



PRIVATE BACKHAUL NETWORK ANALYSIS 23.97396770955065, 38.27582952023366

Redama
Le red que te anima
Riccardo Giuntoli
CIF. X9770628K
938 962 775



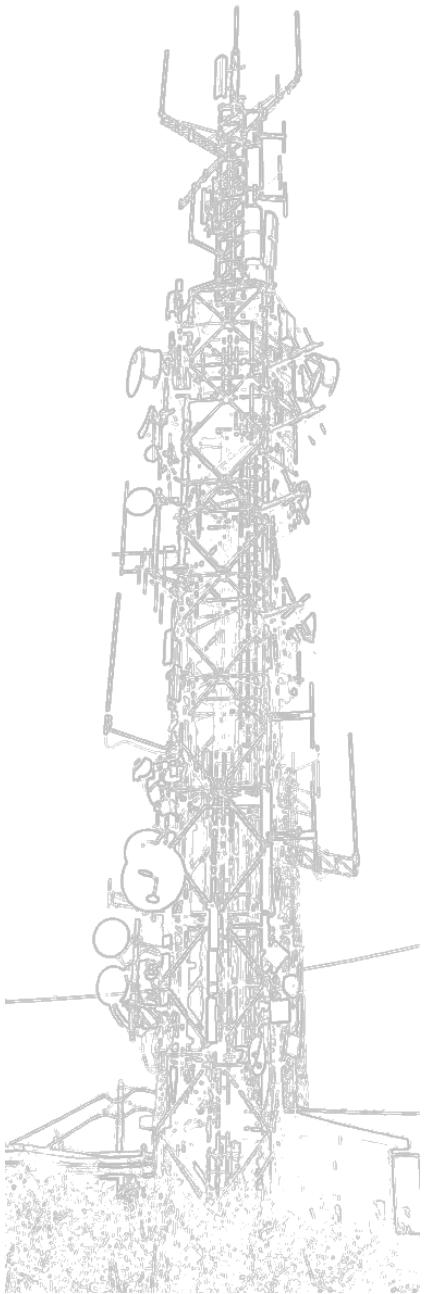


1.0 Información de contacto.

Operador:

BSDTelecom Lobby SL
Redama ®
Riccardo Giuntoli, CEO
+34 660 92 28 90
riccardo@redama.es

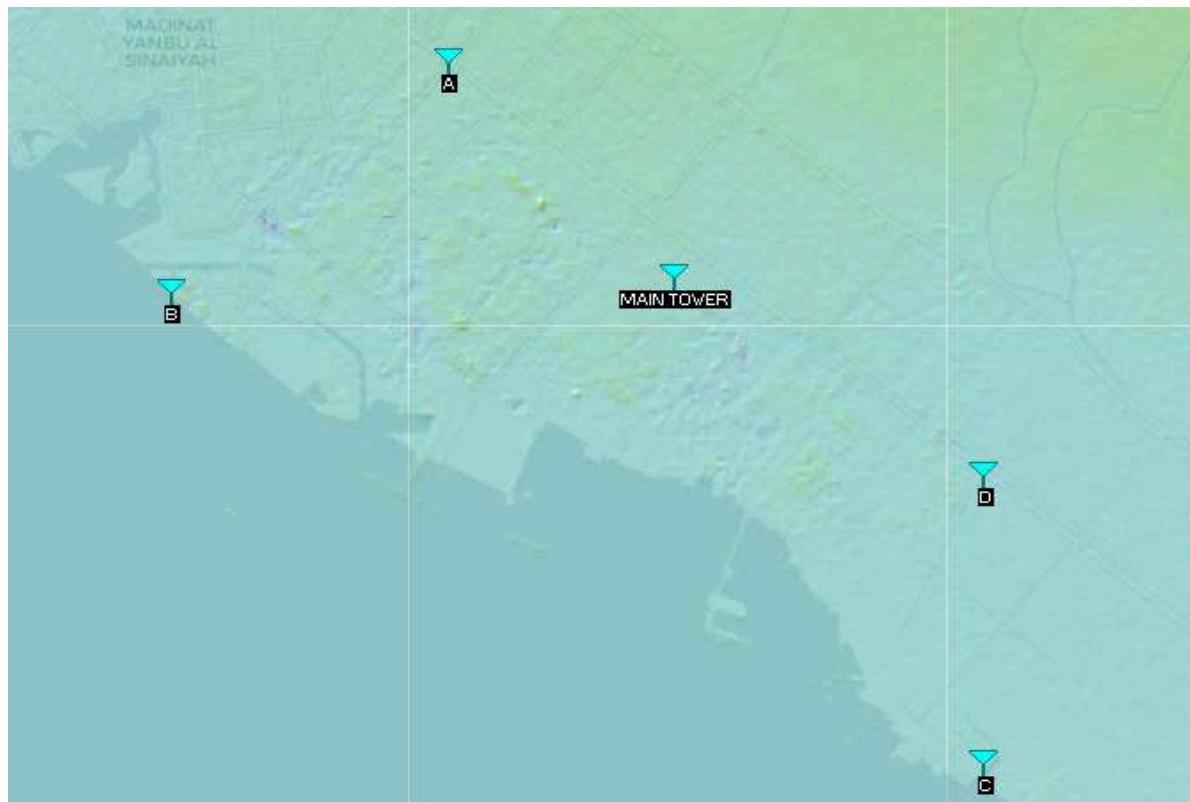
Cliente:





