



## DPD/PA TEST REPORT

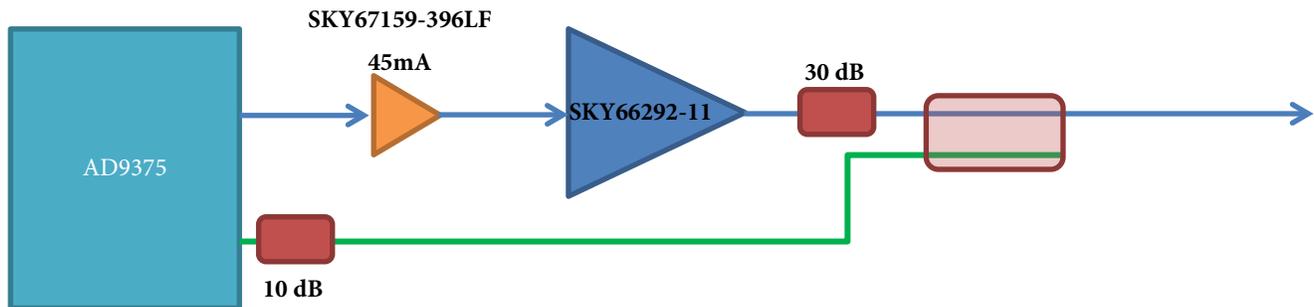
RF Transceiver	AD9375
Power Amplifier	SKY66292-11
PA Type	High Efficiency Semi-Linear PA
Transistor Type	SWKS HBT
Operating Frequency Range (MHz)	2300-2400
Gain (dB)	35.5
Power Added Efficiency	36.6%
OP3dB (dBm)	+36.1
Supply Voltage	5 V
Bandwidths Tested	20 MHz



**SUMMARY**

Frequency	Output Power (dBm rms)	Signal Bandwidth	Test Signal	ACLR +1 (dBc)	ACLR-1 (dBc)	ACLR+2 (dBc)	ACLR-2 (dBc)	Power Added Efficiency (%)
2320 MHz (Bottom)	+27.9	20 MHz	E-TM3.1 20 MHz LTE	-49	-49.4	-51.2	-51.6	33.4
2350MHz (Middle)	+27.8	20 MHz	E-TM3.1 20 MHz LTE	-49	-50	-51.5	-52.1	35.4
2390MHz (Top)	+28	20 MHz	E-TM3.1 20 MHz LTE	-51.3	-52.3	-55.2	-54.5	36.1

