# LigoWave

## LigoDLB 6ac with External Dish Antenna

# CASE STUDY

## Russia

## Scenario

A LigoWave client in Russia has set up a 3.11km point-to-point link with 2× LigoDLB 6ac wireless devices. 28dBi Cyberbajt DishEter external dish antennas were hooked up to each device.

Roughly 1km of the link was over water. Radio transmit power was set to 20dBm as the 6GHz band is clear, meaning that there is no need to set the maximum (30dBm).

## Product

LigoDLB 6ac is a wireless 6GHz device with external antenna support made for video surveillance & last-mile scenarios. It comes with a 750MHz QCA 9563 CPU, 64MB RAM/16MB Flash Memory, and a 30dBm QCA 9882 radio.

The 6ac supports 256-QAM, QoS prioritization, and the iPoll 3 protocol. This allows the device to deliver over 500Mbps of throughput & 100,000+ packets per second.

LigoDLB 6-15ac uses the iPoll smart polling protocol to get rid of transmission congestion and close-cluster interference. This effectively reduces latency, stabilizes jitter and increases CPE count to boost throughput and guarantee reliability in noisy settings.

## Results

Tests showed optimal performance over all channel widths. The 6ac link reached 130Mbps using TCP and 135Mbps using UDP aggregated duplex over the 20MHz channel width. 40MHz allowed for 280Mbps of throughput using TCP and 300Mbps using UDP aggregated duplex. Over the 80MHz channel width, the link delivered 420Mbps using TCP and 460Mbps using UDP aggregated duplex.

The water did not interfere with the link's performance and stability, even with a lower transmit power. A higher EIRP can be used to increase TCP aggregated throughput, if necessary.

The DLB Series is often chosen for its high-PPS capacity. During these tests, the packet-per-second rate peaked at 90,000 with signal levels averaging at –45dBm. The link used the iPoll 3 proprietary protocol.

**LigoDLB 6ac**  |  **3km Link**  |  **100,000+PPS**
with External Dish Antenna
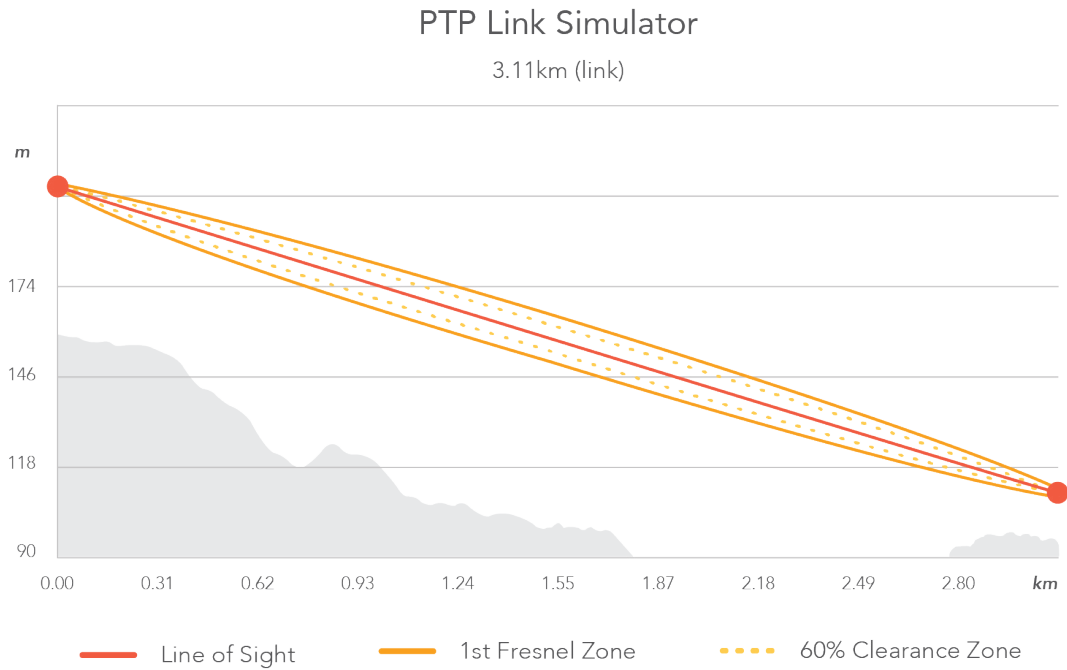


Map | *LigoDLB 6ac Link with External Dish Antenna (3.11km)*

Image | *LigoDLB 6ac with External Dish Antenna*

| | 20MHz | 40MHz | 80MHz |
|---|---|---|---|
| **TCP Aggregated Duplex (Mbps)** | 130 | 280 | 420 |
| **UDP Aggregated Duplex (Mbps)** | 135 | 300 | 460 |

Table | *Link Performance Results*

## PTP Link Simulator

### 3.11km (link)



Line of Sight — 1st Fresnel Zone — 60% Clearance Zone

## Contact Us

Need a 6GHz wireless network solution for your projects?
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## Case Study of LigoDLB 6ac

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