



DPD/PA TEST REPORT

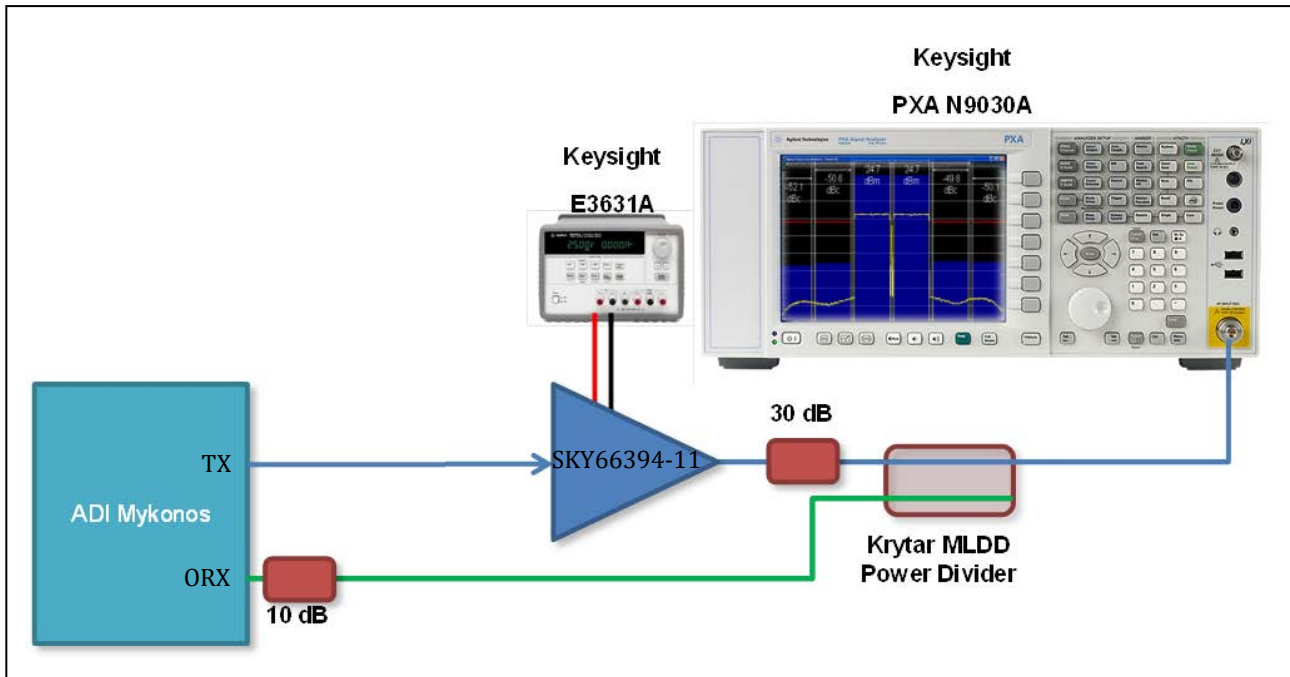
RF Transceiver	AD9375
Power Amplifier	SKY66394-11
PA Type	High Efficiency Semi-Linear PA
Transistor Type	SWKS HBT
Operating Frequency Range (MHz)	2110 – 2170
Gain (dB)	35
Power Added Efficiency	34% @ +28 dBm
OP3dB (dBm)	+36
Supply Voltage	+5 V
Bandwidths Tested	40 MHz



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 (%)
2130 MHz (Bottom)	+28	40 MHz	ETM3.1 20 MHz LTE 2 Carrier	-51.4	-52.4	-53.3	-53.8	33.8
2140 MHz (Middle)	+28	40 MHz	ETM3.1 20 MHz LTE 2Carrier	-52.7	-53.0	-53.1	-53.2	33.9
2150 MHz (Top)	+28	40 MHz	ETM3.1 20 MHz LTE 2 Carrier	-53.1	-52.9	-53.3	-53.5	34.0

