

The WL-1100F employs 2 WLAN channels simultaneously and independently. One of these WLAN channels (named the access channel) is used primarily for providing access to WLAN stations. The other channel (named the back haul channel) is used solely for providing a connection between different WLP deployed in the same vicinity.

A WLAN Station (STA) can associate to the access channel and transmit / receive data from it. 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 performance happens in reception.

The back haul (BH) channel is a non-beam forming channel. It is made up of a single RF chain ending with 2 antennas which are selectable via a RF switch. This provides the BH channel with selection diversity of about 3dB.