

AP360i/e

Highlights

Radio Technology

- 5 GHz 2x2:2
- 2.4 GHz 2x2:2

Radio Modes - SSR

- 2.4 GHz / 5 GHz
- 5 GHz / 5 GHz - Dual 5 GHz
- Sensor (2.4 GHz/5 GHz) / 5 GHz

High Density Environments

- Delivers exceptional end-user experience even in the densest user environments

Designed for Harsh Environments

- IP67 Outdoor Rated

WPA3 Support

- Includes the latest WPA3 Wi-Fi security standard delivering robust protections for users and IoT devices

Fully Functional over 802.3af

- USB port usage requires 802.3at

Cellular Coexistence Filter (CCF)

- Minimizes the impact of interference from cellular networks

Smart Management Choices

- Extreme Campus Controller or VX or NX controller is ideal for on-premises requirements
- ExtremeCloud™ IQ cloud management used in conjunction with an Extreme Campus Controller/VX or NX controller



Wi-Fi 6 (802.11ax) Outdoor Access Point With Integrated Or External Antenna Options

The AP360 is designed for harsh environments; from hurricane force winds to sub-zero temperature, IP67 rated and designed to extend Extreme's Wi-Fi 6 outdoors. Integrated GPS and BLE allows for state of the art location applications for asset tracking.

The AP360 is based on new system-on-a-chip (SoC) with two built in dual band 2x2 radios providing the best value with Wi-Fi 6 high-efficiency. Priced for the mass market, this enterprise-grade access point is ideal for budget-conscious enterprises who do not want to sacrifice performance. While other vendors may reduce features and functionality, the AP360 retains all the capabilities of higher-end APs, including software-selectable-radios (SSR). 802.11ax data rates are available concurrently in both the 2.4 GHz and 5 GHz band. The AP360 also provides the flexibility to provide the same data rates simultaneously on two 5 GHz channels using dual-5 GHz SSR technology.

Despite the exponential growth of users, BYOD devices, IoT, high-bandwidth applications, and security threats straining the infrastructure, the AP360 combines performance, security services and insightful ML/AI management capabilities to deliver an enterprise class solution at a value price.

Security

The AP360i/e delivers the highest level of security services, beginning with support for the latest Wi-Fi Alliance WPA3 security certifications. Additionally, supporting a stateful L2-L7 DPI firewall for context-based access security.

Wi-Fi 6 (802.11ax) Technology

Prior generations of 802.11n, 802.11ac wave 1 and 2, can be considered generational improvements with an emphasis on faster speed. 802.11ax technology instead enhances Wi-Fi efficiency as well as speed, taking Wi-Fi networks to an entirely new level. To learn more about 802.11ax, go to <https://www.extremenetworks.com/are-you-ready-for-802-11ax/>.

Programmable Radios

Extreme launched the Industry's first software defined 802.11ax access point supporting not only a dual 5GHz capability but also three software programmable modes to optimally manage radios to provide the highest level of client performance. The AP360i/e intelligent monitoring of the software configurable radios enables network managers to configure network RF topology based on user environment and configure the access points in different modes as required.

Management Analytics

In conjunction with management system, cloud or on-premises, the AP360i/e provides a very rich set of data displayed via context driven widgets, representing historical data or a combination of historical and current data. This provides context-specific granularity with perspective views for locations, network, APs, individual client devices, and policy roles. In each context, administrators can adjust dashboards from widget library.

RF Monitoring

Network managers will appreciate a powerful choice of RF management for their Wi-Fi networks, with SmartRF, a robust RF management system with AI/ML like functionality. Built on 10 years of experience across thousands of large scale networks and millions of access points, SmartRF algorithms manage channels, radios, load balancing, band steering, and many other attributes of the RF.

Integrated BLE

To support both IoT and Guest Engagement services, the AP360i/e integrates Bluetooth to connect with IoT devices with Thread wireless or engage loyalty customers with Apple iBeacon. Enterprises can use Google Eddystone to send advertisements directly to shoppers, guests, and conference attendees. This makes it ideal for businesses to advertise their app-download pages, captive portals, or site-specific information.

