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Project Name: Channel Impulse Response (CIR)
File Name: Readme_CIR.txt
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Description:

The purpose of this project is to provide a plot of the Chanel Impulse Response in a use-case scenario of your choice. This folder provides a Matlab function and an example of using it.

The "getCIR.m" function imports the CIR values generated by a ray tracer. In our case, it is the Wireless InSite by Remcom.

The example file "exampleGetCIR.m" shows how the Matlab function can be used in conjunction with few input files delivered in this package.

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Matlab Function Description:

The function extracts the received power values as well as the phase values provided at the output of a ray tracer and generates two plots (Rx power vs. time, and phase values vs. time).

The only input requirements are the file containing these values and the receiver sensitivity threshold. The received power levels and phase values of the multipath components arriving at the receiver can be obtained via measurements using channel sounders and various antennas, or can be estimated with a ray tracer. The data organization in the input files is described in the header portion of the "getCIR.m" Matlab function.

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Example Description:

The "exampleGetCIR.m" file shows how we can use the "getCIR.m" Matlab function by applying one of the input files delivered in this folder. The input files refer to an indoor use-case scenario - a customizable conference room.

The "CIR" folder contains four ".p2m" files generated by the ray tracer for the indoor scenario. They represent various room configurations, from a complex scenario full of furniture and electronic equipment down to an empty room.

The user can also generate his/her own input files for different use-case scenarios, and can process these files with the same "exampleGetCIR.m" file by changing the code to call for the appropriate input file names.

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