SC2200 MIMO Performance Results with NXP A2I20D040N at 1800-2200MHz

NXP A2I20D040N Power Amplifier Data

- Amplifier Data
  - > NXP A2I20D040N, Doherty, LDMOS
  - > Operating Frequency: 1800-2200MHz
  - > Frequency tested: band 1 (2110-2170MHz), band 2 (1930-1990MHz) and band 3 (1805-1880MHz)
  - > Gain = ~33dB; Psat = P3dB= ~ 46.5dBm
  - > NXP Driver used for testing: MMG20241H
  - > Vdd=28V

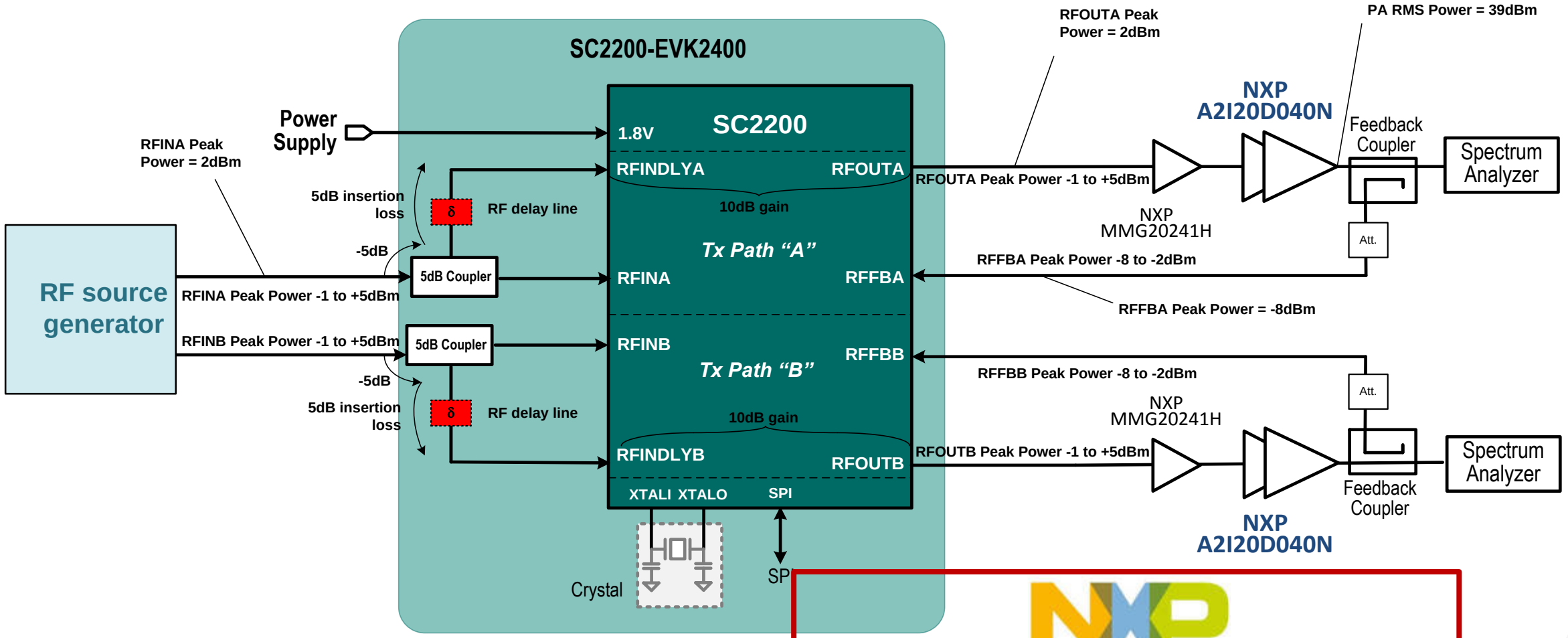
- SC2200-EVK1900 3ns with FW 5.0.09.04 with
  - > FwConfigPathA.Linearizer_Gain = 3
  - > AdvConfig.PDET_AGC_Thresh = 100
  - > Only MIMO applications with Path A and Path B at the same LO frequency.

