

May 19, 2023

Mr. Sammy Romo, P.E.  
Senior Civil Engineer, City of Culver City, Dept. of Public Works/Engineering  
9770 Culver Boulevard  
Culver City, CA 90232

**SUBJECT:** Post-Activation RF Measurements near Crown Castle's node located at 10332 Culver Blvd., Culver City CA 90232.

Dear Mr. Romo:

At your request, Dtech Communications, LLC ("Dtech") has been retained by the City of Culver City to conduct Radio Frequency ("RF") measurements at the immediate vicinity of the above-referenced wireless communication facility. A set of post-activation measurements were conducted. The following summarizes our findings relative to the Federal Communications Commission ("FCC") Safety Guidelines.

#### **BACKGROUND**

The FCC states in 47 CFR § 1.1310 that the Maximum Permissible Exposure ("MPE") level from RF emission for the general population is between 0.2 and 1 milliWatts per centimeter squared ( $\text{mW}/\text{cm}^2$ ) depending upon the frequency (.03 - 100Ghz) of the transmitter. This is a measure of the RF power density at or below which there are no harmful effects for continuous exposure.

#### **ANALYSIS**

Dtech engineer(s) performed a post-activation measurement analysis on May 19, 2023 at approximately 10:45 AM. Weather conditions can be best described as overcast, mild breeze. Observed was one (1) Crown Castle canister antenna along with Notice RF advisory sign(s) mounted on a wooden utility pole.

Measurements were conducted in the public vicinity of the subject site including the Shell gas station parking lot (see attachment 1). The Narda meter, model NBM-520 with EA 5091 Probe was used (Serial Nos. D-0729 and 01001, respectively). The meter and probe were last calibrated on 3/24/2022 by the manufacturer and were under current recommended calibration interval of 24 months. This device is designed to measure broad frequencies between 300kHz and 50Ghz, well within the frequency ranges of wireless operators. Therefore, the measured level is a cumulative RF energy resulting from all transmitters within the frequency ranges of the probe. The probe itself is frequency shaped and can automatically weigh each field contribution based on frequency.

The output is given in percentages of the FCC's MPE Limits. The manufacturer specification indicates that readings below 20% have an uncertainty of  $\pm 3\text{dB}$  and the instrument's dynamic range is between 2.5% and 3000.0% of the FCC's public limits. Therefore, a reading below 2.5% may be interpreted at the minimum range of 2.5%.

## RESULTS

Attachment 1 shows the post-measurement locations and respective results in percentages of FCC's General Population MPE Limits. On the public sidewalk below the antenna, the maximum, cumulative measurements resulted in exposure levels no higher than 0.8%. On the public parking lot of the Shell gas station in the immediate vicinity of the subject site, measurements resulted in exposure levels no higher than 0.7%. These levels are well below the lower dynamic range (2.5%) of the meter.

## CONCLUSION

Post-activation measurements at typical human height resulted in RF levels no higher than 0.8% of the FCC's General Population MPE Limits. This is equivalent to over 125 times below the FCC's MPE limits for continuous exposure and the FCC's MPE limits themselves are set at an additional 50 times below the adverse-health-effect threshold according to scientific knowledge. The measurement results are very low and would be considered as ambient levels generally observed in typical homes, offices and public spaces. Based on our findings, it is the undersigned's professional opinion that the existing RF exposure levels at this location are well below the FCC's RF Safety Limits for the general population.

Please contact me should you require additional information.

Sincerely,

Darang Tech, P.E.  
Chief Engineering Officer  
Dtech Communications



# Attachment 1: Emission Measurements

Plan (bird's eye) view map of results compared to FCC's General Population MPE (Maximum Permissible Exposure) Limits.