Product Specifications

Radio Specifications

Max Users

SSID per Radio/Total: 8/16

Users per Radio/total: 512/1024

802.11a

5.150–5.850 GHz Operating Frequency

Orthogonal Frequency Division Multiplexing (OFDM) Modulation

Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 w/auto fallback

802.11b

2.4–2.5 GHz Operating Frequency

Direct-Sequence Spread-Spectrum (DSSS) Modulation

Rates (Mbps): 11, 5.5, 2, 1 w/auto fallback

802.11g

2.4–2.5 GHz Operating Frequency

Orthogonal Frequency Division Multiplexing (OFDM) Modulation

Rates (Mbps): 54, 48, 36, 24, 18, 12, 9, 6 w/auto fallback

802.11n

2.4–2.5 GHz and 5.150–5.850 GHz Operating Frequency

802.11n Modulation

Rates (Mbps): MCS0 - MCS15 (6.5Mbps - 300Mbps)

2x2 Multiple-In, Multiple-Out (MIMO) Radio

HT 20 High-Throughput (HT) Support (for both 2.4 GHz and 5 GHz)

HT 40 High-Throughput (HT) Support for 5 GHz

A-MPDU and A-MSDU Frame Aggregation

802.11ac

5.150–5.850 GHz Operating Frequency

802.11ac Modulation (256-QAM)

Rates (Mbps): MCS0 – MCS9(6.5Mbps – 867Mbps), NSS = 1-2

2x2:2 Stream Multiple-In, Multiple-Out (MIMO) Radio

VHT20/VHT40/VHT80 support

TxBF (Transmit Beamforming)

802.11ax

2.4-2.5 GHz and 5.150-5.850 GHz Operating Frequencies

802.11ax Modulation (1024-QAM)

Dual-band OFDMA

5G Rate : HE0-HE11 (8 Mbps – 1200 Mbps)

2.4G Rate: HE0-HE11 (8Mbps – 574 Mbps)

2x2:2 Stream Multiple-In, Multiple-Out (MIMO) Radio

HE20/HE40/HE80 support for 5 GHz

HE20/HE40 support for 2.4 GHz

DL SU-MIMO and MU-MIMO

TxBF (Transmit Beamforming)

Interfaces

(2) Autosensing 10/100/1000 Ethernet

Power Specifications

IEEE 802.3af PoE power

Power Options

Power Draw: Typical: 9.5W, Max: 12.1W

802.3af Power over Ethernet (PoE) capable Gigabit Ethernet port (RJ-45 power input pins: Wires 4,5,7,8 or 1,2,3,6)

802.3af Power over Ethernet injector

Radios

BLE Radio Bluetooth® Low Energy (BLE) and IEEE® 802.15.4 compliant

Internal GPS - accuracy is 2.5m- 3m in open sky

Physical

7.4" x 5.7" x 1.9" (190mm x 145mm x 50mm)

AP360i/e: estimate 2.2 lbs (1.0 kg)

Internal Antennas

(2) Integrated dual band, 2.4-2.5 GHz and 5.1-5.8 GHz omnidirectional

(2) Integrated single band, 5.1-5.8 GHz omnidirectional antennas

(1) Integrated single band, 2.4-2.5 GHz omnidirectional for BLE

External Antennas

(5) Ntype connectors

Mounting

Pole Mount with 15 degree tilt (sold as an accessory)

12" Extension arm (sold as an accessory)

10" Extension w/2-axis 80 degree tilt (sold as an accessory)

Environmental Specifications

Operating Temperature:

- -40°C to 70°C (-40°F to 158°F) without solar load
- -40°C to 60°C (-40°F to 140°F) including solar load

Storage Temperature: -40°C to 70°C (-40°F to 158°F)

Humidity: 0% to 95% (non-condensing)

Wind Rating: 165 Mph sustained winds

Operational Shock: IEC60721-3-4, Class 4M3; ASTM D3332-99; MIL STD 810H Method 516; IEC6137 Ed 2, Chapter 10, Category 1, Class B (Body Mounted)

