

Agenda Item:

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

Title: BS spurious emissions

Document for: Approval

1. Introduction

This document proposes requirements for BS spurious emissions.

- It is proposed that RF scenario calculations and requirement value for the protection of BS receiver.
- Correcting an editorial mistake, PHS band (frequency). This mistake came from TSGR4#4(99)201.

Chapter and table numbers in following text proposals refer to TS25.104 version 1.1.0.

2. Discussion

The protection of the BS receiver is requested to reject the interference to the other BS receiver.

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

BS receiver is requested the following equation;

Spurious level-MCL < Thermal noise

Spurious level < Thermal noise + MCL= -174dBm/Hz +30dB

Spurious level < -94dBm/100kHz (= -144dBm/Hz)

3. Text proposal for 'Protection of the BS receiver 6.6.3.2'

6.6.3.2 Protection of the BS receiver

This requirement may be applied in order to prevent the receiver of the BS being desensitised by emissions from the BS transmitter which are coupled between the antennas of the BS.

This is measured at the transmit antenna port.

[This requirement assumes the scenario described in 25.942.] For different scenarios, the manufacturer may declare a different requirement.

~~This requirement is not applicable to antenna ports which are used for both transmission and reception (e.g. which have an internal duplexer).~~

~~NOTE:— In this case, the measurement of Reference Sensitivity will directly show any desensitisation of the receiver.~~

6.6.3.2.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Band	Maximum Level	Measurement Bandwidth	Note
1920 – 1980MHz	-94 ⁻⁷⁸ dBm	100 kHz	

Table n, BS Spurious emissions limits for protection of the BS receiver

4. Text proposal for 'Co-existence with PHS 6.6.3.5'

6.6.3.5 Co-existence with PHS

6.6.3.5.1 Minimum Requirement

The power of any spurious emission shall not exceed:

Table n: BS Spurious emissions limits for BS in geographic coverage area of PHS

Band	Maximum Level	Measurement Bandwidth	Note
1893.5 – 191 9.60 MHz	-40 dBm	300 kHz	

5. Conclusion

Requirements for BS spurious emission have been proposed to be used in TS25.104 version 1.1.0.

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

This specifications are not related with the chip rate issue.