

Region 6 700 MHz channel selection and usage documentation

Version 4.1, November 1 2010

System description

The Golden Gate Bridge District respectfully requests the Region 6 700 MHz Regional Planning Committee consider a **modification** of the Golden Gate Bridge Transportation District FCC authorization (WQLN447) from a six (6) channel two (2) cell simulcast system utilizing five (5) transmitter and receiver locations and twelve 700 MHz channel pair to a four (4) channel three (3) cell simulcast system utilizing five (5) transmitter and receiver locations with the same twelve (12) channel pairs.

The system service area is identified as:

- San Francisco City and County
- Marin County
- Sonoma County
- Napa County
- Mendocino County
- Del Norte County
- Contra Costa
- Alameda
- The area around the Golden Gate Bridge area and the San Francisco Bay leading to the Pacific Ocean

Site Name	ERP [W]	Lat	Lon	AGL [ft]	GL [ft]	HAAT [ft]	Azimuth
Bald Pk	37.2	37-53-00.8 N	122-13-18.4 W	90.00	1900.80	1558.54	270.0
Big Rock	72.8	38-03-33.2 N	122-36-15.3 W	90.00	1888.70	1515.60	0.0
Mt Tam	44.0	37-55-43.9 N	122-35-14.3 W	50.00	2488.20	2170.70	90.0
Sonoma Peak	295.5	38-20-54.9 N	122-34-40.1 W	50.00	2442.90	1889.71	241.0
Toll Plaza	295.4	37-48-26.5 N	122-28-34.6 W	55.00	197.20	125.21	130.0

Figure 1: Updated Site Parameters and Characteristics

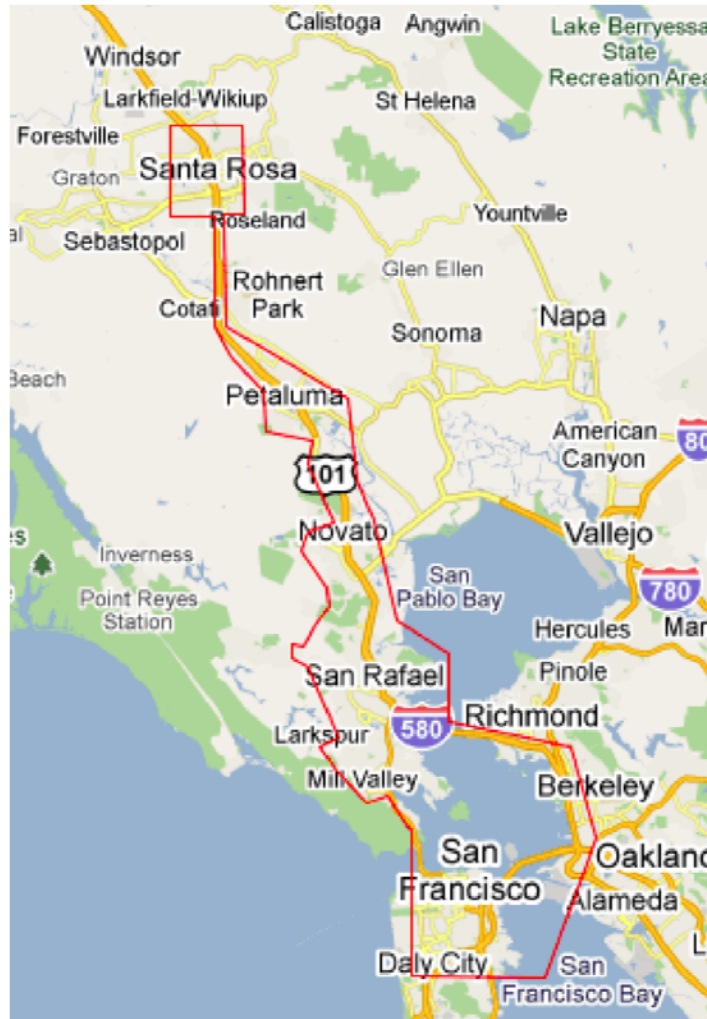


Figure 2: Golden Gate Bridge System Service Area

700 MHz Channel Plan

The Golden Gate Bridge Highway and Transportation District (GGBHTD) application is three cell simulcast with emphasis on development of coverage with usage of high transceiver sites throughout the GGBD service area which is defined as the counties of Marin County, San Francisco City and County, Sonoma County, Napa County, Mendocino County, Del Norte County, Contra Costa County, Alameda County and of the area of San Francisco Bay itself.

The contours for GGBD Cell 1, Cell 2 and Cell 3 as a limiting factor, similarly affect many of the same counties within Region 6. (Interference Contours for Cells 1, 2 and 3 attached) When selecting channels for use in the GGBD application, we consider the aggregate interference contours of these simulcast Cells and their impact on co-channel and adjacent channel users. For each channel pair selected we

identify co-channel and adjacent channel users impacted in the region. The following 700 MHz General Use channel pair are viable candidates for the modification of the existing GGBD FCC authorization. They have been measured against each other to determine which has the least impact to remaining channel allotments in the region.

