Astra Evolution

Robust wireless solution with advanced networking functionality

Frequency range
- 4.9 — 6.425 GHz

Max. Capacity
- **800** Megabit per second

Rich Layer-3 networking features

Astra Evolution provides the ultimate solution for all types of professionals in the wireless technologies arena

High performance= High revenue

The Evolution base station provides a high throughput and quality of service to a larger number of subscribers, ultimately helping to generate additional revenue streams and profits

Integrated router for complicated network scenarios

Astra Evolution has a built-in router functionality, eliminating the cost of installing an additional SOHO router at the customer's premises. Potential cyber-security issues can be quickly addressed with a built-in firewall

Reliable solution for demanding tasks

The family of solutions guarantees many years of uninterrupted operation, thanks to its completely sealed enclosure, which is resistant to moisture and salt damage. All Astra Evolution products also come equipped with an advanced lightning protection

Versatile model range of subscriber terminals

The subscriber units provided with this product family are dual band, able to operate in both the 5 GHz and 6 GHz frequency bands. They can be fitted with a range of integrated and external antennas to cater for both short distances as well as longer ones of 25 km and further

Applications
WISP access infrastructure

WISP's do not merely deliver connectivity; they manage a complex and challenging business. Their customers demand high performance, guaranteed data security and zero downtime.

WISP engineers have to manage their operations using sophisticated network solutions from multiple vendors. Their competition is increasing whilst their ARPU is decreasing.

At Astra Wireless, we designed the Astra Evolution family of solutions to address the exact needs of wireless professionals.

Astra Evolution provides the ultimate solution for all types of professionals in the wireless technologies arena.
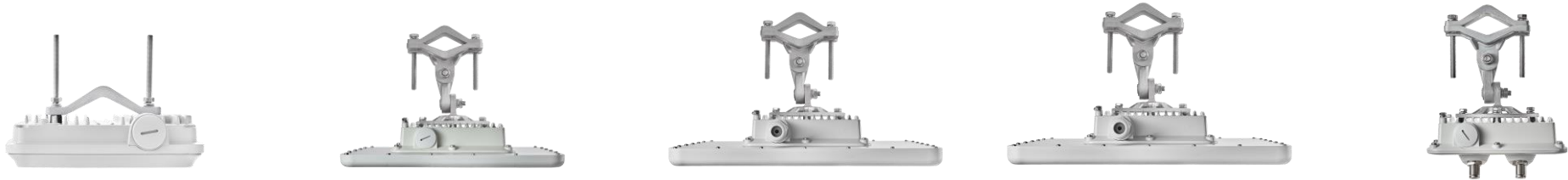
- Last mile for video surveillance and public safety infrastructures
- Internet access for difficult to
- Backhauling for public Wi-Fi networks reach locations

Evolution Base Station Sectors

System component	Evolution Base Stations		
Model	E5-BSQ	E5-BSI | E6-BSI	E5-BSE | E6-BSE
Device description	High-capacity base station sector with an integrated beamforming antenna	High-capacity base station sector with an integrated antenna	High-capacity base station sector for an external antenna
Throughput	Up to 800 Mbps sector net throughput		
Distance	Middle-to-long range (30 km)	Middle range (20 km)	Long range (40+ km)
Frequency Bands	4.9 – 6.05 GHz	E5-BSI: 4.9 – 6.05 GHz E6-BSI: 6.05 – 6.425 GHz	E5-BSE: 4.9 – 6.05 GHz E6-BSE: 6.05 – 6.425 GHz
Radio	Transmit power: up to 27 dBm Receiver sensitivity: -93 dBm		
Antenna	21 dBi dual-pol integrated sector beamforming antenna 90°x8° (20° Az-steerable beam)	16 dBi dual-pol integrated sector antenna 90°x8°	2 x N-type (Female) connectors
Wired interfaces	1x Gigabit Ethernet port (10/100/1000 Base-T), RJ-45 connector, 1x SFP port, 1x SYNC port		
Power consumption	Up to 30 W	Up to 20 W	
Form Factor and Dimensions	Outdoor Unit (ODU): 371 x 371 x 90 mm, 4.4 kg	Outdoor Unit (ODU): 371 x 371 x 90 mm, 4.4 kg	Outdoor Unit (ODU): 240 x 248 x 87 mm, 2.2 kg
	Indoor Unit: IDU-CPE-G (56W) 137,5 x 62,5 x 33 mm, 0.24 kg	Indoor Unit IDU-CPE-G(24W) 97x53.5x33.5 mm, 0.133 kg	

Evolution Subscriber Terminals

System component	Evolution Subscriber Terminals				
Model	E5-ST18 | E6-ST18	E5-ST23	E5-ST25 | E6-ST25	E5-ST28 | E6-ST28	E5-STE | E6-STE
Device description	Integrated antenna subscriber terminal unit				External antenna subscriber terminal unit
Throughput	Up to 670 Mbps net throughput				
Distance	Short range (5-10 km)	Middle range (12-15 km)	Middle-to-long range (15-20 km)	Long range (25+ km)	Long range (30+ km)
Frequency Bands	E5: 4.9 – 6.05GHz E6: 4.9 – 6.425GHz				
Radio	Transmit power: up to 25 dBm Receiver sensitivity: -91 dBm				
Antenna	18 dBi dual-pol integrated antenna 18x18 deg	23 dBi dual-pol integrated antenna 10x10 deg	25 dBi dual-pol integrated antenna 8x8 deg	28 dBi dual-pol integrated antenna 5x5 deg	Connectorized antenna (2 x N-type connectors)
Wired interfaces	1 x Gigabit Ethernet (10/100/1000 Base-T) RJ-45 connector				
Power consumption	Up to 15 W				
Form Factor and Dimensions	Outdoor Unit (ODU): 188 x 188 x 45 mm, 1.3 kg	Outdoor Unit (ODU): 305 x 305 x 66 mm, 1.75 kg	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(24W) 97x53.5x33.5 mm, 0.133 kg			

