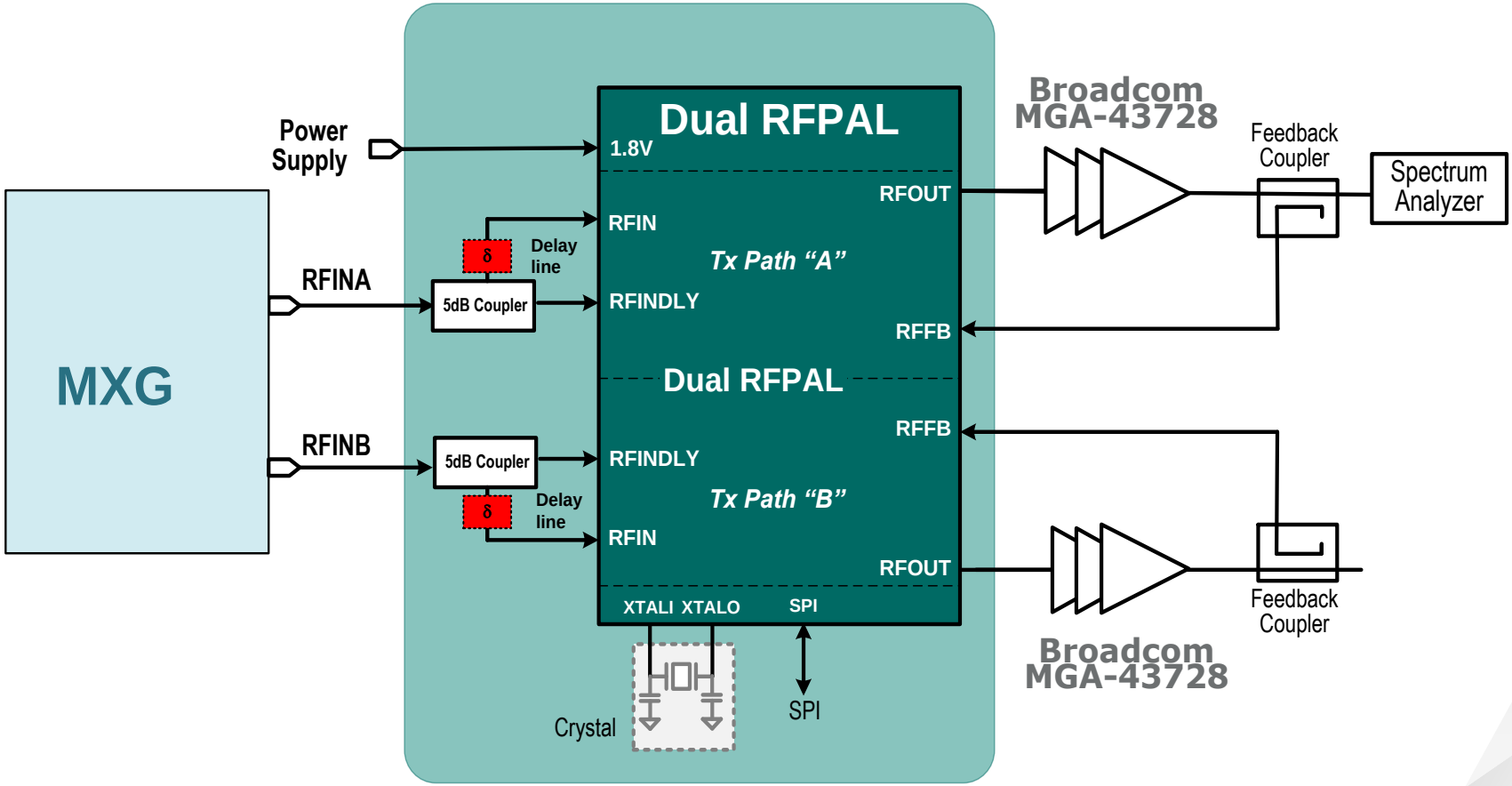
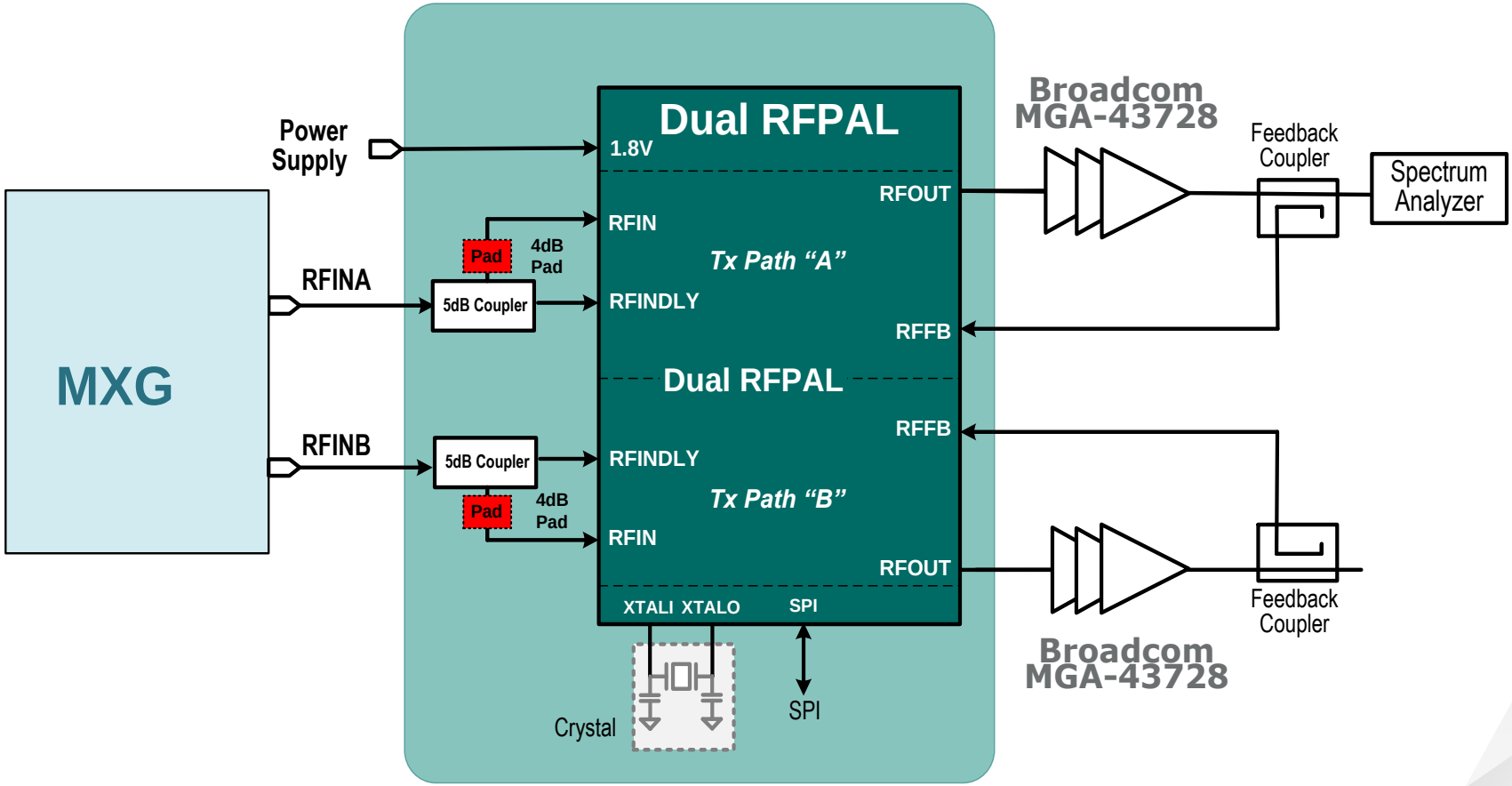
SC2200 Performance results with Broadcom Power Amplifier MGA-43728 (Band 7)

