



Interference Analysis
The Viacel Wireless Service
Sunnyvale STA

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As described in our application for experimental license WD2XGP (paper attached), the Viacel Wireless Data broadcasting service uses very low power digital TV transmitters that can operate on any UHF frequency. For our application for an STA to conduct a proof of concept demonstration in Sunnyvale California, we analyzed the UHF spectrum utilization around 37 23 15.66 N by 121 57 46.78 W(NAD83). Using the FCC TV query we used the above coordinates to locate a channel that had the least interfering co-channel utilization. Our analysis showed that UHF channel 69 was the clearest with an adjacent licensee located 103 km from the above coordinates. Our analysis shows that we can operate an STA within our parameters and that the adjacent channel licensees will suffer no loss of viewership.

The transmitter that we propose to operate with this STA would be located on the roof of a building located at: 37 23 15.66 N by 121 57 46.78 W (NAD83) in Sunnyvale California.

The following transmission parameters define the transmitter and antenna:

Transmitter: Rhode&Schwarz SV-7100

RF Power: 100W

ERP: 1250W

Requested Frequency: UHF 695 (803MHz)

Bandwidth: 6MHz

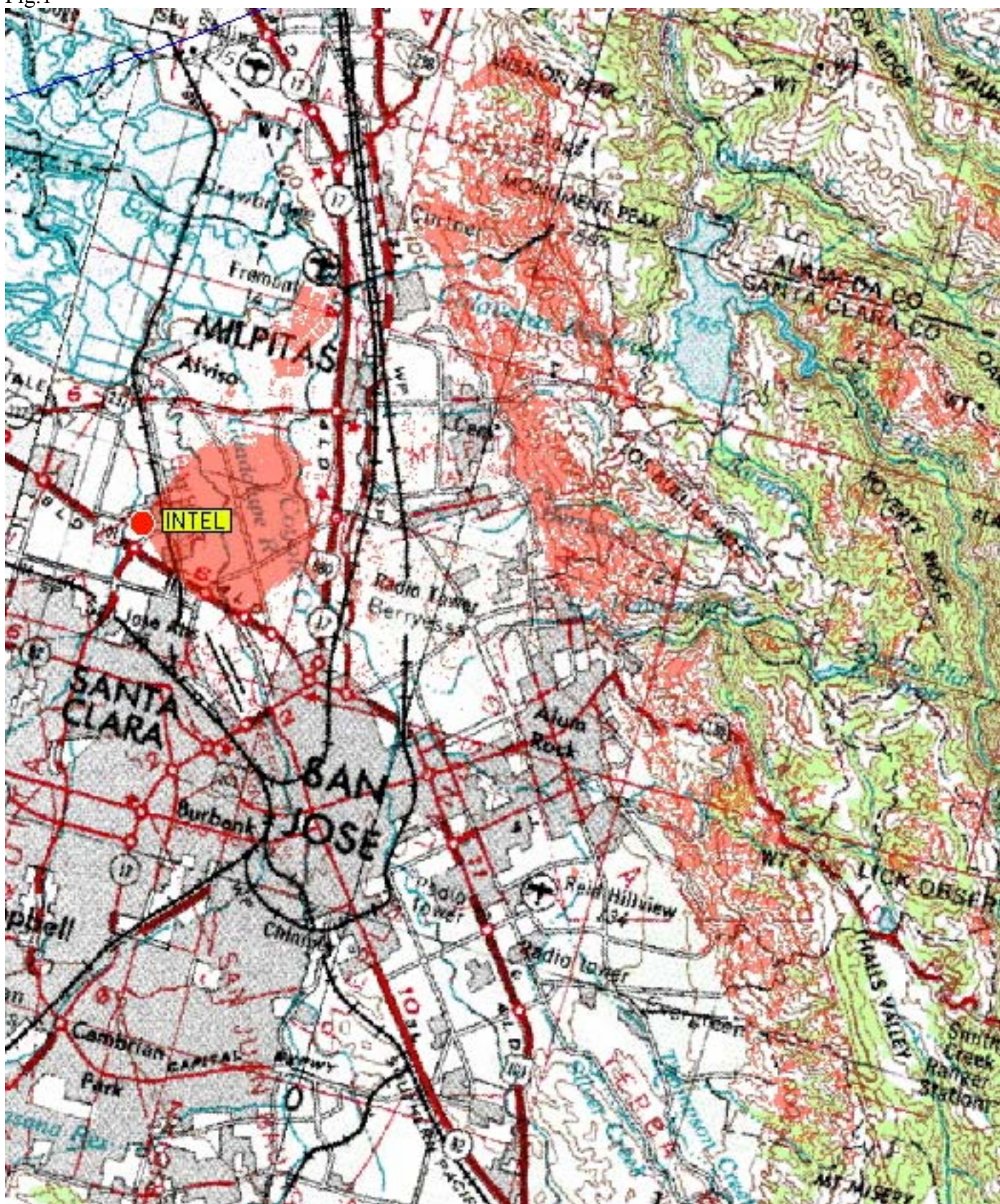
Modulating signal: QPSK, 16QAM, 64QAM(8K DMB-T/H TDS-OFDM)

Emission designator: W7D

Antenna: 4x Katherine CL-1469 directional log periodic antenna 11 dBd gain 52 Degree half power pattern, pattern rotation 49 Degree True. Vertical polarized radiating at -26m HAAT.

The resultant transmitter field strength plot is shown in Figure 1. As no other TV transmitter is within 200 km on channel 69, no other interfering transmitter field strength plot is displayed.

Fig.1



There is one lower adjacent channel TV licensees within 160 km, actual 103 km, of the proposed Viacel transmitter site.

It is Channel 68 KTLN-TV in Novato California

Licensee: Christian Communications Chicagoland

Service Designation: TV NTSC (analog) 794-800 MHz

At: 38 09 0.00 Latitude
 122 35 31.00 Longitude (NAD 27)

We show no interference with this station as shown on Figure 2.



Fig.2