Antenna Frequency Response Report Generator

1 Configuration

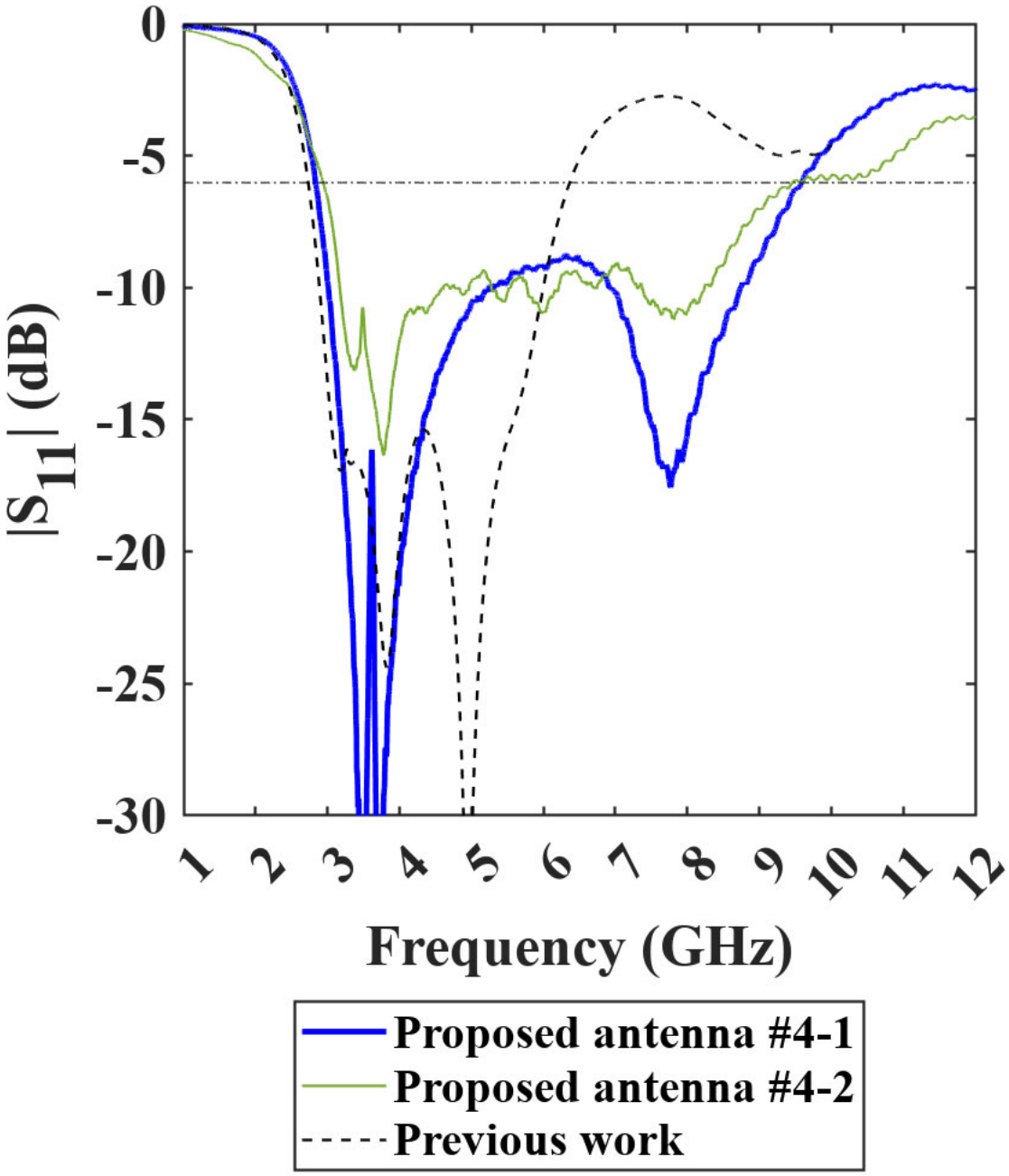
```
clear;
close all;
clc;
clf;
sympref('FloatingPointOutput',false);
sympref('AbbreviateOutput',true);
format LongEng;

dir_output = "../inout_sps";
filenames_toload = ["VMTM_Mono_L10_sub72x57_S2.s1p";"VMTM_Mono_L10_sub30x40.s1p";"PCB BW 3cell C-freq 0.6pf Best modal Ground_env01_ESR_rc

savefile_types = [".png"; ".fig"; ".emf";];                    % .csv has a matrix bug.
