



晶復科技股份有限公司

A Test Lab Techno Corp.

行動通信電信終端設備技術規範(LTE)試驗報告

報告編號 2107DR54

版本(Rev.) 02

產品名稱 無線通信定位車機

申請廠商 VALEO Telematik und Akustik GmbH

廠牌 VALEO Telematik und Akustik GmbH

型式 (號) ATM-02-ROW-R1

產品試驗依據之標準 行動通信電信終端設備技術規範 109 年 9 月 25 日

報告發行日期 110 年 08 月 09 日

填發本型式認可報告之試驗機構 (認可代號)

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財團法人全國認證基金會

認證編號 : 1330

認證有效期間 : 108.09.06 ~ 111.09.05

認可能量範圍 : LTE 700 MHz 頻段/ 900 MHz 頻段/ 1800 MHz 頻段/ 2100 MHz 頻段/
2500 MHz 頻段/ 2600 MHz 頻段(頻率範圍:9 kHz to 40 GHz)

免責聲明

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報告修訂紀錄

版本 (Rev.)	發行日期	修訂內容	修訂者
00	110 年 07 月 29 日	初版發行	江玉
01	110 年 08 月 02 日	更新 1.2 章節(P.6)	江玉
02	110 年 08 月 09 日	更新 1.1 章節(P.5) 更新 1.2 章節(P.6) 更新 2.4 章節(P.10) 更新 3 章節(P.11) 更新 4 章節(P.13, 20~22)	江玉

行動通信電信終端設備技術規範(LTE)測試證明書

產品名稱 : 無線通信定位車機

廠牌 : VALEO Telematik und Akustik GmbH

型號 : ATM-02-ROW-R1

申請廠商 : VALEO Telematik und Akustik GmbH

申請者地址 : Max-Planck-Strasse 32, 61381 Friedrichsdorf Germany

製造廠商(1) : VALEO Telematik und Akustik GmbH

製造商地址 (2) : Max-Planck-Strasse 32, 61381 Friedrichsdorf Germany

製造廠商(1) : Valeo Telematica y Acustica, S.A. de C.V.

製造商地址 (2) : Calle Pino Seco #460; Col. Terrazas del Valle 32599 Ciudad Juarez,
Chihuahua, Mexico

待測物電壓 : DC 14 V, 1 A

量測規範 : 行動通信電信終端設備技術規範 109 年 9 月 25 日

試驗實驗室 : 晶復科技股份有限公司(桃園市八德區長安街 140-1 號)

樣品接收日期 : 110 年 05 月 14 日

試驗日期 : 110 年 06 月 21 日 ~ 110 年 08 月 04 日

報告中所描述之測試結果與待測設備之架構組合，均根據實際量測情況作詳實的記錄。

由測試結果顯示，上述待測設備樣機確實已符合行動通信電信終端設備技術規範(LTE)所規定的各項限制值。

特此證明！

審核者：



(呂宗霖)

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1. 一般敘述

1.1 待測設備一般敘述

本敘述僅針對產品簡單說明之，其他詳細之規格請參考使用說明書。

產 品 名 稱	無線通信定位車機				
廠 牌	VALEO Telematik und Akustik GmbH				
型 號	ATM-02-ROW-R1				
額 定 電 源	DC 14 V, 1 A				
I M E I N o .	359061081671500				
使 用 頻 帶	LTE Band 1 FDD: UL: 1920 – 1980 MHz / DL: 2110 – 2170 MHz LTE Band 3 FDD: UL: 1710 – 1785 MHz / DL: 1805 – 1880 MHz LTE Band 7 FDD: UL: 2500 – 2570 MHz / DL: 2620 – 2690 MHz LTE Band 8 FDD: UL: 885 – 915 MHz / DL: 930 – 960 MHz LTE Band 28 FDD: UL: 718 – 748 MHz / DL: 758 – 803 MHz				
使 用 頻 寬	LTE Band 1: 5 MHz / 10 MHz / 15 MHz / 20 MHz LTE Band 3: 1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz LTE Band 7: 5 MHz / 10 MHz / 15 MHz / 20 MHz LTE Band 8: 1.4 MHz / 3 MHz / 5 MHz / 10 MHz LTE Band 28: 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz				
天 線 資 訊	Antenna	廠牌	型號	型態	增益值
	外接天線	Laird	64171	Automotive Antenna Roof-Pod	LTE Band 1: 4.28 dBi LTE Band 3: 3.36 dBi LTE Band 7: 4.01 dBi LTE Band 8: 2.34 dBi LTE Band 28: 1.88 dBi
	外接天線	molex	64177	Automotive Antenna Roof-Pod	LTE Band 1: 2.80 dBi LTE Band 3: 2.00 dBi LTE Band 7: 5.00 dBi LTE Band 8: 1.20 dBi LTE Band 28: 0.40 dBi
	內建天線	Goertek	112000200002	Internal Antenna	LTE Band 1: 6.92 dBi LTE Band 3: 5.21 dBi LTE Band 7: 2.91 dBi LTE Band 8: 0.73 dBi LTE Band 28: 1.58 dBi
最 大 輸 出 功 率	LTE Band 1: 23.00 dBm				
	LTE Band 3: 22.97 dBm				
	LTE Band 7: 22.74 dBm				
	LTE Band 8: 22.77 dBm				
	LTE Band 28: 22.69 dBm				

輸出/輸入埠說明：

輸 出 / 入 埠		數量	介面內容說明
1	NANO MQS system connector Port	1	連接至 Microphone
2	ELO Coding A Port	1	連接至 Speaker / DC Power source
3	Roof connector system Port	1	連接至 Antenna
4	FAKRA Port	3	連接至 N/A

附屬裝置表：

裝置名稱	廠牌	型 號	備註
電池	BMW	5HR-2/3AAAUT-CVP	6 VDC, 190 mAh

1.2 其他相關聲明

本測試報告屬(以下選擇一種打■)

☐	申請新的型式檢驗認可的測試。
☒	已取得型式檢驗認可之商品,因新增系列型號而重新測試 (變更內容請參考產品概述). 登錄號碼: CCAK184G0290T4

差異說明

原機型 廠牌/型號	系列機型 廠牌/型號	差異敘述
peiker acoustic GmbH/ ATM-02-ROW-R1	VALEO Telematik und Akustik GmbH/ ATM-02-ROW-R1	1. 因市場銷售需求，增列一款廠牌其型號不變，其餘與原認可機型差異如下所述： (1) 使用天線由一款變更為三款，增加之天線廠牌/型號為molex / 64177、Goertek / 112000200002。 (2) 軟體縮減 LTE Band 28 頻率範圍為 718~748 MHz，其他硬體設計皆不變。 2. 更新法規版本為行動通信電信終端設備技術規範 109 年 9 月 25 日版。 測試結果說明： 1. 經工程判定其差異需驗證發射輸出功率，及重新評估電波功率密度、頻率穩定度與LTE Band 28相關之測項，並記錄電波功率密度、頻率穩定度與LTE Band 28結果數據，其餘數據結果請參考原報告編號: 1806DR37 Rev.00 2. 經驗證發射輸出功率與原案差異不超過+/- 2 dB(符合技術規範限制值)。 3. 更新法規版本差異僅為章節變更，除頻率穩定度與電波功率密度以外，其餘測試項目未做更動。

2. 量測儀器及測試配置說明

2.1 量測設備

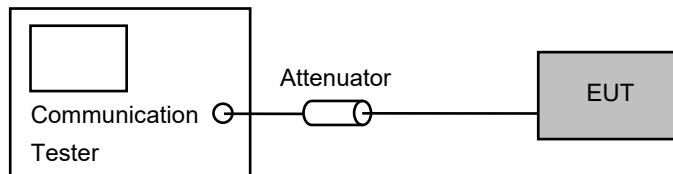
Test Period: Jun. 21, 2021 ~ Aug. 04, 2021

測試者：吳展寬

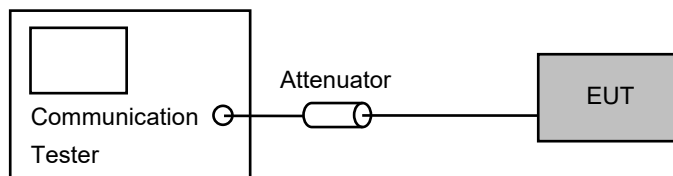
名 稱	廠 牌	型 號	序 號	本次校驗日期	校驗年限
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	03/30/2021	1 year
Divider	Warison	WDIV-210.5-26.5S20	WR222AM2B2	11/02/2020	1 year
Power Supply	KEITHLEY	2303	4045290	02/01/2021	1 year
SPECTRUM ANALYZER	Agilent	E4445A	MY45300744	12/02/2020	1 year
Radio Communication Analyzer	Anritsu	MT8820C	6201342039	12/03/2020	1 year

2.2 測試架構圖

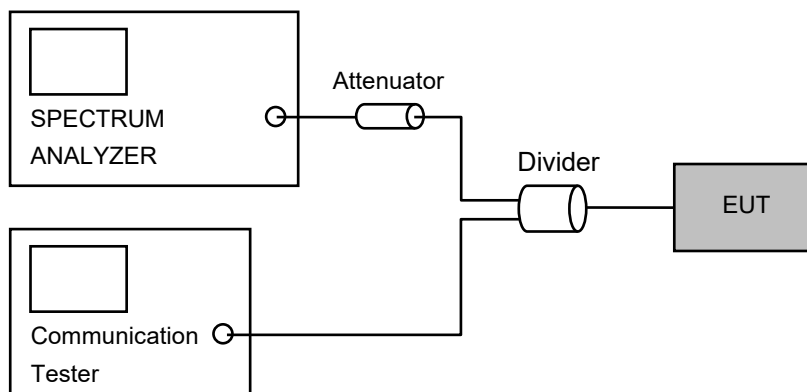
■ 輸出功率



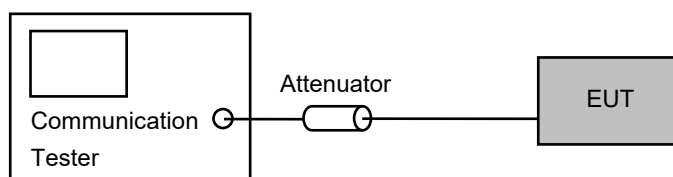
■ 發射頻譜波罩



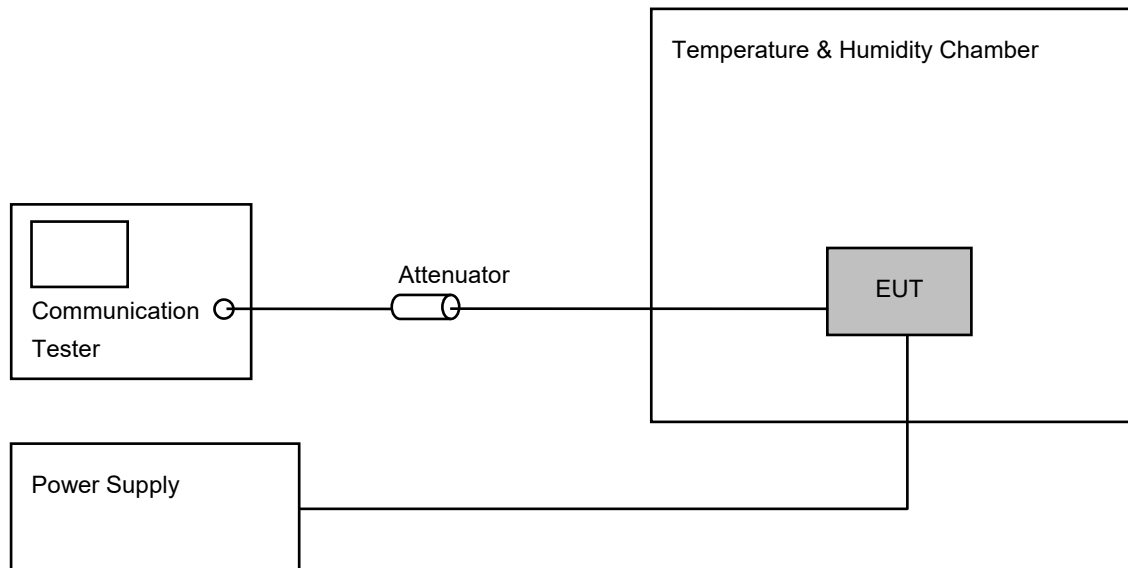
■ 傳導帶外輻射發射



■ 相鄰頻道洩漏功率比



■ 頻率穩定性



2.3 量測不確定度

下列量測不確定水準是參照量測儀器 CISPR 16-4-2 所規定之不確定度。

Test Item	Uncertainty (dB)
傳導輸出功率 (傳導)	1.1 dB
發射頻譜波罩 (傳導)	1.1 dB
傳導帶外輻射發射(傳導)	2.5 dB
ACLR (傳導)	1.1 dB
頻率穩定度 (頻率)	$1.2 \times 10^{-7} * F_c \text{ (Hz)}$
電波功率密度量測 (傳導)	1.1 dB

2.4 試驗環境

產品測試時之實驗室環境條件如下:

項 目	實 際	常態環境要求
溫度 Temperature (°C)	18 - 28	15 - 35
濕度 Humidity (%RH)	45 - 75	25 - 75

電池種類及電壓的計算
☐ AC mains V_{Nom} = 標稱電壓 V_{Low} = 標稱電壓 * 0.9 V_{High} = 標稱電壓 * 1.1 ☒ Regulated lead acid battery V_{Nom} = 標稱電壓 * 1.1 V_{Low} = 標稱電壓 * 0.9 V_{High} = 標稱電壓 * 1.3 Non regulated batteries : ☐ Leclanche V_{Nom} = 標稱電壓 V_{Low} = 標稱電壓 * 0.85 V_{High} = 標稱電壓 ☐ Lithium V_{Nom} = 標稱電壓 * 1.1 V_{Low} = 標稱電壓 * 0.95 V_{High} = 標稱電壓 * 1.1 ☐ Mercury/nickel & cadmium V_{Nom} = 標稱電壓 V_{Low} = 標稱電壓 * 0.9 V_{High} = 標稱電壓 * 1.1

測試條件			
工作電壓 DC(範圍) :	標稱電壓	14.0	V
	低極端電壓	12.6	V
	關機電壓	5.3	V
	常態電壓	15.4	V
	高極端電壓	18.0	V
測試溫度(範圍) :	低極端溫度	-10	(°C)
	常態溫度	20	(°C)
	高極端溫度	55	(°C)

3. 測試項目與結果判定總表

項次	檢驗項目	適用標準	試驗結果	結果判定
1	有效輻射功率	行動通信電信終端設備技術規範, 6.3.1.1.1節	請參閱第4節	符合 (Note1)
2	傳導輸出功率	行動通信電信終端設備技術規範, 6.3.1.1.2節	請參閱第4節	符合 (Note2)
3	發射頻譜波罩	行動通信電信終端設備技術規範, 6.3.2節	請參閱第4節	符合 (Note2)
4	傳導帶外輻射發射	行動通信電信終端設備技術規範, 6.3.3節	請參閱第4節	符合 (Note2)
5	ACLR	行動通信電信終端設備技術規範, 6.3.4節	請參閱第4節	符合 (Note2)
6	頻率穩定度	行動通信電信終端設備技術規範, 6.3.5節	請參閱第4節	符合
7	電波功率密度	行動通信電信終端設備技術規範, 6.6.2節	請參閱第4節	符合
8	災防告警細胞廣播訊息 接收功能	行動通信電信終端設備技術規範, 6.10節	N/A	不適用 (Note3)

Note1: 需檢測 LTE Band 1、LTE Band 3、LTE Band 7、LTE Band 28 測試項目，其他請參閱

原報告編號：1806DR37 Rev.00.

Note2: 僅檢測 LTE Band 28 測試項目，其他請參閱原報告編號：1806DR37 Rev.00.

Note3: 此產品不具有災防告警細胞廣播訊息接收要求之顯示螢幕。

Decision Rule

☒ Uncertainty is not included.

☐ Uncertainty is included.

4. 檢驗紀錄

測試頻段對應之頻道及頻寬一覽表

Band	頻道	Bandwidth (MHz)	Frequency (MHz)	Modulation	# of Resource Blocks	Resource Block Offset	
LTE Band 28	低頻道	3	719.5	QPSK	1	0	
					1	14	
					4	0	
					4	11	
	中頻道		733.0		1	0	
					1	14	
					4	0	
					4	11	
	高頻道		746.5		1	0	
					1	14	
					4	0	
					4	11	
	低頻道	5	720.5	QPSK	1	0	
					1	24	
					8	0	
					8	17	
			中頻道		733.0	1	0
						1	24
						8	0
						8	17
			高頻道		745.5	1	0
						1	24
						8	0
						8	17
	低頻道	20	728.0	QPSK	1	0	
					1	99	
					18	0	
					18	82	
			中頻道		733.0	1	0
						1	99
						18	0
						18	82
			高頻道		738.0	1	0
						1	99
						18	0
						18	82

4.1 測試項目總表

項次	檢 驗 項 目 及 標 準 值	工作頻段	工作頻寬	檢 測 頻 道	檢 驗 結 果	判 定
1	有效輻射功率(ERP) ☐ 攜帶式終端設備限制為 1 W。 ☒ 移動式終端設備限制為 2 W。	LTE Band 3	1.4 MHz	低頻道	0.378 W	符合
				中頻道	0.348 W	
				高頻道	0.381 W	
			5 MHz	低頻道	0.376 W	
				中頻道	0.394 W	
				高頻道	0.367 W	
			20 MHz	低頻道	0.388 W	
				中頻道	0.401 W	
				高頻道	0.385 W	
		LTE Band 28	3 MHz	低頻道	0.122 W	符合
				中頻道	0.115 W	
				高頻道	0.121 W	
			5 MHz	低頻道	0.123 W	
				中頻道	0.123 W	
				高頻道	0.119 W	
			20 MHz	低頻道	0.117 W	
				中頻道	0.124 W	
				高頻道	0.123 W	
		LTE Band 7	5 MHz	低頻道	0.362 W	符合
				中頻道	0.332 W	
				高頻道	0.347 W	
			20 MHz	低頻道	0.346 W	
				中頻道	0.344 W	
		LTE Band 1	5 MHz	高頻道	0.349 W	符合
				低頻道	0.575 W	
				中頻道	0.589 W	
			20 MHz	高頻道	0.565 W	
				低頻道	0.577 W	
				中頻道	0.598 W	
				高頻道	0.566 W	

項次	檢 驗 項 目 及 標 準 值	判 定
2	傳導輸出功率 限制值: FDD: 23(dBm) +2.7/-3.2(dB); TDD: 23(dBm) +2.7/-2.7(dB)	符 合

LTE Band 28						
Channel	Frequency (MHz)	Bandwidth	Modulation	# of Resource Blocks	Resource Block Offset	Max. Average Power (dBm)
27375	719.5	3 MHz	QPSK	1	0	22.46
27375	719.5			1	14	22.52
27375	719.5			4	0	22.61
27375	719.5			4	11	22.63
27510	733			1	0	22.08
27510	733			1	14	22.34
27510	733			4	0	22.32
27510	733			4	11	22.36
27645	746.5			1	0	22.54
27645	746.5			1	14	22.42
27645	746.5			4	0	22.41
27645	746.5			4	11	22.56
27385	720.5	5 MHz	QPSK	1	0	22.51
27385	720.5			1	24	22.59
27385	720.5			8	0	22.63
27385	720.5			8	17	22.64
27510	733			1	0	22.34
27510	733			1	24	22.28
27510	733			8	0	22.64
27510	733			8	17	22.35
27635	745.5			1	0	22.49
27635	745.5			1	24	22.35
27635	745.5			8	0	22.22
27635	745.5			8	17	22.31
27460	728	20 MHz	QPSK	1	0	22.17
27460	728			1	99	22.43
27460	728			18	0	22.42
27460	728			18	82	22.39
27510	733			1	0	22.65
27510	733			1	99	22.57
27510	733			18	0	22.44
27510	733			18	82	22.69
27560	738			1	0	22.62
27560	738			1	99	22.48
27560	738			18	0	22.50
27560	738			18	82	22.66

項次	檢驗項目及標準值	工頻	作段	Test set	工頻	作寬	RB allocation	RB start	Modulation	檢測頻	測速	檢驗結果	判定
3	發射頻譜波罩 符合[行動通信電信 終端設備技術規範] 附表 47	LTE Band 28		1	BW= 3 MHz	15	Low	QPSK	Low	請參考測試 章節 4.2.1	符合		
									Middle				
									High				
				2	BW= 3 MHz	4	Low	QPSK	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				3	BW= 3 MHz	4	High	QPSK	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				4	BW= 3 MHz	15	Low	16QAM	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				5	BW= 3 MHz	4	Low	16QAM	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				6	BW= 3 MHz	4	High	16QAM	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				7	BW= 5 MHz	25	Low	QPSK	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				8	BW= 5 MHz	8	Low	QPSK	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				9	BW= 5 MHz	8	High	QPSK	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				10	BW= 5 MHz	25	Low	16QAM	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				11	BW= 5 MHz	8	Low	16QAM	Low	請參考測試 章節 4.2.1			
									Middle				
									High				
				12	BW= 5 MHz	8	High	16QAM	Low	請參考測試 章節 4.2.1			
									Middle				
									High				

項次	檢驗項目及標準值	工頻	作段	Test set	工頻	作寬	RB allocation	RB start	Modulation	檢頻	測道	檢結	驗果	判	定
4	傳導帶外輻射發射 符合[行動通信電信 終端設備技術規範] 附表 49			1	BW= 3 MHz	1	High	QPSK		Low	請參閱 附件	符合			
				2						Middle					
				3						High					
				4	BW= 3 MHz	1	Low	QPSK		Low	請參閱 附件				
				5						Middle					
				6						High					
				7	BW= 3 MHz	15	Low	QPSK		Low	請參閱 附件				
				8						Middle					
				9						High					
				10	BW= 5 MHz	1	High	QPSK		Low	請參閱 附件				
				11						Middle					
				12						High					
				13	BW= 5 MHz	1	Low	QPSK		Low	請參閱 附件				
				14						Middle					
				15						High					
				16	BW= 5 MHz	25	Low	QPSK		Low	請參閱 附件				
				17						Middle					
				18						High					
				19	BW= 20 MHz	1	High	QPSK		Low	請參閱 附件				
				20						Middle					
				21						High					
				22	BW= 20 MHz	1	Low	QPSK		Low	請參閱 附件				
				23						Middle					
				24						High					
				25	BW= 20 MHz	100	Low	QPSK		Low	請參閱 附件				
				26						Middle					
				27						High					

項次	檢驗項目及標準值	工頻	作段	Test set	工頻	作寬	RB allocation	RB start	Modulation	檢測頻	測 道	檢 驗 結 果	判 定			
5	ACLR 限制值: ≥ 29.2 dB	LTE Band 28		1	BW= 3 MHz	15	Low	QPSK	Low	請參考測試 章節 4.2.2						
									Middle							
									High							
									2	BW= 3 MHz		4	Low	QPSK	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									3	BW= 3 MHz		4	High	QPSK	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									4	BW= 3 MHz		15	Low	16QAM	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									5	BW= 3 MHz		4	Low	16QAM	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									6	BW= 3 MHz		4	High	16QAM	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									7	BW= 5 MHz		25	Low	QPSK	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									8	BW= 5 MHz		8	Low	QPSK	Low	請參考測試 章節 4.2.2
									Middle							
									High							
									9	BW= 5 MHz		8	High	QPSK	Low	請參考測試 章節 4.2.2
									Middle							
									High							
10	BW= 5 MHz	25	Low	16QAM	Low	請參考測試 章節 4.2.2										
Middle																
High																
11	BW= 5 MHz	8	Low	16QAM	Low	請參考測試 章節 4.2.2										
Middle																
High																
12	BW= 5 MHz	8	High	16QAM	Low	請參考測試 章節 4.2.2										
Middle																
High																

項次	檢驗項目及標準值	工頻	作段	Test set	工頻	作寬	RB allocation	RB start	Modulation	檢頻	測道	檢 驗 結 果	判 定
5	ACLR 限制值: ≥29.2 dB	LTE Band 28		13	BW=10 MHz	50	Low	QPSK	Low	請參考測試 章節 4.2.2	符合		
									Middle				
									High				
				14	BW=10 MHz	12	Low	QPSK	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				15	BW=10 MHz	12	High	QPSK	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				16	BW=10 MHz	50	Low	16QAM	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				17	BW=10 MHz	12	Low	16QAM	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				18	BW=10 MHz	12	High	16QAM	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				19	BW=20 MHz	100	Low	QPSK	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				20	BW=20 MHz	18	Low	QPSK	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				21	BW=20 MHz	18	High	QPSK	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				22	BW=20 MHz	100	Low	16QAM	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				23	BW=20 MHz	18	Low	16QAM	Low	請參考測試 章節 4.2.2			
									Middle				
									High				
				24	BW=20 MHz	18	High	16QAM	Low	請參考測試 章節 4.2.2			
									Middle				
									High				

項次	檢驗項目及標準	判定
6	頻率穩定度 終端設備於常態環境常態電壓、低極端溫度低極端電壓、低極端溫度高極端電壓、高極端溫度低極端電壓、高極端溫度高極端電壓等五種測試環境下，分別進行頻率量測，經 0/2/5/10 分鐘量測結果，頻率應維持在頻道之主波頻率 0.1ppm 以內。	符合

工作頻段	Band 3				
Modulation	QPSK, RB allocation=Full RB				
Bandwidth (MHz)	5				
Channel	中頻道				
Frequency (MHz)	1747.5				
測試溫度/電壓	檢驗結果				
	0 分鐘	2 分鐘	5 分鐘	10 分鐘	單位
TL/VL	-0.003	0.002	0.000	0.003	ppm
TL/VH	-0.005	-0.003	0.003	0.002	ppm
TN/VN	0.005	0.004	-0.003	0.004	ppm
TH/VL	0.004	0.001	0.001	-0.006	ppm
TH/VH	0.004	-0.005	0.003	-0.002	ppm

工作頻段	Band 8				
Modulation	QPSK, RB allocation=Full RB				
Bandwidth (MHz)	5				
Channel	中頻道				
Frequency (MHz)	900.0				
測試溫度/電壓	檢驗結果				
	0 分鐘	2 分鐘	5 分鐘	10 分鐘	單位
TL/VL	-0.006	0.008	0.007	0.009	ppm
TL/VH	0.007	0.010	0.013	-0.007	ppm
TN/VN	-0.001	-0.002	0.009	-0.001	ppm
TH/VL	0.010	0.007	0.002	-0.005	ppm
TH/VH	0.010	-0.003	-0.004	0.003	ppm

工作頻段	Band 28				
Modulation	QPSK, RB allocation=Full RB				
Bandwidth (MHz)	5				
Channel	中頻道				
Frequency (MHz)	733				
測試溫度/電壓	檢驗結果				
	0 分鐘	2 分鐘	5 分鐘	10 分鐘	單位
TL/VL	0.008	0.003	-0.004	0.006	ppm
TL/VH	-0.007	-0.009	0.009	-0.011	ppm
TN/VN	0.010	-0.010	0.008	-0.002	ppm
TH/VL	0.012	0.016	-0.003	0.000	ppm
TH/VH	0.002	-0.009	0.004	0.012	ppm

工作頻段	Band 7				
Modulation	QPSK, RB allocation=Full RB				
Bandwidth (MHz)	5				
Channel	中頻道				
Frequency (MHz)	2535.0				
測試溫度/電壓	檢驗結果				
	0 分鐘	2 分鐘	5 分鐘	10 分鐘	單位
TL/VL	0.001	-0.001	-0.002	-0.003	ppm
TL/VH	-0.001	0.002	-0.003	0.002	ppm
TN/VN	0.004	-0.003	0.001	0.001	ppm
TH/VL	0.003	-0.002	0.001	-0.001	ppm
TH/VH	-0.002	-0.003	-0.003	-0.001	ppm

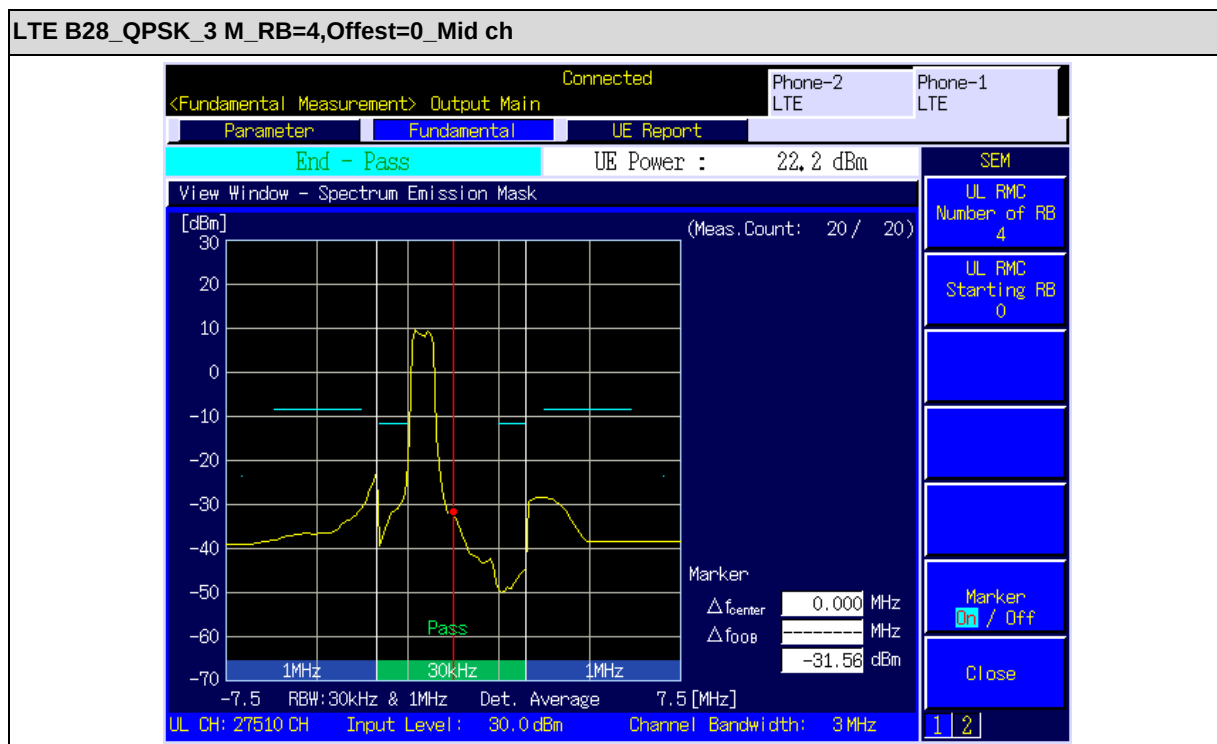
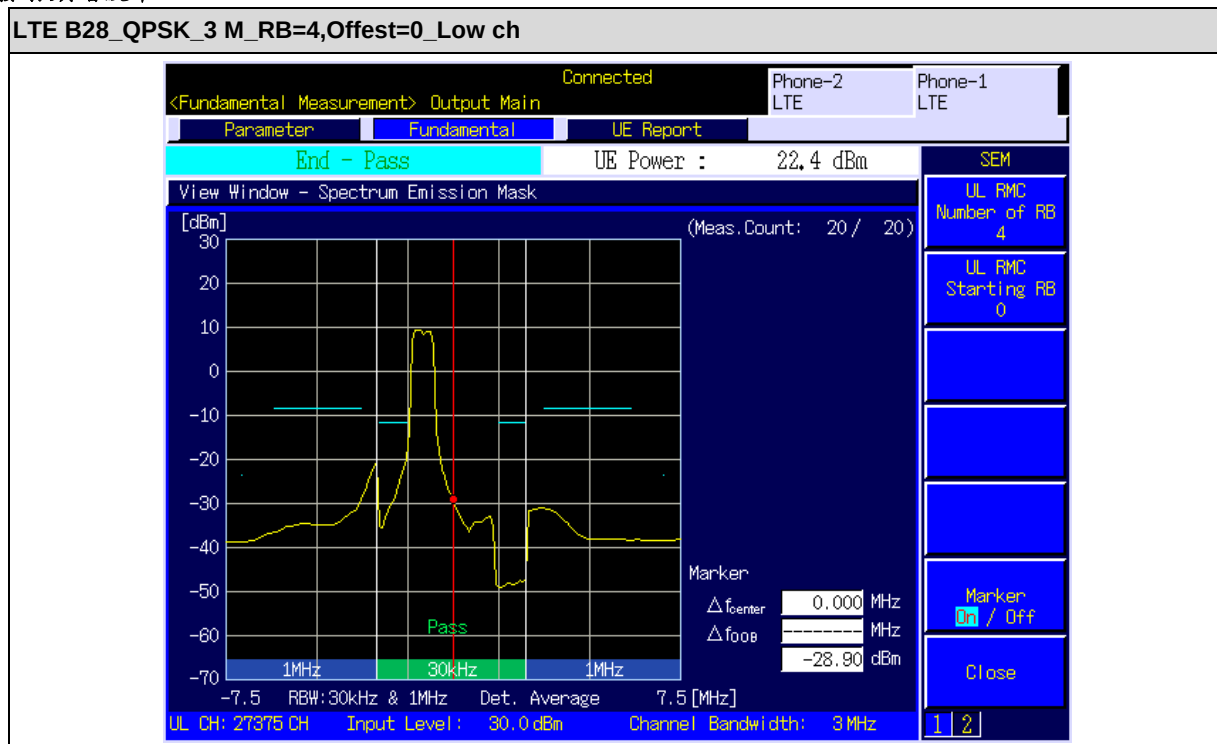
工作頻段	Band 1				
Modulation	QPSK, RB allocation=Full RB				
Bandwidth (MHz)	5				
Channel	中頻道				
Frequency (MHz)	1950				
測試溫度/電壓	檢驗結果				
	0 分鐘	2 分鐘	5 分鐘	10 分鐘	單位
TL/VL	-0.005	0.001	0.003	-0.002	ppm
TL/VH	0.003	0.001	-0.005	0.002	ppm
TN/VN	-0.002	0.003	-0.002	0.002	ppm
TH/VL	0.001	0.003	-0.001	0.006	ppm
TH/VH	-0.004	0.005	-0.003	-0.001	ppm