2.0 BACKHAUL PRESENCE POINTS.

We've got to serve the five towers with redundant backhaul technology. We adopt two licence free bands, the 60Ghz for principal point to points and the 5Ghz for redundant failover backups. The geographic points are estimated, minus the "MAIN TOWER," which appears to already exist. Satellite-derived topographic data are used for terrain surveying and radio coverage.





3.0 FULL BACKHAUL NETWORK LAYOUT.



Four backhaul point to point working at 60GHz with automatic backup on 5GHz preventing heavy rainfalls, connect "MAIN TOWER" to A, B, C and D towers.

Other four backhaul point to point working at 5GHz prevent hardware failure connecting A with B, B with C, C with D and D with A.





3.0.1 "MAIN TOWER" to "A" BACKHAUL.

**FREQUENCY**

SELECTED BY ARTIFICIAL INTELLIGENCE BETWEEN 58320 MHz and 69120 MHz.

INSTALLATION HEIGHT

20 meters.

LINK DISTANCE

5.35 km.

AZIMUTH "MAIN TOWER" TO "A"

316 degrees north / west.

AZIMUTH "A" TO "MAIN TOWER"

136 degrees south / east.

SIGNAL RECEIVED

-41 dBm.

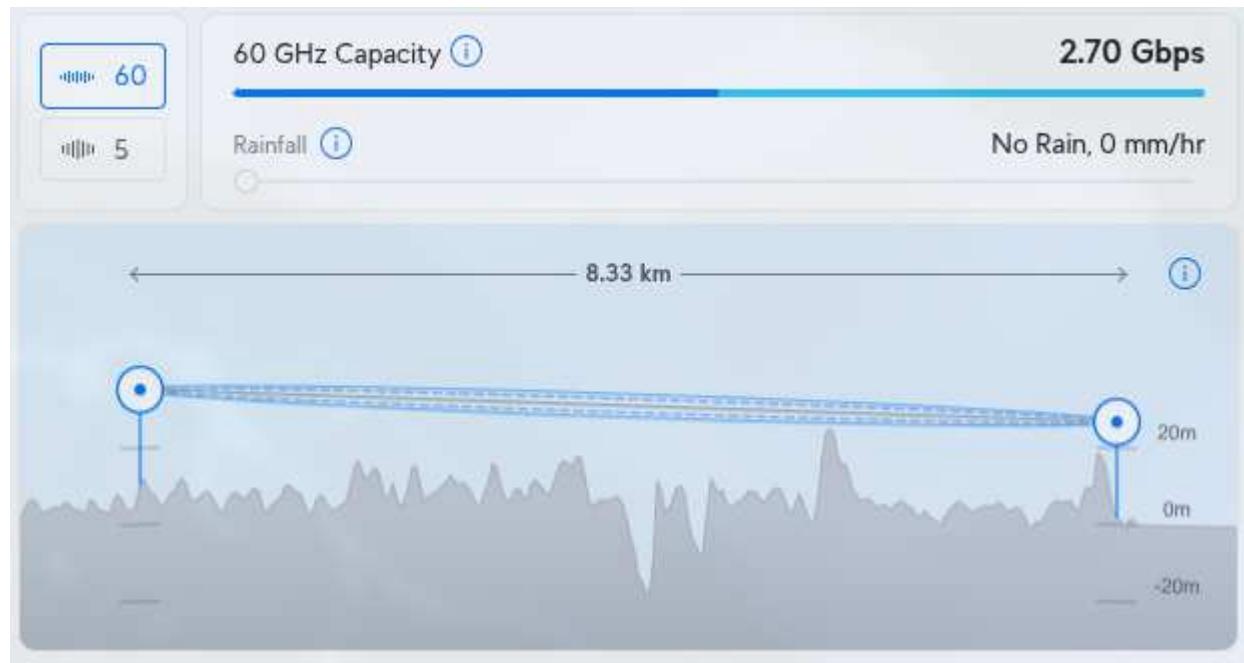
BACKHAUL MAX. THROUGHPUT

2.7 Gbps.





3.0.1 "MAIN TOWER" to "B" BACKHAUL.

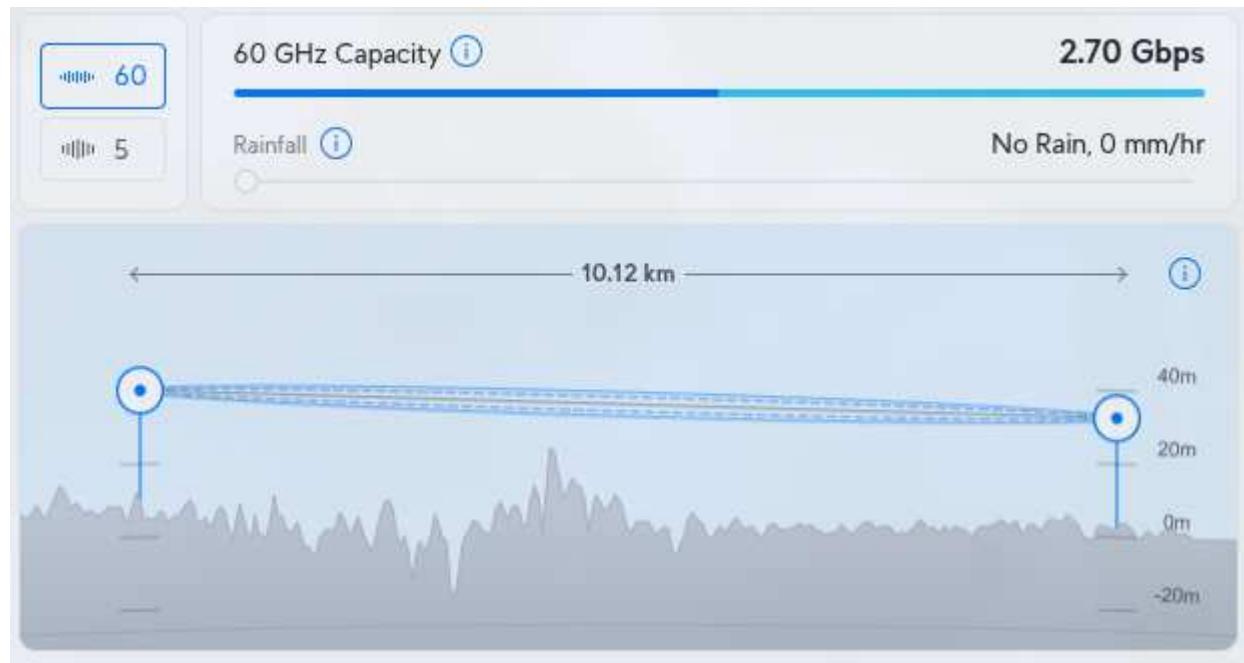


FREQUENCY	SELECTED BY ARTIFICIAL INTELLIGENCE BETWEEN 58320 MHz and 69120 MHz.
INSTALLATION HEIGHT	25 meters.
LINK DISTANCE	8.33 km.
AZIMUTH "MAIN TOWER" TO "B"	268 degrees west.
AZIMUTH "B" TO "MAIN TOWER"	88 degrees east.
SIGNAL RECEIVED	-47 dBm.
BACKHAUL MAX. THROUGHPUT	2.7 Gbps.