With and without RF delay

Test Set-up with SC2200 with Broadcom MGA-43728 and with Delay Line



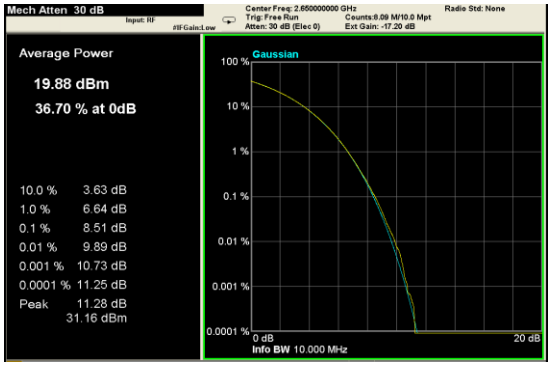
Test Set-up with SC2200 with Broadcom MGA-43728 and without Delay Line

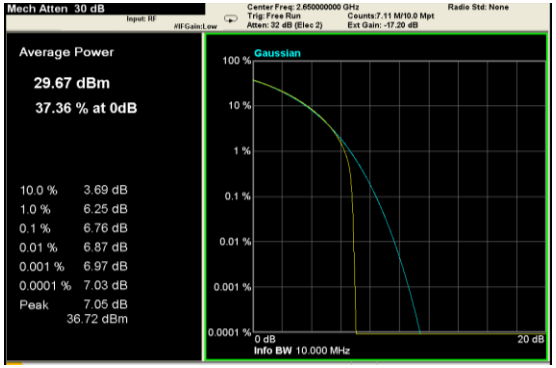


Summary

- Amplifier Data
  - > Broadcom MGA-43728 (PAM437)
  - > Operating Frequency: 2620 and 2690 MHz
  - > Frequencies Tested: 2625-2655 MHz
  - > Gain = ~37dB
  - > Psat, Vcc, Iq = see table next slide
- Predistortion
  - > SC2200-EVK2400 Firmware 5.0.09.04
    - RFINDLY path
      - > 3ns delay line
      - > 0ns delay line + 4dB attenuation
    - Linearizer gain = 3
    - Other settings are default

Psat, Vcc, Iq





PAM437_Broadcom_MGA-43728

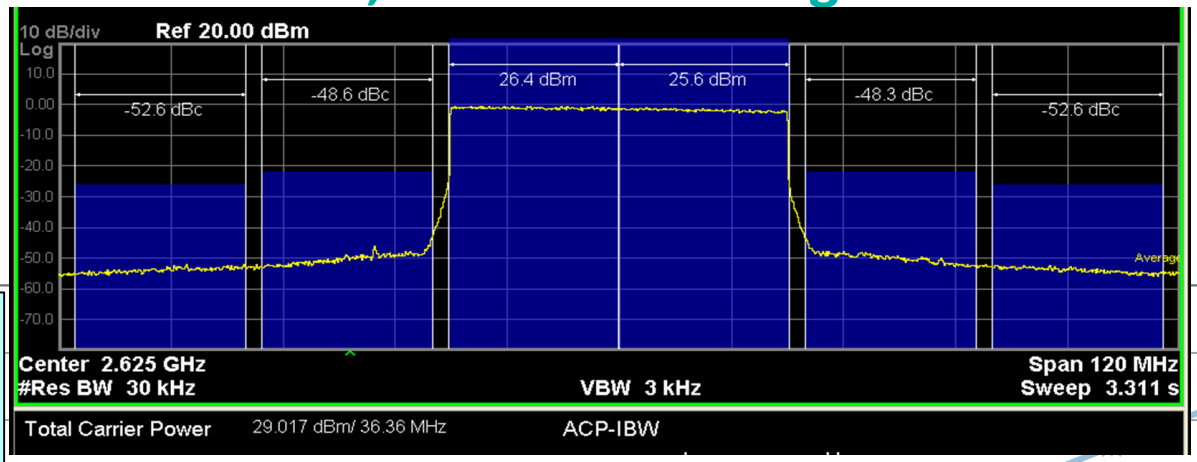
WCDMA1 9.99dB CCDF	**2650MHz Vc1=2.2V, Vc2=2.0V, Vc3=2.2V ***
Vdd, VDC	**5.00**
RMS at -3dB compression, dBm	29.60
P3dB, dBm	**36.50**
Id_RF, mA	953
Idq, mA	387