alternate_filenames = ["Proposed antenna #4-1";"Proposed antenna #4-2";"Previous work"];
%cmdColorOrder = [0 0 1; 1 0 0; 0.4660 0.6740 0.1880];          % https://jp.mathworks.com/help/matlab/creating_plots/defining-the-color-
cmdColorOrder = [0 0 1; 0.4660 0.6740 0.1880; 0 0 0 ];          % https://jp.mathworks.com/help/matlab/creating_plots/defining-the-color-
cmdLineStyleOrder = ["-" "-" "--"];
cmdLineWidthOrder = [2; 1; 1];
cmdXlim_GHz = [1;12];
cmdStyles="ieee";
```

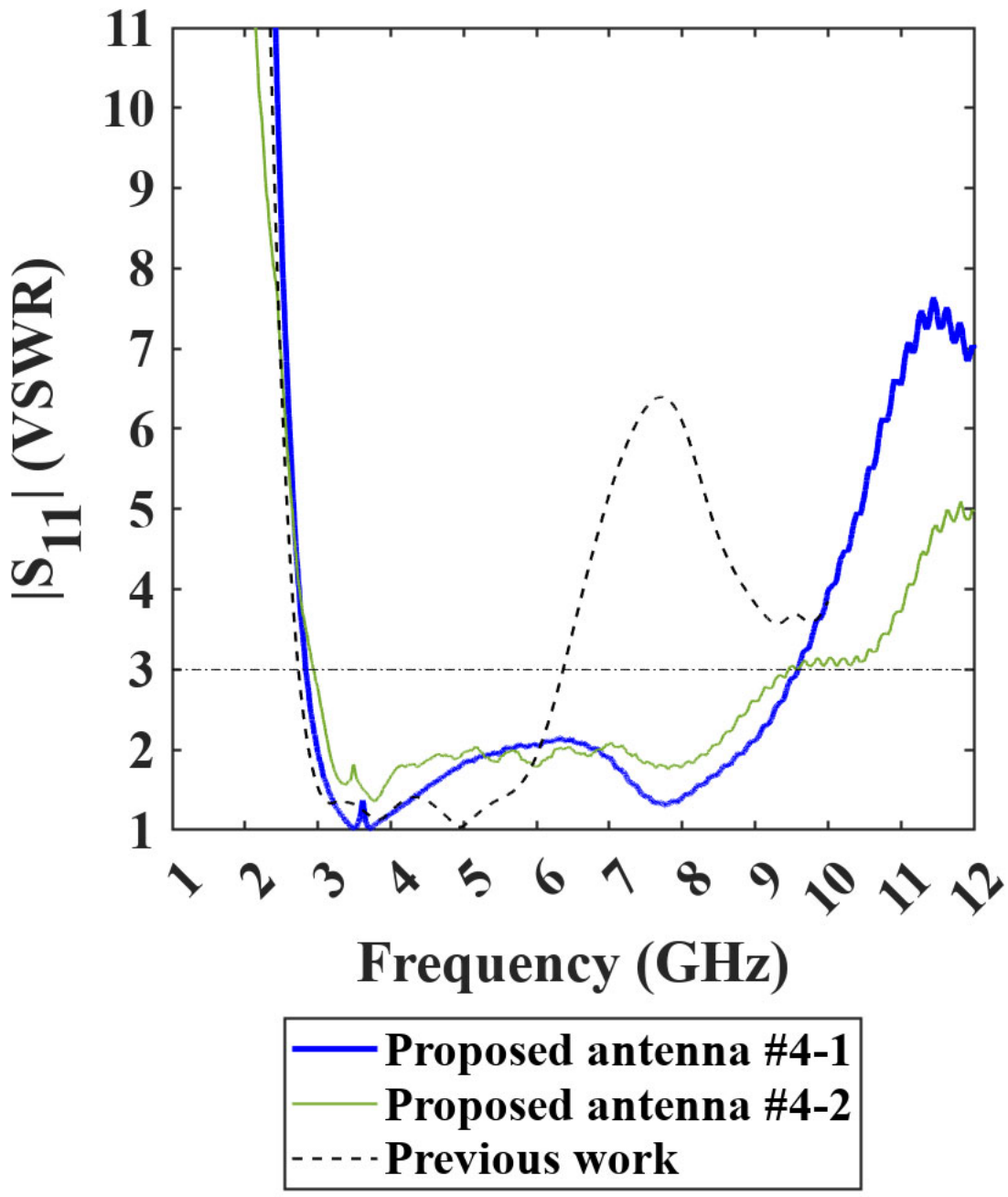
2 Return Loss [dB]

```
cmd_genfig_s11_logmag(dir_output, filenames_toload, cmdXlim_GHz, cmdStyles, savefile_types, alternate_filenames, cmdColorOrder, cmdLineSty
```



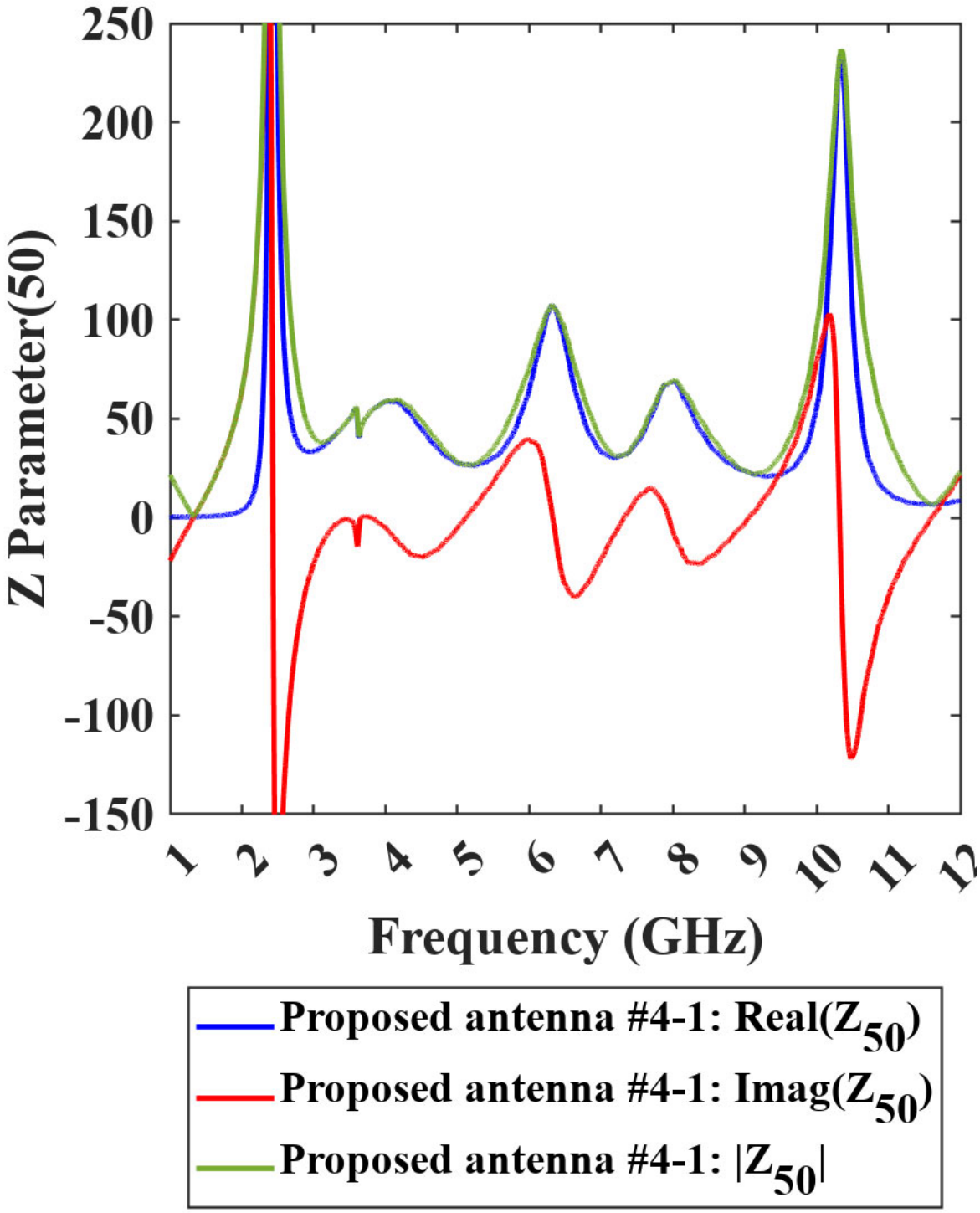
3 VSWR

```
