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v = 30.0; % UE velocity in km/h
fc = 4e9; % carrier frequency in Hz
c = physconst('lightspeed'); % speed of light in m/s
fd = (v*1000/3600)/c*fc; % UE max Doppler frequency in Hz

tdl = nrTDLChannel;
tdl.DelayProfile = 'TDL-C';
tdl.DelaySpread = 300e-9;
tdl.MaximumDopplerShift = fd;

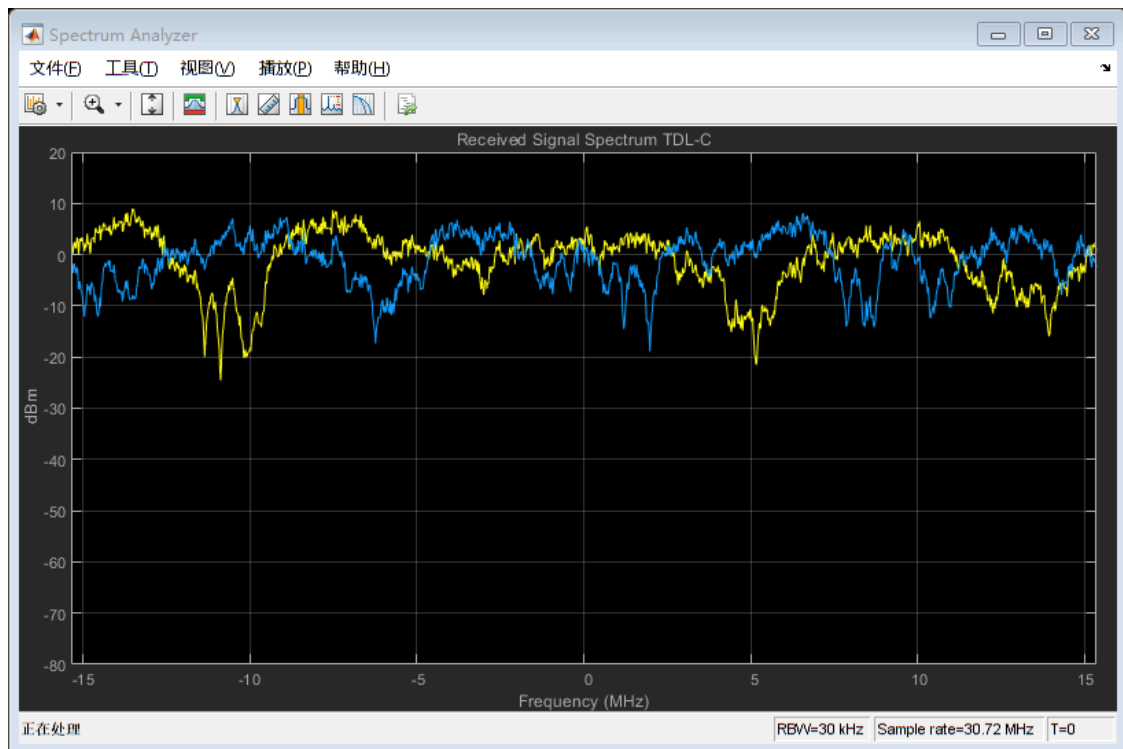
SR = 30.72e6;
T = SR * 1e-3;
tdl.SampleRate = SR;
tdlinfo = info(tdl);
Nt = tdlinfo.NumTransmitAntennas;

txWaveform = complex(randn(T,Nt),randn(T,Nt));

rxWaveform = tdl(txWaveform);

analyzer = dsp.SpectrumAnalyzer('SampleRate',tdl.SampleRate,...
    'AveragingMethod','Exponential','ForgettingFactor',0.99 );
analyzer.Title = ['Received Signal Spectrum ' tdl.DelayProfile];
analyzer(rxWaveform);

```



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