

# Project Trabalho

## LINKPlanner Proposal Report

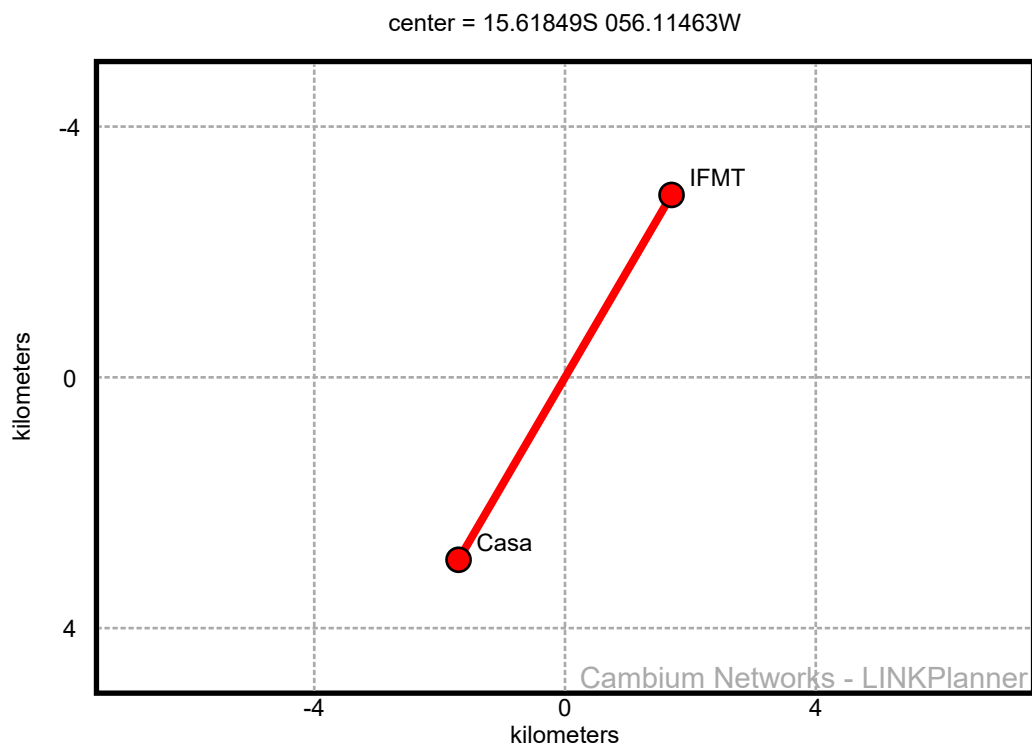
21 June 2019

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Organization: IFMT

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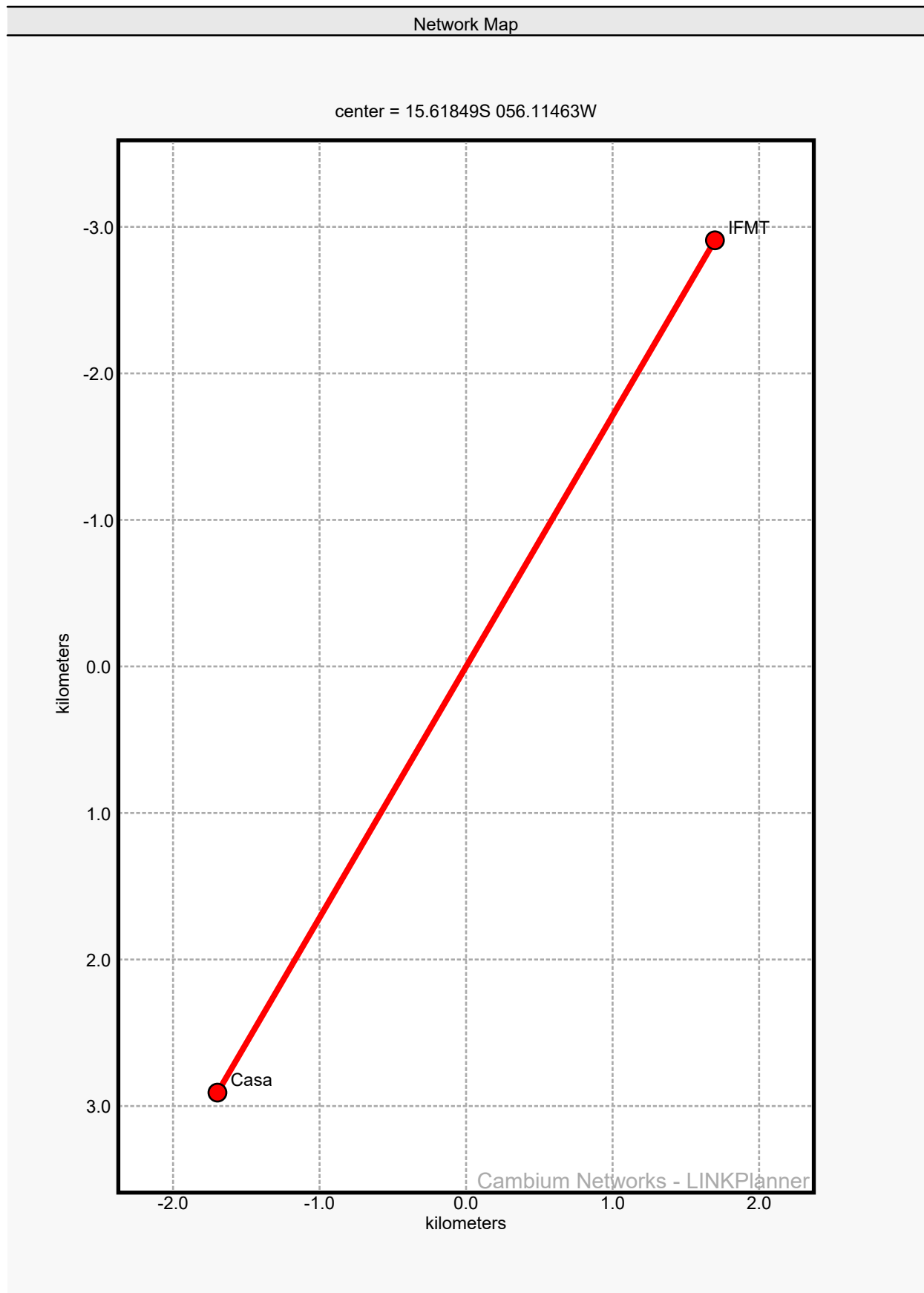
# Table of Contents

1. Project Summary	3
2. IFMT to Casa	6
Disclaimer	8

# 1. Project Summary

**Project:** Trabalho

General Information	
Customer Name	Pedro Arruda
Company Name	Arruda
Address	
Phone	
Cell Phone	+5565992427002
Email	pedrofelipega@gmail.com

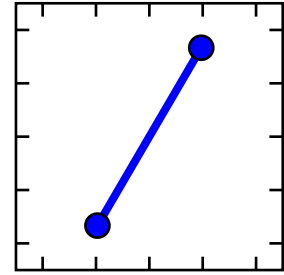


Link name	Product	Local antenna	Remote antenna	Max aggregate IP throughput
IFMT to Casa	PTP670	Cambium Networks 8ft Dual-Polar Parabolic RDH4507	Cambium Networks 8ft Dual-Polar Parabolic RDH4507	99.39 Mbps

Bill of Materials : PTP Network		
Part Number	Qty	Description
01010419001	9	Coaxial Cable Grounding Kits for 1/4" and 3/8" Cable
C000065L007	2	LPU and Grounding Kit (1 kit per ODU)
C050067H008	2	PTP 670 Connectorized END with AC+DC Enhanced Supply (ROW - U.S. Line Cord). Kit includes ODU, power supply, mounting bracket and US line cord
EW-E4PT6XX-WW	2	PTP 650/670 Extended Warranty, 4 additional years (per END)
RDH4507	2	5.25-5.85 GHZ, 8-FT (2.4M), DUAL-POL, H-POL & V-POL
WB3176	1	328 ft (100 m) Reel Outdoor Copper Clad CAT5E (Recommended for PTP)



