

## WLL4070(LF) Specifications

### General Specification

REV.0.1 2005/02/01

|                        |                                                                                                             |
|------------------------|-------------------------------------------------------------------------------------------------------------|
| Host Interface         | Mini-PCI spec V1.0                                                                                          |
| Form Factor            | Mini-PCI Type IIIB                                                                                          |
| Chipset                | ATHEROS AR5414/AR5413                                                                                       |
| Network Standard       | IEEE 802.11a/b/g                                                                                            |
| Security               | Encryption AES, TKIP, WEP, 802.11i/WPA2 security<br>Authentication 802.1x<br>802.11e/WMM Quality of Service |
| Network Architectures  | Ad hoc, Infrastructure                                                                                      |
| Modulation Techniques  | BPSK, QPSK, 16QAM, 64QAM                                                                                    |
| Modulation Technology  | OFDM, CCK, DSSS                                                                                             |
| Media Access Technique | CSMA/CA                                                                                                     |
| Supported Data Rates   | IEEE 802.11a/b/g Standard Mode : 1 – 54Mbps<br>Turbo Mode : 12 – 108Mbps                                    |
| Antenna type           | Internal diversity with connectors                                                                          |
| OS Compatibility       | 2000, XP                                                                                                    |

### Electronic Specification

| Symbol | Parameter             | Min | Typical | Max | Unit | Note                 |
|--------|-----------------------|-----|---------|-----|------|----------------------|
| Ts     | Storage Temperature   | -40 |         | +85 | °C   |                      |
| Tw     | Working Temperature   | +0  | +25     | +70 | °C   |                      |
| It     | Transmit Mode Current |     |         |     |      | Note1                |
|        | 11a                   |     | 480     |     | mA   | @17dBm ART TX99 mode |
|        | 11b                   |     | 420     |     | mA   | @18dBm ART TX99 mode |
|        | 11g                   |     | 450     |     | mA   | @18dBm ART TX99 mode |
|        | Turbo Mode            |     | 550     |     | mA   | @16dBm ART TX99 mode |
| Ir     | Receive Mode Current  |     |         |     |      | Note1                |
|        | 11a                   |     | 260     |     | mA   |                      |
|        | 11b                   |     | 250     |     | mA   |                      |
|        | 11g                   |     | 260     |     | mA   |                      |
|        | Turbo Mode            |     | 340     |     | mA   |                      |
| Is     | Sleep Mode Current    |     | 20      |     | mA   |                      |
|        |                       |     |         |     |      |                      |
| Vcc    | Supplied Voltage      | 3.0 | 3.3     | 3.6 | V    |                      |

Note1 : Condition at 3.3V, 25°C

## Radio Specification

**Condition:** VCC=3.3V, Temp=25°C

| Parameter                                                                              | Min  | Typical | Max  | Unit | Note         |
|----------------------------------------------------------------------------------------|------|---------|------|------|--------------|
| <b>Transmitter</b>                                                                     |      |         |      |      |              |
| <b>11a</b>                                                                             |      |         |      |      |              |
| TX Power                                                                               |      | +17     |      | dBm  |              |
| Tx Spectrum Mask                                                                       |      |         |      |      |              |
| Transmitted spectrum at 11Mhz frequency offset                                         |      |         | -20  | dBr  | <b>Note1</b> |
| Transmitted spectrum at 20Mhz frequency offset                                         |      |         | -28  | dBr  |              |
| Transmitted spectrum at 30Mhz frequency offset                                         |      |         | -40  | dBr  |              |
| Frequency Range                                                                        | 5150 |         | 5850 | Mhz  |              |
| <b>Turbo Mode</b>                                                                      |      |         |      |      |              |
| TX Power                                                                               |      | +16     |      | dBm  |              |
| Channel                                                                                |      |         |      |      | <b>Note2</b> |
|                                                                                        |      |         |      |      |              |
| <b>11b</b>                                                                             |      |         |      |      |              |
| 11b TX Power                                                                           |      | +18     |      | dBm  |              |
| 11b Tx Spectrum Mask                                                                   |      |         |      |      |              |
| Transmitted spectral for frequency at $f_c \pm 11\text{Mhz}$ to $f_c \pm 22\text{Mhz}$ |      |         | -30  | dBr  | <b>Note3</b> |
| Transmitted spectral for frequency at $f_c \pm 22\text{Mhz}$ to $f_c \pm 33\text{Mhz}$ |      |         | -50  | dBr  |              |
| Frequency Range                                                                        | 2412 |         | 2484 | Mhz  |              |
| <b>11g</b>                                                                             |      |         |      |      |              |
| TX Power                                                                               |      | +18     |      | dBm  |              |
| Tx Spectrum Mask                                                                       |      |         |      |      |              |
| Transmitted spectrum at 11Mhz frequency offset                                         |      |         | -20  | dBr  | <b>Note1</b> |
| Transmitted spectrum at 20Mhz frequency offset                                         |      |         | -28  | dBr  |              |
| Transmitted spectrum at 30Mhz frequency offset                                         |      |         | -40  | dBr  |              |
| Frequency Range                                                                        | 2412 |         | 2472 | Mhz  |              |
| <b>Turbo Mode</b>                                                                      |      |         |      |      |              |
| TX Power                                                                               |      | +16     |      | dBm  |              |
| Channel                                                                                |      |         |      |      | <b>Note4</b> |
| <b>Receiver</b>                                                                        |      |         |      |      |              |
| RX Sensitivity @ 11a 54Mbps 108Mbps PER<10%                                            | -65  |         |      | dBm  | <b>Note5</b> |
| RX Sensitivity @ 11b 11Mbps PER<8%                                                     | -82  |         |      | dBm  |              |
| RX Sensitivity @ 11g 54Mbps PER<10%                                                    | -65  |         |      | dBm  |              |

|                                                |     |    |  |     |  |
|------------------------------------------------|-----|----|--|-----|--|
| RX Sensitivity @ Turbo Mode<br>108Mbps PER<10% | -62 |    |  | dBm |  |
| <b>Antenna Port Impedance</b>                  |     | 50 |  | ohm |  |

Note 1 dBr (dB relative to the  $\sin(x)/x$  peak)

Note 2 Turbo mode channel list :

Ch42, Ch50, Ch58, Ch152, Ch160, total 5 channels

Note 3 dBr (dB relative to the  $\sin(x)/x$  peak)

Note 4 Turbo mode channel list : Ch6 only

Note 5 PER : Packet Error Rate