Gobi3000

User Guide – Regulatory

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Revision history

Revision	Date	Description
A	July 2010	Initial release

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1 Introduction

1.1 Documentation overview

The Gobi3000™ platform is the third-generation PCI Express™ Mini Card that enables notebook computer wireless data connectivity. This datacard solution delivers WWAN connectivity for the CDMA2000® 1X, 1x EV-DO, UMTS (HSDPA and HSUPA), and GPRS/EDGE protocols, and GPS position location, in a single package. The complete Gobi3000 solution includes all hardware and software necessary for embedded wireless connectivity in host products.

All released Gobi3000 documents are posted at the CDMATech Support website (https://support.cdmatech.com) and are available for download.

This Gobi3000 user guide is organized as follows:

Chapter 1 Provides an overview of the Gobi3000 platform, provides the list of supported frequencies, operating modes, and defines terms and acronyms used throughout this document

Chapter 2 Provides standards compliance and regulatory information

Table 1-1 lists the document referred to throughout the Gobi3000 document set; consult this document for additional information.

Table 1-1 Reference document

Ref No.	Document
[1]	FCC Regulations – CFR 47, Part 1, 2, 15, 22, and 24

1.2 Application description

The Gobi3000 platform includes a universal embedded data-connectivity modem in the form of a PCI Express Mini Card, and the associated software suite for notebook PC applications. Table 1-2 lists the Gobi3000 platform frequency range.

Table 1-2 Gobi3000 platform supported frequency range

Mode	Band	UL frequency (MHz)	DL frequency (MHz)
WCDMA Release 99 HSDPA Release 7 HSUPA Release 6	1	1920 – 1980	2110 – 2170
	2	1850 – 1910	1930 – 1990
	4	1710 –1755	2110 – 2155
	5	824 – 849	869 – 894
	6	830 – 840	875 – 885
	8	880 – 915	925 – 960
GSM GPRS EGPRS	850	824 – 849	869 – 894
	900	880 – 915	925 – 960
	1800	1710 – 1785	1805 – 1875
	1900	1850 – 1910	1930 – 1990
CDMA2000 1X CDMA2000 1xEV-DO ■ Rev. 0 ■ Rev. A	BC0	824 – 849	869 – 894
	BC1	1850 – 1910	1930 – 1990
GPS position location	GPS L1	–	1574.42 – 1576.42

Key connectivity support includes:

- USB 2.0 high-speed
- Universal integrated circuit card (UICC) for RUIM/USIM
- Primary and secondary antenna connectors
- Status LED driver output
- DC power supply input and enable/disable control

1.3 Terms and acronyms

Table 1-3 defines the terms and acronyms used throughout this document.

Table 1-3 Terms and acronyms

Term	Definition
AMSS™	Advanced Mobile Subscriber Software
CAPI	Computer application programmable interface
CDMA	Code Division Multiple Access
CE	Mandatory conformity marking on many European products
Cell	Cellular band
CTIA	Cellular Telecommunications and Internet Association
DCS	Digital cellular system at 1800 MHz
DDR SDRAM	Dual data rate synchronous dynamic random access memory

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Table 1-3 Terms and acronyms (cont.)

Term	Definition
EDGE	Enhanced Data Rate for GSM Evolution
EMC	Electromagnetic compatibility
ESD	Electrostatic discharge
FCC	Federal Communications Commission
GPRS	General packet radio service
GPS	Global positioning system
GSM	Global System for Mobile communications
HSDPA	High-speed downlink packet access
HSUPA	High-speed uplink packet access
IMT	International mobile telecommunications
ISOD	Interface specification and operational description
JTAG	Joint Test Action Group
MDM	Mobile Data Modem
PA	Power amplifier
PCI	Peripheral component interconnect
PCS	Personal communication system
PHY	Physical layer (USB transceiver)
PM, PMIC	Power management, power management integrated circuit
QDL	Qualcomm Down Loader
RFR	Radio frequency receiver
RoHS	Restriction of hazardous substances
RTR	Radio frequency transceiver
R&TTE	Radio equipment and telecommunications terminal equipment
RUIM	Removable user identity module
TIA/EIA	Telecommunication Industry Association/Electronic Industries Alliance
TS	Technical specification
TXCO	Temperature-compensated crystal oscillator
UICC	Universal integrated circuit card
ULPI	USB transceiver macrocell interface + low pin interface
UMTS	Universal Mobile Telecommunications System
Gobi3000	The Gobi3000 platform refers to a particular Qualcomm product
USB	Universal serial bus
USIM	Universal subscriber identity module
VCTCXO	Voltage controlled temperature-compensated crystal oscillator
WCDMA	Wideband Code Division Multiple Access
WLAN	Wireless local area network

Table 1-3 Terms and acronyms (cont.)