3.0.1 "MAIN TOWER" to "C" BACKHAUL.

**FREQUENCY**

SELECTED BY ARTIFICIAL INTELLIGENCE BETWEEN 58320 MHz and 69120 MHz.

INSTALLATION HEIGHT

30 meters.

LINK DISTANCE

10.12 km.

AZIMUTH "MAIN TOWER" TO "C"

149 degrees south / east.

AZIMUTH "C" TO "MAIN TOWER"

329 degrees north / west.

SIGNAL RECEIVED

-50 dBm.

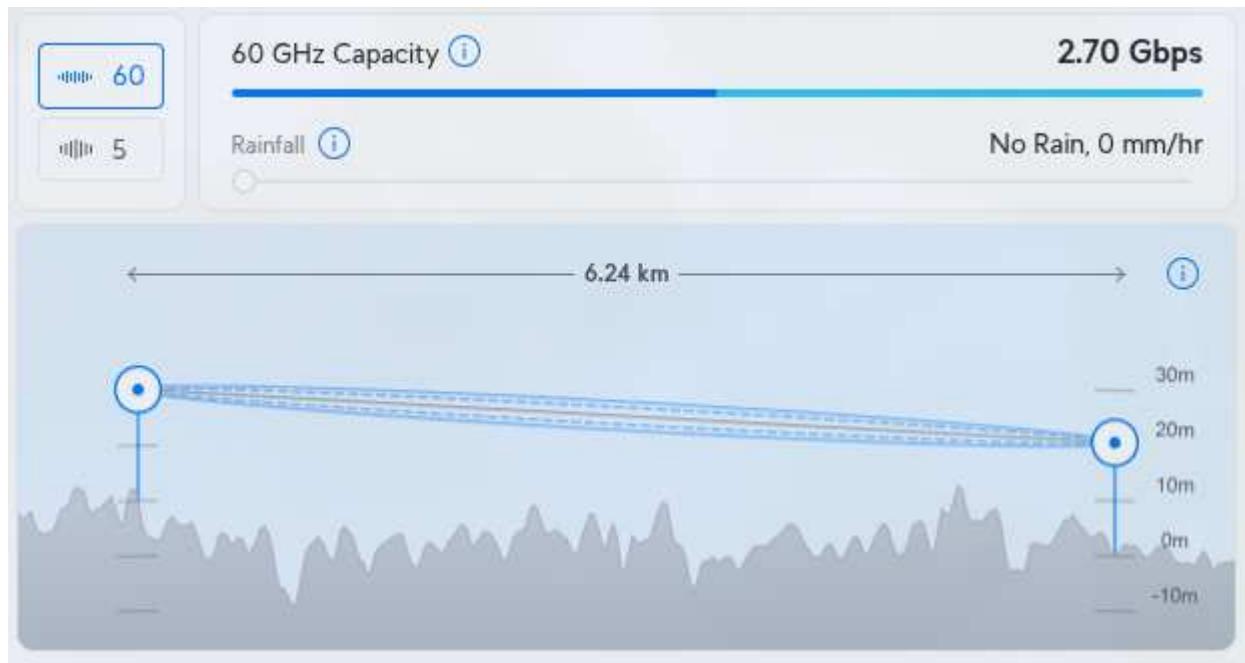
BACKHAUL MAX. THROUGHPUT

2.7 Gbps.





3.0.1 "MAIN TOWER" to "D" BACKHAUL.

**FREQUENCY**

SELECTED BY ARTIFICIAL INTELLIGENCE BETWEEN 58320 MHz and 69120 MHz.

INSTALLATION HEIGHT

20 meters.

LINK DISTANCE

6.24 km.

