# Sierra Wireless AirPrime™ Intelligent Embedded Modules MC Series

## Air Interface Innovation

Sierra Wireless AirPrime™ MC Series embedded modules deliver reliable, high-quality mobile broadband connectivity with a variety of advanced air interfaces. The AirPrime MC Series can turn any mobile computing or mobile consumer device into a powerful communication tool.

The AirPrime MC Series modules are based on the PCI Express Mini Card standard with a USB 2.0 interface. They are designed to work with EV-DO Rev A, HSPA, HSPA+ or LTE networks. The MC8704, MC8795V, MC8790V, MC8792V and MC5728V support voice.

### AIRPRIME MC7700/7710/7750

Designed to provide support for new LTE capable networks, the AirPrime series of LTE modules feature data speeds up to 100Mbps downlink and 50Mbps UPA uplink. The AirPrime MC7750 supports LTE, EV-DO and HSPA+ networks, while the AirPrime MC7700 and MC7710 support LTE and HSPA+ in different frequency bands.

### AIRPRIME MC8700/MC8704/MC8705/MC8801

Expand your product development into applications requiring higher bandwidth and take advantage of fast mobile broadband networks available worldwide, offering up to 42 Mbps download speeds with HSPA+ capabilities. The MC8704 supports voice.

### AIRPRIME MC8795V

Designed to provide support for new geographical markets, the HSPA quad-band (850/900/1900/2100 MHz) AirPrime MC8795V features data speeds up to 7.2 Mbps on the downlink and 5.76 Mbps on the uplink.

### AIRPRIME MC8790/MC8790V/MC8792V

These modules offer UMTS/HSPA and quad-band GSM/GPRS/EDGE network access for roaming on high-speed networks worldwide at speeds up to 7.2 Mbps downlink and up to 5.76 Mbps uplink. In addition, antenna diversity improves fringe performance on global HSPA networks using the 850 (900 for the MC8792V), 1900, and 2100 MHz bands.

### AIRPRIME MC5728V

The AirPrime MC5728V provides OEMs with EV-DO Rev A wireless data access at speeds up to 3.1 Mbps downlink and 1.8 Mbps uplink. It is compatible with widely available CDMA EV-DO Rel 0 and 1x networks.

**KEY BENEFITS:**
- High performing, reliable modules
- Software and tools accelerate time to market
- Integration and verification support reduce costs and time to market
- Comprehensive SDK and enabling software available for creating a unique connection manager

# Professional Services

For many years, Sierra Wireless's professional services team has worked with the world's leading OEMs integrating our wireless embedded modules into their products.

From RF test chambers, base station simulators, antenna design and modeling software to environmental test capabilities, our team can offer skills and support when and where you need it most.

- **Project management.** We'll evaluate requirements, prepare a detailed plan, and manage the integration schedule from start to launch.

- **Sales and technical support training.** Classroom, webinar, and online self-study courses are all possible to train your sales, field-service and technical support teams.

- **Design and integration services.** We anticipate the variety of challenges and hurdles our customers will encounter and will work with customers to ensure the right decisions are made, and integration goes smoothly.

- **Platform optimization and RF testing services.** Our first-class testing facilities can recreate demanding field conditions to test for sensitivity, RF desense, or throughput issues that will affect device performance.

- **Regulatory and type approvals services.** We help OEMs through approvals of each organization's technology-specific requirements, ensuring their products launch in a timely manner, and provide quick response to any issues that arise.

- **Operator certification services.** Sierra Wireless has commercialized products and established relationships with more than 80 operators in 40 countries worldwide.

- **Sierra Wireless Satimo Chambers.** Sierra Wireless has invested in two Satimo Stargate 64 RF testing and design chambers to provide fast and reliable RF measurements for any wireless system.

# Operating System Compatibility

### EMBEDDED OPERATING SYSTEMS

AirPrime MC Series embedded modules support Windows CE, Windows Mobile, and Embedded Linux operating systems.

For all these embedded operating systems, Sierra Wireless provides a complete Software Development Kit (SDK) for both CDMA and HSPA technologies. For Windows Mobile application development, a Radio Interface Layer (RIL) is also available. The SDK is complemented with a rich set of sample applications and utilities, as well as detailed documentation.