* Data Sheet Bias Recommendations

	2625MHz Vc1=2.0V, Vc2=1.8V, Vc3=1.8V
Vdd, VDC	**5.00**
RMS at -3dB compression, dBm	29.22
P3dB, dBm	**36.22**
Id_RF, mA	881
Idq, mA	280

LTE 2x20MHz 7.0dB PAPR Fc = 2625MHz

Smooth Mode Cal., at +29dBm using SPI cmd. PDET = 2



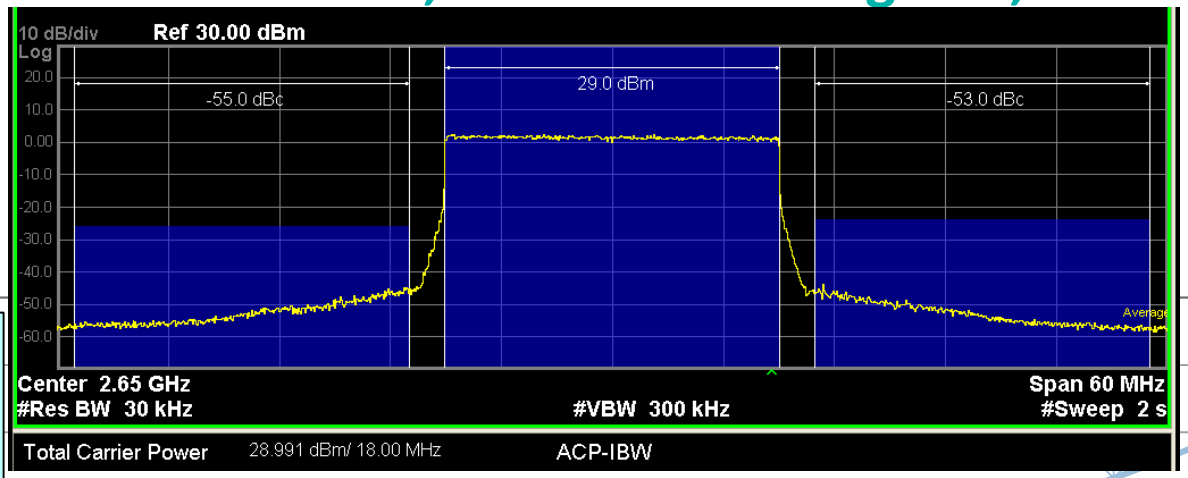
RFIN_dBm	RFOUT_dBm	RFFB_dBm
-6.5	-6	-14.9

