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## Data Sheet

**PRODUCT:** CWMA101

**DESCRIPTION:** 802.16e WiMAX Half Mini Card

**VERSION:** 0.1

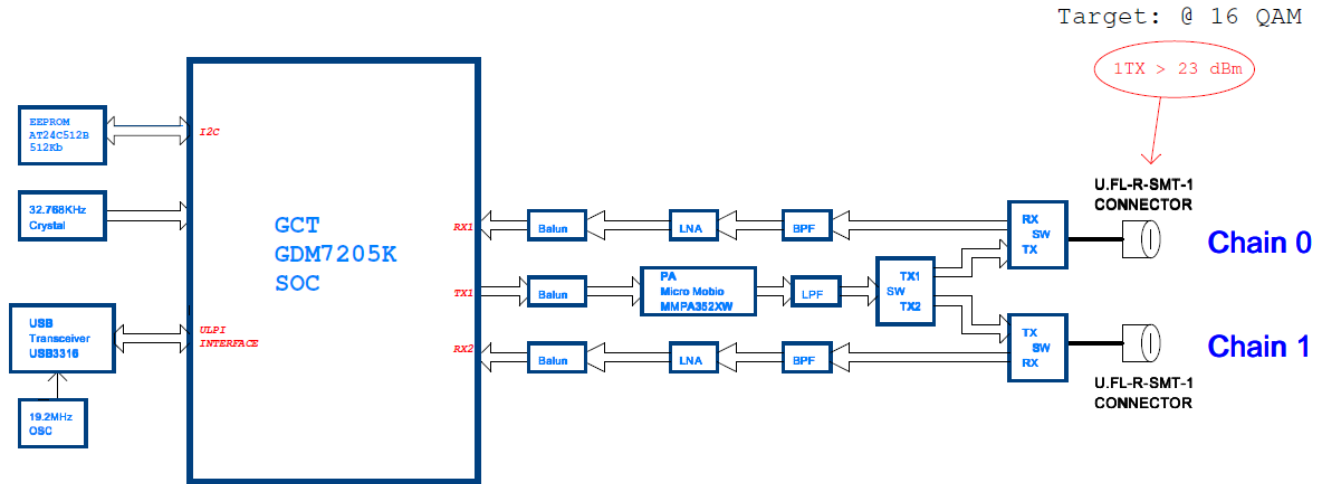
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| Approved Signatures |                               |
|                     | <p><b>Contact Person:</b></p> |

1. INTRODUCTION

1.1 The purpose of this document is to define the product specification for a WiMAX 16e 2.3GHz ~ 2.7GHz HMC use GDM7205K SOC.

1.2 GDM7205K including GCT's direction conversion radio on-chip transceiver, provide a highly integrated, total solution for wireless multimedia communication over 802.16e WiMAX. It includes an 802.16e WiMAX access controller (MAC) and OFDMA baseband modems.

2. FUNCTION DIAGRAM



## 3. PIN CONFIGURATION

| Pin Number | Signal         | Pin Number | Signal         |
|------------|----------------|------------|----------------|
| 51         | Reserved       | 52         | +3.3Vaux       |
| 49         | Reserved       | 50         | GND            |
| 47         | Reserved       | 48         | NC             |
| 45         | Reserved       | 46         | NC             |
| 43         | GND            | 44         | LED_WLAN#      |
| 41         | +3.3Vaux       | 42         | LED_WWAN#      |
| 39         | +3.3Vaux       | 40         | GND            |
| 37         | GND            | 38         | USB_D+         |
| 35         | GND            | 36         | USB_D-         |
| 33         | NC             | 34         | GND            |
| 31         | NC             | 32         | NC             |
| 29         | GND            | 30         | NC             |
| 27         | GND            | 28         | NC             |
| 25         | NC             | 26         | GND            |
| 23         | NC             | 24         | +3.3Vaux       |
| 21         | GND            | 22         | PERST#         |
| 19         | NC             | 20         | W_DISABLE#     |
| 17         | NC             | 18         | GND            |
| —          | Mechanical Key | —          | Mechanical Key |
| 15         | GND            | 16         | NC             |
| 13         | NC             | 14         | USIM_RST#      |
| 11         | NC             | 12         | USIM_CLK       |
| 9          | GND            | 10         | USIM_DATA      |
| 7          | CLKREQ#        | 8          | USIM_PWR       |
| 5          | WB_PRIORITY    | 6          | NC             |
| 3          | EXT_ACTIVE     | 4          | GND            |
| 1          | NC             | 2          | 3.3Vaux        |

