New High-Level Carrier Processing Method

Processing high-level carriers can be somewhat confusing when there are more than just a few carriers to sort through. Determining which signals are actual carriers and which are sideband noise can be complicated with the current configuration of the HLC List tab in the Report Generator.

We have developed an Excel High-Level Carrier worksheet that greatly simplifies the process. This document will explain how to use the worksheet and integrate the results into the Report Generator.

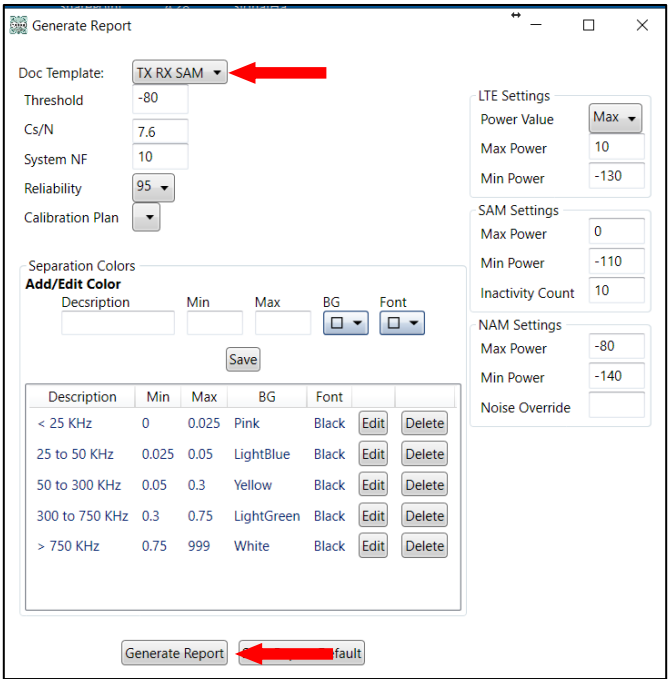
1. Run the Report Generator and follow the directions in 'Running the SAM-NAM Report Generator" to set up the parameters for the site being evaluated.

2. Stop after Step 7 when the HLC tab opens.
    a. If there are no HLCs present, then skip this procedure and return to the Report Generator instructions a proceed with generating the report.
    b. If there are HLCs listed, make sure that all the "Side Band" boxes are unchecked.
    c. There may or may not be any FCC data listed depending upon the mood of the FCC database query program. Where the FCC data column shows a value, it indicates that a license was found, and the number is the distance in miles from the site coordinates.

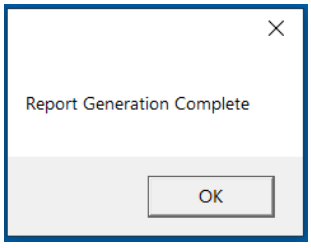
3. At this point we need to run a preliminary version of the report so the Report Generator can sort the HICs and put them into a format that we can copy into Excel.
    a. Click on "Generate Report" on the top menu line.

    b. The "Generate Report" dialog will open

TX RX SYSTEMS INC. 8625 INDUSTRIAL PARKWAY, ANGOLA, NY 14006-9696
TELEPHONE 716-549-4700 • EMAIL: FIELDSERVICES@TXRX.COM



c. Select the desired report Template
    i. At this point it doesn't really matter which template you choose as we are only interested in the HLCs. The quickest results will be obtained by selecting either TX RX SAM or Motorola SFP.
d. Click on "Generate Report" and wait for the Word document to complete.



4. Open the Word Document and locate the High-Level Carrier Summary, Table 1.

5. Open the Excel HLC Worksheet and click on the HLC Data Tab

6. Highlight and copy all the data from the High-Level Carrier Summary table and paste it into the HLC Data table on the HLC Worksheet using Paste Values or Paste Text (depending upon the version of Excel).

    a. Don't worry about the formatting on the HLC Data tab. The data is automatically copied onto the HLC Worksheet tab and properly formatted.