**BLOCK DIAGRAM**



# ACLR RESULTS BOTTOM/MIDDLE/TOP FREQUENCIES

## 2320 MHz, 20 MHz BANDWIDTH ACLR RESULTS

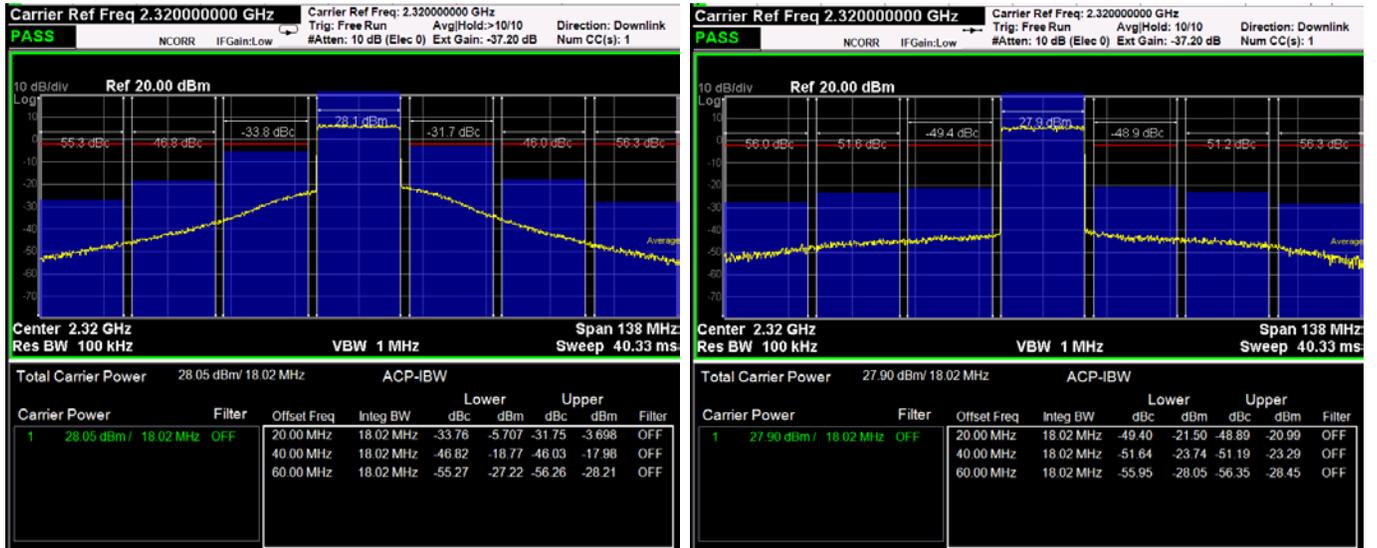


Figure 1. Frequency 2310MHz, 20 MHz E-TM3.1 Signal

Before/After DPD	Output Power (rms)	ACLR+1 (dBc)	ACLR-1 (dBc)	ACLR+2 (dBc)	ACLR-2 (dBc)	ACLR+3 (dBc)	ACLR-3 (dBc)	Drain Current (mA)	PAE (%)
Before DPD	+28	-31.7	-33.8	-46	-46.8	-56.3	-55.3	376	33.5
After DPD	+27.9	-49	-49.4	-51.2	-51.6	-56.3	-55.9	369	34.1

Table 1. Summary of Results: Frequency: 2310MHz, 20 MHz E-TM3.1 Signal

Signal Used: E-TM3.1, PAR 7.5 dB

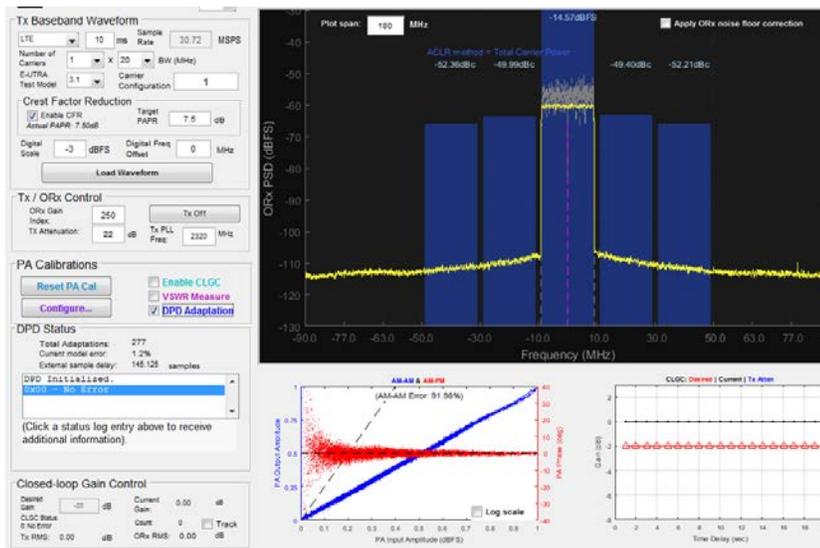


Figure 2. AD9375 DPD configuration

## 2350MHz, 20 MHz BANDWIDTH ACLR RESULTS



Figure 3. Frequency 2350MHz, 20 MHz E-TM3.1 Signal

Before/After DPD	Output Power (rms)	ACLR+1 (dBc)	ACLR-1 (dBc)	ACLR+2 (dBc)	ACLR-2 (dBc)	ACLR+3 (dBc)	ACLR-3 (dBc)	Drain Current (mA)	PAE (%)
Before DPD	+28	-33.5	-35.6	-46.7	-48	-58.4	-56.3	355	35.5
After DPD	+27.8	-49	-50	-51.5	-52.1	-55.2	-55.4	340	35.4

