

REGION 8 NPSPAC CHANNEL APPLICATION GUIDELINES

In order to facilitate an improved frequency application process, the Region 8 Technical Committee has determined a prescribed application process with detailed engineering requirements that need to be addressed.

Each new or modified frequency requested by an applicant or existing licensee must strictly adhere to this process and provide required engineering documents.

Checklist of Requirements

1. Technical Information Sheet and contact person
 - a. Region 8 FDR2 (modified) Application for Channel Allotments¹
 - b. Antenna manufacturer, model, pattern, azimuth, down tilt, and height above ground.
2. Copy of existing NPSPAC License to which channels are either being modified or added (if applicable)
3. Co-Channel Analysis Consistent with Modeling Parameters (per frequency)
4. Adjacent Channel Analysis Consistent with Modeling Parameters (per frequency)
5. Sketch of System with a written description

Modeling Parameters & Methods

The technical statement, which presents a detailed description of the system, existing and as proposed, including coverage analysis, shall be presented for Committee review. The coverage analysis shall be performed by the Region 8 Technical Committee using ComStudy 2.2 (latest version) Radio Propagation Prediction software, with the following parameters:

Prediction Model: Okumura-Hata-**Davidson**
Area Type: Suburban
Land Use Attenuation: None, not to be applied
Mobile Receiver Height: 1.5 meters above ground level
Additional Attenuation: None
Terrain Input Resolution: 3 second
Terrain Output Resolution: 6-12 second
Reliability/Confidence: Not applicable in this model (median)
Study Distance: **120** km from proposed site

Each frequency and location to be analyzed by Region 8 shall be modeled by the applicant using the above model either using ComStudy 2.2 software (latest version) or in any input format on standard data media, as described in the Administration Paragraph of this document, from which the sites' technical parameters (listed below) can be imported for use in ComStudy 2.2 software (latest version). **Standard colors as show in Appendix A are requested for the different contours.**

¹ As an option to facilitate a more rapid review process, an FCC Form 601 in hardcopy and in FCC Electronic Batch File (EBF) format may be submitted in addition to the Region 8 FDR-2 (modified).

REGION 8 NPSPAC CHANNEL APPLICATION GUIDELINES

Technical Parameters:

1. A unique site name per frequency per site
2. Latitude and Longitude in NAD83
3. Main Lobe ERP in watts
4. Frequency in MHz
5. Antenna Above Ground Level in meters (antenna radiation centerline)
6. Ground Elevation Above Mean Sea Level in meters
7. Modulation Emission
8. Actual Transmit Antenna Make & model number, horizontal & vertical patterns², azimuth, gain, and downtilt

Co-Channel Modeling & Analysis

To review the effects of the proposed new or modified selection, a landscape plot on 8.5" x 11.0" with no more than 1" margins shall be provided for each of the co-channel frequencies and locations in a radius of 120-km from each site of the new request. The coverage propagation of each new or modified frequency and location is to be calculated to 5 dBuV/m. This 5dBuV/m contour shall not overlap any incumbents' calculated 40 dBuV/m contour anywhere within their authorized jurisdictional area, as calculated based on current licenses or Region 8 allotments corresponding to the co-channel entities' areas of operation.

Note: Use of R6602 curves is not acceptable for either new or incumbent licensees.

Each Co-channel analysis plot shall be labeled in the upper right corner with:

- Applicant's Name
- Channel number and corresponding frequency in MHz
- Co-Channel Plot (#) of (total # of Co-Channel Plots)

Co-Channel Package shall consist of:

- A table listing all Co-Channel Licensees & their respective Call Signs 120-km or less from each proposed antenna location
- A table listing and describing the plots provided
- All labeled Co-Channel analysis plots
- A transmitter information report shall be provided for each individual co-channel analysis plot identified with
 - Applicant's Name
 - Channel number and corresponding frequency in MHz
 - Co-Channel Plot (#) of (total # of co-channel Plots)

² Preferably, it shall be supplied in conformance with the TIA-IS 804-1 standard for Terrestrial Land Mobile Radio Antenna Systems – Standard Format for Digitized antenna patterns

REGION 8 NPSPAC CHANNEL APPLICATION GUIDELINES

Adjacent Channel Modeling & Analysis

To review the effects of the proposed new or modified selection against upper and lower adjacent channels (subject freq \pm 12.5 KHz), a landscape plot on 8.5" x 11.0" with no more than 1" margins shall be provided for each of the adjacent frequencies and locations within 80-km from each site of the new request. The coverage propagation of each new or modified frequency and location is to be calculated to 25 dBuV/m. This 25dBuV/m contour shall not overlap any incumbents' calculated 40 dBuV/m contour within their jurisdictional service area.

Note: Use of R6602 curves is not acceptable for either new or incumbent licensees.

Each adjacent channel analysis plot shall be labeled in the upper right corner with:

- Applicant's Name
- Channel number and corresponding frequency in MHz
- Adjacent Channel Plot (#) of (total # of adjacent channel Plots)

Adjacent Channel Package shall consist of:

- A table listing all adjacent channel Licensees & their respective callsigns 80-km or less from each proposed antenna location
- A table listing and describing the plots provided
- All labeled adjacent channel analysis plots
- A transmitter information report shall be provided for each individual adjacent channel analysis plot identified with
 - Applicant's Name
 - Channel number and corresponding frequency in MHz
 - Adjacent channel plot (#) of (total # of adjacent channel plots)

Additional Modeling & Analysis

The applicant may also provide additional or more detailed analyses than that outlined within these guidelines. These additional showings will be considered in the evaluation of the applicant's request. These additional analyses may include items such as:

- Studies considering the antenna patterns of licensed incumbents
- More sophisticated interference studies, such as signal to interference and/or reliability degradation in the presence of aggregate incumbent interference sources.
- Showings for a reduction of the 25 dBu adjacent channel interference threshold level (this would include technology-to technology ACCPR analyses)

The applicant is encouraged to discuss the use of these additional items with the technical and RPUC Committees prior to submission within their application.

Administration

Ten (10) hard copies of the complete application and technical analysis are to be presented to the Region 8 Committee. Ten (10) CD-ROM copies of the complete application and technical analysis are to be presented to the Region 8 Committee. Included within each CD-ROM shall be the complete ComStudy 2.2 (latest version) transmitter information files (*.rs2) for each of the locations and frequencies being applied for.

REGION 8 NPSPAC CHANNEL APPLICATION GUIDELINES

APPENDIX A

40 dBu = Green

25 dBu = Blue

5 dBu = Red