AZIMUTH "MAIN TOWER" TO "D"

125 degrees south / east.

AZIMUTH "D" TO "MAIN TOWER"

305 degrees north / west.

SIGNAL RECEIVED

-47 dBm.

BACKHAUL MAX. THROUGHPUT

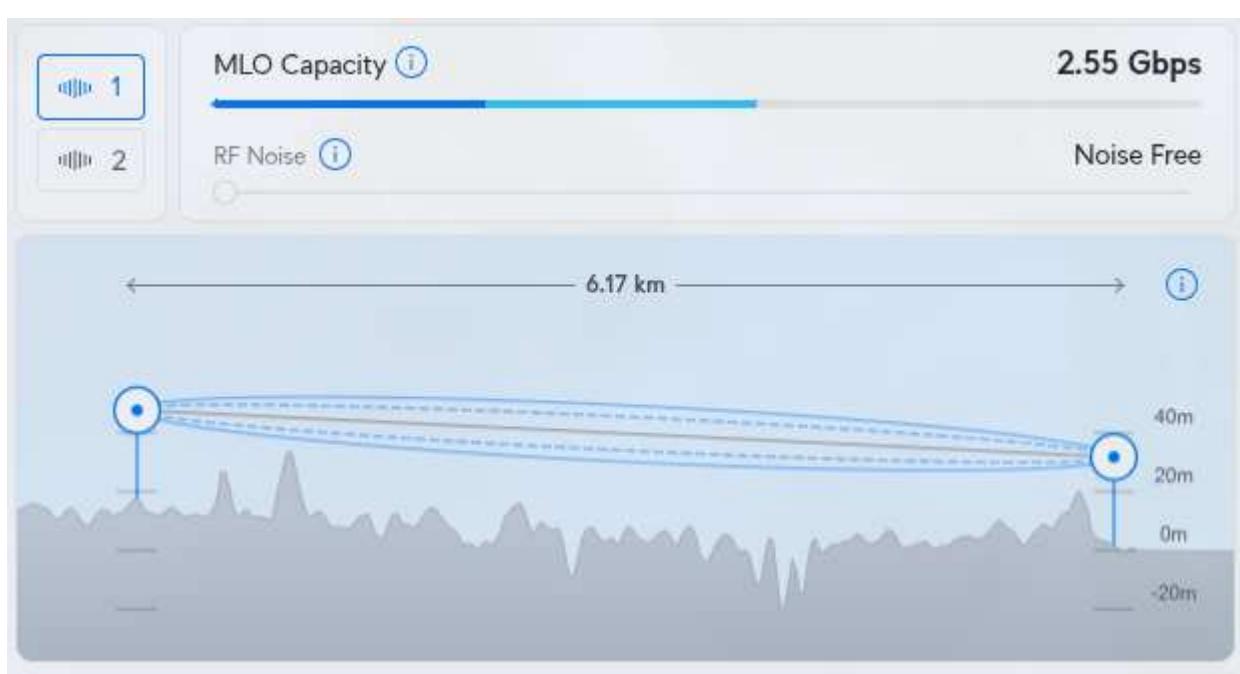
2.7 Gbps.





4.0 BACKUPS POINT TO POINT BACKHAUL.

4.0.1 "A" to "B" BACKHAUL.



FREQUENCY

AUTOMATIC IN THE 5GHz REGION.

INSTALLATION HEIGHT

30 meters.

LINK DISTANCE

6.17 km.

AZIMUTH "A" TO "B"

125 degrees south / east.

AZIMUTH "B" TO "A"

305 degrees north / west.

SIGNAL RECEIVED

-47 dBm.

