Cambium Networks™

Project CAR-Benguet
Mt Pulag to Tinoc RelaY
LINKPlanner PTP Proposal Report

20 February 2024

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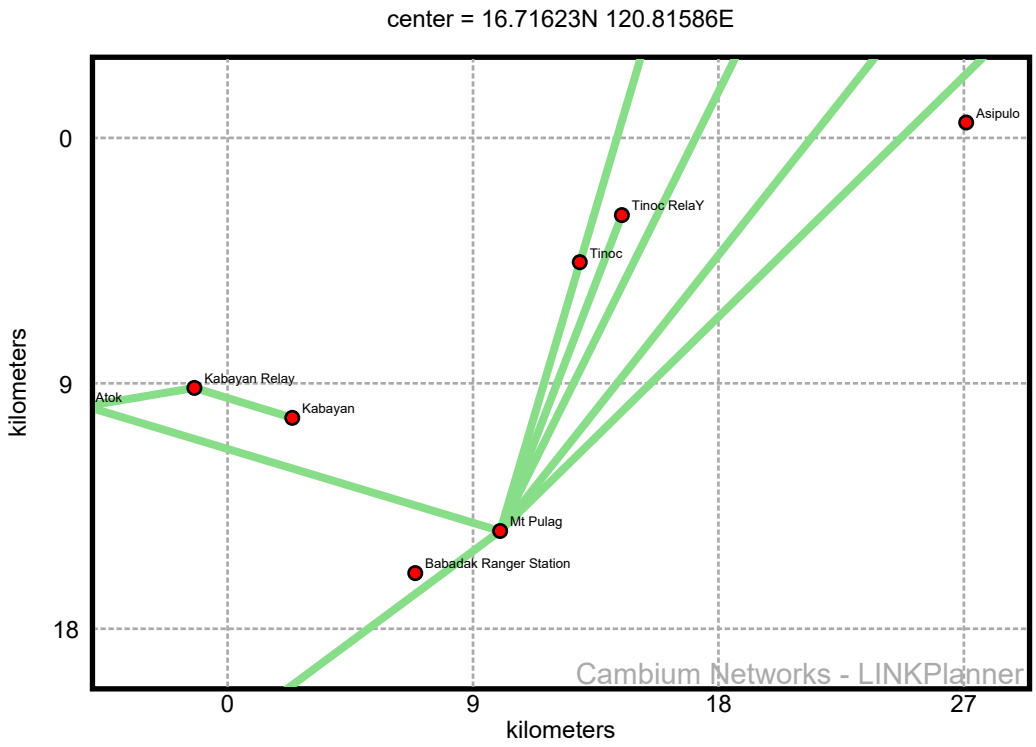
Cambium Networks™



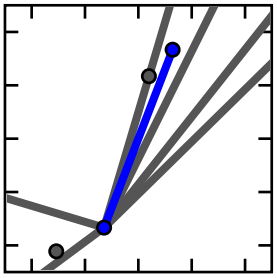
Project Summary

Project: CAR-Benguet

Description: CAR Broadband

General Information	
Customer Name	DICT CAR
Company Name	DICT CAR
Address	
Phone	
Cell Phone	
Email	

