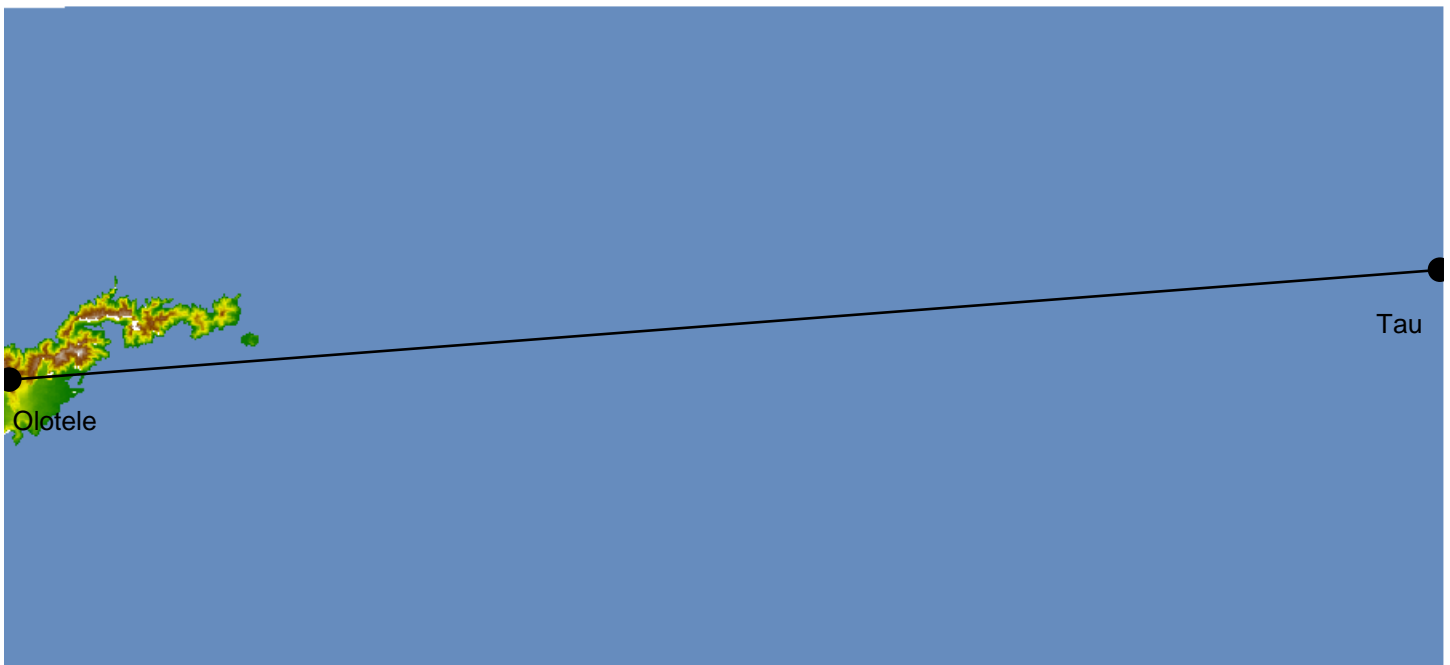
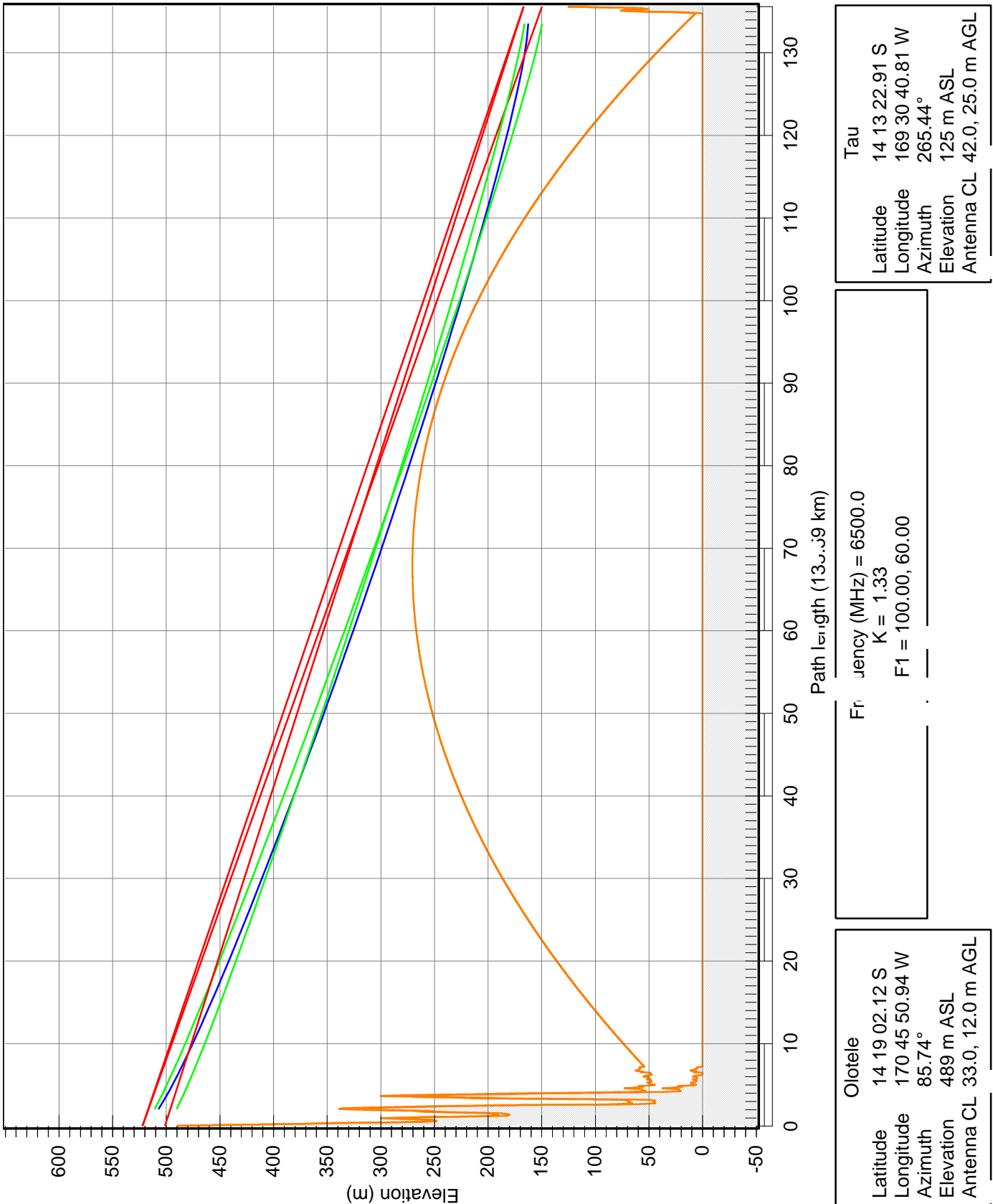