BLOCK DIAGRAM



ACLR RESULTS BOTTOM/MIDDLE/TOP FREQUENCIES

2130 MHZ, 40 MHZ BANDWIDTH ACLR RESULTS



Figure 1. SKY66394-11 @ 2130 MHz, 20 MHz ETM3.1 signal 2Carrier before/after DPD

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	+28.2	-33.0	-29.8	-40.4	-37.5	-46.8	-48.2	382	34.6
After DPD	+28.0	-51.4	-52.4	-53.3	-53.8	-54.9	-55.0	373	33.8

Table 1. Summary of Results: Frequency: 2130 MHz, 20 MHz ETM3.1 Signal 2Carrier

PA settings: Vcc1 = Vcc2 = Vcc3 = VBias = 5.0 V, Ven = 2.0 V Signal Used : ETM3.1

AD9375 DPD configuration

2140 MHZ, 40 MHZ BANDWIDTH ACLR RESULTS

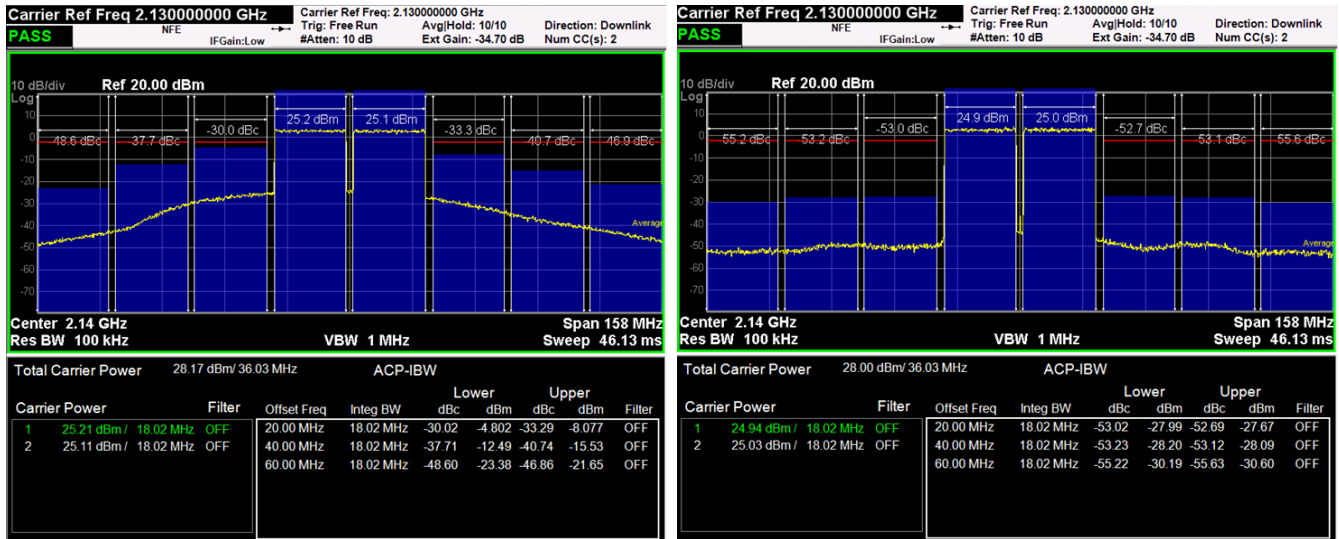


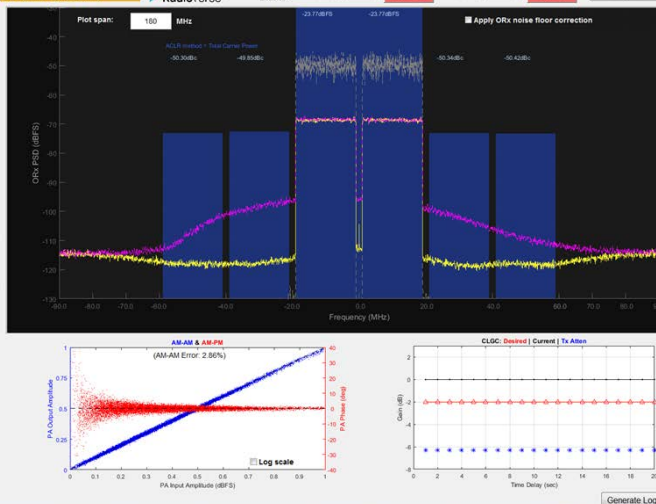
Figure 2. SKY66394-11 @ 2140 MHz, 20 MHz ETM3.1 signal 2Carrier before/after DPD

