

2900-3000 MHz Experiment Description

1 Introduction

Qualcomm Incorporated (NASDAQ:QCOM - News) is the world leader in 3G and next-generation mobile technologies. For 25 years, Qualcomm's ideas and inventions have driven the evolution of wireless communications, connecting people more closely to information, entertainment and each other. Today, Qualcomm technologies are powering the convergence of mobile communications and consumer electronics, making wireless devices and services more personal, affordable and accessible to people everywhere. For more information, please visit www.qualcomm.com.

This STA request is in support of research and development efforts for large bandwidth wireless communications systems. This initial short term testing is associated with propagation testing.

2 Transmitter Information

Testing is expected to occur periodically for six months from license issue date. Table 1 contains transmit power information for the one fixed site that using an omni-directional antennas. Table 2 lists the site locations and azimuth. Tables 3 and 4 provide terrain information in the azimuth directions of 0-75 degrees and 220-235 degrees.

Table 1 Transmitter Information

Frequency (GHz)	Peak EIRP			Peak ERP (W)	Peak Antenna Gain (dBi)	Maximum Emission BW	Emissions Designator
	dBm	dBW	W				
2.9-3.0	20	-10	0.10	0.061	0	90 MHz	90M00G7D

The transmitted signal is a direct sequence spread spectrum - noise-like - signal (PN sequence length 1023 - 30dB spreading) spread over the band 90MHz without discernable discrete components for a power density of -10dBm/100kHz. If evaluated in a narrow-band the entire signal power can be treated as noise uniformly spread over the band. Thus, a narrowband receiver can capture only a proportionally small portion of the transmitted power.

Table 2 Transmitter Site Information

Site #	Address	County	Lat	Long	Peak Antenna gain Azimuth (Deg)	Elevation	Antenna Type
1	Bridgewater 500 Somerset Blvd	Somerset	40° 35' 8.988"	-74° 37' 29.7834"	Omni	7.5m	Omni

Qualcomm has completed an analysis of the site location and has noted that mountains with a height range of 200-600' are located within 2.5 miles of Qualcomm test site location in the azimuth directions of 0 to 75 degrees and 220 to 235 degrees as shown in the figure 1 below. Elevation plots have also been provided in section 3 showing the terrain elevation vs. azimuth in 5 degree increments providing isolation from transceivers located beyond the mountain peaks. Tables 3 and 4 summarize the mountain height and height above the transmit antenna.