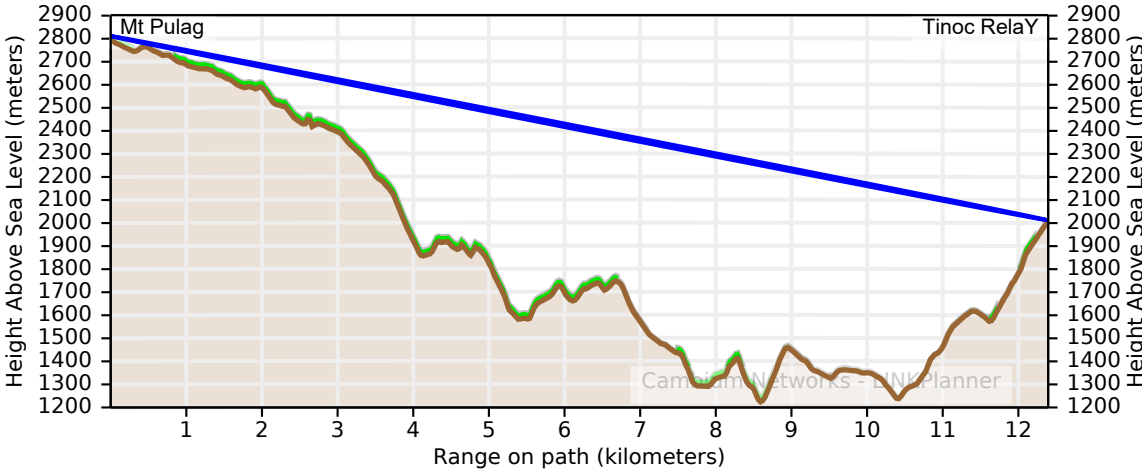
Mt Pulag to Tinoc RelaY



Equipment: Cambium Networks PTP670 Integrated

Cambium Networks High Gain Integrated @ 18 m

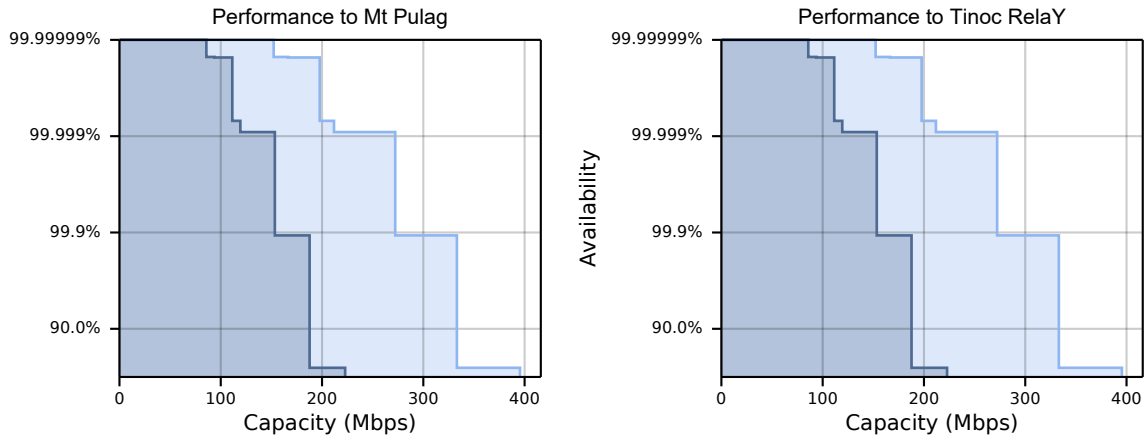
Cambium Networks High Gain Integrated @ 10 m



	Performance to Mt Pulag	Performance to Tinoc RelaY
Mean IP	200.13 Mbps	200.13 Mbps
IP Availability	100.0000 % for 1.0 Mbps	100.0000 % for 1.0 Mbps

Link Summary			
Link Length	12.394 km	System Gain	161.28 dB
Band	5.8 GHz	System Gain Margin	31.64 dB
Regulation	Argentina (Private)	Mean Aggregate Data Rate	400.26 Mbps
Modulation	Adaptive	Annual Link Availability	100.0000 %
Bandwidth	45 MHz	Annual Link Unavailability	1 secs/year
Total Path Loss	129.63 dB	Prediction Model	ITU-R P.530-17

Performance Charts



High Capacity, assumes there is no load in the other direction

Symmetrical Capacity, assumes a saturated load in the other direction

Climatic Factors, Losses and Standards

dN/dH not exceeded for 1% of time	-130.79 N units/km	Free Space Path Loss	129.56 dB
Area roughness 110x110km	561.83 meter	Gaseous Absorption Loss	0.07 dB
Geoclimatic factor	4.84e-06	Link Type	Line-of-Sight
Fade Occurrence Factor (P0)	4.09e-07	Excess Path Loss	0.00 dB
Path inclination	64.52 mr	Atmospheric Gasses	ITU-R P.676-12, ITU-R P.835-6
Value of K Exceeded for 99.99% (ke)	0.46	Diffraction Loss	ITU-R P.526-15
Excess Path Loss at ke	0.00 dB	Propagation	ITU-R P.530-17
0.01% Rain rate	86.62 mm/hr	Rain Rate	ITU-R P.837-7
Rain Attenuation	0.47 dB/km	Refractivity Index	ITU-R P.453-14

Bill of Materials

Part Number	Qty	Description
01010419001	4	Coaxial Cable Grounding Kits for 1/4" and 3/8" Cable
AR-E4PT6XX-WW	2	PTP 670 All Risks Advance Replacement, 4 additional years (per END)
C000065L007	2	LPU and Grounding Kit (1 kit per ODU)
C050067H010	2	PTP 670 Integrated 23dBi END with AC+DC Enhanced Supply (ROW - U.S. Line Cord). Kit includes ODU, power supply, mounting bracket and US line cord
WB3176	1	328 ft (100 m) Reel Outdoor Copper Clad CAT5E (Recommended for PTP)