



WIRELESS LAN ASSOCIATION

WLA STANDARDS COMMITTEE

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## **Wireless LAN Design Framework: Design**

*Create a wireless network to meet customer requirements*

The following outline is a framework to assist in the “design” stage of creating and implementing a WLAN design. Please note that, because of the cyclical nature of this process, and considering the fact that not every project is a “greenfield” design, the WLAN professional may need to begin their process at, for example, the “diagnose” stage.

Not all items in this document will apply in every situation. The WLAN professional may need to adapt some of the items to meet the needs of their individual client, and/or the order in which select relevant tasks will be performed. However, the WLA believes that using the following framework will ensure accuracy, consistency, and efficiency, thus bringing the work of any WLAN industry professional who uses it, to a higher level.

The associated publication, which will explore and expand each of the points in this document will be published shortly.

### **1. Understand RF and Design Requirements**

- 1.1. Validate the business aspects of the test plan to ensure compliance, pre-design
- 1.2. Document technical aspects of test plan as design evolves

### **2. Select Best Design Methodology to Meet Requirements and Constraints.**

This could include any combination of the following:

- 2.1. RF modelling
- 2.2. APoS measurements

### **3. Design**

Depending on the project, the design exercise may include 3.1 to 3.3 in order to complete 3.4

- 3.1. Prepare floor plans
- 3.2. Antenna selection and AP types
- 3.3. Gather on-site data / APoS / predictive model

- 3.3.1. Measure wall attenuation
- 3.3.2. APoS
- 3.4. Design using (on-site measured) data

#### **4. Network Configuration Recommendations**

The following topics may also require considerations:

- 4.1. Define channel / power / RRM settings<sup>1</sup>
- 4.2. QoS (CoS, DSCP, WMM, MOS), end-to-end
- 4.3. SSIDs
- 4.4. Security: RBAC, authentication, captive portals, and guest access
- 4.5. Required network services: DHCP, DNS, PoE

#### **5. Design Documents and Deliverables**

Design and Installation documentation may include:

- 5.1. Heatmaps
- 5.2. Spectrum
- 5.3. Bill of materials
- 5.4. Cabling floor plans / maps
- 5.5. Move add and changes to topology
- 5.6. Pictures, mounting locations
- 5.7. Configurations
- 5.8. Training customer or third-party subcontractor

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<sup>1</sup> Authors: Profiles