

UniDirectionalData := READPRN(UniDirectional)

BiDirectionalData := READPRN(BiDirectional)

UnfilteredData := READPRN(UnFiltered)

DataCount := rows(UniDirectionalData)

F := 0.. DataCount - 1

TargetFrequency_F := UnfilteredData_{F, 0}

First, the Unfiltered data

UnfilteredFrequencyError_F := UnfilteredData_{F, 1} - TargetFrequency_F

StdDevUnfilteredError := stdev(UnfilteredFrequencyError)

MeanUnfilteredError := mean(UnfilteredFrequencyError)

MeanUnfilteredError = 0.019 StdDevUnfilteredError = 0.014

Now, the Unidirectional filtered data

UniFrequencyError_F := UniDirectionalData_{F, 1} - TargetFrequency_F

StdDevUniFreqError := stdev(UniFrequencyError)

MeanUniFreqError := mean(UniFrequencyError)

MeanUniFreqError = 0.021 StdDevUniFreqError = 0.017

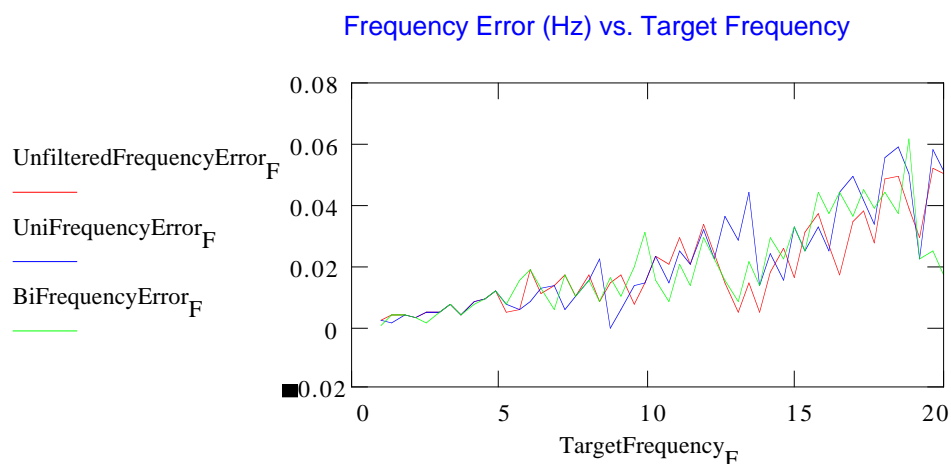
and the Bidirectional filtered data

BiFrequencyError_F := BiDirectionalData_{F, 1} - TargetFrequency_F

StdDevBiFreqError := stdev(BiFrequencyError)

MeanBiFreqError := mean(BiFrequencyError)