NXP A2I20D040N (33dB Gain) Performance Data Summary

- Performance with -50dBc

	Output Power (dBm) @-50dBc ACLR	PAE (%)	PAR (dB)
20 MHz LTE 1860 MHz (Band 3)	39	41	7
2x20 MHz LTE 1860 MHz (Band 3)	39	41	7
2x20 MHz LTE 1960 MHz (Band 2)	39	39.5	7
2x20 MHz LTE 2110 MHz (Band 1)	39	39.5	7

SC2200 Test Set-up with RF Delay Line

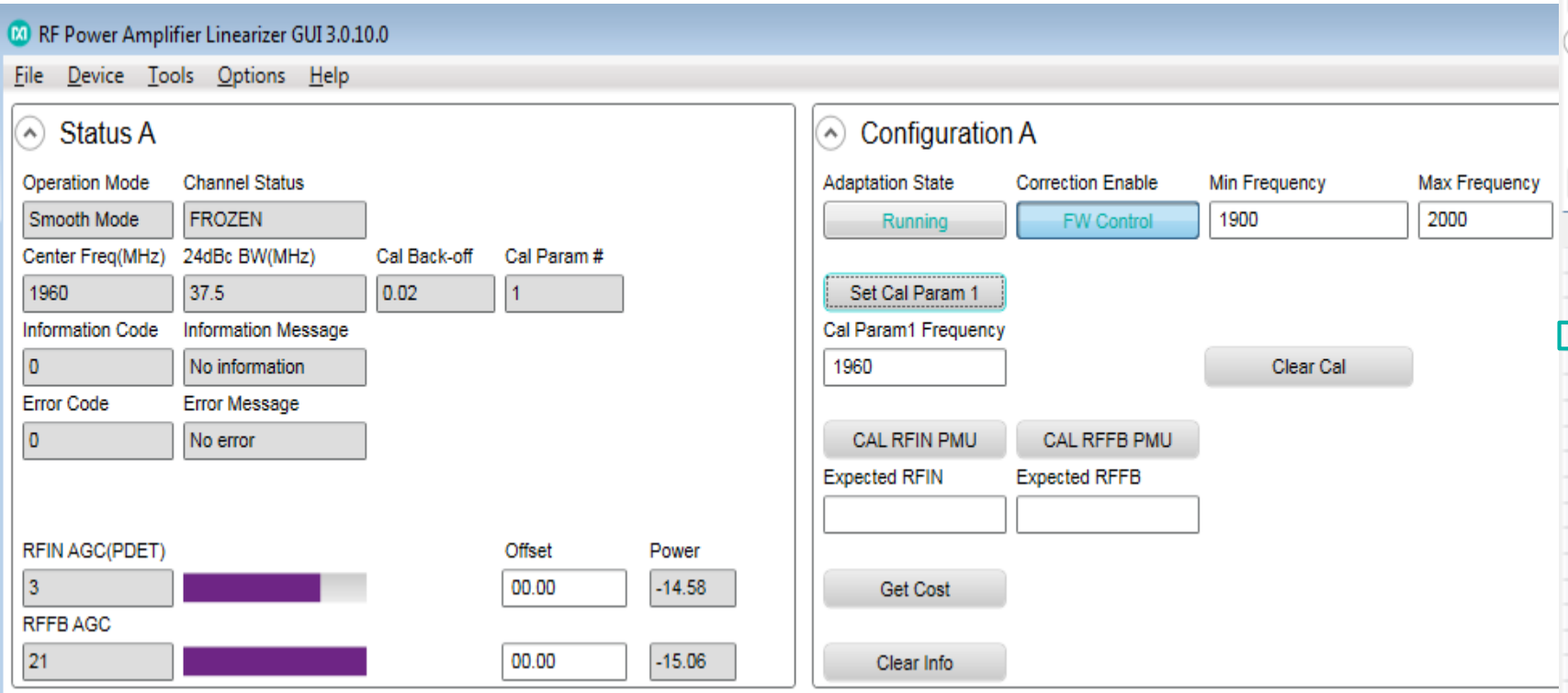


A2I20D040N

40 Watt Peak, Doherty PA

With NXP MMG20241H driver

GUI Captures at Maximum Power level for path A



ACCP Config

EEPROM | APP_EEPROM

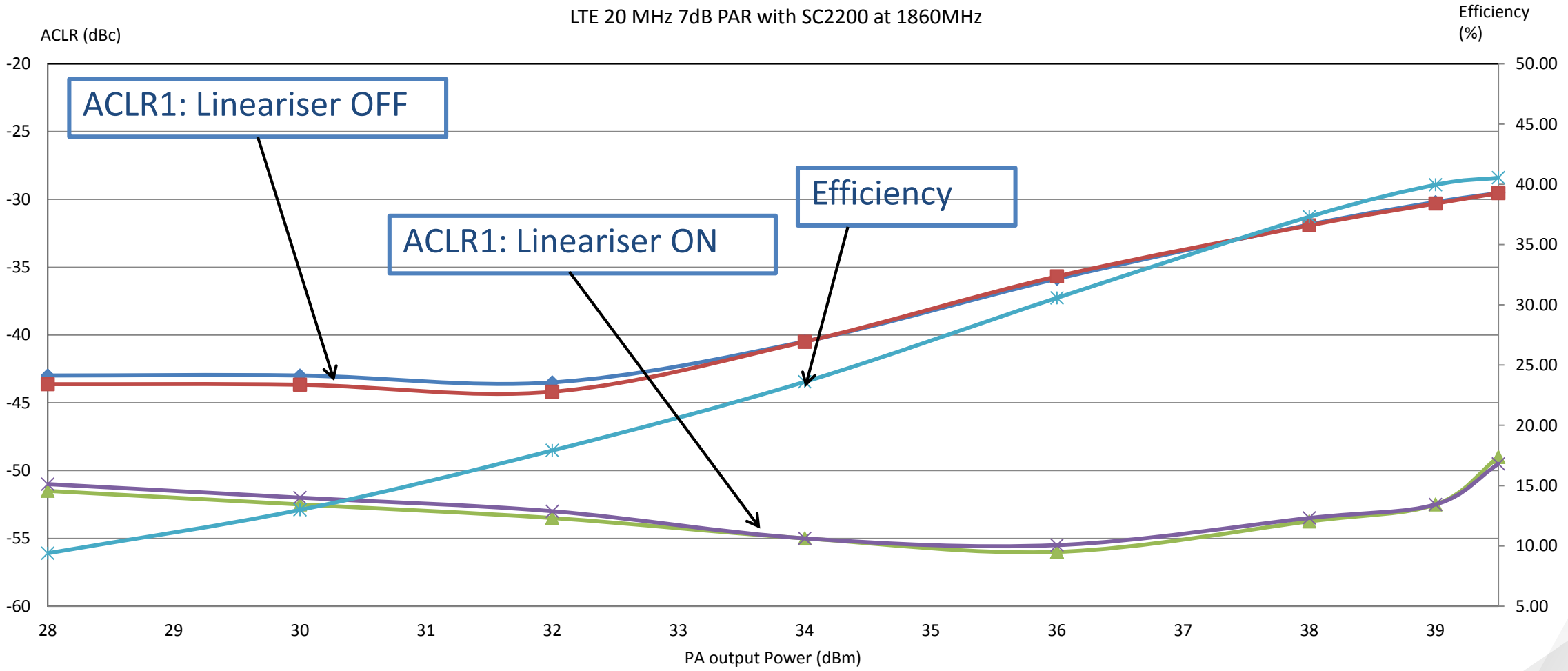
EEPROM Access

Variable Type: UINT8 | Write access | Read access | Address(hex): 0 | Value: 0

Load Parameters