Operation Vibration: ASTM D3580-95, IEC60721-3-4, Class 4M3 (IEC 60068-2-64); IEC61373 Ed. 2, Chapters 8&9, Category 1, Class B (Body Mounted)

Environmental Discharge

+/-4 kV contact and +/-8 kV air

Regulatory Compliance

Product Safety Certifications

IEC 62368/60950-1, EN 62368/60950-1, USA 62368/60950-1, AS/NZS 62368/60950.1

RoHS Directive 2011/65/EU

Radio Approvals

FCC CFR 47 part 15 Class B

FCC Subpart C 15.247

FCC Subpart E 15.407

ICES-003 Class B

IEC/EN 60601-1-2

RSS247

AS/NZS4268 + CISPR32

EN 50385

EN 50581

EN 55011, (Group 1, Class B)

EN 55024

EN 55032, (Class B)

EN 61000-3-2

EN 61000-3-3

EN 62311

EN 300 328

EN 301 489-1

EN 301 489-17

EN 301 893

IR2030/8/3

Support

1 year warranty

AP360i Peak Gain Chart

Software Mode	Radio 1	Radio 2	Radio 3
Dual Band	2.4 Ghz 4.2 dBi	5 Ghz 4.74 dBi	4.5 dBi
Sensor on R1	2.4 Ghz 4.2dBi 5Ghz 4.5dBi	5 Ghz 4.74 dBi	4.5 dBi
Dual 5G	5 Ghz 4.5dBi	5 Ghz 4.74 dBi	4.5 dBi

AP360i

Power and Sensitivity – 2.4GHz

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
11b	1-11Mbps	23	-97, -90
11g	6Mbps	23	-95
	54Mbps	22	-76
11n HT20	MCS0, 7	23, 20	-94, -73
11n HT40	MCS0, 7	23, 20	-91, -70
11ax HE20	HE0,11	23, 18	-93, -64
11ax HE40	HE0,11	23, 18	-90, -61

Power and Sensitivity – 5 GHz (Full Band)

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
11a	6Mbps	21	-90
	54Mbps	19	-74
11n HT20	MCS0, 7	21, 18	-90, -70
11n HT40	MCS0, 7	20, 17	-87, -68
11ac VHT20	MCS0, 8	21, 17	-89, -66
11ac VHT40	MCS0, 9	20, 16	-87, -62
11ac VHT80	MCS0, 9	20, 16	-84, -59
11ax HE20	HE0,11	21, 15	-89, -61
11ax HE40	HE0,11	20, 15	-87, -58
11ax HE80	HE0,11	20, 15	-85, -56

Power and Sensitivity – 5 GHz (High Band)

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
11a	6Mbps	20	-89
	54Mbps	17	-73
11n HT20	MCS0, 7	20, 16	-89, -69
11n HT40	MCS0, 7	19, 16	-86, -67
11ac VHT20	MCS0, 8	20, 15	-89, -66
11ac VHT40	MCS0, 9	19, 15	-86, -61
11ac VHT80	MCS0, 9	19, 15	-84, -58
11ax HE20	HE0,11	20, 14	-89, -61
11ax HE40	HE0,11	19, 14	-86, -58
11ax HE80	HE0,11	19, 14	-84, -56

Power and Sensitivity – 5 GHz (Low Band)

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
0.0525in	6Mbps	19	-89
	54Mbps	17	-73
11n HT20	MCS0, 7	19, 16	-89, -69
11n HT40	MCS0, 7	19, 15	-86, -67
11ac VHT20	MCS0, 8	19, 15	-89, -66
11ac VHT40	MCS0, 9	19, 14	-86, -61
11ac VHT80	MCS0, 9	19, 14	-84, -58
11ax HE20	HE0,11	19, 14	-89, -61
11ax HE40	HE0,11	19, 14	-86, -58
11ax HE80	HE0,11	19, 14	-84, -56