FW5.0.09.04	Freq= 2625 MHz	Vdd = 5.0 VDC, Vc1=2.2V, Vc2=2.0V, Vc3=2.2V

maxim integrated™

LTE 20MHz 7.0dB PAPR Fc = 2650MHz

Smooth Mode Cal., at +29dBm using GUI, PDET = 3

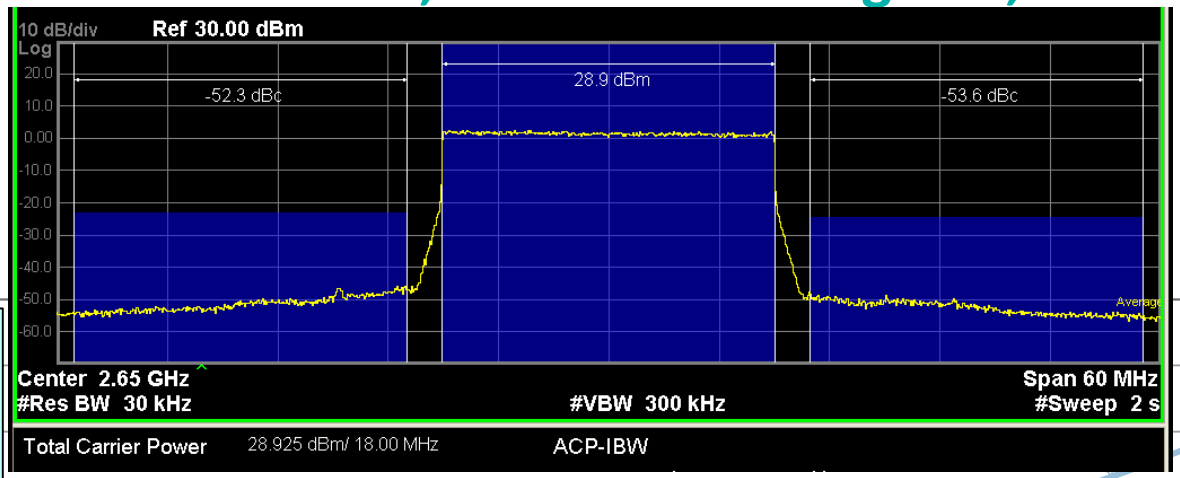


RFIN_dBm	RFOUT_dBm	RFFB_dBm
-6.7	-6.3	-14.9

FW5.0.09.04	Freq= 2650 MHz	Vdd = 5.0 VDC, Vc1=2.2V, Vc2=2.0V, Vc3=2.2V

LTE 20MHz 7.0dB PAPR Fc = 2650MHz

Smooth Mode Cal., at +29dBm using GUI, PDET = 1



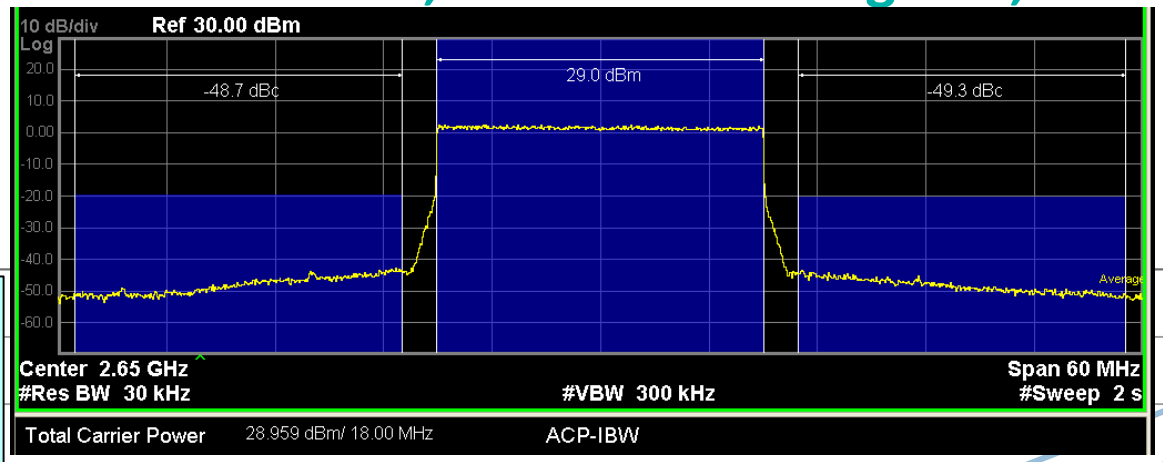
RFIN_dBm	RFOUT_dBm	RFFB_dBm
-8.4	-8.1	-14.9