Table 2. Summary of Results: Frequency: 2350MHz, 20 MHz E-TM3.1 Signal

Signal Used: E-TM3.1, PAR 7.5 dB

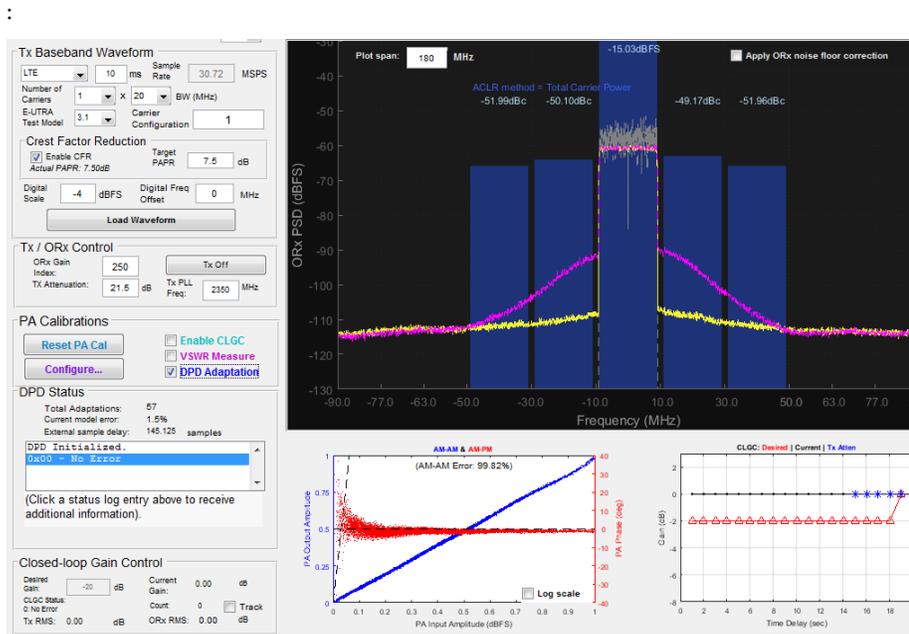


Figure 4. AD9375 DPD configuration

2390MHZ, 20 Mhz BANDWIDTH ACLR RESULTS

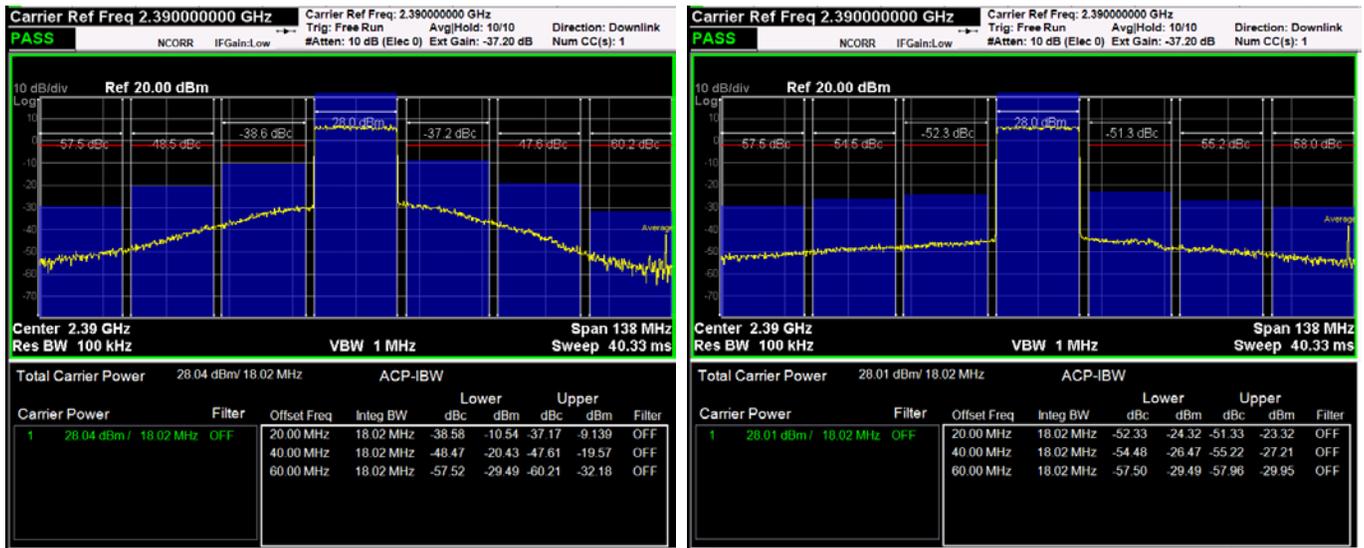


Figure 5. Frequency 2390MHz, 20 Mhz E-TM3.1 Signal

Before/After DPD	Output Power (rms)	ACLR+1 (dBc)	ACLR-1 (dBc)	ACLR+2 (dBc)	ACLR-2 (dBc)	ACLR+3 (dBc)	ACLR-3 (dBc)	Drain Current (mA)	PAE (%)
Before DPD	28	-37.2	-38.6	-47.6	-48.5	-60.2	-57.5	354	35.6
After DPD	28	-51.3	-52.33	-55.2	-54.5	-58	-57.5	349	36.1