AP360e

Power and Sensitivity – 2.4GHz

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
11b	1-11Mbps	22	-96, -90
11g	6Mbps	22	-95
	54Mbps	21	-76
11n HT20	MCS0, 7	22, 19	-94, -73
11n HT40	MCS0, 7	22, 19	-91, -70
11ax HE20	HE0,11	22,17	-92, -64
11ax HE40	HE0,11	22,17	-89, -61

Power and Sensitivity – 5 GHz (Full Band)

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
11a	6Mbps	19	-89
	54Mbps	17	-73
11n HT20	MCS0, 7	19, 16	-89, -69
11n HT40	MCS0, 7	18, 15	-87, -67
11ac VHT20	MCS0, 8	19, 15	-89, -66
11ac VHT40	MCS0, 9	18, 14	-86, -61
11ac VHT80	MCS0, 9	18, 14	-83, -58
11ax HE20	HE0,11	19, 13	-89, -60
11ax HE40	HE0,11	18, 13	-86, -57
11ax HE80	HE0,11	18, 13	-84, -55

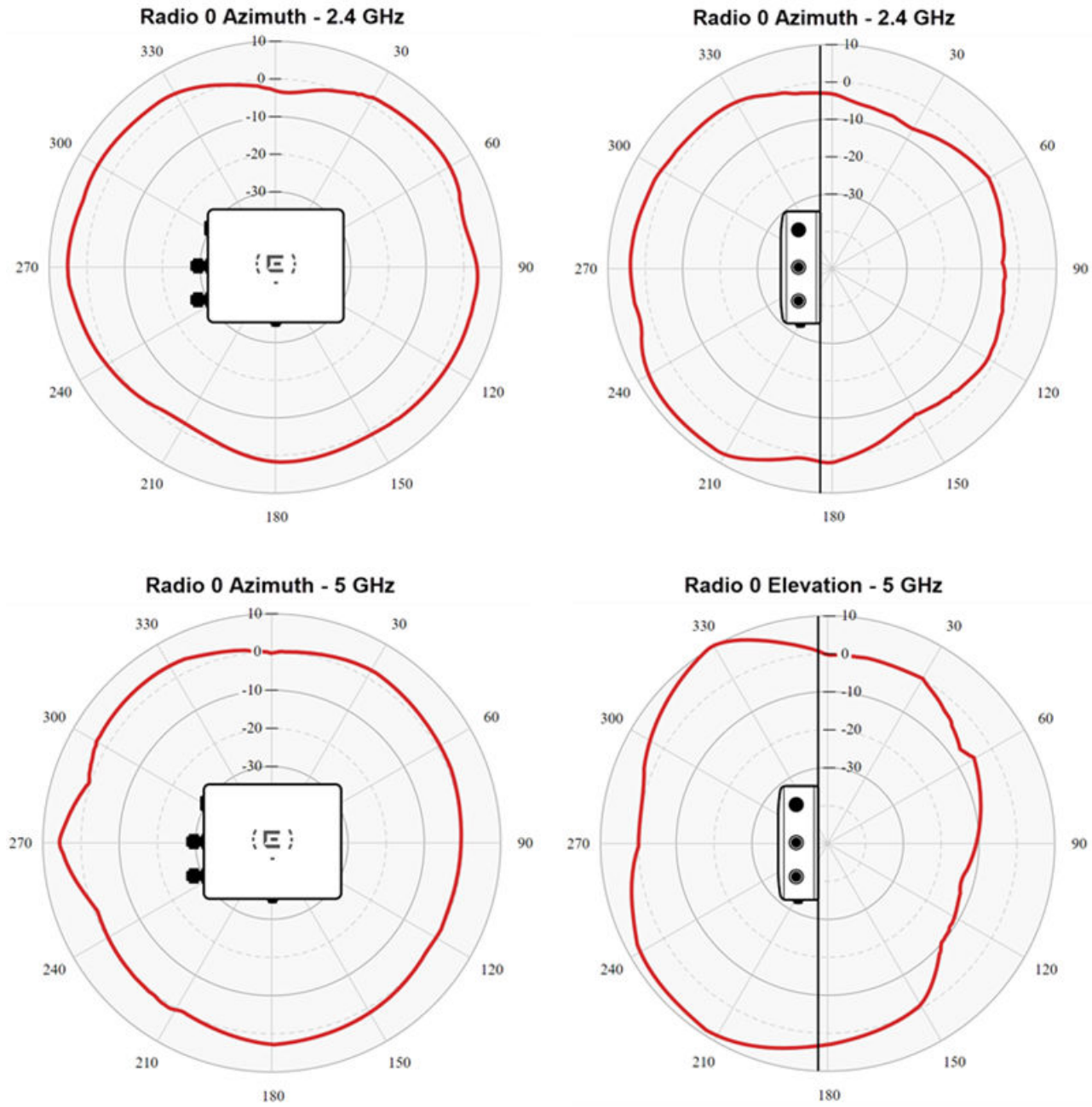
Power and Sensitivity – 5 GHz (High Band)