Term	Definition
WHQL	Windows® Hardware Quality Labs
WWAN	Wireless wide area network

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2 Standards and Regulatory Compliance

2.1 Standards and certification

The Gobi3000 platform conforms to the following standards and certification requirements.

- CDMA
  - TIA/EIA IS-98E (CDMA2000 1X)
  - TIA/EIA IS-866 (1x EV-DO)
- UMTS (WCDMA)
  - TS 25.101
- GSM
  - TS 45.005
- FCC
  - 47 CFR Part 1 – RF radiation exposure limits
  - 47 CFR Part 2 – Equipment authorization
  - 47 CFR Part 15 – Unintentional radiators
  - 47 CFR Part 22 – Cellular
  - 47 CFR Part 24 – PCS
- CE
  - EMC protection requirements
    - EN 301 489-1 – Common technical requirements
    - EN 301 489-7 – GSM and DCS
    - EN 301 489-24 – WCDMA 2100
  - Effective use of spectrum to avoid unwanted interference requirements
    - EN 301 908-1 – General requirements
    - EN 301 908-2 – WCDMA 900/2100
    - EN 301 511 – GSM900/GSM1800
- CTIA/GCF/PTCRB

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- Safety
  - EN 60950-1: Information technology equipment – Safety: General requirements
  - EN 62311: Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz–300 GHz)
- Full carrier certification (carriers are TBD)
- RoHS compliance
- Industry Canada (“IC”)
  - RSS-102
  - RSS-132
  - RSS-133
  - RSS-139

2.2 Regulatory information

2.2.1 Safety warnings

Do not operate the Gobi3000 platform in the following environments:

- In active blasting areas
- In potentially explosive environments such as refuelling points, fuel depots, or chemical plants
- Near medical equipment, especially life support equipment that might be susceptible to radio interference
- In an aircraft as follows:
  - Gobi3000 platform transmissions could interfere with aircraft electrical and communication systems. Like cell phones, using the Gobi3000 platform in an aircraft is illegal in some jurisdictions.
  - If cell phone usage is permitted while the aircraft is on the ground, normal Gobi3000 device operation is also permitted.

2.2.2 North American compliance

The Gobi3000 platform has been authorized for mobile operation in North America. The initial authorization grant does not permit end-user installation.

A permissive change will be submitted to add end-user installation and/or portable usage conditions. The permissive change application includes detailed information on the two-way authentication procedure for the Gobi3000 platform, preventing use of the module in unauthorized notebooks.

For mobile applications, the following conditions must be met.

1. Maintain at least a 20 cm separation between the antenna and the user’s body.

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2. Radiated transmit power must be equal to or lower than that specified in the *FCC Grant of Equipment Authorization* for FCC ID: J9CGOBI3000.
3. To comply with FCC/IC regulations limiting both maximum RF output power and human exposure to RF radiation, maximum antenna gain (including cable loss) must not exceed:
   - Cellular band < 7.5 dBi
   - PCS band < 3.5 dBi
4. The Gobi3000 platform may be collocated and allow simultaneous transmission, providing the following conditions are met.
   - The Gobi3000 platform transmit antenna provides > 20 cm separation distance to the end user (FCC mobile categorization), and
   - The collocated transmitter antenna provides > 20 cm separation distance to the end user (FCC mobile categorization), and
   - The collocated transmitter maximum average transmit power is less than 29 dBm (794 mW) per the Gobi3000 platform module-level maximum permissible exposure (MPE) report or the power defined in a subsequently issued host-specific MPE report, and
   - The collocated transmitter maximum antenna gain is less than 5 dBi per the Gobi3000 platform MPE report or gain defined in a subsequently issued host-specific MPE report.
5. Installation of the Gobi3000 module into a host device can only be completed by authorized personnel, unless the FCC certification addresses FCC host/module authentication requirements.
6. A label with the following statements must be attached to the host end product.
   - This device contains Tx FCC ID: J9CGOBI3000.
   - This equipment contains equipment certified under IC: 2723A-GOBI3000.
   - Other regional required regulatory markings
7. The host end product must include a user manual that clearly defines operating requirements and conditions that must be observed to ensure compliance with current FCC/IC RF exposure guidelines.
8. The host end product must also pass the FCC Part 15 unintentional emission testing requirement and be properly authorized per FCC Part 15.