Table 3. Summary of Results: Frequency: 2390MHz, 20 Mhz E-TM3.1 Signal

PA settings: Drain Voltage, Bias currents, Bias Voltages

Signal Used: E-TM3.1, PAR 7.5 dB

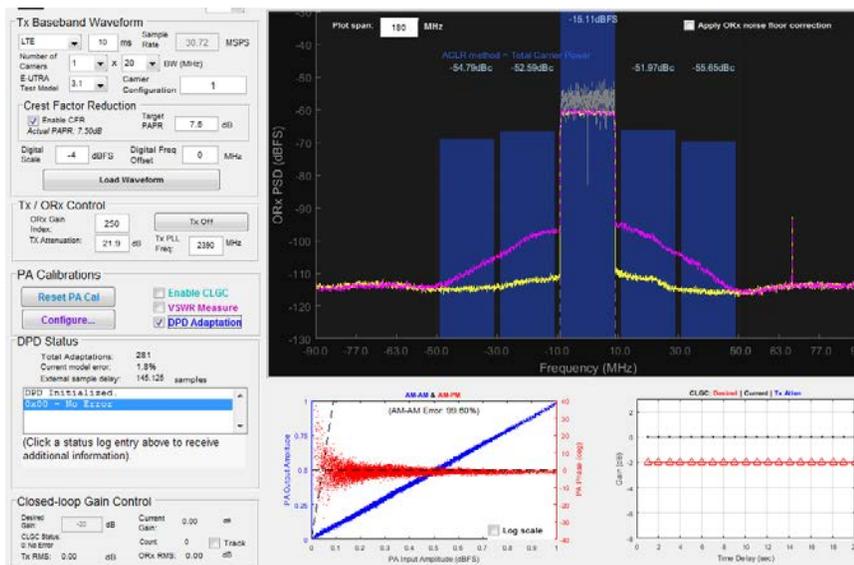


Figure 6. AD9375 DPD configuration

WIDEBAND PLOTS, BOTTOM/MIDDLE/TOP FREQUENCIES

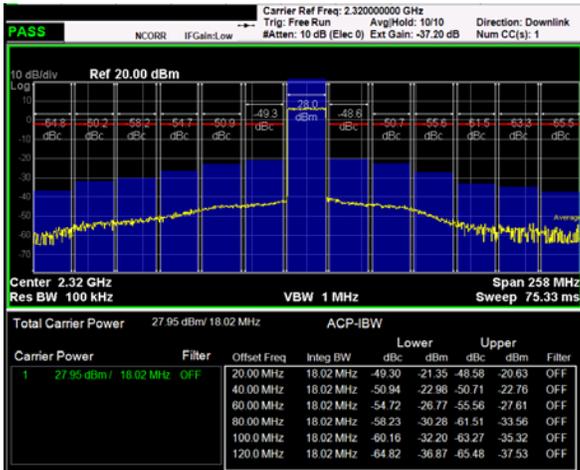


Figure 7. Wideband Spectrum Analyser Plot: Frequency 2310MHZ, 20 MHz E-TM3.1 Signal

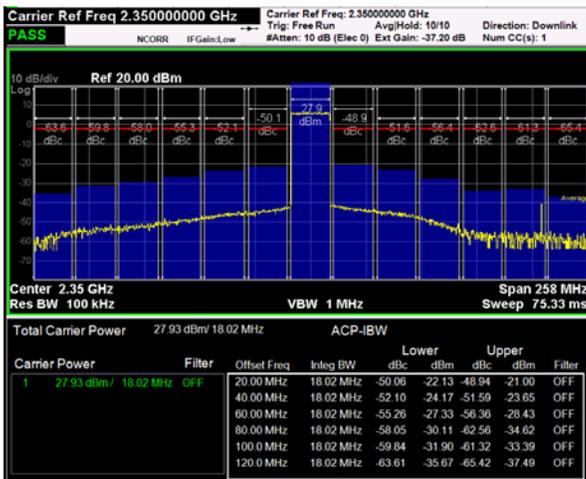


Figure 8. Wideband Spectrum Analyser Plot: Frequency 2350MHZ, 20 MHz E-TM3.1 Signal

