RF MORECOM

1. Features

- **High Performance**
- **High Reliability**
- **RoHS Compliant**
- **Low Current Consumption**

PCS1900 3.5W PA

Part No: RWA1965_35.5_41_28N01

Date: July 8, 2014

Revision No: 00

2. Electrical Specifications

ITEM			Specification	Remark
Operating Frequency			1930 ~2000MHz	
Output Power (Linear)			35.5dBm Min	
Output power @1dB compression point			47dBm	P1dB
Small Signal Gain			42dB Min , 43dB Typ , 44dB Max	
Small Signal Gain Flatness			±0.5dB Min , ±0.75dB Max	
Gain Variation Over operation Temp			±1 dB	
IMD3 &IMD5 product level @ Pout Per Tone =27dBm to 32.5dBm			-20dBm	2 Tones 600KHz Spacing
Spurious emission			-20dBm Max	
WCDMA (HSPA+) @ 35.5dBm output	EVM		3%	Test Model-1 with 64DPCH, One Carrier, PAR=10.2dB@ 0.01% Probability on CCDF
	Frequency Error		±0.01ppm	
	Spectrum Emission Mask		Per ETSI TS 25.106. Category B.	
	ACPR		Per ETSI TS 125 106 V10.0.0 (2011-05)	
CDMA2000 @ 35.5dBm output	EVM		3%	
	RHO		0.996	
	ACPR CDMA 1FA 64 channel	±885KHz	-45dBc	@ 30 KHz RBW, 100Hz VBW
		±1.98MHz	-55dBc	@ 30 KHz RBW, 100Hz VBW
		±2.25MHz	-13dBm	@ 1MHz RBW, 100Hz VBW
2nd Harmonic			- 40dBc	
Input / Output VSWR			1.2:1 Typ , 1.5:1 Max	S11 / S22
Noise Figure			10 dB Typ 15 dB Max	NF shall not be changed With or without input signal.
Turn-on time			300 mS	From DC power On or Enable
Forward (FWD) Power Monitoring: @33dBm CW 1FA 100mv/dB			3.95V Min , 4V Typ ,4.05V Max	True RMS detector. See detector table.
Reverse Power Monitoring:			True RMS detector	Used only as internal but must be the same behavior as FWD.
Operating Voltage			27V Min , 28V Typ ,30V Max	
No Damage Supply Voltage			32V	
Supply Current @ Pout = 35.5dBm / 1CW			1.4A Max	

ITEM	Specification	Remark
Supply Current @ Pout = 38dBm / 1CW	1.7A Max	
Supply Current @ Pout = 10W / 1CW	2A Max	

3. Mechanical Specifications

ITEM	Specifications	Remark
Dimensions (L x W x H)	130x120x25mm	
Weight	0.6kg	
RF Connectors In/Out	SMA – Female	
Monitoring/DC Connectors	D-sub, 9 Pins,4 – 40 screw	
Cooling	External Heat sink	Not included

4. Environmental Specifications

ITEM	Specification	Remark
Case Temperature for operating without damage	-10 ~ +85°C	
Case Temperature for operating with reasonable performance	-10 ~ +50°C	
Storage Temperature	-40 ~ +85°C	
Relative humidity w/o condensation	95%	
Altitude	10,000 ~ 30,000 Feet	
Shock & Vibration	Airborne	

5. Inter-Connection Description

Pin No	Description	Specifications	Remark
1	+28V DC Input	Capacitance allowed on the 28V pin is 750 µF max (750 Micro-Farad).	
2	GND		
3	Enable: Low Disable : High or Open		
4	VSWR Alarm	Alarm “High” at VSWR event	See table
5	Forward Power Detector	4.0V@ 33dBm CW 1FA, 100mv / dB	
6	+28V DC Input	See pin 1	
7	GND		
8	PA Shut Down Indicator	Alarm “High” PA Shut Down	Open Drain
9	Over Temperature Alarm	Alarm “High” at Over temperature event – measured on PA case.	See table

6. Protection

ITEM	Specifications for Activation	Specifications for Recovery
Over Power Shutdown	40dBm min - 41dBm max	Recovery by toggling the Enable pin. MFR shall declare the mechanism and time duration from output power above threshold till the PA is shut down.
Over Power Alarm Event Delay	Delay from Shut Down event to alarm raise required to be 100usec max	Over Power Alarm will remain “High” till recovery by toggling Enable pin.
VSWR Auto-Shutdown/Recover	2.52:1 Max (R.L = 7.5±0.5dB)	VSWR Alarm will remain “High” till recovery by toggling Enable pin.
VSWR Auto-Shutdown Threshold	20dBm min	VSWR Auto-Shutdown shall work from output power of 20dBm and above. The feature disabled below this value.
VSWR Alarm Event Delay	Delay from Shut Down event required to be 100usec max	VSWR Alarm will remain “High” till recovery by Enable pin.
Over Temperature Alarm	80°±2°C	Alarm only, At Thermal Overload, The Alarm remains on till Auto Recovery or toggling the Enable pin.
Thermal Overload	85°±2°C Shutdown	75°C Auto-recover

7. Mechanical Drawings