## X20 Dual 5GHz Anywhere Node ICA Technology





X20 is a high-performance dual 5 GHz radios wireless backhaul unit designed for flexible and expandable deployment regardless of physical constraints. Thanks to our Intelligent Connectivity Anywhere (ICA) technology, A-NN X20 extends connectivity to the locations where extensive fiber optic cabling is unfeasible due to a tight timescale.

The ICA technology breaks the traditional hopping limitation of wireless networks by tackling the multi-hop bandwidth degradation. With ICA technology, the X20 Anywhere Node supports over 10 hops and up to 600 Mbps world's leading end-to-end ring topology backhauling speed.

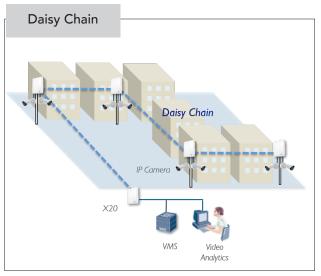
Ultra high throughput wireless surveillance backhauling

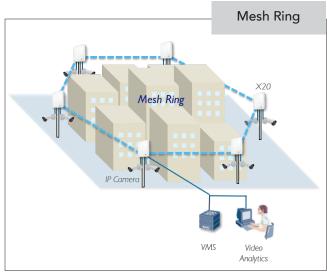
- Up to 600 Mbps throughput<sup>1</sup>
  - IP 67 weatherproof

