

TMPRM PCS 1900 50W GMSK 30W EDGE

Model: RF100721 (RM2 1900)

Doc: PT08001

Operation Instruction

Date: May 18, 2008

Version. 1.0

Ref# : FCC ID:S8L-100721TMPRM & IC:2237-100721TMPRM

1. Introduction

This document presents description of the Andrew Corporation 1900 PCS Band RM2 Power Amplifier (50W GMSK / 30W EDGE). The RF100721 (RM2 1900) amplifier is a medium power, RF amplifier intended to provide signal amplification. The RF100721 (RM2 1900) amplifier is compatible with GSM and EDGE air interfaces operating in U.S. domestic cell sites where FCC compliance is mandatory.

The RF100721 (RM2 1900) power amplifier includes 3 lines of RF amplification (“TX paths”). Each TX path is capable of supporting both GMSK and EDGE standards on the PCS band (1930 MHz to 1990 MHz). Each TX path is rated for 30W output with EDGE signal, and 50W with GMSK signal.

2. RF100721 (RM2 1900) Specifications

The RF100721 (RM2 1900) provide linear amplification of single-carrier signals in the PCS frequency band. The RF100721 (RM2 1900) have the following specifications for each TX path:

Parameter	Specification
Operating RF Band	1930-1990MHz
In band RF gain	48dB
Input signal types	GSM or EDGE single carrier
Input DC Power	28 VDC +/-1%, nominal
DC voltage input range	26VDC to 30.5VDC
Rated Output Power @ 28VDC +/-1% & GMSK signal	50W average
Rated Output Power @ 28VDC +/-1% & EDGE signal	30W average
DC-Power Consumption @ GMSK signal & rated output power	170W (29% Power efficiency)
DC-Power Consumption @ EDGE signal & rated output power	150W (20% Power efficiency)
Physical dimensions	11.5” x 16.15” x 2.4”
Weight	< 12.13lbs
Cooling technique	External cooling when the Amplifier is placed in the customer frame.
Temperature Range	-5°C to +60°C (heat sink inlet air), meeting specifications.

Table 1 RF100721 (RM2 1900) Specifications

3. Functional Blocks:

The Andrew RF100721 (RM2 1900) includes 3 lines of RF amplification. Each of them contains the following functional areas:

- Power Amplification Line-Up

- Power Conversion and Conditioning Circuit

- Monitoring and Control Circuit

4. Inputs and Outputs:

The amplifier is powered from a DC supply voltage, which can range from 26VDC to 30.5VDC. The DC power is brought into the amplifier through a header right angle, 2 pins connector, located on the amplifier motherboard.

A 44 pins connector, also located on the amplifier motherboard, is used for analogical lines enabling monitoring and control. This connector is used both during factory tests and at the system level by the customer .

The 3 RF input signals are brought into the amplifier through 3 female SMA type connectors located on the amplifier motherboard. The 3 amplified RF signal are brought out of the amplifier through 3 N type connectors. They are located on the face plate of the amplifier.

5. Control System:

The RF100721 (RM2 1900) power amplifier is controlled by the customer logic board, which builds control signals and accepts monitoring signals. This additional board is also responsible for the whole transmitter external digital / analogical interfaces. A controller is used at system level to control the amplifier alarm system (by monitoring temperature and currents for each TX paths) and to compensate the environmental drift (ambient temperature).

6. Installation and Operation Set-Up

The RF100721 (RM2 1900) is easy to operate and use, only requiring a special cables for DC power and interface connection into the customer frame. RF input and output connections are done with industry standard SMA and N connectors.

7. FCC & IC Statements:

FCC ID:S8L-100721TMPRM

This device complies with Part 2, 15 & 24 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

IC Information:

Trade Name: ANDREW CORP, High Efficiency Power Amplifier TMPRM1900

Model No.: RF100721

IC: 2237F-100721TMPRM

This device complies with RSS-131, RSS-102 of the IC Rules.

Warning



Changes of modifications not expressly approved by the manufacturer could void the user's authority to operate the equipments.