



# Wi-Fi 6 Extender and Access Point

## GWN7660EM

The GWN7660EM is an AX3000 Wi-Fi 6 access point with a socket design, enabling simple deployment and superior performance. It can be used as a wireless extender, which works with the GWN7062E router to quickly build a home wireless mesh networking to expand network coverage. It offers 2x2:2 MU-MIMO technology on the 2.4G band and 3x3:2 MU-MIMO on the 5G band as well as a sophisticated antenna design and uses XTRA Range technology with beamforming for maximum network throughput and expanded Wi-Fi coverage range. To ensure easy installation and management, the GWN7660EM uses a controller-less distributed network management design in which the controller is embedded within the product's Web user interface. The GWN7660EM is also supported by GDMS Networking and GWN Manager, Grandstream's cloud and on-premise Wi-Fi management platform. It is the ideal Wi-Fi AP for voice-over-Wi-Fi deployments and offers a seamless connection with Grandstream's Wi-Fi capable IP phones. With support for advanced QoS, low-latency real-time applications, mesh networks, captive portals, 128 concurrent clients per AP and 1 x 1 Gigabit network port, GWN7660EM is an ideal Wi-Fi access point for small and medium household users to achieve high-speed Wi-Fi coverage in the whole house.



**Gigabit**

3Gbps aggregate wireless throughput and 1Gigabit wireline port



Dual-band 2.4G 2x2:2 and 5G 3x3:2 MU- MIMO with OFMDA and XTRA Range technology



Up to 175-meter coverage range



Supports 128 concurrent Wi-Fi client devices



Advanced QoS to ensure real-time performance of low-latency applications



Anti-hacking secure boot and critical data/control lockdown via digital signatures, unique security certificate/random default password per device



Supports Mesh networking with both GWN7062E series and other GWN7600 series access points to provide easy network expansion



Embedded controller can manage up to 10 local GWN series APs; GDMS Networking offers unlimited AP management; GWN Manager offers premisebased software

## Hardware Specifications

<b>Radio</b>	<b>Antenna</b>	1 single frequency antenna and 2 dual frequency antennas 2.4GHz x 2, maximum gain 2.5 dBi 5GHz x 3, maximum gain 2.5 dBi
	<b>MIMO</b>	2.4GHz: 2x2:2, MU-MIMO 5GHz: 3x3:2, MU-MIMO
	<b>Frequency Bands</b>	2.4GHz Radio: 2400 - 2483.5 MHz 5GHz Radio: 5150 - 5895 MHz <i>*Not all frequency bands can be used in all regions</i>
	<b>Channel Bandwidth</b>	2.4G: 20 and 40 MHz 5G: 20, 40, 80 and 160 MHz
	<b>Wi-Fi Data Rates</b>	<b>2.4G</b> IEEE 802.11ax: 7.3 Mbps to 573.5 Mbps IEEE 802.11n: 6.5 Mbps to 300 Mbps IEEE 802.11b: 1, 2, 5.5, 11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps  <b>5G</b> IEEE 802.11ax: 7.3 Mbps to 2402 Mbps IEEE 802.11ac: 6.5 Mbps to 867 Mbps IEEE 802.11n: 6.5 Mbps to 600 Mbps IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps  <i>*Actual throughput may vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment and mix of devices in the network</i>
	<b>Maximum TX Power</b>	2.4G: 26 dBm 5G: 24 dBm <i>*Maximum power varies by country, frequency band and MCS rate</i>
	<b>Receiver Sensitivity</b>	<b>2.4G</b> 802.11b: -96 dBm @1 Mbps, -88 dBm @11 Mbps; 802.11g: -93 dBm @6 Mbps, -75 dBm @54 Mbps; 802.11n 20 MHz: -73 dBm @MCS7; 802.11n 40 MHz: -70 dBm @MCS7; 802.11ax 20 MHz: -60 dBm @MCS11; 802.11ax 40 MHz: -58 dBm @MCS11;  <b>5G</b> 802.11a: -92 dBm @6 Mbps, -74 dBm @54 Mbps; 802.11n 20 MHz: -73 dBm @MCS7; 802.11n 40 MHz: -70 dBm @MCS7; 802.11ac 20 MHz: -67 dBm @MCS8; 802.11ac 40 MHz: -63 dBm @MCS9; 802.11ac 80 MHz: -59 dBm @MCS9; 802.11ax 20 MHz: -60 dBm @MCS11; 802.11ax 40 MHz: -58 dBm @MCS11; 802.11ax 80 MHz: -56 dBm @MCS11; 802.11ax 160 MHz: -52 dBm @MCS11;
	<b>Coverage Range</b>	Up to 175 meters <i>*Coverage range can vary based on environment</i>
<b>Interfaces</b>	<b>Network Ports</b>	1x autosensing 10/100/1000 Base-T Ethernet Port
	<b>LEDs</b>	1 tri-color LED for device tracking and status indication
	<b>Auxiliary Ports</b>	1x Reset Pinhole, 1x SYNC Key
<b>Power</b>	<b>AC</b>	110-240V~50/60Hz 0.4A
	<b>Maximum Power Consumption</b>	12W
<b>Physical</b>	<b>Dimension</b>	Unit: 110 × 110 mm Entire Package: 125 × 117 × 93 mm
	<b>Weight</b>	Unit: 210.5 g Entire Package: 314 g
	<b>Mounting</b>	Indoor wall-plug mount
	<b>Package Content</b>	GWN7660EM Wi-Fi 6 Wireless AP, AC adapter plug, Quick Start Guide
<b>Environmental</b>	<b>Temperature</b>	Operation: 0°C to 40°C Storage: -10°C to 60°C
	<b>Humidity</b>	10% to 90% Non-condensing
<b>Compliance</b>	FCC, CE, RCM, IC	