Greater than 10 hops backhauling

- 20/40/80 MHz channel
  - 2 × 5 GHz radio

## Deployment Architecture





## X20 Dual 5GHz MeshRanger

## **Specifications**

Operating Frequency (Country- dependent)  Modulation Techniques  OFDM: BPSK, QPSK, 16QAM, 64QAM, Techniques  OFDM: BPSK, DQPSK, 16QAM, 64QAM, DSSS: DBPSK, DQPSK, CCK  No. of Spatial Stream  Receive Sensitivity  Receive Sensitivity  Sensitivity  Transmit Power (Country- dependent)  Antenna  Connected to  Radio 0  Radio 1  Type  Built-in 5 GHz External 5 GHz Gain  19 dBi Optional Antennas: Polarization  Horizontal Beamwidth  Vertical Beanwidth  DSSS: DBPSK, DQPSK, CCK  Management Built-in Web User Interface Support  Remote Firmware Upgrade, SNMP v1/ v2c, MIB support  Hardware  No. of Radio 2 × 5 GHz Radio Network Interface  LED RUN; LAN; RADIO 0; RADIO 1  Power Supply 802.3at PoE Injector  Power Consumption  Antenna O' to 30' Down-tilt (or 0' to 30' Up-tilt by Movement Reversed Mounting)  MTBF 350,000 hours (50'C)  Physical Characteristics  Dimensions 270×270×80 mm (w/o Mounting)					
PEAP/TLS/TITLS/SIM/AKA), MAC address   PEAP/TLS/TLS/SIM/AKA), MAC address   PEAP/TLS/TLS/TLS/TLS/TLS/TLS/TLS/TLS/TLS/TLS	Wireless			Authentication	Open System, Shared Key, WPA/WPA-
Antenna   Septimid					
dependent)  Modulation Techniques		5.4/0 - 5.850 GHz			
Techniques 2560AM DSSS: DBPSK, DQPSK, CCK  No. of Spatial Stream 2x2: 2 MIMO, 20/40/80 MHz Channel Stream 2x2: 2 MIMO, 20/40/80 MHz); -88 dBm (40 MHz); -85 dBm (80 MHz); -85	dependent)				TKIP, 128-bit AES
DSSS: DBPSK, DQPSK, CCK No. of Spatial Stream Receive		256QAM		Management	
No. of Spatial Stream   2x2: 2 MIMO, 20/40/80 MHz) Channel Stream   Receive	rechniques				SmartMoment
Stream   Receive   -91 dBm (20 MHz); -88 dBm (40 MHz); -85 dBm (80 MHz); -85 dBm (	No. of Spatial				
Sensitivity -85 dBm (80 MHz)  Transmit Power (Country-dependent)  Antenna  Connected to Radio 0 Radio 1  Type Built-in 5 GHz External 5 GHz Gain 19 dBi Optional Antennas; More Options on Horizontal Horizontal Horizontal Peanwidth  Vertical 17* Request Peanwidth  Vertical 17* Request Pront-to-back Ratio 1  Solation 35 dB (Min.)  Networking In-Royal More Options on Request Pront-to-back Ratio 1  Isolation 35 dB (Min.)  Networking In-Royal More Options on Reduction of Mounting Properties of More Options on Request Pront-to-back Ratio 1  Solation 35 dB (Min.)  Networking ICA Technology Daisy Chain, Mesh Ring Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking Peatwork In More Options on Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet Packet In More Options on Request Protection Part Number Description  Hardware No. of Radio 2 x 5 GHz Radio Network In Reduction Network In Reduction Network In Reduction Network Interface LED RUN; LAN; RADIO 0; RADIO 1  Network In SGE & PoE Port Interface LED RUN; LAN; RADIO 0; RADIO 1  Network In SGE & PoE Port Interface LED RUN; LAN; RADIO 0; RADIO 1  Power Supply 802.3at PoE Injector Power 25 W (Max.)  25 W (Max.)  Consumption Antennas in Action Algorithm (or 0° to 30° Up-tilt by Movement Reversed Mounting)  Antenna 0° to 30° Down-tilt (or 0° to 30° Up-tilt by Movement Reversed Mounting)  MTB 350,000 hours (50°C)  Physical Characteristics  Dimensions 270-2270-80 mm (w/o Mounting)  Weight 1.86 kg (Net w/o Mounting): 2.39 kg (Net w/ Mounting); 2.39 kg (Net w/ Mounting): 2.66 kg (Gross)  Mounting Pole Mounting (e40 to e52 mm)  Environmental Temperature -40°C to 65°C (Operating)  Humidity 5% to 95 % Non-condensing Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade Ordering Information  Part Number Description	Stream	·		Support	
Network   1xGE & PoE Port					
Interface	Transmit Power	27 dBm (Max.)			
Connected to Radio 0 Radio 1  Type Built-in 5 GHz External 5 GHz  Gain 19 dBi Optional Antennas: 5 GHz 19 dBi Panel; More Options on Request  Horizontal 17*  Beamwidth  Vertical 17*  Beandwidth  Vertical 25 dB (Min.)  Ratio 17*  Beandwidth  VSWR 1.8 (Max.)  Front-to-back Ratio 35 dB (Min.)  Networking  ICA Technology Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Topology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link 2-ter Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Power Supply 802.3at PoE Injector  Power Consumption  Antenna 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 5 GHz Power Consumption  Antenna 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 5 GHz Power Consumption  Mentona 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 5 GHz Power Consumption  Mentona 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 5 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Mentona 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 0* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 10* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 10* to 30* Down-tilt (or 0* to 30* Up-tilt by Antennas: 7 GHz Power Consumption  Monton 1					1×GE & PoE Port
Type Built-in 5 GHz External 5 GHz Gain 19 dBi Optional Antennas: Polarization Vertical & 5 GHz 19 dBi Panel; Horizontal 17" Request  Beamwidth Vertical 17" Average Mounting) Readwidth VSWR 1.8 (Max.) Front-to-back Ratio Isolation 35 dB (Min.)  Networking ICA Technology Peature Wireless Surveillance and Backhauling Topology Daisy Chain, Mesh Ring Redundancy STP Features End-to-End Layer 2 Transparent, VLAN Trunking  Security Mesh Link 2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Power Consumption Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Mowement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Mowement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Mowement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Movement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Movement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Movement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Movement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Movement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Up-tilt by Movement Reversed Mounting) Antenna Of to 30" Down-tilt (or 0" to 30" Down tilt (or 0" to 30" Down tilt (or 0" to 30" Down tilt (or 0" to	Antenna			LED	RUN; LAN; RADIO 0; RADIO 1
Gain 19 dBi Optional Antennas Official & 5 GHz 19 dBi Panel; Horizontal & 5 GHz 19 dBi Panel; Horizontal & 17° Request  Beamwidth  Vertical 17° Beandwidth  VSWR 1.8 (Max.)  Front-to-back Ratio 35 dB (Min.)  Networking  ICA Technology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link 2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Optional Antenna 0° to 30° Down-tilt (or 0° to 30° Up-tilt by Mantenna 0° to 30° Down-tilt (or 0° to 30° Up-tilt by Mantenna 0° to 30° Down-tilt (or 0° to 30° Down-tilt (or 0° to 30° Up-tilt by Movement Reversed Mounting)  Antenna 0° to 30° Down-tilt (or 0° to 30° Up-tilt by Movement Reversed Mounting)  Antenna 0° to 30° Down-tilt (or 0° to 30° Up-tilt by Movement Reversed Mounting)  Movement Reversed Mounting)  MTBF 350,000 hours (50°C)  Physical Characteristics  Dimensions 270×270×80 mm (w/o Mounting)  Weight 1.86 kg (Net w/o Mounting); 2.66 kg (Gross)  Mounting Pole Mounting (o40 to o52 mm)  Environmental  Temperature -40°C to 65°C (Operating)  Humidity 5% to 95 % Non-condensing  Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description		Radio 0	Radio 1	Power Supply	802.3at PoE Injector
