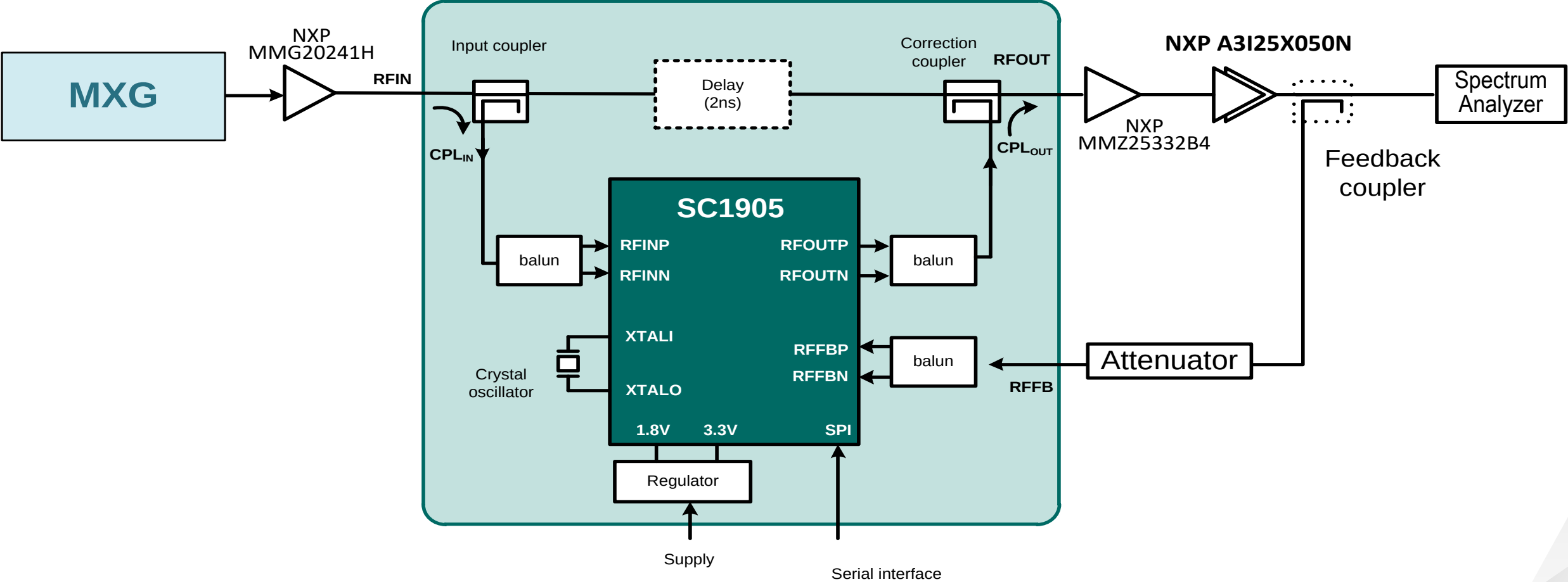


SC1905 100MHz Performance Data at 2.6GHz With NXP A3I25X050N Doherty PA

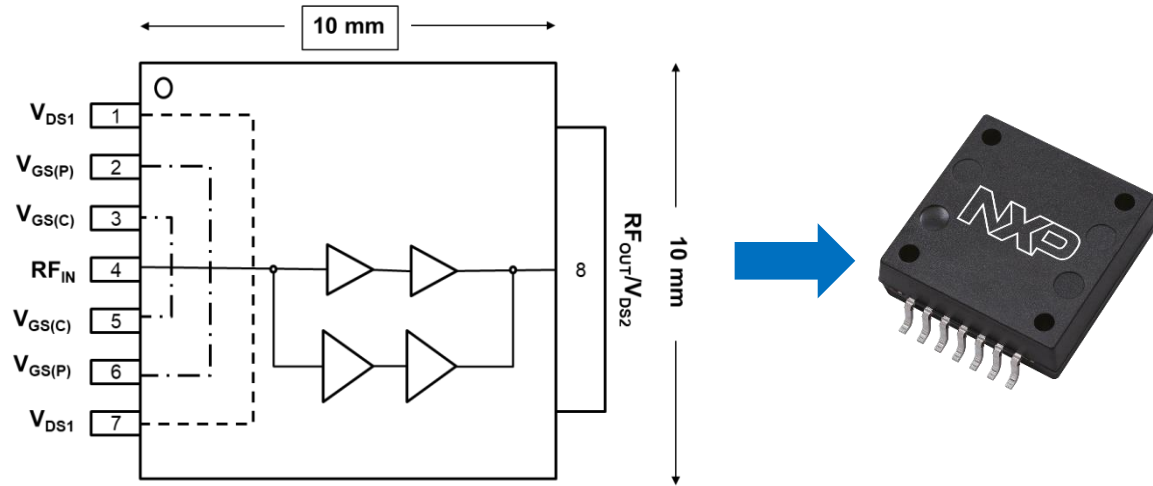
Test Set-up with SC1905 and NXP A3I25X050N at 2.6GHz



SC1905-EVK2400 Test Conditions with NXP Doherty A3I25X050N

- 5x20MHz Carriers (8dB PAR)
- Amplifier Data
 - > NXP A3I25X050N, Doherty, LDMOS
 - > Operating Frequency: 2300-2700 MHz, tuned for 2496-2690MHz
 - > Frequency tested: 2600 MHz
 - > Gain = ~28dB; Psat = P3dB= ~ 46.9dBm; P1dB= 45.8dBm
 - > Vdd=28V

A3I25X050N:



- Integrated Doherty splitter and combiner.
- On-chip matching (50 ohm input, DC blocked)
- Package: OM400-8 and OM400G-8
- Integrated quiescent current temperature compensation with enable/disable function

Key Specs:

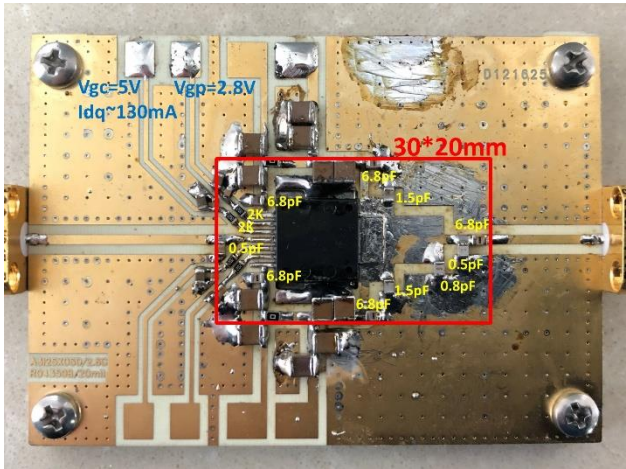
- P3dB 47 dBm
- P_{avg} 37 dBm
- Gain 28dB
- P:C ratio 2:1
