## A. Applicant's Qualifications

QUALCOMM Incorporated (www.qualcomm.com) is a global leader in developing, delivering and enabling innovative digital wireless communications products and services based on Code Division Multiple Access (CDMA) technology. The Company is helping to transform the wireless industry with innovative voice, data and Internet products and solutions. QUALCOMM's patents are essential to CDMA wireless telecommunications standards worldwide and the Company has licensed its CDMA patent portfolio to more than 125 telecommunications equipment manufacturers. Headquartered in San Diego, California, the Company employs approximately 7,000 people around the world. QUALCOMM is included in the S&P 500 Index and is a 2003 FORTUNE 500® company traded on the Nasdaq Stock Market® under the ticker symbol "QCOM."

## B. Experimentation Proposal

B1. QUALCOMM is expanding its CDMA developed technology with the emergence of new applications for wireless technology in the 700 MHz band. QUALCOMM is proposing to install a transmitter on top of Black Mountain in San Diego County, which is an existing antenna farm for commercial services, for testing purposes. The transmitted digital signal on Channel 53 (704 – 710 MHz) will be 6 MHz wide and operate at a power level of 30 kW ERP. The Black Mountain location is at Latitude 32-58-52.9 N and Longitude 117-06-55.9 W. This request is to append the Experimental License Call Sign WD2XLG (File 0176-EX-PL-2004) to include the Black Mountain location.

Table 1: Call Sign WD2XLG Test Locations

| Location | Lat | Long | TV Channel | Frequency Range | Power (W ERP) | Power (W EIRP) | Status |
|---|---|---|---|---|---|---|---|
| Location 1 | 32-53-43 | 117-11-44 | 53 | 704-710 | 60 | 100 | 0176-EX-PL-2004 |
| Location 2 | 32-53-50 | 117-12-05 | 56 | 722-728 | 60 | 100 | 0176-EX-PL-2004 |
| Location 3 | 32-50-24 | 117-14-41 | 59 | 740-746 | 60 | 100 | 0176-EX-PL-2004 |
| Mount San Miguel | 32-41-48 | 116-56-10 | 53 | 704-710 | 30000 | 49445 | 0176-EX-PL-2004 |
| Black Mountain | 32-58-52.9 | 117-06-55.9 | 53 | 704-710 | 30000 | 49445 | *New site |

## C. Coordination with Society of Broadcast Engineers, Inc. (SBE)

Prior to activating the experimental transmitter, QUALCOMM will coordinate with SBE to verify that no interference to existing licensed broadcast stations will occur. This coordination effort has been successful in while operating under QUALCOMM's current STA (call sign WD2XLG.)

## D. Interference Analysis for Black Mountain Test Transmitter per OET-69

Qualcomm requests to place a test transmitter on Black Mountain in San Diego County. It will transmit a digital signal 6 MHz wide on Ch. 53 not to exceed 30kW ERP using a Dielectric circular polarized directional cardioid with a one degree electrical down-tilt at an azimuth of 160 degrees TN.

Physical address:

