



**Date:** 1-Mar-17

**Subject:** Intel STA 0257-EX-ST-2017

## **Introduction**

Intel is a world leader in computing innovation. The company designs and builds the essential technologies that serve as the foundation for the world's computing devices. Intel also offers a portfolio of wireless communications solutions to connect a broad range of devices. Hardware and software products by Intel and its subsidiaries power a majority of the world's data centers, connect hundreds of millions of cellular handsets and help secure and protect computers, mobile devices and corporate and government IT systems. Intel technologies are also inside intelligent systems, such as in automobiles, automated factories and medical devices.

## **Testing to be performed**

Intel's research and development teams have been designing new radio technologies for the next generation broad band wireless devices. Over the air testing is required to validate the designs, characterize propagation impact, and verify overall performances, and will start with in building tests. We have received authorization from the carrier to utilize their spectrum for these tests at these locations, and will not connect to their network. All testing will be conducted indoors, on Intel campuses except for the Holiday Inn location.



## Locations:

Intel Jones Farm (JF) Campus  
2111 NE 25<sup>th</sup> Avenue, JF2-15  
Hillsboro, OR 97124

Centered at SW corner of building JF3: Lat 45.54 / Long -122.96; 45°32'35" N / 122°57'41" W, radius of 250 meters, indoors only. The closest distance to an airport runway (HIO (Portland-Hillsboro Airport)) is approximately 540 meters.

Intel Santa Clara (SC) Campus  
2200 Mission College Blvd  
Santa Clara, CA 95054

Centered on the campus: Lat 37.39 / Long -121.96; 37°23'10" N / 121°57'53" W, radius of 500 meters, indoors only. The closest distance to an airport runway (SJC (San Jose International Airport)) is over 2400 meters.

Intel Hawthorne Farms (HF) Campus  
5200 NE Elam Young Parkway  
Hillsboro, Oregon 97124

Centered on the campus: Lat 45.53 / Long. -122.93; 45° 31' 55" N / 122° 55' 39" W radius of 500 meters, indoors only. The closest distance to an airport runway (HIO (Portland-Hillsboro Airport)) is over 1300 meters.

Intel Ronler Acres (RA) Campus  
2501 NW 229 Ave.  
Hillsboro, Oregon 97124

Centered on the campus: Lat 45.54 / Long -122.91; 45° 32' 40" N / 122° 54' 55" W radius of 500 meters, indoors only. The closest distance to an airport runway (HIO (Portland-Hillsboro Airport)) is over 2500 meters.

Holiday Inn Portland West-Hillsboro:  
2575 NW Aloclek Dr, Hillsboro, OR 97124

Centered on hotel: Lat 45.54 / Long. -122.89; 45° 32' 20" N / 122° 53' 41" W, rectangle of 65m x 240 m, indoors only. The closest distance to an airport runway (HIO (Portland-Hillsboro Airport)) is over 3900 meters.

