



DATASHEET

# RA620M WI-FI 6 SMART ACCESS POINT

For Enterprises, Service Providers, SMBs, and Carriers

## Powerful Cloud Management

The RA620M is easily managed through the feature-rich Relay2 cloud-management system using an intuitive browser-based interface to enable rapid deployment of both the network and hosted applications. Self-configuring and easily managed through the cloud-based web interface, the RA620M is ideal for distributed locations without on-site IT staff.

All aspects of the access point can be configured and monitored 24/7 from the Relay2 cloud-management interface, which delivers multiple levels of access control and real-time alerts if the network or services encounter problems.

All access-point software—including both firmware and applications—can receive automatic updates from the cloud so new features and enhancements are delivered immediately, eliminating the possibility of missed patches.

## Intelligence at the Edge

The RA620M is a high-performance Wi-Fi 6 access point that offers a powerful edge-computing solution and an easy-to-manage wireless LAN/WAN connectivity solution for businesses. Combined with Aprecomm's AI engine, it serves as the intelligent network node in the Relay2 edge-computing platform to deliver connected business services at the edge, enabling enhanced user experiences.

The RA620M supports LTE connectivity and Wi-Fi 6 technology and 2x2 MU-MIMO with two spatial streams and delivers aggregated data rates up to 1.8 Gbps in 2.4 GHz and 5 GHz bands with 802.11ax (Wi-Fi 6).

Combining high-performance wireless access with a powerful multicore processor, dedicated memory, and solid-state storage, business-critical applications and services are brought to life on the RA620M. Value-added applications—such as compute-intensive, video/content, and time-sensitive services—are able to run locally, allowing for business solutions never before possible, all while greatly increasing performance and cost saving at the edge.



# PRODUCT AT A GLANCE

- **Mobile Network Backhaul** embedded LTE module and SIM slot accessible
- **Open-Container Engine with SDK and API** enabling easy third-party applications development and integration
- **Plug-and-Play Deployment, Cloud Managed** fast-service rollout, ease of access, and low OPEX
- **Multitenancy Management** supporting managed service providers (MSP) service practice
- **Enterprise-Class 802.11ax Access Point** offering high-performance, secure Wi-Fi 6 connectivity
- **Powerful Edge Computing and Storage** enabling content delivery and on-premises application SaaS



## FEATURES

### MANAGED VIRTUAL AP

Each physical RA620M can be virtualized into as many as 16 managed virtual AP (MVAP) instances, which enables multiple tenants to share a single common infrastructure. Each instance has its own management login, providing complete administrative control and visibility as well as security and segregation of networking and application resources. More than just a WLAN profile, tenants are able to manage and control an MVAP as if it was their own physical AP.

This Relay2 patent-pending capability allows venue operators and property owners to monetize their wireless infrastructure by selling MVAP to multiple groups or organizations ranging from

tenants to service providers. Using MVAP eliminates the need to overbuild infrastructure, which reduces per-tenant costs and keeps everything clean to yield far superior performance.

MVAP is ideal for providing hassle-free, secure Wi-Fi access to tenant businesses in incubation centers, shopping centers, multifamily residential buildings, and convention centers. Alternatively, MVAP can enable property owners to provide a neutral host solution to multiple carriers and hotspot operators offering public access Wi-Fi. In both scenarios, MVAP customers are freed from maintaining a physical device while enjoying enterprise-class features and performance.

# FEATURES

## EDGE SERVICES

### Edge-Computing Hardware

Supporting a quad-core ARM processor with extra memory and storage, the RA620M provides the extra processing, memory, and storage power to deliver a wide variety of value-added applications and services at the edge of the network.

### Built-In Web Utility Services

To enable the creation of rich edge applications, Relay2 has incorporated a suite of built-in web utility services. These services include web caching, a Splash page with Facebook authentication, a web server, HTML insertion, deep packet inspection (DPI), and client location data. Each may be used on a standalone basis or as a building block to more comprehensive service solutions. In both cases, these web utility services push valuable functionality to the edge of the network, where they can provide real-time, relevant, and rich capabilities.

### Application Hosting and Management

The RA620M has been architected to directly host a wide variety of applications via containers. The RA620M can host multiple containers, which each provides isolated environments in which one or more applications can run. Containers enable third-party applications to be installed in a secure and isolated manner. Cloud management simplifies the deployment and maintenance of business-critical applications across many locations.