Channel	Data Rate	Power (dBm)	Sensitivity (dBm)
11a	6Mbps	18	-89
	54Mbps	15	-73
11n HT20	MCS0, 7	18, 14	-89, -69
11n HT40	MCS0, 7	17, 14	-86, -67
11ac VHT20	MCS0, 8	18, 13	-88, -65
11ac VHT40	MCS0, 9	17, 13	-86, -61
11ac VHT80	MCS0, 9	17, 13	-83, -58
11ax HE20	HE0,11	18, 12	-88, -60
11ax HE40	HE0,11	17, 12	-86, -57
11ax HE80	HE0,11	17, 12	-84, -55

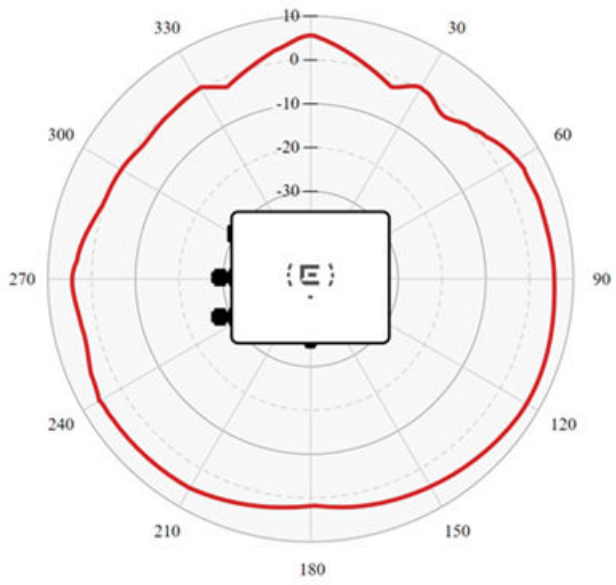
Power and Sensitivity – 5 GHz (Low Band)

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0.0525in	6Mbps	17	-89
	54Mbps	15	-73
11n HT20	MCS0, 7	17, 14	-89, -69
11n HT40	MCS0, 7	17, 13	-86, -67
11ac VHT20	MCS0, 8	17, 13	-88, -65
11ac VHT40	MCS0, 9	17, 12	-86, -61
11ac VHT80	MCS0, 9	17, 12	-83, -58
11ax HE20	HE0,11	17, 12	-88, -60
11ax HE40	HE0,11	17, 12	-86, -57
11ax HE80	HE0,11	17, 12	-84, -55