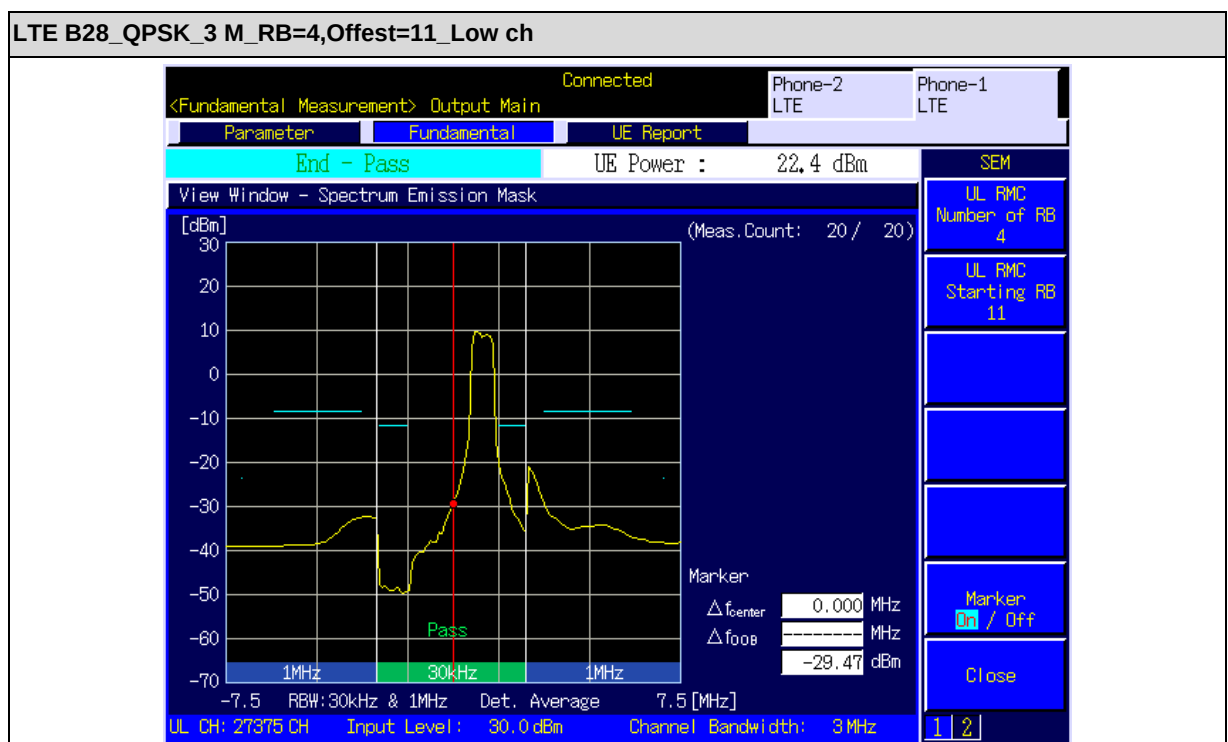
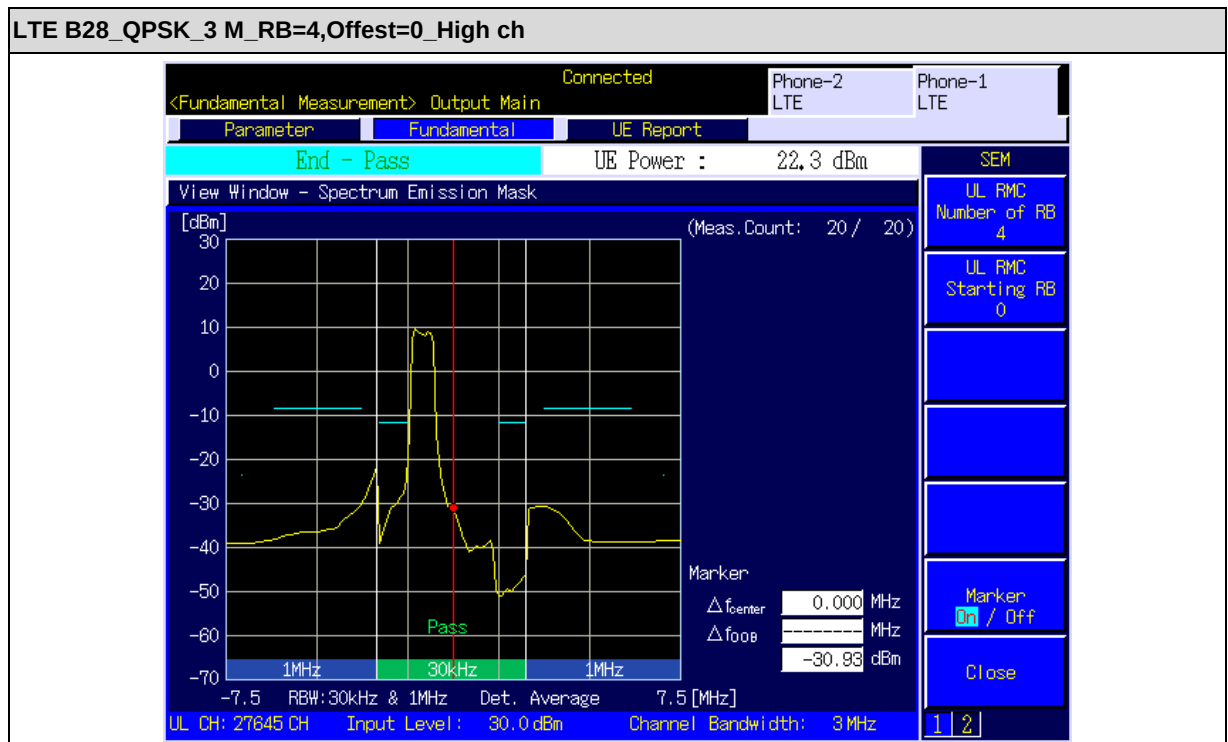
項次	檢驗項目及標準	判定
7	電波功率密度 電波功率密度限制值(Maximum Permissible Exposure , MPE) : 700 MHz 頻段為 0.35 mW/cm ² ; 900 MHz 頻段為 0.45 mW/cm ² ; 1800 MHz 頻段為 0.9 mW/cm ² ; 2100 MHz、2500 MHz 與 2600 MHz、3500MHz 及 28GHz 頻段為 1.0 mW/cm ² 。 量測距離為 20 公分，或以設備廠商宣告設備天線與附近人體可活動範圍之距離。	符合

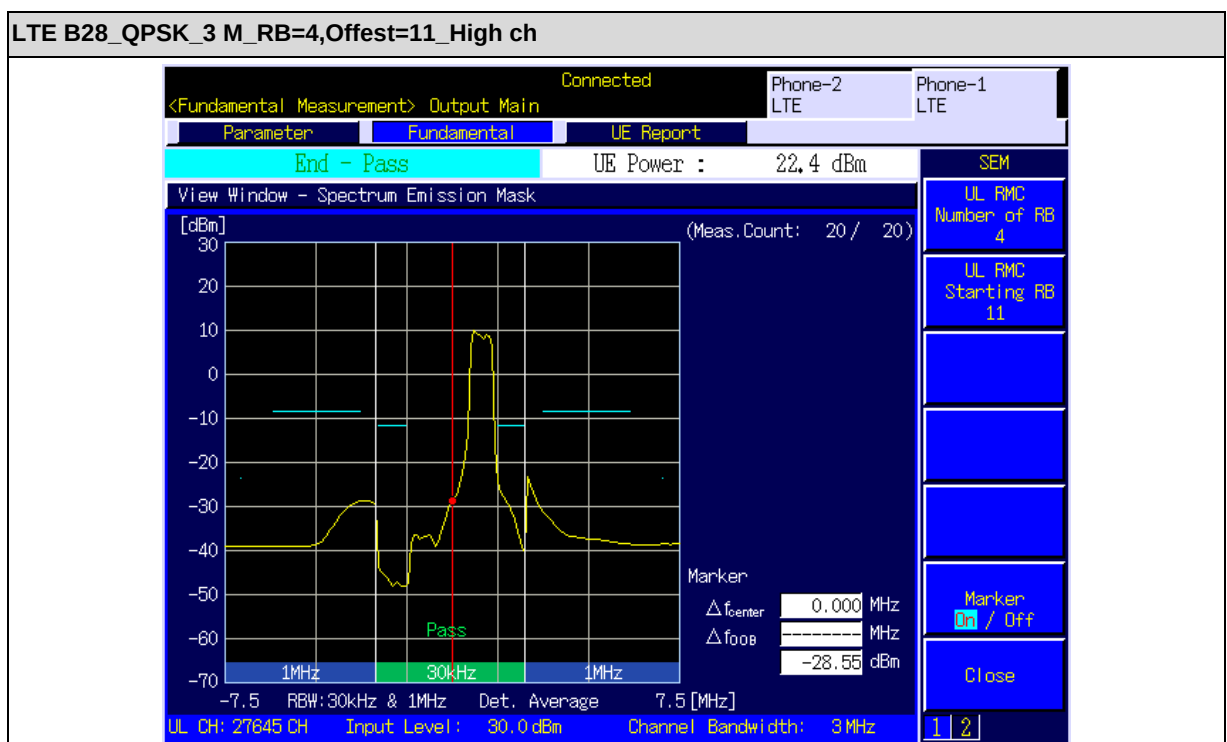
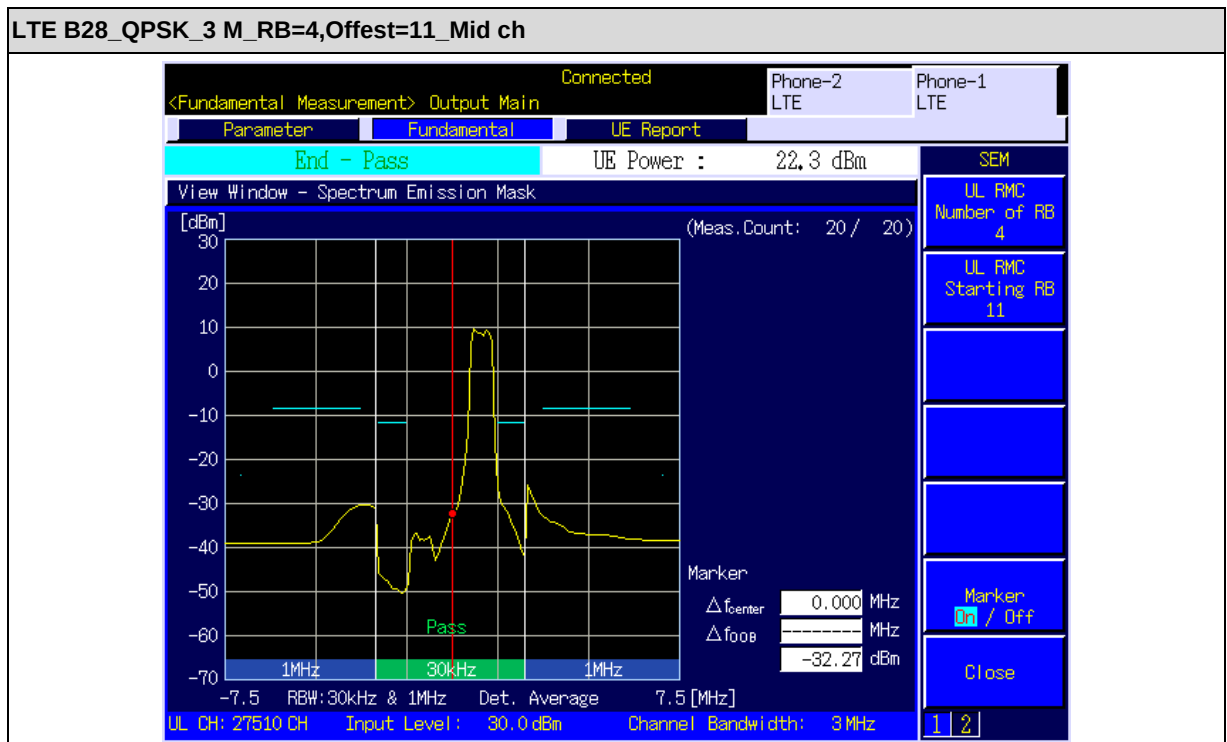
Band	Frequency (MHz)	BW (MHz)	Distance [R] (cm)	Power [P] (dBm)	ANT Gain (dBi)	Numeric Gain [G] (dBi)	Duty Cycle	With Duty cycle [P] x [G] (mW)	Power Density [S] (mW/cm ²)
LTE Band 1	1930	20MHz	24	22.84	6.92	4.92	1	946.161	0.131
	1950	20MHz	24	23.00	6.92	4.92	1	981.669	0.136
	1970	20MHz	24	22.76	6.92	4.92	1	928.892	0.128
LTE Band 3	1720	20MHz	24	22.83	5.21	3.32	1	636.998	0.088
	1747.5	20MHz	24	22.97	5.21	3.32	1	657.867	0.091
	1775	20MHz	24	22.79	5.21	3.32	1	631.158	0.087
LTE Band 7	2502.5	5MHz	24	22.74	5	3.16	1	593.864	0.082
	2535	5MHz	24	22.36	5	3.16	1	544.110	0.075
	2567.5	5MHz	24	22.55	5	3.16	1	568.443	0.079
LTE Band 8	890	10MHz	24	22.77	2.34	1.71	1	323.591	0.045
	900	10MHz	24	22.68	2.34	1.71	1	316.954	0.044
	910	10MHz	24	22.67	2.34	1.71	1	316.225	0.044
LTE Band 28	728	20 MHz	24	22.43	1.88	1.54	1	269.476	0.037
	733	20 MHz	24	22.69	1.88	1.54	1	286.102	0.040
	738	20 MHz	24	22.66	1.88	1.54	1	284.132	0.039

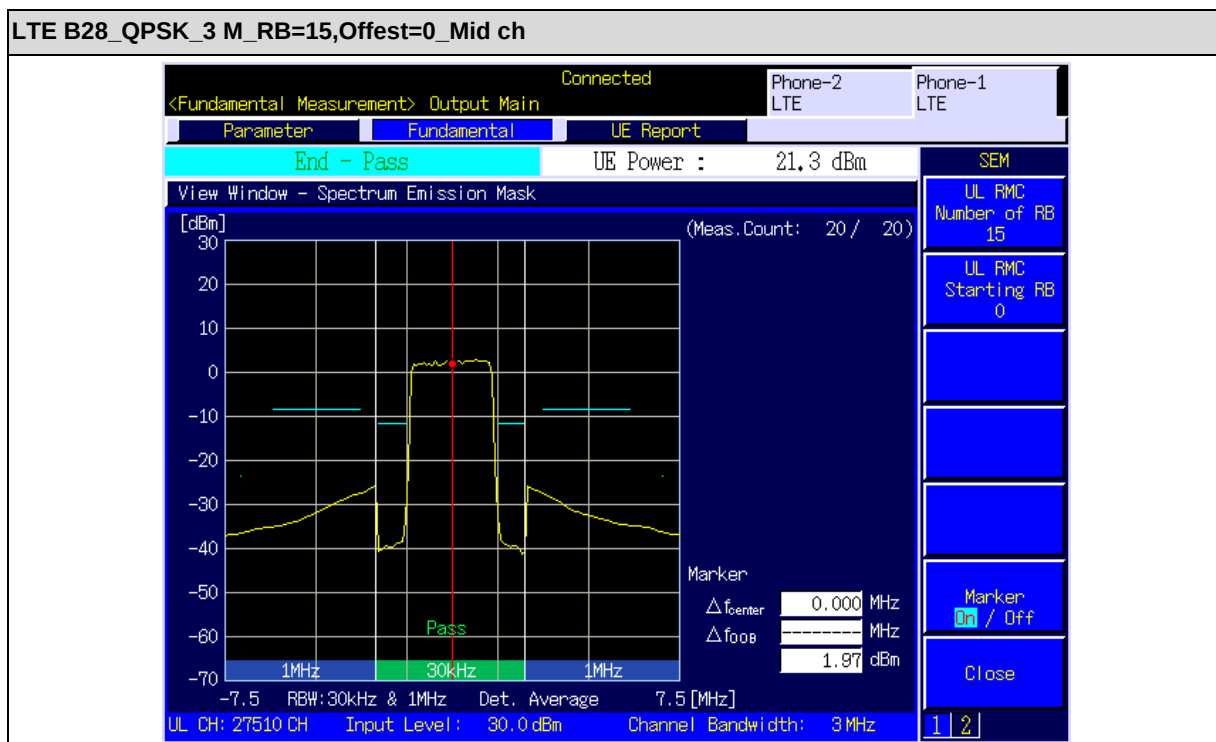
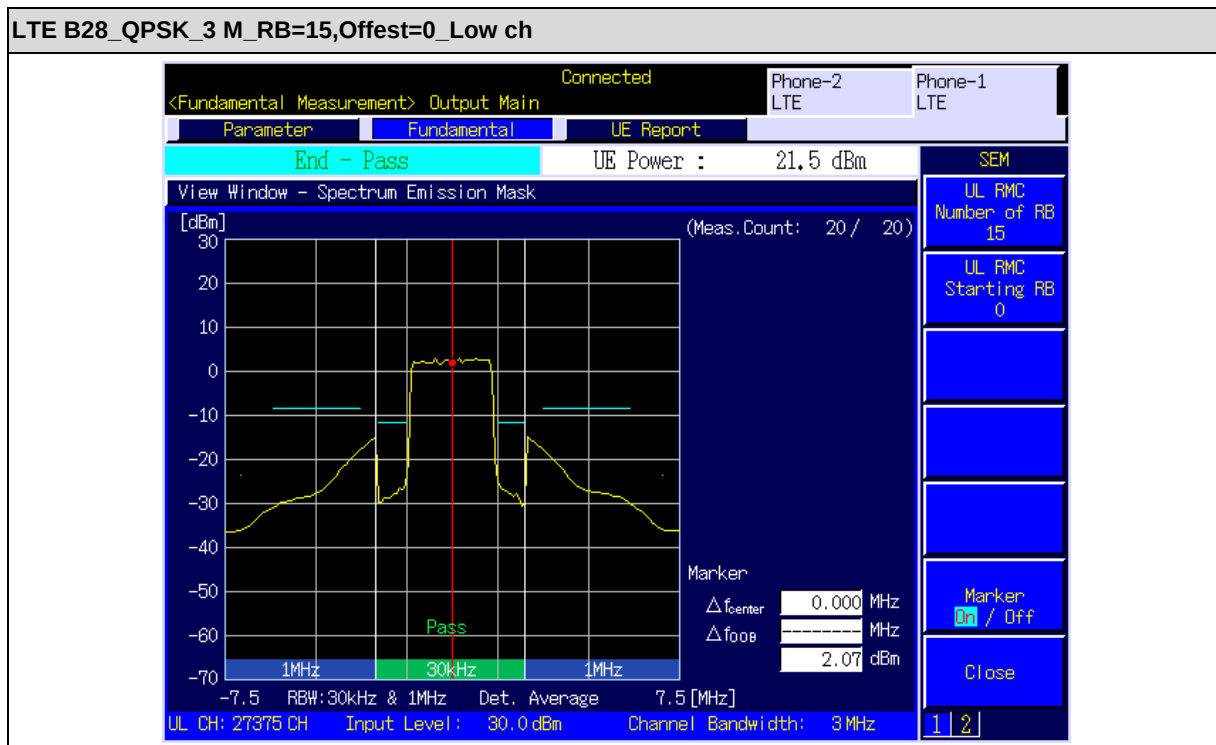
4.2 測試掃描圖

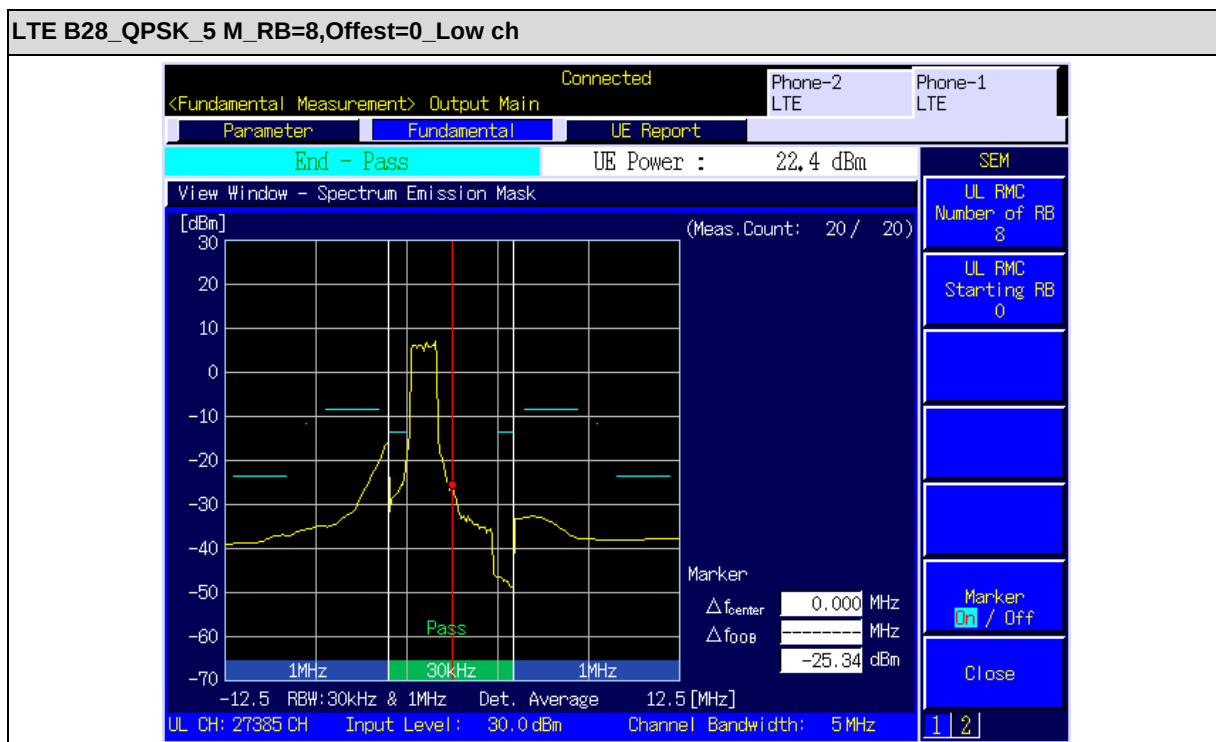
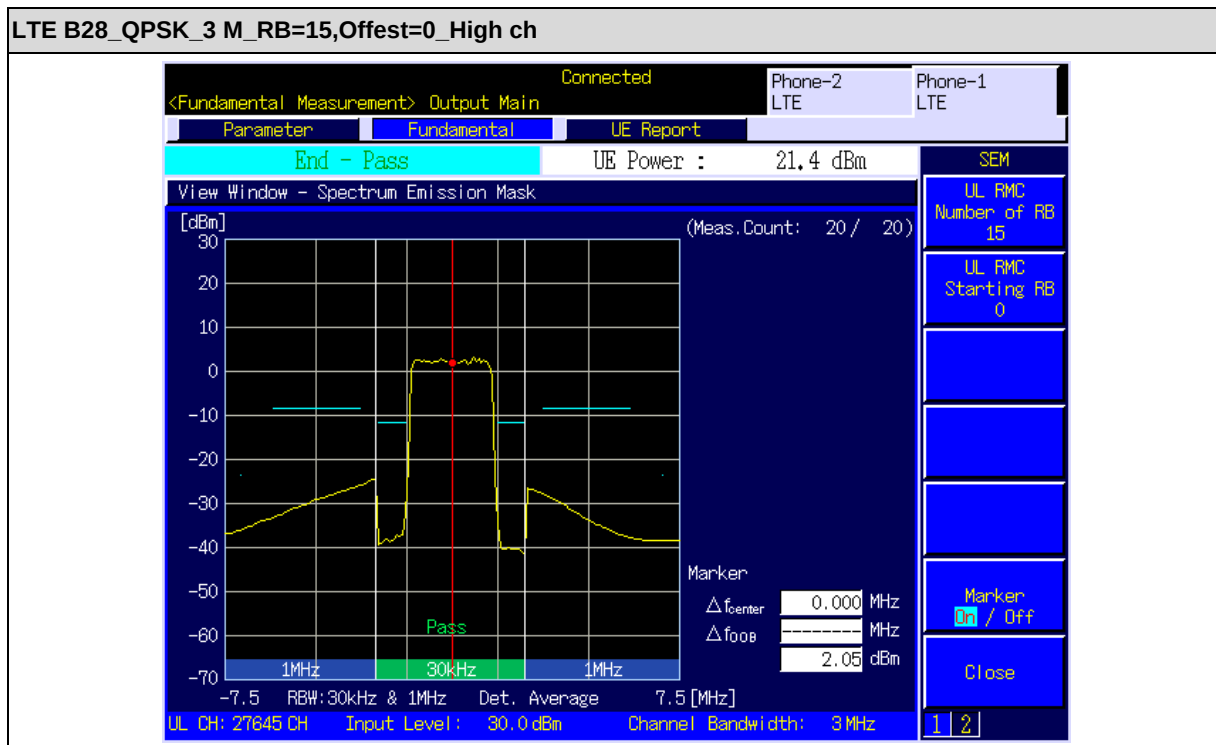
4.2.1 發射頻譜波罩

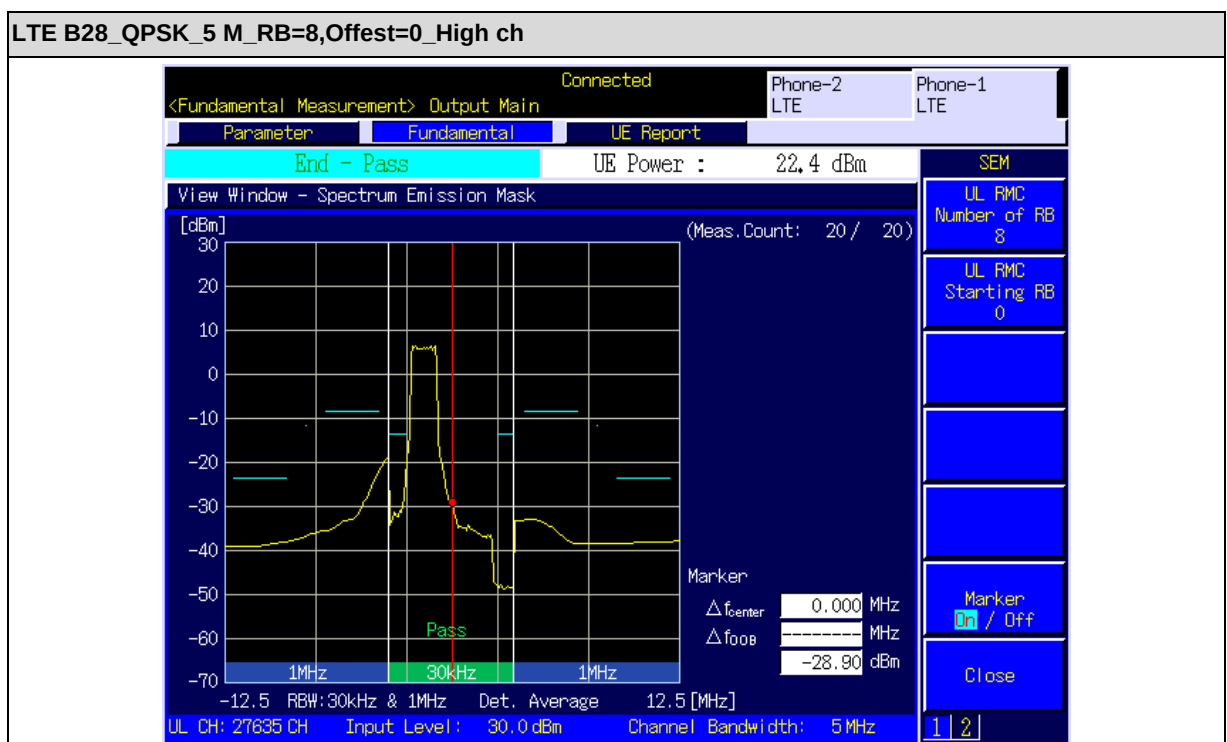
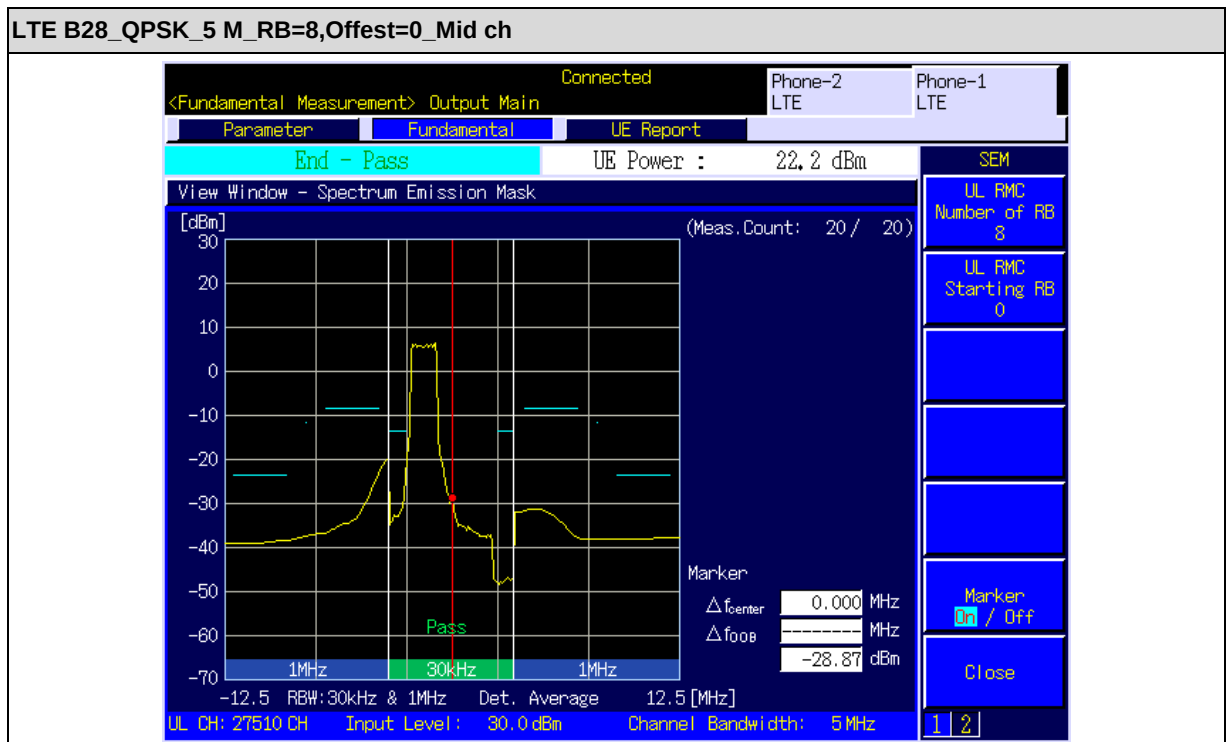