Radio features

Radio technology: MIMO 2x2 with OFDM 64/128

Modulation types: BPSK 1/2 to QAM256 5/6

Duplex method: TDD

Channel bandwidth: 10/20/40/80 MHz

Voice/RTP Aware Superpacketing

DFS / Radar detection / Instant DFS

Automatic Bitrate Control

Automatic Transmit Power Control

Automatic Distance Learning

Channel Time Adjustment

Spectrum Analyzer mode

Channel testing tools

- Single system covering 4.9-6.4 GHz frequency bands
- Build-in spectrum analyzer and antenna alignment tools
- Easy operation due to automatic control options

Networking

Ethernet-over-IP, IP-over-IP tunneling

ARP protocol support

MAC/IP filtering

Full-fledged 2nd layer switch

RIPv2 / OSPFv2 /static routing

L2/L3 Firewall

NAT (multipool, H.323-aware)

DHCP client/server/relay

Quality of Service:

17 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

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, can be extended to -55..+60°C (models with "t" index in PN)

100% humidity, condensing

Indoor Unit environmental conditions:
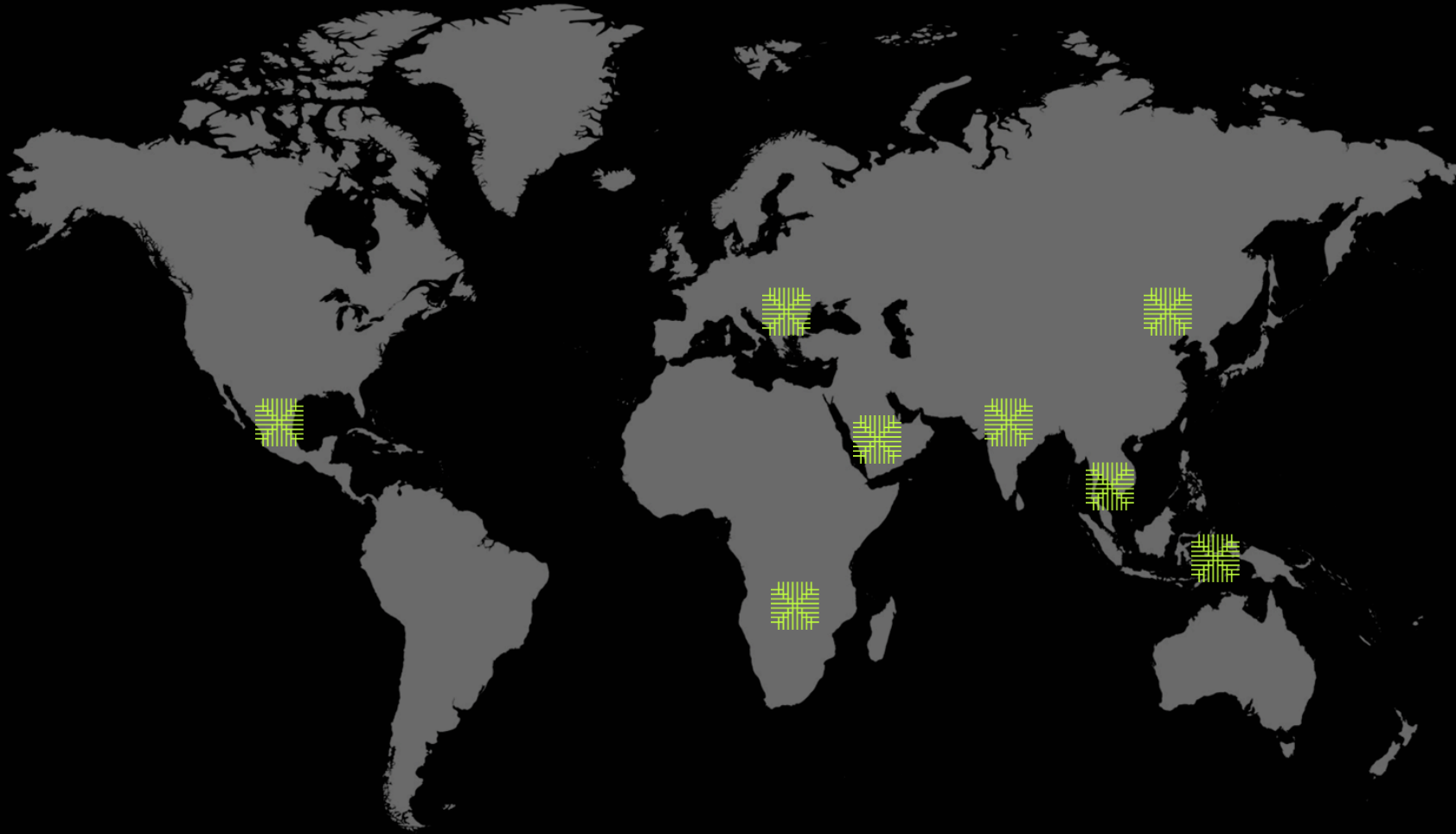
0..+40°C

95% humidity, non-condensing

Ingress Protection Code:
IP66/IP67

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