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We, Samsung Electronics Co., Ltd., attest the LTE MPR is permanently implemented, and the A-MPR has been disabled for testing purposes. See the below mails from Qualcomm.

LTE MPR

Subject	How to control LTE MPR
Description	Dear. Qualcomm Hello. For FCC approval, as attachment, LTE MPR Target will equalize within the ± 0.25 dB according to Channel, BW, RB size, RB offset, Moduration. Attached is the result of the measurement, the value out of the yellow. How do we control LTE MPR according to Channel, BW, RB size, RB offset, Moduration ? Thanks. BR. Jaeseong.

Case Comments

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Comment

Created By: Ted Hwang (8/4/2011 11:16 PM)

Dear Customer,

As talked over the phone, I review nv items related to RB offset.
Sorry for say that there is no nv item for RB offset.

Thanks,
Ted

A-MPR

Subject	NV ITEM FOR HSUPA MPR
Description	Hi. I'm H/W Engineer CELOX HSUPA MPR is not meet the 3GPP specification. is there other NV item that I modified? BR.

Comment

Created By: Felix Cho (8/8/2011 5:49 PM)

Dear customer,

Yes, NV_WCDMA_REL7_PA_MPR_BACKOFF_I is 6756. The error message shows there is no stored value in NV. If you write any value before reading, you can successfully read NV.

We recommend using default values for this NV.

Besides, FCC cannot make any their own spec, and as far as I know, all they want is just explanation why MPR doesn't exactly follow the backoff.

Please see the following comment. Many previous Samsung models resolved FCC issue by the following explanation. If you have further request, please let me know.

The recent chipsets implement an Enhanced MPR (E-MPR) software algorithm that also considers power compression (Scaling), a requirement per 3GPP 25.214 section 5.1.2.6, to generate a more accurate Cubic Metric (CM) value that is used to determine the magnitude of power reduction for HSPA signals. The Enhanced MPR solution can introduce a deviation of the actual observed power reduction from the MPR target values configured for a device.

In the power scaling process defined by 3GPP TS 25.214, the channel beta values are modified as the transmitted signal approaches maximum power to ensure that the transmit power does not exceed the maximum rated transmit power and is also compliant with emissions requirements. The power scaling process considers the software-defined MPR target values based on the CM for the signal to be transmitted to determine the required power reduction for a given signal. The actual CM value of the signal transmitted after power scaling, however, is often different from the estimated CM value used in the power reduction algorithm.

Qualcomm's legacy MPR software uses an estimated CM value and does not compensate for power scaling. In this case the power reduction typically matches the MPR target values. Enhanced MPR takes into account the measured CM of the transmitted signal after power scaling and thus provides a more representative CM value to be used in the determination of required power reduction.

An accurate CM value is desirable as the goal of power reduction is to maintain compliance with emissions limits. By using a more accurate CM value, the E-MPR process minimizes the magnitudes of power reduction required to maintain emissions compliance whereas the legacy MPR software may incorporate a magnitude of power reduction that is higher than is required for emissions compliance.

There is no direct correlation between configuration settings and the power reduction since the hardware design contributes to the magnitude of power reduction. Regardless of legacy or E-MPR software, by design the HSPA transmitter power will not exceed the R99 maximum transmit power in devices based on Qualcomm's HSPA chipset solutions.

Thanks and regards,
Felix.



Sang Kyung (Peter), Ra

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