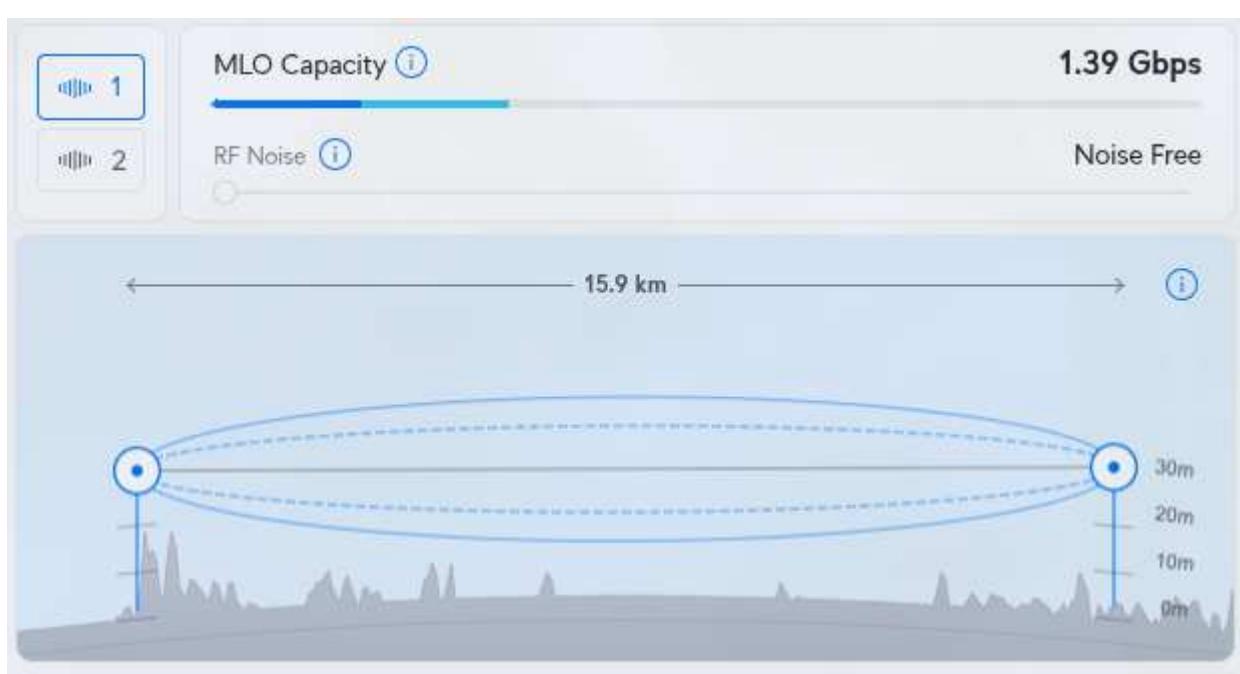
BACKHAUL MAX. THROUGHPUT

2.55 Gbps.





4.0.2 "B" to "C" BACKHAUL.



FREQUENCY

AUTOMATIC IN THE 5GHz REGION.

INSTALLATION HEIGHT

30 meters.

LINK DISTANCE

15.9 km.

AZIMUTH "B" TO "C"

122 degrees south / east.

AZIMUTH "C" TO "B"

302 degrees north / west.

SIGNAL RECEIVED

-70 dBm.

BACKHAUL MAX. THROUGHPUT

1.39 Gbps.





4.0.2 "C" to "D" BACKHAUL.



FREQUENCY	AUTOMATIC IN THE 5GHz REGION.
INSTALLATION HEIGHT	30 meters.
LINK DISTANCE	5.16 km.
AZIMUTH "C" TO "D"	360 degrees north.
AZIMUTH "D" TO "C"	180 degrees south.
SIGNAL RECEIVED	-61 dBm.
BACKHAUL MAX. THROUGHPUT	3.09 Gbps.





4.0.3 "D" to "A" BACKHAUL.



FREQUENCY

AUTOMATIC IN THE 5GHz REGION.

INSTALLATION HEIGHT

25 meters.

LINK DISTANCE

11.54 km.

AZIMUTH "C" TO "D"

310 degrees west.

AZIMUTH "D" TO "C"

130 degrees east.

SIGNAL RECEIVED

-68 dBm.

BACKHAUL MAX. THROUGHPUT

1.97 Gbps.



Redama



BSD Telecom Lobby S.L.

CIF: B16430621

CNMC: RO/DTSA/0369/21

+34 933 93 92 51

riccardo@redama.es

Atentamente,



A handwritten signature in black ink, appearing to read "Riccardo Giuntoli".

