ROOM ALERT MAX

Turnkey Deployment Guide.

How Room Alert MAX scales from a single room to 100+ facilities with clear range guidance, hybrid MAX + PRO architecture, and the deployment practices our engineers use.



FIELD-TESTED & ENGINEERING APPROVED:

3 floors

One centrally placed Base Station connected sensors across AVTECH's three-floor headquarters.

10–30 m

Expected indoor sensor-to-Base range (30–100 ft). Layout, materials and other RF systems affect it.

PoE

Base Station powers over Ethernet (802.3af) or USB-C. Wi-Fi 2.4/5 GHz optional.

5+ yrs

Average battery life on wireless sensors. No wiring, no re-visits.

INSIDE THIS GUIDE

- **Deployment sizing** — four deployment sizes and what each needs to scale monitoring
- **Hybrid MAX + PRO architecture** — wired where it matters, wireless everywhere else needs
- **Base Station placement** — the five-second lesson that avoids RF surprises
- **Enterprise rollout best practices** — power, back haul, margin and validation

WHO THIS IS FOR

IT, Facilities, Safety and Operations leaders evaluating environmental monitoring across multiple rooms, buildings or sites — and the Room Alert sales team positioning MAX as the easy, scalable, enterprise-grade choice.

We've got this.
Trusted. Easy. Expert. Protecting. Caring.



TEST SITE 2

One platform. Any footprint.

Every Room Alert MAX deployment uses the same three building blocks: a Base Station on your network, wireless Temperature/Humidity Sensors, and optional Wired Sensor Adapters for any existing Room Alert digital or switch sensor. What changes with scale is only how many and how you plan them.

Single Room
Server closet · pharmacy fridge · lab

1 Base Station
1–3 wireless sensors

PLAN
Base within line of sight of sensors. Ethernet or Wi-Fi. Done in minutes.

Multi-Room
Office floor • clinic • small warehouse

1 Base Station
4–12 sensors + adapters

PLAN
Center the Base. Modeled example: a 14,000 sq ft manufacturing facility with 8–25 ft ceilings, one Base covers every sensor.

Campus
multiple floors or buildings

1 Base Station per zone
Dozens of sensors

PLAN
Often one Base per building — AVTECH's 3-floor HQ runs on one. Use the Site Readiness Checklist.

Enterprise
100+ facilities · standardized rollout

Repeatable kit per site
central RoomAlert.com account.

PLAN
Engage the MAX Site Planning & Deployment Service. Template one site, replicate everywhere.

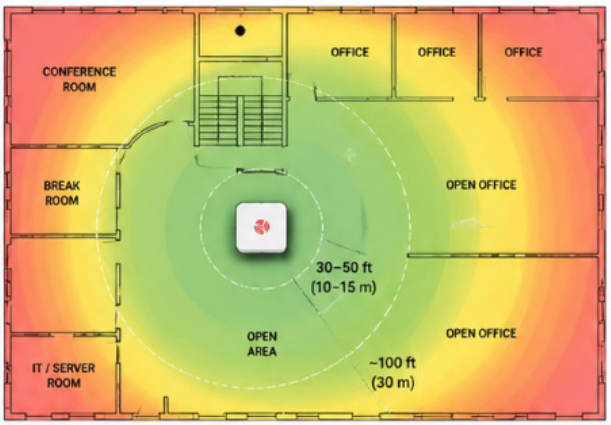
RANGE GUIDANCE

Expected indoor wireless range, sensor to Base

Excellent	Good	Fair	Limited	Poor
0–30 ft (0–10 m)	30–50 ft (10–15 m)	50–75 ft (15–23 m)	75–100 ft (23–30 m)	100+ ft (30+ m)

Plan around 30–50 ft (10–15 m) in dense industrial environments. Open layouts may support performance up to approximately **100 ft (30 m)**. Walls, metal racks, machinery and 2.4 GHz congestion all reduce effective range.
Line-of-sight figures. Actual range should be validated on-site. Specification maximum: up to 150 ft (45 m).

Cutler Mill
2nd floor • 150 x 100 ft



BASE STATION

Wi-Fi 802.11 a/b/g/n (2.4 & 5 GHz) + Low-Energy Wireless to sensors. PoE (802.3af) or USB-C power. WPA2/WPA3, WPA-Enterprise.

TEMP / HUMIDITY SENSOR

Wireless, 2× AA (5+ yr) or USB-C. ±0.2 °C, ±1.8 % RH. Secure boot, AES-128/256.

WIRED SENSOR ADAPTERS

Brings any Room Alert wired digital or switch sensor onto MAX wirelessly. 2 digital ports + 1 switch port. Requires power.

STANDARDIZE THE KIT

Template one site. Replicate everywhere.

Template one site. Replicate everywhere. Enterprise rollouts go fastest when every site receives the same pre-defined kit and the same placement rules. Define the kit once with our Site Planning team, then order, ship and install by SKU.

TYPICAL SITE KIT QTY	
MAX Base Station (RAMAX-BAS-EWB)	1 per floor/zone
MAX Temp/Humidity Sensor (RAMAX-SEN-DTH)	1 per monitored room
MAX Wired Sensor Adapter (RAMAX-ADP-2DS)	as needed for flood, power, door, etc.



HYBRID ARCHITECTURE

MAX + PRO. One Room Alert environment

Wired and wireless are not competing architectures — they are two tools in one platform. Every device reports to the same Room Alert Account: the same alerts, the same dashboards, the same reports. Choose by room, not by product.



ROOM ALERT PRO (S MODELS)

Wired where the room is already cabled.