- Doherty efficiency @10dB OBO >37%
- Target bands: 2.3-2.7GHz

Product Timeline

Launched Product. Samples and Shipping in HV

NOW

Test Fixture (2500-2700MHz) - WCDMA



Frequency (MHz)	Power (dBm)	P_IN (dBm)	P_OUT (dBm)	GAIN (dB)	IRL (dB)	EFFICIENCY (%)	PAR (dB)	ADJ_L (dB)	ADJ_U (dB)	ID1 (A)	IDQtototal (A)	VD1 (V)	VG1 (V)	VG2 (V)	
2496	35.5	7.07	35.49	28.42	-17.78	31.54	9.58	-39.19	-37.81	0.394	0.131	28.5	7.2	3.75	12OBO
2593	35.5	6.84	35.51	28.67	-24.33	32.56	9.58	-41.18	-39.47	0.383	0.131	28.5	7.2	3.75	
2690	35.5	6.83	35.49	28.67	-15.81	31.67	9.74	-42.79	-40.78	0.393	0.131	28.5	7.2	3.75	
2496	37.5	9.16	37.51	28.35	-18.11	37.57	9.06	-38.01	-36.47	0.526	0.131	28.5	7.2	3.75	10OBO
2593	37.5	8.87	37.51	28.64	-22.99	38.33	9.16	-39.81	-38.05	0.516	0.131	28.5	7.2	3.75	
2690	37.5	8.85	37.48	28.64	-15.8	36.89	9.33	-40.42	-38.99	0.533	0.131	28.5	7.2	3.75	