Figure 1 Site Area Overview

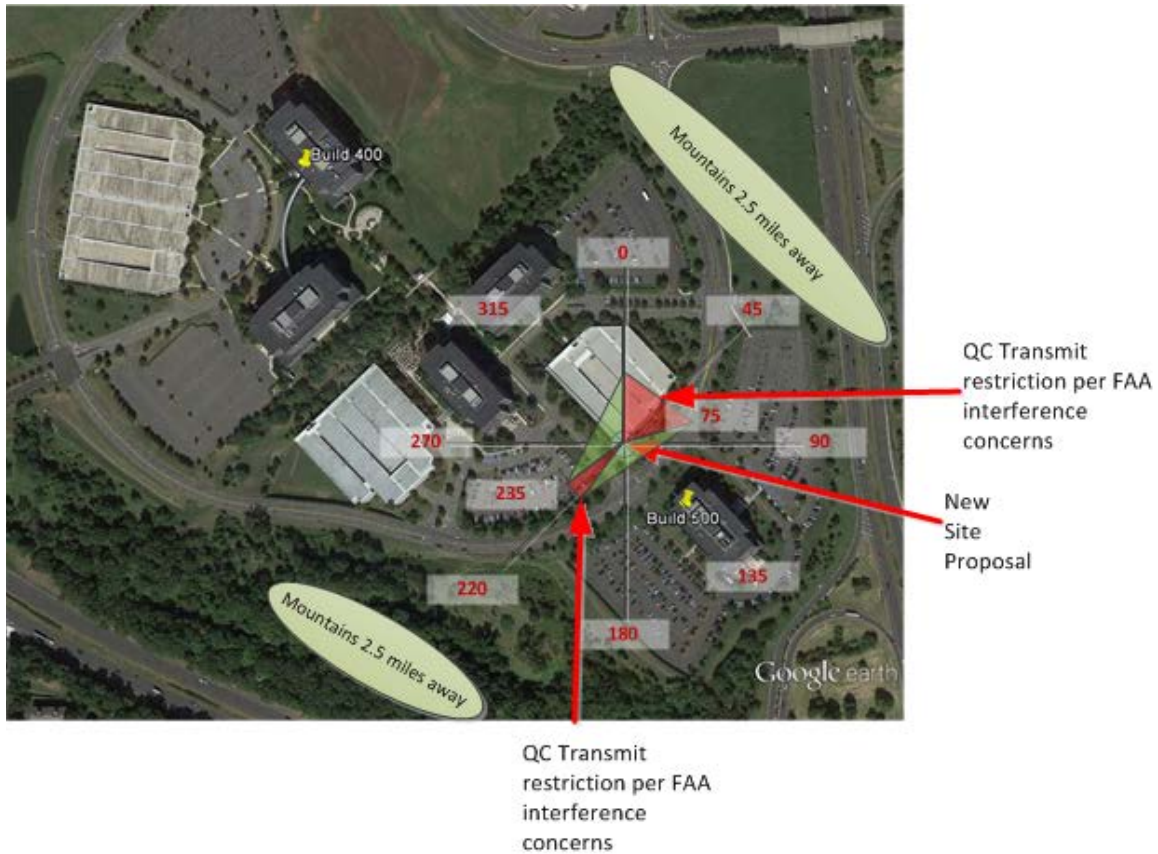


Table 3 Mountain Height in azimuth range of 0 to 75 degrees

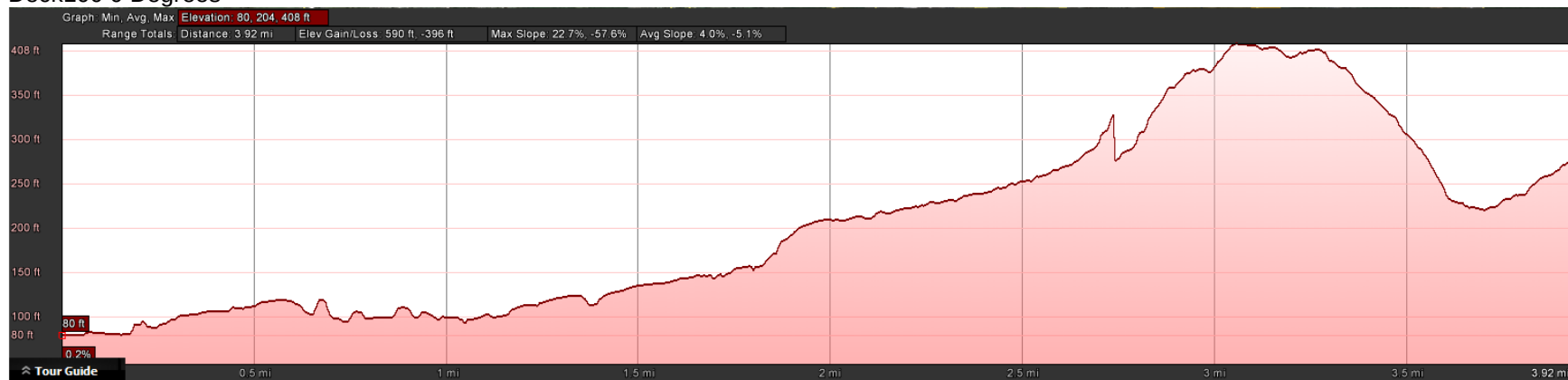
Mountain Blockage																
Azimuth range (min max) [deg]	0	75														
Mountain distance from the transmitter (min max) [mile]	1.5	3.2														
Transmitter location above sea level [ft]	80															
Antenna above ground [ft]	25															
Azimuth [degree]	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
Mountain top elevation above sea level [ft]	408	466	483	649	563	625	620	461	459	479	561	589	584	522	595	461
Mountain top above transmit antenna [ft]	303	361	378	544	458	520	515	356	354	374	456	484	479	417	490	356