- IT and server rooms with many sensors and short cable runs — one Room Alert 32S connects them all
- Spaces where policy restricts wireless devices
- Points needing relay outputs, analog inputs, light tower or battery back-up



ROOM ALERT MAX

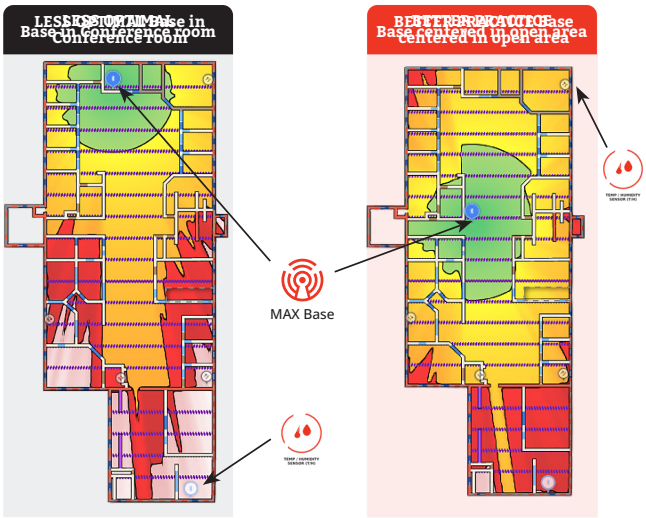
Wireless where flexibility wins.

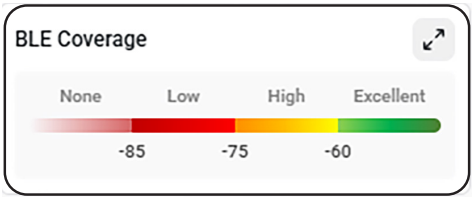
- Offices, warehouses, labs, pharmacies, classrooms
- Spaces where running cable is slow, costly or impossible
- Rapid multi-site rollouts and locations that change over time

BASE STATION PLACEMENT

The five-second lesson.

Same floor, same sensors, same Base Station. The only difference is where the Base sits. Centered placement keeps every sensor inside the strong-signal zone; edge placement pushes the far sensors into the margins.





Received signal strength (dBm). Room Alert MAX sensors need better than −85 dBm for a reliable link. Green and yellow are comfortably inside; red is at the limit.

QUICK DECISION GUIDE

IF THE SPACE IS...	LEAD WITH	BECAUSE
A data center, server room or network closet	**PRO** (32S/12S/3S)	The room is already cabled and holds many sensors; one 32S connects them all, plus relay outputs, analog inputs and battery back-up.
An office floor, lab, pharmacy or classroom wing	**MAX**	Many rooms, no cable paths. One Base per floor, sensors placed in minutes, batteries last 5+ years.
A warehouse or industrial floor with dense inventory	**MAX** + Site Planning	The room is already cabled and holds many sensors; one 32S connects them all, plus relay outputs, analog inputs and battery back-up.
A multi-site enterprise footprint	**MAX + PRO** hybrid	PRO anchors the critical rooms, MAX covers everything else — all in one RoomAlert.com account.



ENTERPRISE DEPLOYMENT BEST PRACTICES

Plan smart. Deploy with confidence.

Connect the Base over Ethernet

Wired backhaul is the most stable and the easiest to troubleshoot. Enable Wi-Fi only where Ethernet is not practical.

Use continuous power

Power the Base via PoE (802.3af) or the MAX USB-C adapter. Sensors run 5+ years on AA batteries, or USB-C with batteries as backup.

Center and elevate the Base

Place the Base Station centrally relative to the sensors it serves and mount it high on a wall or ceiling plate. Keep sensors out of busy walkways — a person between sensor and Base can cost 10–20 dB.

Minimize metal between devices

Racks, appliances, machinery, cabinets and shelving absorb and reflect 2.4 GHz signals. Route around them, add a Base per zone, or bring a Wired Sensor Adapter to the edge of the obstruction.

Design for margin, not the edge

Target signal levels comfortably above the lower acceptable threshold. A sensor that works today at the edge may drop when inventory moves or Wi-Fi density changes.

Validate before final mounting

Pair, place, then check signal strength in the Base Station Readings page at each location. Mount only when the signal is stronger than −85 dBm and stable.

FOUR-STEP ROLLOUT

1. **Connect** the Base to the network and verify signal
2. **Pair** sensors and adapters (6-digit PIN + PAIR button)
3. **Place** and confirm a strong, stable signal at each spot.
4. **Mount** securely, then configure alerts on RoomAlert.com.



Planning model note. Coverage estimates use a line-of-sight model with attenuation for distance, layout and materials. They do not predict reflections from metal or interference from other 2.4 GHz systems (Wi-Fi, Bluetooth, microwave ovens). Final performance can vary with local Wi-Fi density, other wireless devices, machinery and changing physical conditions. Validate on-site.

PLANNING A LARGER DEPLOYMENT?

Send us your floor plan and monitoring requirements. Our engineers will map recommended Base Station and sensor placement — so you deploy with confidence without becoming a wireless expert.

Email your floor plan and completed checklist to your Room Alert representative or Sales@RoomAlert.com.

BEFORE YOU ORDER

Know your space

- ☐ Floor plan with dimensions
- ☐ Wall & ceiling materials
- ☐ Racks, machinery, dense inventory

Know your points

- ☐ Every location to monitor
- ☐ What each sensor measures
- ☐ Coverage-critical areas

Know your network

- ☐ Ethernet / PoE at Base locations
- ☐ Power availability
- ☐ Known 2.4 GHz congestion

We've got this.

Room Alert provides enterprise-grade environmental monitoring that is easy to deploy, simple to scale, and built to protect what matters most.

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