

## LigoPTP UNITY test on a 25 km link in Hungary

LigoWave's distributor in Hungary, Accesspoint Kft., provided UNITY devices to Nicom Wireless Ltd. They configured a 25.3 kilometer link using the N-connector models of the UNITY product coupled with 90 cm (32 dBi) dish antennas from Jirous. Impressive results were achieved for such a long distance link with signal levels of -50 to -60 dBm and running on the highest modulation (64 QAM 5/6). The Mikrotik Winbox tool was used to measure the throughput and packet per second rate. The average single direction TCP throughput was approximately 160 Mbps and the average single direction UDP throughput was nearly 170 Mbps! The comparison of the PPS rate with different packet sizes can be found in the table below. The following pages contain a LigoWave LinkCalc path analysis with satellite map illustration, and the performance screenshots from the bandwith testing tool.

	64 bytes	512 bytes	1024 bytes	2048 bytes	
Throughput, Mbps	70	160	170	160	
PPS rate		14(	0 000		

Table | Throughput results of the LigoPTP UNITY 5-N link

## LigoPTP UNITY Summary

220 Mbps capacity
140000 PPS rate
2nd Ethernet port for wireless failover
Wire speed QoS (L2 and L3)
2 x Gigabit Ethernet ports
External OLED screen
Integrated surge protection
IP-67 standards rated enclosure
Flexible and professional mounting bracket

Site Information									
Tx Site Name	LigoPTP 5-23 UNITY	Tx Site Name							
Radio Type		Radio Type	LigoPTP 5-23 UNITY						
Latitude		Latitude							
Longitude		Longitude							
Tx Power	27 dBm	Rx Threshold	-95 dBm						
Ant. Gain	32 dBi	Ant. Gain	32 dBi						
Ant. Height	15 metres	Ant. Height	32 metres						
	Pa	arametres							
Frequency	MHz	Climate	Continental Temperature						
Ant. Polarization	Vertical	Measurement	Metric System						
Misc. Loss	0 dBm	Rain Rate	0 mm/hr						
Results									
Total Path Loss	136.39 dBm	Total Fade Margin	49.61 dBm						
RX Signal Level	-45.39 dBm	Distance between sites	25.35 km						
EIRP	59 dBm	Link availability due to rain	N/A						



## MAP | Link path analysis and satellite map illustration



LigoWave CASE STUDY

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		Tu IDu 10: Automatic	103.0 Mbps/0 bps									
$\geq$		TX/HX TUS Average:	162.3 MDps/U Dps									
SC		Tx/Hx Total Average:	159.6 Mbps/U bps									
Router		Tx 165.6 Mbps Rx										

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Picture | Screenshot from the bandwidth testing tool Any third party products, brands or trademarks listed above are the sole property of their respective owner.