```
function [ signalPerformance, bandSumTracking ] = signalPerformance2_avg( threshold_dBA, idxCombinations, signal_dBA  )
% This function compares the signal to the 2-band requirements

signalPerformance = zeros( 1, size( idxCombinations, 1 ) );

% Looping through all combinations of 2 bands to see if any pass the 2-band threshold requirement
for ink = 1 : size( idxCombinations, 1 )

    idx = idxCombinations( ink, idxCombinations( ink, : ) > 0 );% Of the combinations checking the "ink" row to make sure all indices are greater than 0.
                                                                % They should always be greater than 0!Check may not be needed
    for lead = 1 : size( signal_dBA, 1 )

        if length( threshold_dBA ) > size( idxCombinations, 2 ) % If the size of the threshold (requirement) is larger than the size of the combinations (again, should always be false).
            thresholdExceedance = signal_dBA( lead, idx ) - threshold_dBA( idx( 1 ) ) ; % The threshold is the minimum SPL levels for the 2-band requirement
        else
            thresholdExceedance = signal_dBA( lead, idx ) - threshold_dBA( 1 ) ;
        end

        % Bands Spanned, Number of Bands, Number of Bands Detectable, Band Sum
        numBandsDetected = length( thresholdExceedance( thresholdExceedance >= 0 ) ); % Since signal-threshold, looking for values that are greater than or equal to 0
        if numBandsDetected == 2 %2 bands
            bandSum = 10 * log10( 10^( signal_dBA( lead, idx( 1 ) )/10 ) + 10^( signal_dBA( lead, idx( 2 ) )/ 10 ) );
            bandSum = round( 10 * bandSum ) / 10 ; % Round to 1 decimal point

            if bandSum >= threshold_dBA( 2 ) % Comparing the band sum against the band sum requirement
                signalPerformance( lead, ink ) = 1;
                bandSumTracking( lead, ink ) = bandSum ;
            else
                signalPerformance( lead, ink ) = 0;
                bandSumTracking( lead, ink ) = bandSum ;
            end

        else
            signalPerformance( lead, ink ) = 0;
            bandSumTracking( lead, ink ) = 0 ;
        end
    end
end
```