```
% Create a list of component combinations

function idx = getCombinations_AtLeast( n, N, dn, span )

% n = number of discrete signal components desired, e.g. 4
% N = number of contiguous bands where the n components may be, e.g. 13
% dn = minimum bands between components, e.g. 1
% span = the number of bands that the components should span, e.g. 9

% 4 components in 13 bands with a min of 1 band spacing and a span of 9
% bands will produce 185 combinations

v = 1 : N; % number of bands
idx = nchoosek( v, n ); % all possible combinations of 4 bands
for ink = 1 : n - 1
    deltas = diff( idx' )'; % difference between bands
    idx = idx( deltas( :, ink ) >= dn + 1, : ); % remove pairs with a difference of 1 between bands
end

deltas = idx( :, end ) - idx( :, 1 ); % difference between last band and first band
idx = idx( deltas( :, 1 ) >= span - 1, : ); % removing groups that don't meet the min span
```