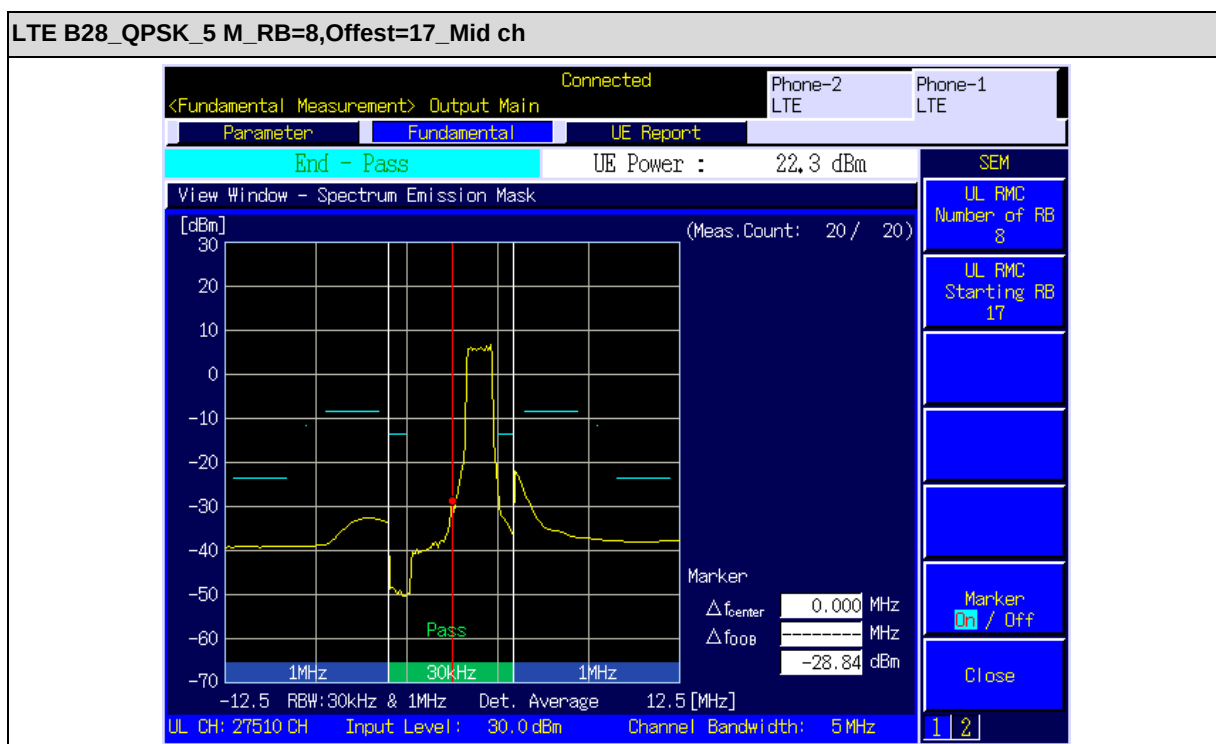
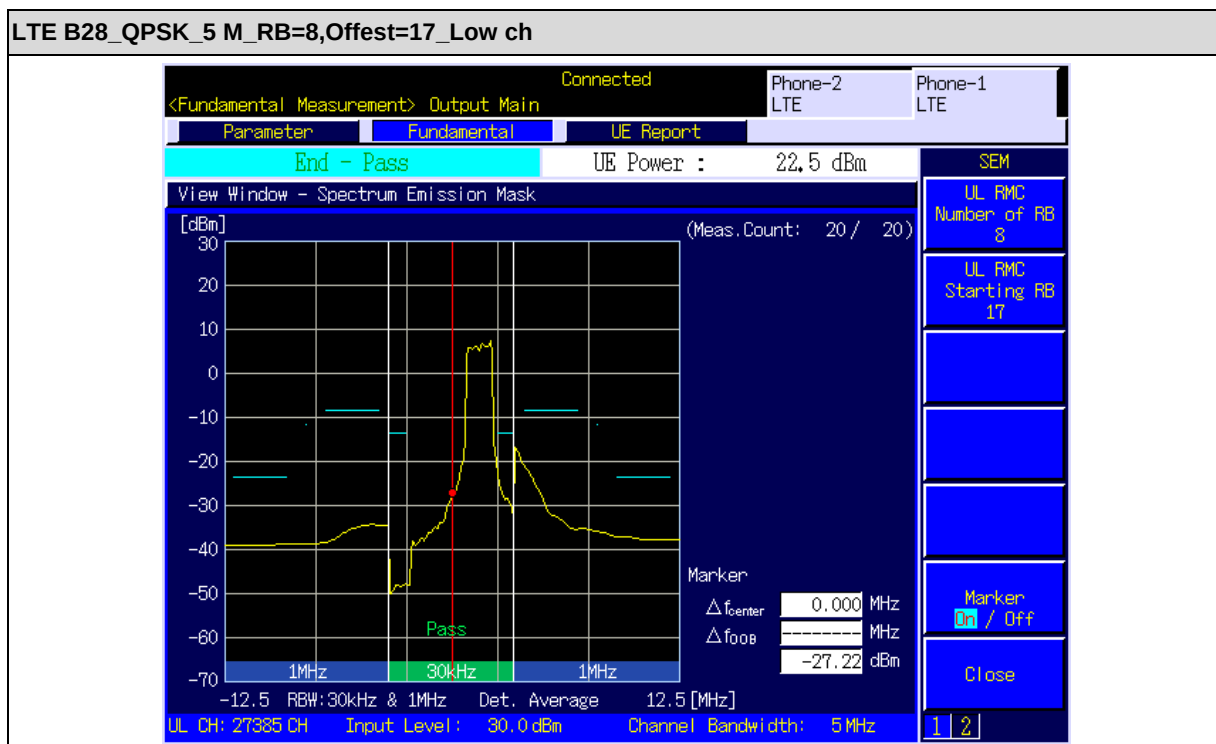


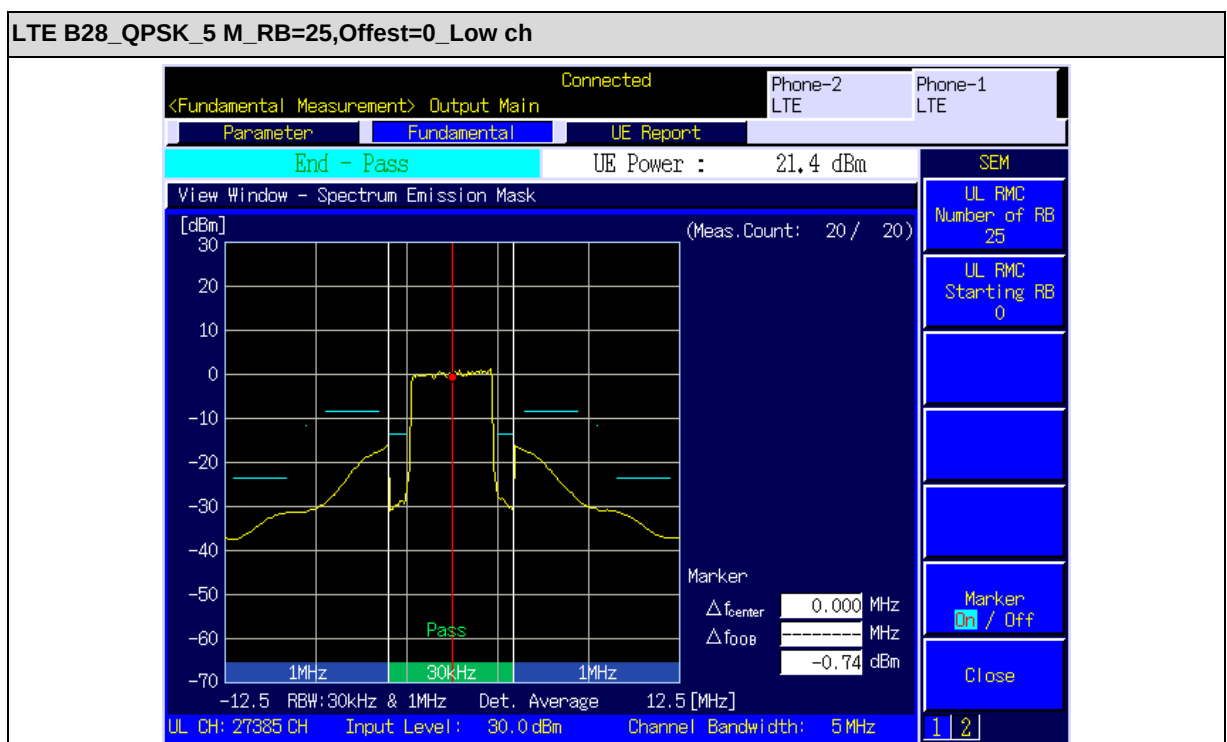
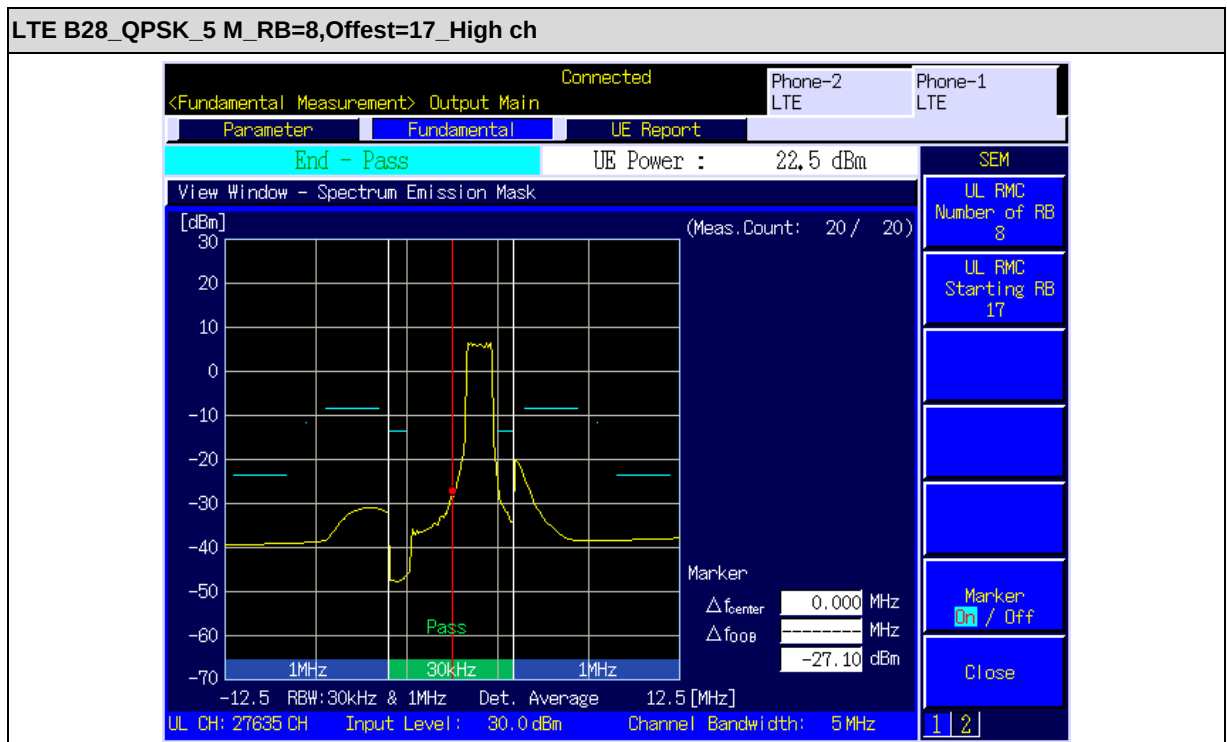


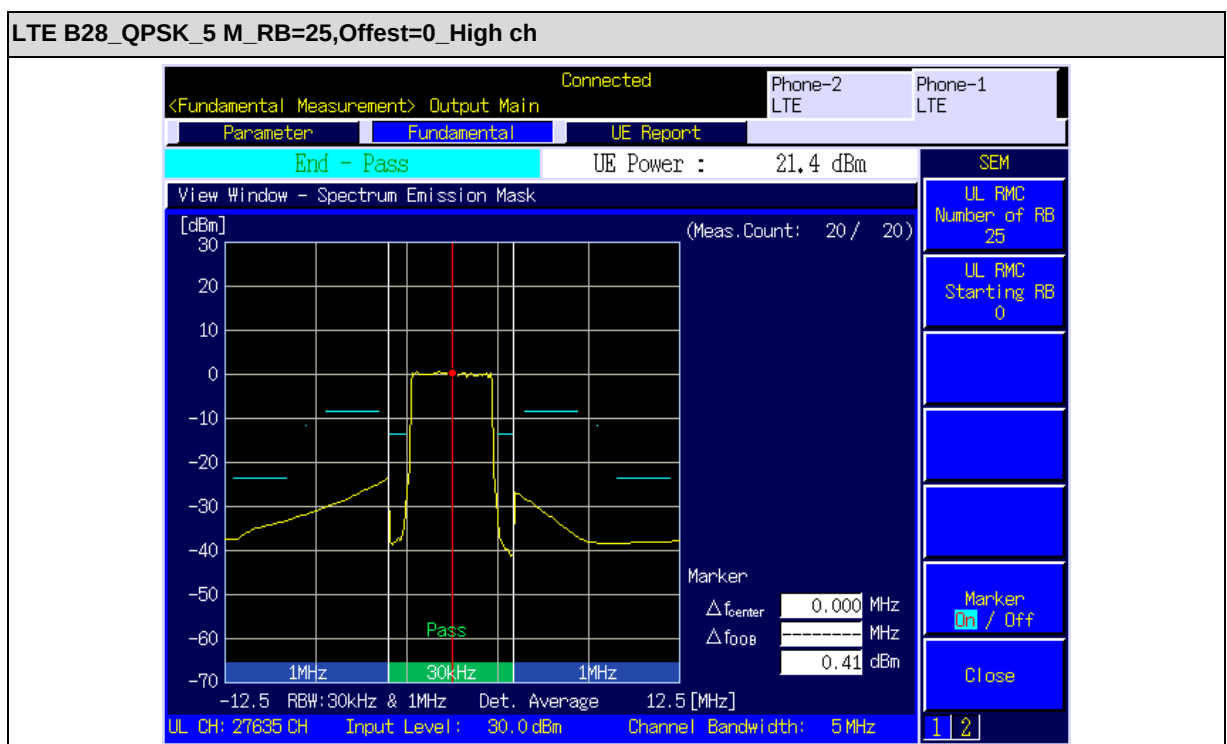
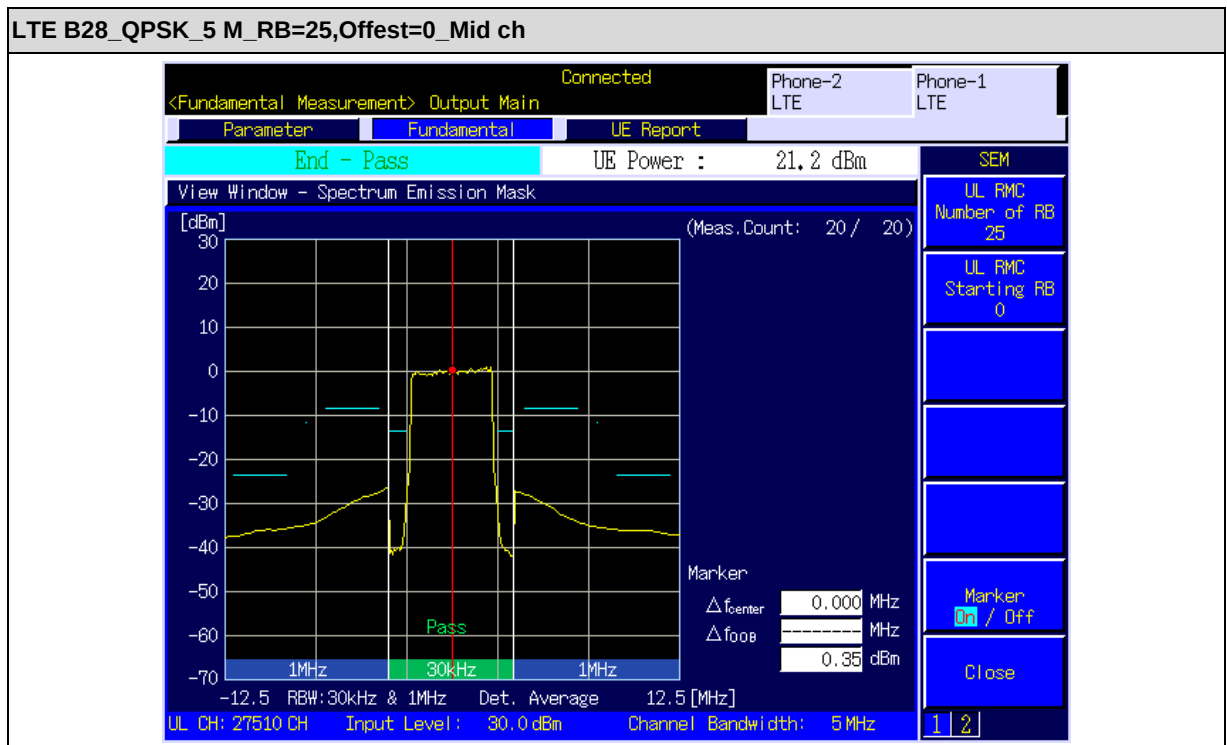


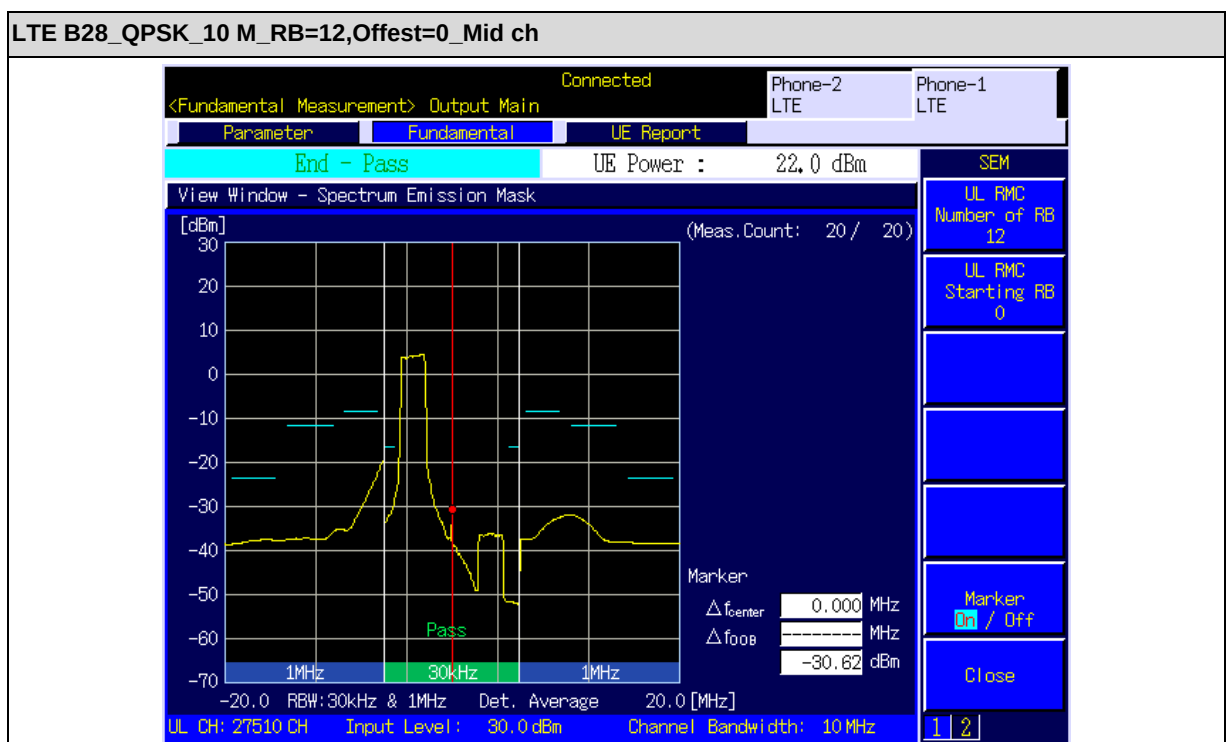
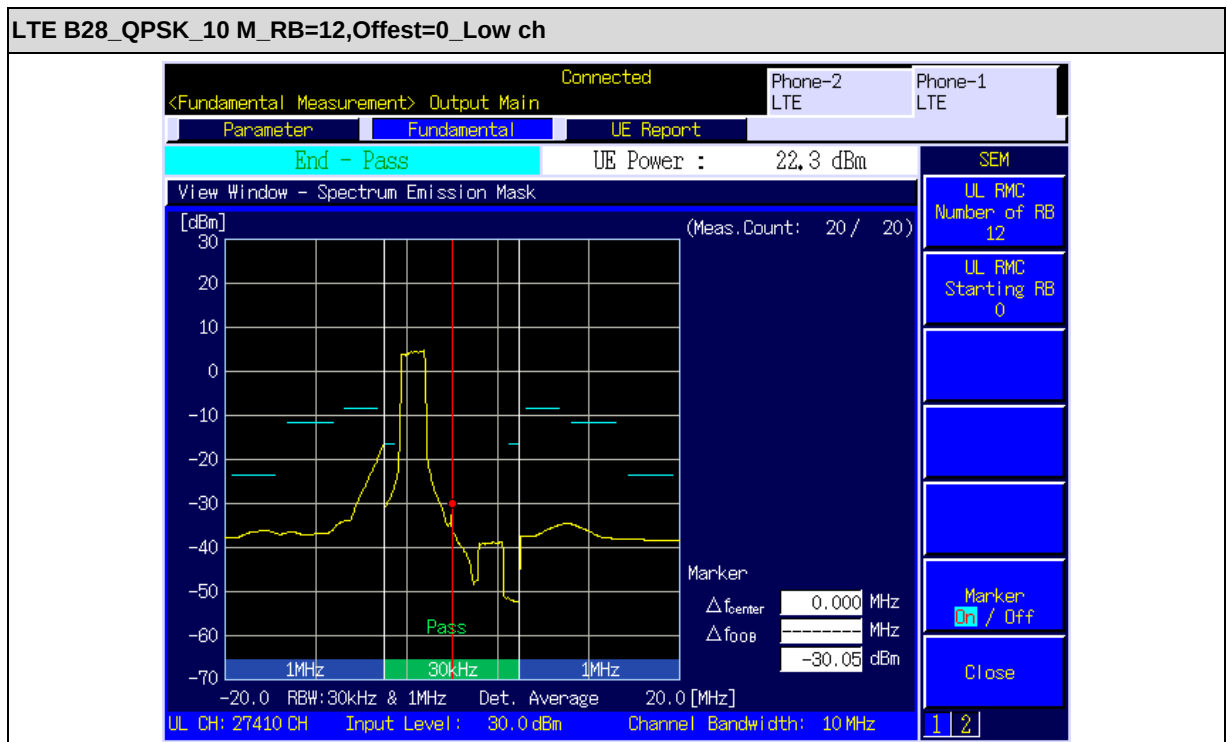


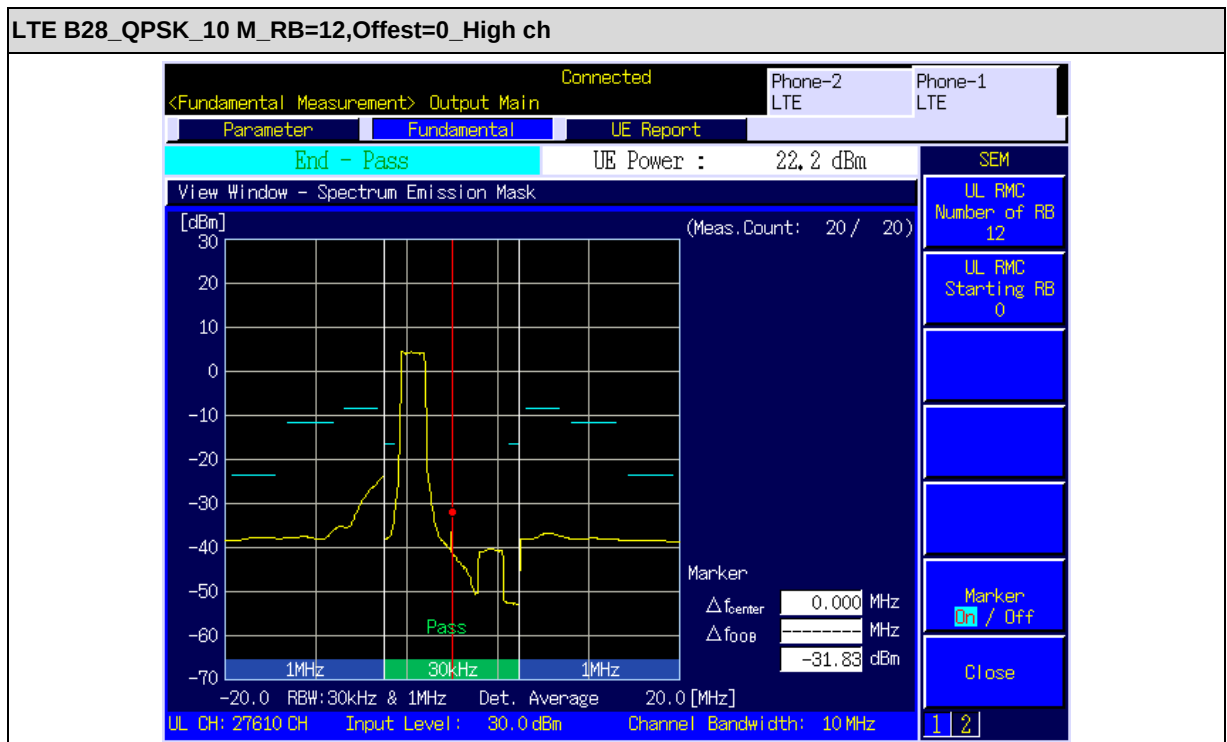


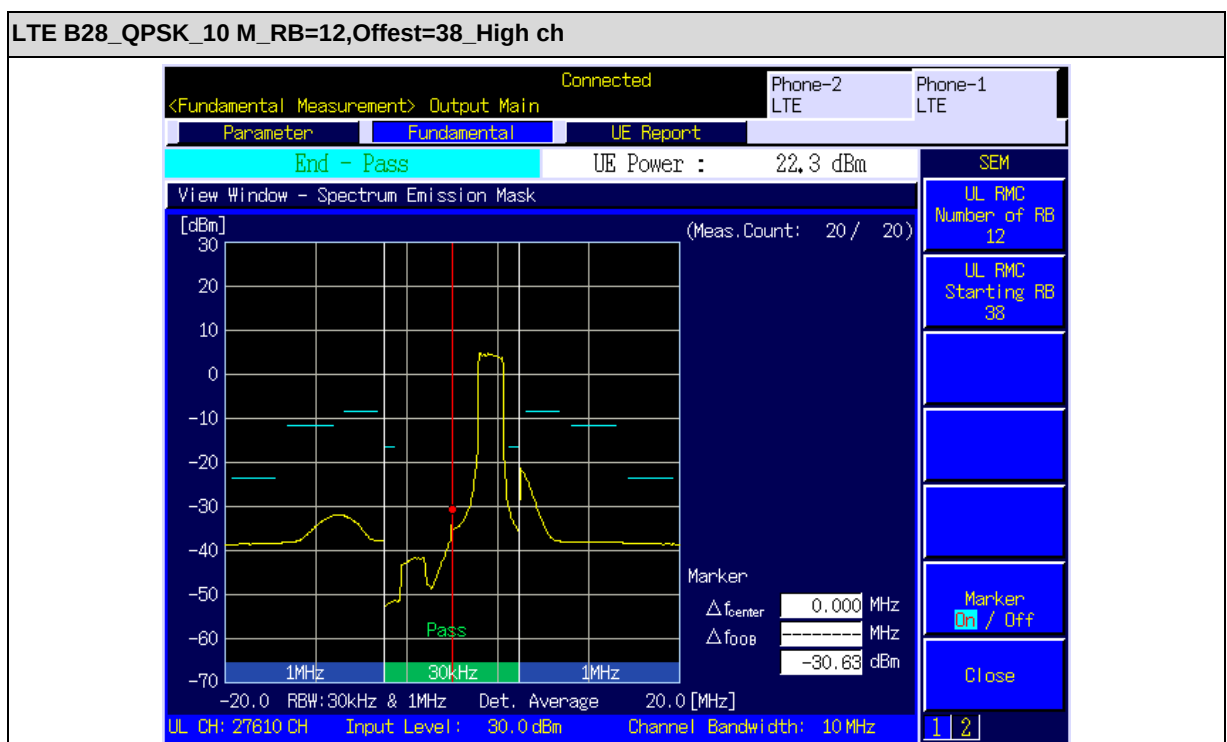
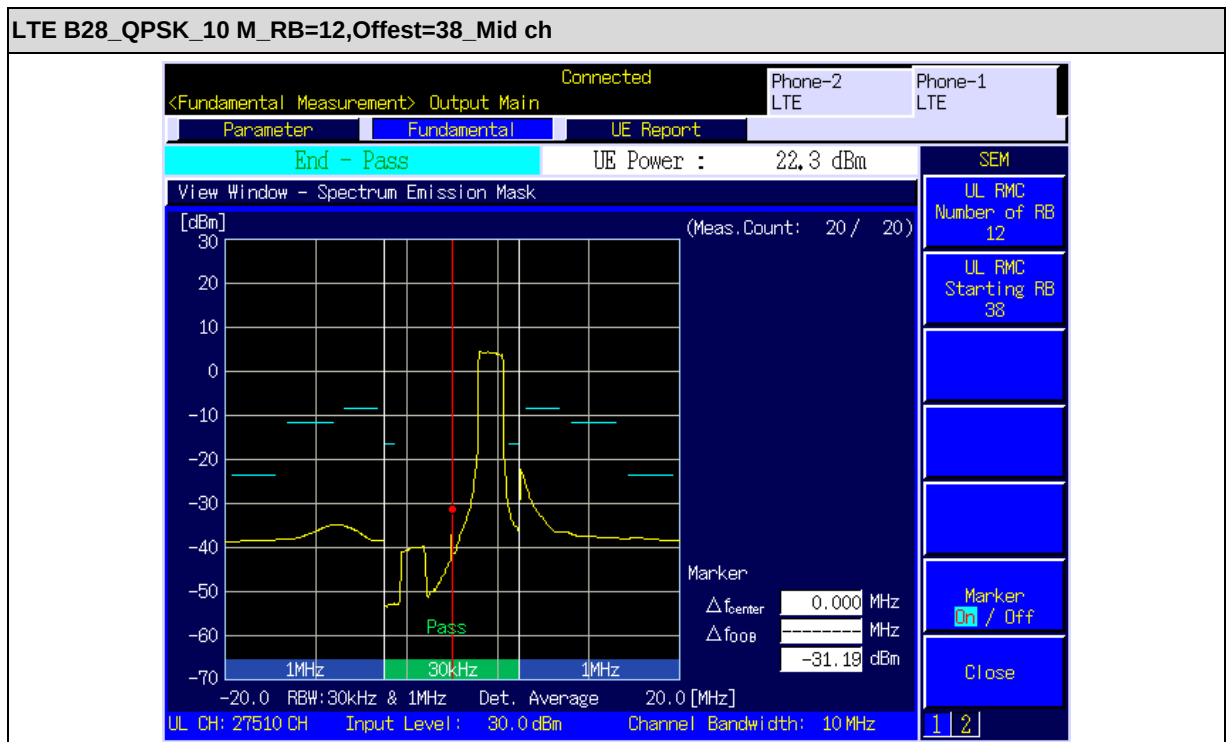


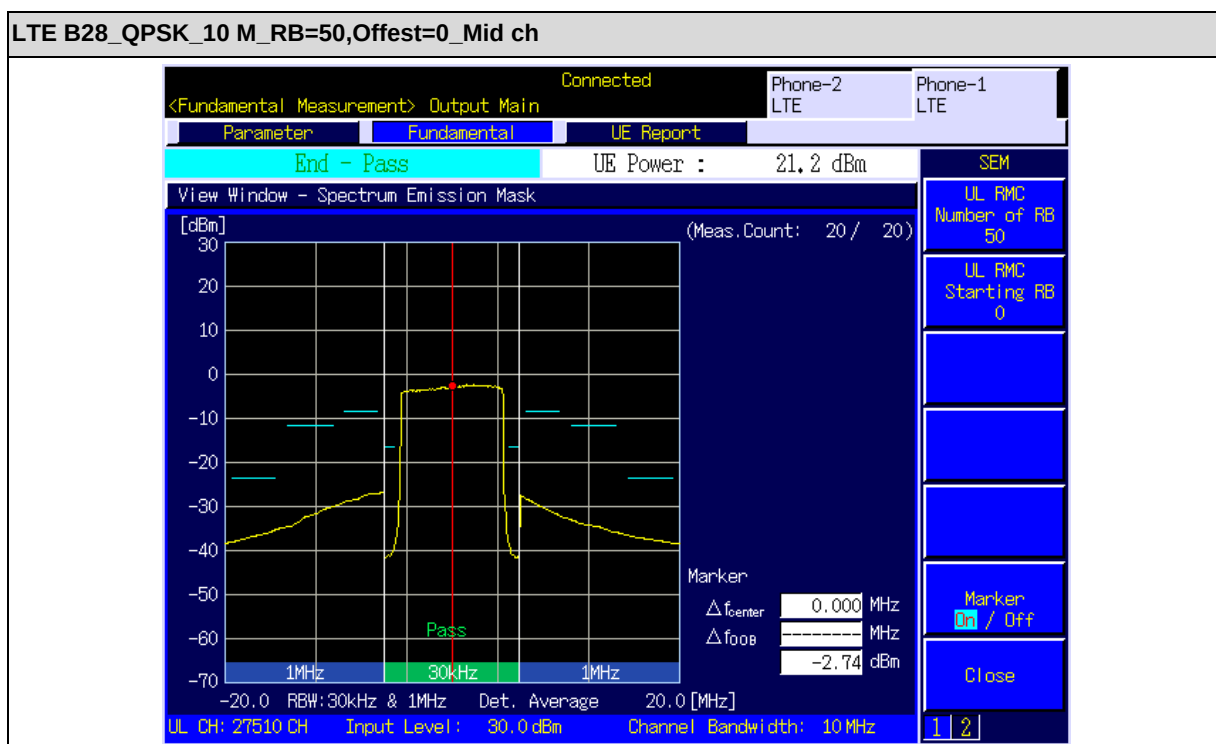
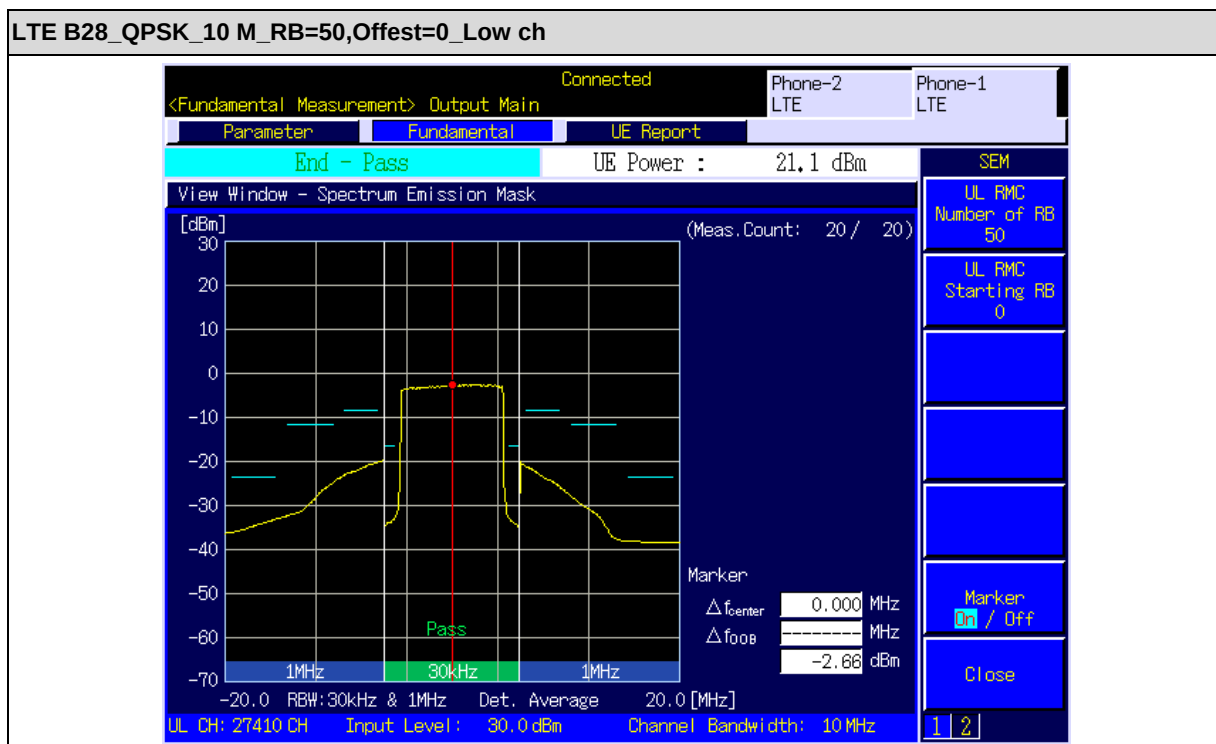