SC1905 GUI Configuration

RFPAL Advanced GUI 3.0.9.0

File Help

IC Configuration

Product Version	FW Version	Frequency Range
SC1905-13	6.0.01.00	07 (1800-2700 MHz)
Operation Mode	Min Frequency	Max Frequency
Optimized Correction	2300	2700
Duty Cycled Feedback	RFIN AGC(PDET)	RFFB AGC
Off	7.0	8.0

Status

Overall Status	Update Rate
TRACK	0.5 seconds
Center Freq(MHz)	24dBc BW(MHz)
2600	99.5
Reset RFPAL	
Error Code	Error Message
0	No error
Warning Code	Warning Message
0	No information
Back-off from Max Pwr	Using Cal Param #
NO CAL	

RF

	AGC	PMU	+	Offset	=	Power
RFIN Power(dBm)	<input type="range"/>	-4.03	+	10.00	=	5.97
RFFB Power(dBm)	<input type="range"/>	-13.12	+	0.00	=	-13.12
Average Coeff	<input type="range"/>	34.5				

Customer Controls

ACCP Config Debug

Add Firmware Collect Dump File New Log File USB Adapter PICOAdapter

Configure Application

Frequency Range	Min Frequency	Max Frequency	Apply Frequency
07 (1800-2700 MHz)	2300	2700	