### PERSONAL COMPUTER OPERATING SYSTEMS

Sierra Wireless is working closely with Microsoft to ensure all our current AirPrime MC Series embedded modules work with Windows XP, Windows Vista, Windows 7 and future OS revisions. Sierra Wireless also supports Windows 7 Mobile Broadband, a Windows 7 System Logo requirement, and was the first vendor mobile broadband to comply with Microsoft's Windows 7 Logo Kit requirements.

Standard support for Windows PC operating systems includes a Windows driver and SDK to enable you to create a unique connection manager if Watcher doesn't meet your specific needs.

| | MC5728V | MC8790/8790V | MC8792V | MC8795V | MC8700 |
|---|---|---|---|---|---|
| **AIR INTERFACE** | | | | | |
| | EVDO REV A | HSUPA | HSUPA | HSUPA | HSPA+ |
| **DATA SPEED** | | | | | |
| Peak Download Rate | 3.1 Mbps | 7.2 Mbps | 7.2 Mbps | 7.2 Mbps | 21.1 Mbps |
| Peak Upload Rate | 1.8 Mbps | 5.76 Mbps | 5.76 Mbps | 5.76 Mbps | 5.76 Mbps |
| **FREQUENCY BANDS** | | | | | |
| | CDMA 1XRTT/EV-DO REV A 800/1900 MHz | WCDMA 850/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 | WCDMA 900/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 | WCDMA 850/900/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 | WCDMA 850/900/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 |
| **APPROVALS** | | | | | |
| | FCC, Verizon, Sprint | FCC, IC, CE, GCF, PTCRB, A-Tick, AT&T, Telstra, NTT DoCoMo, Softbank, Bell | FCC, IC, CE, GCF, PTCRB, A-Tick, Optus | FCC, IC, CE, GCF, PTCRB, A-Tick, NTT DoCoMo, Softbank, AT&T | FCC, IC, CE, GCF, PTCRB, A-Tick, Telstra, T-Mobile |
| **CPU PERFORMANCES** | | | | | |
| IO voltage | 2.6V | 2.6V | 2.6V | 2.6V | |
| **AUDIO** | | (MC8790V) | | | |
| Analog audio | 1 x speaker out -1 x micro in | 1 x speaker out -1 x micro in | 1 x speaker out -1 x micro in | 1 x speaker out -1 x micro in | |
| Digital audio | PCM | PCM | PCM | PCM | |
| Codec | HR, FR, EFR, AMR | HR, FR, EFR, AMR | HR, FR, EFR, AMR | HR, FR, EFR, AMR | |
| Echo cancellation & noise reduction | ✓ | ✓ | ✓ | ✓ | |
| DTMF | ✓ | ✓ | ✓ | ✓ | |
| **INTERFACES** | | | | | |
| UART | 1X 8-Wire | 1X 8-Wire (MC8790V) | 1X 8-Wire | 1X 8-Wire | |
| USB | USB 2.0 Full Speed | USB 2.0 High Speed | USB 2.0 High Speed | USB 2.0 High Speed | USB 2.0 High Speed |
| ON OFF | ✓ | ✓ | ✓ | ✓ | ✓ |
| Vref | 2.6V | 2.6V (MC8790V) | 2.6V | 2.6V | |
| ADC | 1 | 1 (MC8790V) | 1 | 1 | |
| GPIO | 4 | 4 (MC8790V) | 4 | 4 | |
| Flash LED output | 1 | 1 | 1 | 1 | 1 |
| SIM interface | | 1.8V or 3V | 1.8V or 3V | 1.8V or 3V | 1.8V or 3V |
| **ANTENNA** | | | | | |
| U.FL Antenna Connectors | 2 | 2 | 2 | 2 | 2 |
| Diversity | ✓ | ✓ | ✓ | ✓ | ✓ |
| MIMO | | | | | |
| GPS Bias | | | | | |
| **LOCATION SOLUTION** | | | | | |
| | gpsOne | gpsOne | gpsOne | gpsOne | |
| **CONTROL OPTIONS** | | | | | |
| | AT commands, Sierra API | AT commands, Sierra API | AT commands, Sierra API | AT commands, Sierra API | AT commands, Sierra API |
| **DRIVERS** | | | | | |
| Windows® Mobile | ✓ | ✓ | ✓ | ✓ | |
| Windows® CE | ✓ | ✓ | ✓ | ✓ | |
| Windows®XP | ✓ | ✓ | ✓ | ✓ | ✓ |
| Windows® 7 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Windows® Vista | ✓ | ✓ | ✓ | ✓ | ✓ |
| Linux | ✓ | ✓ | ✓ | ✓ | ✓ |
| **DEVICE DIMENSIONS** | | | | | |
| | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm |
| **OPERATIONAL TEMPERATURE** | | | | | |
| Normal (Class A) | -30° to +60°C | -25° to +60°C | -25° to +60°C | -25° to +60°C | -25° to +60°C |
| Extended (Class B) * | -30° to +75°C | -25° to +75°C | -25° to +75°C | -25° to +75°C | -25° to +75°C |