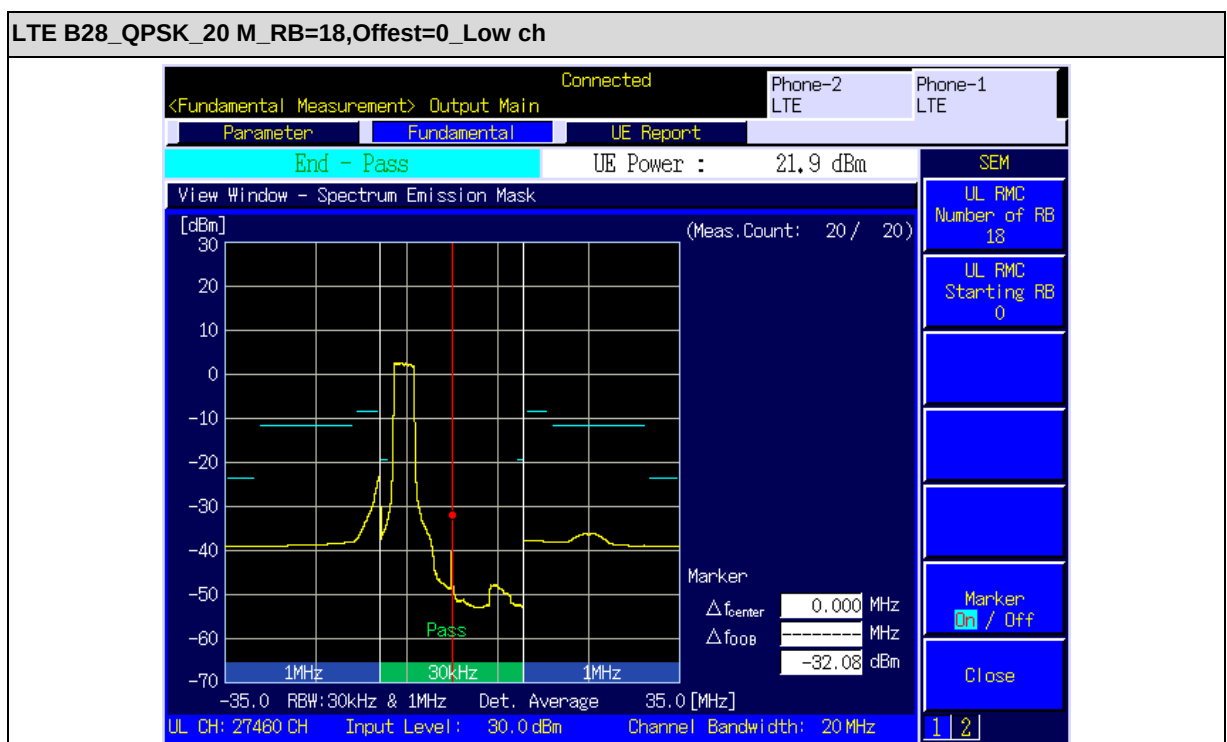
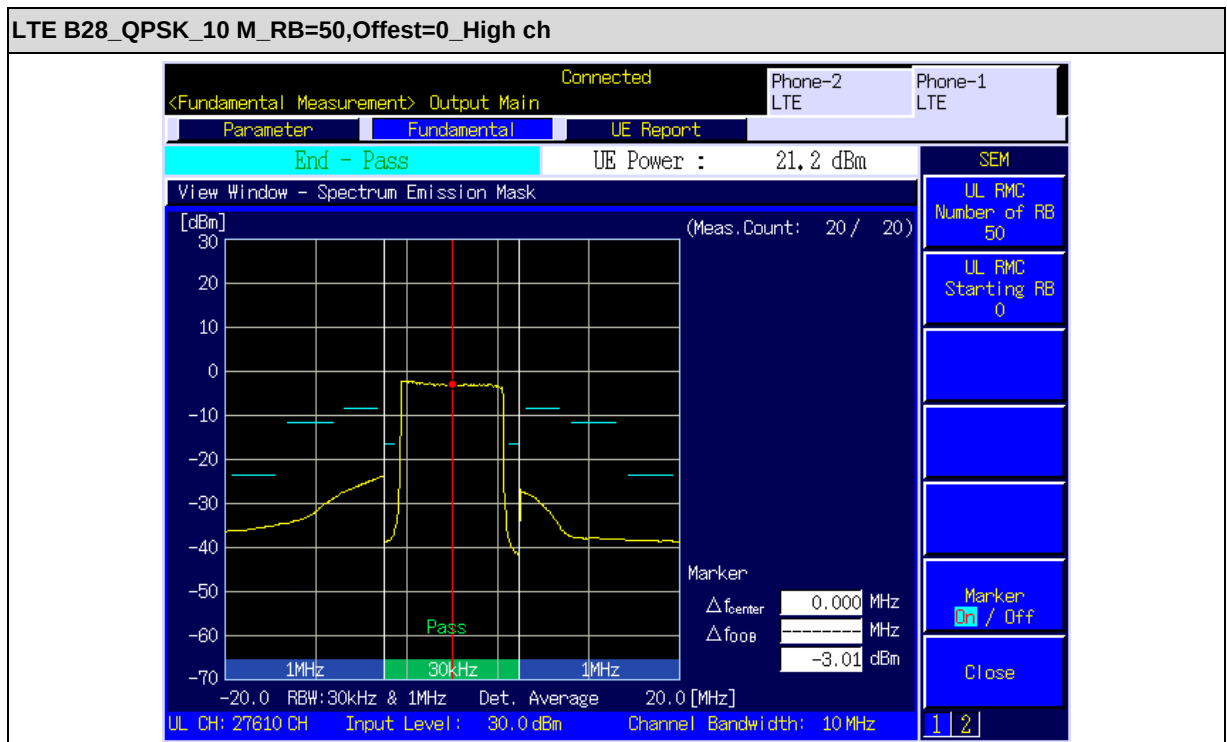


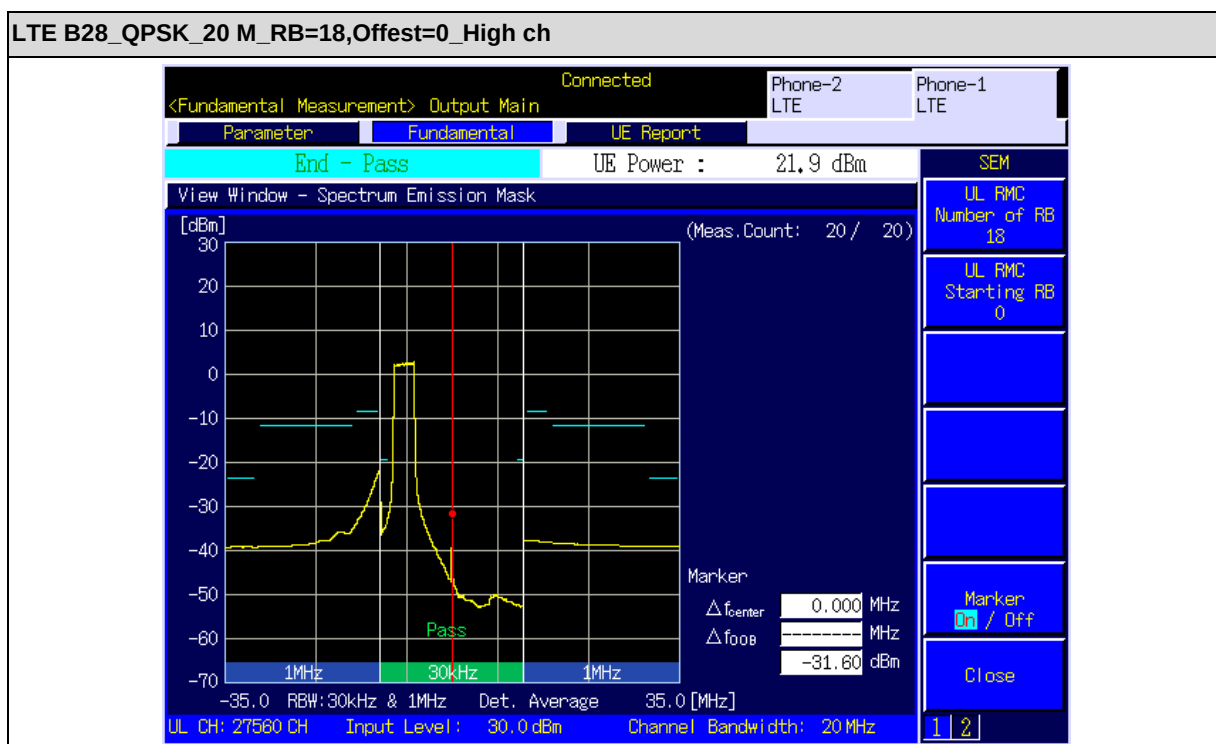
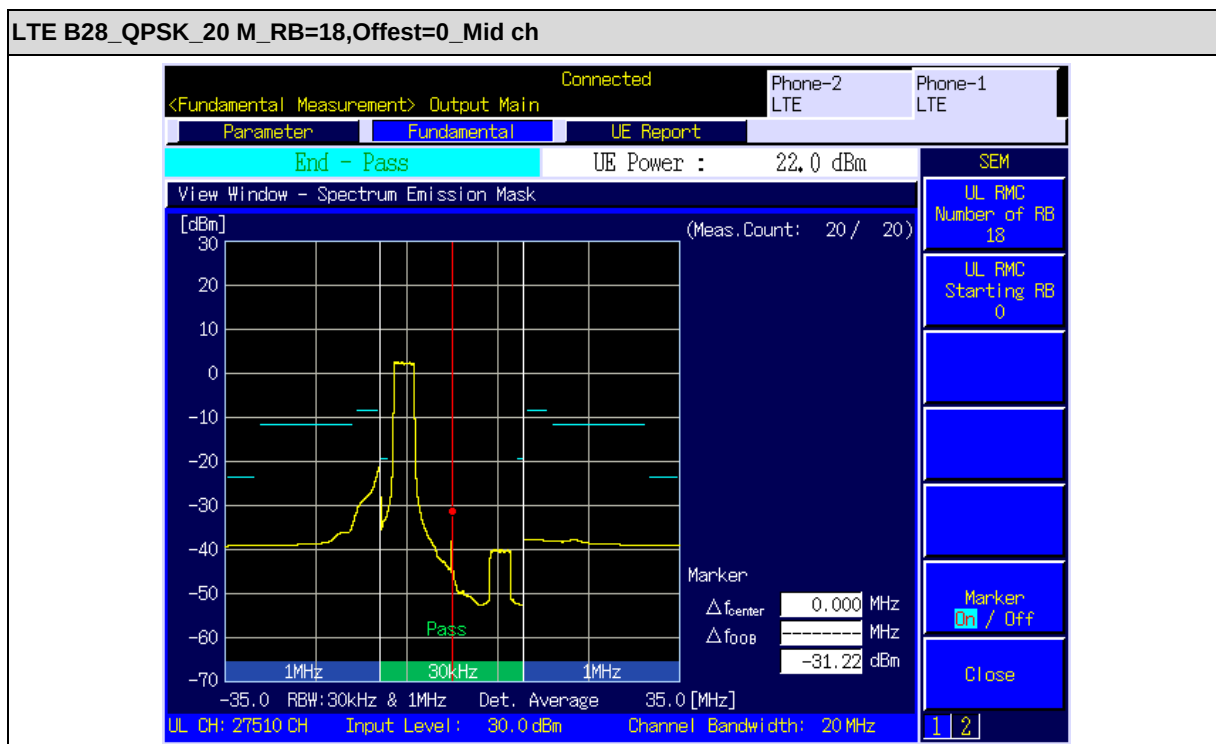


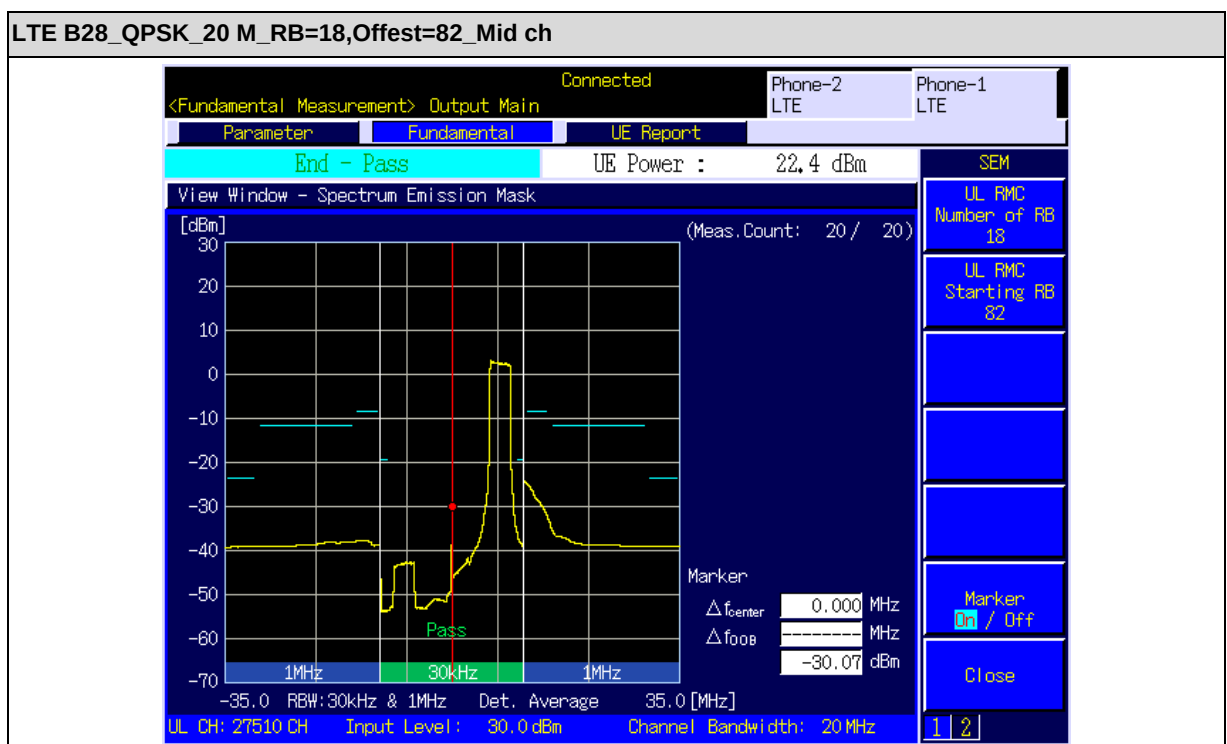
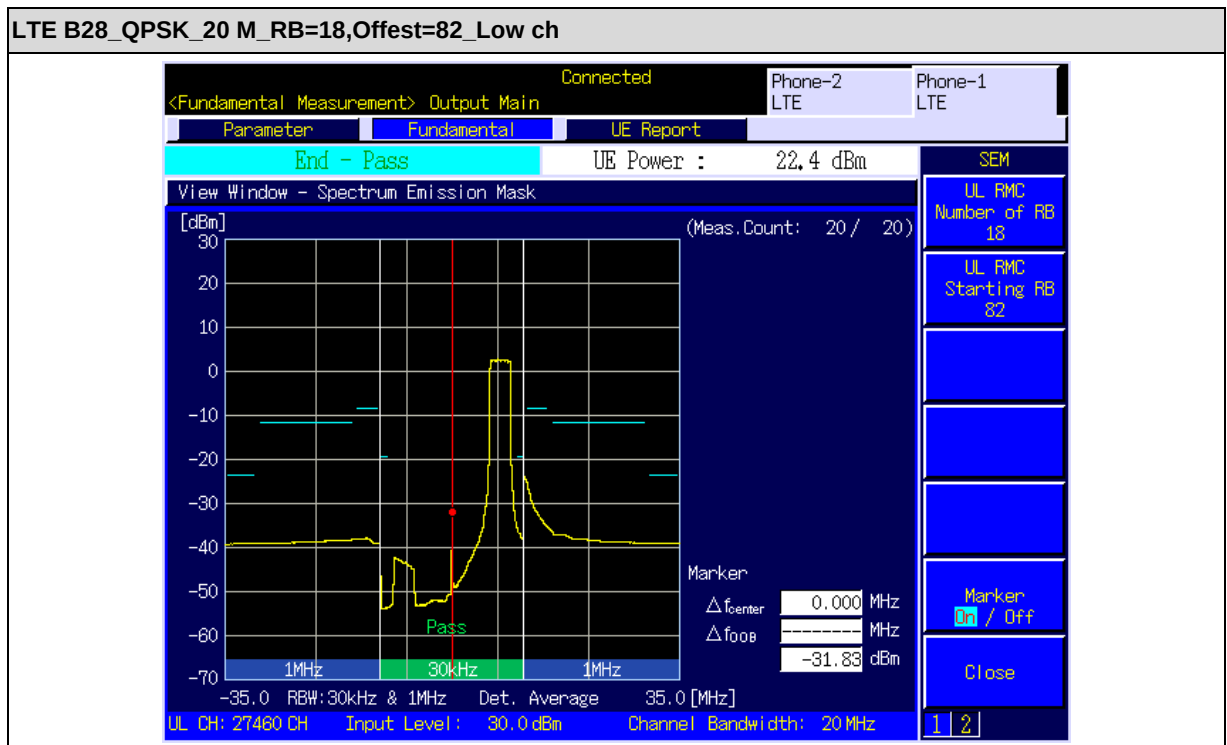




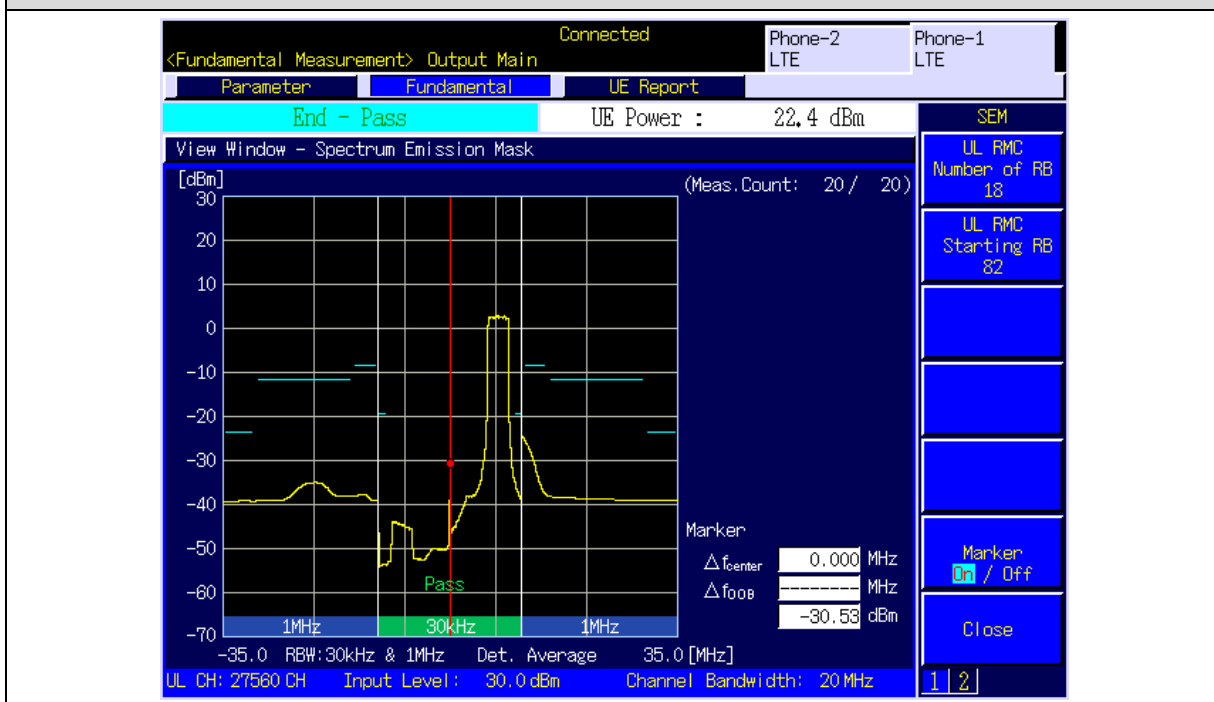




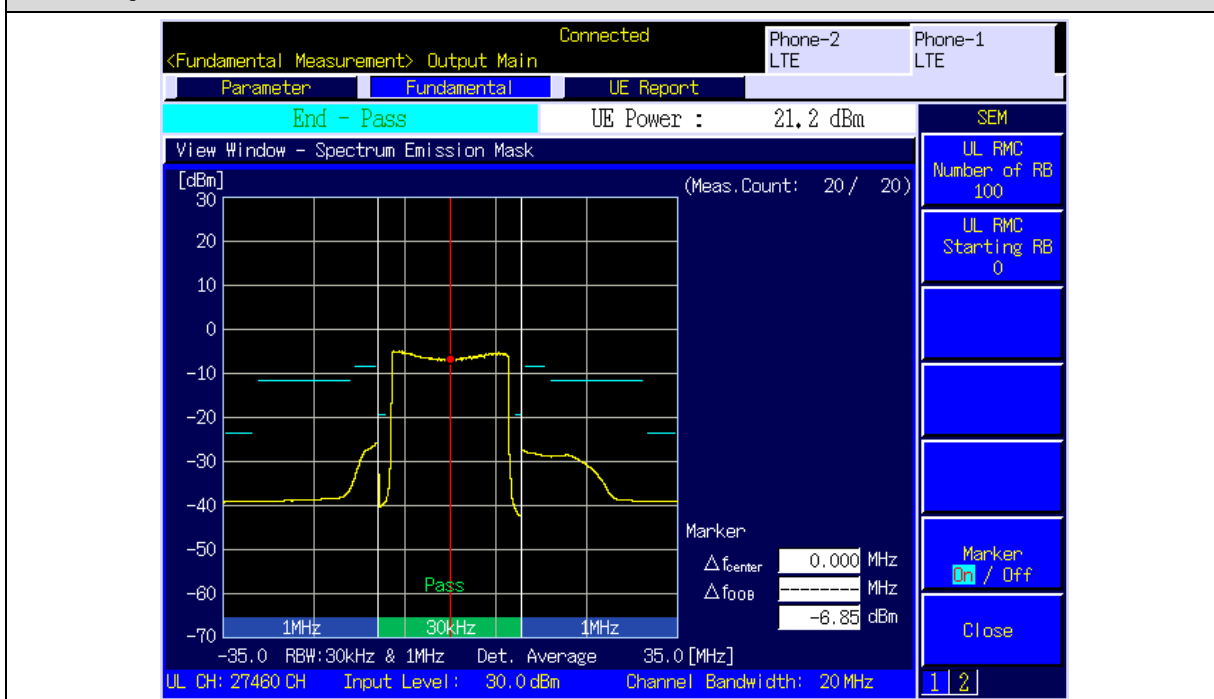




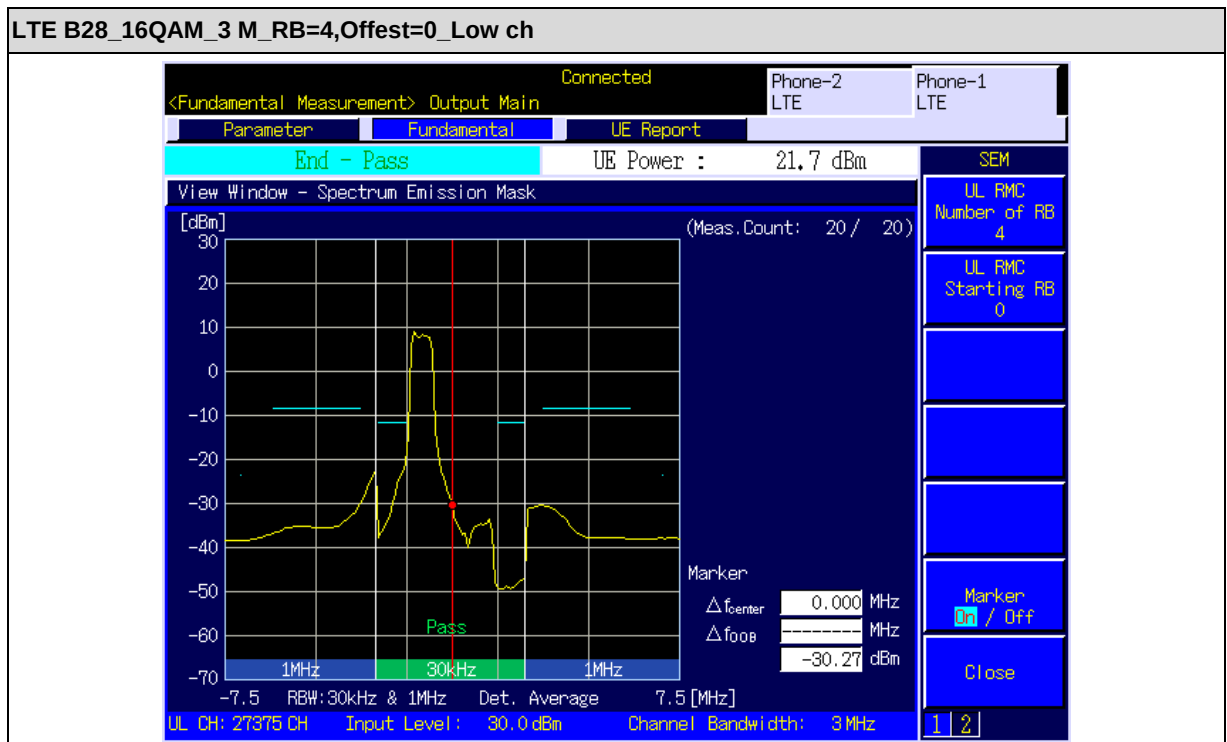
LTE B28_QPSK_20 M_RB=18,Offset=82_High ch

