Astra Quasar

Multi-gigabit system for multi-kilometer backhauls

Frequency range

- 4.9 – 6.060 GHz
- 6.0 – 7.1 GHz

Max. Capacity

- Up to 2.1 Gigabit per second in 160 MHz

Wide range of networking features

A mile-long link is not a backhaul

Designed for long-distance professionals, Astra Quasar

Multi-gigabit performance

Astra Quasar delivers impressive wireless throughput of up to 2.1 Gbps in 160 MHz, 1.1 Gbps in 80 MHz

Multi-kilometer capabilities

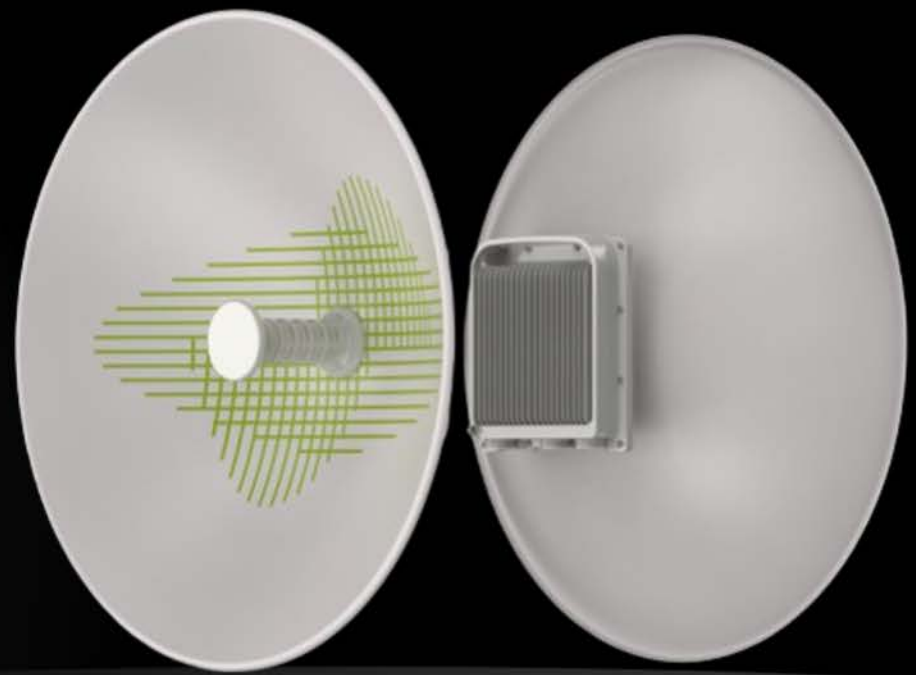
Efficient radio system delivers high availability even over multi-kilometer distances

Flexibility for every occasion

An antenna of the required diameter is easier to assemble than an IKEA chair

Integrated router - more than just forwarding packets

Do more than just configure VLANs: the built-in router handles even complex Layer-3 networking tasks



Today's Telecoms Professionals Need Gigabit Speeds

Solutions for organizing gigabit channels already exist in the unlicensed bands, but the operating distances are measured in hundreds of meters, maybe a few kilometers.

Astra Quasar is necessary for those who work in communications on a professional level. It means the possibility to work in the noisy environment of the city. Capability of working at distances of tens of kilometers. Ability to flexibly manage traffic, ensure its routing, prioritization and security.

Long-range connectivity for rural areas

High-capacity links for enterprise customers

Video surveillance, traffic management and public safety wireless infrastructure

Backhauling for Wi-Fi in public areas and parks

01.

High power even at top speed

At the highest modulation, other systems significantly reduce signal power. Astra Quasar outperforms typical solutions by 5 dB

Super powerful

02.

