

# EMIV-DUAL V2.0

## Technical Specification

Sep 29, 2006  
EMIV-DUAL V2.0



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## Contents

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<b>Contents</b> .....	<b>3</b>
<b>1) General Features</b> .....	<b>4</b>
1.1 General Features .....	4
<b>2) Technical Specifications</b> .....	<b>5</b>
2.1 General Specifications .....	5
2.2 Receive Specifications .....	6
2.3 Transmit Specifications .....	6
2.4 Serial Interface Electrical Specifications .....	7
<b>3) Standards</b> .....	<b>8</b>

## 1) General Features

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### 1.1 General Features

- CDMA 2000 1xRTT
- IS-95A/B/C
- Standard RS-232E interface
- Data transmission up to 153Kbps
- Remote control by AT command
- Built-in TCP/IP/UDP stack
- 2-way SMS
- Quick Net Connect for fast Internet connection
- Telemetry-specific features
- Optimized for easy OEM applications
- Supports Circuit Data/Fax

## 2) Technical Specifications

### 2.1 General Specifications

**Table2-1 General Specifications**

Parameters	Descriptions
External Access	Code-Division-Multiple-Access (CDMA)
CDMA Protocol	IS-95 A/B, IS-126, IS-637A, IS-707A, IS-2000
Data Rate	153 Kbps max. on both the forward and reverse links
Transmit/Receive Frequency Interval	45MHz for Cellular and 80MHz for PCS
Band Width	1.23MHz
RF technology	Zero Intermediate Frequency
Number of Channel	832 for Cellular and 42 for PCS
Operating Voltage	DC 7V ~ 16V
Current Consumption	Sleep mode : 30mA, Idle mode (70mA) , Traffic mode : 350mA (Max) at 12V
Operating Temperature	-30°C ~ +60°C
Frequency Stability	±300Hz for 800MHz CDMA and ±150Hz for 1900MHz CDMA
Antenna	Magnet mount helical antenna, 50ohm, 1dBi Gain for 800MHz and 1900MHz
Size	60 X 112 X 29mm
Weight	About 110g
External Interface	RS-232 (Molex-8pin 85503), Power (12VDC Molex-2pin 5268), Dual Antenna (800MHz,1900MHz), Debug port (Mini USB)

## 2.2 Receive Specifications

**Table 2-2 Receiver Specifications**

Parameters	Descriptions
Frequency Range	869.04 ~ 893.97 MHz for 800MHz CDMA and 1931.25 ~ 1988.75MHz for 1900MHz CDMA
Sensitivity	Below -104dBm
Interference Rejection	800MHz Single tone (-30dBm @900KHz): Below -101dBm Two tone (-43 dBm @900KHz and 1700KHz): Below -101dBm Two tone (-32 dBm @900KHz and 1700KHz): Below -90dBm Two tone (-21 dBm @900KHz and 1700KHz): Below -79dBm 1900MHz Single tone (-30dBm @1250KHz): Below -101dBm Two tone (-43 dBm @1250KHz and 2050KHz): Below -101dBm
Spurious Wave Suppression	Below -80dBc
Input Dynamic Range	-25dBm ~ -104dBm

## 2.3 Transmit Specifications

**Table 2-3 Transmitter Specifications**

Parameters	Descriptions
Frequency Range	Cellular PCS 824.04 ~ 848.97 MHz 1851.25 ~ 1908.75MHz
Nominal Max Power	0.28 W (24.5dBm)
Peak Power in Operation Mode	800MHz CDMA : 0.516W (27.13dBm) 1900MHz CDMA : 0.494W (26.94dBm)
Minimum Controlled Output Power	Below -50dBm
Max Power Spurious	Cellular PCS 900KHz: Below -42dBc/30KHz 1.98MHz: Below -54dBc/30KHz 1.25MHz: Below -42dBc/30KHz 1.98MHz: Below -50dBc/30KHz

## 2.4 Serial Interface Electrical Specifications

station Transmission System), and MS (Mobile Station). The following table lists some major CDMA standards.

**Table 2.4 : CDMA Specification**

Parameters	min	max	units
Input High Voltage	+2	+15	V
Input Low Voltage	-15	-2	V
Output High Voltage	+5	+7	V
Output Low Voltage	-7	-5	V

### 3) Standards

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IS-95 A/B: Protocol Between MS & BTS  
IS-96A: Voice Signal Coding  
IS-98A: Base MS Function  
IS-126: Voice Loop-Back  
IS-637: Short Message Service  
IS-707: Data Service  
Built-in TCP/IP : AnyDATA proprietary software  
IS-657 : packet data