Cell 1 753-754 161-162 259-260 373-374 701-702 839-840

Cell 2 345-346 201-202 799-800 299-300 679-680 741-742

201-202, 345-346 and 741-742 were licensed from Contra Costa allotment after the Region 6 700 RPC, at its January 2010 meeting, agreed to allow those channels to act as replacements for channels 19-20 (adjacent to San Mateo) along with channels 97-98 and 405-406 in the Golden Gate system, which were both co-channel to the City and County of San Francisco.

We will document the impact of each of the channels in this three (3) cell application on co-channel and adjacent channel allotments in Region 6 and allow for the applicant and region to interpret and integrate the political impact of each channel into our final channel selection decision.

The modified Golden Gate Bridge Highway and Transportation District channel plan will be:

Cell 3 North-Sonoma Mountain

Channel 753-754	773/803.70625 (existing)	From Contra Costa
Channel 161-162	770/800.00625 (existing)	From Santa Clara/Solano
Channel 299-300	770/800.86875 (existing)	From San Francisco/Santa Cruz
Channel 679-680	773/803.24375 (existing)	From Sonoma/San Benito

Cell 1 South-Toll Plaza/Mt Tam

Channel 701-702	773/803.38125 (existing)	From Santa Clara/Sonoma
Channel 345-346	771/801.15625 (existing)	From Contra Costa
Channel 201-202	770/800.25625 (existing)	From Contra Costa
Channel 799-800	773/803.99375 (existing)	From Sonoma/San Joaquin

Cell 2 Central-Big Rock/Bald Peak

Channel 259-260	770/800.61875 (existing)	From Napa/Stanislaus
Channel 839-840	774/804.24375 (existing)	From Napa/Stanislaus
Channel 373-374	771/801.33125 (existing)	From Santa Clara/Napa
Channel 741-742	773/803.63125 (existing)	From Contra Costa

Cell 1

Cell 1 753-754

Co-channel Counties

Adjacent Channel Counties

Colusa
Contra Costa
Merced

Glenn (751-752)
Napa (751-752)
Stanislaus (751-752)
Monterey (755-756)
San Joaquin (755-756)
Sonoma (755-756)

Summary:

The only co-channel counties completely encompassed by Cell 1 interference contour is **Contra Costa**. **Colusa** and **Merced** County allotment co-channel use is not impacted.

Adjacent channel county allotments **partially** encompassed by Cell 1 interference contour are **Sonoma** and **Napa** Counties.

Cell 1 161-162

Co-channel Counties

Adjacent Channel Counties

Kings
Madera
Santa Clara
Solano

Alameda (163-164)
Fresno (163-164)
Lake (163-164)

Summary: Co-channel counties **completely** encompassed by the Cell 1 interference contour are **Santa Clara** and **Solano**. Kings and Madera Counties are not impacted by this application at all. Adjacent channel counties impacted by the Cell 1 interference contour are **Alameda** and **Lake**. **Fresno** County is not impacted by this application.

Cell 1 299-300

Co-channel Counties	Adjacent Channel Counties
San Francisco	Monterey (297-298)
Santa Cruz	San Joaquin (297-298)
	San Mateo (297-298)

Summary: Both **San Francisco** and **Santa Cruz** channel allotments are **completely** impacted by the Cell 2 interference contour. The adjacent channel allotment that is **completely** impacted by the contour is **San Mateo**. Adjacent channel allotments impacted by the Cell 2 interference contour are **San Joaquin** and **Monterey**.

Cell 1 679-680

Co-channel Counties	Adjacent Channel Counties
San Benito	Contra Costa (677-678)
Sonoma	Kings (677-678)
	Madera (677-678)

Summary: **Sonoma County** channel allotment is **completely** impacted by the Cell 2 interference contour. **San Benito** co-channel allotment is **partially** impacted by the contour. Adjacent channel allotments in **Contra Costa** County are impacted by the Cell 2 interference contour. **Kings** and **Madera** channel allotments are not impacted by this application.

Cell 2

Cell 2 701-702

Co-channel Counties

Madera
Santa Clara
Sonoma

Adjacent Channel Counties

Alameda (703-704)
Fresno (703-704)
Lake (703-704)

Summary: Co-channel county allotments **completely** impacted by the Cell 1 interference contour are **Santa Clara** and **Sonoma**. **Madera** County is not impacted by this application.
Adjacent channel allotments impacted by the Cell 1 interference contour are **Alameda** and **Lake**. **Fresno** County is not impacted by this application.

Cell 2 345-346

Co-channel Counties

Contra Costa
Merced

Adjacent Channel Counties

Monterey (343-344)
Mendocino (343-344)
San Joaquin (343-344)
Stanislaus (347-348)
Napa (347-348)

Summary: The co-channel allotment **completely** impacted by the Cell 2 interference contour is **Contra Costa** County.
Adjacent channel allotments **completely** impacted by the Cell 2 interference contour are **Napa and San Joaquin**. Adjacent channel allotments impacted by the Cell 2 interference contour are **Monterey, Stanislaus** and Mendocino.