### Edge-Content Hosting

Equipped with edge storage up to 128GB, RA620M enables businesses to host and cache digital and web content at the edge of the networks. By keeping digital content at the edge of the networks, closer to the user, businesses can deliver their content quickly and reliably, even at a loss of internet connectivity. It optimizes content viewers' experiences, saves network bandwidth, and eases IT administration operation support.

## HIGH-PERFORMANCE WIRELESS

### Enterprise-Class WLAN Security Features

The RA620M features integrated, easy-to-use networking and security technologies to provide truly robust connectivity. Advanced security features include WPA3, WPA2-Enterprise authentication with 802.1X, and client isolation. Networking features include VLAN tagging and advanced QoS as well as rogue AP detection.

### Client Traffic Control and Optimization

The RA620M includes integrated layer 3 and 4 packet inspection and client traffic blocking, enabling better control of the WLAN. Integrated support of wireless multimedia (WMM) optimizes the performance of bandwidth-sensitive voice and video applications.

### High-Density Capacity

The RA620M is designed for deployments in high client-dense environments such as office networking, sporting venues, and convention centers. The dual-band radios deliver fast, reliable coverage in challenging environments for client devices that routinely use bandwidth-intensive applications.

### Autoconfiguration and Optimization

When first plugged in, the RA620M automatically connects to the Relay2 cloud controller, where it downloads its configuration and joins the appropriate network. The RA620M then self-optimizes, determining the ideal channel, transmit power, and client connection parameters.



# TECHNICAL SPECIFICATIONS

## Radios

- 2.4 GHz 802.11b/g/n/ax, 5 GHz 802.11a/n/ac/ax (Wi-Fi 6)
- Dual concurrent operation in 2.4 and 5 GHz bands
- Max rate: 575 Mbps in 2.4 GHz; 1.2 Gbps in 5 GHz
- Operating frequency range (country-specific restrictions apply): 2.400–2.483 GHz; 5.150–5.350 GHz; 5.725–5.825 GHz

## 802.11ax Capabilities

- 2 x 2 MU-MIMO with two spatial streams
- 20 and 40 MHz (802.11n/ax), 80 MHz (802.11 ax)
- DL MU-MIMO, DL-OFDMA, UL-OFDMA Target Wait Time
- Aggregation of 90-byte packets with AES encryption
- Fast channel switching (1 ms)

## Antennas

- Integrated internal omnidirectional Wi-Fi antennas
- 2 dBi gain at 2.4 GHz; 3 dBi gain at 5 GHz
- LTE antennas – omnidirectional, peak gain 3 dBi

## LTE-Supported Bands

- Japan-Specific LTE Module:  
LTE-FDD: B1, B3, B8, B18, B19, B26
- Global LTE Module:  
GSM: 850, 900, 1800, 1900MHz  
WCDMA: B1, B2, B4, B5, B6, B8, B19  
LTE-FDD: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28, B66  
LTE-TDD: B34, B38, B39, B40, B41

## WLAN Network

- IPv4 and VLAN tagging (802.1Q)
- Client DHCP relay per VLAN and per WLAN
- Seamless client L2 roaming
- Wireless multicast optimization

## Security

- WPA, WPA2-PSK, WPA2-Enterprise with 802.1X, WPA3
- TKIP and AES encryption
- Guest isolation, rogue AP detection
- Blacklist and MAC address filtering, stateless ACL
- Client-to-client traffic blocking

## Virtual Wireless Expert

- Real-time wireless experience measurement and monitoring
- Natural language interface to answer your questions
- Band steering and client load balance using AI insights
- Auto channel selection using radio-pattern analysis

## External Interfaces

- 2x Gb Ethernet (RJ45) one with 802.3at PoE+
- 1x USB 2.0 port type A (max. 0.5A)
- 1x DC power (5.5 mm x 2.1 mm, center positive)
- SIM card slot

## Quality of Service

- Wireless multimedia (WMM)
- Unscheduled automatic power-saving delivery (U-APSD)
- Rate limiting per VLAN, per WLAN, per client

## Edge-Computing Capabilities

- 4-core ARM A53 application processor at 1.7 GHz
- 1 GB DDR memory, up to 128 GB eMMC (16 GB factory default)