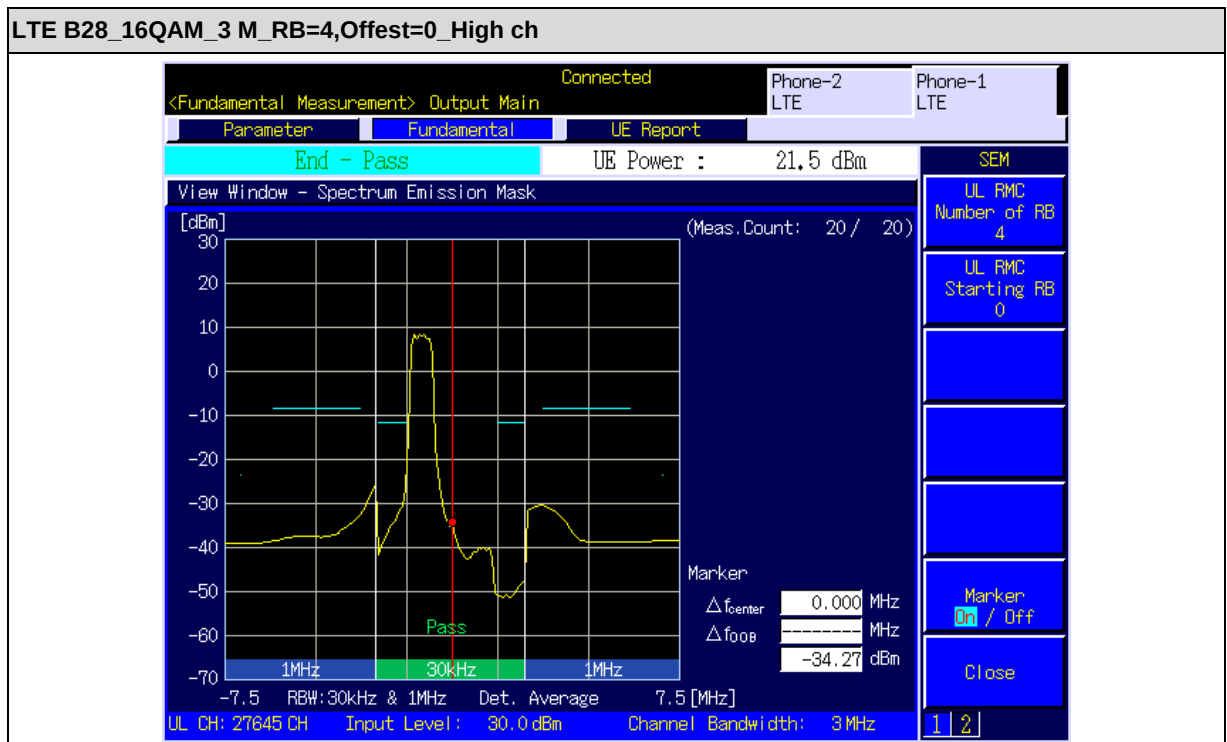


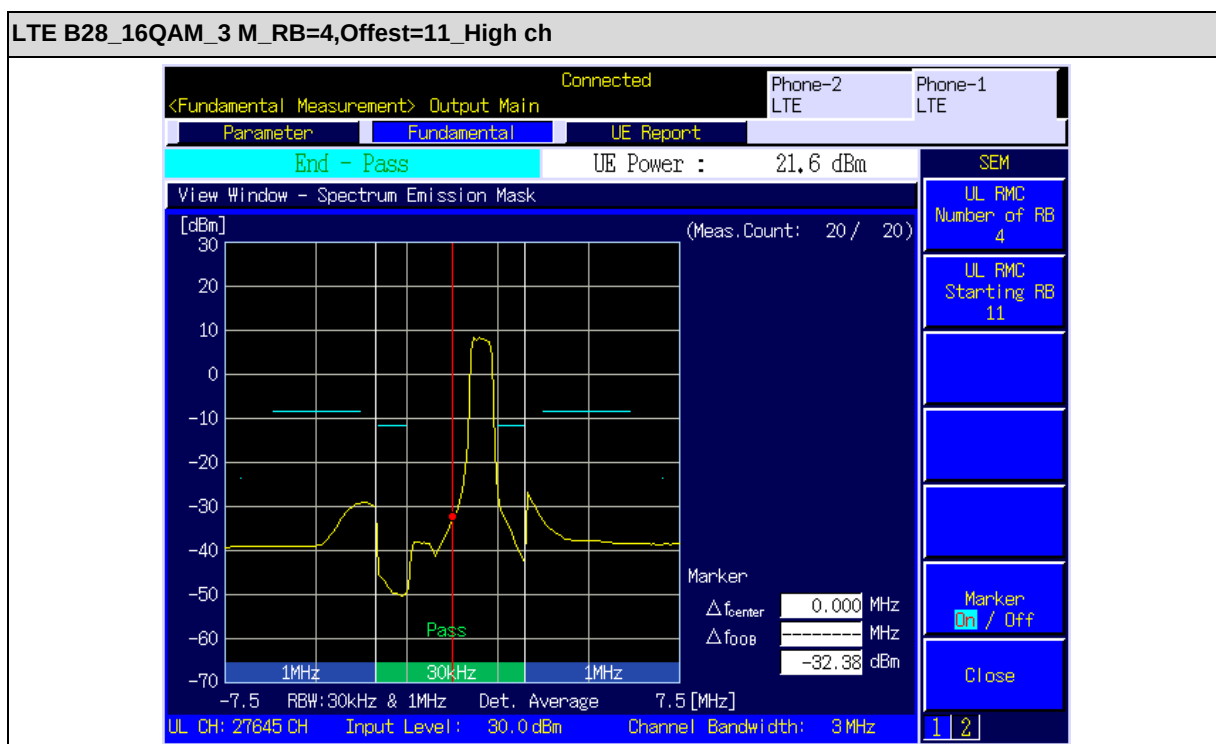
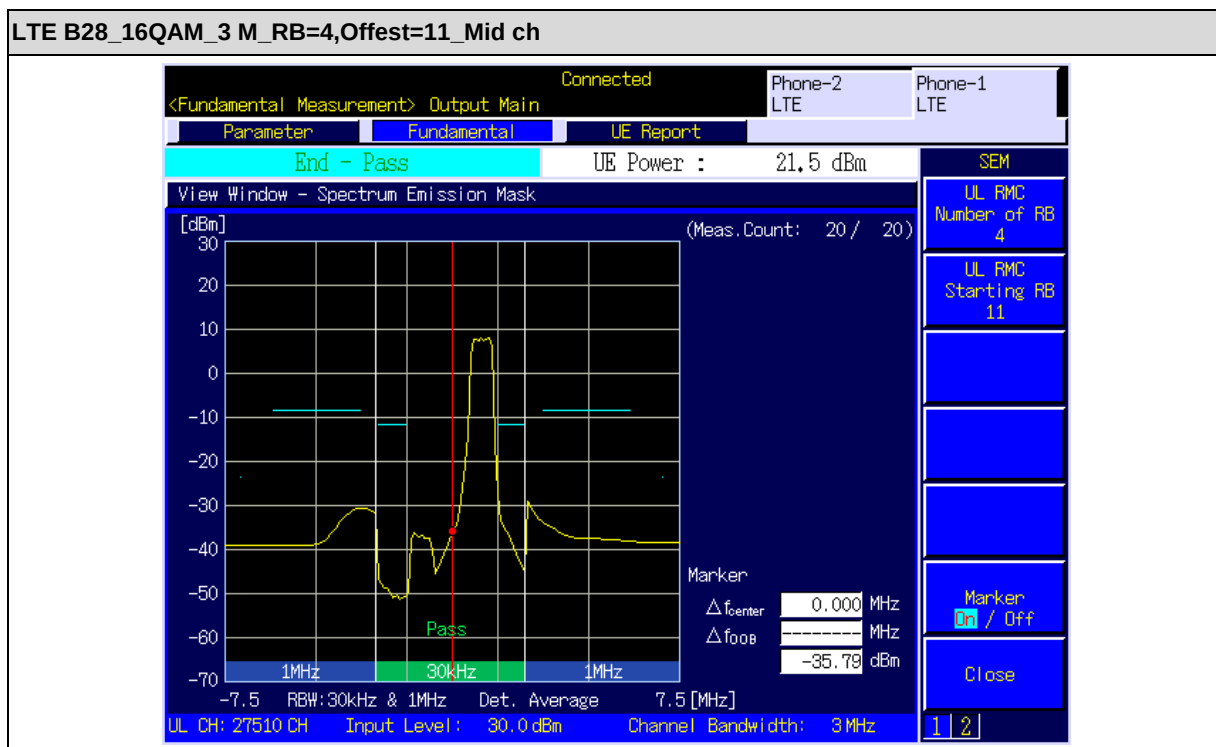
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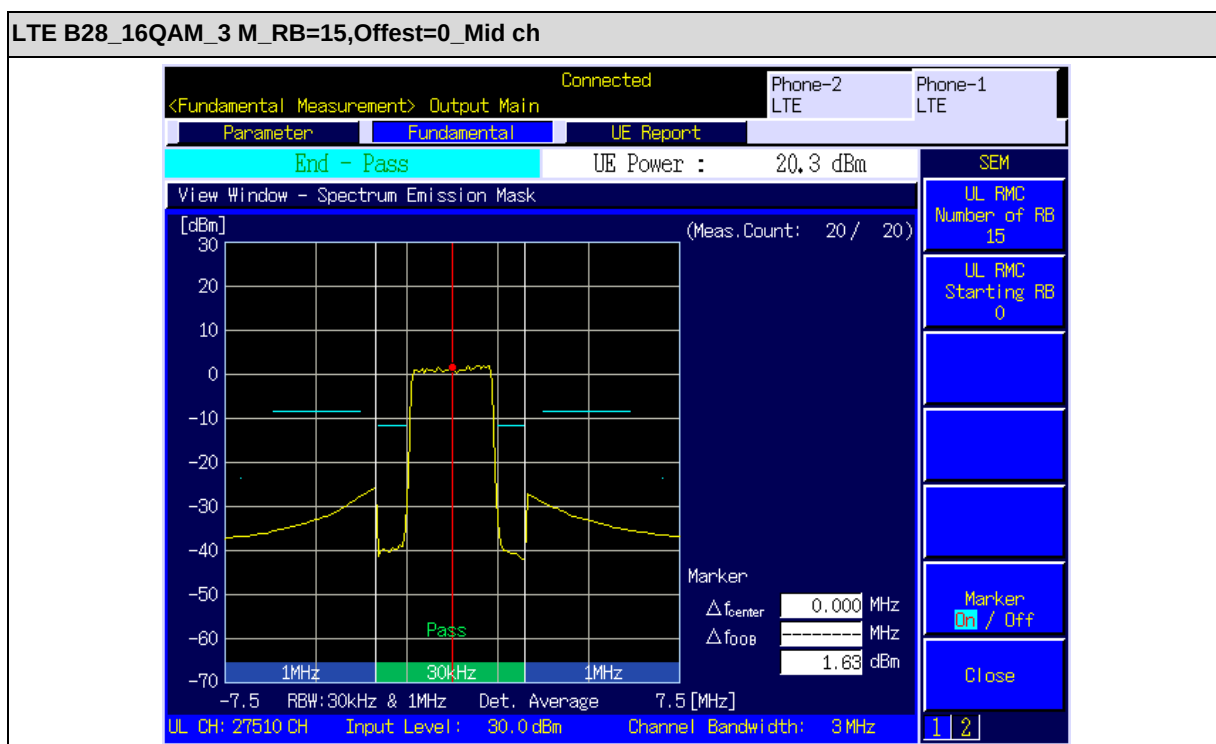
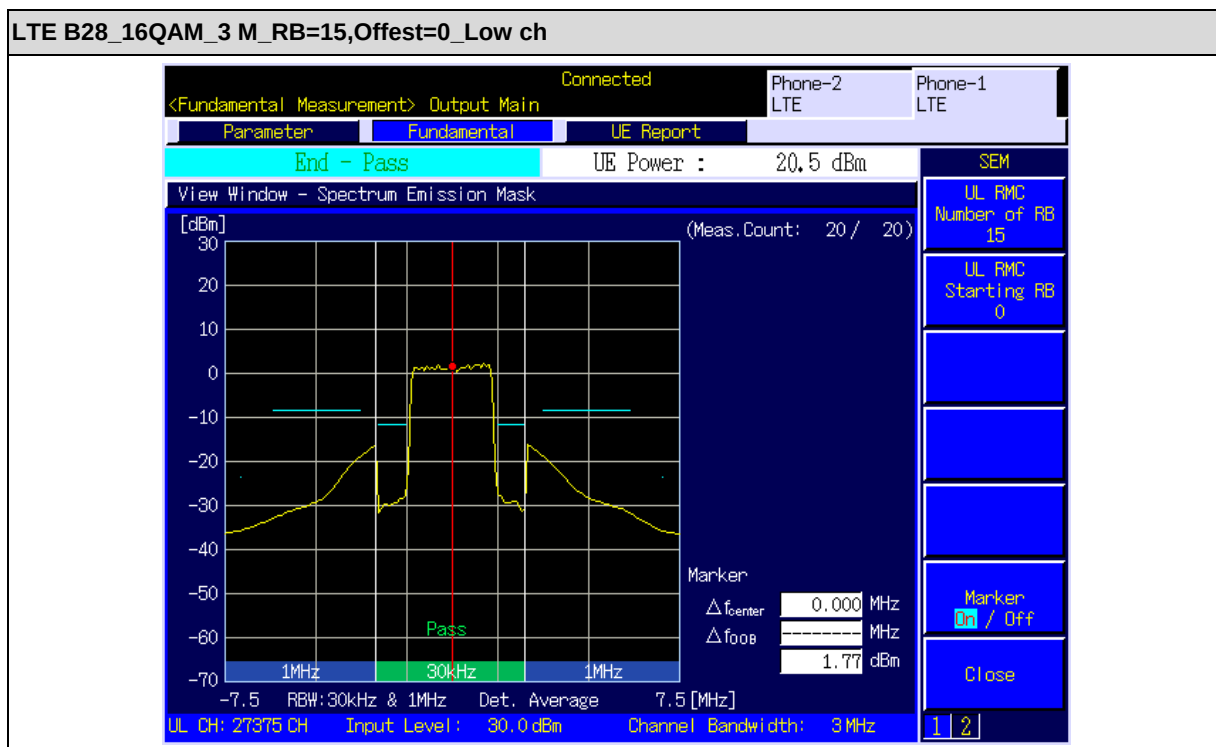


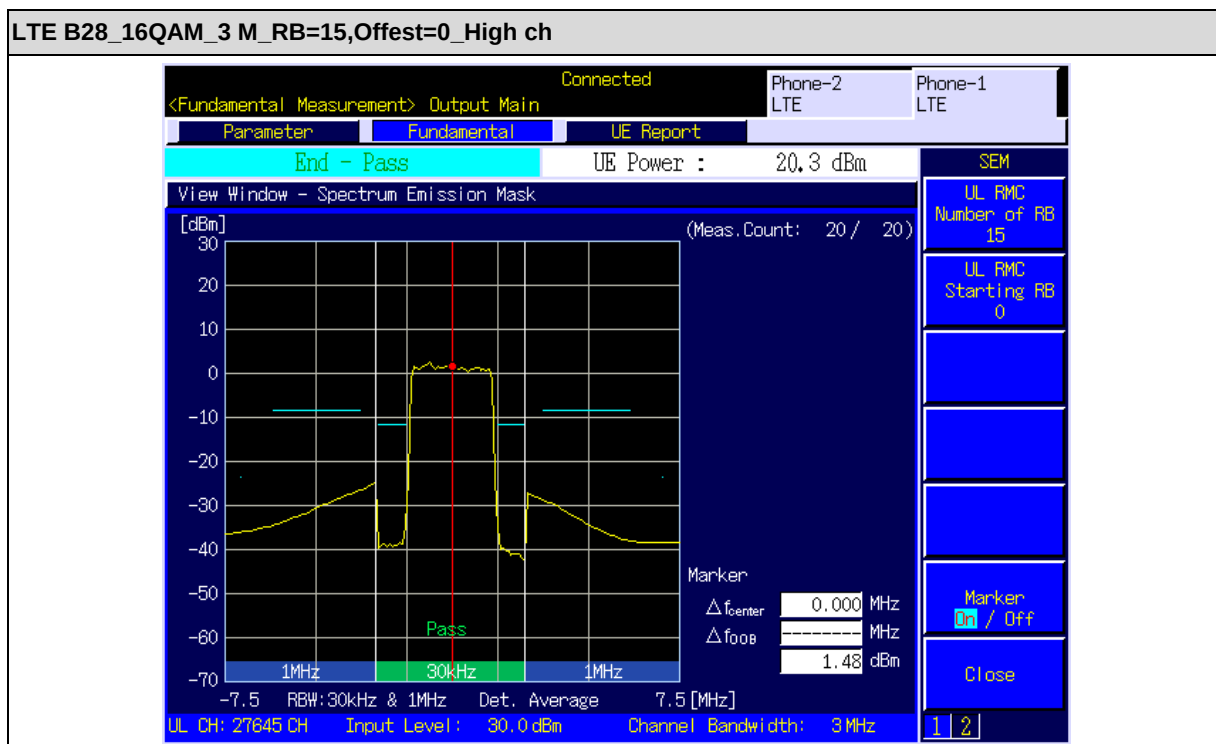


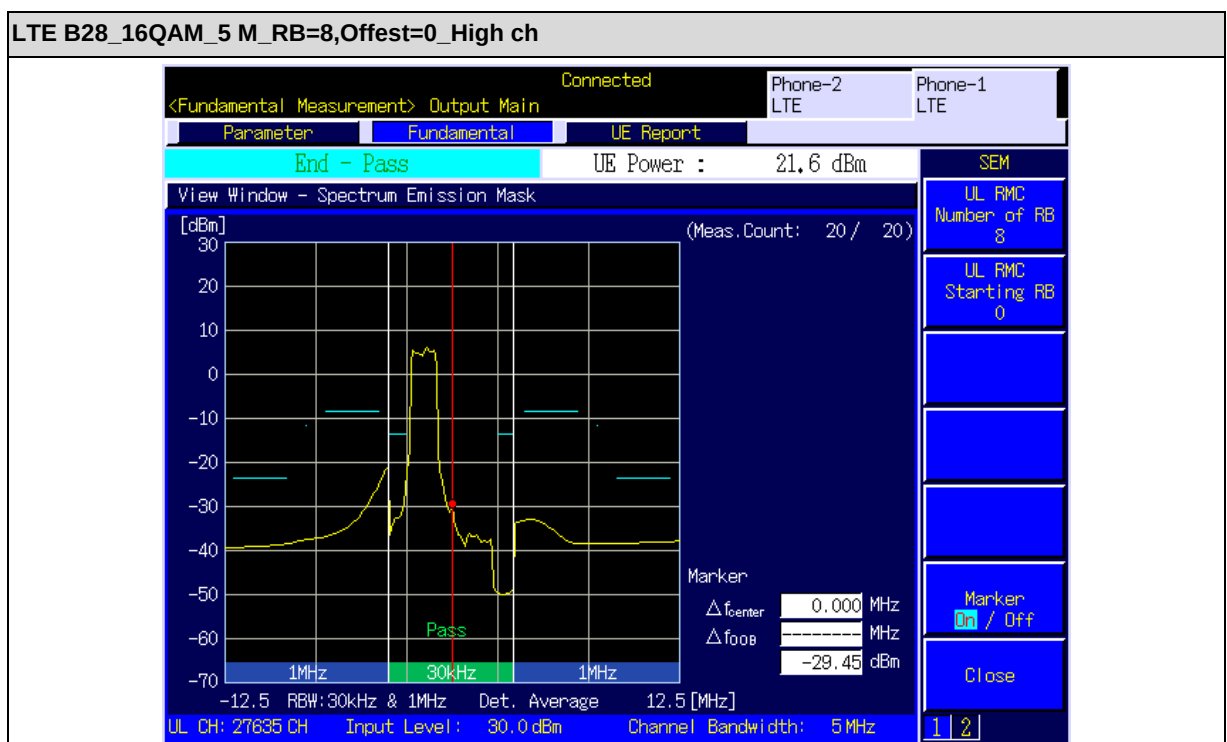
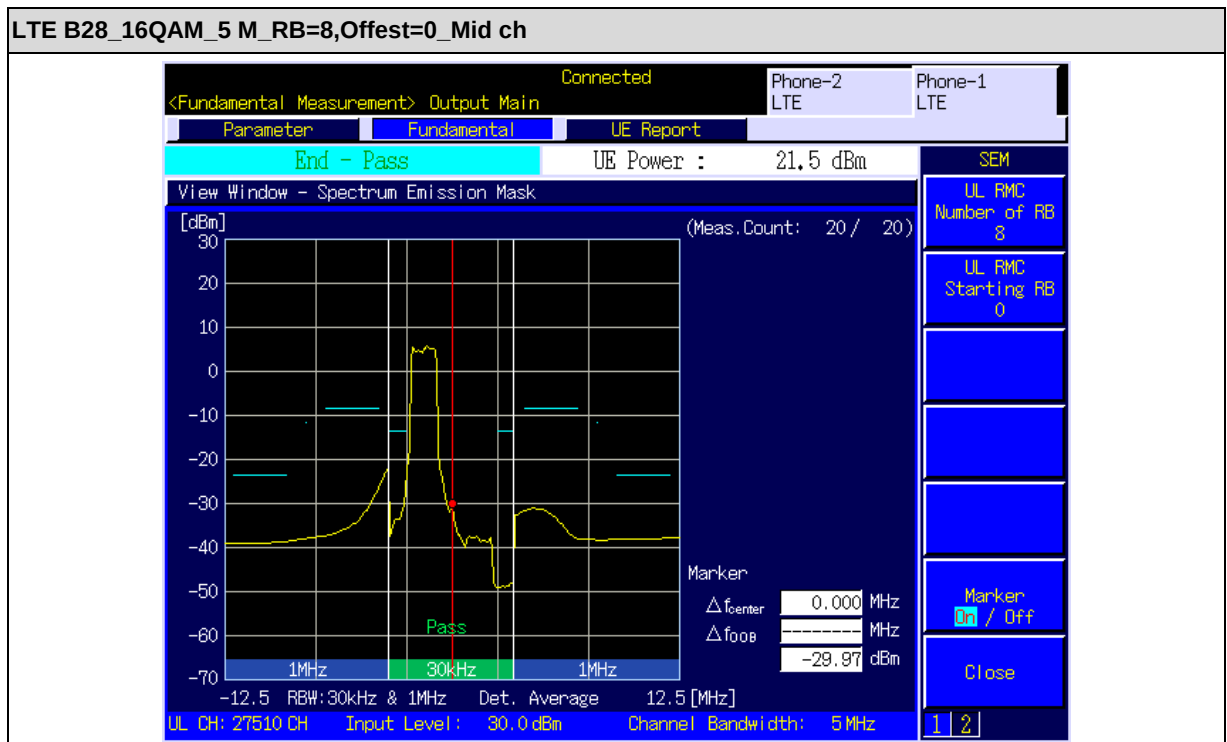


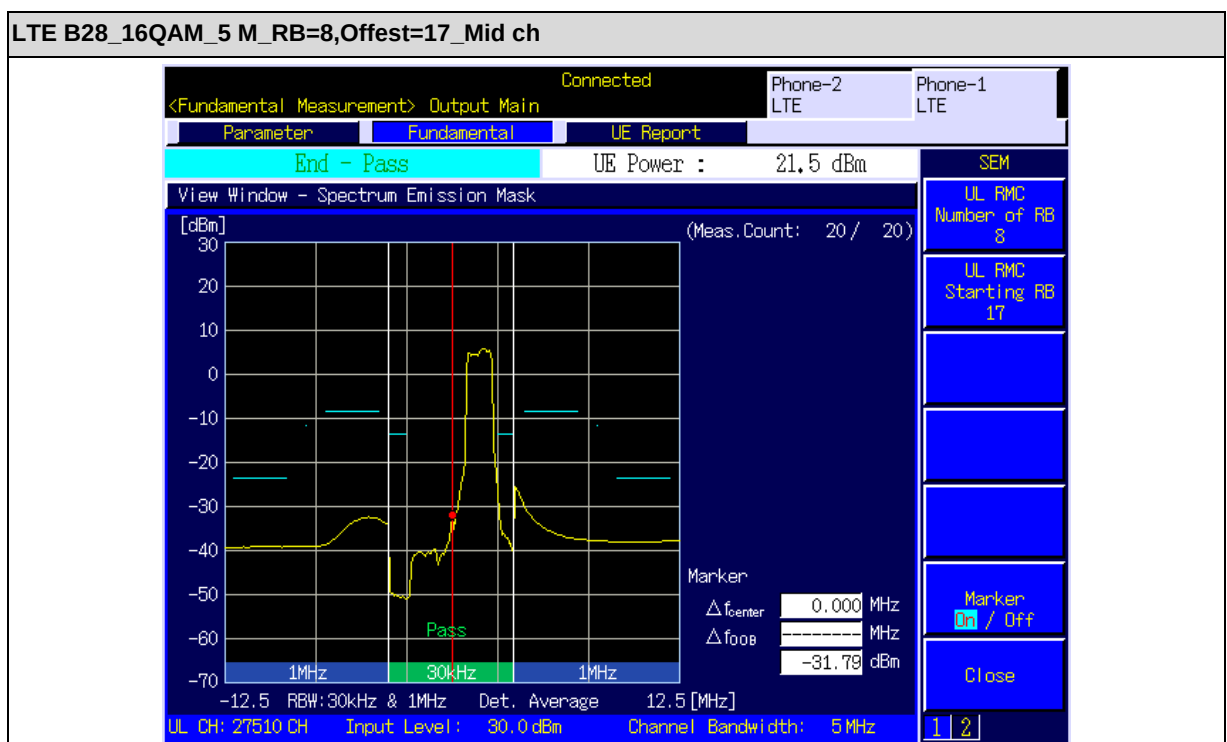
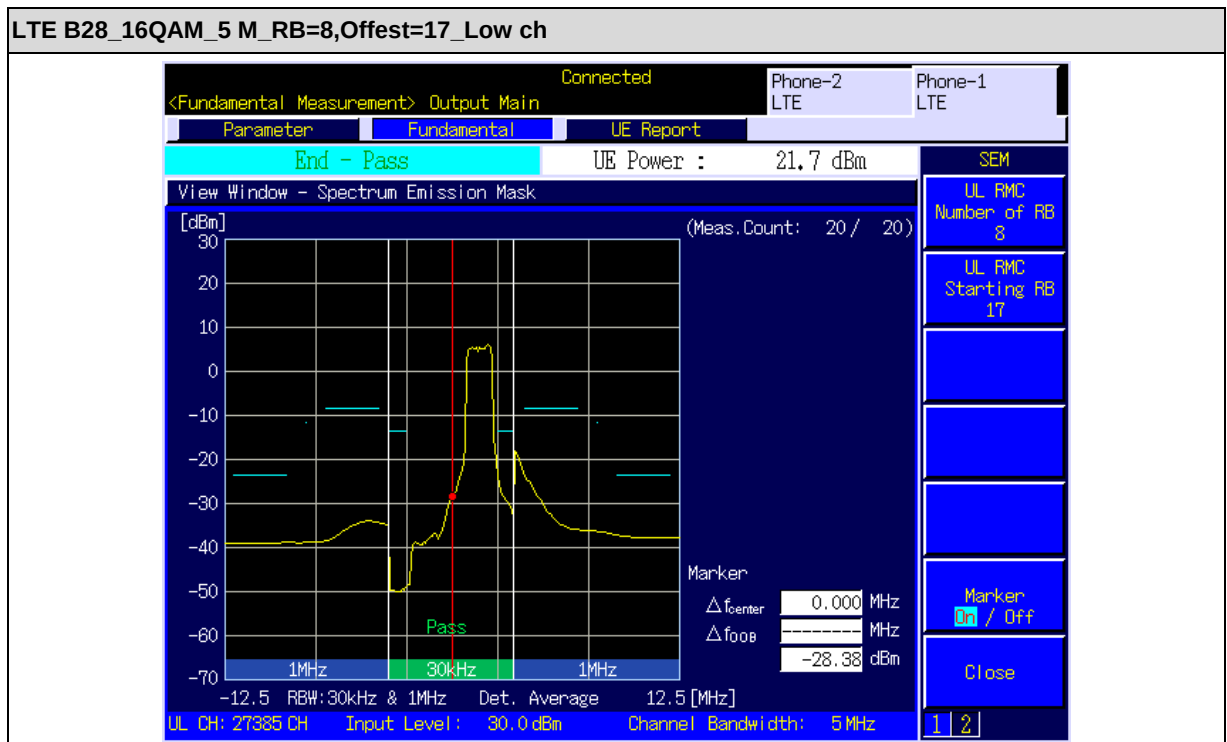


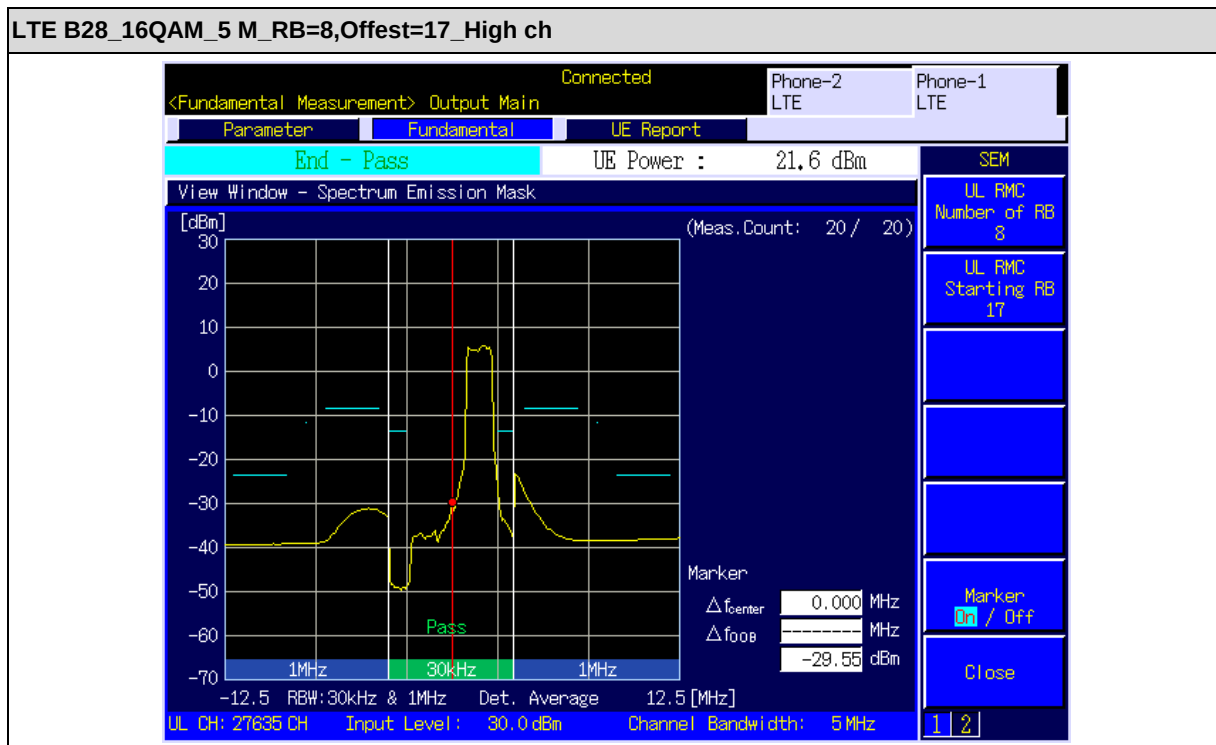


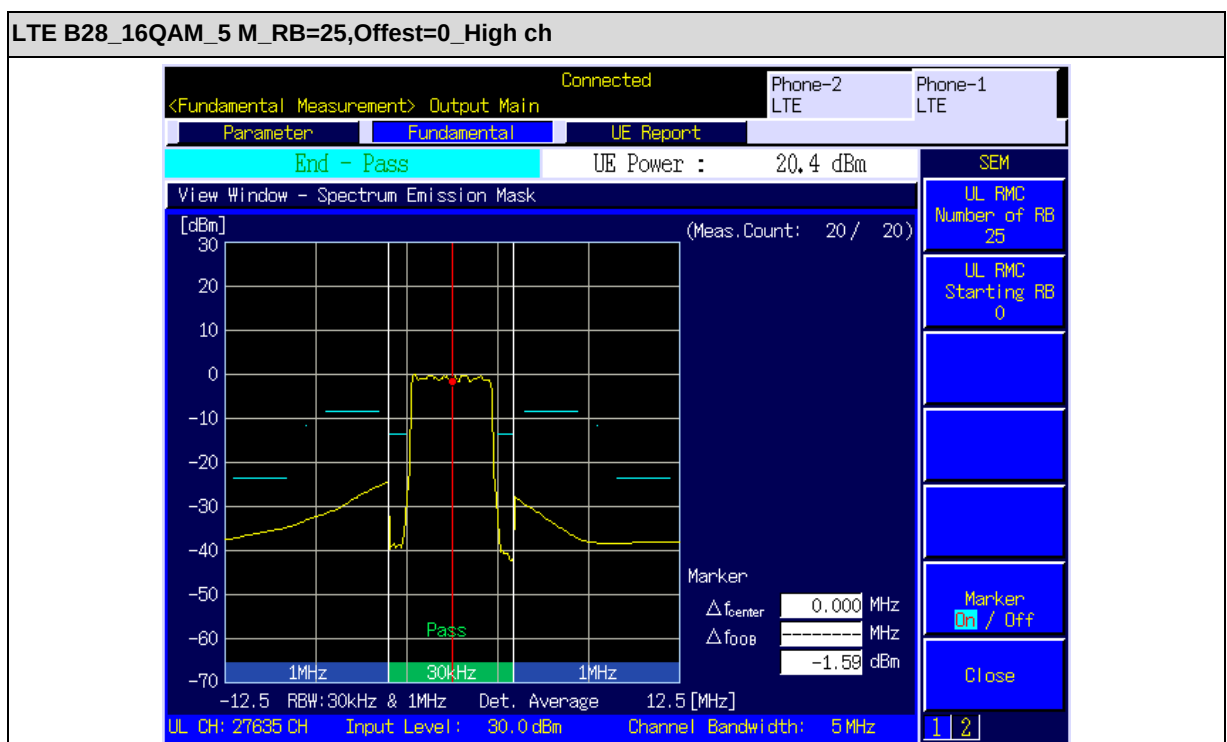
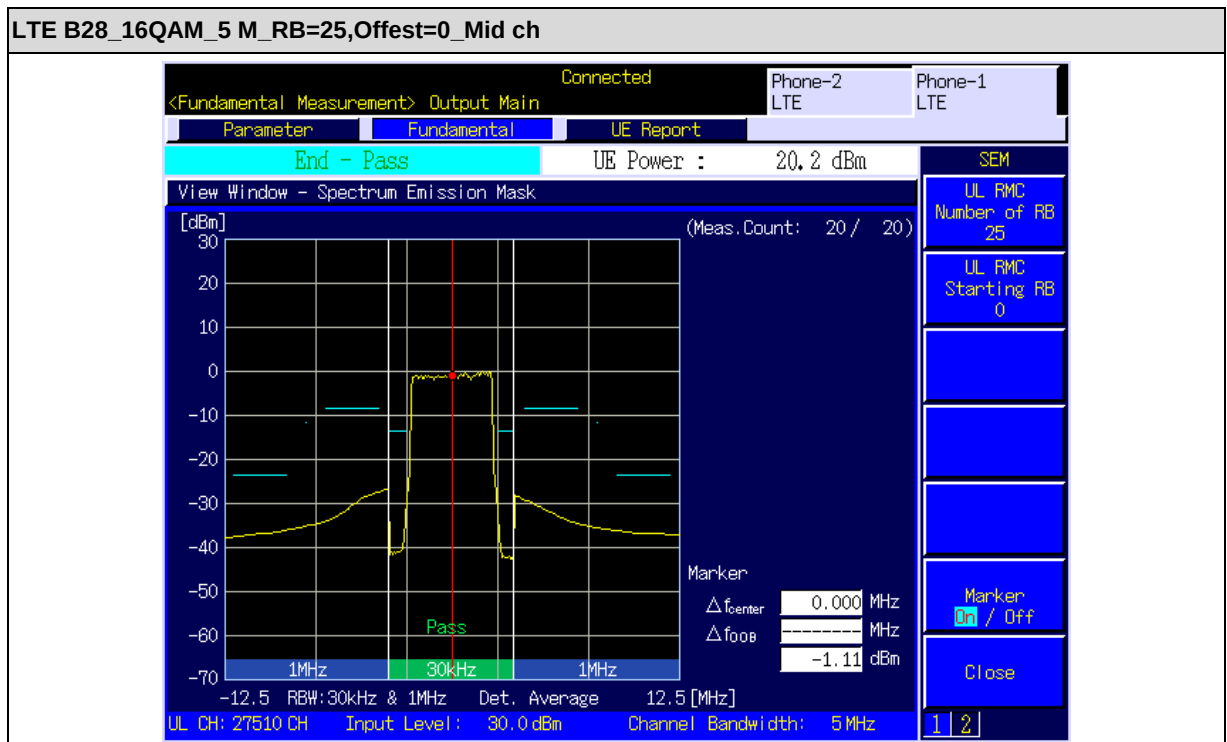