Cell 2 201-202

Co-channel Counties

Colusa
Contra Costa
Merced

Adjacent Channel Counties

Glenn (203-204)
Monterey (203-204)
Napa (203-204)

Summary: The Co-channel county allotments **completely** impacted by the Cell 2 interference contour are **Colusa** and **Contra Costa**. The **Merced** allotment is not impacted by this application.
Adjacent channel county allotment impacted by the Cell 2 interference contour is **Napa**. Adjacent channel county allotments impacted by contour are **Monterey** and **Glenn**.

Cell 2 799-800

Co-channel Counties

Sonoma
Butte
Monterey
San Joaquin

Adjacent Channel Counties

Mendocino (797-798)
Colusa (797-798)
Tulare (797-798)
Contra Costa (797-798)
Merced (797-798)

Summary: Co-channel allotment completely impacted by the Cell 2 interference is **Sonoma**. **San Joaquin** co-channel county allotment is partially impacted by the Cell 2 interference contour.
Adjacent channel allotments completely impacted by the contour are **Contra Costa**, **Mendocino** and **Stanislaus** county allotments are partially impacted by the Cell 2 interference contour.

Cell 3

Cell 3 259-260

Co-channel Counties
Kings
Napa
Placer
Stanislaus

Adjacent Channel Counties
Contra Costa (257-258)
Merced (257-258)
Tulare (257-258)

Summary: Co-channel county allotment completely covered by Cell 1 interference contour is **Napa**. Co-channel counties partially covered by the contour are **Stanislaus** and **Placer**. **Kings** county allotment is not impacted by this application. Adjacent channel allotments in **Contra Costa** County are completely impacted by the interference contour. **Merced** County is partially impacted by the contour and **Tulare** County is not impacted at all by the interference contour.

Cell 3 839-840

Co-channel Counties
Napa
Placer
Stanislaus

Adjacent Channel Counties
Kings (837-838)
Mariposa (837-838)
Sacramento (837-838)
San Mateo (837-838)
Tehama (837-838)

Summary: The co-channel county allotment **completely** impacted by the Cell 1 interference contour is **Napa**. Co-channel allotments partially impacted by the contour are **Placer** and **Stanislaus**. Adjacent channel allotment **completely** impacted by the Cell 1 interference contour is **San Mateo**. Adjacent channel allotments **partially** impacted by contour are **Sacramento** and **Tehama**. **Kings** and **Mariposa** counties are not impacted at all by the use of this channel.

Cell 3 373-374

Co-channel Counties

Adjacent Channel Counties

Madera
 Napa
 Santa Clara

Santa Cruz (371-372)
 Tulare (371-372)
 Yolo (371-372)
 Alameda (375-376)
 Fresno (375-376)
 Lake (375-376)

Summary: Co-channel allotments **completely** impacted by Cell 1 interference contour are **Napa** and **Santa Clara**. **Madera** County allotment is not impacted by this application. Adjacent channel allotments completely impacted by the Cell 1 contour are **Alameda, Yolo, Lake and Santa Cruz**. **Fresno** and **Tulare** county allotments are not impacted by this application.

Cell 3 741-742

Co-channel Counties

Adjacent Channel Counties

Colusa
 Contra Costa
 Merced

Monterey (743-744)
 San Joaquin (743-744)
 Yuba (743-744)

Summary: Co-channel allotments in **Colusa** and **Contra Costa** County are **completely** impacted by the Cell 2 interference contour. Co-channel allotments in **Merced** County are not impacted by this application.

Adjacent channel allotments in **Monterey, San Joaquin** and **Yuba** counties are **partially** impacted by the Cell 2 interference contour.

Number of available channel allotments impacted per Region 6 counties, after Golden Gate Bridge District license modification Vs 4

County	Number of original allotments	Co-channel Used	Adjacent Channel Used
Alameda	63	0	3

Alpine	16	0	0
Amador	9	0	0
Butte	24	1	0
Calaveras	10	0	0
Colusa	35	3	1
Contra Costa	45	4	3
Del Norte	15	0	0
El Dorado	22	0	0
Fresno	59	0	3
Glenn	16	0	2
Humboldt	26	0	0
Inyo	11	0	0
Kings	20	0	0
Lake	57	0	3
Lassen	13	0	0
Madera	55	3	0
Marin	29	0	0
Mariposa	21	0	0
Mendocino	42	0	2
Merced	40	4	2
Modoc	12	0	0
Mono	10	0	0
Monterey	42	1	5
Napa	39	3	3
Nevada	14	0	0
Placer	32	2	0
Plumas	8	0	0
Sacramento	53	0	1
San Benito	19	1	0
San Francisco	36	1	0
San Joaquin	35	1	4
San Mateo	46	0	2
Santa Clara	65	3	0
Santa Cruz	33	1	1
Shasta	31	1	1
Sierra	6	0	0
Siskiyou	15	0	0
Solano	29	1	0
Sonoma	44	3	1
Stanislaus	31	2	2
Sutter	12	0	0
Tehama	16	0	1
Trinity	12	0	0
Tulare	34	0	3
Tuolumne	10	0	0
Yolo	23	0	1
Yuba	14	0	0