Black Mountain
9690 Laurentian Drive.
San Diego, CA  92129

Latitude - 32-58-52.9 N

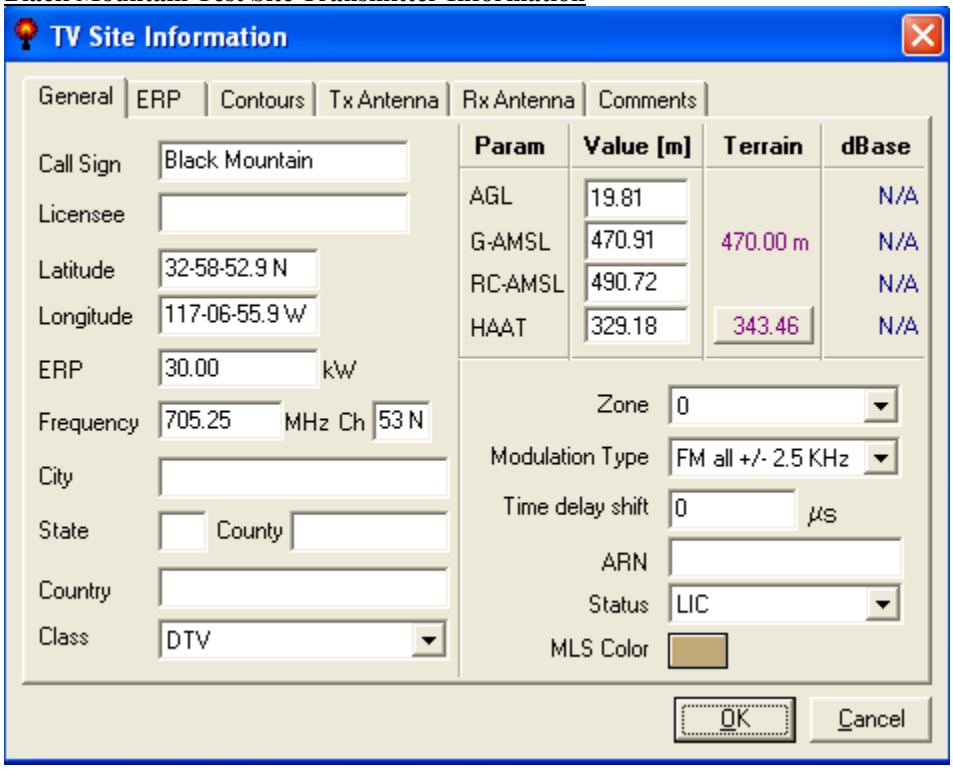
Longitude - 117-06-55.9 W

AGL – 19.81 Meters

G-AMSL – 470.91 Meters

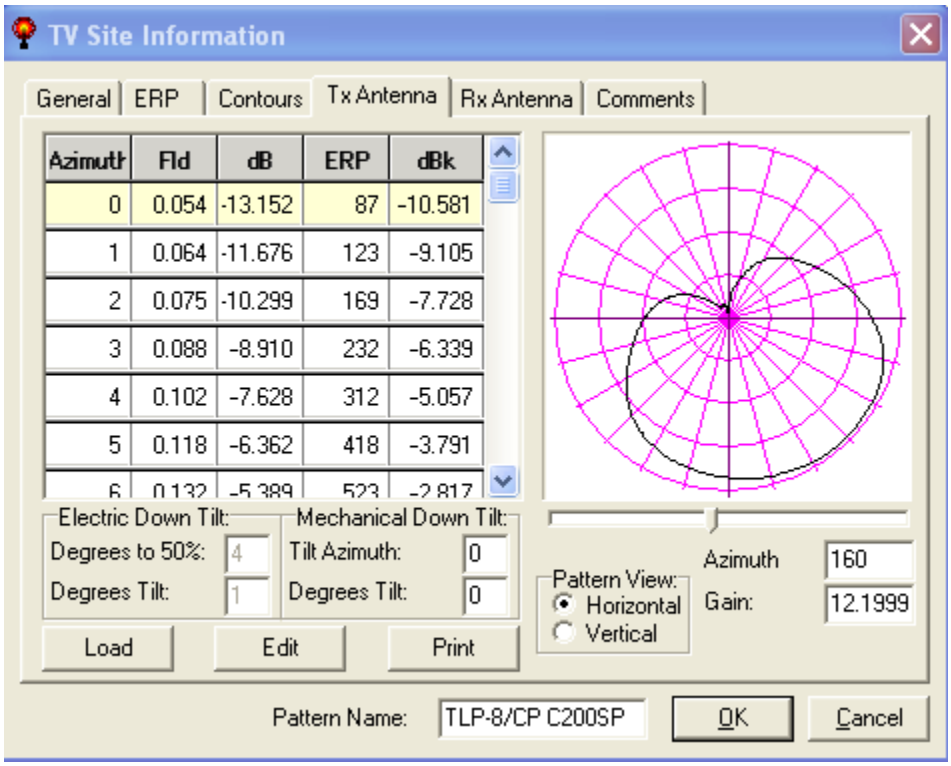
RC-AMSL – 490.72 Meters