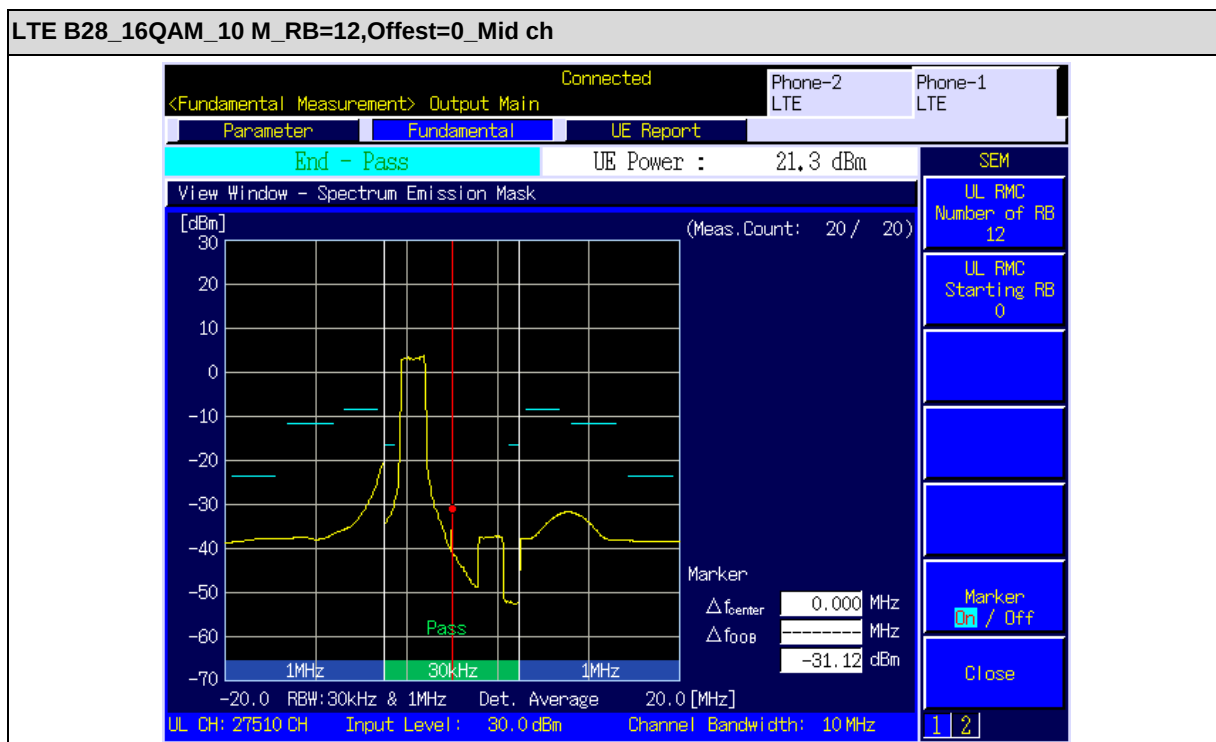
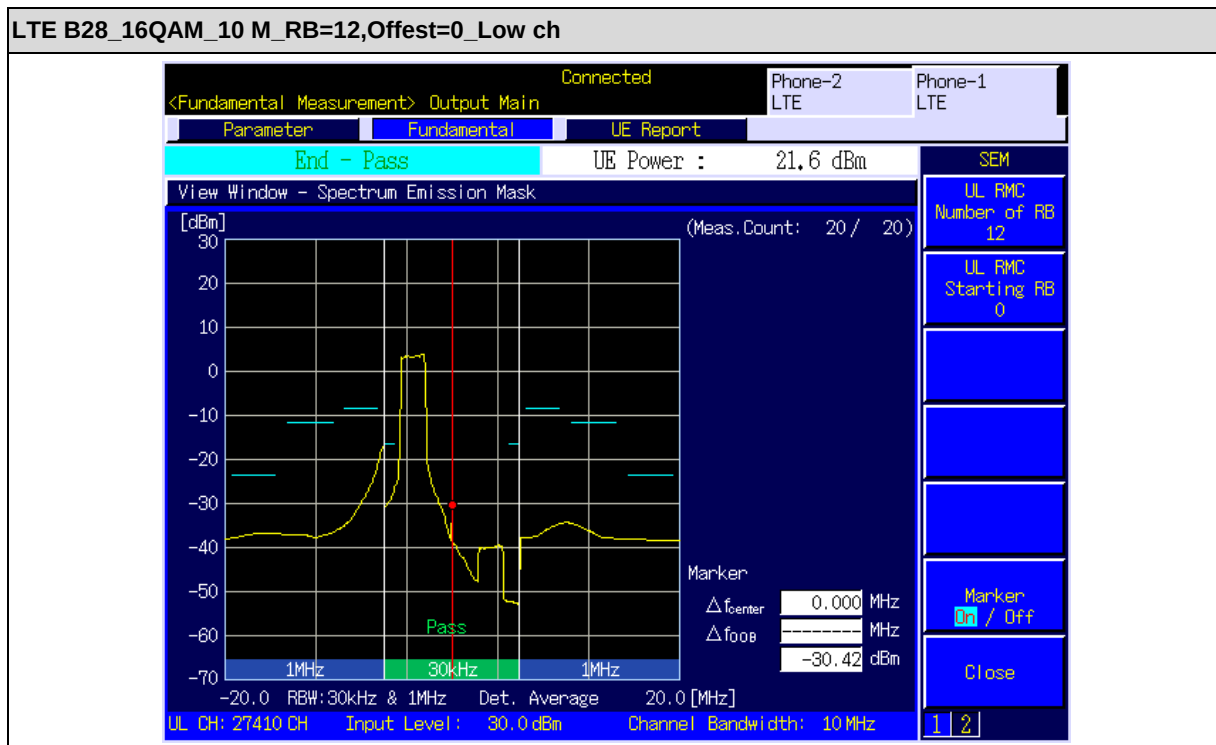


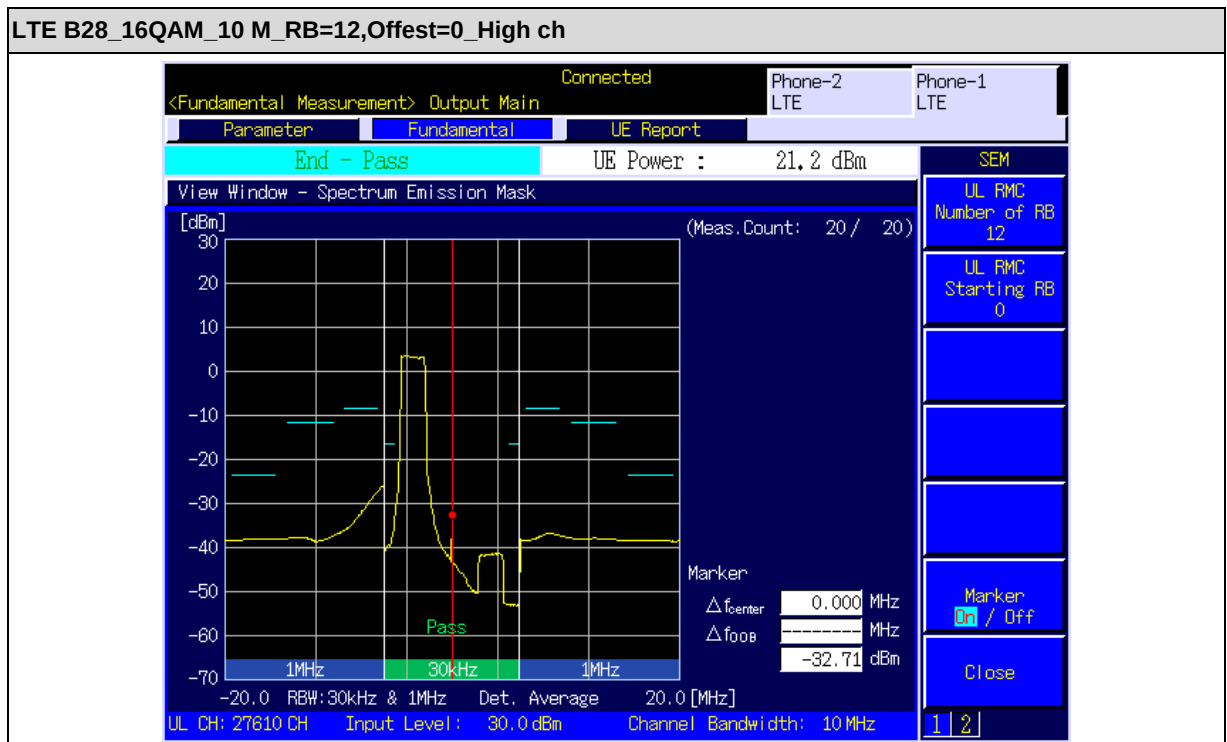


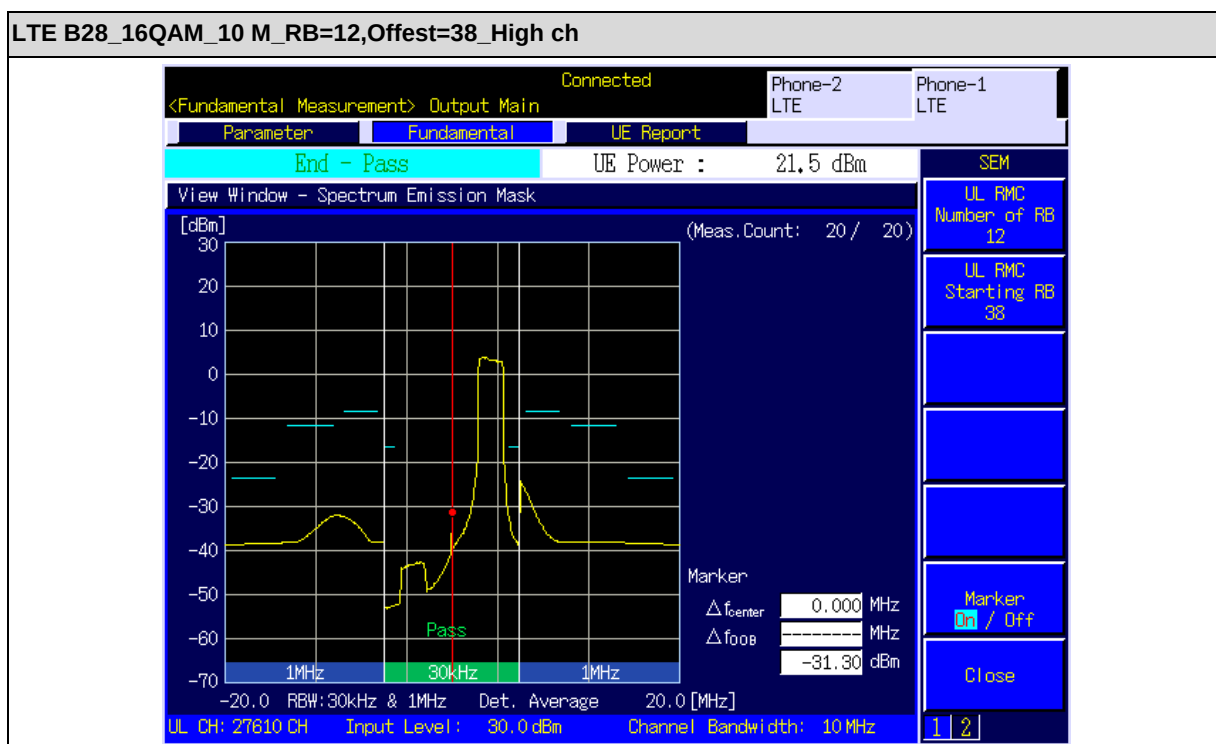
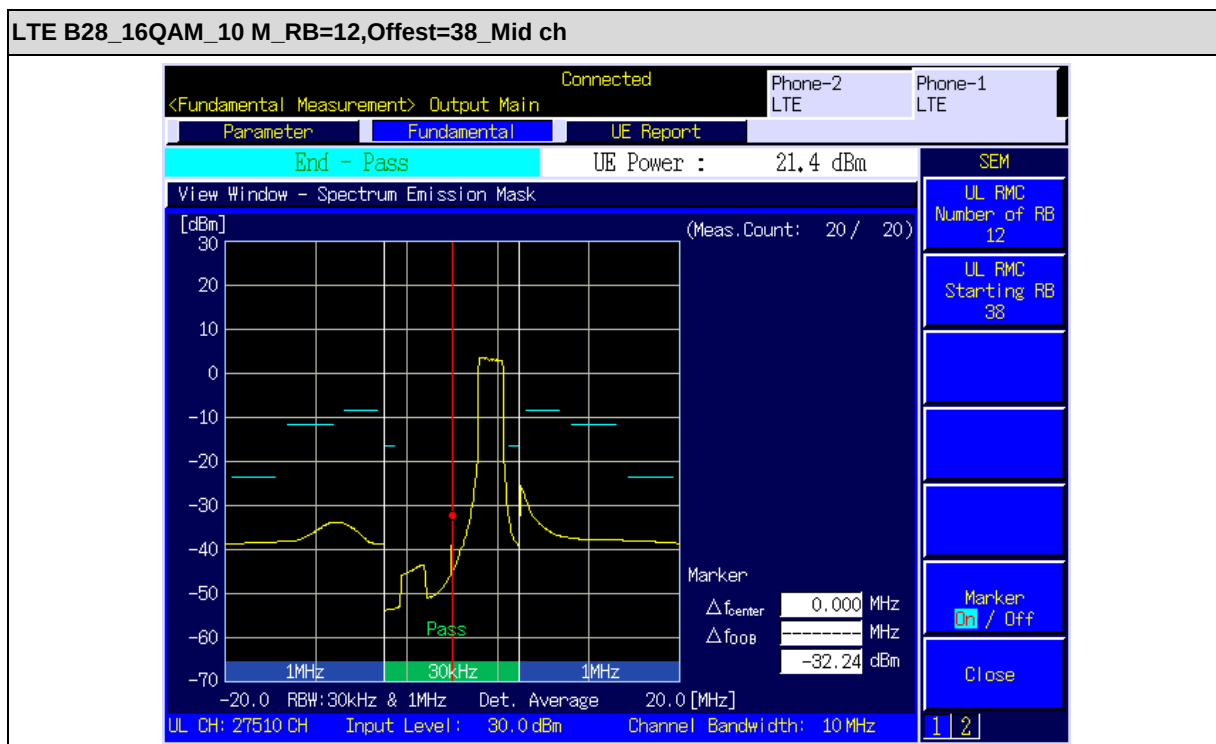




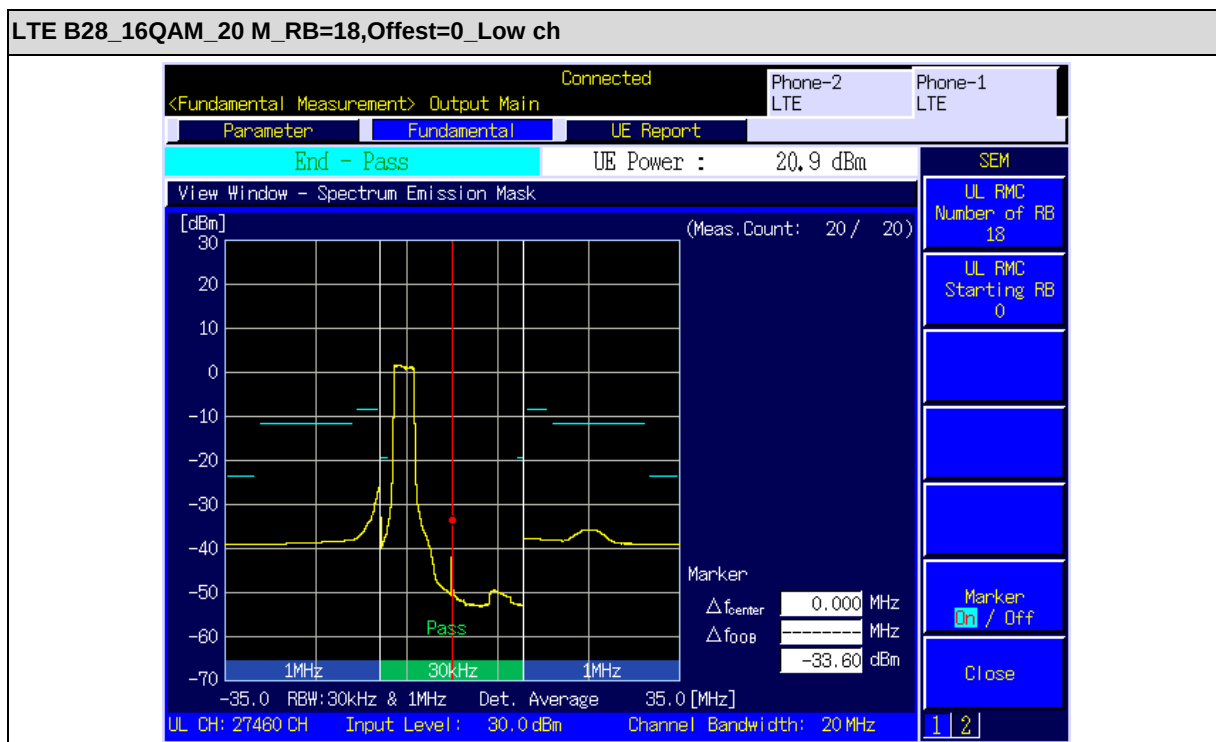
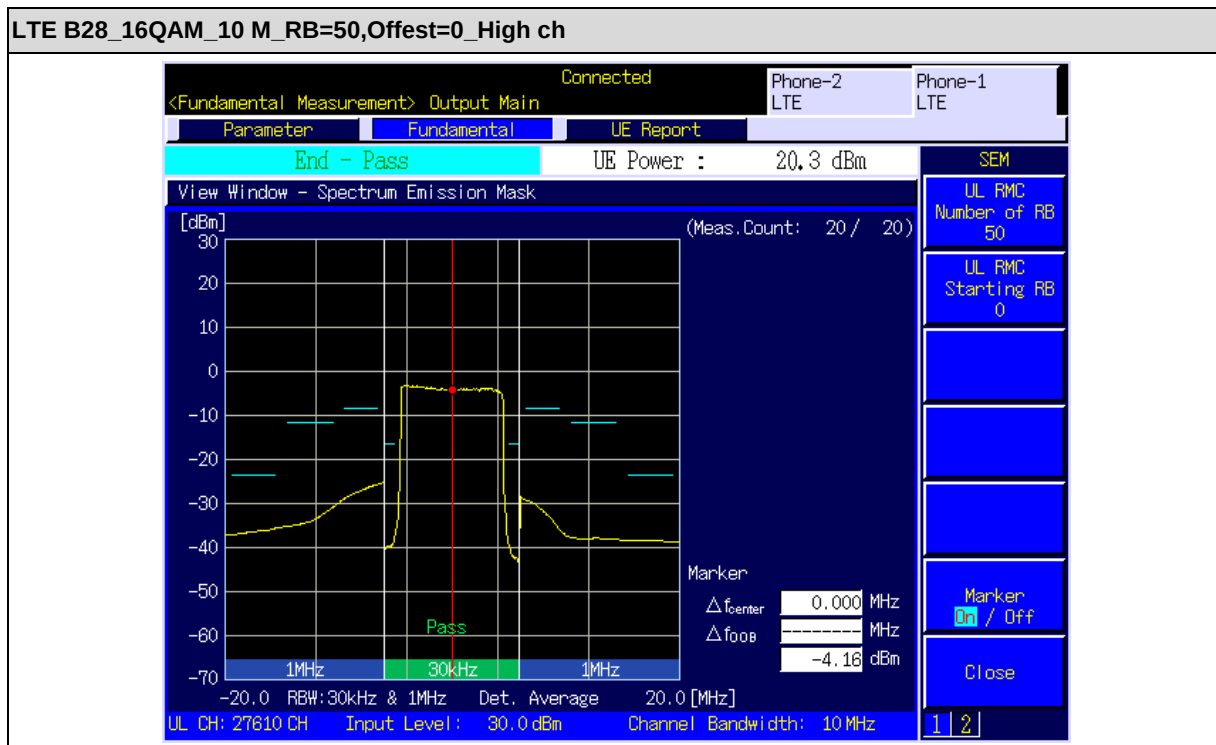


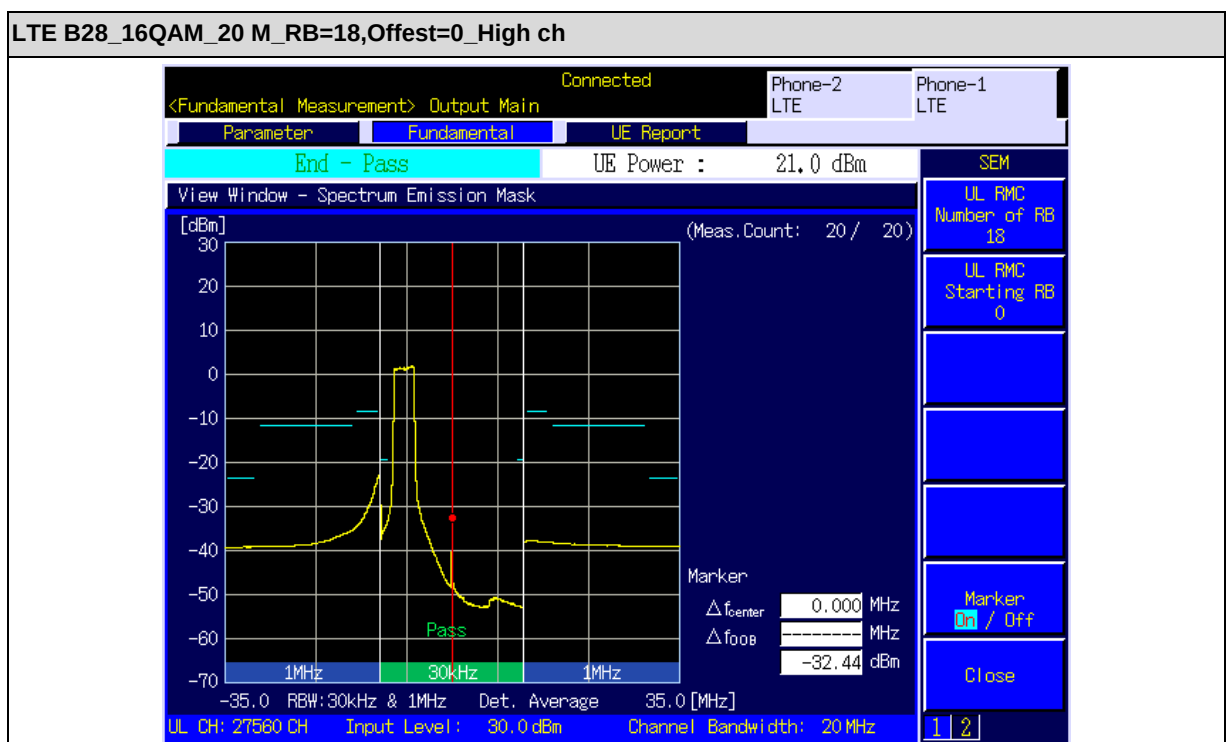
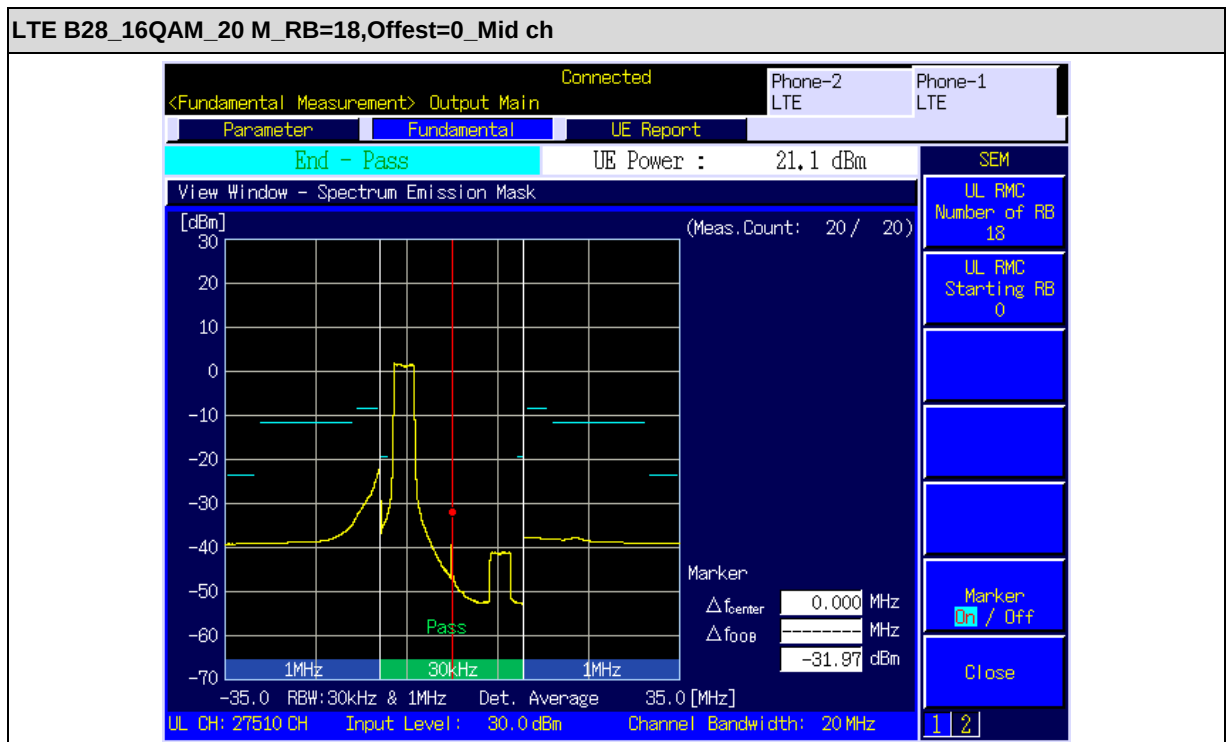


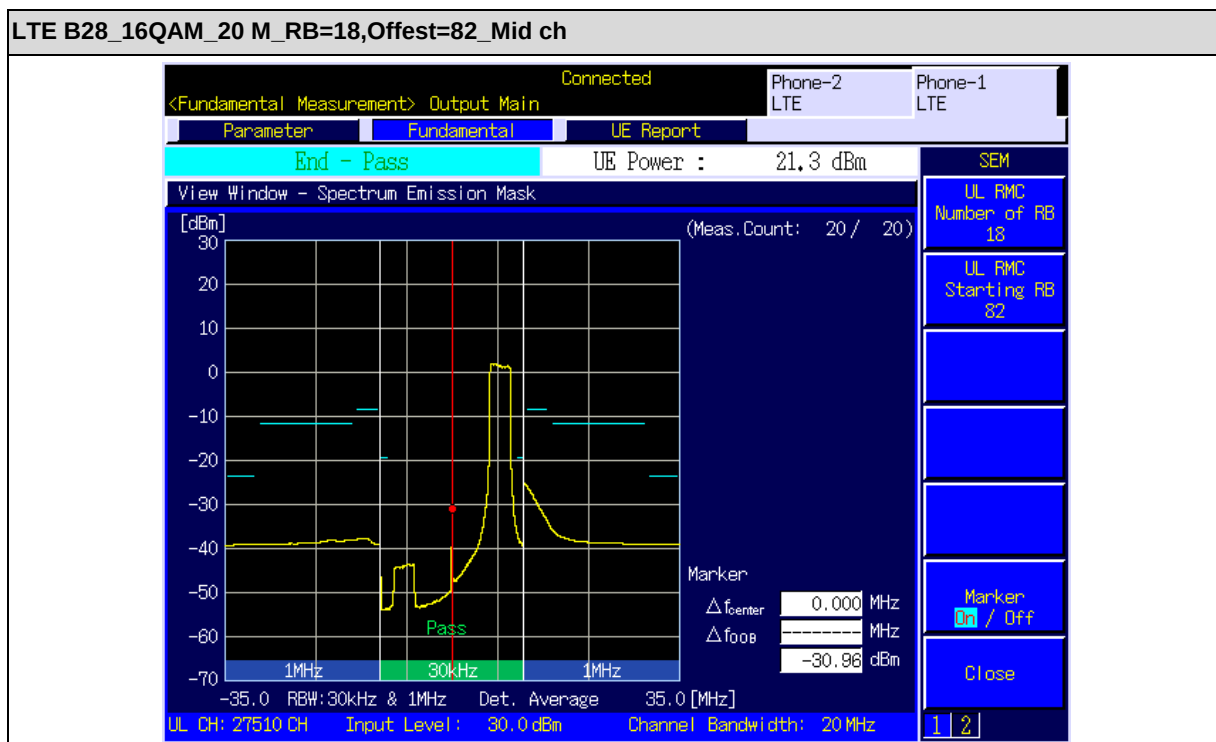
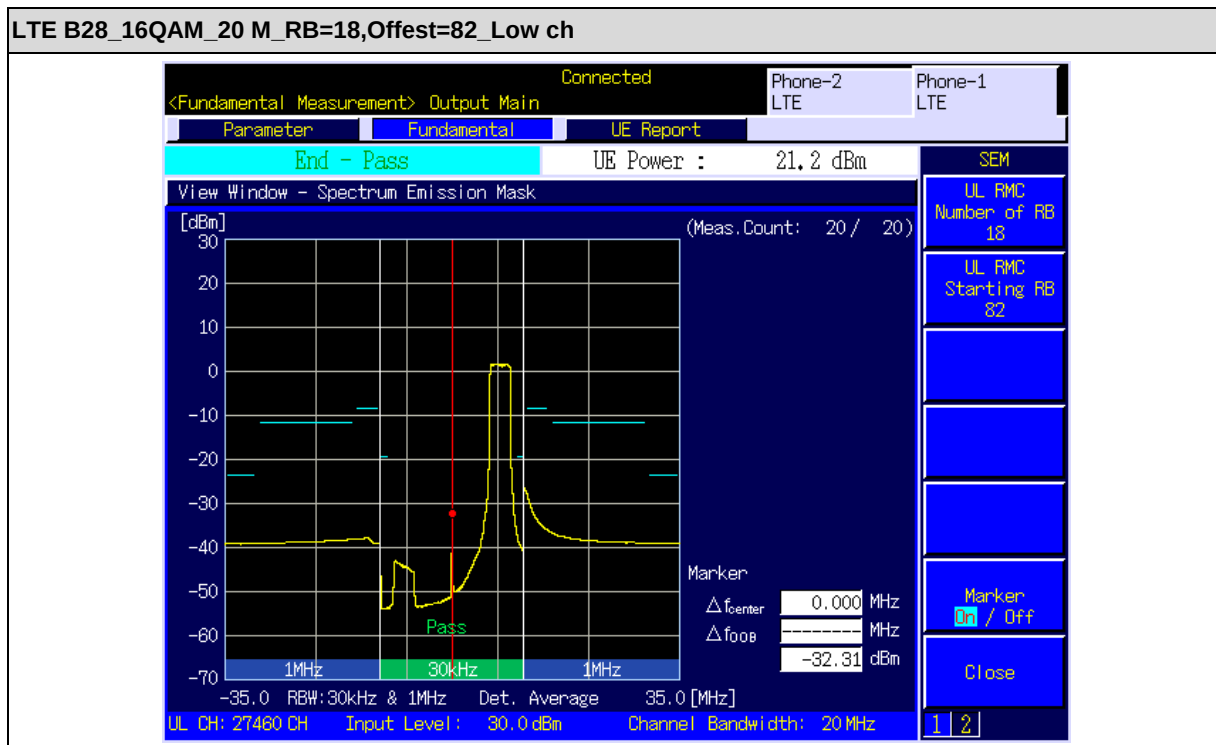


