Chapter 1 General Description

1-1 Introduction

This manual contains general information, installation procedures, and specifications for the operation and use of the Power Amplifier Radio Module (PARM). The manual is organized as follows:

Chapter 1 General Description with Specifications
Chapter 2 Installation and Operation

1-2 General Description

The PARM is designed as an integrated subassembly unit mounted in a Radio Module (RM) closed metal housing fitted with a heat sink and connected by RF coaxial and DC connectors. The PARM use a common DC/DC converter for operating power. Up to three PARM can be mounted in one RM.

The PARM's basic function is amplifying two 60 MHz band modulated RF input signals (869-894 MHz) from the TX driver subassembly, up to the level of the whole transmitter, as defined in GSM 05.05, class 1 (20 watts minimum and 40 watts maximum). The main characteristics of the PARM are:

- GMSK compliant
- 8-PSK compliant

The PARM is rated for an average output power of 40/30 watts with an EDGE signal and 40/30 watts with a GMSK signal. The electrical specifications are also designed to be in compliance with the requirements of GSM 05.05.

1-3 Specifications

Specifications for the PARM are listed and described in table 1-1.

Table 1-1 PARM Operating Specifications

Frequency Range	869 - 894 MHz (35 MHz Bandwidth)
Total Typical / Maximum Input Power	-15.7 - +4.8 / +5.8 dBm
Average Output Power	40/30 Watts (46.02/44.8 dBm)
RF Gain	39 - 48 dB
Duty Cycle	Continuous
DC Operating Voltage	27 ±2% VDC (26.46 to 27.54 VDC)
DC Operating Voltage Range	25 to 29.5 VDC
Operating Temperature	-5 ºC to +60 ºC
Storage Temperature	-40 ºC to +85 ºC
Operating Humidity	5 % to 95 % Relative Humidity (noncondensing)
Storage Humidity	0 % to 100 % Relative Humidity (noncondensing)
Alarms	See Chapter 2
RF Input Connector	MCX female, gold plated body and core
RF Output Connector	QN-type female
DC Input Connector	Samtec FHP-04-01-T-S, 8-pin
Power Consumption	94.5 Watts
Dimensions	3.75" High, .75" Wide, 6.75" Deep