MeanBiFreqError = 0.019 StdDevBiFreqError = 0.014

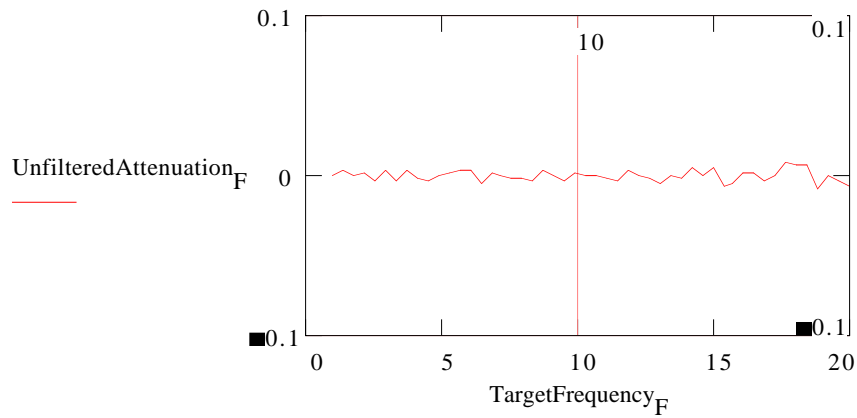


Filtered Attenuations

$\text{UnfilteredAttenuation}_F := \text{UnfilteredData}_F, 3$

$\text{MeanUnfiltered} := \text{mean}(\text{UnfilteredAttenuation})$

$\text{StdDevUnfiltered} := \text{stdev}(\text{UnfilteredAttenuation})$



$\text{MeanUnfiltered} = 1.563 \cdot 10^{-4}$

$\text{StdDevUnfiltered} = 0.004$

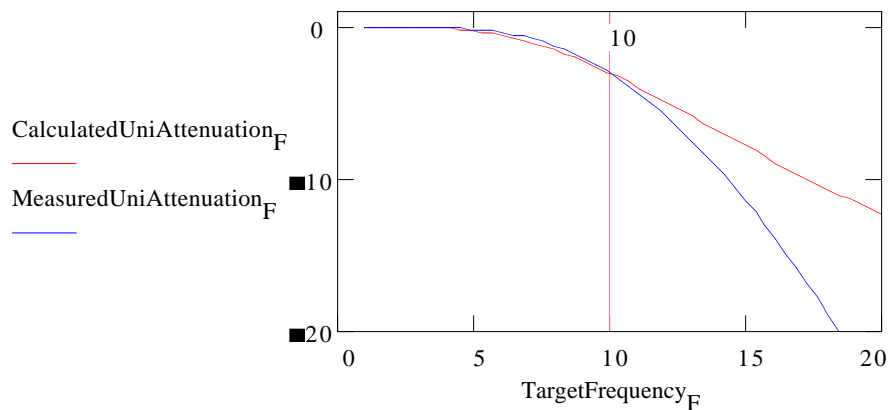
Graphs of Attenuation (in dB)

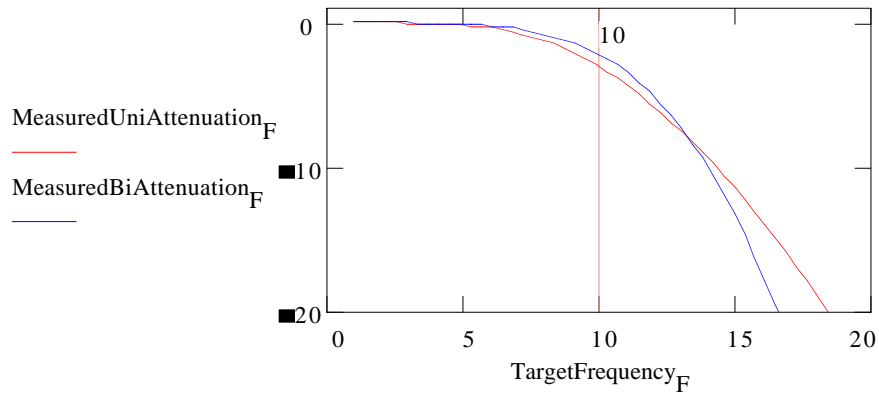
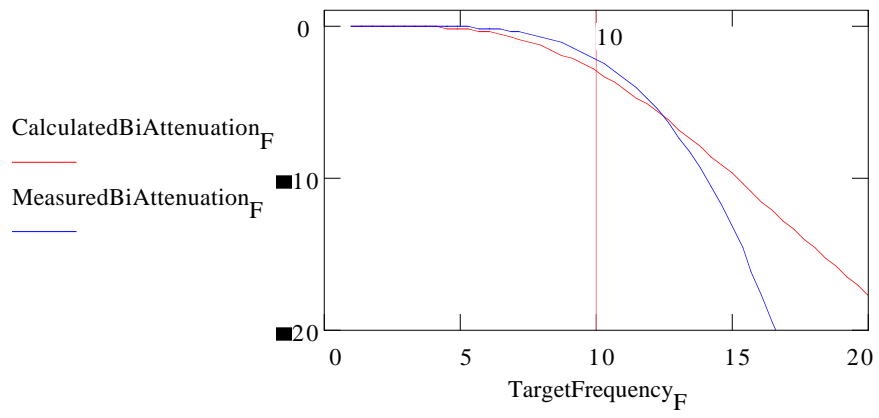
$\text{CalculatedUniAttenuation}_F$ ■ UniDirectionalData_F, 2

$\text{MeasuredUniAttenuation}_F$ ■ UniDirectionalData_F, 3

$\text{CalculatedBiAttenuation}_F$ ■ BiDirectionalData_F, 2

$\text{MeasuredBiAttenuation}_F$ ■ BiDirectionalData_F, 3





Bi-directional filtering with a specified cut-off of 9.58 Hz

BiDirExtraShiftData READPRN(BirDir958)

MeasBiDirExtraShift_F BiDirExtraShiftData_F, 3

