Live Event WiFi
The Deployment Checklist

Every failed event network we have seen was under-planned, not under-specced. Work this list top to bottom; red boxes are the items that take networks down when skipped.

EVENT | VENUE / CITY | DATE(S) | PREPARED BY

70-80%	2-4 Mbps	60-100	10-14 dBm	2×	20 MHz
peak take rate, conferences & expos (40-60% concerts)	per-guest budget; airtime is the real constraint	active clients per radio; ignore datasheet limits	AP transmit power; small cells spread the load	DHCP pool vs peak clients, 30-60 min leases	channels in dense zones; reuse beats speed

1 Plan

TWO WEEKS OUT

- [ ] **Capacity math done:** headcount × take rate × 1.3 devices = client count, per zone
- [ ] AP count derived from clients ÷ 60-100 per radio, not from floor area
- [ ] Zone map drawn: entry, main floor, food, keynote, each with its own peak
- [ ] **Backhaul confirmed and speed-tested on site,** not taken on the venue's word
- [ ] Backhaul sized at 10:1-20:1 oversubscription of theoretical demand
- [ ] Ceiling heights noted per zone; mounting plan targets 3-6 m (truss, poles, booths)
- [ ] **High-ceiling zones (>8 m): directional antennas planned, never omnis at height**
- [ ] Rigging permissions and power/PoE budget confirmed with the venue
- [ ] Staging plan reviewed: LED walls, trussing and scaffolding vs AP sightlines
- [ ] Survey scheduled with staging in place, or body-loss margin (3-5 dB per person) applied

2 Stage

IN THE WAREHOUSE

- [ ] **Every AP configured, firmware-matched, named and labelled to the floor plan**
- [ ] SSIDs, VLANs, rate limits, RADIUS/portal settings applied and bench-tested
- [ ] Printed floor plan packed: AP positions, channels, switch port map
- [ ] Spares at 10%+, pre-configured as hot swaps, with cables, injectors, mounts
- [ ] The test: a stranger could plug any box in without touching a config

3 Install

LOAD-IN DAY

- [ ] APs mounted overhead at 3-6 m; signals travel over the crowd, not through it
- [ ] Transmit power set low, 10-14 dBm, matching what a phone can answer with
- [ ] 5 GHz primary everywhere; 20 MHz channels in dense zones, 40 MHz where moderate
- [ ] 6 GHz deployed as a capacity layer in dense zones, with tighter cell spacing for its shorter reach
- [ ] 2.4 GHz off, or quarantined at minimum power for legacy and payment terminals
- [ ] **802.11b rates disabled, minimum basic rate 12 or 24 Mbps, minimum RSSI set**
- [ ] SSID count capped at 3-4 per radio; beacons are pure overhead
- [ ] VLANs live: guest / production / press / payments, guest isolation on
- [ ] **Press and payments have QoS priority, not just a VLAN,** at radio, switch and gateway
- [ ] **Priority proven under load:** a 2 GB press upload and a card payment both succeed at simulated peak

4 Doors open

THE FIRST 30 MINUTES

- [ ] **DHCP pool at 2× expected peak clients,** leases 30-60 minutes for gate churn
- [ ] **Captive portal preloaded and warmed before the first guest,** not on first connect
- [ ] Portal page under ~200 KB, assets local or on fast edge, no third-party blockers
- [ ] Auth flow load-tested for ~1,000 submissions in a ten-minute window
- [ ] Live per-AP view open; association spread matches the zone plan as the crowd walks in
- [ ] Mis-aimed antennas and dead switch ports found now, while fixes are cheap

5 Show time

CONTINUOUS

- [ ] 802.11k and 802.11v on everywhere; 802.11r on if tested with the oldest expected client
- [ ] Band steering lifting capable clients to 5 and 6 GHz; min-RSSI shedding stuck clients
- [ ] **Roam walk test passed: a video call crosses the venue without a stutter**
- [ ] SSID, security and VLANs identical on every AP; no mid-roam reconnects
- [ ] Alerts push to a phone; an AP going dark finds you, not the other way round
- [ ] Mid-event playbook ready: swap a spare, drop TX power in colliding zones, tighten guest rate limits when the uplink runs hot

6 Teardown

LOAD-OUT

- [ ] Access codes and portal sessions expired with the event; nothing left open
- [ ] **Wrap-up report exported and delivered** before guest data ages out
- [ ] Data retention measured in days, not quietly forever
- [ ] Hardware tested, reset and repacked; failures tagged before they hide in a case
- [ ] Event configuration archived; the fastest plan for the next event is cloning this one

THE MATH, WORKED · 2,000-PERSON EXPO

2,000	×	75%	×	1.3	=	~1,950	÷	80	=	~25	→	14-18	→	300-500
headcount		take rate		devices each		peak clients		per radio		radios		APs, by zone		Mbps backhaul

Backhaul assumes 10:1-20:1 oversubscription of theoretical demand. Place APs by zone peaks, never as an even grid.