## Power

- Power over Ethernet (802.3at PoE+)
- 12V DC 2.0A, power consumption: 24 W max
- Power over Ethernet and DC adapter sold separately

## LED Indicators

- 1x power indicator, 1x LTE/internet connection indicator
- 2x Ethernet connectivity indicator for the first and second interface
- 1x 2.4 GHz indicator, 1x 5 GHz indicator

## Physical Characteristics

- Dimensions: 7.68" x 7.28" x 1.77" (195 mm x 185 mm x 45 mm), not including LTE antennas or mounting plate
- Weight: 1.26 lb (570 g)

## Mounting

- Wall and ceiling mountable

## Environmental Conditions

- Operating temperature: 32°F to 104°F (0°C to +40°C)
- Storage temperature: -4°F to 158°F (-20°C to +70°C)
- Operating humidity: <90% noncondensing

## Regulatory and Certification

- FCC (US), TELEC (Japan), CE (Europe)

## Warranty

- Limited lifetime hardware warranty (except power supply)

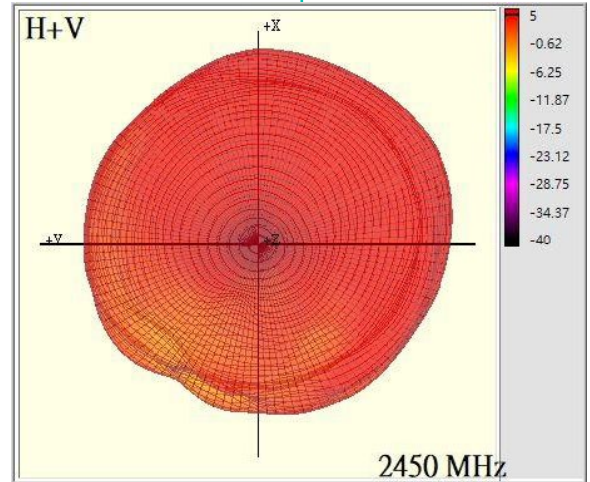
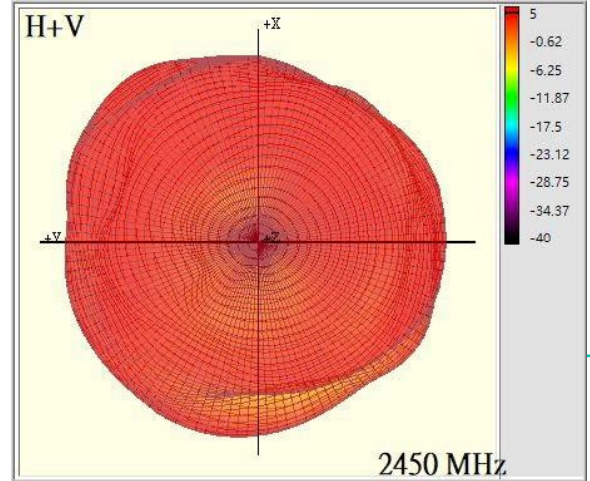
## Ordering Information

- Product ID: RA620M-JP (Japan-specific LTE module)
- Product ID: RA620M-G (Global LTE module)