cmd_genfig_s11_vswr(dir_output, filenames_toload, cmdXlim_GHz, cmdStyles, savefile_types, alternate_filenames, cmdColorOrder, cmdLineStyle
```



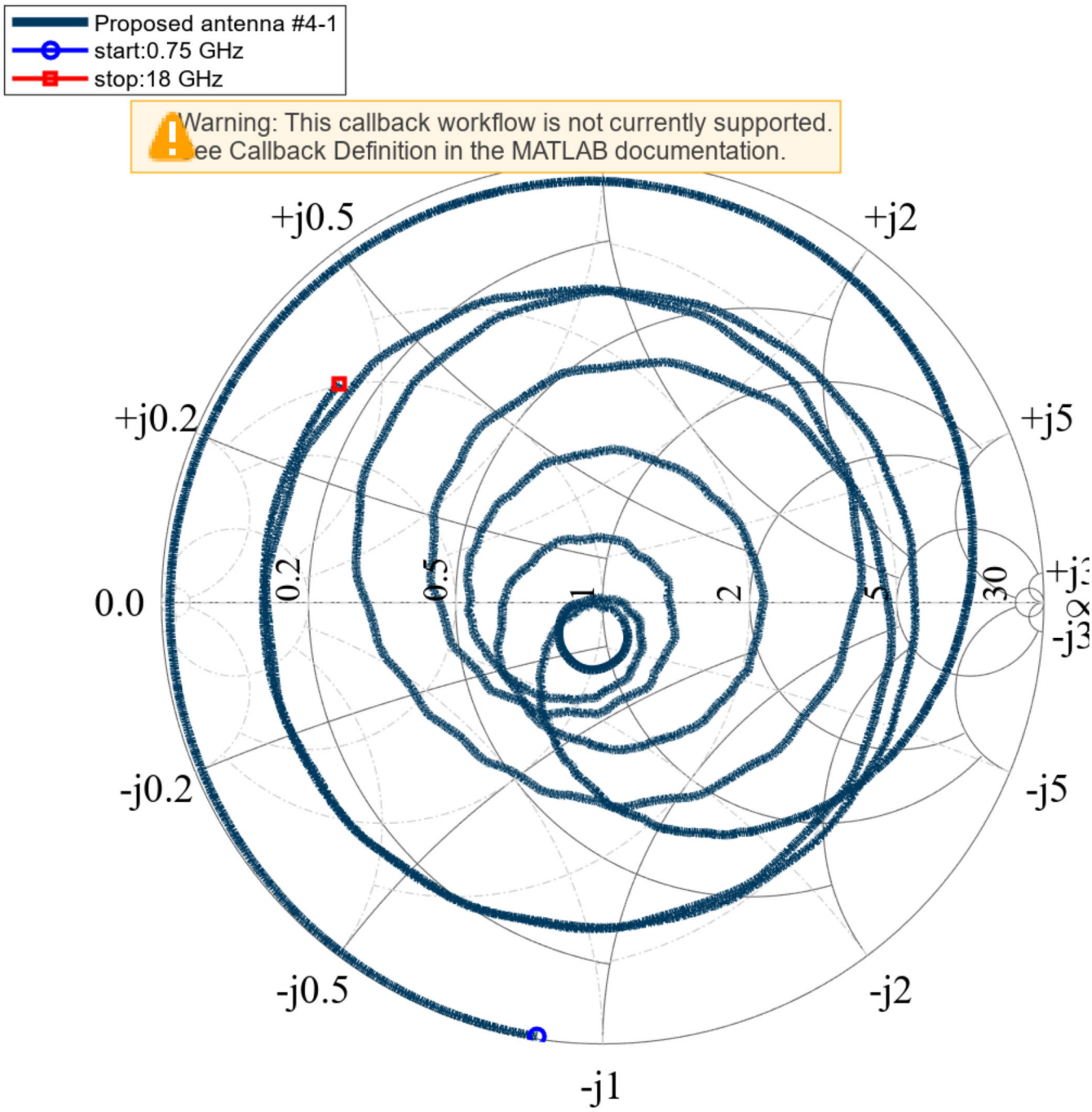
4 Z Parameters

```
cmd_genfig_s11_zparam(dir_output, filenames_toload(1), alternate_filenames(1), cmdXlim_GHz, cmdStyles, savefile_types, [0 0 1; 1 0 0; 0.4€
```



