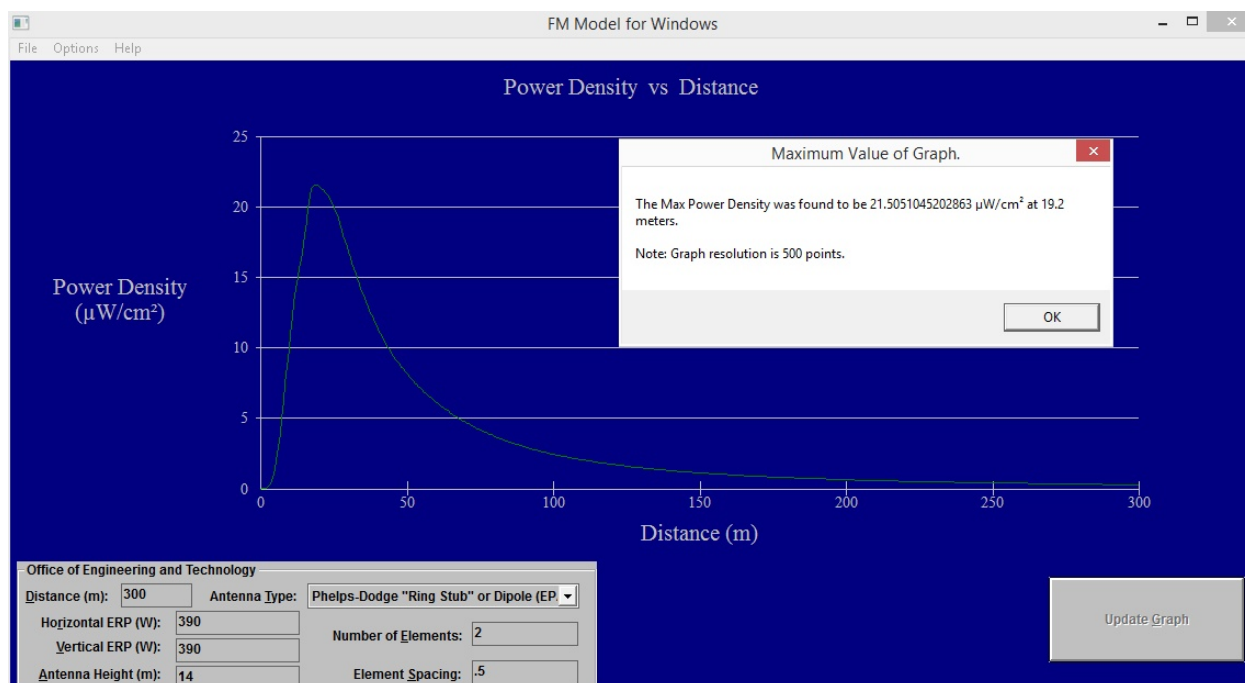


Radio Frequency Exposure Study

Proposed Station

KCNL Quartzsite proposes the use of a 2 bay, 0.5 waved space, horizontal and vertical antenna. The station would have an effective radiated power of 390 watts (0.39 kW) 14 meters above ground level. KCNL is using the worst case scenario of the *Phelps-Dodge Ring Stub or Dipole* antenna in the FM Model software. With the worst case scenario antenna, the station is estimated to produce a maximum of 21.505 $\mu\text{W}/\text{cm}^2$ at 19.2 meters away from the tower which is 10.75% of the 200 $\mu\text{W}/\text{cm}^2$ maximum permitted by the FCC for uncontrolled environments. See below for the results calculated for this station using the FCC's FM Model software.