FW5.0.09.04	Freq= 2650 MHz	Vdd = 5.0 VDC, Vc1=2.2V, Vc2=2.0V, Vc3=2.2V

maxim integrated™

LTE 20MHz 7.5dB PAPR Fc = 2650MHz

Smooth Mode Cal., at +29dBm using GUI, PDET = 3



RFIN_dBm	RFOUT_dBm	RFFB_dBm
-6.6	-6.2	-14.9

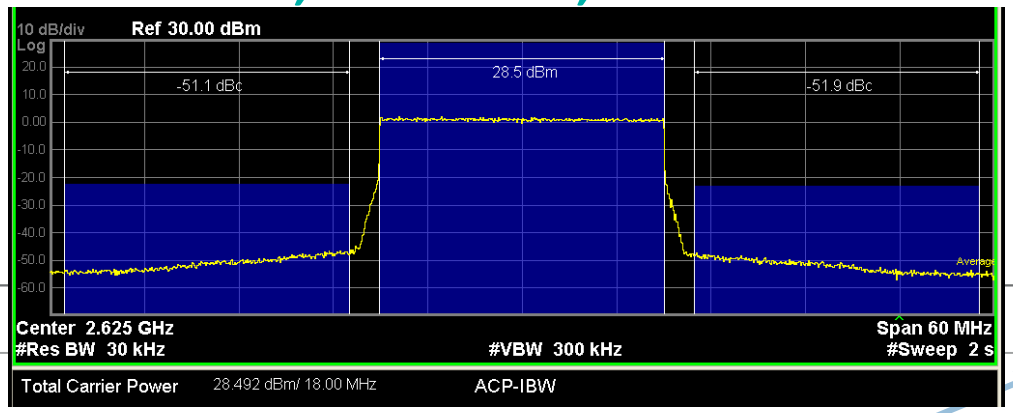
FW5.0.09.04	Freq= 2650 MHz	Vdd = 5.0 VDC, Vc1=2.2V, Vc2=2.0V, Vc3=2.2V

maxim integrated™

LTE 20MHz 7.5dB PAPR Fc = 2625MHz

0ns delay, 0dB atten., Smth Cal., at +28.5dBm using GUI, PDET = 1

Vdd = 5.0V



FW5.0.09.04	Freq= 2625 MHz	Vdd = 5.0 VDC, Vc1=2.0V, Vc2=1.8V, Vc3=1.8V

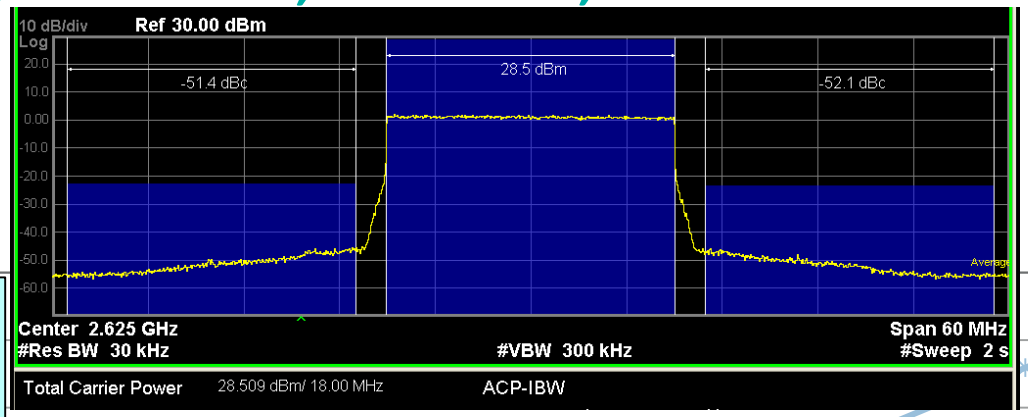
RFIN_dBm	RFOUT_dBm	RFFB_dBm
-9.1	-4.4	-15.3

