WPS-242717-82

2.45 – 2.7 GHz Linear Power Amplifier
Preliminary Data Sheet
June 2006

Features:

- **Design for WLAN, WiMAX and MMDS**
- **13 dB Typical Gain**
- **28.5 dBm Typical P1dB**
- **EVM < 2.5% at 22 dBm Pout**
- **Fully Matched to 50 Ohms**
- **Single Positive Bias**
- **Surface Mount 82 Package**

Description:

The WPS-242717-82 is a low cost high linearity modular amplifier designed to meet the ultra-linear transmitter driver requirements for 802.16 WiMax linear driver applications and commercial 2G, 2.5G, 3G, GSM, TDMA, EDGE, UMTS, WCDMA, CDMA2000, and TD-SCDMA applications. Key advantages are low EVM performance for 802.16 WiMax applications and low intermodulation performance for multi-carrier and CDMA systems together with exceptionally low input/output return loss for ease of integration.

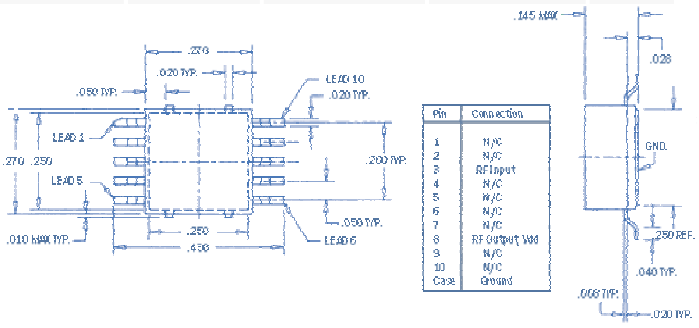
Electrical Specifications:

- ***at 25℃, Vdd =7.5 V, Zo = 50 ohms***

SYMBOL	PARAMETERS	Min	Typical	Max	Unit
Freq.	Frequency Range	2.45		2.7	GHz
SSG	Small Signal Gain		13.0		dB
VSWR	Input and Output		2.0:1		-
P1 dB	Pout at 1 dB Comp Point		+28.5		dBm
EVM	Error Vector Magnitude @ 22 dBm, 256 carrier, 64 QAM		2.5		%
IP3	Third-order Intercept		45		dBm
Ids	DC Current		330		mA
Rth	Thermal Resistance junction to case		28		°C/W

Absolute Maximum Ratings:

Maximum Bias Voltage	8.0 V
Maximum Continuous RF Input Power	+27 dBm
Maximum Peak Input Power	+30 dBm
Maximum Case Operating Temperature	+70 ℃
Maximum Storage Temperature	- 65 to + 150 ℃



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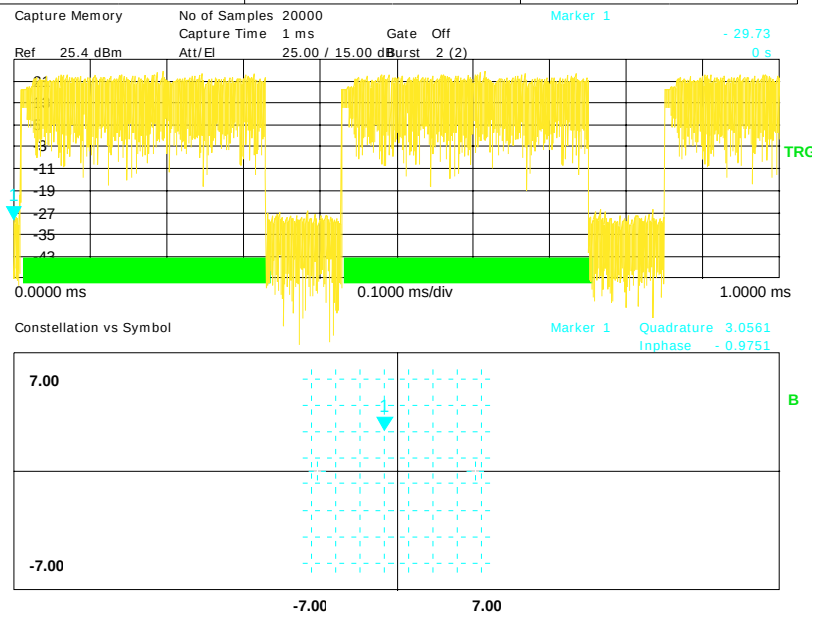
Cascaded EVM for 802.11 at 22 dBm

IEEE 802.11a					
Frequency:	2.45 GHz	Signal Level:	15.4 dBm	External Att:	0 dB
Sweep Mode:	Continuous	Trigger Mode:	Power	Trigger Offset:	-10 µs
Burst Type:	Direct Link Burst	Modulation:	64QAM	No Of Data Symbols:	1/1366



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Result Summary						
No. of Bursts	2					*
	Min	Mean	Limit	Max	Limit	Unit
EVM All Carriers	**1.91**	**1.92**	5.62	**1.92**	5.62	%
	- 34.37	**- 34.34**	- 25.00	**- 34.32**	- 25.00	dB
EVM Data Carriers	**1.92**	**1.93**	5.62	**1.93**	5.62	%
	- 34.33	**- 34.30**	- 25.00	**- 34.27**	- 25.00	dB
EVM Pilot Carriers	**1.78**	**1.79**	39.81	**1.81**	39.81	%
	- 35.01	**- 34.92**	- 8.00	**- 34.83**	- 8.00	dB
IQ Offset	**- 56.89**	**- 56.54**	- 15.00	**- 56.21**	- 15.00	dB
Gain Imbalance	**- 0.04**	**- 0.04**		**- 0.04**		%
	- 0.00	**- 0.00**		**- 0.00**		dB
Quadrature Error	**0.12**	**0.13**		**0.13**		°
Center Frequency Error	**- 192.72**	**- 192.85**	± 42800	**- 192.99**	± 42800	Hz
Symbol Clock Error	**0.19**	**0.23**	± 20	**0.26**	± 20	ppm
Burst Power	**15.57**	**15.57**		**15.57**		dBm
Crest Factor	**8.49**	**8.50**		**8.50**		dB

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