

# Sierra Wireless AirPrime™ Embedded Wireless Modules SL Series

## Future-Proof your Connected Devices

Sierra Wireless AirPrime™ SL Series offers smart connectivity for consumer and industrial applications. With its programmable capabilities, the AirPrime SL Series enables shared processing to reduce the size and cost of the final product.

Its standard 25 x 30 mm LGA (Land Grid Array) package allows fully automated manufacturing for high-volume production.

Available in 2G (EDGE) and 3G (HSDPA, HSPA+, EV-DO) versions, the AirPrime SL Series presents an easy upgrade path to next-generation network technologies.

AirPrime SL Series modules are ideal for solutions from the consumer, transportation, energy, industrial, security, sales & payment, networking, field service and healthcare sectors.

### AIRPRIME SL6087

Elected “Best 2G Module” by the GSM Association in 2010, the AirPrime SL6087 quad-band EDGE module natively supports a complete Open AT Application Framework. The AirPrime SL6087 is available with Embedded SIM as an option, and supports a comprehensive set of device management capabilities.

### AIRPRIME SL808X

The AirPrime SL808x offers dual-band HSDPA connectivity (up to 3.6 Mbps downlink) and quad-band GSM/GPRS/EDGE network access. It offers worldwide coverage with 3 different dual-band versions: 850/900 MHz, 900/2100 MHz, and 850/2100 MHz. It is available with Embedded SIM as an option.

### AIRPRIME SL809X

The AirPrime SL809x is one of the smallest high-speed HSPA+ modules in the industry, featuring voice, antenna diversity, and GPS support. It offers tri-band (850/1900/2100 MHz) or dual-band (900/2100 MHz) HSPA+ connectivity with data speeds up to 14.4 Mbps on the downlink and 5.7 Mbps on the uplink, as well as quad-band GSM/GPRS/EDGE.

### AIRPRIME SL501X

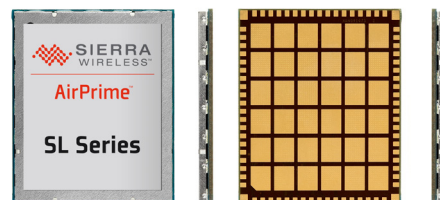
The AirPrime SL501x is a dual-band (800/1900 MHz) EV-DO Rev A module. It offers data speeds up to 3.1Mbps on the downlink and up to 1.8Mbps on the uplink, and supports GPS.



#### KEY BENEFITS

- Compact and cost-effective module with processing capabilities
- High scalability for new network technologies
- A single form-factor compatible for multiple regions
- Resists industrial environments and extended temperatures
- Fast deployment with an embedded application framework

