



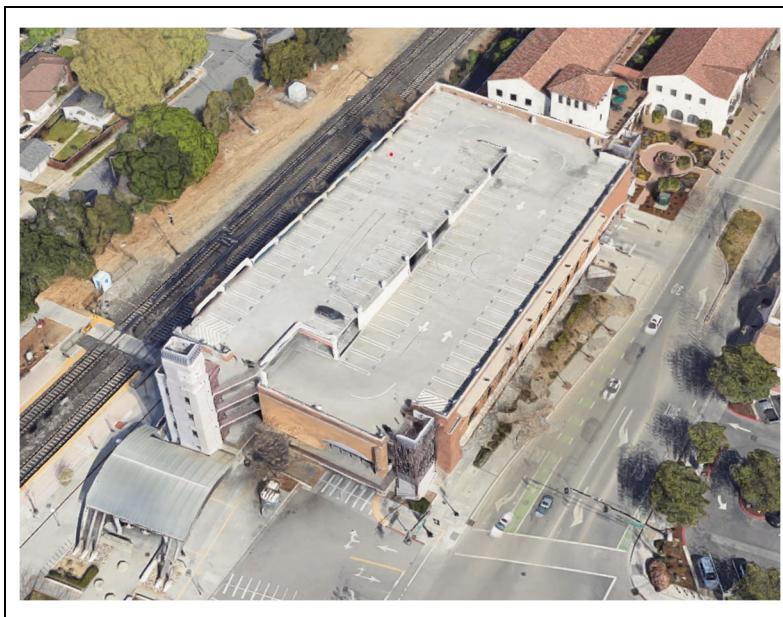
# CENTERLINE

## Radio Frequency Emissions Analysis Report

Verizon Wireless Rooftop Facility

July 7, 2025

**Analysis Format:** Theoretical Calculations



**Site Name:** DOWNTOWN SUNNYVALE

**Site ID:** 617449308

**Site Address:** 295 W Evelyn Ave, Sunnyvale, CA 95476

### Statement of Compliance

Verizon Wireless will be compliant with FCC regulations upon implementation of recommended mitigation.

## Contents

<b>1. Executive Summary.....</b>	<b>3</b>
<b>2. Antenna Inventory .....</b>	<b>4</b>
<b>3. Mitigation Diagram .....</b>	<b>5</b>
<b>4. Compliance Actions.....</b>	<b>6</b>
<b>Appendix A: FCC Rules &amp; Regulations .....</b>	<b>7</b>
<b>Appendix B: Certifications .....</b>	<b>8</b>

## 1. Executive Summary

Centerline has been contracted to provide a Radio Frequency (RF) analysis for the following Verizon Wireless facility to determine whether the facility is in compliance with federal regulations regarding RF emissions. The applicable federal regulations are detailed in Appendix A of this report. This analysis included theoretical emissions calculations for all Verizon Wireless equipment that will be installed at the site.

### Analysis Site Data

<b>Site ID:</b>	617449308
<b>Site Name:</b>	DOWNTOWN SUNNYVALE
<b>Site Address:</b>	295 W Evelyn Ave, Sunnyvale, CA 95476
<b>Site Latitude:</b>	37.378183
<b>Site Longitude:</b>	-122.030386
<b>Facility Type:</b>	Rooftop

### Compliance Summary

Based on the RF exposure analysis, the proposed Verizon Wireless facility will be compliant with FCC regulations upon implementation of the recommended mitigation. See Section 4 for mitigation details.