Appendix A Contours

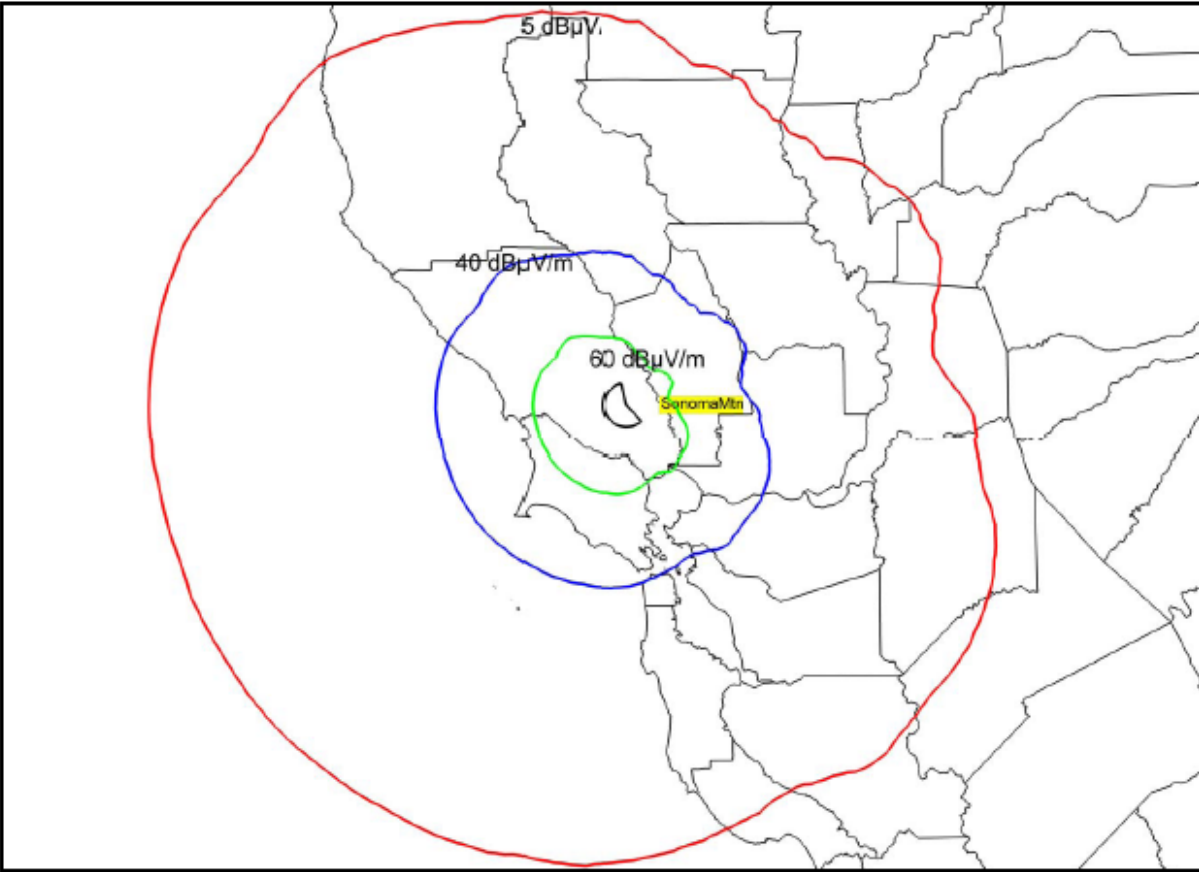


Figure 3: Cell 3 North-Sonoma Mountain

