



17 March 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 the 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 automobiles, automated factories and medical devices.

Proposed Demonstration:

An Experimental License is requested for a research and testing of wireless devices. Over the air testing is required to validate the designs, characterize propagation impact, and verify overall performances. The proposed experiment will be located within the radius of the geographical area listed below.

Location:

Radius of 335 meters based on the center coordinates:

37° 24'08" N
121°56'10" W
5 meters AMSL

Campus address:
101 Innovation Drive,
San Jose, CA 95134

Transmitter & Antenna Parameters:

The proposed experiment of Intel's advanced technologies will consist of test of equipment:

Innovation Campus	Technical Parameters
Radius	335 meters
Frequency	26.5 – 29.5GHz
Modulation	QPSK 16QAM 64QAM 256QAM
Bandwidth/ Emission Designator	100, 200, 300, 400, 500, 600, 700, 800 MHz: all W7W
Antennas:	5 dBi Gain for each antenna Quantity of antenna elements in an array format: MO 8, 16 FX 8, 16, 32, 64, 128, 256
Antenna Gain:	5-48dB maximum beam forming gain P out = 12dB/15.84mW; 5 - 48dB antenna gain (beam form and power gain) ERP 0.61W—609.5W ERP

Summary:

The MO radio has a maximum of 8 to 16 antenna elements in its array; the FX radio has a maximum of 8 to 256 antenna elements in its array. As a result, the output power, including the beam forming gain, will range from 0.61 to 609.5 Watts, ERP.

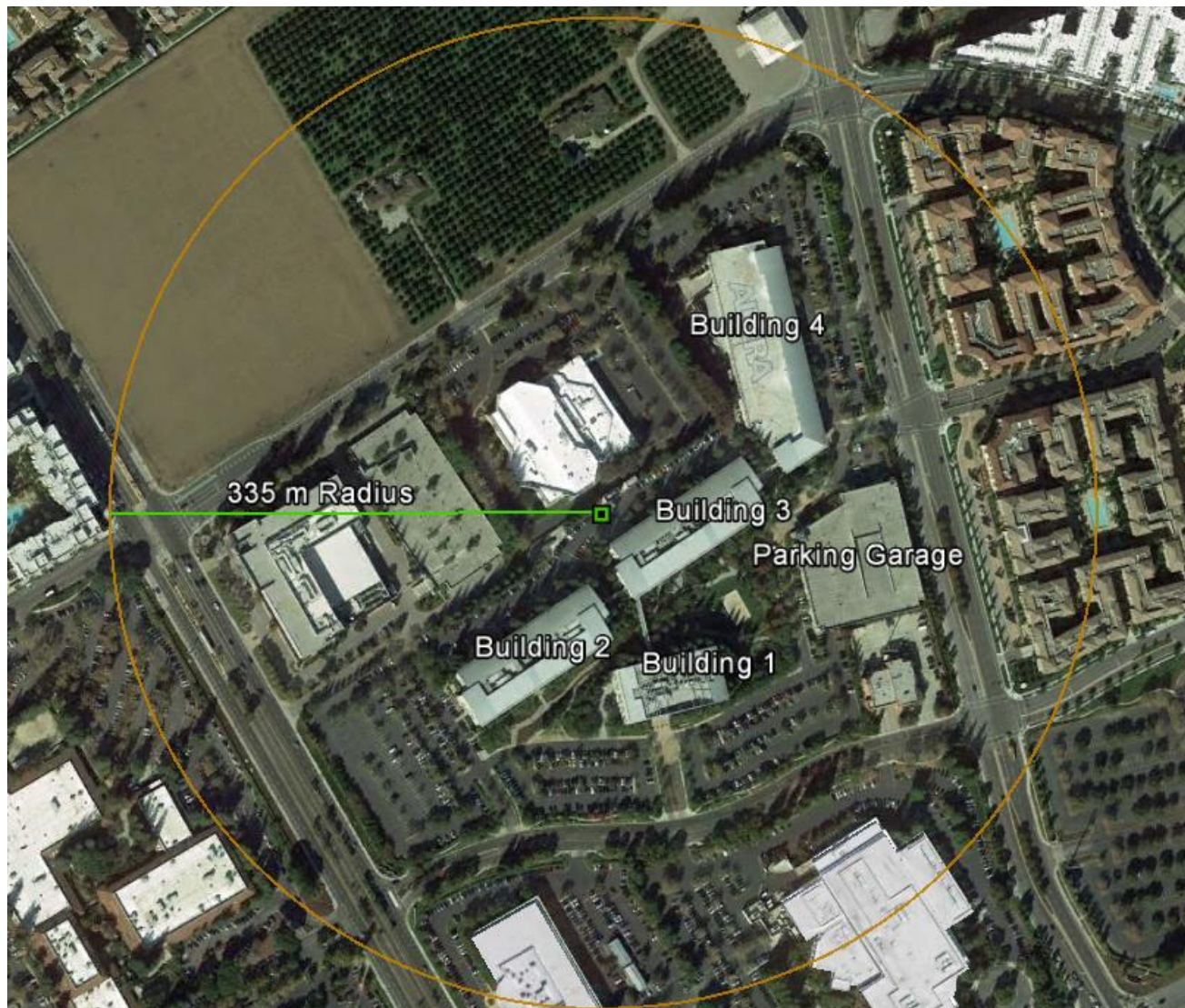
Proposed Transmitter & Antenna Parameters:

Details					Transmitter Emission					
Location	Station Type	Latitude	Longitude	AGL meters	Antenna Type:	Antenna Gain per element dB	Beam Forming Gain includes power combining dB	Frequency GHz	Bandwidth MHz	Emission Designator MW7W
Within a 335 meter radius of the center coordinates	MO	37° 24'08" N	121°56'10" W	NTE 32 m	Omni, beam-forming	5	18-24 maximum with beam-forming	26.5 -29.5	100 200 300 400 500 600 700 800	100MW7W 200MW7W 300MW7W 400MW7W 500MW7W 600MW7W 700MW7W 800MW7W
Within a 335 meter radius of the center coordinates	FX	37° 24'08" N	121°56'10" W	NTE 5 m	Omni, beam-forming	5	18 – 48 maximum with beam-forming	26.5 -29.5	100 200 300 400 500 600 700 800	100MW7W 200MW7W 300MW7W 400MW7W 500MW7W 600MW7W 700MW7W 800MW7W

Proposed Transmitter Details:

Number of Antenna Elements	P1 in dB at Antenna	Ant Gain per element: dBi	Beam Forming Gain: dB --includes power combining	Pout dBm EIRP	Pout dBm ERP	Pout ERP Watts
8	12	5	18	30	27.85	0.61
16	12	5	24	36	33.85	2.43
32	12	5	30	42	39.85	9.66
64	12	5	36	48	45.85	38.46
128	12	5	42	54	51.85	153.11
256	12	5	48	60	57.85	609.5

Geographical Area of San Jose, California Site



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