Table 4 Mountain Height in azimuth range of 220 to 235 degrees

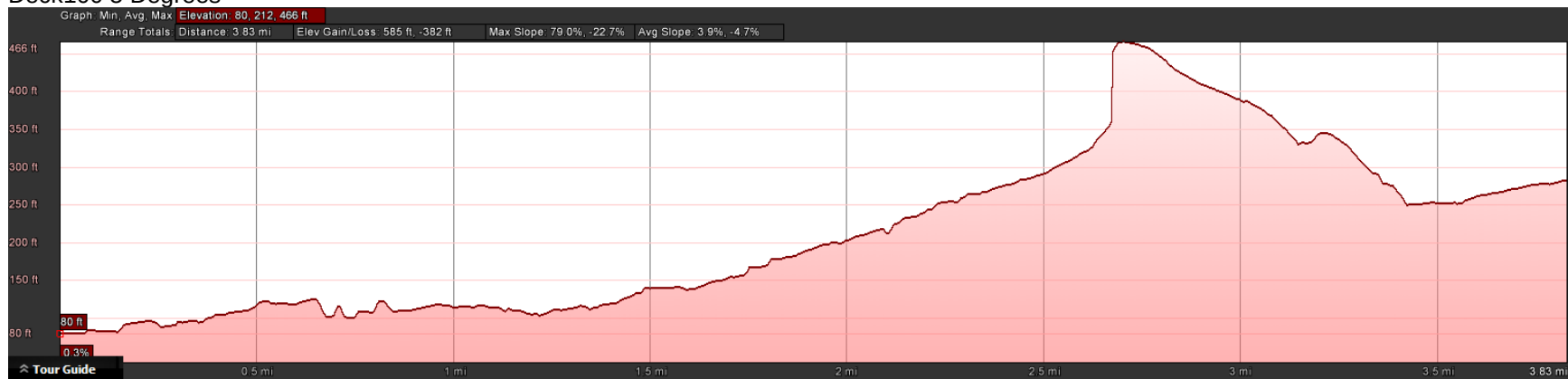
Azimuth range (min max) [deg]	220	235		
Mountain distance from the transmitter (min max) [mile]	0.7			
Transmitter location above sea level [ft]	80			
Antenna above ground [ft]	25			
Azimuth [degree]	220	225	230	235
Mountain top elevation above sea level [ft]	147	165	166	172
Mountain top above transmit antenna [ft]	42	60	61	67