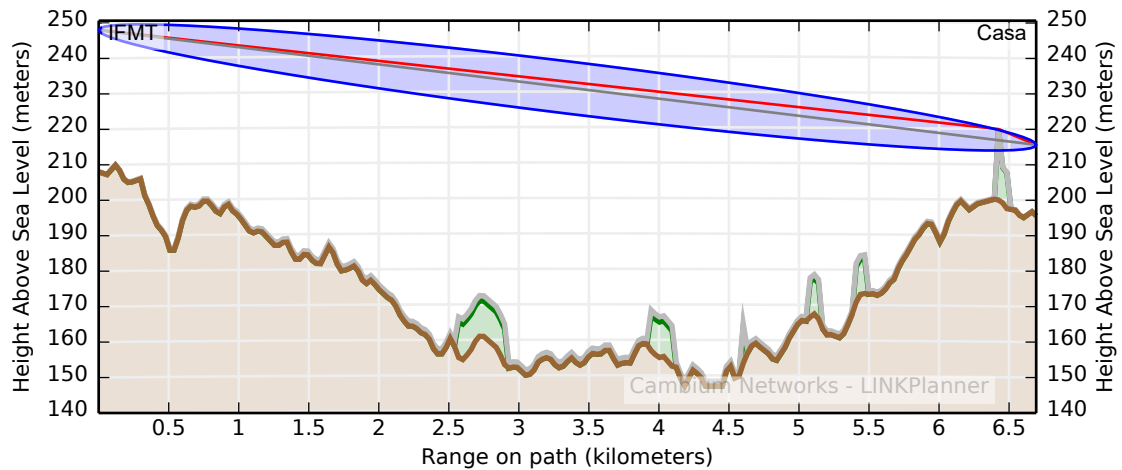
## IFMT to Casa



Equipment: Cambium Networks PTP670 Connectorized

Cambium Networks 8ft Dual-Polar Parabolic  
RDH4507 @ 40 m

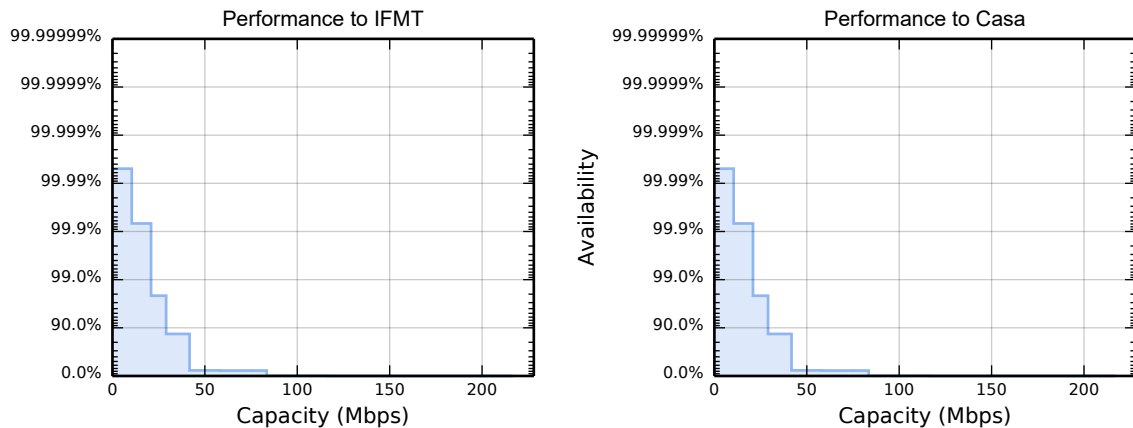
Cambium Networks 8ft Dual-Polar Parabolic  
RDH4507 @ 20 m



	Performance to IFMT	Performance to Casa
Mean IP	49.7 Mbps	49.7 Mbps
IP Availability	0.9025 % for 100.0 Mbps	0.9025 % for 100.0 Mbps

Link Summary			
Link Length	6.694 km	System Gain	157.89 dB
Band	5.4 GHz	System Gain Margin	11.95 dB
Regulation	Brazil	Mean Aggregate Data Rate	99.4 Mbps
Modulation	Adaptive	Annual Link Availability	99.9950 %
Bandwidth	45 MHz	Annual Link Unavailability	26.1 mins/year
Total Path Loss	145.94 dB	Prediction Model	ITU-R

### Performance Charts



### Climatic Factors, Losses and Standards

dN/dH not exceeded for 1% of time	-355.38 N units/km	Gaseous Absorption Loss	0.07 dB
Area roughness 110x110km	125.21 metre	Link Type	Non Line-of-Sight
Geoclimatic factor	1.93e-04	Excess Path Loss	21.94 dB
Fade Occurrence Factor (P0)	1.51e-04	Atmospheric Gasses	ITU-R P.676-7, ITU-R P.835-4
Path inclination	4.84 mr	Diffraction Loss	ITU-R P.526-10
Value of K Exceeded for 99.99% (ke)	0.40	Propagation	ITU-R P.530-12
Excess Path Loss at ke	22.46 dB	Rain Rate	ITU-R P.837-5
0.01% Rain rate	89.52 mm/hr	Refractivity Index	ITU-R P.453-9
Free Space Path Loss	123.92 dB		

### Bill of Materials

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