

Comments for Draft KDB 941225 D05 – LTE Devices

Submitted by UL

1. Higher order modulations (16 QAM or 64 QAM) do not need to be evaluated when the output power does not exceed the QPSK output power for the same channel/RB configuration by more than 1/2dB or the QPSK SAR exceeds 1.2 W/Kg. Based on typical products the output power for QAM modes is lower than the equivalent QPSK mode so QAM modes would not typically be tested. The downside is that the 1.2W/Kg threshold may not allow the exclusion to be applied to many devices.

Comments:

Given the fact that the higher order modulations have typically higher Pk:Average issues, would it be possible to specify that the QAM modulations only need to be assessed if either:

- o output power exceeds the QPSK output power for the same channel/RB configuration by more than 1/2dB
- or
- o QPSK SAR exceeds 1.2 W/Kg **AND** QAM output power is higher than QPSK output power

2. The procedure has now added a requirement that 100% RB allocation must be tested , previously this was only required if SAR was > 1.45W/Kg for the 50% RB allocation. The procedure also requires 50% allocation be tested with the blocks allocated at ends and center of the channel, previously just the center of the channel. 1RB allocation needs to be tested with the blocks allocated at ends and center of the channel, previously just the ends of the channel. Admittedly it does only require the 50% and 1 RB allocations be tested when either the 100% allocation / 50% allocation SAR values exceed 1.2 W/Kg or the output power is higher by 1/2dB. Given the MPR reduces output power for 50% and 100% allocations it seems very likely that you will always have to test 1RB and 100% RB.

Comments:

Would it make more sense to start with the 1RB allocation and then base test reduction on relative powers for the 50% and 100% RB allocations to the 1RB allocations?

Please clarify the comment in III B. (3) (ii)(b) and III B. (3) (iii)(b): Is the intent to require testing with 1RB or 50% RB only if **all three** offset allocations are more than 1/2dB higher than the 100% (or 50% and 100%) RB allocations or to test any offset allocations that have output power more than 1/2dB higher than the 100% (or 50% and 100%) RB allocations?

3. Reducing the threshold from 1.45W/Kg to 1.2 W/Kg for the test reduction, and having three offset allocations be tested for both 50% and 1RB allocations, will increase the amount of testing significantly. From reports we have reviewed in the past the worst-case almost always seems to be 1 RB allocation (both highest power and narrowest bandwidth) so I am not fully sure I understand the rationale to increase the number of tests for 100% and 50% allocations unless these signal bandwidths are of higher output power.