Frequency	Max. Power	HLC Avg. Power	Count	Occupancy	MED. Power	FCC Info.
151.13000	-45.56 dBm	-49.73 dBm	561	20.209%	-56.92 dBm	no license
151.43000	-49.31 dBm	-52.03 dBm	69	2.486%	-57.93 dBm	no license
152.15000	-43.12 dBm	-47.23 dBm	18	0.648%	-55.18 dBm	no license
152.30000	-37.54 dBm	-38.27 dBm	29	1.045%	-45.69 dBm	no license
153.14000	-53.09 dBm	-54.01 dBm	20	0.720%	-59.98 dBm	no license
153.35750	-50.59 dBm	-53.00 dBm	632	22.767%	-60.66 dBm	no license
153.46250	-47.37 dBm	-51.44 dBm	413	14.878%	-58.36 dBm	no license
153.47000	-36.19 dBm	-38.71 dBm	802	28.890%	-44.33 dBm	1.19 Miles
153.47750	-47.02 dBm	-51.43 dBm	508	18.300%	-58.18 dBm	no license
153.64250	-46.99 dBm	-50.87 dBm	270	9.726%	-58.10 dBm	no license
153.65000	-35.80 dBm	-38.50 dBm	523	18.840%	-44.55 dBm	no license
153.65750	-46.84 dBm	-51.50 dBm	293	10.555%	-58.44 dBm	no license
153.87500	-42.95 dBm	-49.26 dBm	115	4.143%	-56.77 dBm	no license
154.32500	-42.84 dBm	-48.63 dBm	100	3.602%	-56.40 dBm	no license
155.05500	-41.14 dBm	-47.29 dBm	415	14.950%	-55.18 dBm	no license
155.53500	-45.65 dBm	-49.85 dBm	356	12.824%	-56.35 dBm	no license
155.67000	-52.35 dBm	-53.59 dBm	524	18.876%	-59.52 dBm	no license
155.98500	-46.70 dBm	-50.90 dBm	84	3.026%	-58.04 dBm	no license
156.15000	-47.76 dBm	-51.44 dBm	558	20.101%	-58.13 dBm	no license
160.24500	-52.72 dBm	-54.17 dBm	55	1.981%	-57.81 dBm	no license
160.54500	-51.60 dBm	-53.63 dBm	60	2.161%	-60.36 dBm	no license
160.65000	-50.92 dBm	-52.16 dBm	82	2.954%	-59.10 dBm	no license

TX RX SYSTEMS INC. 8625 INDUSTRIAL PARKWAY, ANGOLA, NY 14006-9696
TELEPHONE 716-549-4700 • FAX 716-549-4772 (24 HRS)

Frequency	Max. Power	HLC Avg. Power	Count	Occupancy	MED. Power	FCC Info.
151.13	-45.56 dBm	-49.73 dBm	561	20.21%	-56.92 dBm	no license
151.43	-49.31 dBm	-52.03 dBm	69	2.49%	-57.93 dBm	no license
152.15	-43.12 dBm	-47.23 dBm	18	0.65%	-55.18 dBm	no license
152.3	-37.54 dBm	-38.27 dBm	29	1.05%	-45.69 dBm	no license
153.14	-53.09 dBm	-54.01 dBm	20	0.72%	-59.98 dBm	no license
153.3575	-50.59 dBm	-53.00 dBm	632	22.77%	-60.66 dBm	no license
153.4625	-47.37 dBm	-51.44 dBm	413	14.88%	-58.36 dBm	no license
153.47	-36.19 dBm	-38.71 dBm	802	28.89%	-44.33 dBm	1.19 Miles
153.4775	-47.02 dBm	-51.43 dBm	508	18.30%	-58.18 dBm	no license
153.6425	-46.99 dBm	-50.87 dBm	270	9.73%	-58.10 dBm	no license
153.65	-35.80 dBm	-38.50 dBm	523	18.84%	-44.55 dBm	no license
153.6575	-46.84 dBm	-51.50 dBm	293	10.56%	-58.44 dBm	no license
153.875	-42.95 dBm	-49.26 dBm	115	4.14%	-56.77 dBm	no license
154.325	-42.84 dBm	-48.63 dBm	100	3.60%	-56.40 dBm	no license
155.055	-41.14 dBm	-47.29 dBm	415	14.95%	-55.18 dBm	no license
155.535	-45.65 dBm	-49.85 dBm	356	12.82%	-56.35 dBm	no license
155.67	-52.35 dBm	-53.59 dBm	524	18.88%	-59.52 dBm	no license
155.985	-46.70 dBm	-50.90 dBm	84	3.03%	-58.04 dBm	no license
156.15	-47.76 dBm	-51.44 dBm	558	20.10%	-58.13 dBm	no license
160.245	-52.72 dBm	-54.17 dBm	55	1.98%	-57.81 dBm	no license
160.545	-51.60 dBm	-53.63 dBm	60	2.16%	-60.36 dBm	no license
160.65	-50.92 dBm	-52.16 dBm	82	2.95%	-59.10 dBm	no license