Available Firmware

6.0.01.00 Load Firmware

Firmware Control

Duty Cycled Feedback	Adaptation State	Correction Enable
Off	Running	FW Control

Operating Mode Functions

Cal Freq

Set Cal Param A

Set Cal Param B

Clear Cal Param

PMU Functions

Expected Power

Calibrate RFIN PMU

Calibrate RFFB PMU

Wideband Optimization

Guard Band 1.5MHz

PDET Temp Comp Enabled

Auto PDET gain Enabled

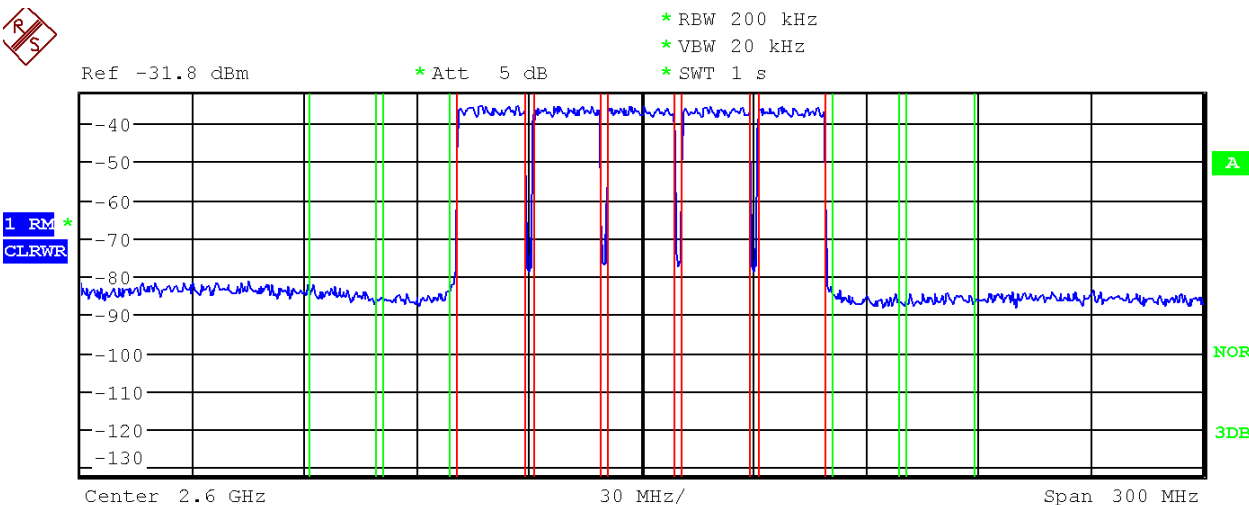
PDET EEPROM 0

Get Cost Clear Warning

maxim integrated

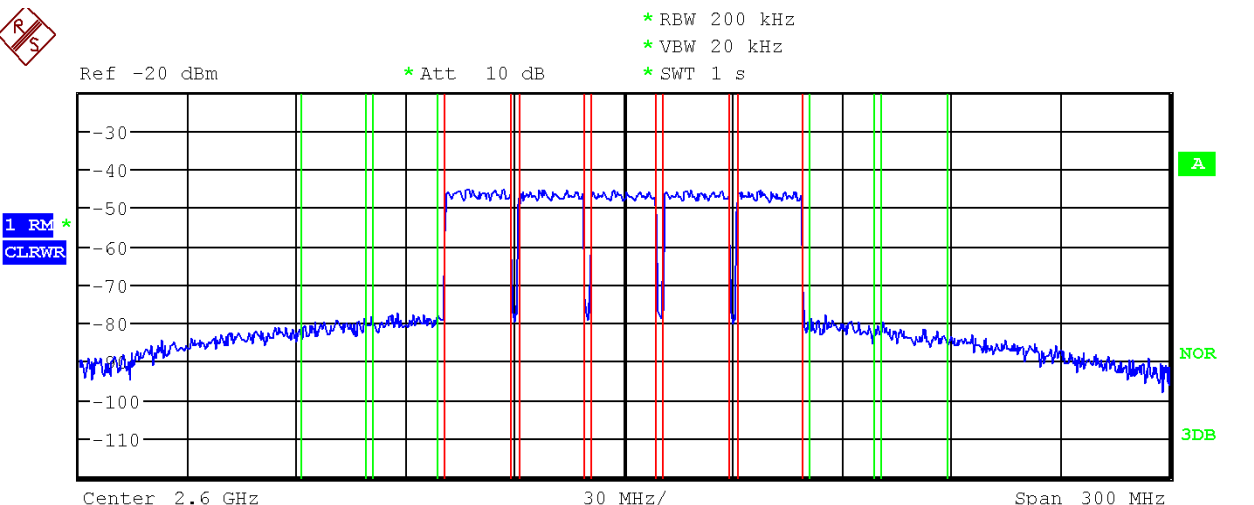
ACLR Performance with 5x20MHz (8dB PAR) at 2.6GHz

37dBm. Efficiency: 37.5%



Standard: E-UTRA/LTE Square		Adjacent Channel	
Ch1 (Ref)	-17.76 dBm	Lower	-49.10 dB
Ch2	-17.87 dBm	Upper	-49.08 dB
Ch3	-17.93 dBm		
Ch4	-17.99 dBm		
Ch5 (Ref)	-18.08 dBm	Alternate Channel	
Total	-10.93 dBm	Lower	-47.94 dB
		Upper	-48.81 dB

SC1905 ON
-49.1/-49.08dB



Standard: E-UTRA/LTE Square		Adjacent Channel	
Ch1 (Ref)	-27.62 dBm	Lower	-33.06 dB
Ch2	-27.79 dBm	Upper	-34.10 dB
Ch3	-27.84 dBm		
Ch4	-27.85 dBm		
Ch5 (Ref)	-27.97 dBm	Alternate Channel	
Total	-20.82 dBm	Lower	-34.55 dB
		Upper	-36.42 dB

SC1905 OFF
-33.06/-34.10dB

15-16dB correction