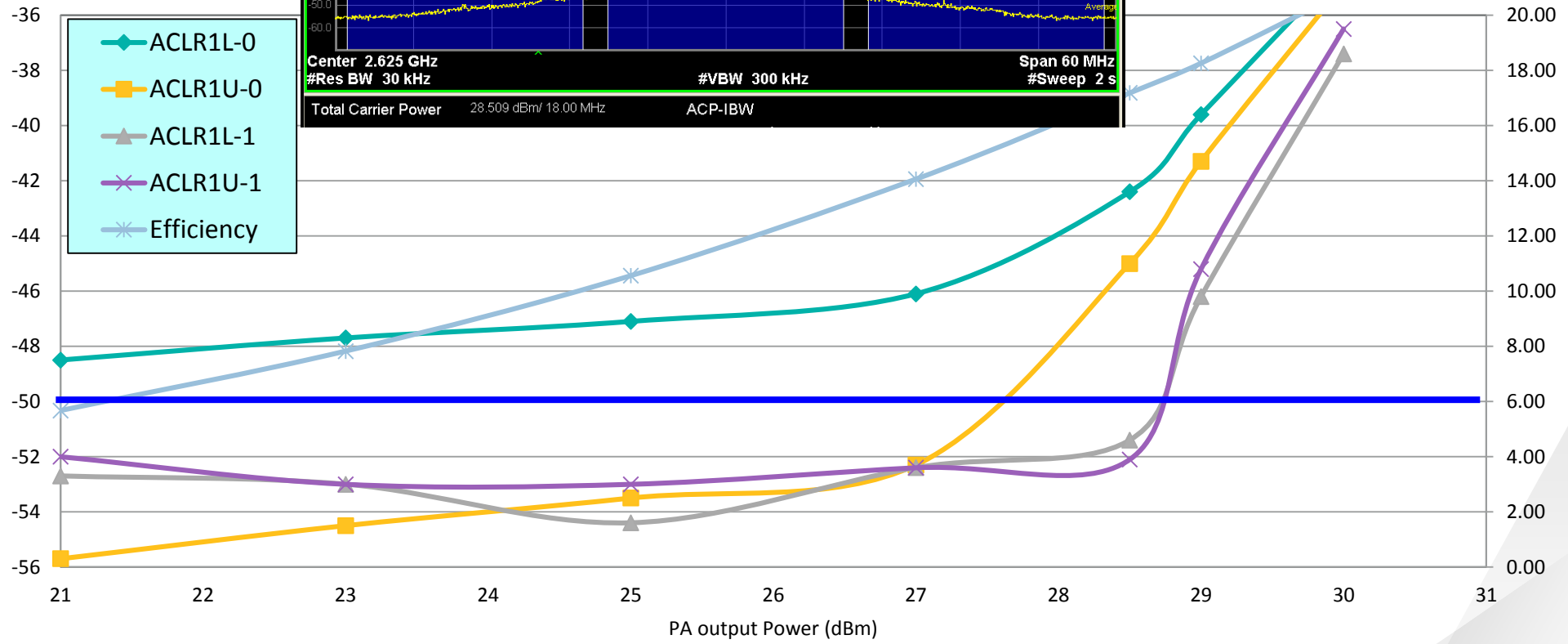
maxim integrated™

LTE 20MHz 7.5dB PAPR Fc = 2625MHz

0ns delay, 5dB atten., Smth Cal., at +28.5dBm using GUI, PDET = 1

Vdd = 5.0V





FW5.0.09.04	Freq= 2625 MHz	Vdd = 5.0 VDC, Vc1=2.0V, Vc2=1.8V, Vc3=1.8V

RFIN_dBm	RFOUT_dBm	RFFB_dBm
-9.0	-9.3	-15.3

maxim integrated™