RF PERFORMANCE

Mode	Data Rate	TX Power	RX Sensitivity
802.11b	1 Mbps	20 dBm	-97 dBm
	11 Mbps	20 dBm	-88 dBm
802.11g	6 Mbps	20 dBm	-93 dBm
	54 Mbps	15 dBm	-75 dBm
802.11n (HT20)	MCS 0/8	19 dBm	-92 dBm
	MCS 1/9	17 dBm	-87 dBm
	MCS 2/10	17 dBm	-84 dBm
	MCS 3/11	16 dBm	-81 dBm
	MCS 4/12	16 dBm	-78 dBm
	MCS 5/13	15 dBm	-75 dBm
	MCS 6/14	15 dBm	-73 dBm
	MCS 7/15	14 dBm	-72 dBm
802.11n (HT40)	MCS 0/8/16	18 dBm	-92 dBm
	MCS 1/9/17	16 dBm	-87 dBm
	MCS 2/10/18	16 dBm	-84 dBm
	MCS 3/11/19	15 dBm	-81 dBm
	MCS 4/12/20	15 dBm	-78 dBm
	MCS 5/13/21	14 dBm	-75 dBm
	MCS 6/14/22	14 dBm	-73 dBm
	MCS 7/15/23	13 dBm	-72 dBm
802.11gac (VHT20)	MCS 0	19 dBm	-91 dBm
	MCS 1	17 dBm	-85 dBm
	MCS 2	17 dBm	-83 dBm
	MCS 3	16 dBm	-80 dBm
	MCS 4	16 dBm	-76 dBm
	MCS 5	15 dBm	-72 dBm
	MCS 6	15 dBm	-71 dBm
	MCS 7	14 dBm	-70 dBm
	MCS 8	12 dBm	-70 dBm
	MCS 9	12 dBm	-69 dBm
802.11gac (VHT40)	MCS 0	17 dBm	-90 dBm
	MCS 1	17 dBm	-85 dBm
	MCS 2	17 dBm	-83 dBm
	MCS 3	17 dBm	-80 dBm
	MCS 4	17 dBm	-76 dBm
	MCS 5	16 dBm	-72 dBm
	MCS 6	16 dBm	-71 dBm
	MCS 7	15 dBm	-70 dBm
802.11gax (HE20)	MCS 10	11 dBm	-91 dBm
	MCS 11	11 dBm	-63 dBm
802.11gax (HE40)	MCS 10	11 dBm	-89 dBm
	MCS 11	11 dBm	-60 dBm

2.4 GHz ANTENNA COVERAGE



## RF PERFORMANCE

Mode	Data Rate	TX Power	RX Sensitivity
802.11a	6 Mbps 54 Mbps	19 dBm 17 dBm	-90 dBm -70 dBm
802.11n (HT20)	MCS 0/8 MCS 1/9 MCS 2/10 MCS 3/11 MCS 4/12 MCS 5/13 MCS 6/14 MCS 7/15	18 dBm 18 dBm 18 dBm 18 dBm 18 dBm 17 dBm 17 dBm 17 dBm	-89 dBm -87 dBm -85 dBm -82 dBm -78 dBm -74 dBm -73 dBm -70 dBm
802.11n (HT40)	MCS 0/8 MCS 1/9 MCS 2/10 MCS 3/11 MCS 4/12 MCS 5/13 MCS 6/14 MCS 7/15	18 dBm 18 dBm 18 dBm 18 dBm 18 dBm 17 dBm 17 dBm 17 dBm	-86 dBm -84 dBm -82 dBm -79 dBm -75 dBm -71 dBm -70 dBm -67 dBm
802.11ac (HT20)	MCS 0 MCS 1 MCS 2 MCS 3 MCS 4 MCS 5 MCS 6 MCS 7 MCS 8	18 dBm 18 dBm 18 dBm 18 dBm 18 dBm 17 dBm 17 dBm 16 dBm 16 dBm	-89 dBm -86 dBm -84 dBm -81 dBm -77 dBm -73 dBm -72 dBm -71 dBm -65 dBm
802.11ac (HT40)	MCS 0 MCS 1 MCS 2 MCS 3 MCS 4 MCS 5 MCS 6 MCS 7 MCS 8 MCS 9	17 dBm 17 dBm 17 dBm 17 dBm 17 dBm 16 dBm 16 dBm 16 dBm 16 dBm 16 dBm	-86 dBm -85 dBm -83 dBm -80 dBm -76 dBm -72 dBm -71 dBm -70 dBm -66 dBm -60 dBm
802.11ac (HT80)	MCS 0 MCS 1 MCS 2 MCS 3 MCS 4 MCS 5 MCS 6 MCS 7 MCS 8 MCS 9	17 dBm 17 dBm 17 dBm 17 dBm 17 dBm 16 dBm 16 dBm 16 dBm 16 dBm 16 dBm	-83 dBm -81 dBm -79 dBm -76 dBm -72 dBm -68 dBm -67 dBm -66 dBm -62 dBm -57 dBm
802.11ax (HE20)	MCS 10 MCS 11	10 dBm 10 dBm	-90 dBm -61 dBm
802.11ax (HE40)	MCS 10 MCS 11	10 dBm 10 dBm	-85 dBm -58 dBm
802.11ax (HE80)	MCS 10 MCS 11	10 dBm 10 dBm	-85 dBm -58 dBm

## 5 GHz ANTENNA COVERAGE