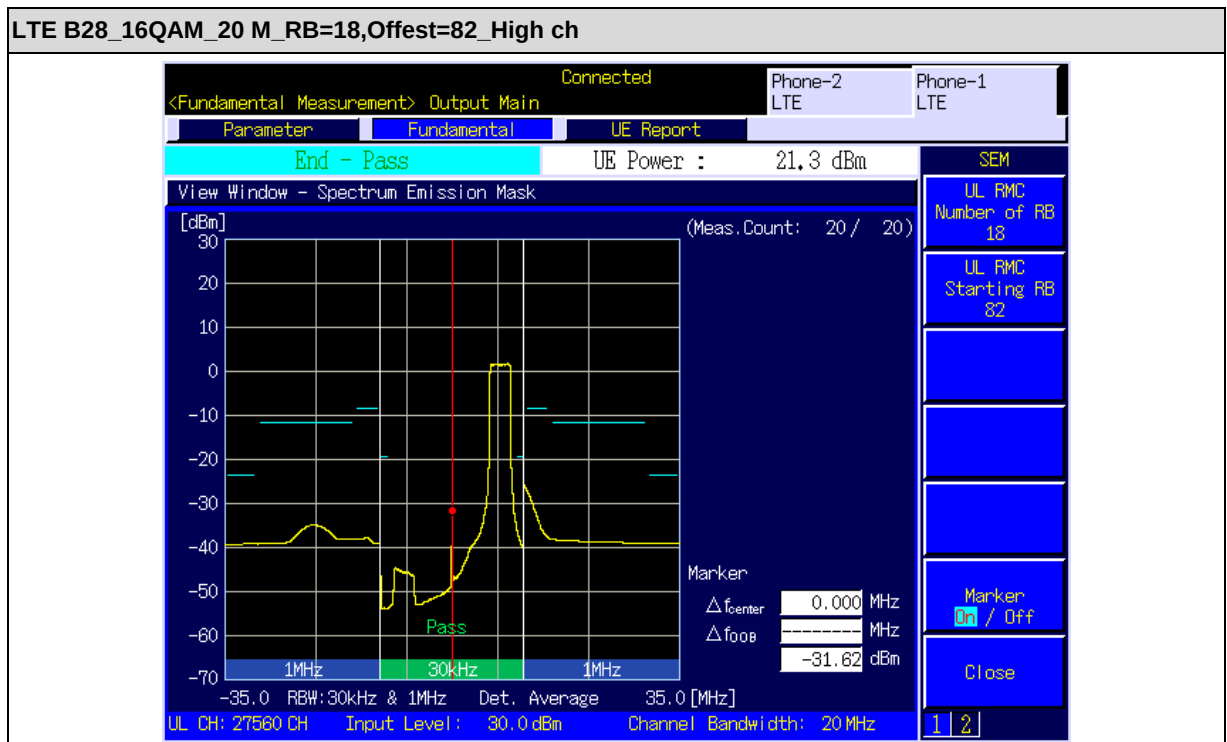


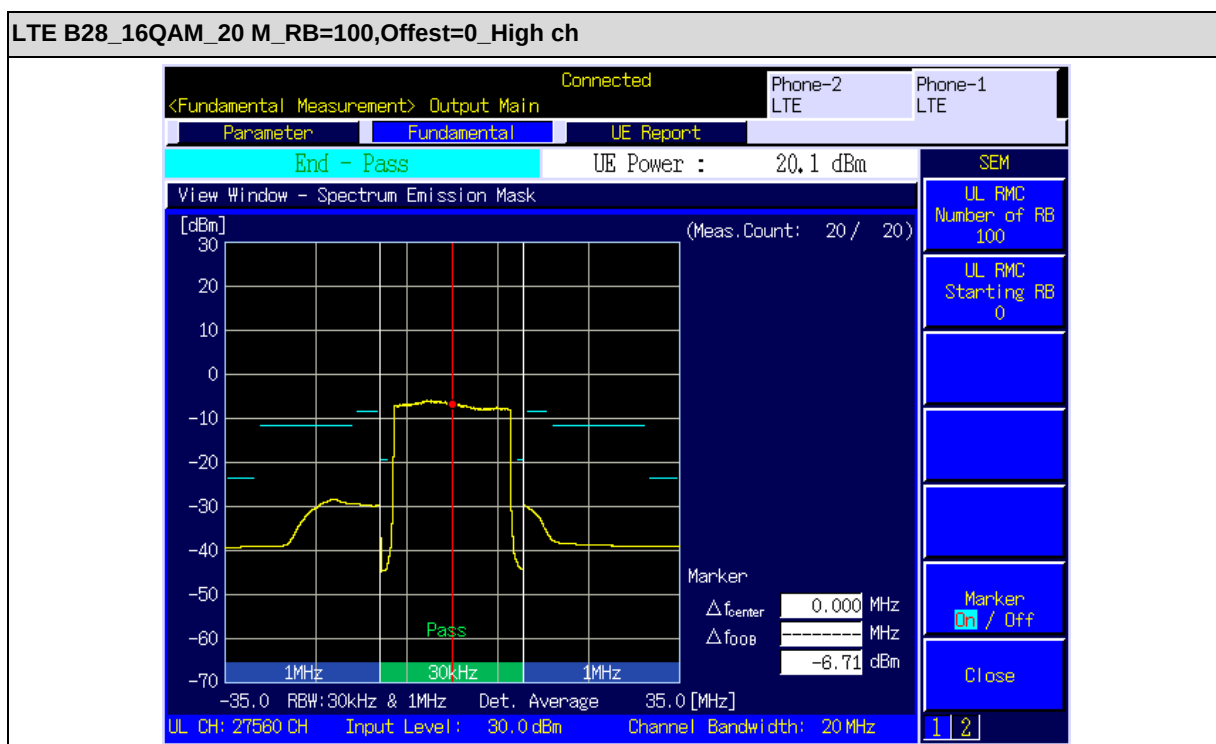




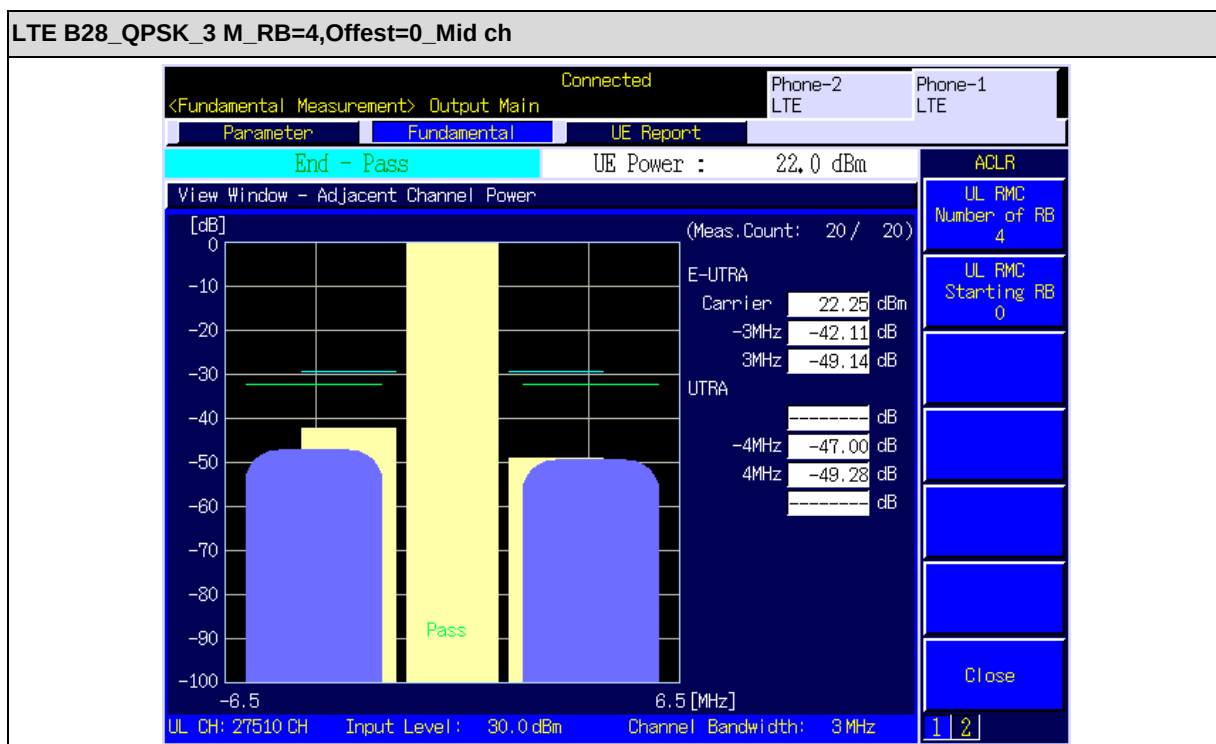
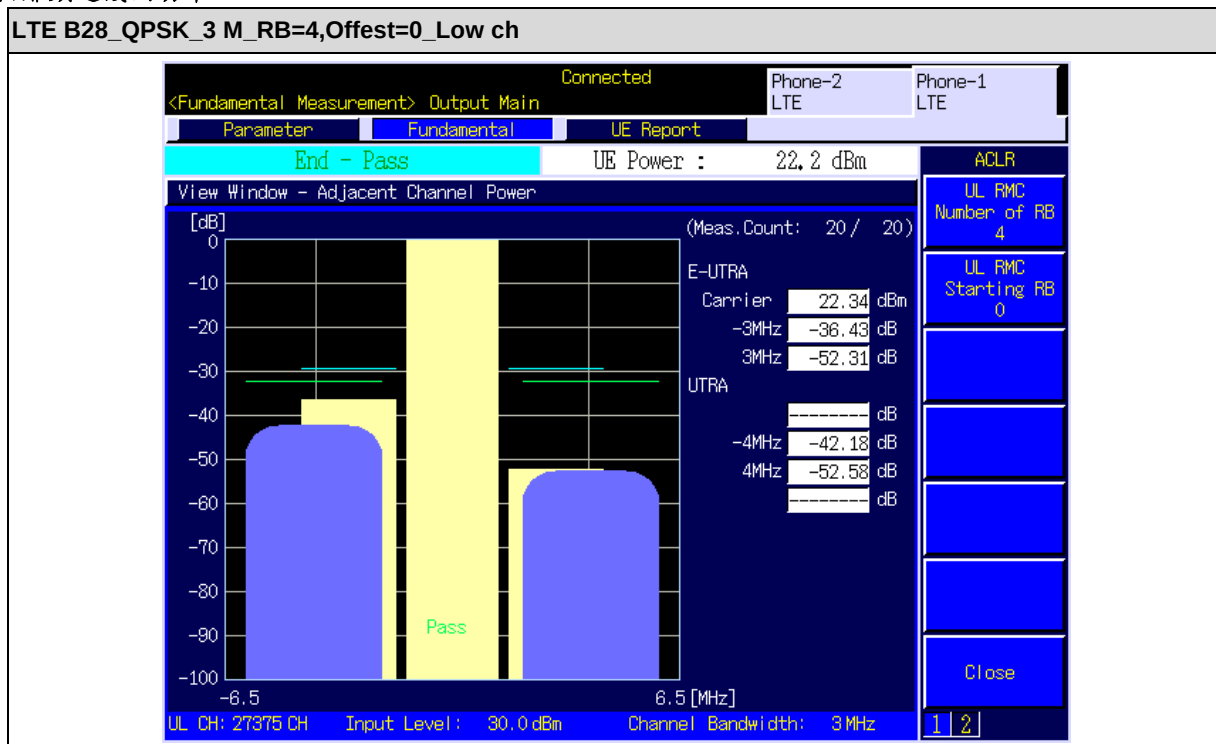


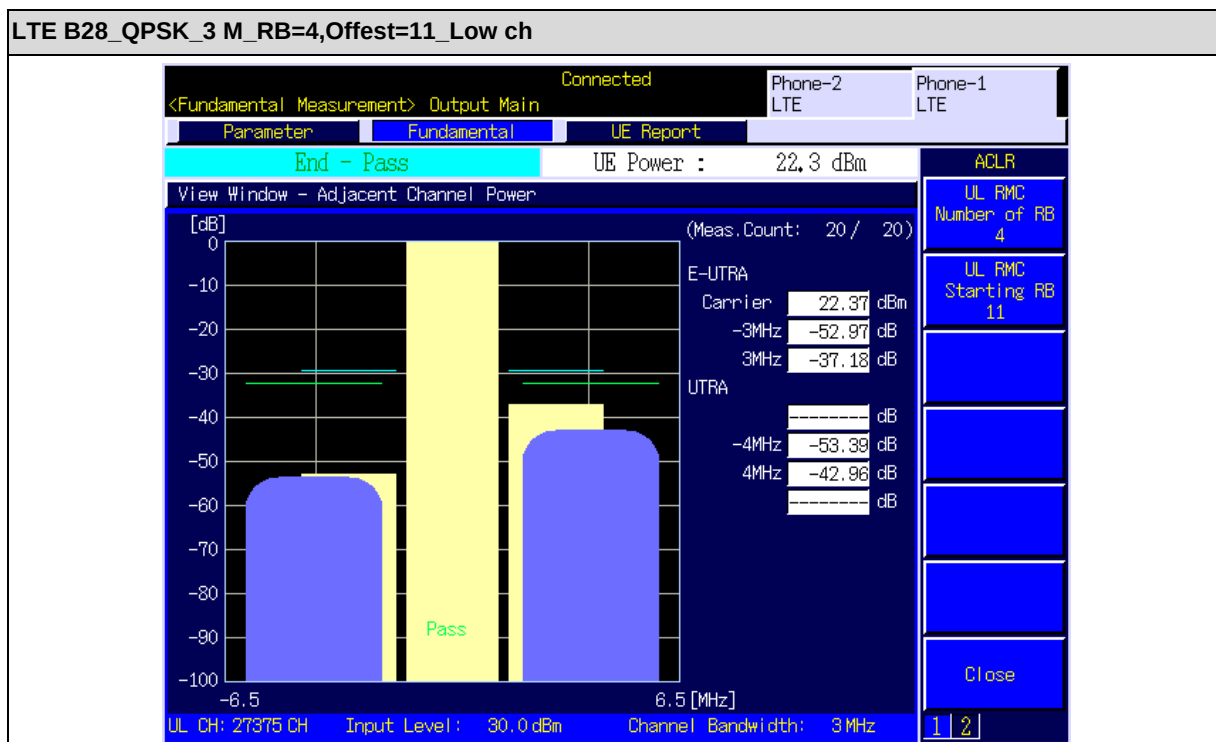
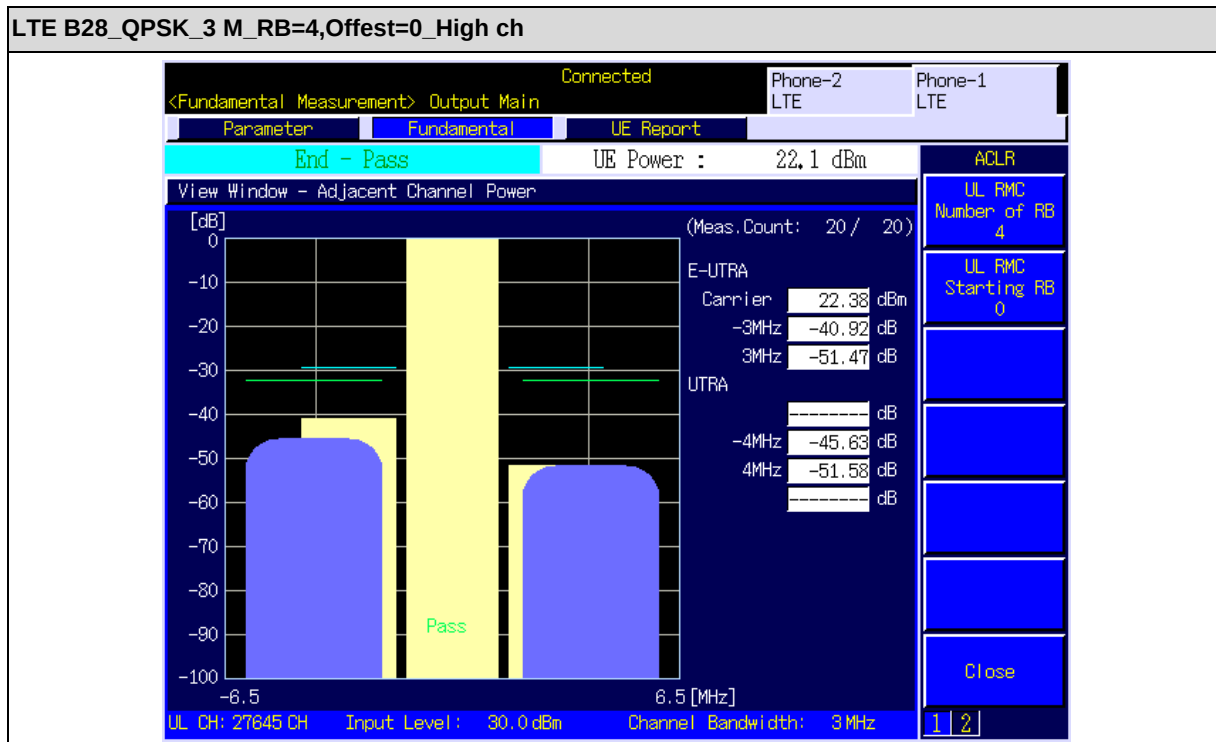


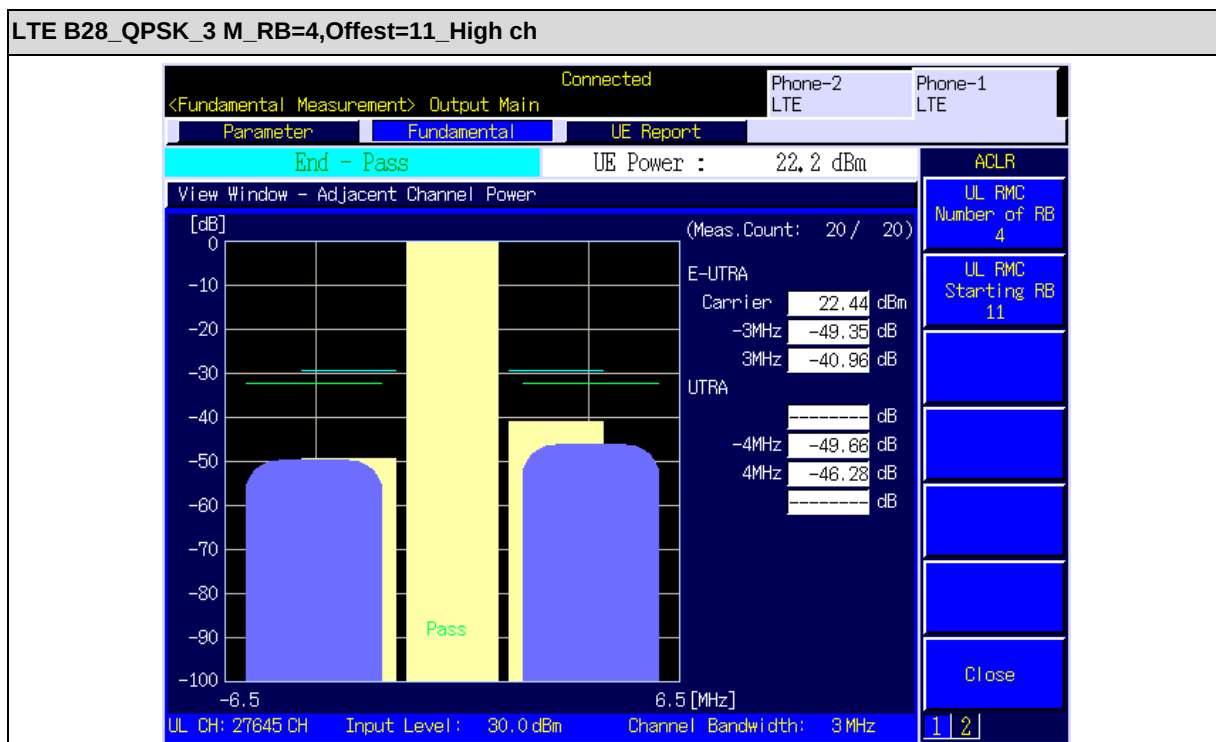
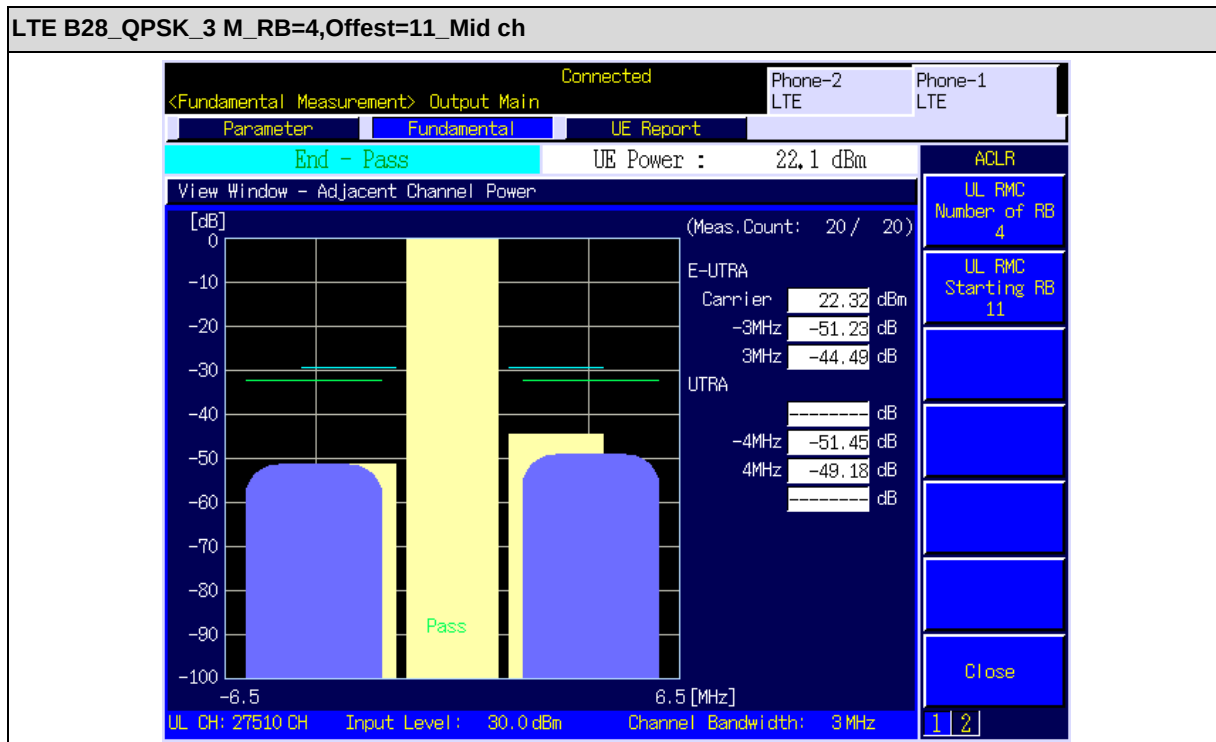


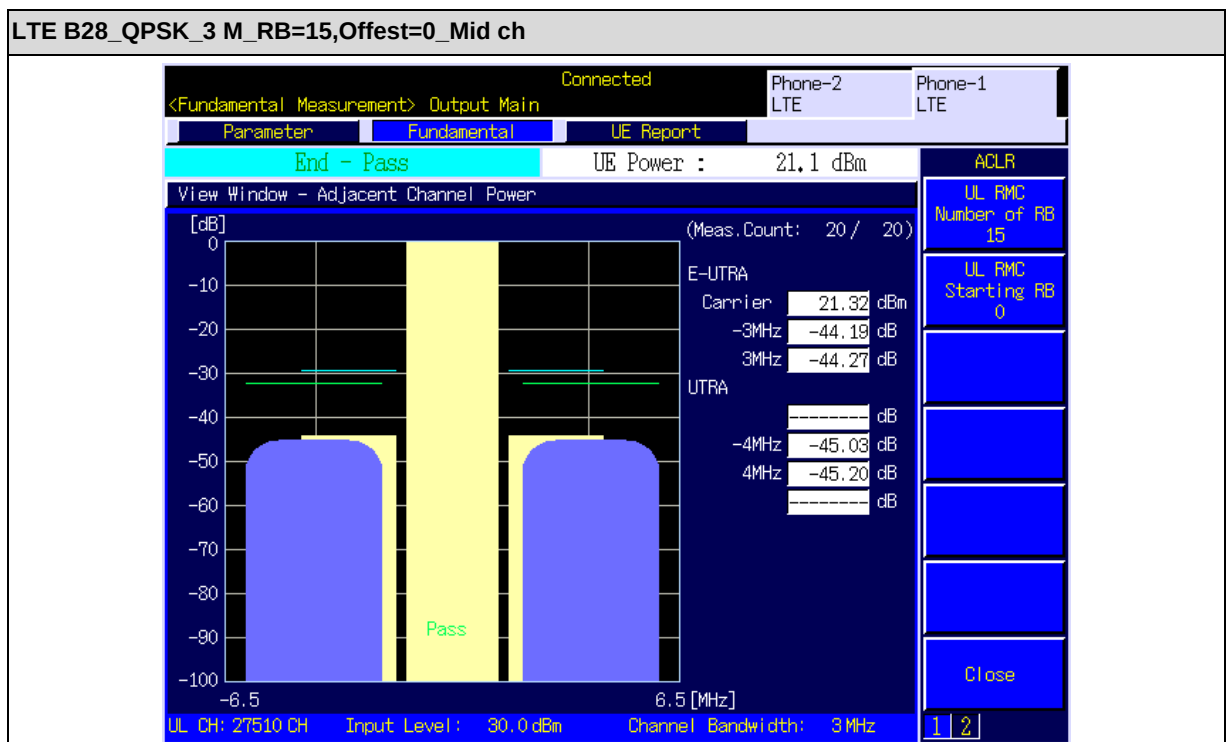
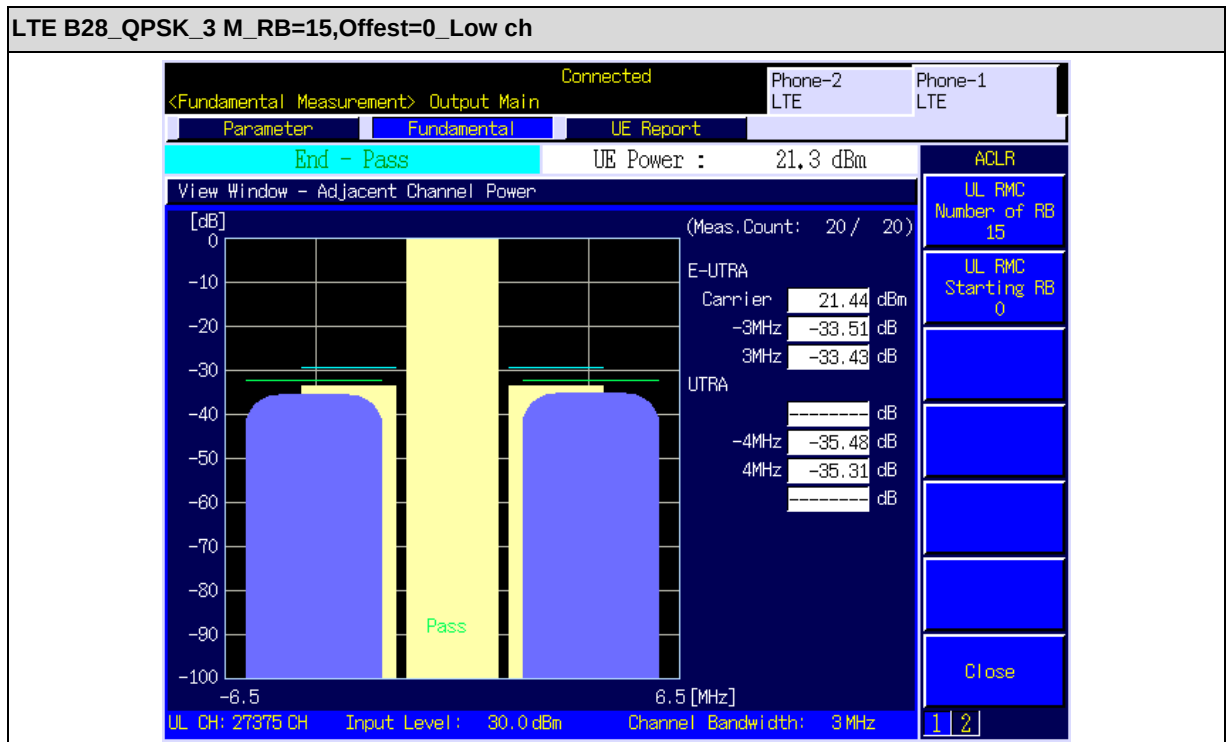


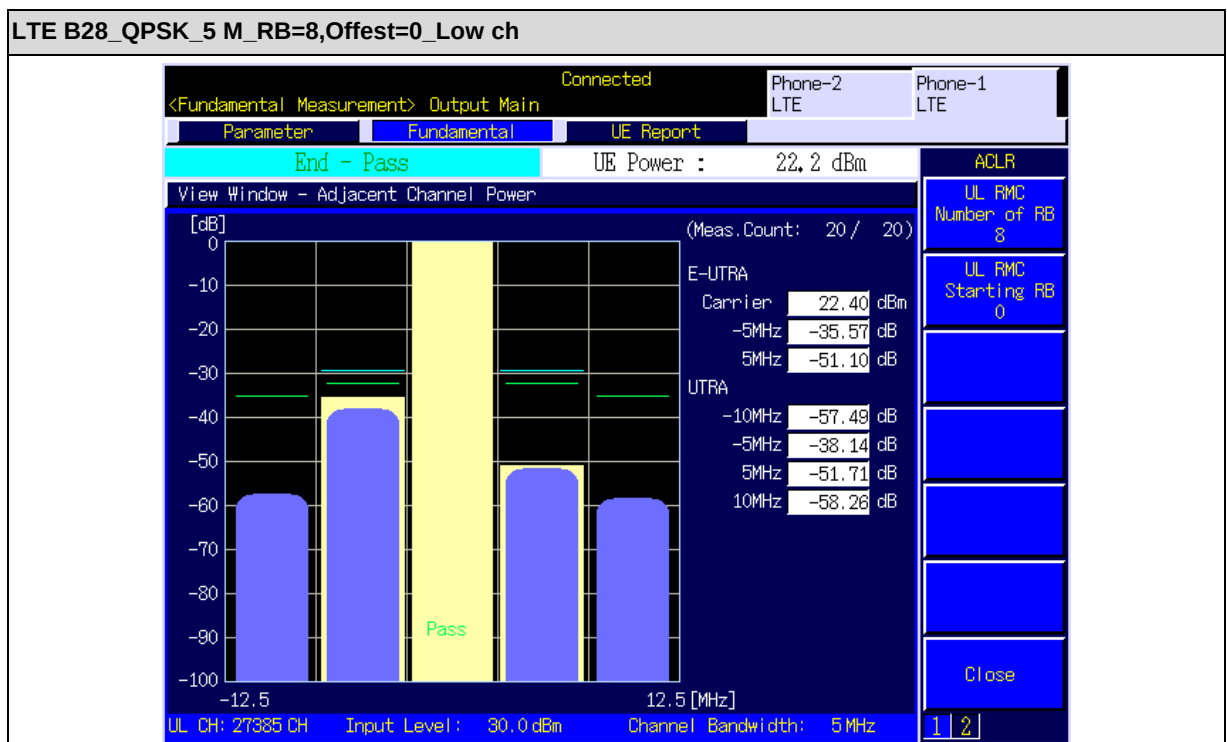
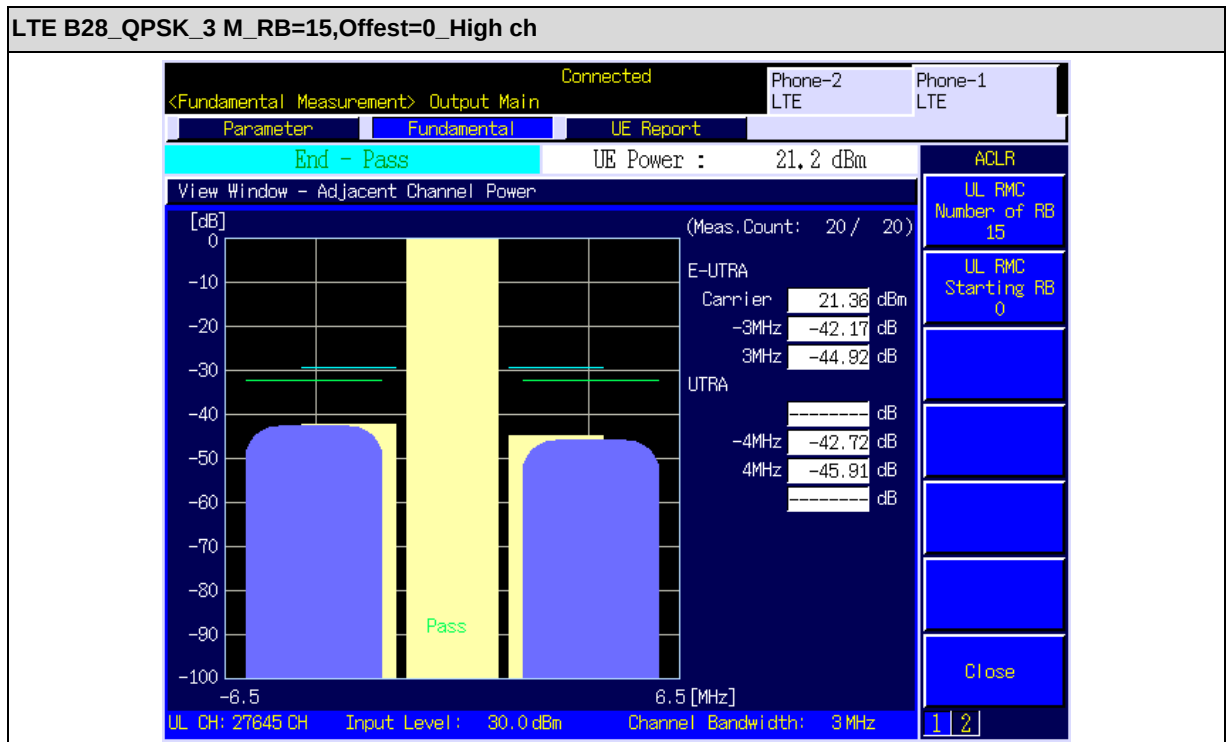
4.2.2 相鄰頻道洩漏功率比

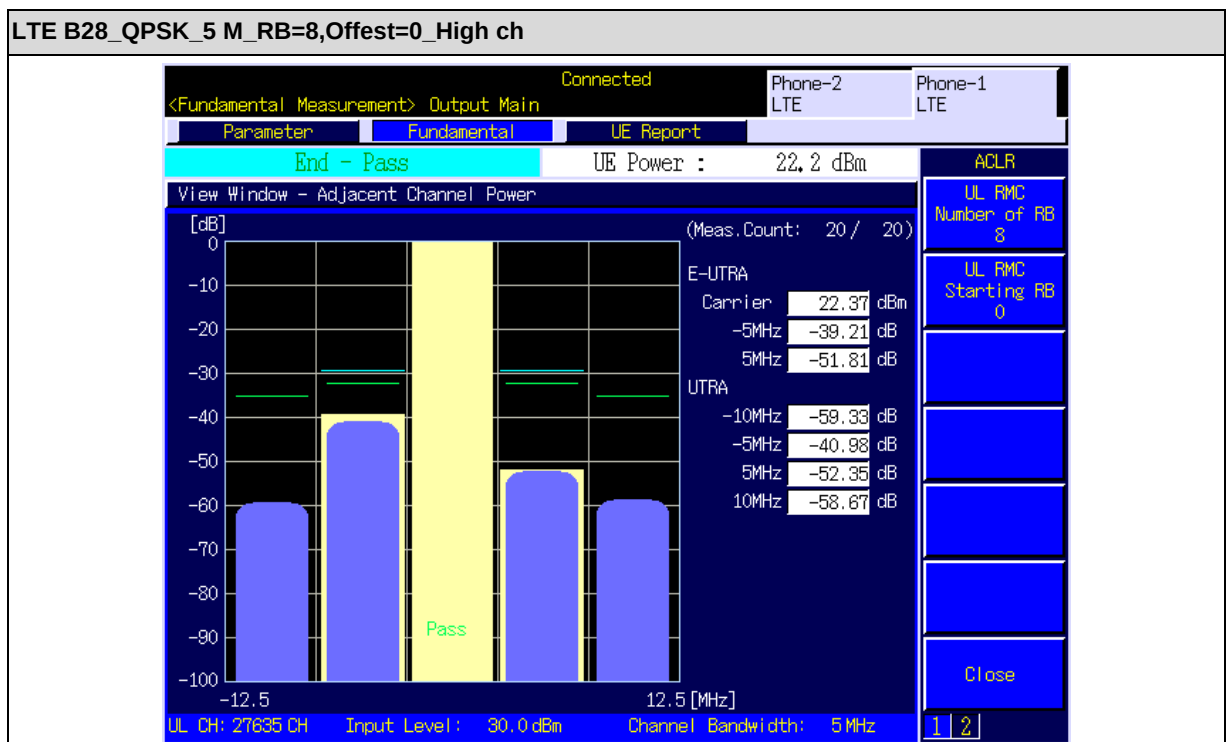
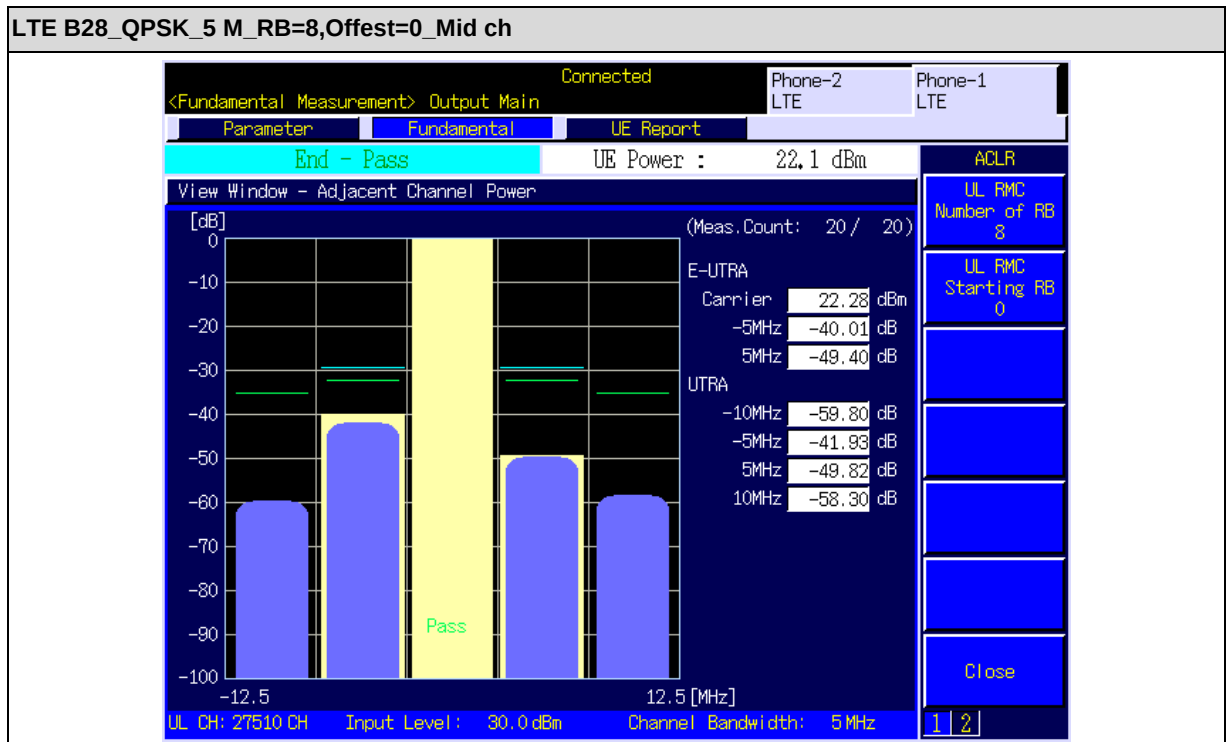