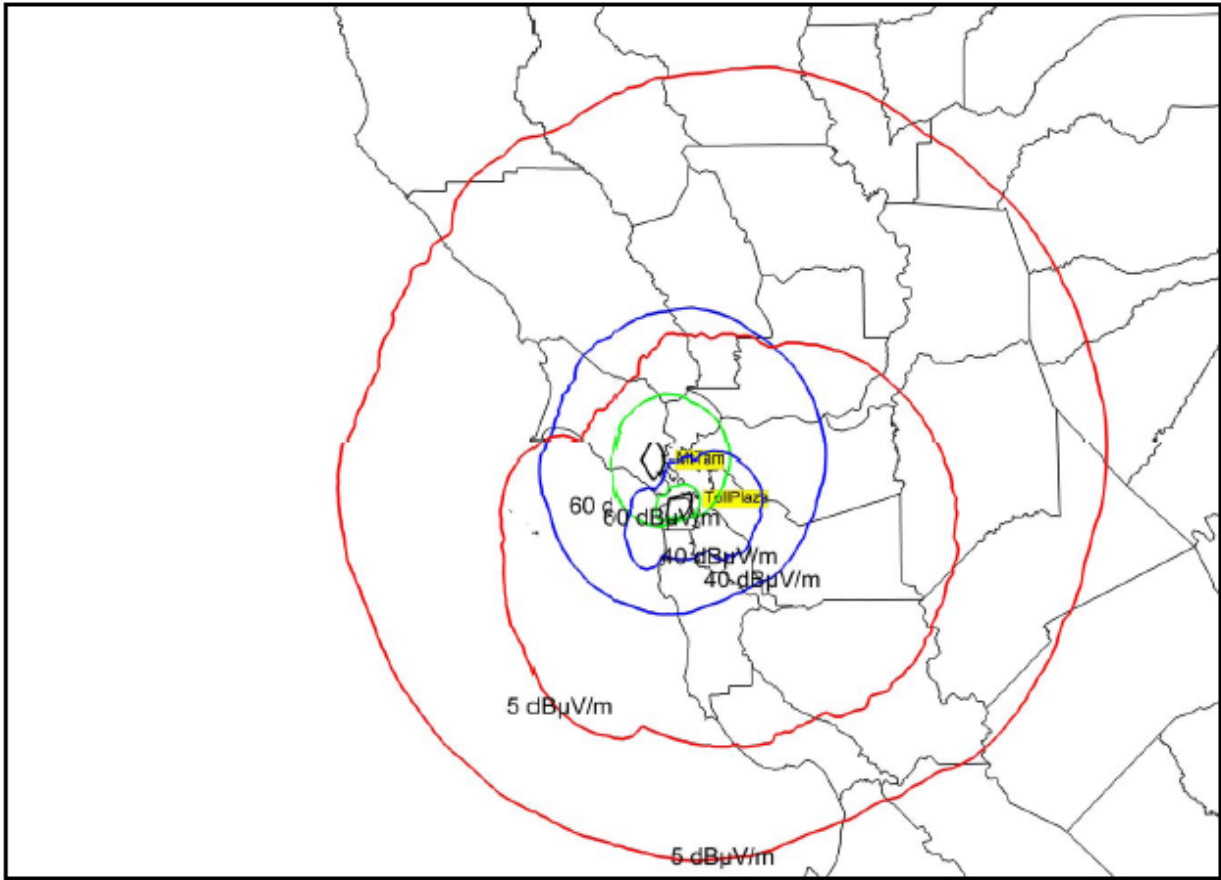


Figure 4: Cell 1 South-Toll Plaza/Mount Tamalpais Combined

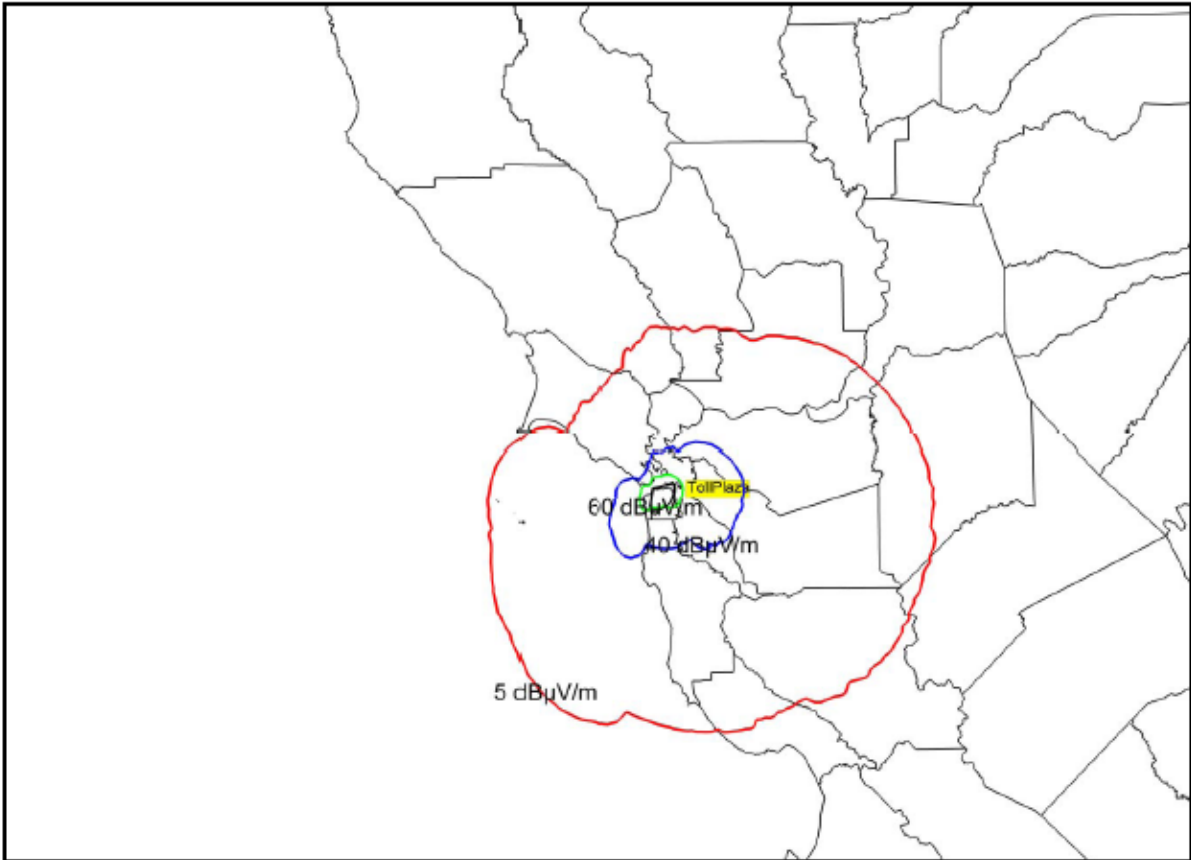