Group	Variable Name	Address	Value
App	Checksum	0xFFFF	234
Device/AdvConfig	Back Off Freeze Threshold	0xFEFE	0
Device/AdvConfig	Corr VGA Idx	0xFF01	0
Device/AdvConfig	PDET AGC Threshold	0xFF02	100
Device/Config	RefFreqInkHz	0xFDC0	0
Device/Config	ShutDownTime_10ms	0xFDC2	0
Path A/CalFreq1	MaxPWRCALParam1_RFIN_MAX_PWR	0xFCF4	-4956
Path A/CalFreq1	MaxPWRCALParam10_Freq	0xFD00	3920
Path A/CalFreq1	MaxPWRCALParam11	0xFD02	211
Path A/CalFreq1	MaxPWRCALParam12	0xFD03	18
Path A/CalFreq1	MaxPWRCALParam13	0xFD04	Edit
Path A/CalFreq1	MaxPWRCALParam14	0xFD4E	Edit
Path A/CalFreq1	MaxPWRCALParam15	0xFD59	209
Path A/CalFreq1	MaxPWRCALParam2_RFFB_MAX_PWR	0xFCF6	-5118
Path A/CalFreq1	MaxPWRCALParam3_PDET	0xFCF8	3
Path A/CalFreq1	MaxPWRCALParam4	0xFCF9	3
Path A/CalFreq1	MaxPWRCALParam5_IC_temp	0xFCFA	167
Path A/CalFreq1	MaxPWRCALParam6	0xFCFC	5
Path A/CalFreq1	MaxPWRCALParam7	0xFCFD	17
Path A/CalFreq1	MaxPWRCALParam8	0xFCFE	119
Path A/CalFreq1	MaxPWRCALParam9	0xFCFF	123
Path A/CalFreq1	MaxPWRDCALCoefficients	0xFD1C	Edit
Path A/FW Config	Adaptation State	0xFC1F	0
Path A/FW Config	AdaptOnTime_10ms	0xFC18	0
Path A/FW Config	Correction Enable	0xFC22	0
Path A/FW Config	Linearizer Gain	0xFC26	3

LTE20MHz: 39dBm out; 41% efficiency



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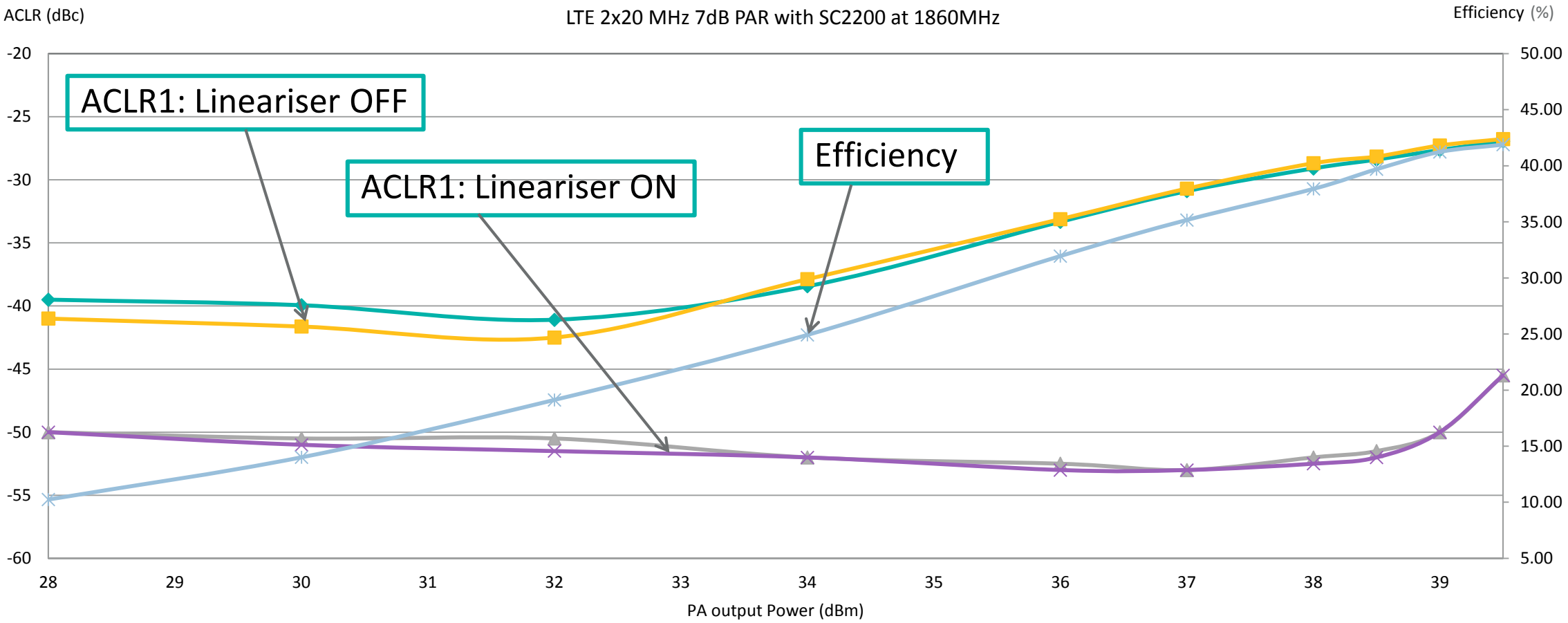
LTE2x20MHz at 1860MHz: 39dBm out; 41% efficiency



