

**Agenda Item:**

**Source:** NOKIA

**Title:** Comments to FDD UE Transmission mask

**Document for:** Discussion

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## 1. INTRODUCTION

This contribution introduces the comments Nokia has for UE transmission mask proposal presented last meeting in Miami. This paper discuss about implementation aspects and also express a concern that emission mask as absolute values will indirectly re-specify the ACLR requirements.

## 2. DISCUSSION

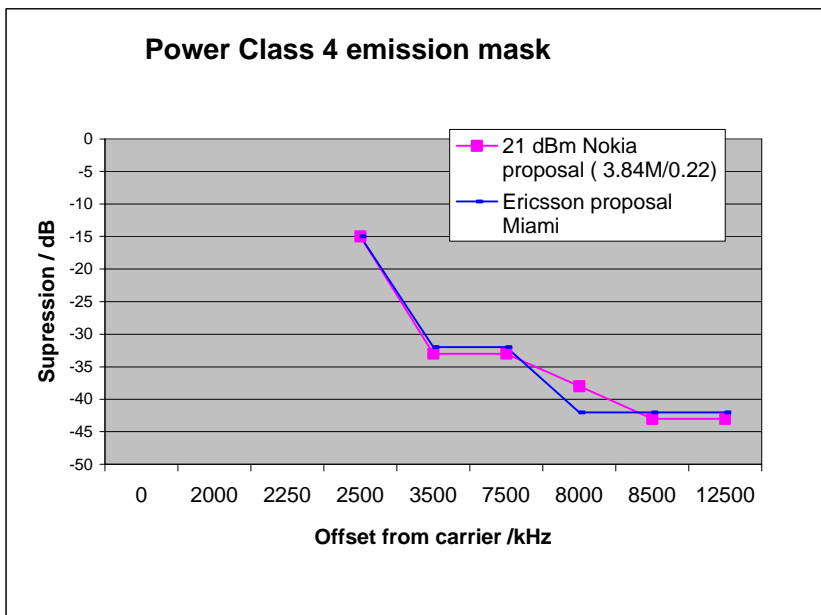
Tdoc R4-99302 is based on 4.096 Mc/s rate, hence the emission mask values should be reviewed to reflect TSG RAN#4 meeting decisions. The liason statement from our working group stated that with new chip rate ACLR1 and ACLR2 values will be 1 dB tighter. This impact is shown in section 2.1.

We would like to revise the shape of emission mask so that the transition regions are same shape. The 7.5-8 MHz region could be 1 MHz wide, 7.5 –8.5 MHz as is the case in 2.5-3.5 MHz range. This for the reason that transition bands width are not likely to be different in different sides of ACLR1 band.

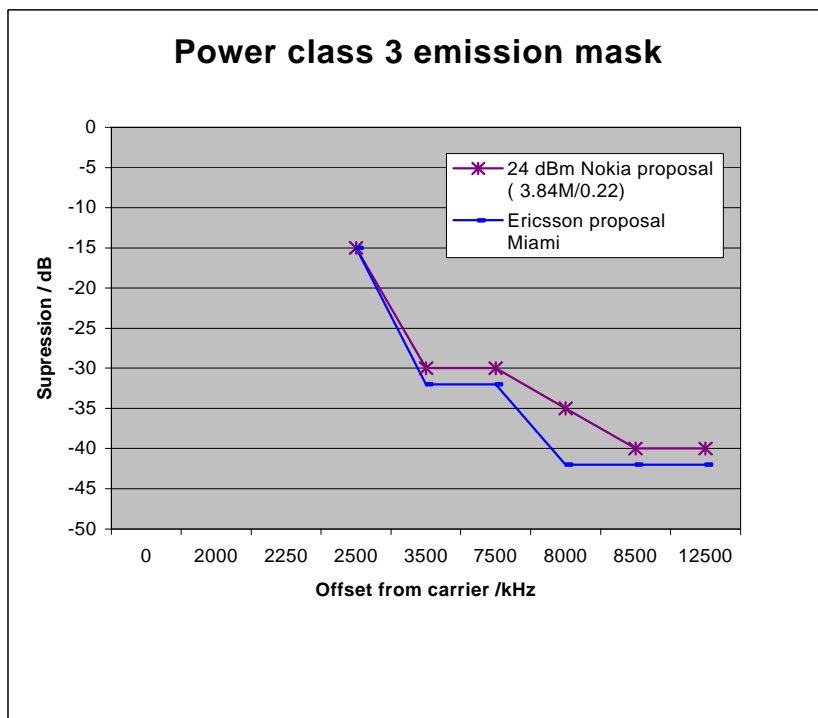
As stated in Tdoc R4-99302, the proposal is concerning only power class 4, + 21 dBm terminal. We feel that the emission mask should be relative to output power, and all power classes needs their own masks. With one single mask applied to all power classes will mean the ACLR requirement to be tighter with same amount as the power difference to class 4. The implementation aspects have been discussed in previous meetings and are well known. As the complexity in implementation increases, the likelihood of having high power class terminal will decrease. This might complicate or delay the introduction of services needing higher power classes.

The spurious emissions in PHS band will fall into ACLR3 region in current specification. We feel that this frequency band is too close of our own operating frequencies to regard it as an absolute emission limit. For higher than 21 dBm power classes this emission level will generate additional requirements for ACLR. It should be considered wheter the emission limits dealing PHS emissions should also be relative to output power. This requirement would then be as discussed previously relaxed compared to 21 dBm terminal.

## 2.1 Power class 4 ( 21 dBm)



## 2.2 Power class 3 (24 dBm)



## 3. CONCLUSIONS

In this contribution we have high lighted the implementation aspects of emission mask requirement. Also a notes has been made about regional emission limits (PHS), which should be treated as relative levels for each power classes. Power classes 1 and 2 are for further study.

#### **4. REFERENCES**

Tdoc R4-99302, Draft UE transmission emission mask, Ericsson