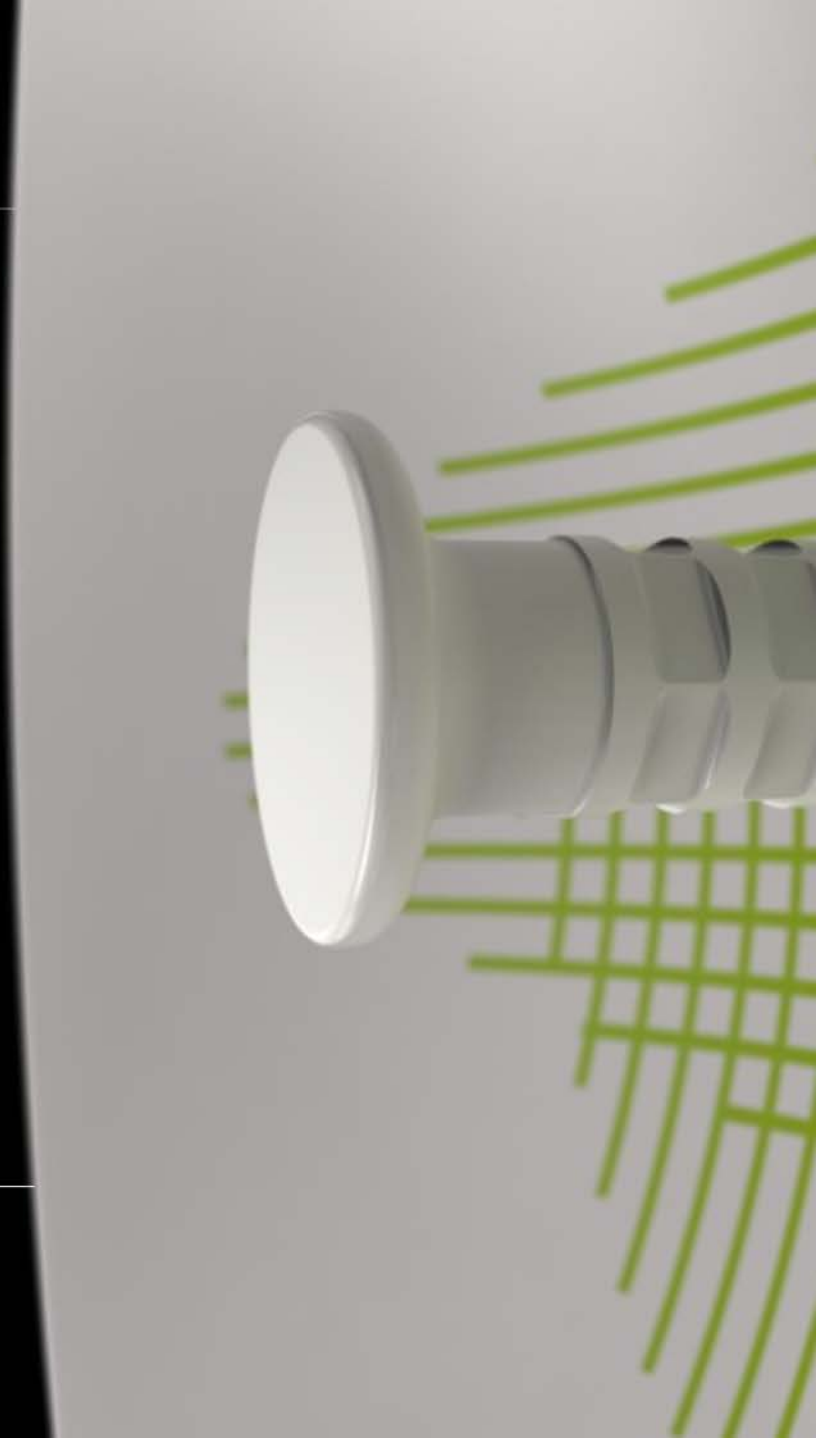
No cable loss

With a split design, the radio sits inside a feeder, eliminating signal loss

03.

Precise antenna design

Astra's unique parabolic dishes are highly efficient in both the 5 and 6 GHz bands



Changing an antenna as easy as screwing in a light bulb

Cut delivery costs

A dish, feeder and radio unit are shipped disassembled

Stock flexibility

Spare antennas of different gain can be ordered separately and assembled as required

Installation is simple

The dish is attached to the radio by means of a feeder that is simply tightened without the need for additional tools

Astra Quasar 38

CONNECTING REGIONS

Amazing savings on shipping costs

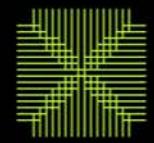
The antenna is comprised of six lobes that can be nested. No need to pack in a wooden slat

Optimized performance

Both in 5 and 6 GHz

How far does Wireless Gigabit go?

Model	Antenna	Max Distance for 1Gbps	Max Distance for 1Gbps with noise
Radwin 2000E	24 dBi	2.7 km	1.3 km
Telrad BreezeAIR AXE	17.5 dBi	1.5 km	0.4 km
Telrad BreezeAIR AXE	23 dBi	3.9 kmi	1.2 km
Cambium Force 425	25 dBi	3.8 km	1.5 km
Cambium Force 425	25 dBi + extender	6 km	3.5 km
Astra Quasar 5	26 dBi	8.6 km	4.5 km
Astra Quasar 5	29 dBi	12 km	6 km
Astra Quasar 5	38 dBi	26 km	12 km



The results are obtained in link budget tools provided by the corresponding manufacturers

For the Astra Quasar preliminary calculations from the Mentum Ellipse system are given