3 Elevation Profiles 0-75 and 220-235 degrees

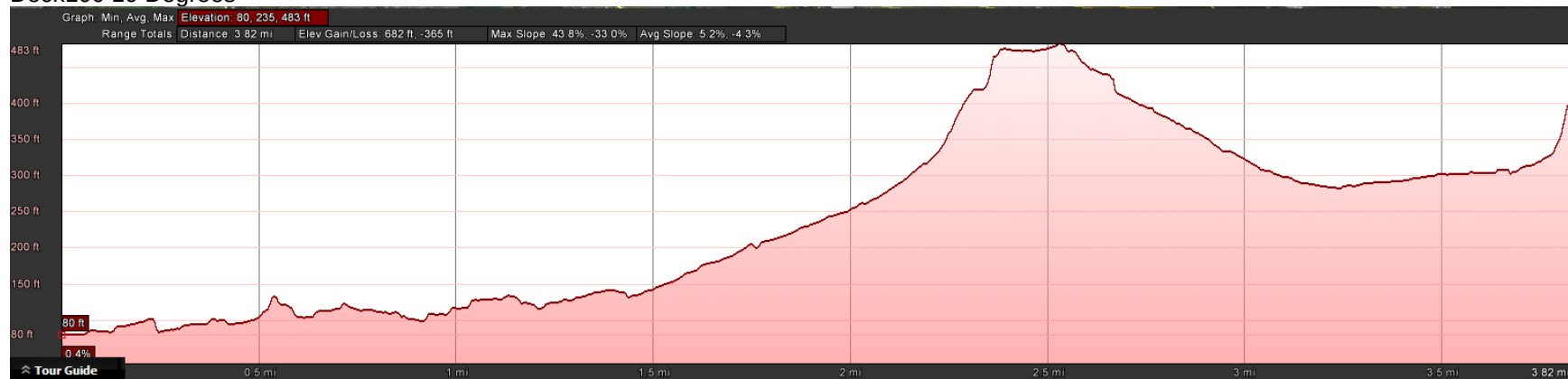
Deck100 0 Degrees



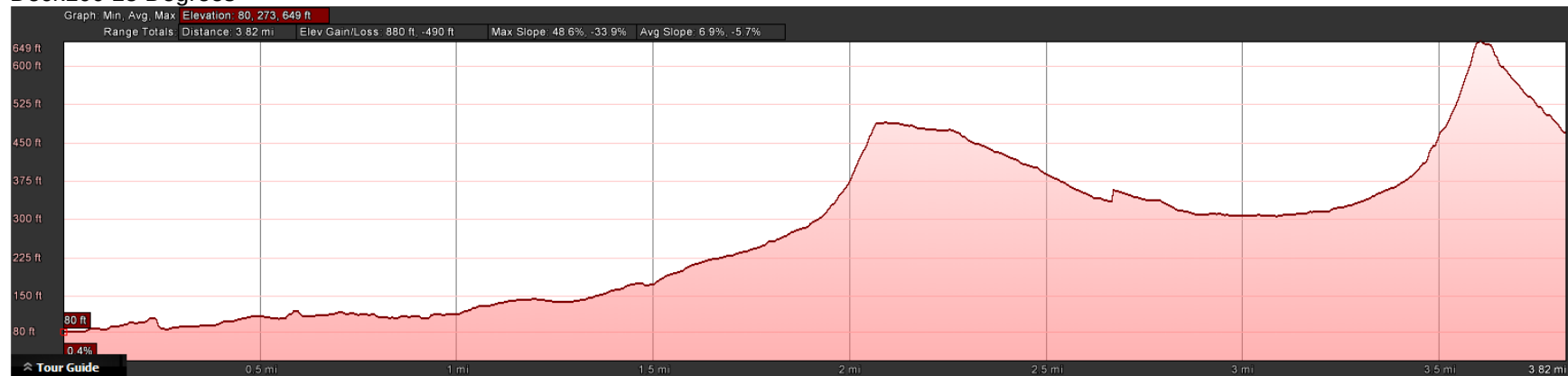
Deck100 5 Degrees



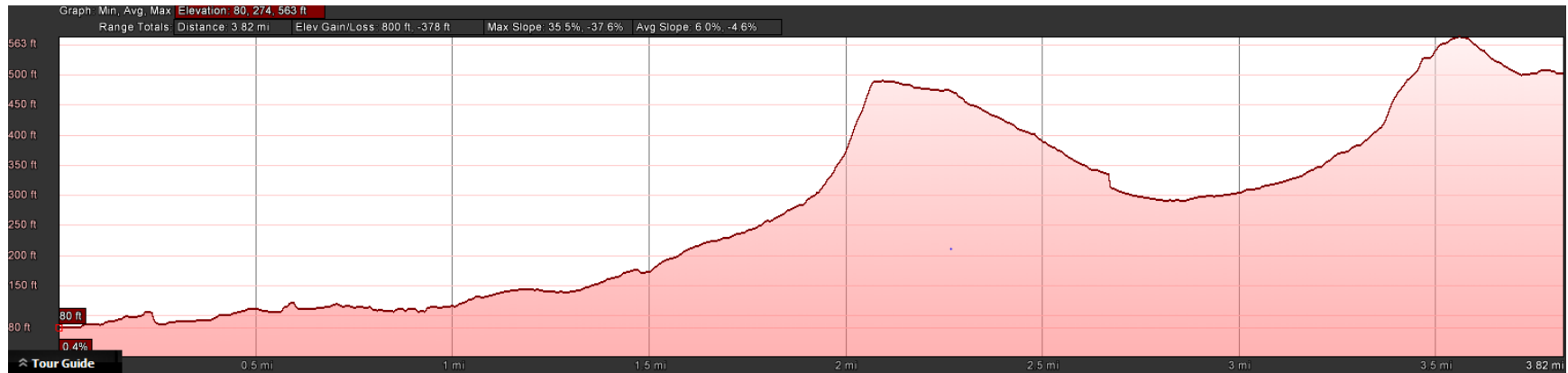