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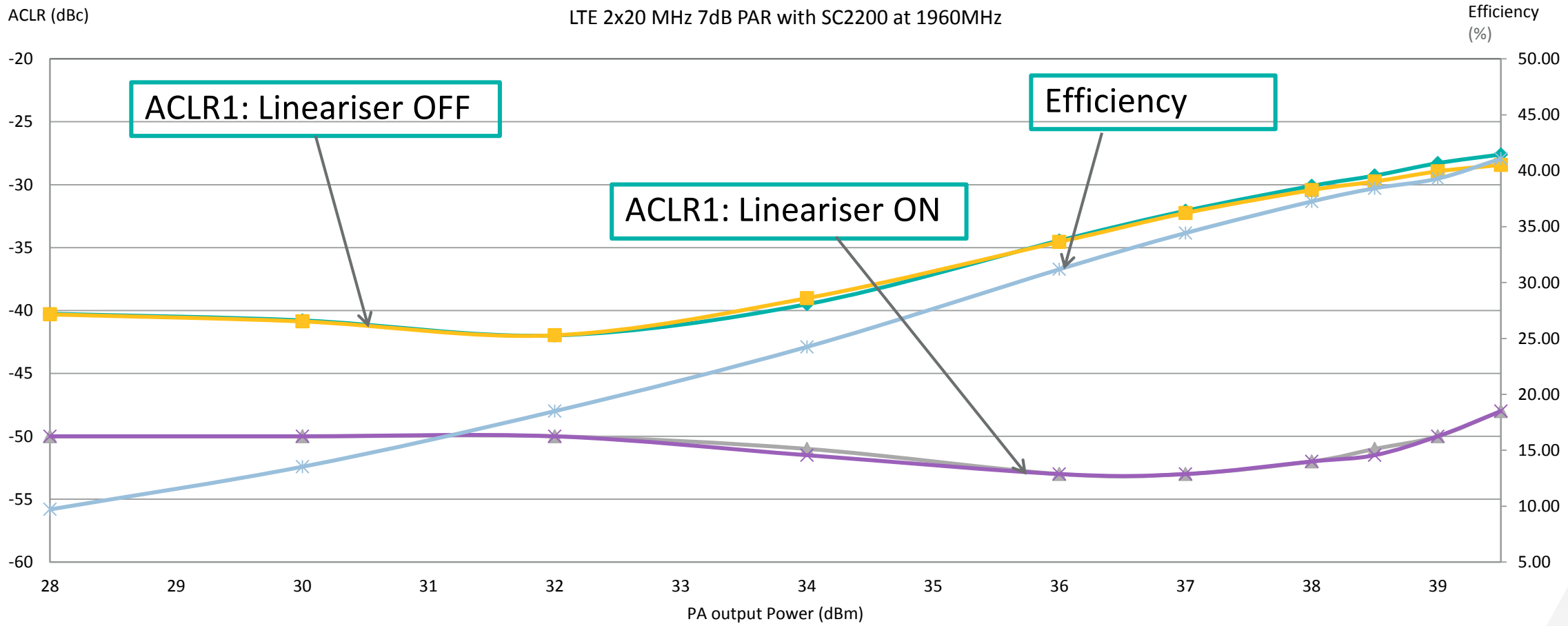
LTE2x20MHz at 1960MHz: 39dBm out; 39.5% efficiency