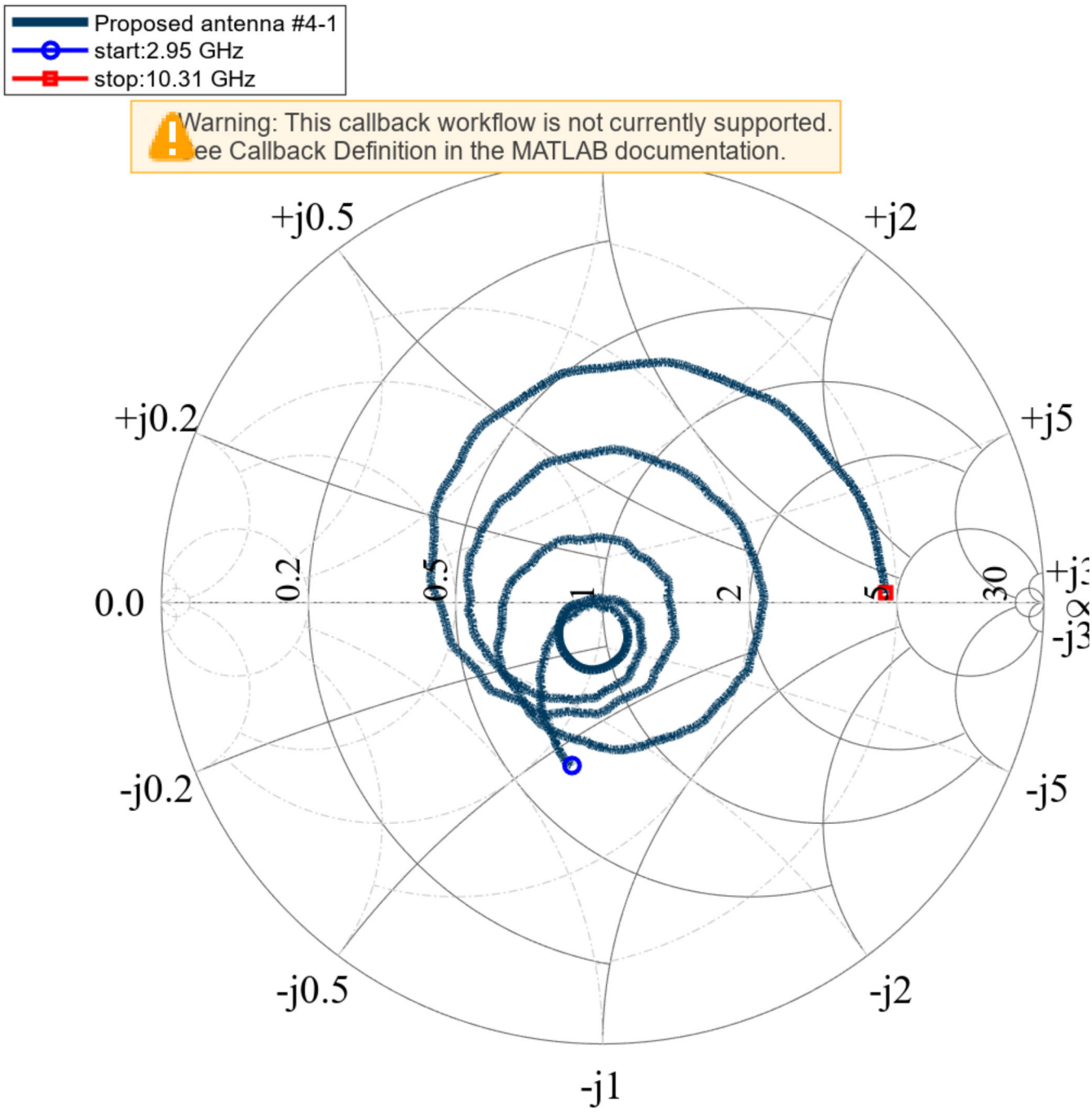
5 S11 Smith Chart (full-range)

```
cmd_genfig_s11_smith(dir_output, filenames_toload(1), alternate_filenames(1), "auto", cmdXlim_GHz, cmdStyles, savefile_types, cmdColorOrde
```



6 S11 Smith Chart (reduced-range)

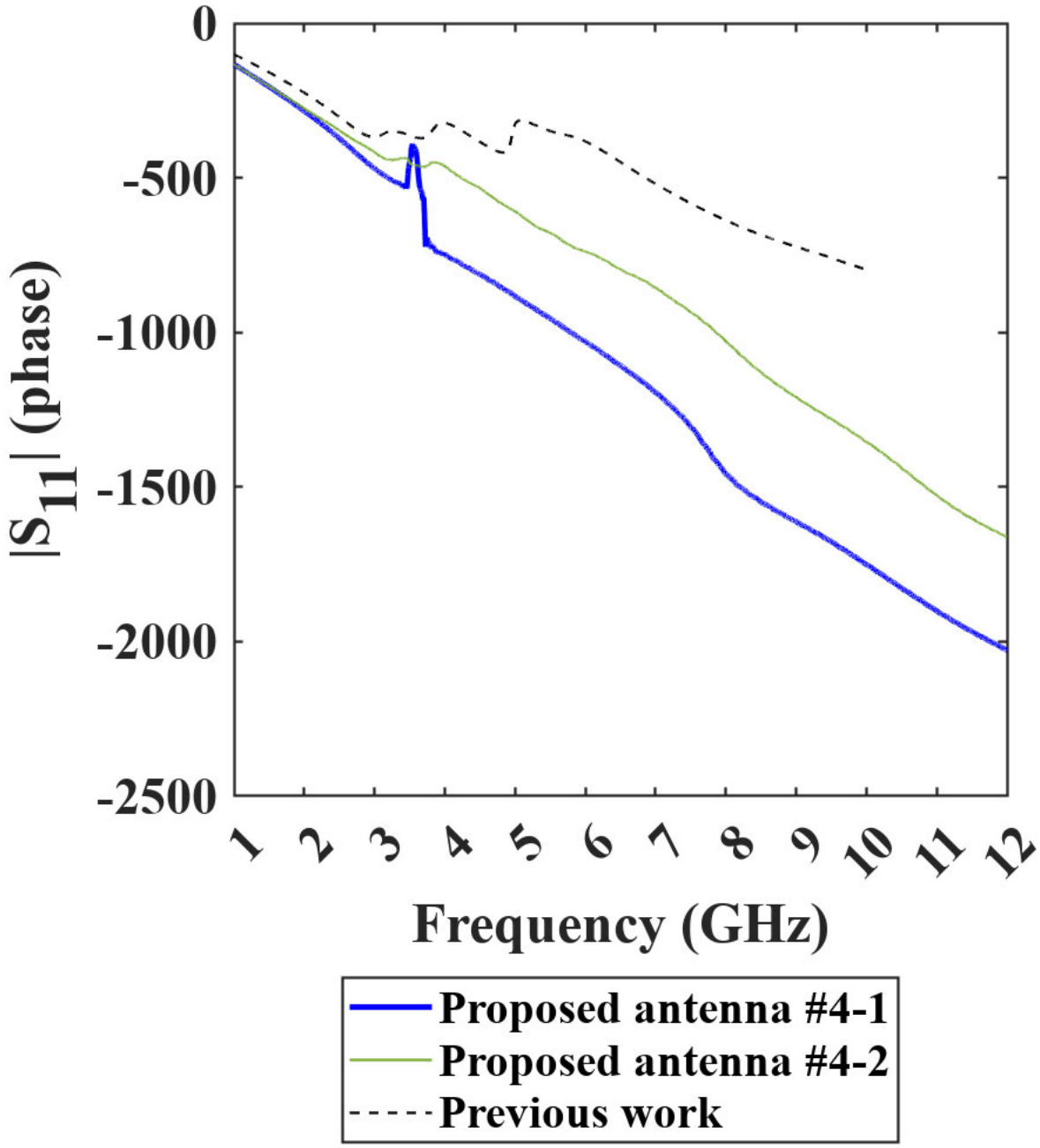
```
cmd_genfig_s11_smith(dir_output, filenames_toload(1), alternate_filenames(1), "man", [2.95;10.31], cmdStyles, savefile_types, cmdColorOrde
