

## Quectel UC15 Mini PCIe UMTS/HSDPA Module



Dual-mode & Multi-band  
for UMTS & GSM



HSDPA 3.6Mbps



Mini PCIe Package



Embedded Abundant  
Protocols



eCall



Audio (Optional)



USB 2.0 High Speed  
Compliant Interface



USB Drivers



Quectel Enhanced  
AT Commands



GPRS  
Multi-slot Class 12



Extended Temperature  
Range -40°C to +80°C



UC15 Mini PCIe is the latest Quectel UMTS/HSDPA module featuring a maximum data rate of 3.6Mbps downlink and 384Kbps uplink. It is designed to provide customers with global network coverage on the connectivity of HSDPA/WCDMA, and it is also fully backward compatible with existing EDGE and GSM/GPRS networks through multi-band combination of dual-band WCDMA and dual-band GSM.

The tiny profile of 51.0×30.0×4.9mm in standard Mini PCIe form factor and highly integration level enable integrators and developers to easily design their applications and truly benefit from low power consumption and convenient Plug and Play Function.

With an extended temperature range from -40°C up to 80°C, UC15 Mini PCIe functions reliably in extreme environments for use outdoors or inside at sites that lack cooling and heating systems.

A rich set of Internet protocols, industry-standard interfaces (USB/UART/Analog Audio/LED\_WWAN) and abundant functions (USB drivers for Windows XP, Windows Vista, Windows 7, Windows 8, Windows CE, Linux, Android) extend the applicability of the module to a wide range of commercial and industrial M2M applications.

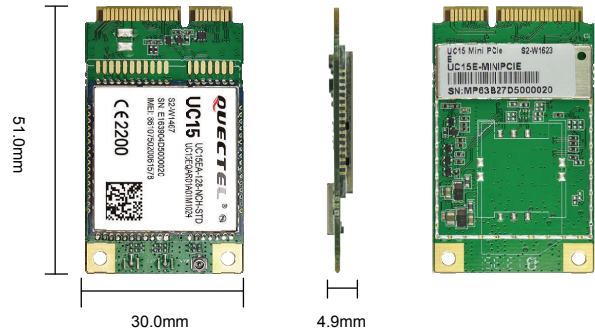
### Key Benefits

- Worldwide UMTS/HSDPA and GSM/GPRS/EDGE coverage
- Standard Mini PCIe form factor maximizes the convenience for customers to design and use
- High-quality data and image transmission even in hazard conditions and dark environment
- Fast time-to-market:  
Reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
- Robust mounting and interfaces

# Quectel UC15

## Mini PCIe

### UMTS/HSDPA Module



#### General Features

|                                |  |
|--------------------------------|--|
| <b>Frequency Bands</b>         | <b>UMTS/HSDPA:</b><br>900/2100MHz (UC15-E Mini PCIe) |
|                                | <b>GSM/GPRS/EDGE:</b><br>900/1800MHz                 |
| <b>HSDPA</b>                   | Release 5 (category 6)                               |
| <b>EDGE</b>                    | Downlink only  |
| <b>GPRS</b>                    | Multi-slot Class 12                                  |
| <b>UMTS</b>                    | Release 99/5   |
| <b>GSM</b>                     | Release 99/4   |
| <b>Supply Voltage Range</b>    | 3.0 ~ 3.6V, Typ. 3.3V                                |
| <b>Operation Temperature</b>   | -40°C ~ +80°C  |
| <b>Dimensions</b>              | 51.0×30.0×4.9mm                                      |
| <b>Weight</b>                  | Approx. 9.3g   |
| <b>Control via AT commands</b> | 3GPP TS27.007, 27.005 and other enhanced AT Commands |

#### Electrical Characteristics

|                     |   |
|---------------------|---|
| <b>Output Power</b> | Class 3 (24dBm +1/-3dB) for UMTS Bands<br>Class 4 (33dBm ±2dB) for GSM 900MHz<br>Class 1 (30dBm ±2dB) for GSM 1800MHz                                     |
| <b>Consumption</b>  | 5.1mA@Sleep<br>70mA@Idle, USB active<br>320mA@GSM voice, max power<br>680mA@UMTS voice, max power<br>550mA@GPRS data, max power<br>690mA@HSDPA, max power |
| <b>Sensitivity</b>  | -110dBm@ UMTS Bands<br>-108.5dBm@ GSM 900MHz<br>-108.5dBm@ GSM 1800MHz  |

#### Specifications

|                           |   |
|---------------------------|---|
| <b>SMS</b>                | Point-to-point MO and MT<br>SMS Cell Broadcast<br>Text and PDU Mode |
| <b>HSDPA</b>              | Max.3.6Mbps   |
| <b>UMTS</b>               | Max.384Kbps (DL)/Max.384Kbps (UL)                                   |
| <b>GPRS</b>               | Max.85.6Kbps (DL)/Max.85.6Kbps (UL)                                 |
| <b>CSD</b>                | 64Kbps  |
| <b>Speech Codec Modes</b> | HR, FR, EFR, AMR, AMR-WB  |
| <b>Echo Arithmetic</b>    | Echo Cancellation<br>Noise Reduction                                |
| <b>Protocols</b>          | TCP/UDP/PPP/FTP/HTTP/SMTP/MMS/SSL                                   |

#### Interfaces

|                        |  |
|------------------------|--|
| <b>USB</b>             | 2.0 High Speed                                     |
| <b>Analog Audio</b>    | One Analog Input and one Output Channel (Optional) |
| <b>Digital Audio *</b> | PCM (Optional)                                     |
| <b>UART</b>            | 1×Full Functions                                   |
| <b>USIM</b>            | 1.8V/3V  |
| <b>LED_WWAN#</b>       | Network Status Indication                          |
| <b>W_DISABLE#</b>      | Disable RF Function                                |
| <b>PERST#</b>          | Reset Function                                     |
| <b>Antenna</b>         | 1×RF pad   |

#### Special Features

|                        |   |
|------------------------|---|
| <b>USB Serial</b>      | Windows XP, Windows Vista, Windows 7,<br>Windows 8, Windows CE5.0/ 6.0/7.0, Windows Mobile<br>6.1*/6.5*, Linux 2.6 or later, Android 2.3 or later |
| <b>RIL</b>             | Windows CE6.0*, Windows Mobile 6.1*/6.5*,<br>Android 2.3/4.0  |
| <b>MUX</b>             | Linux 2.6 or later, Android 2.3 or later  |
| <b>eCall</b>           | Accident, Emergency Services  |
| <b>Firmware Update</b> | Firmware Update via USB Interface   |
| <b>QuecFile</b>        | File System Access and Management   |
| <b>QuecFOTA</b>        |   |
| <b>QuecLocator*</b>    |   |

#### Certificates

|             |                  |
|-------------|------------------|
| <b>Plan</b> | CE/GCF/FCC/PTCRB |
|-------------|------------------|

\* Under development