



R&D Group

WLP-1100F

Technical Description

Revision: 1.2

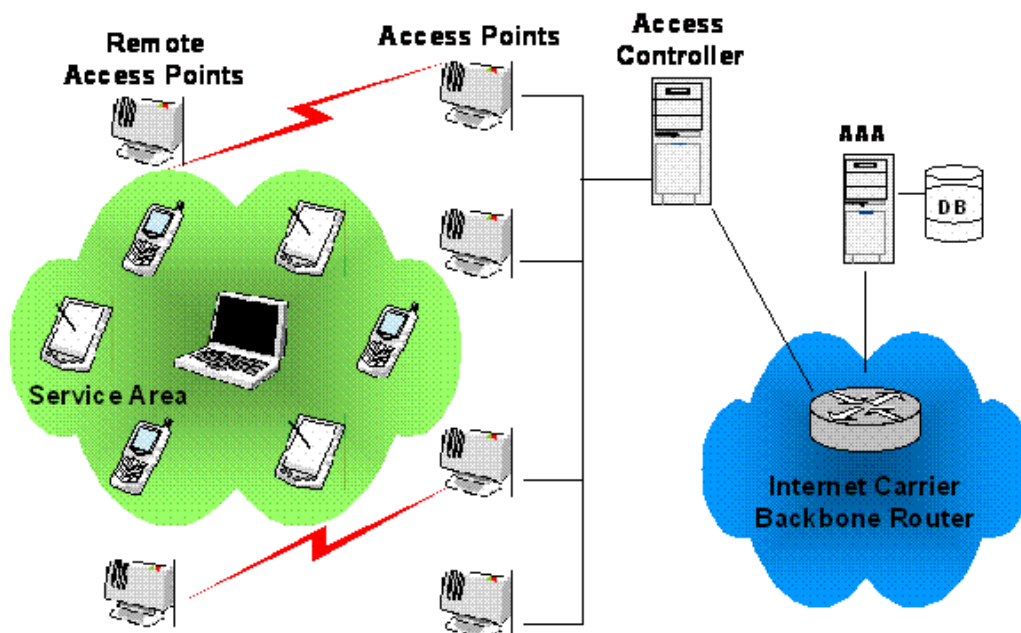
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Editor: Ronen Akerman

WLP-1100F Technical Description

1. General description

The WLP is designed to be an outdoor Wireless LAN Access Point (AP) to be installed in public wireless LAN hot spots / hot zones. A user in the vicinity of the AP, that has a laptop / PDA or cell phone with a wireless LAN NIC (Network Interface Card) can associate with the AP and be connected to the Internet.



In a public WLAN (wireless LAN) installation, the WLPs will be installed by large service providers or cellular operators in areas where there will be a demand for this service, such as train stations, airports, convention centers and business areas. Another option is that the WLP will be installed in a campus (such as a university or hospital) by the "owner" of the campus.

1.1 Typical Installations

The WLP-1100F will typically be installed either outdoors to provide outdoor coverage of Campuses or city neighborhoods, or in large indoor locations such as train stations, airports etc. In outdoor installations the WLP-1100F will typically be mounted either on a



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pole or on an outside wall of a building. In indoor installation, the WLP-1100F will typically be mounted on wall.

The 5GHz interface (or interfaces) allows some of the WLS's to be installed without cable connection to the Internet. The units that are installed in vicinity form link between each other and can transfer data to the nearest Internet connection.

The (optional) 4.9GHz interface allows an overlay of a public safety network using the WLP infrastructure.

2. Wired Interfaces

2.1 Power

The WLP is fed from a 90-240VAC power using a IP67 AC power plug.

2.2 Ethernet

The WLP has a single IP67 protected RJ45 connector for connection to a wired network.

2.3 RS232

The WLP has a Console/RS232 connector used for initial configuration only.

3. Wireless Interfaces

3.1 2.4GHz Interface Architecture

The WLP's access channel employs a multi element (4) antenna with a beam steering algorithm to steer a directional beam in the direction of the STA from which it is receiving information / to which it is transmitting information.

The beam steering is performed digitally on the Base Band (BB) signal. In transmission the BB signal is duplicated 4 times. Each "copy" of the signals is modified digitally and transmitted to a separate RF chain. Each of the 4 RF chains performs up – conversion and amplification separately and drives one of the 4 antenna elements. A similar process happens in reception.

3.2 5GHz Interface

The 5GHz interface (or interfaces) is constructed using an “off the shelf” module, installed into the unit's miniPCI connector.



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3.3 4.9GHz Interface

The 4.9GHz interface (if assembled) is constructed using an “off the shelf” module, installed into the unit’s miniPCI connector.

3.4 Combinations of Interfaces

| Device | Interface 0 | Interface 1 | Interface 2 |
|---------------|-------------|------------------------------|--------------|
| WLP-1100F | 2.4GHz | 5GHz | N/A |
| WLP-1100F-HLS | 2.4GHz | 5GHz | 4.9GHz |
| WLP-1100F-TR | 2.4GHz | 5.25-5.35GHz 5.47-5.55GHz | 5.65-5.85GHz |
| WLP-1100F-58 | 2.4GHz | 5GHz | 5GHz |

4. Antenna’s

The following table details the various antennas that can be connected to the different interfaces:

| Antenna | Supported Band | Gain | Interface |
|---------------|----------------|--------|-----------|
| MBW-ANT-2407S | 2.4-2.7GHz | 7.4dBi | 2.4GHz |
| MBW-ANT-2404 | 2.4-2.7GHz | 4dBi | 2.4GHz |
| MBW-ANT-5810 | 5.725-5.85GHz | 10dBi | 5GHz |
| MBW-ANT-5410 | 5.47-5.85GHz | 8dBi | 5GHz |
| ??? | 5.25-5.85GHz | 8dBi | 5GHz |
| MBW-ANT-5406 | 5.25-5.85GHz | 6dBi | 5GHz |
| MBW-ANT-4910 | 4.9-5GHz | 8.5dBi | 4.9GHz |