Polarization   19 dBi   Optional Antennas: 5 GHz 19 dBi Panel; More Options on Request   More Options on Request	Туре	Built-in 5 GHz	External 5 GHz		25 W (Max.)
Polarization   Vertical & Horizontal   Horizontal   Horizontal   17°   Request	Gain		•	· · · · · · · · · · · · · · · · · · ·	0° to 30° Down-tilt (or 0° to 30° Up-tilt by
Beamwidth  Vertical 17° Beandwidth  VSWR 1.8 (Max.)  Front-to-back Ratio  Isolation 35 dB (Min.)  Networking  ICA Technology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Physical Characteristics  Dimensions 270×270×80 mm (w/o Mounting)  270×270×80 mm (w/o Mounting)  1.86 kg (Net w/o Mounting): 2.39 kg (Net w/o Mounting): 2.39 kg (Net w/o Mounting): 2.66 kg (Gross)  Mounting Pole Mounting (ø40 to ø52 mm)  Environmental  Temperature -40°C to 65°C (Operating)  Humidity 5% to 95 % Non-condensing  Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description	Polarization		,		Reversed Mounting)
Vertical Beandwidth  VSWR  1.8 (Max.)  Front-to-back Ratio  Isolation  35 dB (Min.)  Networking  ICA Technology Throughput Wireless Surveillance and Backhauling Topology  Peatures  End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Dimensions  270×270×80 mm (w/o Mounting)  Weight  1.86 kg (Net w/o Mounting): 2.39 kg (Net w/o Mounting): 2.66 kg (Gross)  Mounting  Pole Mounting (ø40 to ø52 mm)  Environmental  Temperature -40°C to 65°C (Operating)  Humidity 5% to 95 % Non-condensing  Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description		17°	Request	MTBF	350,000 hours (50°C)
Beandwidth  VSWR 1.8 (Max.)  Front-to-back Ratio  Isolation 35 dB (Min.)  Networking  ICA Technology Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Topology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Dimensions 270×270×20 mm (W/o Mounting); 2.39 kg (Net w/o Mounting); 2.56 kg (Gross)				Physical Characteristics	
VSWR 1.8 (Max.)  Front-to-back Ratio  Isolation 35 dB (Min.)  Networking  ICA Technology Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Topology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Veight 1.8 kg (Net w/o Mounting); 2.39 kg (Net w/o Mounting); 2.66 kg (Gross)  Mounting Pole Mounting (ø40 to ø52 mm)  Environmental  Temperature -40°C to 65°C (Operating)  Humidity 5% to 95 % Non-condensing  Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description		17°		Dimensions	270×270×80 mm (w/o Mounting)
Front-to-back Ratio  Ratio  Isolation 35 dB (Min.)  Networking  ICA Technology Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Topology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link 2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Mounting Pole Mounting (ø40 to ø52 mm)  Environmental  Temperature -40°C to 65°C (Operating)  Humidity 5% to 95 % Non-condensing  Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description		1.8 (Max.)	_	Weight	1.86 kg (Net w/o Mounting); 2.39 kg (Net w/ Mounting); 2.66 kg (Gross)
Networking ICA Technology Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling Topology Daisy Chain, Mesh Ring Redundancy STP Wind Loading Topology Peatures End-to-End Layer 2 Transparent, VLAN Trunking  Security Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Temperature -40°C to 65°C (Operating) Humidity 5% to 95 % Non-condensing Elevations 86 to 106 kPa Wind Loading 265 km/h (Max.) Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification FCC, CE, RCM, OFCA  Warranty First year free limited hardware warranty and firmware upgrade Ordering Information Part Number Description		-25 dB (Min.)		Mounting	
ICA Technology  Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Topology  Daisy Chain, Mesh Ring  Redundancy  STP  Features  End-to-End Layer 2 Transparent, VLAN Trunking  Certification FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number  Part Number  Description	Isolation	35 dB (Min.)	_	<b>Environmenta</b>	l
ICA Technology  Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Topology  Daisy Chain, Mesh Ring  Redundancy  STP  Features  End-to-End Layer 2 Transparent, VLAN Trunking  Designed for Multi-hop High Throughput Wireless Surveillance and Backhauling  Elevations  Wind Loading  265 km/h (Max.)  Weatherproof  IP67, 6 kV Common Mode Surge Protection  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number  Description	Networking			Temperature	-40°C to 65°C (Operating)
Throughput Wireless Surveillance and Backhauling  Topology Daisy Chain, Mesh Ring  Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Elevations 86 to 106 kPa  Wind Loading 265 km/h (Max.)  Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information Part Number Description	ICA Technology	Throughput Wireless Surveillance and		Humidity	5% to 95 % Non-condensing
Topology Daisy Chain, Mesh Ring Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description				Elevations	86 to 106 kPa
Redundancy STP  Features End-to-End Layer 2 Transparent, VLAN Trunking  Security  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Weatherproof IP67, 6 kV Common Mode Surge Protection  Certification  FCC, CE, RCM, OFCA  Warranty  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description	Topology			Wind Loading	265 km/h (Max.)
Trunking  FCC, CE, RCM, OFCA  Warranty  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description		•		Weatherproof	
Trunking  FCC, CE, RCM, OFCA  Warranty  Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description	Features			Certification	
Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Part Number  Valuable First year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number  Description					
Mesh Link  2-tier Irreversible Key Generation Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Pirst year free limited hardware warranty and firmware upgrade  Ordering Information  Part Number Description	Security			Warranty	
(Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based Access Control, Unique Per-link Packet  Ordering Information Part Number Description	Mesh Link	Algorithm, Enhanced 3-factor (Mesh ID, Mesh Key and Static Key) Authentication Mechanism, MAC-based		First year free limited hardware warranty and firmware	
Access Control, Unique Per-link Packet Part Number Description					rmation
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