Jan 2015, 2.4 GHz WLAN devices can NO longer use CCA (Clear Channel Assessment) based on Carrier Sense or Carrier Sense with Energy Detect. From that date, the CCA mechanism shall be modified to do Energy Detect (CCA-ED) only. That makes WLAN systems sensitive to any signal, including LTE signals where current WLAN devices would only react on other WLAN devices. LTE base stations in adjacent bands may trigger the CCA-ED mechanism in WLAN devices and make them back-off all the time. | A2.1.1 In-block requirements for MFCN base stations   * 2300-2380 MHz:   An in-block EIRP limit is not mandatory. In case an upper limit is desired by an administration, a value of 68 dBm/5 MHz EIRP per antenna may be applied.   * 2380-2400 MHz:   In-block EIRP limit of 14 dBm per 5 MHz.   * For femto base stations, the use of power control is mandatory in order to minimise interference to adjacent channels. |
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