## Software Specifications

<b>WLAN</b>	<b>Wi-Fi Standards</b>	IEEE 802.11a/b/g/n/ac/ax
	<b>SSIDs</b>	16 SSIDs total, 8 per radio (2.4GHz & 5GHz)
	<b>Concurrent Clients</b>	128
	<b>Basics</b>	Beamforming OFDMA 1024-QAM Target wake time (TWT) Maximal Ratio Combining (MRC) Space-Time Block Coding (STBC) Low-density Parity-Check (LDPC) 802.11 Dynamic Frequency Selection (DFS) BSS coloring
	<b>SSID Hidden</b>	Restrict access and improve wireless network security by SSID hiding
	<b>Multicast/Broadcast Suppression</b>	Multicast/Broadcast enable optimization with ARP proxy
	<b>Multicast Enhancement</b>	Convert multicast data into unicast data for transmission
	<b>Bandwidth Limiting</b>	Support SSID/Client/MAC/IP-based rate limiting
	<b>Band Steering/Client Steering</b>	Guide client to the frequency band with more abundant spectrum resources
	<b>RRM</b>	Dynamically assign radio power, channel
	<b>VPN</b>	L2TPv3
	<b>VLAN</b>	Support interface/SSID/MAC binding VLAN based Management VLAN Dynamic VLAN
	<b>Time Policy</b>	Track the time that the client connects to Wi-Fi, Support setting the amount of time for the client to connect to Wi-Fi and the reconnect type after a timeout
	<b>Schedule</b>	Supports SSID, LED, Reboot schedule
<b>WLAN Extension</b>	<b>Bridge</b>	Supported
	<b>Mesh</b>	2.4G, 2.4G & 5G, 5G Support mesh with GWN7062E series by SYNC key Support mesh with GWN7600 series
	<b>Hotspot2.0</b>	Supported
	<b>Wireless Roaming</b>	802.11k, 802.11v, 802.11r Layer 2 roaming
<b>Network</b>	<b>IPv4</b>	Static or DHCP
	<b>IPv6</b>	Static or DHCP
	<b>DHCP</b>	Support server/client/relay
	<b>NAT</b>	NAT Pool
	<b>LLDP</b>	Link Layer Discovery Protocol, discovering and identifying other LLDP enabled devices and neighboring devices in the network
<b>User Authentication</b>	<b>802.1x authentication</b>	Support
	<b>MAC authentication</b>	Use client MAC address as the username and password for access control through the RADIUS server
	<b>PPSK</b>	PPSK with/without RADIUS
	<b>Captive Portal</b>	Support radius/social login/vouchers/password/SAML SSO/active directory authentication
<b>Security</b>	<b>Encryption</b>	Open system OSEN WPA2-PSK (personal) WPA2-802.1x (enterprise) WPA3-SAE (personal) WPA3-802.1x (enterprise) WPA/WPA2, WPA2/WPA3 Anti-hacking secure boot and critical data/control lockdown via digital signatures, unique security certificate and random default password per device
	<b>Forwarding Security</b>	MAC filtering Client isolation OS filtering
	<b>WIDS</b>	Inbound/outbound traffic rules Rogue AP detection and containment ARP attack defense ND attack defense
<b>Service Quality</b>	<b>QoS</b>	802.11e/WMM,802.1p, 802.1q, TOS
<b>Management Platform</b>	<b>Local Web</b>	Embedded controller can manage up to 50 local GWN APs
	<b>GDMS Networking</b>	A free cloud management platform for unlimited GWN APs
	<b>GWN Manager</b>	premise-based software controller for up to 3,000 GWN APs
	<b>GWN APP</b>	Integrate GDMS Networking and GWN Manager to manage GWN APs via the APP
	<b>Management Protocol</b>	TR-069 SNMP