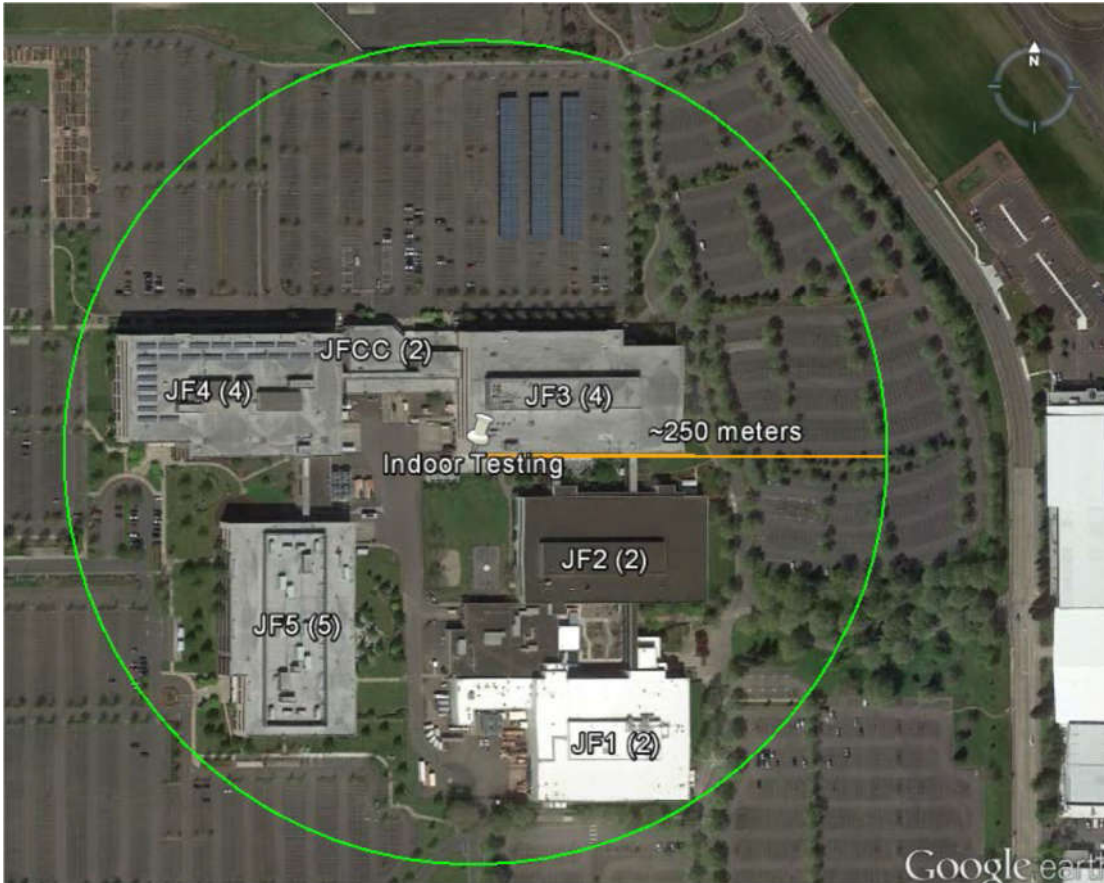


## Transmitter & Antenna Parameters:

Site Details					Antenna					Transmitter Emission		
Location	Station Type	Latitude (dd mm ss.ss)	Longitude (dd mm ss.ss)	AGL (m)	Type	3-dB Beam Width	H-Gain (dBi)	V-Gain (dBi)	EIRP (dBm)	Frequency (MHz)	Bandwidth	Designator
Within 250 m radius of inside corner of building JF2 (2111 NE 25 <sup>th</sup> Ave, Hillsboro, OR.), Indoors with the intended coverage area of the campus inside buildings only	BS – to - MO	45°32'35" N	122°57'41" W	Not to exceed 35m	directional	160°	5	5	26	2594 – 2614	20 MHz	20M0D7D
Within 500 m radius of inside of building SC3 (2200 Mission College Blvd, Santa Clara, CA.), Indoors with the intended coverage area of the campus inside buildings only	BS – to - MO	37°23'10" N	121°57'53" W	Not to exceed 35m	directional	160°	5	5	26	2594 – 2614	20 MHz	20M0D7D
Within 500 m radius of inside of buildings at HF (5200 NE Elam Young Parkway Hillsboro, Oregon 97124), Indoors with the intended coverage area of the campus inside buildings only	BS – to - MO	45° 31' 55" N	122° 55' 39" W	Not to exceed 35m	directional	160°	5	5	26	2594 – 2614	20 MHz	20M0D7D
Within 500m radius of inside of buildings at RA (2501 NW 229 Ave. Hillsboro, Oregon 97124), Indoors with the intended coverage area of the campus inside buildings only	BS – to - MO	45° 32' 40" N	122° 54' 55" W	Not to exceed 35m	directional	160°	5	5	26	2594 – 2614	20 MHz	20M0D7D
Within 65m x 240m rectangle inside of Holiday Inn building at (2575 NW Aloclek Dr, Hillsboro, OR 97124), Indoors with the intended coverage area of the hotel inside building only	BS – to - MO	45° 32' 20" N	122° 53' 41" W	Not to exceed 35m	directional	160°	5	5	26	2594 – 2614	20 MHz	20M0D7D