Smart



AirPrime™

# Sierra Wireless AirPrime™ Embedded Wireless Modules SL Series

|                                     | SL6087                                                        | SL808X                                                                                                              | SL809X                                             | SL501X                                    |
|-------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------|
| <b>AIR INTERFACE</b>                |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | EDGE                                                          | HSDPA                                                                                                               | HSPA+                                              | EV-DO Rev A                               |
| <b>DATA SPEED</b>                   |                                                               |                                                                                                                     |                                                    |                                           |
| Peak download rate                  | 237 Kbps                                                      | 3.6 Mbps                                                                                                            | 14.4 Mbps                                          | 3.1 Mbps                                  |
| Peak upload rate                    | 237 Kbps                                                      | 384 Kbps                                                                                                            | 5.7 Mbps                                           | 1.8 Mbps                                  |
| <b>FREQUENCY BANDS</b>              |                                                               |                                                                                                                     |                                                    |                                           |
| GSM/GPRS/EDGE                       | 850/900/1800/1900 MHz                                         | 850/900/1800/1900 MHz                                                                                               | 850/900/1800/1900 MHz                              |                                           |
| WCDMA                               |                                                               | SL8080/81: 850/1900 MHz<br>SL8082/83: 900/2100 MHz<br>SL8084/85: 850/2100 MHz                                       | SL8090: 850/1900/2100 MHz<br>SL8092: 900/2100 MHz  |                                           |
| EV-DO Rev A                         |                                                               |                                                                                                                     |                                                    | 800/1900 MHz                              |
| <b>APPROVALS</b>                    |                                                               |                                                                                                                     |                                                    |                                           |
| Regulatory                          | R&TTE, CE, GCF-CC, FCC, PTCRB, China RTE, ICASA, Anatel, ATEX | SL8080/81: FCC, IC, GCF-CC, PTCRB<br>SL8082/83: R&TTE, CE, GCF-CC<br>SL8084/85: CE, GCF-CC, PTCRB, A-Tick compliant | FCC, IC, CE, GCF-CC, PTCRB,                        | FCC                                       |
| Carrier                             | AT&T, Vodafone                                                | SL8080/81: AT&T, Rogers (target)<br>SL8084/85: Telstra                                                              | AT&T, NCC, NTT DoCoMo (target)                     | Verizon, Sprint (targets)                 |
| <b>CURRENT CONSUMPTION</b>          |                                                               |                                                                                                                     |                                                    |                                           |
| Alarm (leakage only)                | 10.4 µA*                                                      | 35 µA*                                                                                                              | <50 µA*                                            |                                           |
| Standby and Idle (Sleep)            | 1.9 mA                                                        | <2 mA                                                                                                               | <2 mA                                              | 3.5mA                                     |
| GSM/GPRS max                        | 1.5mA peak @3.6V<br>418mA average                             | 2.2A peak @3.6V (+32dBm)<br>500mA average                                                                           | 2.3A peak @3.6V (+32dBm)<br>730mA average          |                                           |
| EVDO REV A max                      |                                                               |                                                                                                                     |                                                    | 1000mA                                    |
| HSPA max                            |                                                               | 570mA @ 3.6V (+23dBm)                                                                                               | 1A @ 3.6V (+23dBm)                                 |                                           |
| <b>CPU PERFORMANCE</b>              |                                                               |                                                                                                                     |                                                    |                                           |
| Processor                           | ARM946 / DSP                                                  | ARM926EJS / QDSP4                                                                                                   | ARM1136JS                                          | ARM926EJS                                 |
| Core frequency                      | 26-104 MHz                                                    | 184 MHz / 92 MHz                                                                                                    | 300MHz                                             | 192MHz                                    |
| User MIPS Available                 | ✓                                                             | ✓                                                                                                                   | ✓                                                  | ✓                                         |
| <b>AUDIO</b>                        |                                                               |                                                                                                                     |                                                    |                                           |
| Analog Audio                        | 1x micro in/1x speaker out                                    | 1x micro in/1x speaker out                                                                                          |                                                    |                                           |
| Digital Audio                       | PCM                                                           | PCM                                                                                                                 | PCM (SL8090/92)                                    | PCM (SL5010)                              |
| Codec                               | FR, EFR, HR, AMR                                              | FR, EFR, HR, AMR, QCELP-13K                                                                                         | FR, EFR, HR, AMR                                   | FR, EFR, HR (SL5010)                      |
| Quality                             | VDA2A                                                         | VDA2A                                                                                                               | VDA2A                                              | VDA2A                                     |
| Echo cancellation & Noise reduction | ✓                                                             | ✓                                                                                                                   | ✓                                                  | ✓                                         |
| DTMF                                | ✓                                                             | ✓                                                                                                                   | ✓                                                  | ✓                                         |
| <b>INTERFACES</b>                   |                                                               |                                                                                                                     |                                                    |                                           |
| UART                                | 1 x 4-Wire and 1 x 8-Wire                                     | 1x 4-Wire or 8-wire                                                                                                 | 1x 4-Wire or 8-wire                                | 1 x 4-Wire                                |
| USB                                 | 1 x USB 2.0 Full Speed                                        | 1 x USB 2.0 High Speed                                                                                              | 1 x USB 2.0 High Speed                             | 1 x USB 2.0 High Speed                    |
| SPI                                 | 1 x 4-Wire                                                    | 1 x 4-Wire                                                                                                          | 1 x 4-Wire                                         |                                           |
| I2C                                 | 1                                                             |                                                                                                                     |                                                    |                                           |
| ADC                                 | 2                                                             |                                                                                                                     |                                                    | 2                                         |
| GPIO                                | Up to 26                                                      | Up to 3                                                                                                             | Up to 3                                            | Up to 5                                   |
| RTC                                 | 1                                                             |                                                                                                                     |                                                    |                                           |
| Timers (HW, SW, Capture)            | 1                                                             |                                                                                                                     |                                                    |                                           |
| Interrupts Pins                     | 2                                                             |                                                                                                                     |                                                    |                                           |
| Flash LED Output                    | 1                                                             | 1                                                                                                                   | 1                                                  | 1                                         |
| PWM (Buzzer)                        | 1                                                             | 1                                                                                                                   | 1                                                  | 1                                         |
| Tx Burst indicator                  | 1                                                             |                                                                                                                     | 1                                                  |                                           |
| SIM interface                       | 1.8/3V                                                        | 1.8/3V                                                                                                              | 1.8/3V                                             | 1.8V/3V                                   |
| <b>LOCATION SOLUTION</b>            |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | AirPrime XM0110 GPS module and Location Library               | gpsOne                                                                                                              | gpsOneXTRA                                         | gpsOne                                    |
| <b>EMBEDDED SIM</b>                 |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | Optional                                                      | Optional                                                                                                            |                                                    |                                           |
| <b>MANAGEMENT SERVICES</b>          |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | ✓                                                             | ✓                                                                                                                   |                                                    |                                           |
| <b>CONTROL OPTIONS</b>              |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | AT commands                                                   | AT commands                                                                                                         | AT commands                                        | AT commands, CnS                          |
| <b>APPLICATION FRAMEWORK</b>        |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | Open AT®                                                      | Open AT®                                                                                                            | -                                                  | -                                         |
| <b>INTERNET SERVICES</b>            |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | TCP/UDP/FTP/HTTP/SMTP/POP3/SNMP/SSL                           | TCP/UDP                                                                                                             | TCP/UDP                                            | TCP/UDP                                   |
| <b>DRIVERS</b>                      |                                                               |                                                                                                                     |                                                    |                                           |
|                                     |                                                               | Android, Linux, Windows CE 6.0, Windows Mobile 6.5                                                                  | Android, Linux, Windows CE 6.0, Windows Mobile 6.5 | Linux, Windows CE 6.0, Windows Mobile 6.5 |
| <b>DEVICE DIMENSIONS</b>            |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | 25 x 30 x 2.65 mm                                             | 25 x 30 x 2.35 mm                                                                                                   | 25 x 30 x 2.35 mm                                  | 25 x 30 x 2.35 mm                         |
| <b>TEMPERATURE RANGE</b>            |                                                               |                                                                                                                     |                                                    |                                           |
|                                     | -40°C to +85°C                                                | -40°C to +85°C**                                                                                                    | -40°C to +85°C                                     | -40°C to +85°C                            |

\* Power mode in Alarm Mode can be reduced to less than 1µA with external design. Contact Sierra Wireless for more information.

\*\* Except SL8081/83/85

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