## 2. Antenna Inventory

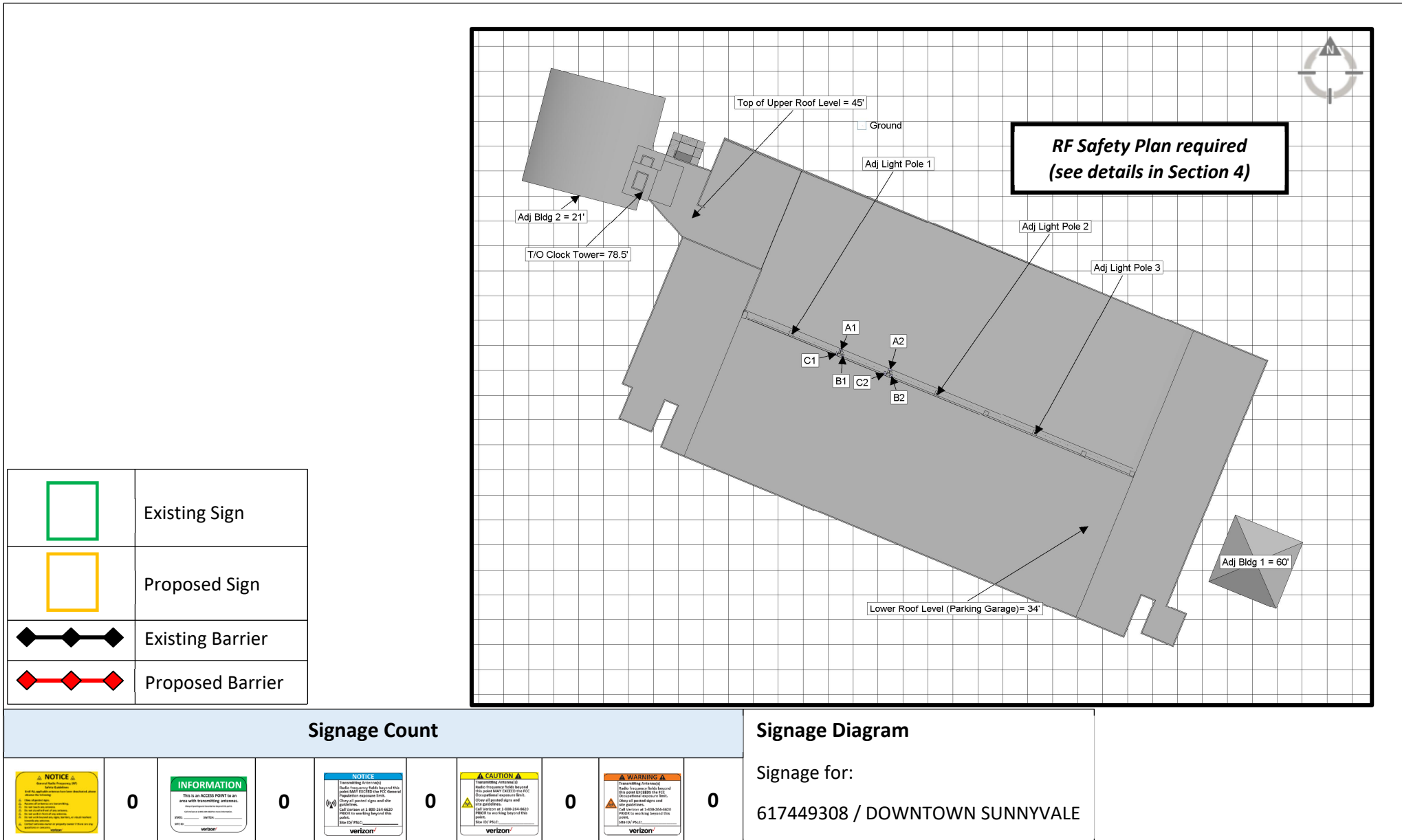
The table below details the antenna and operating parameter information for Verizon:

Sector	Operator	Antenna Make	Antenna Model	Frequency Band (MHz)	TX Power / Channel (Watts)	Tx (#)	Gain (dBd)	ERP (Watts)	Az (°)	Antenna Centerline Height (ft)
Alpha 1	Verizon Wireless	Ericsson	AIR 6419 B77D	C-band 3700	40	2	23.55	14390.97	23	58.83
Alpha 2	Verizon Wireless	Ericsson	AIR 3283	LTE 1900	80	2	20.41	17584.09	23	57
Alpha 2	Verizon Wireless	Ericsson	AIR 3283	LTE 2100 (AWS1/AWS3)	80	2	21.01	20189.24	23	57
Beta 1	Verizon Wireless	Ericsson	AIR 6419 B77D	C-band 3700	80	2	23.55	28781.93	143	58.83
Beta 2	Verizon Wireless	Ericsson	AIR 3283	LTE 1900	80	2	20.41	17584.09	143	57
Beta 2	Verizon Wireless	Ericsson	AIR 3283	LTE 2100 (AWS1/AWS3)	80	2	21.01	20189.24	143	57
Gamma 1	Verizon Wireless	Ericsson	AIR 6419 B77D	C-band 3700	40	2	23.55	14390.97	263	58.83
Gamma 2	Verizon Wireless	Ericsson	AIR 3283	LTE 1900	80	2	20.41	17584.09	263	57
Gamma 2	Verizon Wireless	Ericsson	AIR 3283	LTE 2100 (AWS1/AWS3)	80	2	21.01	20189.24	263	57

Note: 80% duty cycle was used for Verizon TDD bands where applicable (NR 3700). This is reflected in the ERP column above.

617449308 / DOWNTOWN SUNNYVALE

### 3. Mitigation Diagram



#### 4. Compliance Actions

In order to ensure the Verizon Wireless facility is compliant with FCC regulations, the following mitigation should be implemented:

<b>Adjacent Light Poles</b>	A Radio Frequency Safety Plan must be implemented for personnel who may require access to the light poles on the main rooftop. Verizon sectors potentially impacting these areas must be deactivated before any maintenance is performed on the poles.
---------------------------------	--

## Appendix A: FCC Rules & Regulations

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ) or microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in  $\text{mW}/\text{cm}^2$ ) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ( $f_{\text{MHz}}/1500$ ). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of  $1 \text{ mW}/\text{cm}^2$  ( $1000 \mu\text{W}/\text{cm}^2$ ). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Because exposure limits may vary for each frequency band, it is necessary to report % MPE rather than power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

The FCC mandates that if a site is found to be out of compliance with regard to exposure, any system operator contributing 5% or more to areas exceeding the FCC's allowable limits will be responsible for bringing the site into compliance.

Additional details can be found in FCC OET 65.

## Appendix B: Certifications

I, Hachem Yousfi, preparer of this report certify that I am fully trained and aware of the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in Verizon's FCC Regulatory Compliance Manual.

Hachem Yousfi

7/7/2025

I, Michael Fischer, reviewer and approver of this report certify that I am fully trained and aware of the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I have been trained in the procedures and requirements outlined in Verizon's FCC Regulatory Compliance Manual.



**Michael Fischer, P.E.**  
**Registered Professional Engineer (Electrical)**  
**California License Number 22921**  
**Expires September 30, 2025**

Signed 07 July 2025