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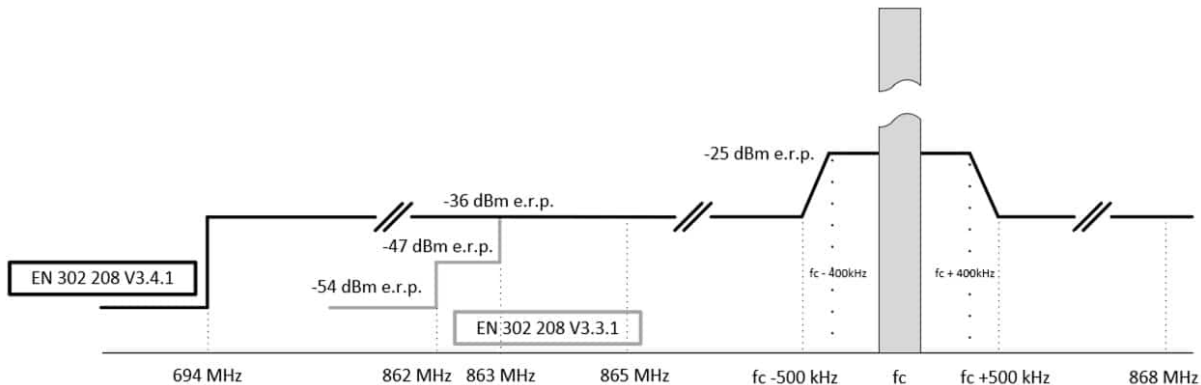
## Inside AIM Europe

### *New Requirements on Reader Receiver Testing*

[AIM Europe](#) is engaged in various standardization projects within [CEN](#) and [ETSI](#). CEN is the European Committee for Standardization, is an association that brings together the National Standardization Bodies of 34 European countries. ETSI is a European Standards Organization (ESO) for telecommunications, broadcasting and other electronic communications networks and services, We are looking for support in this important work. Want to get involved? Contact [Frithjof Walk](#), President, AIM Europe.

In 2020 [ETSI](#), published EN 302 208 [V3.3.1](#) “Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard for access to radio spectrum,” which has been consequently endorsed by the European Commission with the publication in the Official Journal of the European Union [L258 Volume 64](#) on 20 July 2021. Based on the new set focus on more efficient spectrum use by the European Commission, new requirements on receiver testing have been introduced in EN 302 208 V3.3.1. This applies to any RAIN RFID equipment and, this is the test on **reader receiver sensitivity** with limits depending on reader category for transmit power  $\leq 13$  dBm erp,  $13 - 30$  dBm erp, and  $>30$  dBm erp, as described in EN 302 208 Table 2a.

The out-of-band tag spectrum mask limits for the lower band from 865 – 868 MHz has been finally relaxed. Unfortunately, this change is not represented in the spectrum mask in V3.3.1 due to a process error during publication. However, it will be included in V3.4.1, which passed the first ballot in ETSI in February 2022. Details and the benefit for RFID tags comparing V3.3.1 and V3.4.1 are shown in the figure below. V3.3.1 still contains the ambiguity of defining the spurious emissions limits of -36 dBm erp for devices in the operating state according to Table 2, while displaying in Figure 8 the spectrum limit of -54 dBm erp and -47 dBm erp at frequencies below 862 MHz and 863 MHz, respectively.



For the benefit of the RAIN RFID industry, the test methods described in [ISO/IEC 18046-2](#) “Interrogator performance test methods”, which is the associate of [ISO/IEC 18046-3](#) “Tag performance test methods” have been used for the new tests in ETSI EN 302 208 to benefit from the re-use of test solutions and test results as far as possible.



AIM, Inc.

[www.aimglobal.org](http://www.aimglobal.org) | +1.724.742.4470 | @AIM\_Inc\_