Figure 5: Cell 1 South-Toll Plaza

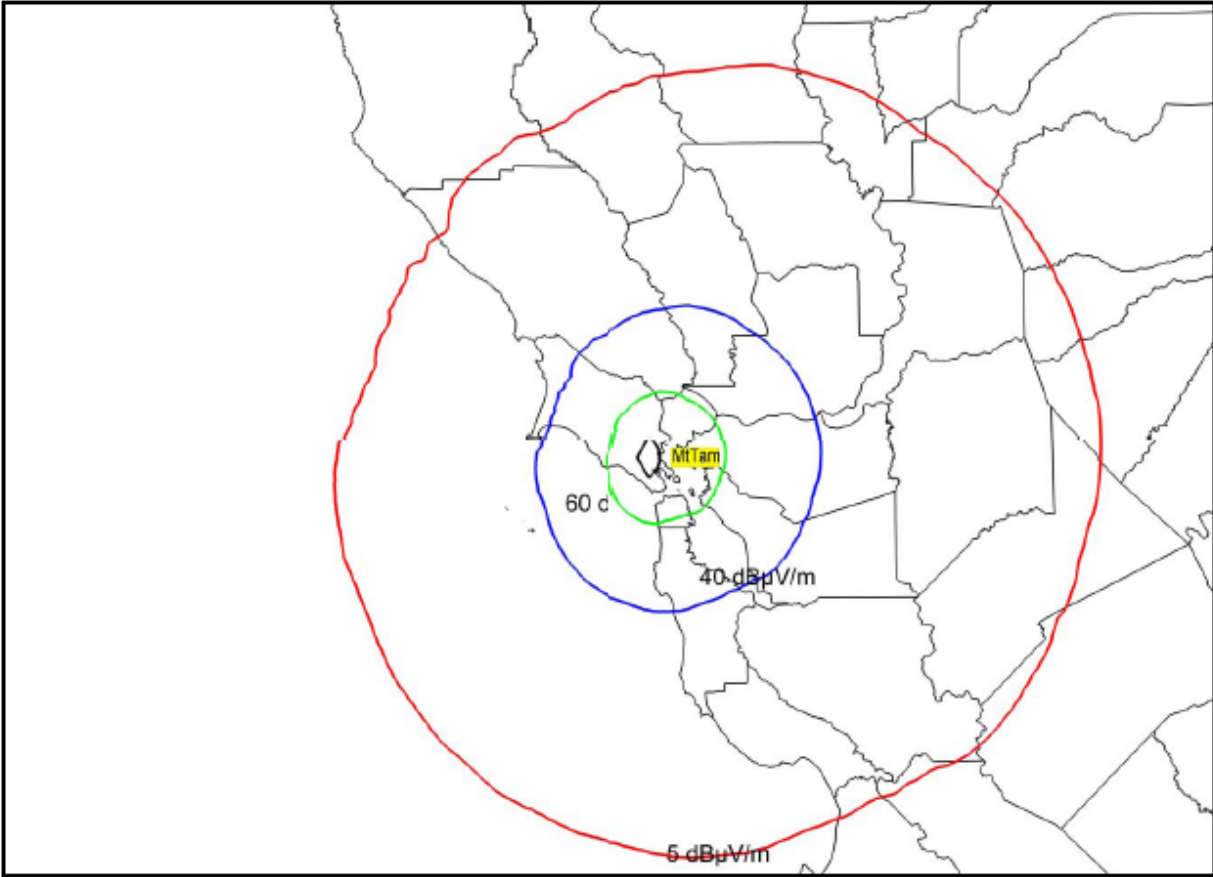


Figure 6: Cell 1 South-Mount Tamalpais