A Class II permissive change filing is required for portable host devices where the antenna to user separation distance is < 20 cm (FCC portable categorization) and must include information such as SAR evaluations.

A Class II permissive change filing approving use of a portable host can also include a guideline document with instructions defining allowable collocated transmission, allowable changes to portable host products, and allowable new portable host devices in accordance with FCC KDB 616217. After this initial host platform is granted through a permissive change, host integrators may use the guideline document to add new portable hosts or modify subsequently added portable hosts products through a Class I permissive change process.

2.2.3 Radio equipment and telecommunications terminal equipment (R&TTE) declaration of conformity

Declaration of Conformity

Name of Product:	Gobi3000™
Type of Product:	CDMA1x/1x-EVDO, GSM/GPRS/EDGE, UMTS/HSPA miniPCI express card
Device & Part No.:	20-VM172-P1
Intended Use:	Wireless communication system

We, Qualcomm Incorporated of 5775 Morehouse Drive, San Diego, California 92121, USA, declare under our sole responsibility that the product to which this declaration relates is in conformity with:

EN 301 489-01 v1.8.1
EN 301 489-24 v1.4.1
EN 301 908-01 v3.2.1
EN 60950-1 (2006+A11)
EN 301 489-07 v1.3.1
EN 301 511 v9.0.2
EN 301 908-02 v3.2.1
EN 62311: 2008

CE 0168

We hereby declare that all essential test suites have been carried out and that the above named product is in conformity to all the essential requirements of Directive 1999/5/EC.

The conformity assessment procedures referred to in Article 10 and detailed in Annex (IV) of the Directive 1999/5/EC has been followed with the involvement of the following Notified Body.

British Approvals Board for Telecommunications (BABT)
Balfour House
Churchfield Road
Walton – on – Thames
Surrey
KT12 2TD

Identification Mark: 0168 (Notified Body Number)

The technical documentation relevant to the above equipment will be held at:

Marco Bocchetta, Director Engineering
Qualcomm UK LTD
Spectrum Point
279 Farnborough Rd
Farnborough, GU14 7LS
United Kingdom

Issued By:	Qualcomm Incorporated
Date and Place:	July 30, 2010, San Diego, California 92121, USA
Signed:	

VP of Engineering
EMC/Regulatory Engineering Group

Declaration of Conformity

English
Hereby, ***Qualcomm Incorporated,*** declares that this ***RE*** is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Finnish
Qualcomm Incorporated vakuuttaa täten että ***RE*** tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Dutch
Hierbij verklaart ***Qualcomm Incorporated*** dat het toestel ***RE*** in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG

Bij deze verklaart ***Qualcomm Incorporated*** dat deze ***LMES*** voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.

French
Par la présente ***Qualcomm Incorporated*** déclare que l'appareil ***RE*** est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE

Par la présente, *[nom du constructeur]* déclare que ce ***RE*** est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables

Swedish
Härmed intygar ***Qualcomm Incorporated*** att denna ***RE*** står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Danish
Undertegnede ***Qualcomm Incorporated*** erklærer herved, at følgende ***RE*** overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF

German
Hiermit erklärt ***Qualcomm Incorporated***, dass sich *dieser/diese/dieses* ***RE*** in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)

Hiermit erklärt ***Qualcomm Incorporated*** die Übereinstimmung des Gerätes ***RE*** mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)

Greek
ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ ***Qualcomm Incorporated*** ΔΗΛΩΝΕΙ ΟΤΙ ***RE*** ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ

Italian
Con la presente ***Qualcomm Incorporated*** dichiara che questo ***RE*** è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Spanish
Por medio de la presente ***Qualcomm Incorporated*** declara que el ***RE*** cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE

Portuguese
Qualcomm Incorporated declara que este ***RE*** está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.