Path analysis for Link in American Samoa Utilizing 16QAM Modulation





Transmission details (Olotele-Tau-6500-2014-09-16-0900.pl5)

	Olotele	Tau
Latitude	14 19 02.12 S	14 13 22.91 S
Longitude	170 45 50.94 W	169 30 40.81 W
True azimuth (°)	85.74	265.44
Vertical angle (°)	-0.61	-0.31
Elevation (m)	489.10	124.68
Tower height (m)	35.00	35.00
Antenna model	HSX12-64 (TR)	HSX12-64 (TR)
Antenna file name	2471b	2471b
Antenna gain (dBi)	45.70	45.70
Antenna height (m)	33.00	42.00
TX line model	EWP64	EWP64
TX line unit loss (dB/100 m)	5.22	5.22
TX line length (m)	40.00	40.00
TX line loss (dB)	2.09	2.09
Connector loss (dB)	1.00	1.00
Circulator branching loss (dB)	0.50	0.50
TX switch loss (dB)	0.50	0.50
TX filter loss (dB)	1.50	1.50
Other TX loss (dB)	0.50	0.50
RX filter loss (dB)	1.50	1.50
Antenna model	HSX12-64 (DR)	HSX12-64 (DR)
Antenna file name	2471b	2471b
Antenna gain (dBi)	45.70	45.70
Antenna height (m)	12.00	25.00
TX line model	EWP64-71	EWP64-71
TX line unit loss (dB/100 m)	5.47	5.47
TX line length (m)	30.00	30.00
TX line loss (dB)	1.64	1.64
Connector loss (dB)	1.00	1.00
RX filter loss (dB)	1.50	1.50
Frequency (MHz)		6500.00
Polarization		Vertical
Path length (km)		135.59
Free space loss (dB)		151.37
Atmospheric absorption loss (dB)		1.21
Diffraction loss (dB)		0.00
Main net path loss (dB)	72.36	72.36
Diversity net path loss (dB)	71.41	71.41
Radio model	NX-GEN-S L6	NX-GEN-S L6
Radio file name	nx-gen-s-l6-32Q-30m	nx-gen-s-l6-32Q-30m
TX power (dBm)	37.00	37.00
EIRP (dBm)	76.61	76.61
RX threshold criteria	1E-3 BER	1E-3 BER
RX threshold level (dBm)	-82.00	-82.00
Main receive signal (dBm)	-35.36	-35.36
Diversity receive signal (dBm)	-34.41	-34.41
Thermal fade margin (dB)	47.59	47.59
Dispersive fade margin (dB)	70.00	70.00
Dispersive fade occurrence factor		1.00
Effective fade margin (dB)	47.56	47.56
Climatic factor		1.00

Terrain roughness (m)	6.10	
C factor	3.29	
Average annual temperature (°C)	26.95	
Fade occurrence factor (Po)	3.199E+001	
SD improvement factor	200.00	200.00
Worst month multipath availability (%)	99.99972	99.99972
Worst month multipath unavailability (sec)	7.36	7.36
Annual multipath availability (%)	99.99989	99.99989
Annual multipath unavailability (sec)	33.14	33.14
Annual 2 way multipath availability (%)	99.99979	
Annual 2 way multipath unavailability (sec)	66.28	
Polarization	Vertical	
0.01% rain rate (mm/hr)	98.27	
Flat fade margin - rain (dB)	47.59	
Rain attenuation (dB)	47.59	
Annual rain availability (%)	100.00000	
Annual rain unavailability (min)	0.00	
Annual rain + multipath availability (%)	99.99979	
Annual rain + multipath unavailability (min)	1.10	