

Block Diagram

The access point product is based on ISL3865CK module, It is an Arm940 core controller with an onboard MAC to Ethernet(10/100 Base T) interface. The ISL3856 directly interfaces with the Intersil HFA386x family of Baseband Processors, offering a complete end-to-end IEEE 802.11b compliant chip set solution for wireless LAN products. Protocol and PHY support are implemented in firmware to allow custom protocol and different PHY transceivers.

The ISL3856 is a Harvard architecture cached processor. The separate instruction and data caches in this design are 4K bytes each in size with a four-word line length. A protection unit allows the memory to be segmented and protected in a simple manner. There is no virtual physical

address mapping. Write-back cache schemes and write buffers are used to optimize performance and minimize bus traffic thus reducing system power consumption. This Processor Core is implemented using a five-stage pipeline consisting of fetch, decode, execute, memory and write stages.

Firmware implements the full IEEE 802.11b Wireless LAN MAC protocol. It supports Infrastructure mode BSS operation under DCF, and operation under the optional Point Coordination Function (PCF). All low-level 802.11 functions are handled by firmware. Additional firmware functions specific to access point applications are also available.

The ISL3856 is the industry's first Access Point on a chip, which implements both the IEEE 802.11 MAC protocol and the MAC bridging function, which in alternative solutions requires a separate external processor. For network management, an SNMP agent is implemented for access to the MIB.

Designing wireless protocol systems using the ISL3856 is made easier with Intersil supplied firmware, software device drivers, and complete documentation.

ISL3865CK	Intersil,ARM MAC processor.
Lu3x31T:	Lucent ,10/100 Ethernet transceiver.
HFA3863IN:	Intersil, Baseband Processor
HFA3783IN:	Intersil, I/Q Modulator/Demodulator and Synthesizer
HFA3683:	Intersil, 2.4GHz RF/IF Converter and Synthesizer
HFA3983:	Intersil, 2.4GHz Power Amp and Detector
ICW3183:	Intersil, 748MHz Voltage Controlled Oscillator