Deck100 10 Degrees



Deck100 15 Degrees



Deck100 20 Degrees



Deck100 25 Degrees



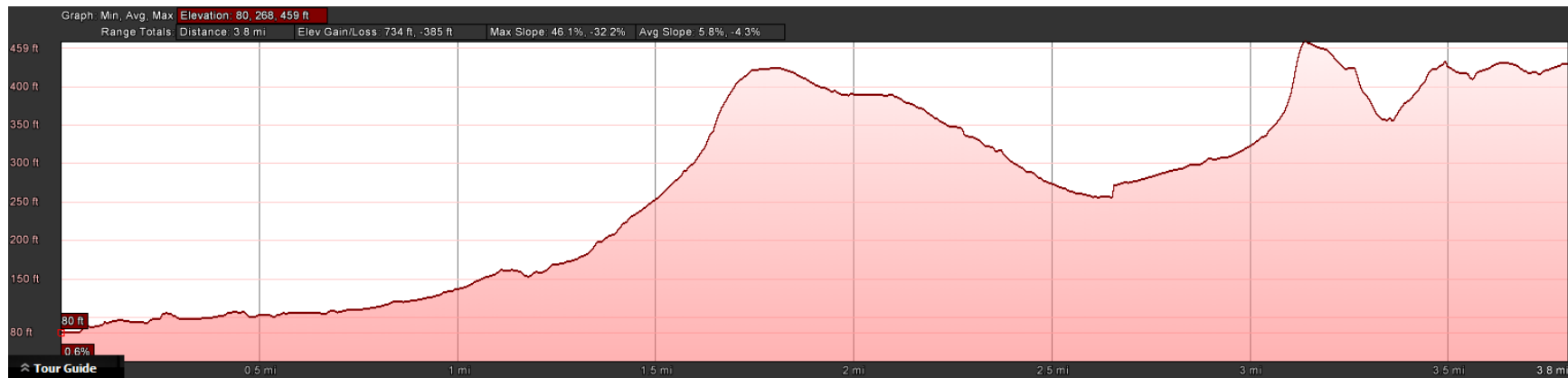
Deck100 30 Degrees



Deck100 35 Degrees



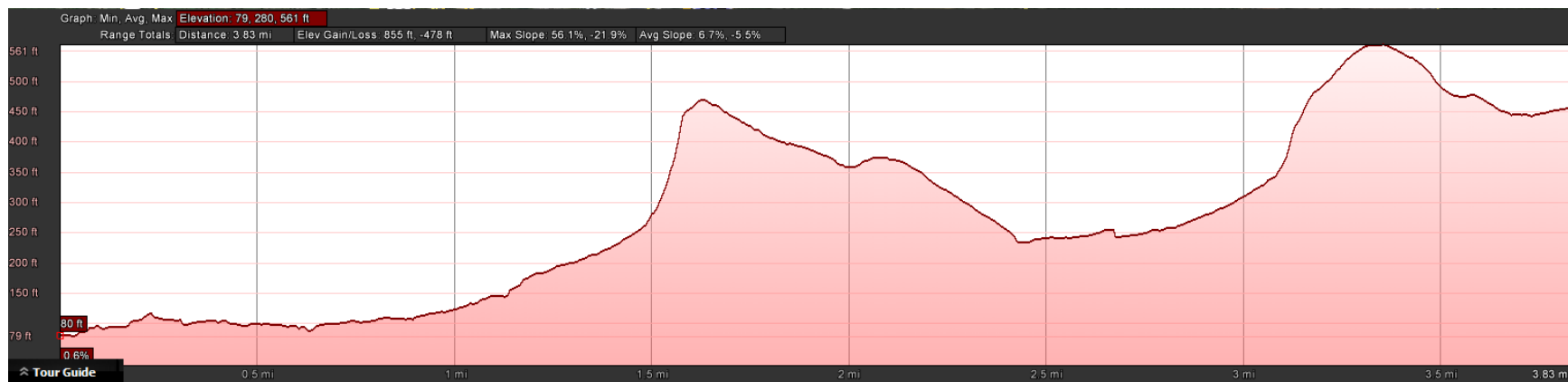