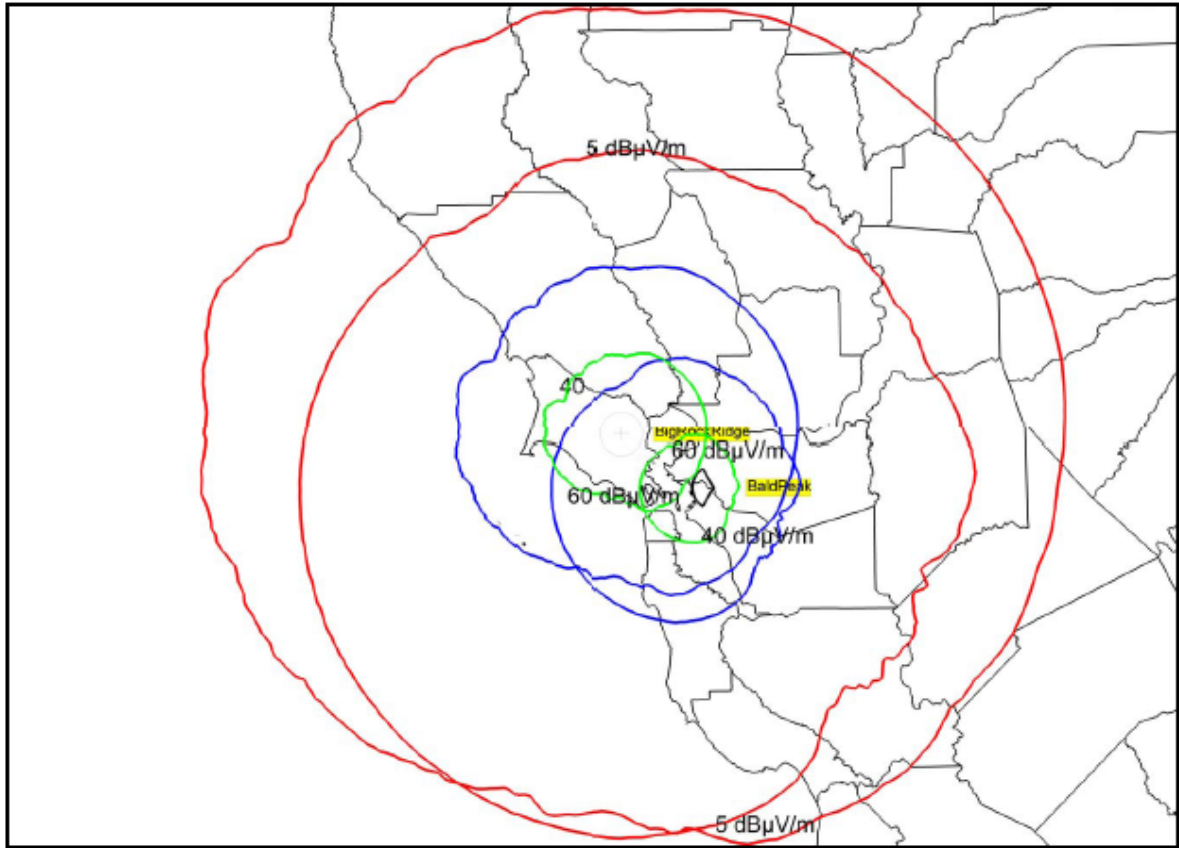


Figure 7: Cell 2 Central-Big Rock/Bald Peak Combined

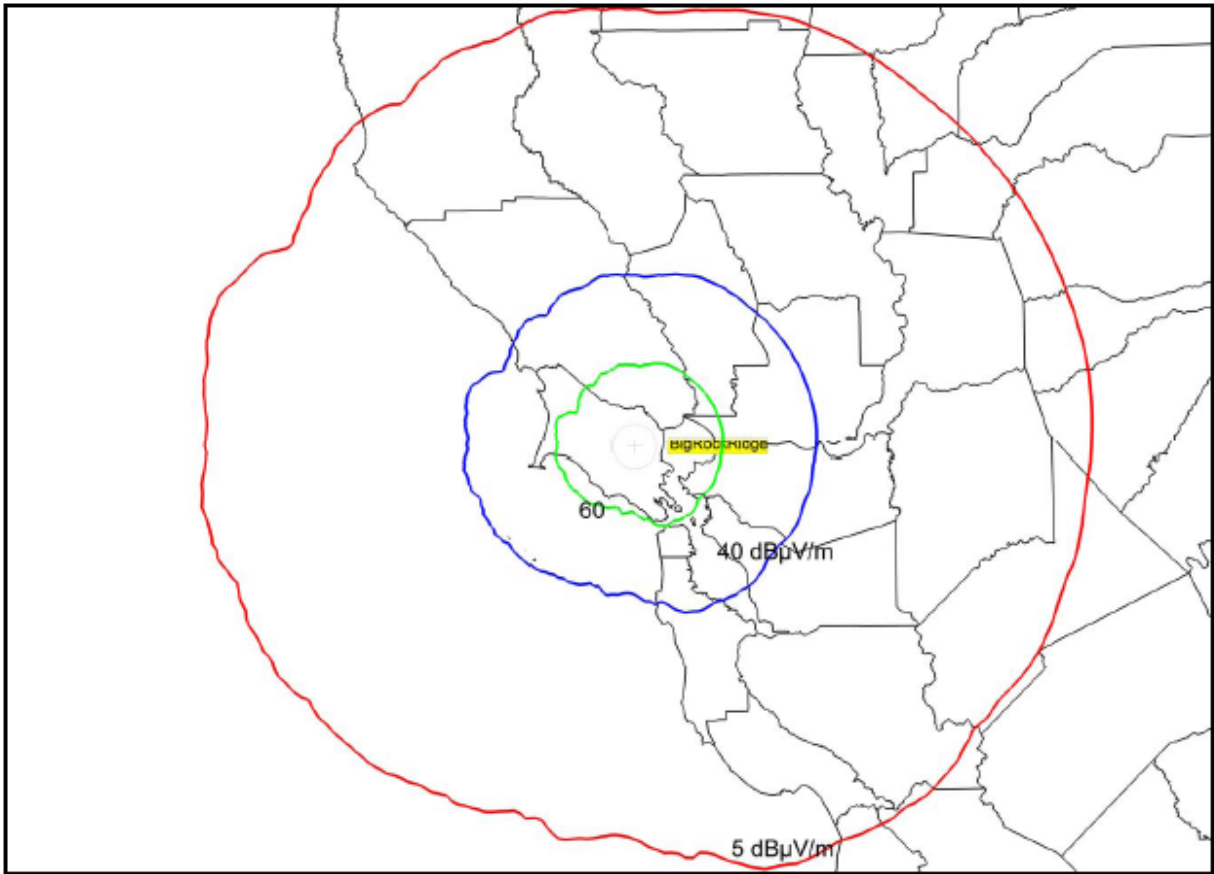