Maximum distance specified for 99.99% availability, QAM1024 modulation, channel width 80MHz

For the noise scenario, a noise level of -85 dBm was specified

PoC Release Notes

Limitations

- Flat antennas instead of dishes
- No TDD support
- Software maximum link distance limitation: 30 km
- 160 MHz channel size is not supported
- No 2.5G port: only 1G

Web UI limitations

- No visual alignment tool
- No link capacity test
- No stats graphs

Roadmap

Hardware updates

Q4/24

- 5 GHz models: QSR5-29, QSR5-26, QSR5-E
- 6 GHz models: QSR6-29, QSR6-29, QSR6-E

Q1/25

- TDD support
- No limitation on maximum link distance

Q2/25

- 5 GHz high-efficient radio Tx Power: 30 dB

Q3/25

- New motherboard: Independent 2.5G + SFP 10G ports

Q4/25

- 6 GHz high-efficient radio Tx Power: 30 dB

Software Updates

Q2/25

- TDD-synchronization
- Support of 80+80 MHz channel size
- Instant DFS

Q3/25

- Support of 160 MHz channel size

Q4/25

- QAM4096 support

Quasar Specification*

*Specifications are preliminary and can be changed

PART NUMBER	QSR5-26 / QSR6-26	QSR5-29 / QSR6-29	QSR5-E / QSR6-E
Device description	Integrated antenna subscriber terminal unit		External antenna ubscriber terminal unit
Distance	Middle-to-long range (8 km)	Long range (12 km)	Long range (30+ km)
Frequency Bands	QSR5: 4900-6060 MHz QSR6: 6000-7100 MHz		
Radio	Transmit power: up to 27 dBm Receiver sensitivity: up to -63 dBm		
Antenna	26 dBi dual-pol integrated dish antenna 8x8 deg	29 dBi dual-pol integrated dish antenna 5x5 deg	Connectorized (2 x N-type connectors)
Wired interfaces	Combo: 1x Gigabit Ethernet port (RJ45), 1x SFP		
Power consumption	Up to 30 W		
Form Factor and Dimensions	Outdoor Unit (ODU): 350 x 350 x 71.5 mm, 2.3 kg	Outdoor Unit (ODU): 600 x 600 x 68 mm, 5.8 kg	Outdoor Unit (ODU): 188 x 190 x 86 mm, 1.2 kg
	Indoor Unit: IDU-CPE-G (56W): 137,5 x 62,5 x 33 mm, 0.24 kg		

Net-working

- Ethernet-over-IP, IP-over-IP tunneling
- ARP protocol support
- MAC/IP filtering
- Full-fledged 2nd layer switch
- Static routing
- L2/L3 Firewall
- DHCP client/server/relay

Quality of Service

- Over 8 priority queues
- IEEE 802.1p support, IP TOS / DiffServ support
- Traffic limiting (absolute, relative, mixed)
- Traffic redirection

Security

- Storm / flood protection
- Password protection
- Secure command-line access via SSH protocol
- Scrambling

Standard compliance*

Radio

- ETSI EN 301 893 v.2.1.1;
- ETSI EN 302 502 v.2.1.3;
- FCC part 15.407

EMC:

- ETSI EN 301 489-1 v.2.2.3;
- ETSI EN 301 489-17 v.3.2.4;
- FCC Part 15 Class B

Safety

- EN 62368-1:2014+A11:2017;
- EN 60950-22:2017; EN 62311:2008
- RoHS (pending):
- RoHS3 Directives 2015/863/EU

Lightning protection

- IEC 61000-4-2 (+/-4kV (contact discharge), +/-8kV (air discharge)
- IEC 61000-4-4 (+/-0.5kV)
- IEC 61000-4-5 (+/-1kV (line-to-ground), (+/-0.5kV (line-to-line)

Operation options

Power options

- 110-240 VAC @ 50/60 Hz
- ±43..56 VDC
- 802.3at or Proprietary PoE

Outdoor Unit environmental conditions:

- -40..+60°C
- 100% humidity, condensing

Indoor Unit environmental conditions

- 0..+40°C
- 95% humidity, non-condensing

Ingress Protection Code

- IP66/IP67

Radio Features

- Radio technology: SU-MIMO 2x2
- Modulation types: BPSK 1/2 to QAM1024 7/8
- Duplex method: Polling

- Frequency range: 4900 - 7100 MHz
- Channel bandwidth: 20/40/80/160* MHz
- Voice/RTP Aware Superpacketing

- Automatic Bitrate Control
- Automatic Transmit Power Control
- Automatic Distance Learning

- Spectrum Analyzer mode
- DFS / Radar detection
- Channel testing tools

*Pending

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