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	+28.2	-33.3	-30.0	-40.7	-37.7	-46.9	-48.6	383	34.5
After DPD	+28.0	-52.7	-53.0	-53.1	-53.2	-55.6	-55.2	372	33.9

Table 2. Summary of Results: Frequency: 2140 MHz, 20 MHz ETM3.1 Signal 2Carrier

PA settings: Vcc1 = Vcc2 = Vcc3 = Vbias = 5.0 V, Ven = 2.0 V Signal Used: ETM3.1

AD9375 DPD configuration



2150 MHZ, 40 MHZ BANDWIDTH ACLR RESULTS



Figure 3. SKY66394-11 @ 2150 MHz, 20 MHz ETM3.1 signal 2Carrier before/after DPD

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	+28.2	-33.8	-30.3	-40.9	-37.9	-46.8	-49.1	382	34.6
After DPD	+28.0	-53.1	-52.9	-53.3	-53.5	-55.8	-55.1	371	34.0

Table 3. Summary of Results: Frequency: 2150 MHz, 20 MHz ETM3.1 Signal 2Carrier

PA settings: Vcc1 = Vcc2 = Vcc3 = VBias = 5.0 V, Ven = 2.0 V Signal Used : ETM3.1

AD9375 DPD configuration

GUI Version: 2.0.68
 DLL Version: 1.5.2.3566
 Cmd Server Version: 1.5.2.3566
 Fpga Version: 46000200
 Arm Version: 5.2.2
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WIDEBAND PLOTS, BOTTOM/MIDDLE/TOP FREQUENCIES

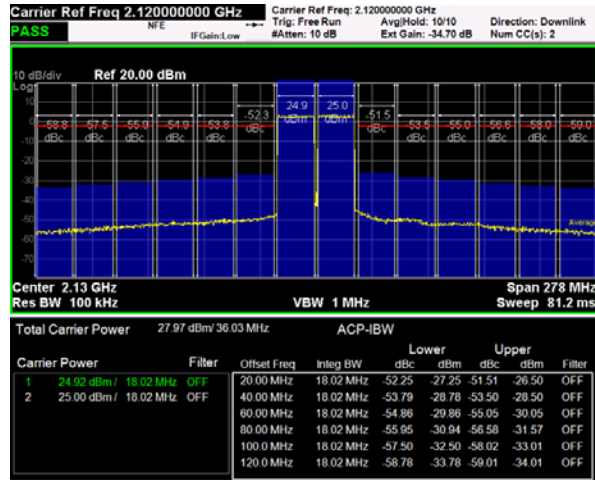


Figure 4. Wideband Spectrum Analyzer Plot: Frequency 2130 MHz, 20 MHz ETM3.1 Signal 2Carrier

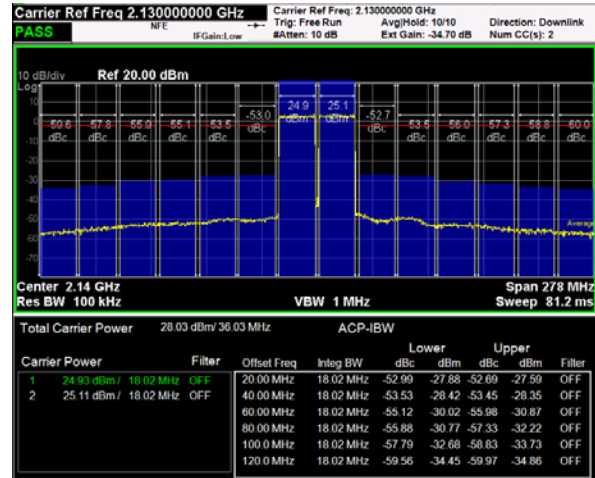


Figure 5. Wideband Spectrum Analyzer Plot: Frequency 2140 MHz, 20 MHz ETM3.1 Signal 2Carrier