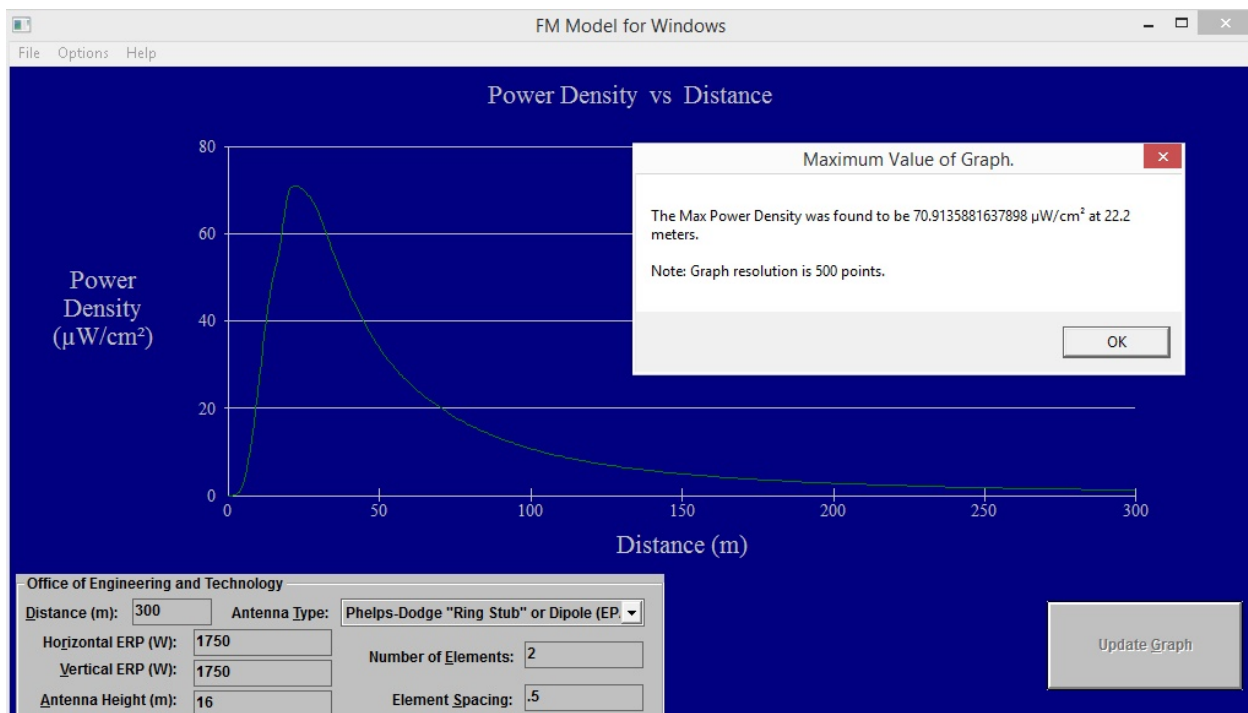
Existing Stations

Currently operating at the site is KERU-FM, FM translators, and several other services. On June 21, 2013 as part of the license to cover application for KERU-FM, engineering firm Gray Frierson Haertig & Associates performed in person measurements of the electromagnetic power density at the site. [1] The report measured the site with the newly constructed KERU-FM as well as existing services including FM translators, low-power television translators, cellular communication services, two-way paging, and various microwaves. In their report, they found the worst point of radiofrequency electromagnetic power density was at 18 meters from base of the KERU-FM tower where the level were 36.5% or 73 $\mu\text{W}/\text{cm}^2$ of maximum permitted by the FCC for uncontrolled environments. According to the site manager and FCC records, no new radio

services have began broadcasting between the license to cover application for KERU-FM and now.

Proposed Station

A New proposed FM station (Facility ID: 190450) has also filed an application to broadcast from the same mountain. That station would have an effective radiated power of 1.75 kW 16 meters above ground level. Calculations for that station were made using a worst case scenario of the *Phelps-Dodge Ring Stub or Dipole* antenna in the FM Model software. With the worst case scenario, the station is estimated to produce a maximum of 70.91 $\mu\text{W}/\text{cm}^2$ at 22 meters away from the tower which is 35.45% of the 200 $\mu\text{W}/\text{cm}^2$ maximum permitted by the FCC for uncontrolled environments. See below for the results calculated for this station from the FM Model software.



Summary

With the existing site radio frequency power density and the two proposed station the site will produce a maximum worst case scenario of 165.42 $\mu\text{W}/\text{cm}^2$ which is 82.7% of the 200 $\mu\text{W}/\text{cm}^2$ maximum permitted by the FCC for uncontrolled environments and therefore in full compliance.

The applicant will ensure that when constructed the power density of this station as well as any other users at the site do not exceed the 200 $\mu\text{W}/\text{cm}^2$ maximum permitted by the FCC for uncontrolled environments. The applicant will also work with the facility manager and tower crews

to, if necessary, reduce power or cease operation to protect them from radiofrequency exposure in excess of FCC guidelines.

[1] The Gray Frierson Haertig & Associates engineering report is viewable in the KERU-FM license to cover application, application number BLED-20130620AAU