Deck100 40 Degrees



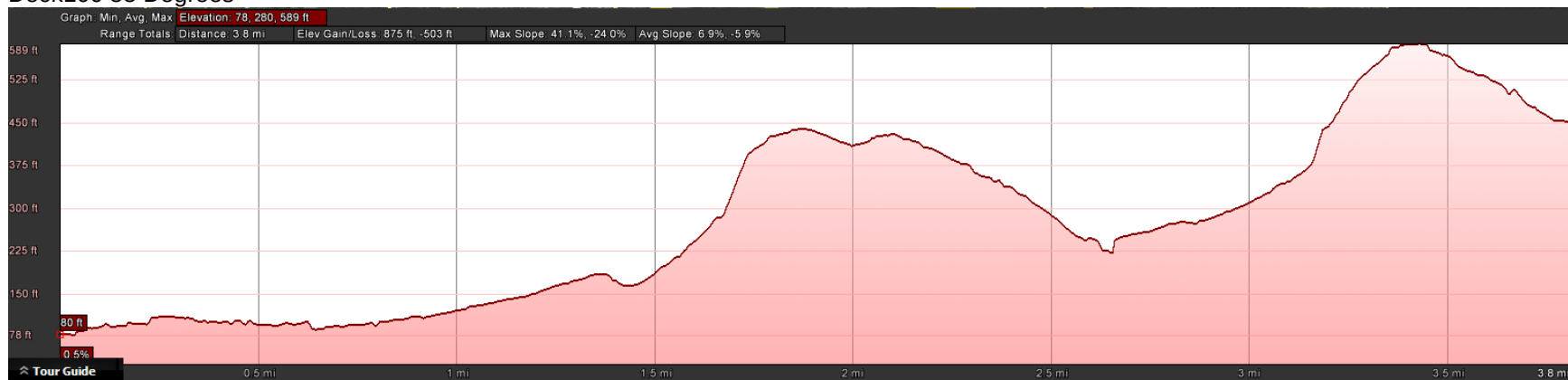
Deck100 45 Degrees



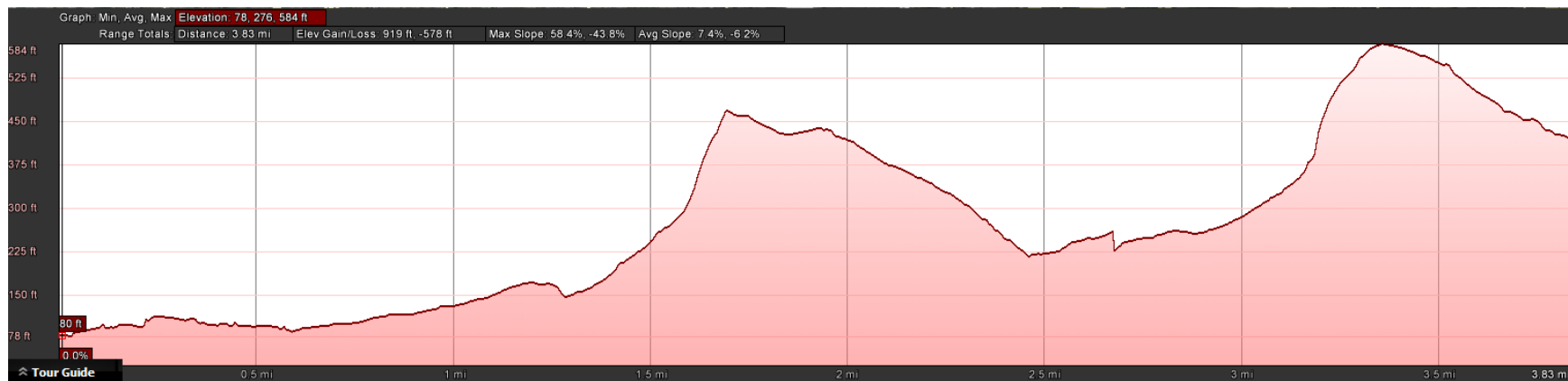
Deck100 50 Degrees



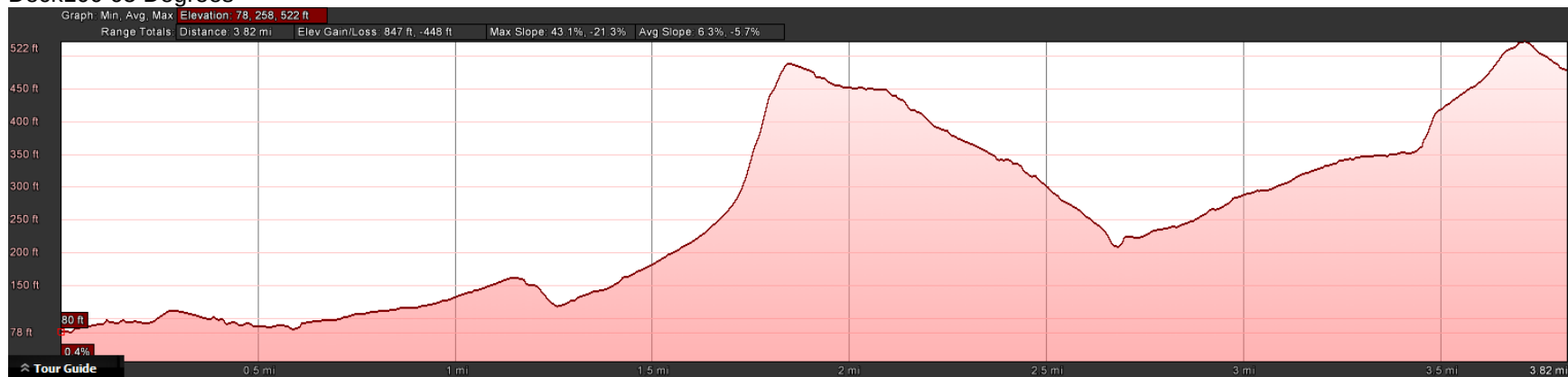