**Black Mountain Test Site Transmitter Information**



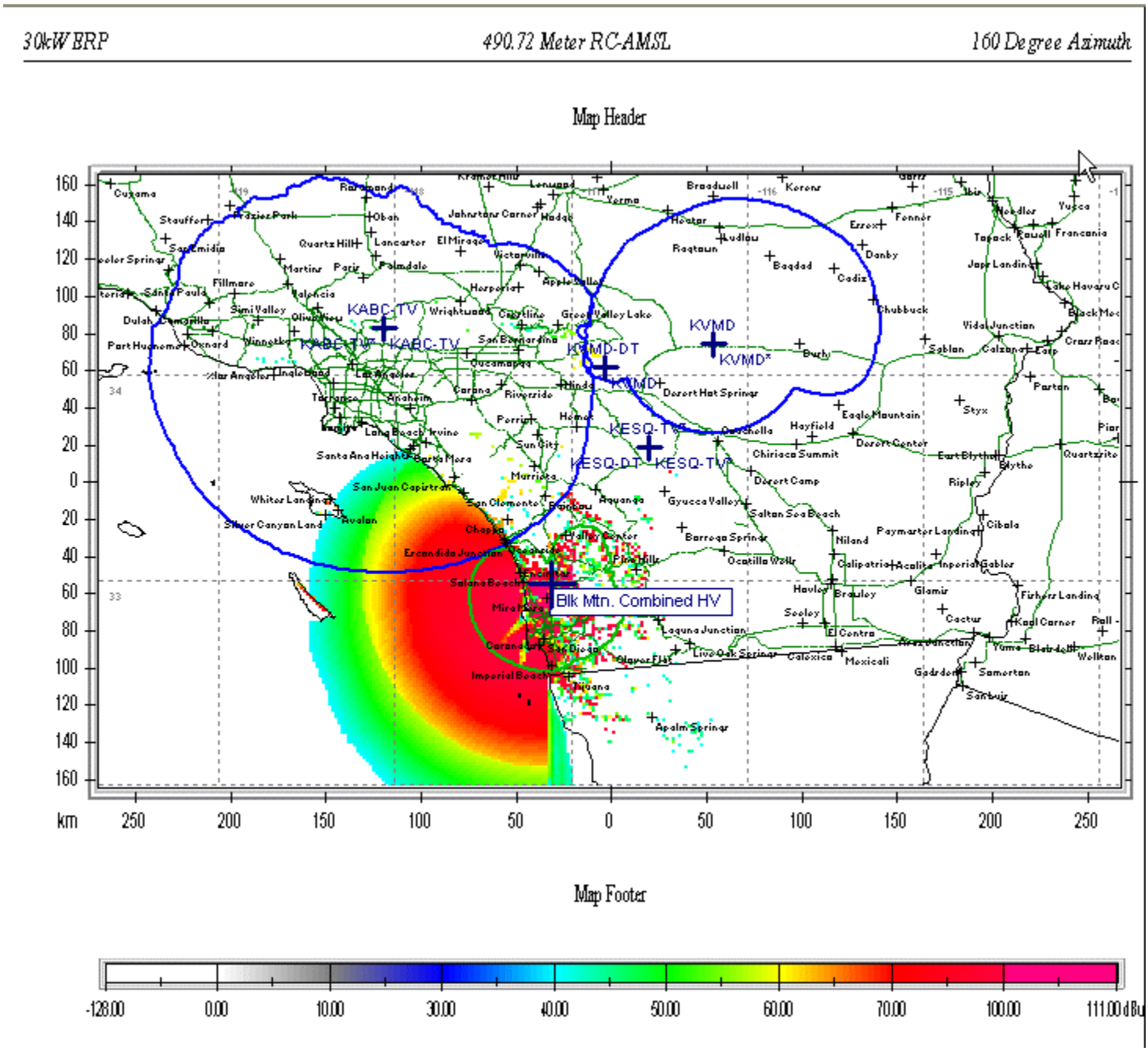
The proposed antenna is a Dielectric TLP-8/CP C200SP

**Black Mountain Test Site Antenna Information**



**Signal Strength and Contour Plot**

Based on Longley-Rice with a 50% confidence and a theoretical 9 meter receive antenna height.