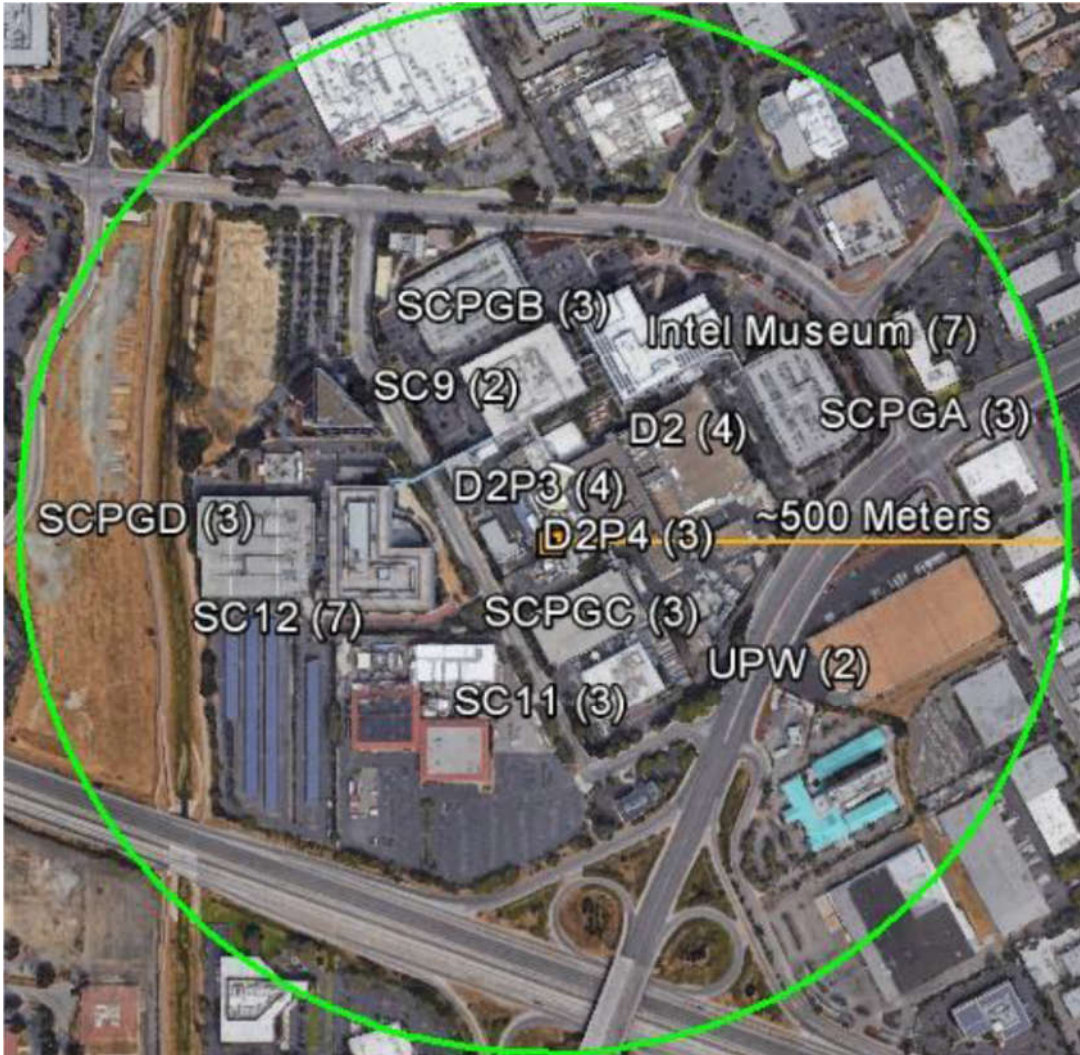
## Geographical Area of Jones Farm, Hillsboro, Oregon Site