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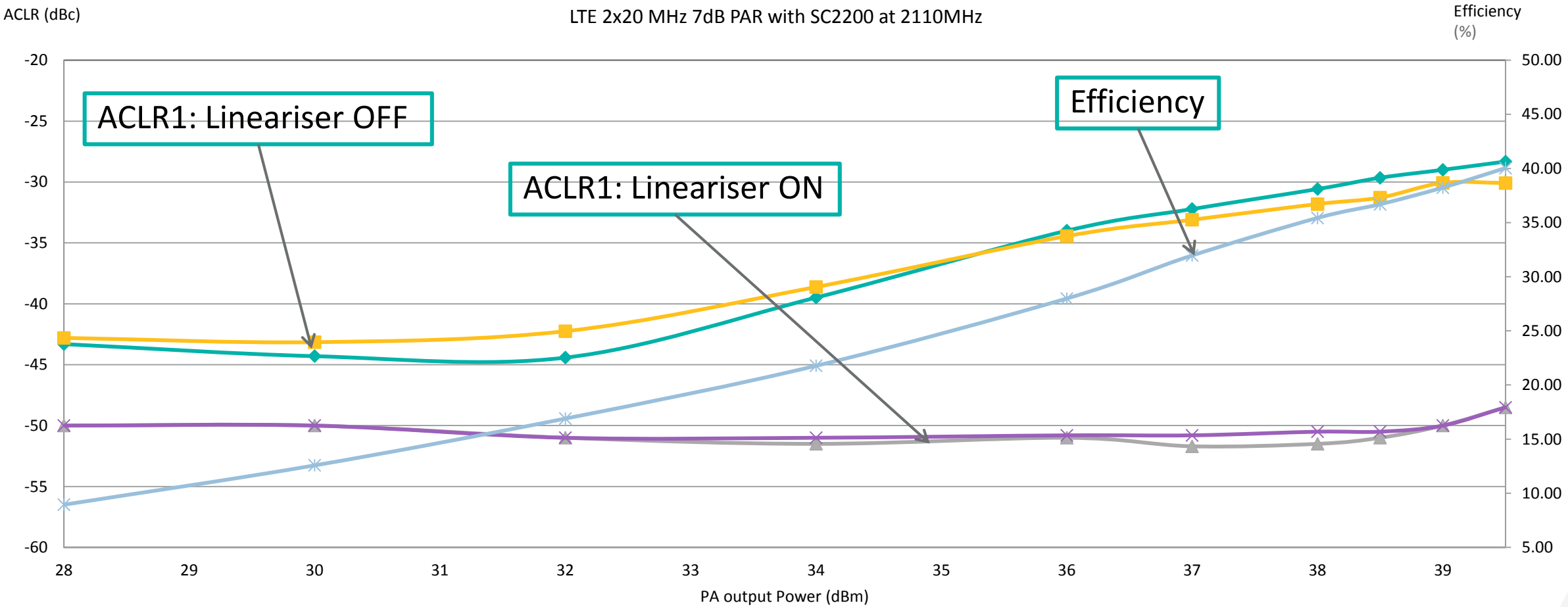
LTE2x20MHz at 2110MHz: 39dBm out; 39.5% efficiency



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