

Preliminary decisions



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Bitrate selection

Overall link performance is greatly depends on the right bitrate selection. Wrong bitrate of a radio link in most cases lowers its performance characteristics. In the result subscribers are getting bad services.

Infinet Wireless [MINT](#) architecture makes bitrate selection process fully automatic. Using IW proprietary Link Forecasting and Active Testing algorithms MINT chooses the optimal radio transmission rate individually for each connected subscriber device.

- Therefore, main recommendations for bitrate selection are: enable autobitrate mechanism and set the maximal available bitrate on the radio interfaces of all the devices
- To estimate the real bitrate of the device prior to its installation and deployment use the InfiPLANNER planning tool (see below).

Frequency planning for multi-sectored Base Stations

Base Stations with six sectors deliver the maximal performance by providing with sector reciprocal reservation and best price/performance parameter value. When having an optimal frequency gap of 40 MHz between adjacent sectors of the BS, the following schemes are recommended to be configured (e.g. having 5 available in configuration frequencies F1, F2 ... F5):

- F1, F3, F5, F1, F3, F5
- F1, F3, F1, F3, F1, F3

Transmitting power selection

High output power correlates with the maximal connection performance. Decreasing the output power is logical when the maximal bitrate is already reached and there are no repeats. In this case excessive output power can decrease the system parameters. When having no built-in or external amplifiers one can try to install the automatic power control for the subscriber.

Range/Bitrate calculation

The InfiPLANNER tool allows to estimate a bitrate and distance for a particular radio link. The InfiPLANNER is available on <https://infiplanner.infinetwireless.com>.

To get advices for the planning tool using proceed to the [online course](#) on the IW Academy website.

The results are available in the 'Estimation Summary' tab, as well as in the 'Detailed performance report' section. The speed values for each modulation scheme in both directions are approximate.



NOTE

The speed calculation takes into account only a terrain but not obstacles and buildings. The interference greatly reduces the speed even at a high signal level.