* with performance deviations

SIERRA WIRELESS™ | AirPrime™

# Sierra Wireless AirPrime™
## Intelligent Embedded Modules
## MC Series

| | MC8704/MC8705 | MC8801 | MC7700 | MC7710 | MC7750 |
|---|---|---|---|---|---|
| **AIR INTERFACE** | | | | | |
| | HSPA+ | HSPA+ | LTE/HSPA+ | LTE/HSPA+ | LTE/EV-DO/HSPA+ |
| **DATA SPEED** | | | | | |
| Peak Download Rate | 21.1 Mbps | 42 Mbps | 100 Mbps | 100 Mbps | 100 Mbps |
| Peak Upload Rate | 5.76 Mbps | 5.76 Mbps | 50 Mbps | 50 Mbps | 50 Mbps |
| **FREQUENCY BANDS** | | | | | |
| | WCDMA 850/900/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 MHz | WCDMA 850/900/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 MHz | LTE 700(B17)/AWS UMTS/HSPA+ 850/1900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 MHz | LTE 800/900/1800/2100/2600 MHz UMTS/HSPA+ 900/2100 MHz GSM/GPRS/EDGE 850/900/1800/1900 MHz | LTE 700(B13) MHz UMTS/HSPA+ 850/900/1900/2100 MHz CDMA 1x/EV-DO Rev A 800/1900 MHz GSM/GPRS/EDGE 850/900/1800/1900 MHz |
| **APPROVALS** | | | | | |
| | | | | | |
| **CPU PERFORMANCES** | | | | | |
| IO voltage | | | | | |
| **AUDIO** | | | | | |
| Analog audio | | | | | |
| Digital audio | I²S (MC8704) | | | | |
| Codec | | | | | |
| Echo cancellation & noise reduction | | | | | |
| DTMF | | | | | |
| **INTERFACES** | | | | | |
| UART | | | | | |
| USB | USB 2.0 High Speed | USB 2.0 High Speed | USB 2.0 High Speed | USB 2.0 High Speed | USB 2.0 High Speed |
| ON OFF | ✓ | ✓ | ✓ | ✓ | ✓ |
| Vref | | | | | |
| ADC | | | | | |
| GPIO | 6 (MC8704) | | 6 | 6 | 6 |
| Flash LED output | 1 | 1 | 1 | 1 | 1 |
| SIM interface | 1.8V or 3V | 1.8V or 3V | 1.8V or 3V | 1.8V or 3V | 1,8V or 3V |
| **ANTENNA** | | | | | |
| U.FL Antenna Connectors | 2 | 3 | 3 | 3 | 3 |
| Diversity | ✓ | ✓ | ✓ | ✓ | ✓ |
| MIMO | | | ✓ | ✓ | ✓ |
| GPS Bias | | | ✓ | ✓ | ✓ |
| **LOCATION SOLUTION** | | | | | |
| | gpsOne | gpsOne | gpsOne | gpsOne | Standalone GPS |
| **CONTROL OPTIONS** | | | | | |
| | AT commands, Sierra API | AT commands, Sierra API | AT commands, Gobi API | AT commands, Gobi API | AT commands, Gobi API |
| **DRIVERS** | | | | | |
| Windows® Mobile | | | | | |
| Windows® CE | | | | | |
| Windows® XP | ✓ | ✓ | ✓ | ✓ | ✓ |
| Windows® 7 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Windows® Vista | ✓ | ✓ | ✓ | ✓ | ✓ |
| Linux | ✓ | ✓ | ✓ | ✓ | ✓ |
| **DEVICE DIMENSIONS** | | | | | |
| | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm | 51 x 30 x 4.5 mm |
| **OPERATIONAL TEMPERATURE** | | | | | |
| Normal (Class A) | -25° to +60°C | -25° to +60°C | -25° to +60°C | -25° to +60°C | -25° to +60°C |
| Extended (Class B) * | -25° to +75°C | -25° to +75°C | | | |

* with performance deviations

SIERRA WIRELESS™ | AirPrime™