

# Cruise 77-81 GHz band Radar Experiment Proposal

## 1. Introduction

Cruise<sup>1</sup> is building the world’s most advanced self-driving vehicles to safely connect people with the places, things and experiences they care about. Since its founding in 2013, Cruise has grown to over 1700 employees and last year drove 831,040 autonomous miles in California.

Cruise is planning to conduct 77-81 GHz band radar field testing using frequency modulated continuous wave Radar Front-End Units ("FEU") installed on moving vehicles to evaluate these millimeter-wave radar technologies. Cruise’s testing location is within a 100 km radius of urban field located in 1201 Bryant St, San Francisco, CA 94103 or 3300 General Motors Road, Milford, MI 48380. Radar units will utilize 4 GHz in the 77-81 GHz frequency band.

## 2. Transmitter Information

Radar unit information such as the maximum output power and bandwidth are denoted in the table below.

Type	Frequency (GHz)	Power			Bandwidth (GHz)	Emissions Designator
		EIRP (dBm)	EIRP (mW)	ERP (mW)		
Mobile	77-81	20	100	N/A	4	4G00FX

Up to 100 units will be tested around the Cruise test locations identified in the table below.

Address	Latitude	Longitude	Radius (km)	Antenna Type
1201 Bryant St, San Francisco, CA 94103	37° 46' 9.084" N	122° 24' 38.844" W	100	Directional, patch array
3300 General Motors Road, Millford, MI 48380	42° 34' 34.608" N	83° 39' 53.712" W	100	Directional, patch array

## 3. Contact Information

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**4. Applicant Information**

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