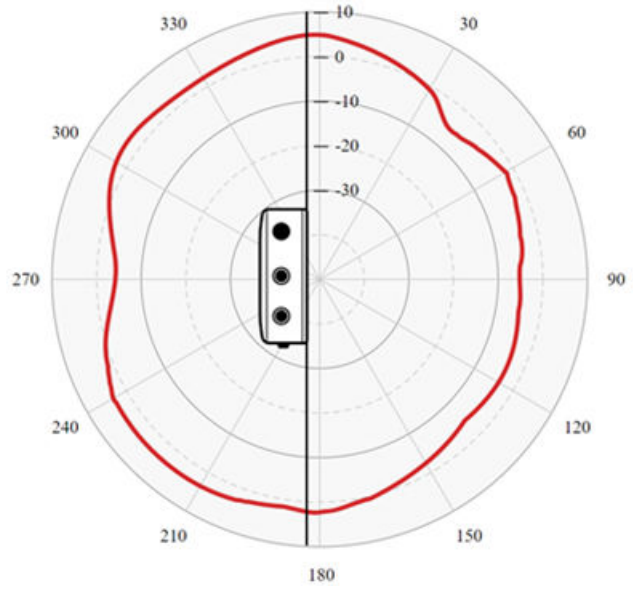
Radiation Patterns – Azimuth and Elevation



Radio 1 Azimuth - 5 GHz



Radio 1 Elevation - 5 GHz



Ordering Information

AP360i/e

Mkt Part #	Description
AP360i-FCC	Dual Radio 802.11ax - 2x2:2, Dual 5G Outdoor Internal Antenna Access Point. Domain: US, and Puerto Rico
AP360i-WR	Dual Radio 802.11ax - 2x2:2, Dual 5G Outdoor Internal Antenna Access Point. Domain: EMEA, and Rest of World
AP360i-CAN	Dual Radio 802.11ax - 2x2:2, Dual 5G Outdoor Internal Antenna Access Point. Domain: Canada
AP360e-FCC	Dual Radio 802.11ax - 2x2:2, Dual 5G Outdoor External Antenna Access Point. Domain: US, and Puerto Rico
AP360e-CAN	Dual Radio 802.11ax - 2x2:2, Dual 5G Outdoor External Antenna Access Point. Domain: Canada
AP360e-WR	Dual Radio 802.11ax - 2x2:2, Dual 5G Outdoor External Antenna Access Point. Domain: EMEA, Rest of World

AP360i/e - Mounting Options

Mkt Part #	Description	Notes
KT-147407-02	OUTDOOR MOUNTING HARDWARE KIT FOR OUTDOOR ACCESS POINTS- STAINLESS STEEL FOR HARSH ENVIRONMENTS	Use KT-147407-02 for pole mounting - 15 degree tilt.
KT-150173-01	OUTDOOR AP 12 IN EXT ARM FOR MNTG KIT	Use KT-150173-01 with KT-147407-02 to extend the AP 12 inches from the pole - typically used with the AP360e.
30520	WS-MBO-POLE01 POLE MTG BRKT	The WS-MBO-POLE01 bracket can be used only with the MBO-ART02 articulating mounting bracket.
MBO-ART02	MBO-ART02 Articulating Mtg Brkt	

See the AP360i/e Installation Guide for more information on mounting.

AP360i/e - Power Options

Mkt Part #	Description
PD-9001GO-ENT	OUTDOOR 802.3AT POE SINGLE PORT MIDSPAN

Antennas - AP360i/e

Mkt Part #	Description
ML-2452-HPAG4A6-01	Dipole, 4dBi/ 7.3dBi, dual band, outdoor, white with standard N plug connector (up to 5 per AP)
ML-2452-PNA5-01R	Panel, 120 deg sector, 4.5dBi/ 5dBi, dual band, outdoor, 4" lead with standard N plug connector (up to 5 per AP)
ML-2452-HPAG5A8-01	Dipole Omni, 5dBi/7.5dBi/8dBi, dual band, outdoor with standard N Plug connector (up to 5 per AP)
ML-2452-HPA6-01	Dipole Omni, 5.3/4.6/6.1dBi, dual band, outdoor with standard N Plug connector (up to 5 per AP)
ML-2452-PNA7-01R	Panel, 68/ 52 deg sector, 7.8dBi/ 10.7dBi, dual band, outdoor, 4" lead with standard N plug connector (up to 5 per AP)
30724	WS-AO-DQ04360N Outdoor, 2.4-2.5/5.15-5.875GHz, 4-feed 4dBi, Omni antenna with standard N-type plug connector



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