

Agenda Item:

Source: Panasonic(Matsushita), NTT DoCoMo, NEC, Fujitsu

Title: BS transmit intermodulation

Document for: Approval

1. Introduction

This document proposes definitions and requirements for BS transmit intermodulation.

- It is proposed that RF scenario calculations and requirement value for the transmit intermodulation.

Chapter and table numbers in following text proposals refer to TS25.104 version1.1.0.

2. Discussion

The transmit intermodulation is produced when the interference is injected into the antenna connector from the other BS transmitter. If the both BSs are the same output power, the difference of the interference level and the subject level at the antenna connector is as same as MCL.

If the distance between BS antennas is 5m, the free space propagation loss of 5m distance is 52dB. Antenna gain (include the cable loss) is 11dB form RF system scenario document. Both BSs have the antenna, so MCL between BSs is 30dB (=52-11-11).

Therefor interference signal is injected into the antenna connector at a level of 30dB lower than that of the subject signal.

3. Text proposal for 'Transmit intermodulation 6.7'

6.7 *Transmit intermodulation*

The transmit intermodulation shall be defined by the ratio of the output power of subject transmitted signal to the output power of any intermodulation product when an interference signal is injected into the antenna connector at a level of 30dB lower than that of the subject signal. The frequency of the interference signal shall be $\pm 5\text{MHz}$, $\pm 10\text{MHz}$ and $\pm 15\text{MHz}$ off the subject signal.

6.7.1 *Minimum requirement*

The Transmit Intermodulation level shall not be exceed spurious emissions requirement, except in the range of $\pm 12.5\text{MHz}$ of the subject signal, ACLR requirement is used.

4. Conclusion

Requirements and definitions for BS transmit intermodulation have been proposed to be used in TS25.104 version1.1.0.

This specification is not related with the chip rate issue.

The scenario calculations could be added to the RF system scenario document.