Deck100 55 Degrees



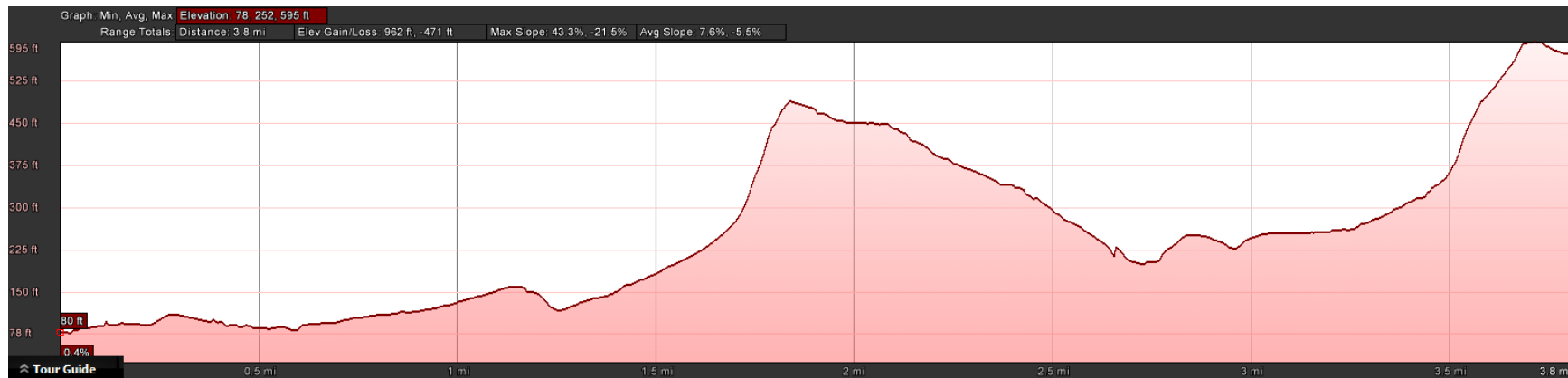
Deck100 60 Degrees



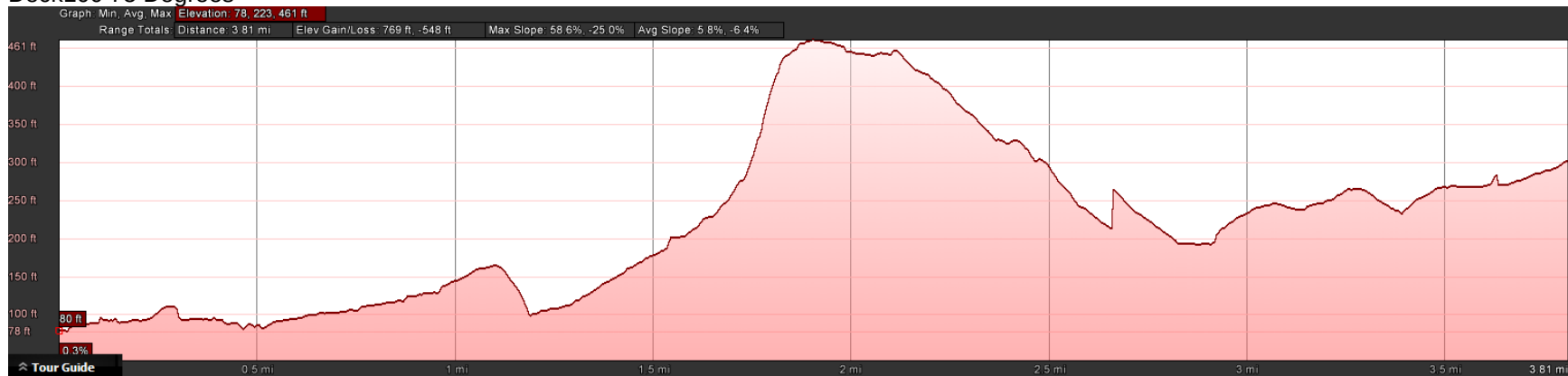
Deck100 65 Degrees



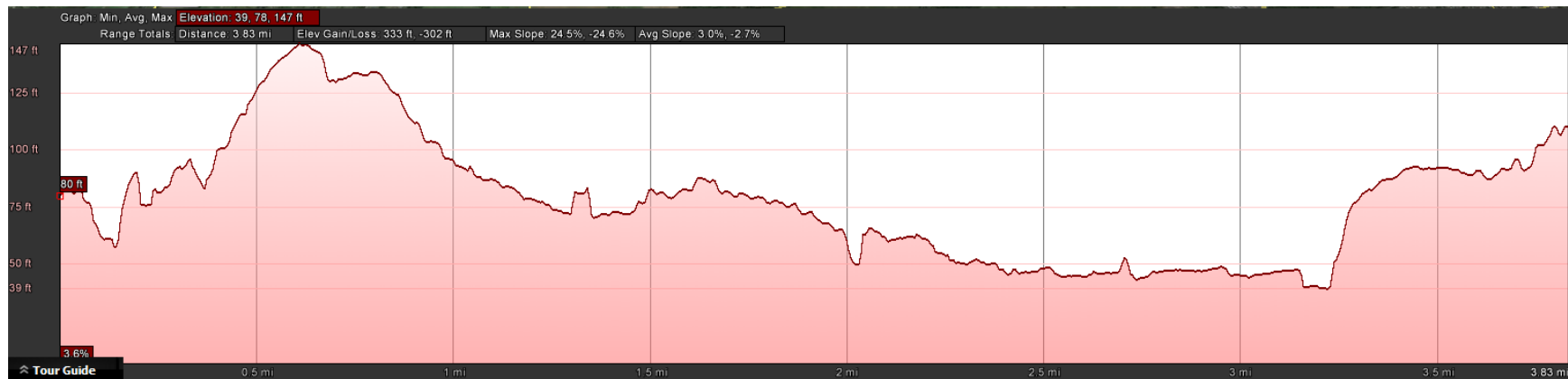
Deck100 70 Degrees



