

1. Features

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

CELLULAR 2W PA

Part No: RWA881.5 33 41 28N01

Date: July 8, 2014

Revision No: 00

2. Electrical Specifications

ITEM		Specification	Remark
Operating Frequency		869 ~894MHz	Note: Extended range
Output Power (Linear)		33dBm Min	
Output power @1dB compression point		45dBm	P1dB
Small Signal Gain		40dB Min , 41dB Typ , 42dB Max	In Band
Small Signal Gain Flatness		±0.5dB Min , ±0.75dB Max	Over temperature
Gain Variation Over operation Temp		±1 dB	
IMD3& IMD5 product level @ Pout Per Tone =24dBm to 30dBm		-20dBm	at 600KHz Spacing.
IMD3 & IMD5 product level of -20dBm @ 33dBm Pout composite vs. Tone spacing		600KHz Min , 5MHz Max	Any 2 tone spacing 0.6 - 5MHz around band center. IMD3,5 product band of interest is 817-894MHz Over full temperature
Spurious emission		-20dBm Max	1. With CW tone 2. Without input signal
CDMA2000 @ 33dBm output	EVM	3%	
	RHO	0.996	
	ACPR CDMA 1FA 64 channel	±750KHz	@ 30 KHz RBW, 100Hz VBW
		±1.98MHz	@ 30 KHz RBW, 100Hz VBW
		±3.125MHz	@ 100 KHz RBW, 100Hz VBW
2nd Harmonic		-40dBc	
Input / Output VSWR		1.2:1 Typ , 1.5:1Max	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 = 33dBm / 1CW		1.1A Max	This parameter was updated

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ITEM	Specification	Remark
Supply Current @ Pout = 37dBm / 1CW	1.3A Max	
Supply Current @ Pout = 10W / 1CW	1.7A 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 μ F 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