Number of stories in parentheses



## Geographical Area of Santa Clara, California Site

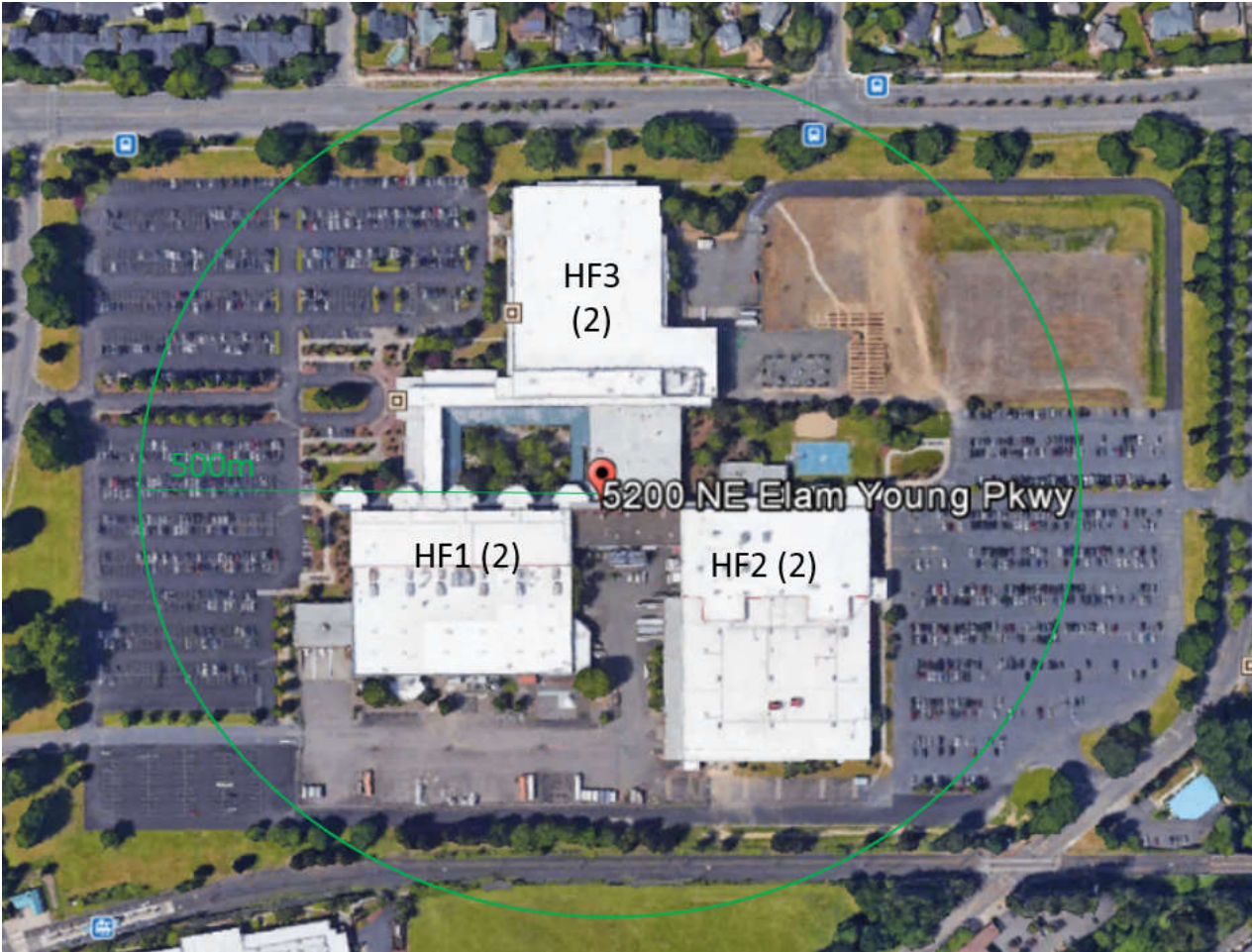


Number of stories in parentheses





## Geographical Area of Hawthorne Farms, Hillsboro, Oregon site



Number of stories in parentheses



## Geographical Area of Ronler Acres, Hillsboro, Oregon site

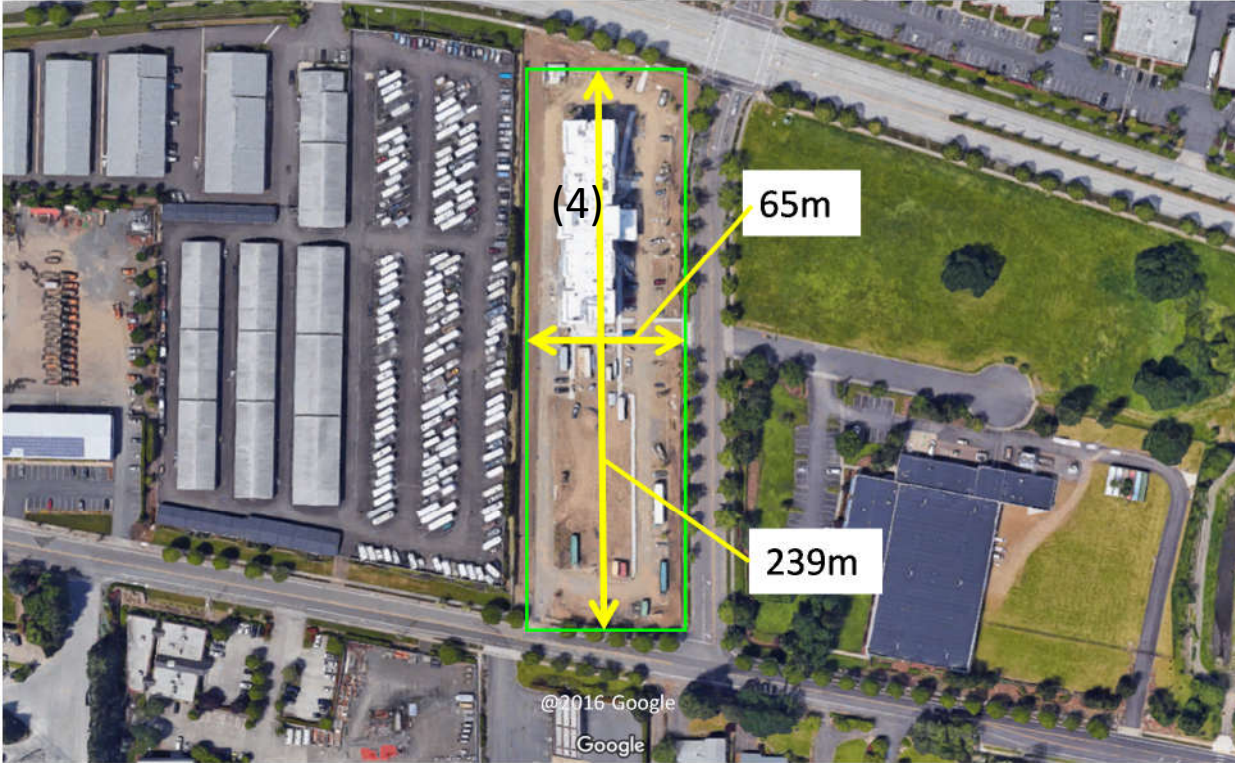


Number of stories in parentheses





## Geographical Area of Hillsboro, Holiday Inn, Alocek Rd.



Number of stories in parentheses

### Equipment List:

Manufacturer	Model Number	No. Of Units	Experimental
Intel Corporation	tbd	5	Yes
Intel Corporation	tbd - power amp	5	Yes
Intel Copration	tbd - antennas	5	Yes
Huawei	tbd - UE	12	Yes
National Instruments	PXIe-5645r	5	Yes
Keysight	E5080A	5	Yes
Agilent	tbd - VNA	5	Yes
Rhode Schwartz	tbd - VNA	5	Yes
Rhode Schwartz	tbd - VNA	5	Yes