## OET-69 Interference Analysis

OET-69 Interference Calculations for Proposed Test Transmitter on Black Mountain San Diego, CA

**Co-Channel Digital**

| Callsign | Fac ID | ARN | City | Class | Type | ERP | Sep Type | Status | Bearing | Dist | Clearance | D/U | Rx Gain | Rx F/B | Band | Ch# | Adj | Matrix | Svc Contor | Svc dBu | Old Pop% | New Pop% | Total Pop | Old Pop | New Pop | Ovl Pop | Ovl Pop% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KABC-DT | 282 | BLCDT19981112KF | LOS ANGELES | DTV | LIC | 182 | D/M | Clean | 327.82 | 164.1 | -32.9 | 15 | 10 | 14 | UHF | 53 | Co | LR | F(50,90) | 41 | 0.00% | 0.20% | 13114145 | 13114145 | 13086157 | 27988 | 0.21 |
| KABC-TV* | 282 | DTV ALLOTMENT | LOS ANGELES | DTV | LIC | 455.6 | D/M | Clean | 327.82 | 164.1 | -32.9 | 15 | 10 | 14 | UHF | 53 | Co | LR | F(50,90) | 41 | 0.00% | 0.40% | 13510984 | 13510984 | 13454258 | 56726 | 0.42 |

**Co-Channel Analog**

| Callsign | Fac ID | ARN | City | Class | Type | ERP | Sep Type | Status | Bearing | Dist | Clearance | D/U | Rx Gain | Rx F/B | Band | Ch# | Adj | Matrix | Svc Contor | Svc dBu | Old Pop% | New Pop% | Total Pop | Old Pop | New Pop | Ovl Pop | Ovl Pop% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KVMD | 128461 | BPRM20000717AFU | TWENTYNINE P | NTSC | LIC | 5000 | D/M | Clean | 32.87 | 155.7 | -62.3 | 34 | 0 | 6 | UHF | 53 Z | Co | LR | F(50,50) | 64 | 0.00% | 0.00% | 74816 | 74816 | 74816 | 0 | 0 |

**Adjacent Channel Analog 54**

| Callsign | Fac ID | ARN | City | Class | Type | ERP | Sep Type | Status | Bearing | Dist | Clearance | D/U | Rx Gain | Rx F/B | Band | Ch# | Adj | Matrix | Svc Contor | Svc dBu | Old Pop% | New Pop% | Total Pop | Old Pop | New Pop | Ovl Pop | Ovl Pop% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KAZA-TV | 29234 | BLCT20010712AGN | AVALON | NTSC | LIC | 2290 | D/M | Clean | 327.81 | 164 | 58 | -17 | 0 | 6 | UHF | 54 + | A+1 | LR | F(50,50) | 64 | 0.00% | 0.00% | 12098173 | 12098173 | 12098173 | 0 | 0 |

**Adjacent Channel Digital 52**

| Callsign | Fac ID | ARN | City | Class | Type | ERP | Sep Type | Status | Bearing | Dist | Clearance | D/U | Rx Gain | Rx F/B | Band | Ch# | Adj | Matrix | Svc Contor | Svc dBu | Old Pop% | New Pop% | Total Pop | Old Pop | New Pop | Ovl Pop | Ovl Pop% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KESQ-TV* | 25577 | DTV ALLOTMENT | PALM SPRINGS | DTV | LIC | 67.3 | D/M | Clean | 34.7 | 90.4 | -19.6 | -28 | 10 | 14 | UHF | 52 | A-1 | LR | F(50,90) | 41 | 0.00% | 0.00% | 1590890 | 1590890 | 1590217 | 673 | 0.04 |

**Adjacent Channel Analog 52**

| Callsign | Fac ID | ARN | City | Class | Type | ERP | Sep Type | Status | Bearing | Dist | Clearance | D/U | Rx Gain | Rx F/B | Band | Ch# | Adj | Matrix | Svc Contor | Svc dBu | Old Pop% | New Pop% | Total Pop | Old Pop | New Pop | Ovl Pop | Ovl Pop% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| KVEA | 19783 | BLCT20030311AOQ | CORONA | NTSC | LIC | 2510 | D/M | Clean | 327.66 | 162.6 | 56.6 | 0 | 0 | 6 | UHF | 52 Z | A-1 | LR | F(50,50) | 64 | 0.00% | 0.00% | 12195212 | 12195212 | 12195212 | 0 | 0 |