```




```
% error: creating .csv file.. cmd_genfig_s11_smith(dir_output, filenames(1), "man", [1.5;2.5], cmdStyles, [".csv";".png"], cmdColorOrder,
```

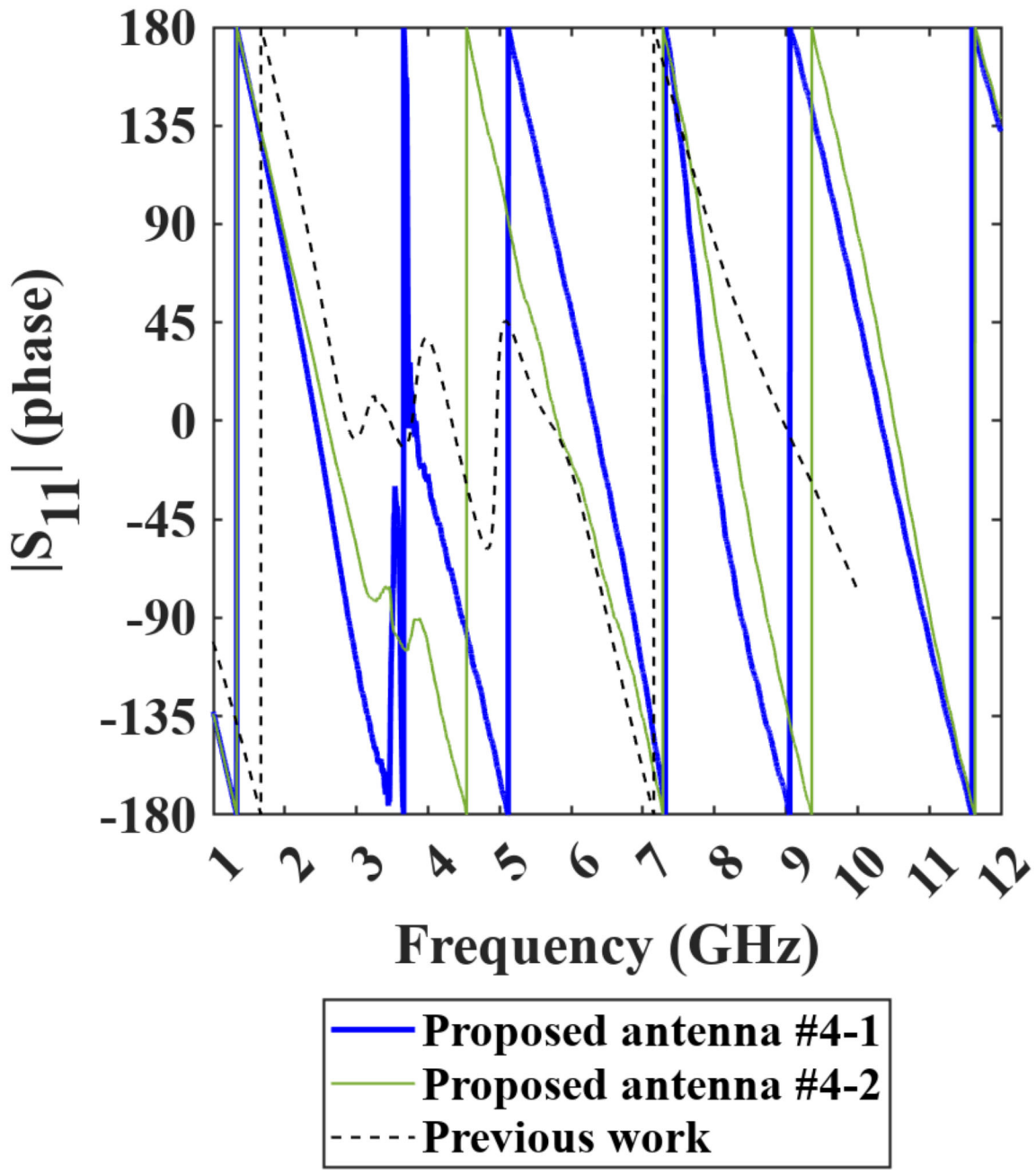
7 S11 Phase (unwrapped)

```
cmd_genfig_s11_phase(dir_output, filenames_toload, cmdXlim_GHz, cmdStyles, savefile_types, alternate_filenames, cmdColorOrder, cmdLineStyl
```



8 S11 Phase (wrapped)

```
cmd_genfig_s11_phase(dir_output, filenames_toload, cmdXlim_GHz, cmdStyles, savefile_types, alternate_filenames, cmdColorOrder, cmdLineStyl
```


180
135
90
45
0
-45
-90
-135
-180
|S11| (phase)
1
2
3
4
5
6
7
8
9
10
11
12
Frequency (GHz)
Proposed antenna #4-1
Proposed antenna #4-2
Previous work