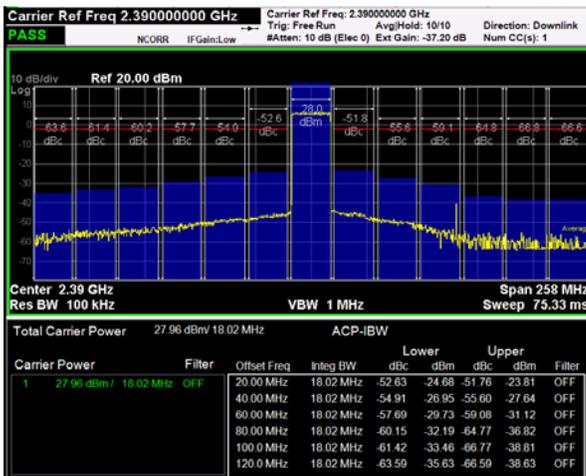


Figure 9. Wideband Spectrum Analyser Plot: Frequency 2390MHZ, 20 MHz E-TM3.1 Signal

### ACLR VS POUT

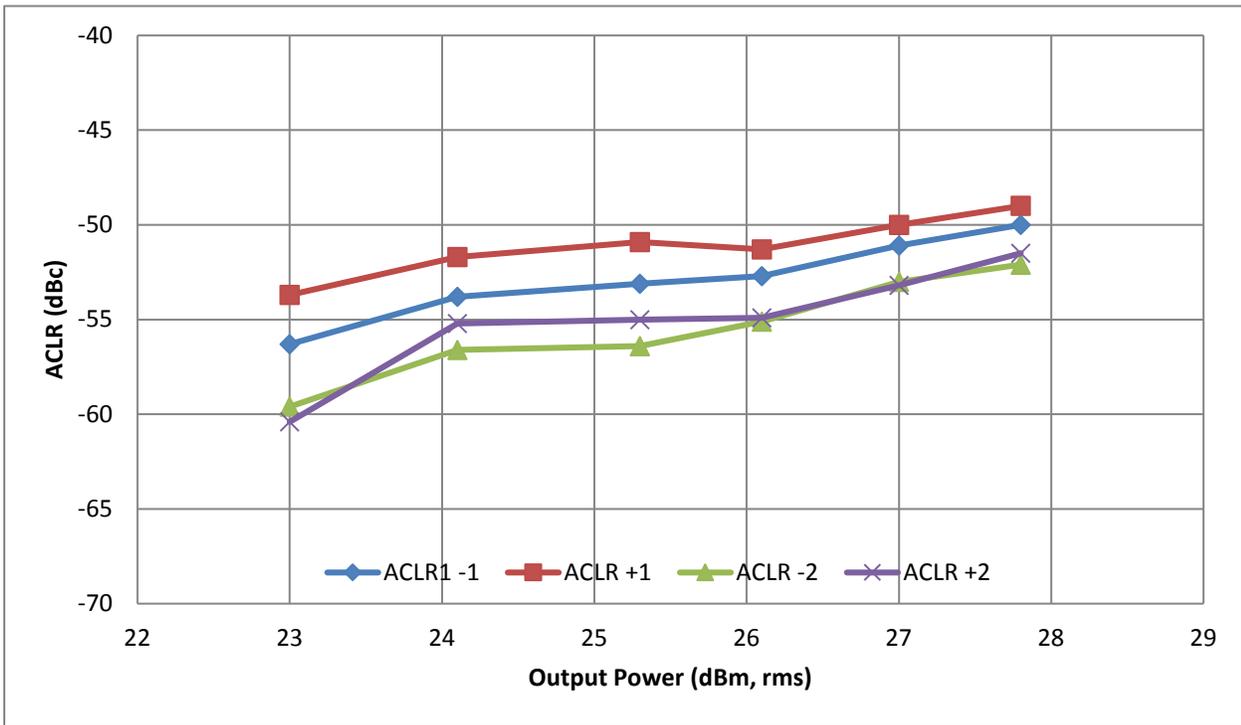


Figure 10. ACLR vs Output Power (Middle Frequency)