

Questions to CC1101, CC1110+CC1190 and DN006

Sensitivity for **38,4kHz baud and 1% package** loss is considered for following numbers:

For CC1101 following sensitivity is listed in the data sheet:

	Sensitivity:
915MHz, GFSK, 20 bytes packages, 20kHz deviation, 100kHz Rx bandwidth:	-104dBm

In Design Note 006 following is listed:

Preferred settings, Table 4:

915MHz, 2-FSK, 20kHz deviation, 100kHz Rx bandwidth:	-104dBm
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For FCC compliance (Table 3) following is recommended:

915MHz, 2-FSK, 177kHz deviation, 540kHz Rx bandwidth:	-100dBm
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In CC1110 data sheet (page 15) following is listed for sensitivity:

915MHz, 2-FSK, 20 bytes packages, (20kHz deviation?), 100kHz Rx bandwidth:	-100dBm
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(deviation is estimated from SmartRF Studio preferred settings).

Questions are now:

- 1) For CC1101: GFSK and 2-FSK modulation seems to have same sensitivity (data sheet and DN006) - is this true?
- 2) Comparing DN006 (CC1101) and CC1110 it looks like CC1101 is 4dB more sensitive than CC1110 for same settings. Is this expected?
- 3) Which sensitivity should we expect for CC1110-CC1190 with the DN006-settings for FCC-compliance?
- 4) In my current setup I see an improvement of 9dB in sensitivity when CC1190 HGM is changed from 0 to 1 and other settings (from DN006 FCC compliance) are unchanged. Is this to be expected - noise figure etc. considered?
- 5) When using 2-FSK instead of GFSK, deviation and Rx-filter unchanged, the CC1110 device is approx. 2 dB less sensitive. Is this reasonable from expectations, see 1)?