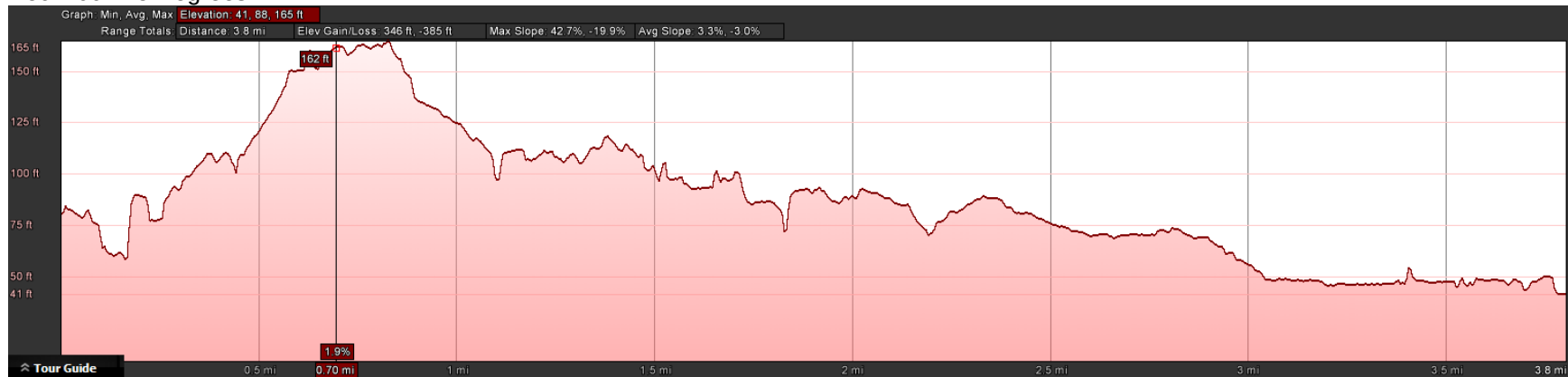
Deck100 75 Degrees



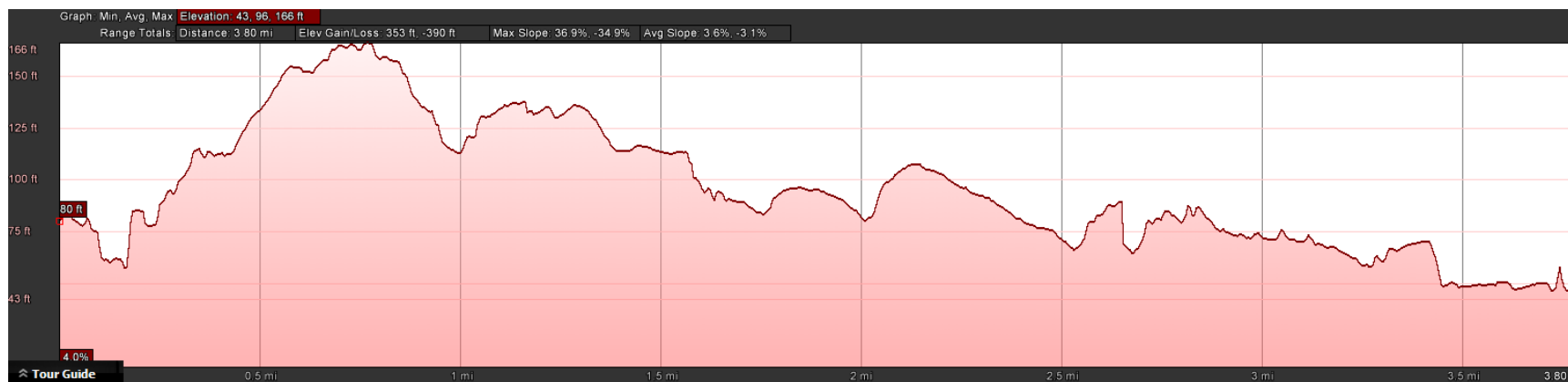
Deck100 220 Degrees



Deck100 225 Degrees



Deck100 230 Degrees



Deck100 235 Degrees