Figure 8: Cell 2 Central-Big Rock

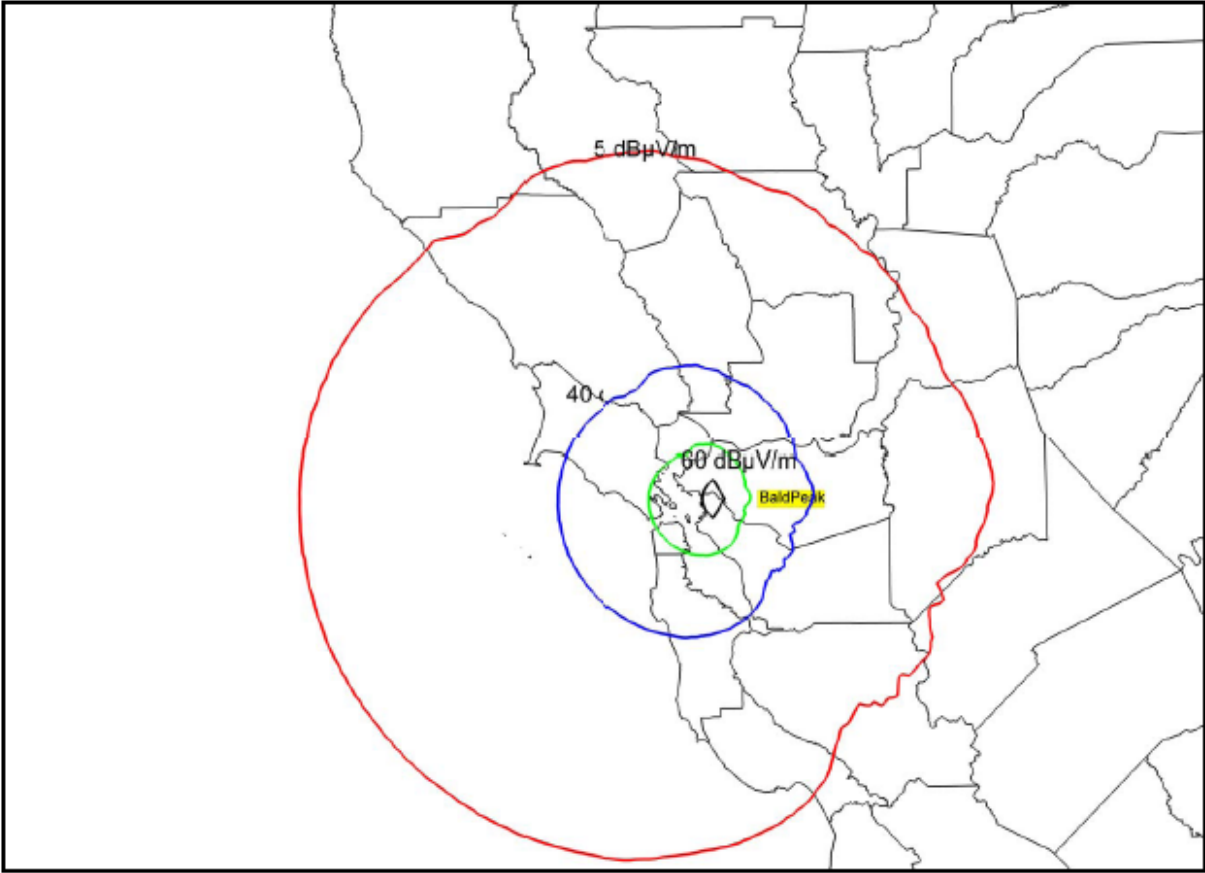


Figure 9: Cell 2 Central - Bald Peak