b. The data should be in frequency order from lowest to highest but if necessary, the table on the HLC Data tab can be sorted.

7. Click on the HLC Worksheet tab and you will find all the HLCs listed with their parameters and the frequency spacing between the carriers.
   a. By looking at the Frequency Separation, Power Levels, Count and the Distance values we can use our experience to determine which signals are legitimate carriers and which are due to side band noise.
   b. Use the Side Band column (the only column you can type in) to put an X next to any frequency you determine to be a sideband.
   c. Save the sheet along with the other customer data to be eventually uploaded to Highstage.

TX RX SYSTEMS INC. 8625 INDUSTRIAL PARKWAY, ANGOLA, NY 14006-9696
TELEPHONE 716-549-4700 • FAX 716-549-4772 (24 HRS)

High Level Carrier Worksheet

Enter High-Level Carrier Data from Report on Next Page

Side Band	Frequency	Separation	Max Power	HLC Avg Power	Count	Occupancy	Distance
	151.13000		-45.56 dBm	-49.73 dBm	561	20.21%	no license
		300.00 KHz					
	151.43000		-49.31 dBm	-52.03 dBm	69	2.49%	no license
		720.00 KHz					
	152.15000		-43.12 dBm	-47.23 dBm	18	0.65%	no license
		150.00 KHz					
	152.30000		-37.54 dBm	-38.27 dBm	29	1.05%	no license
		840.00 KHz					
	153.14000		-53.09 dBm	-54.01 dBm	20	0.72%	no license
		217.50 KHz					
	153.35750		-50.59 dBm	-53.00 dBm	632	22.77%	no license
		105.00 KHz					
X	153.46250		-47.37 dBm	-51.44 dBm	413	14.88%	no license
		7.50 KHz					
	153.47000		-36.19 dBm	-38.71 dBm	802	28.89%	1.19 Miles
		7.50 KHz					
X	153.47750		-47.02 dBm	-51.43 dBm	508	18.30%	no license
		165.00 KHz					
X	153.64250		-46.99 dBm	-50.87 dBm	270	9.73%	no license
		7.50 KHz					
	153.65000		-35.80 dBm	-38.50 dBm	523	18.84%	no license
		7.50 KHz					
X	153.65750		-46.84 dBm	-51.50 dBm	293	10.56%	no license
		217.50 KHz					
	153.87500		-42.95 dBm	-49.26 dBm	115	4.14%	no license
		450.00 KHz					
	154.32500		-42.84 dBm	-48.63 dBm	100	3.60%	no license

8. Return to the HLC tab on the Report Generator and check the “Side Band” box for every frequency you determined was a side band on the worksheet.

9. Save the data and then continue with “Running the SAM-NAM Report Generator” instructions at Step 8.

TX RX SYSTEMS INC. 8625 INDUSTRIAL PARKWAY, ANGOLA, NY 14006-9696
TELEPHONE 716-549-4700 • FAX 716-549-4772 (24 HRS)