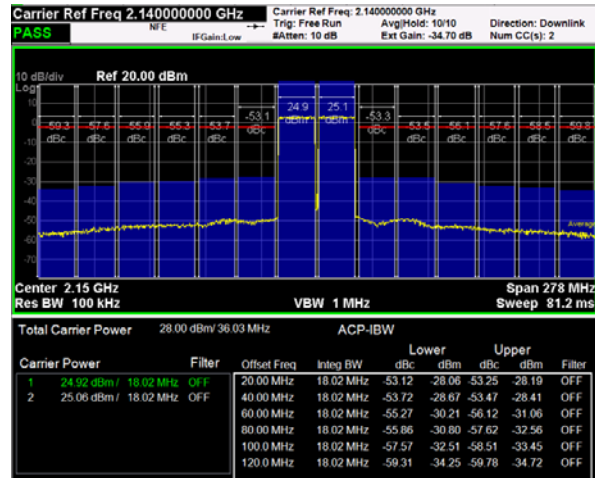


Figure 6. Wideband Spectrum Analyzer Plot: Frequency 2150 MHz, 20 MHz ETM3.1 Signal 2Carrier

ACLR VS POUT

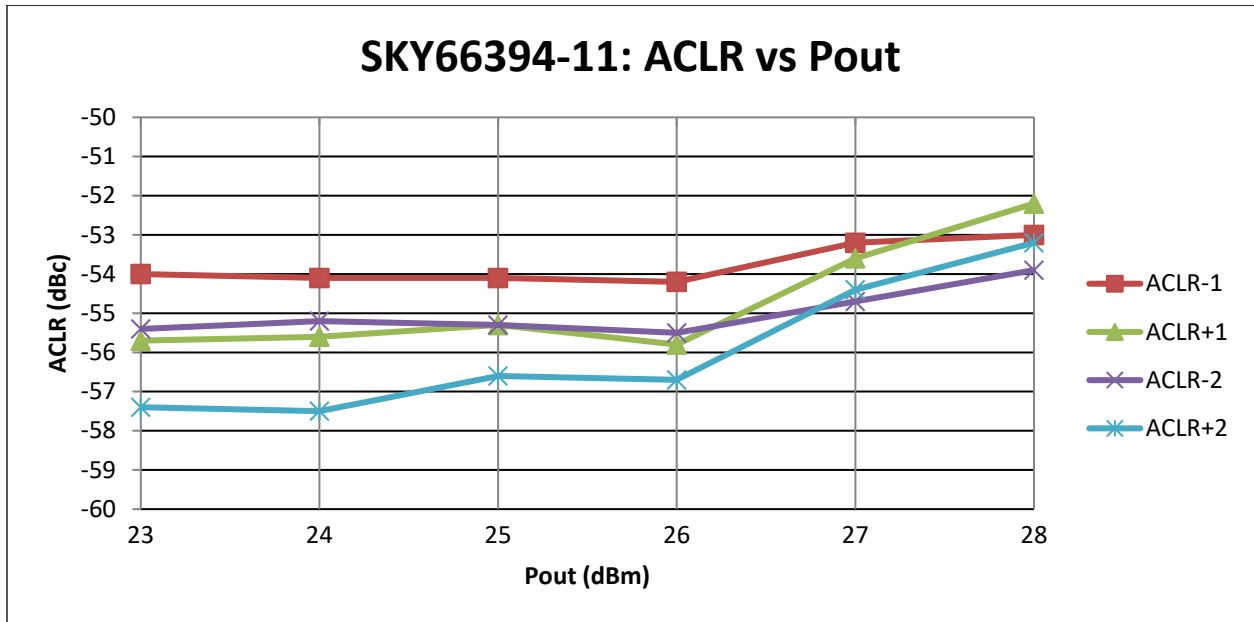


Figure 7. ACLR vs Output Power (2140 MHz)

INDEX

TEST BENCH

Keysight PXA Signal Analyzer N9030A with 89601B LTE Option

Keysight E3631A Power Supply 3-Output Power Supply