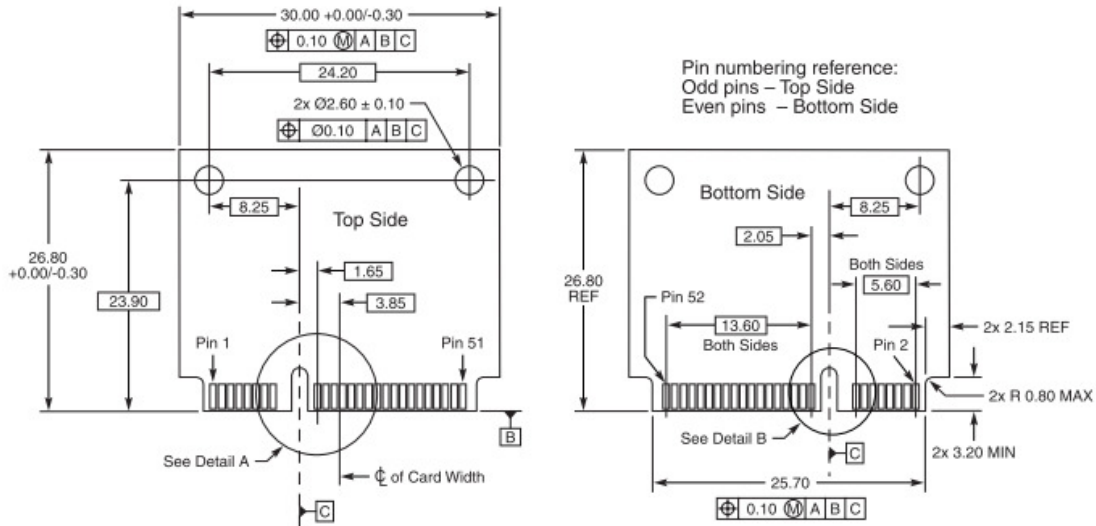
## 4. SPECIFICATION

| ITEM                         | SPECIFICATION   |
|------------------------------|---|
| WiMAX                        |   |
| Standard                     | IEEE 802.16e, WiMAX wave2 compliant                                       |
| Chipsets                     | 2.5GHz : GCT GDM7205K SOC<br>(MAC+RF+8MB SDRAM built-in)                  |
| Memory                       | EEPROM : 512Kbit (External)<br>SDRAM : Nil (chipset built-in)             |
| Air Interface                | Scalable OFDMA  |
| Modulation                   | DL : QPSK, QAM16, QAM64<br>UL : QPSK, QAM16                               |
| Frequency Band               | 2300 ~ 2400 MHz<br>2496 ~ 2690 MHz  |
| Duplexing                    | TDD with a configurable DL/UL split                                       |
| Frame Length                 | 5ms   |
| Channel Bandwidth            | 5, 10MHz  |
| Cyclic Prefix                | CP Length of 1/8  |
| QoS Mechanism                | UGS, rtPS, nrtPS, ErtPS and BE  |
| MIMO (1TX/2RX)               | STC Matrix A+ MRC in DL for two antennas<br>STC Matrix B (MIMO 1X2 on DL) |
| Hardware                     |   |
| Output power (Antenna ports) | 23dBm +/- 1dBm  |
| RX Sensitivity               | -98dBm @ QPSK-1/2_CTC +/- 1dBm  |
| Antenna                      | Nil   |
| Power Management             | Sleep, Idle & Active mode   |
| Driver Support               | Windows XP, Vista, 2000<br>Linux 2.6.x<br>Macintosh 10.x                  |
| SECURITY                     |   |
| Key Management               | PKMv2   |
| X.509 Support                | Yes   |
| Authentication               | EAP-TLS, EAP-TTLS(MD5, MSCHAPv2)  |
| Encryption                   | AES-CCM 128bits, 3DES-128bits   |
| ENVIRONMENT                  |   |
| Operating Temperature        | -20°C to 45°C   |
| Storage Temperature          | -30°C to 85°C   |
| Humidity (non-condensing)    | 10% ~ 85% typical   |
| Humidity                     | 5 ~ 95%   |
| CONFORMANCE                  |   |
| EMC                          | FCC CFR47 Part 15 Subpart B class B                                       |

|                  |  |
|------------------|--|
|                  | EN301 489-1/-4, EN55022, Class B (Emissions) |
| EMI              | FCC 47CFR Part 27 subpart M                  |
| Safety           | UL60950<br>EN60 950-1<br>EN50385             |
| Interoperability | WiMAX Forum Wave2 compliant                  |
| Green Initiative | RoHS-compliant                               |
| Recycling        | WEEE-compliant                               |

5. ELECTROMECHANICAL SPECIFICATION

Half-Mini Card Size



Full-Mini Card Size