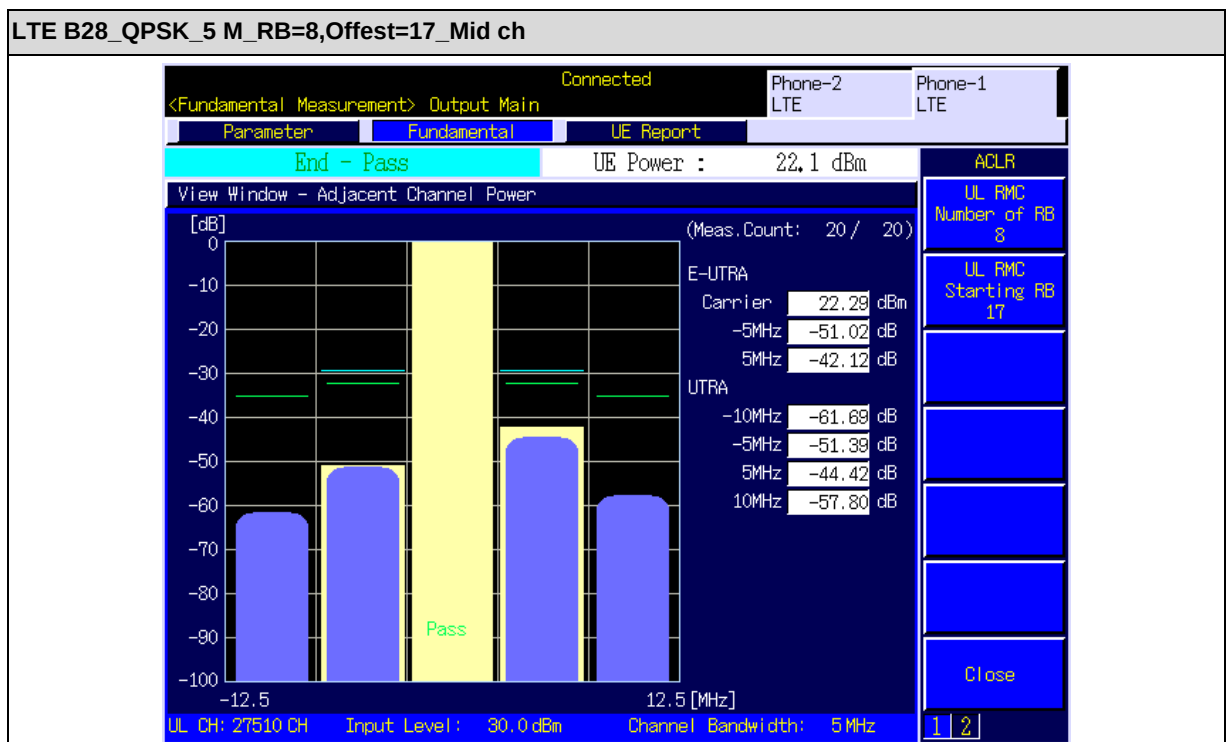
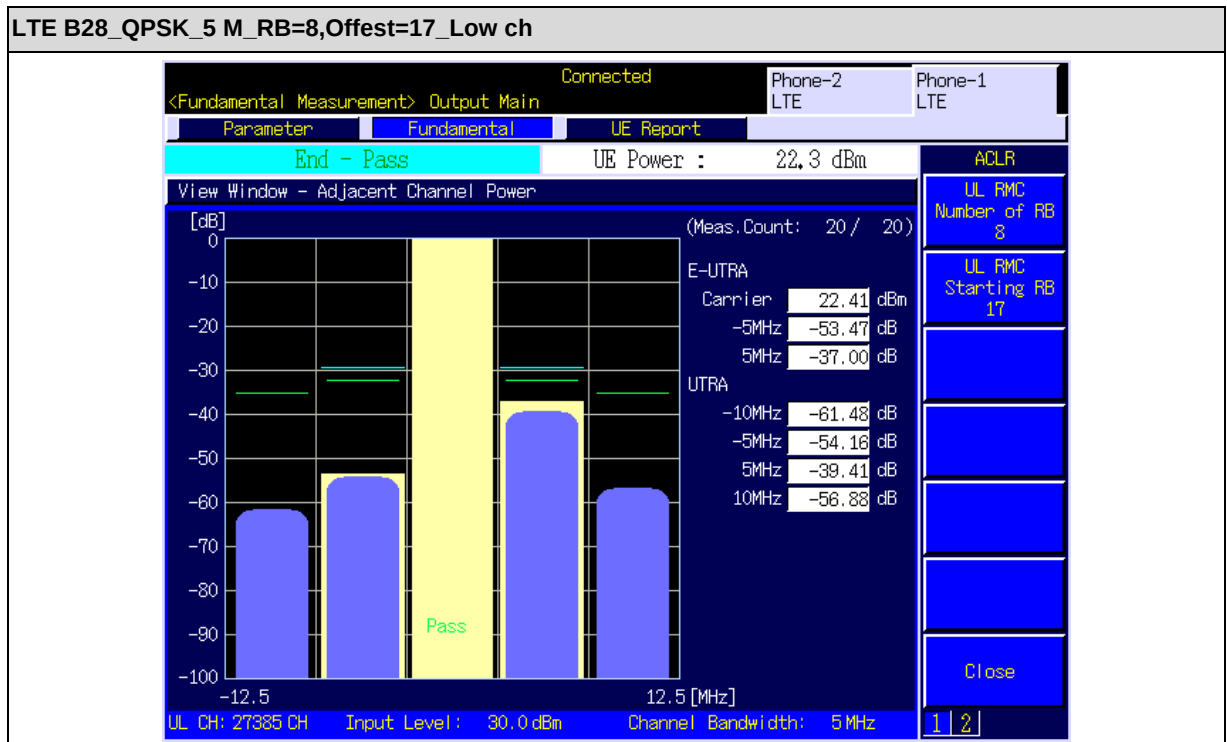


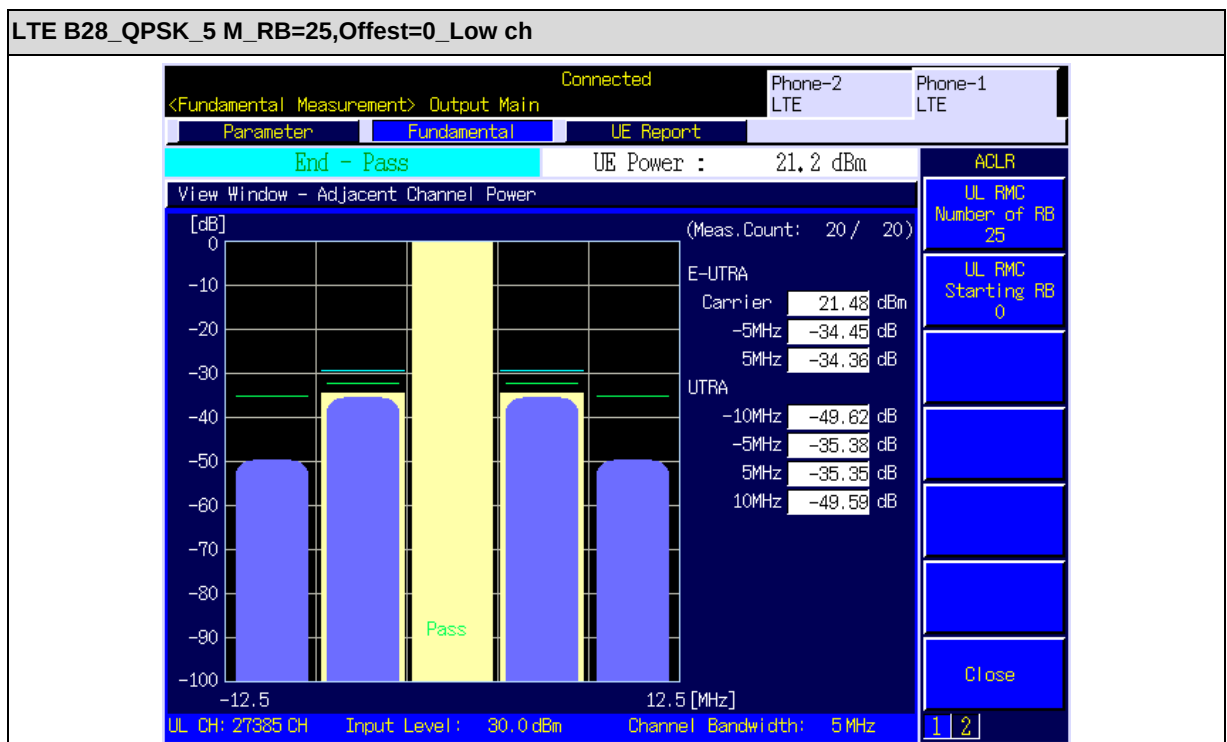
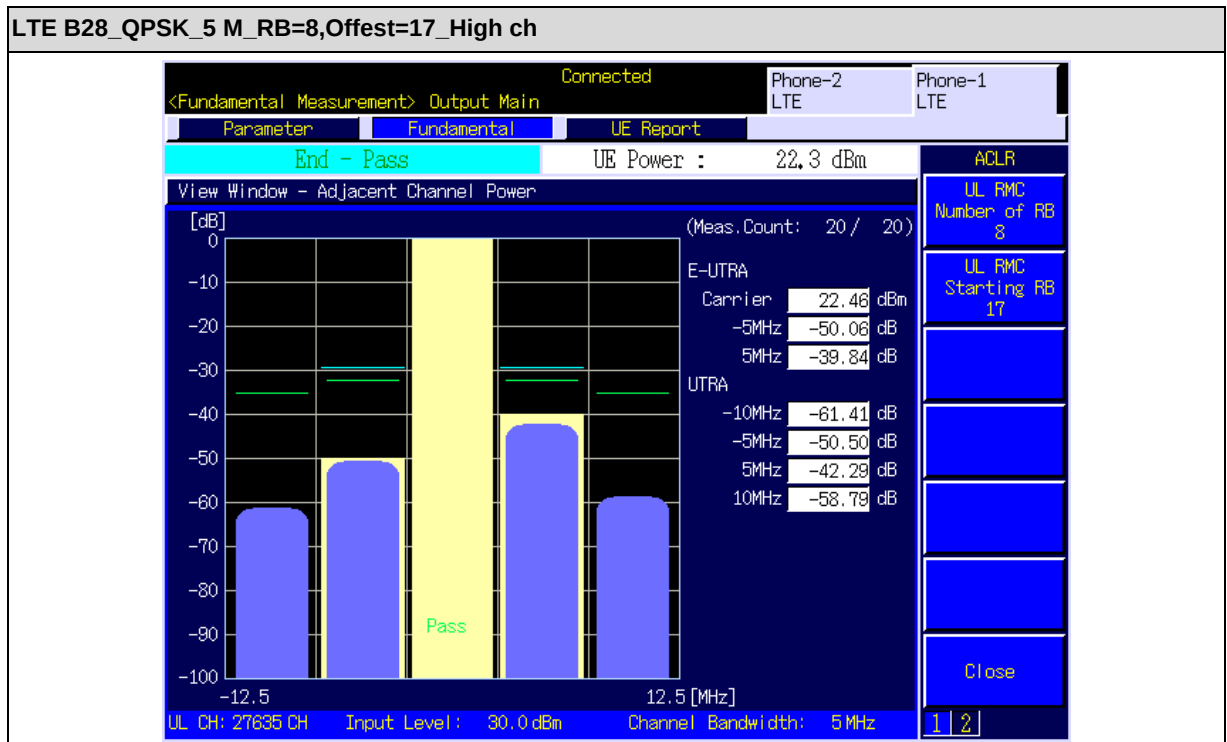


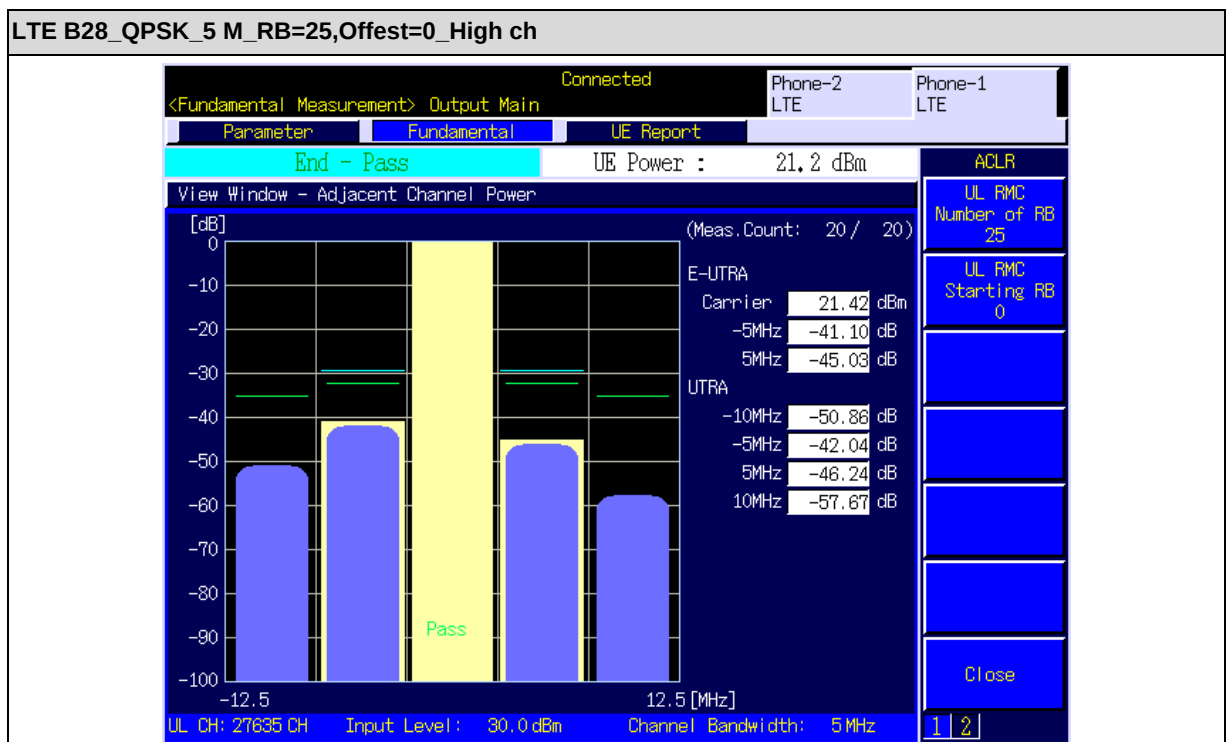
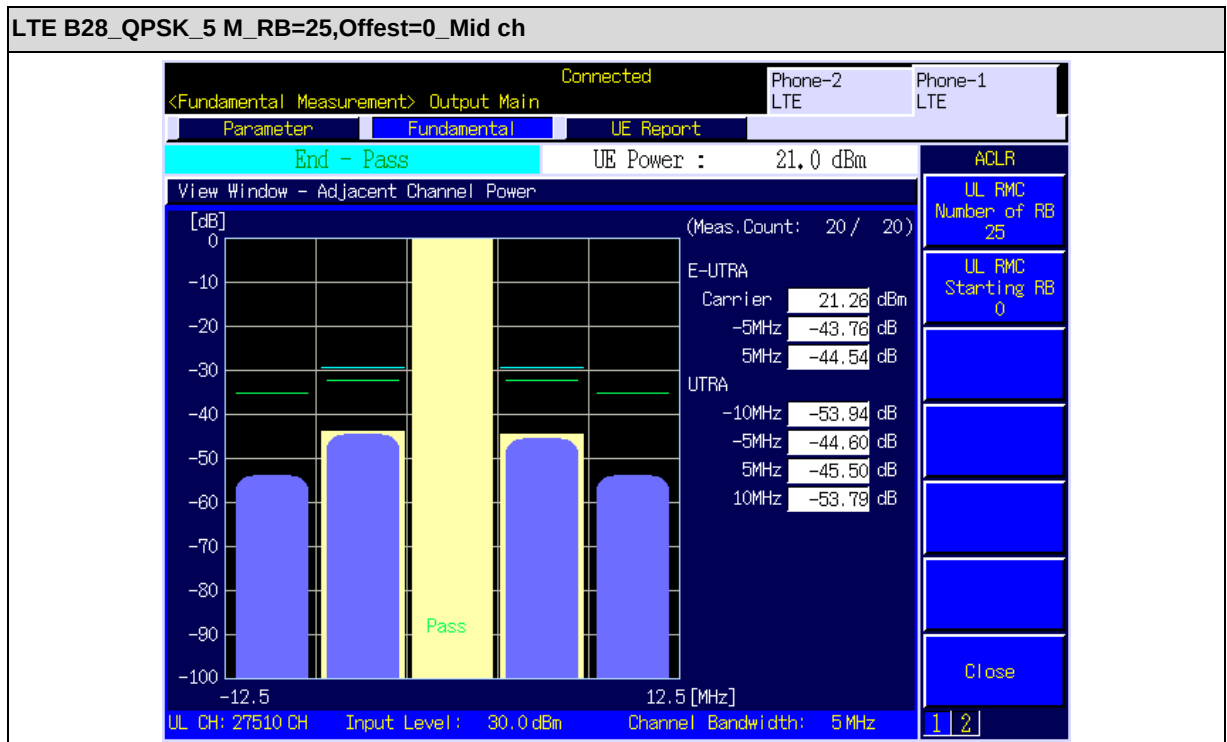


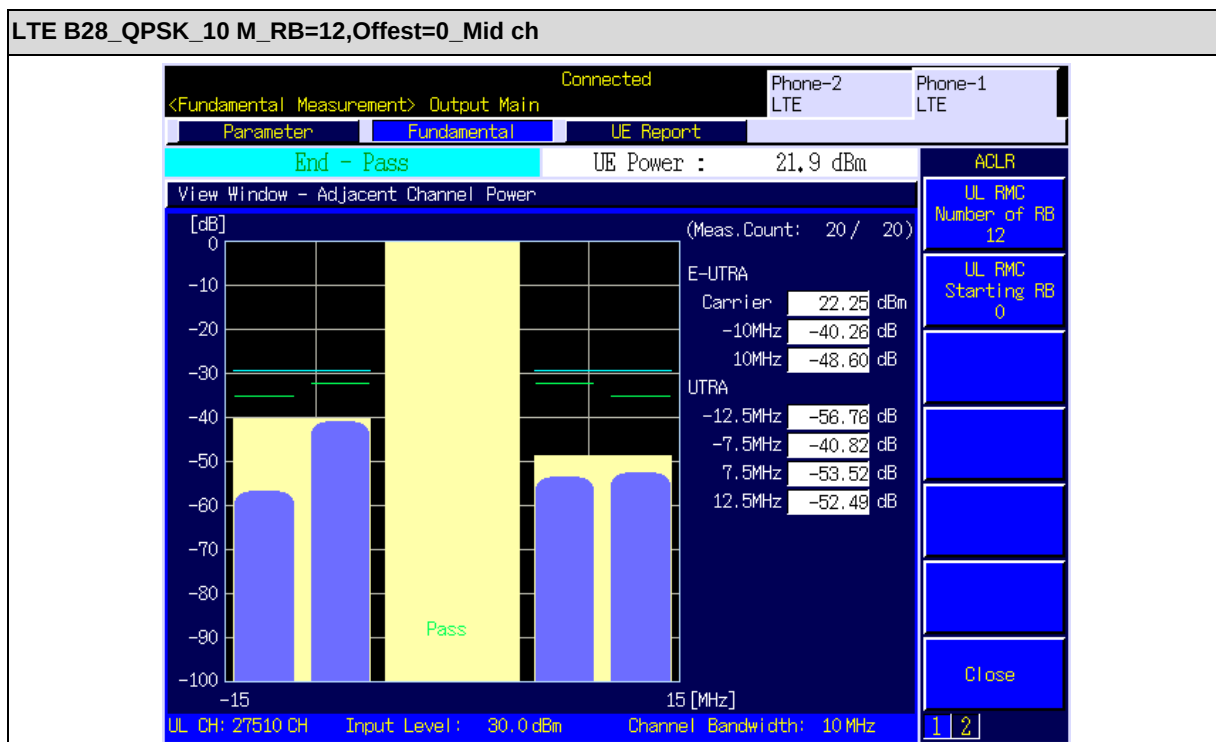
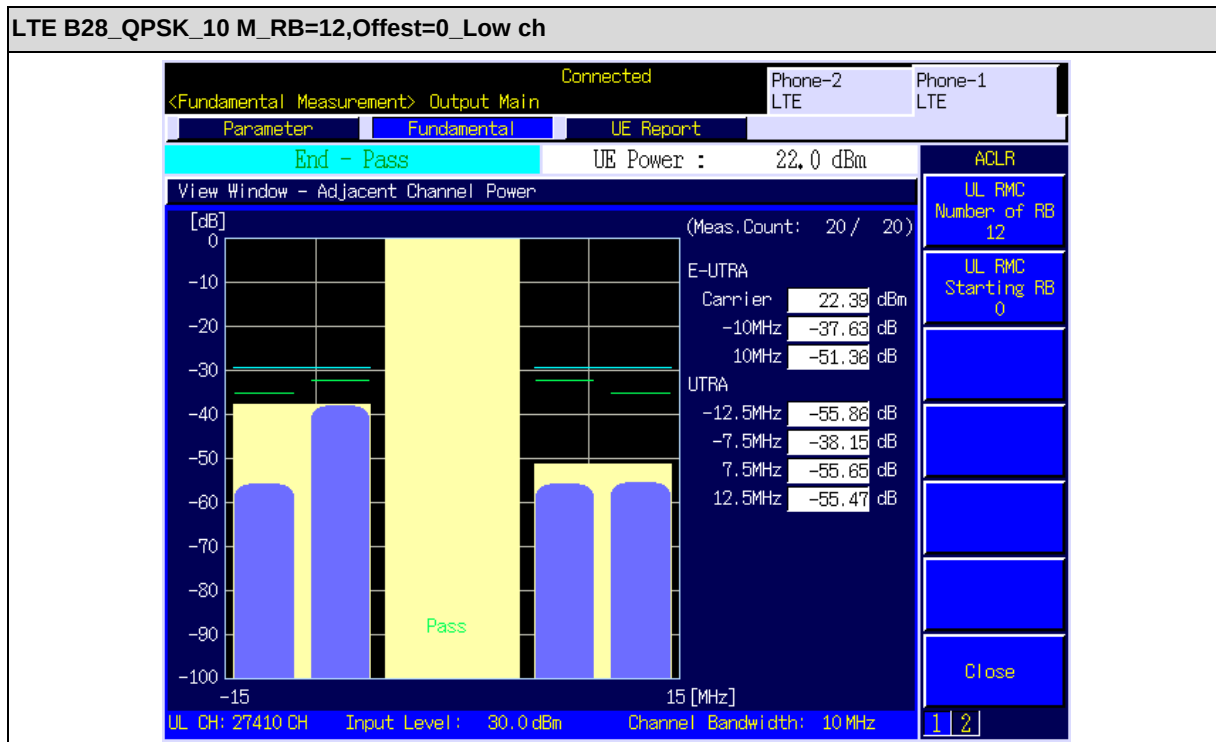


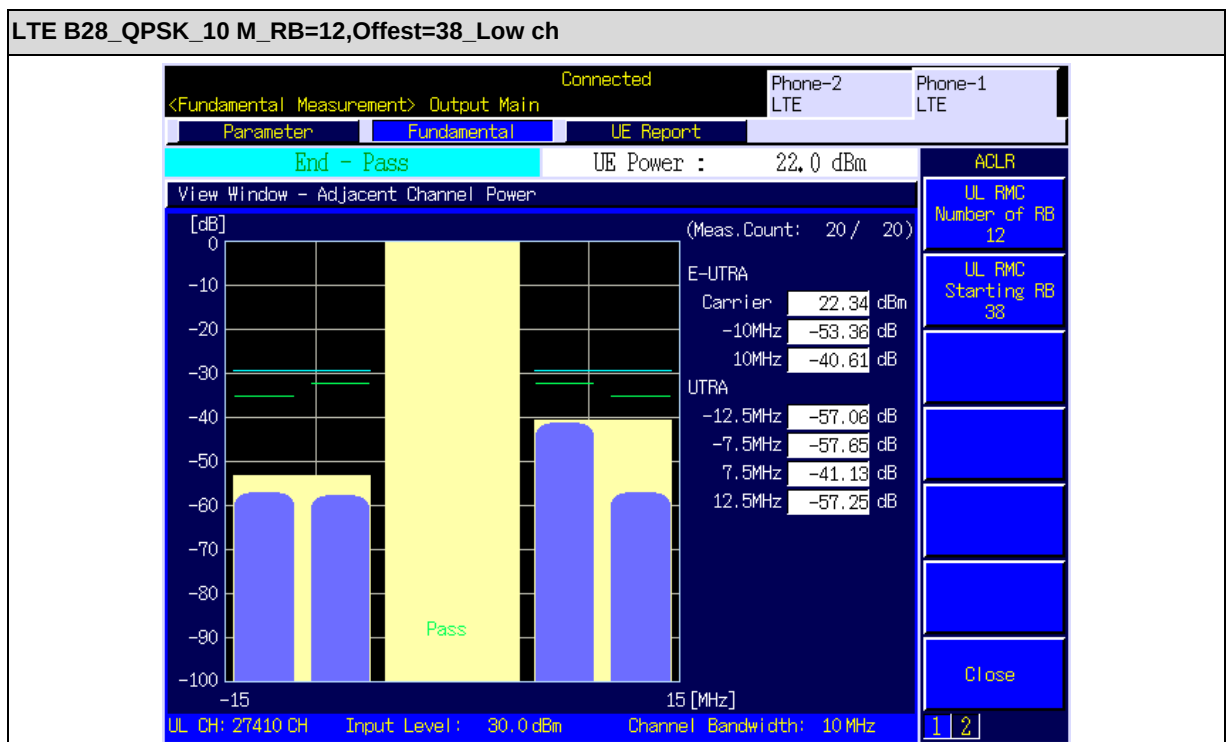
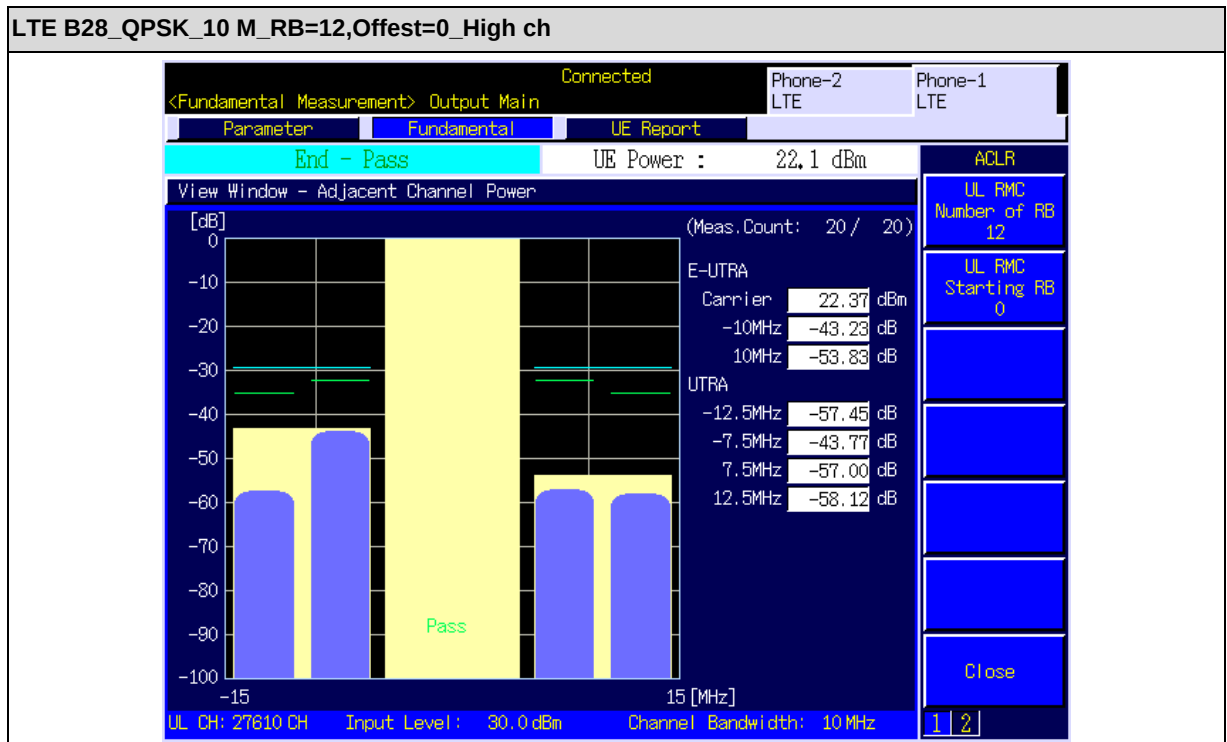


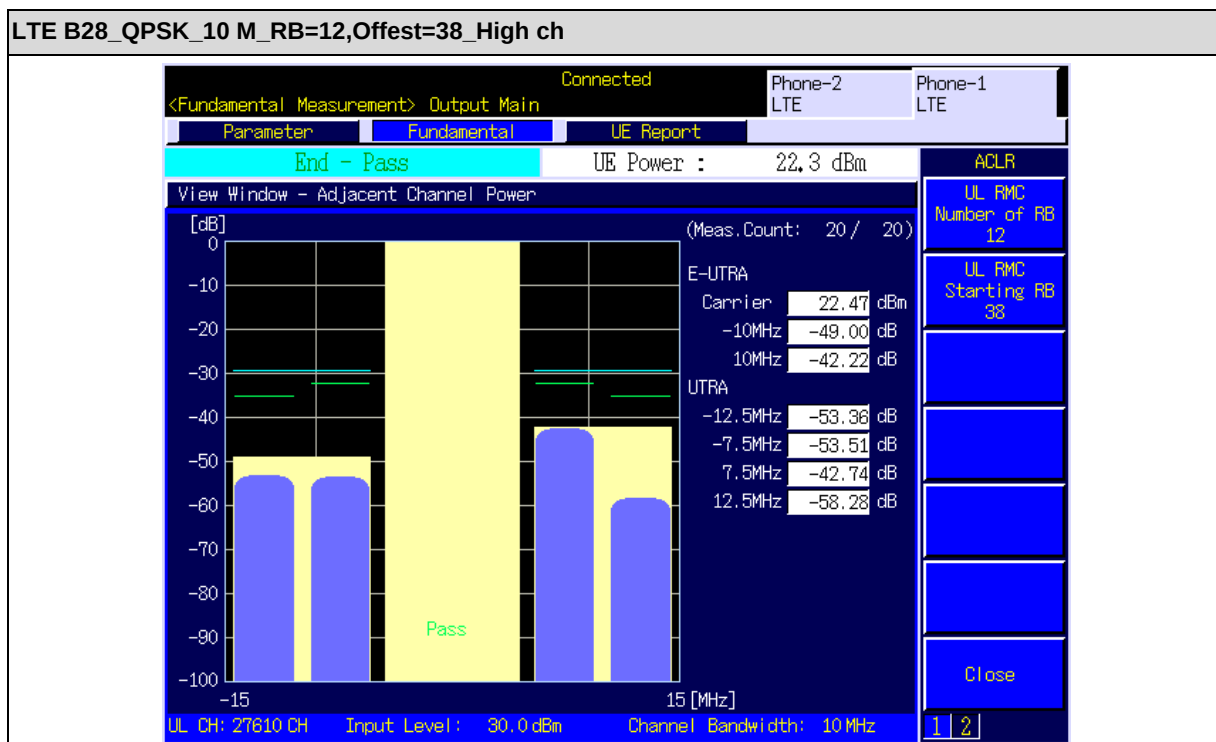
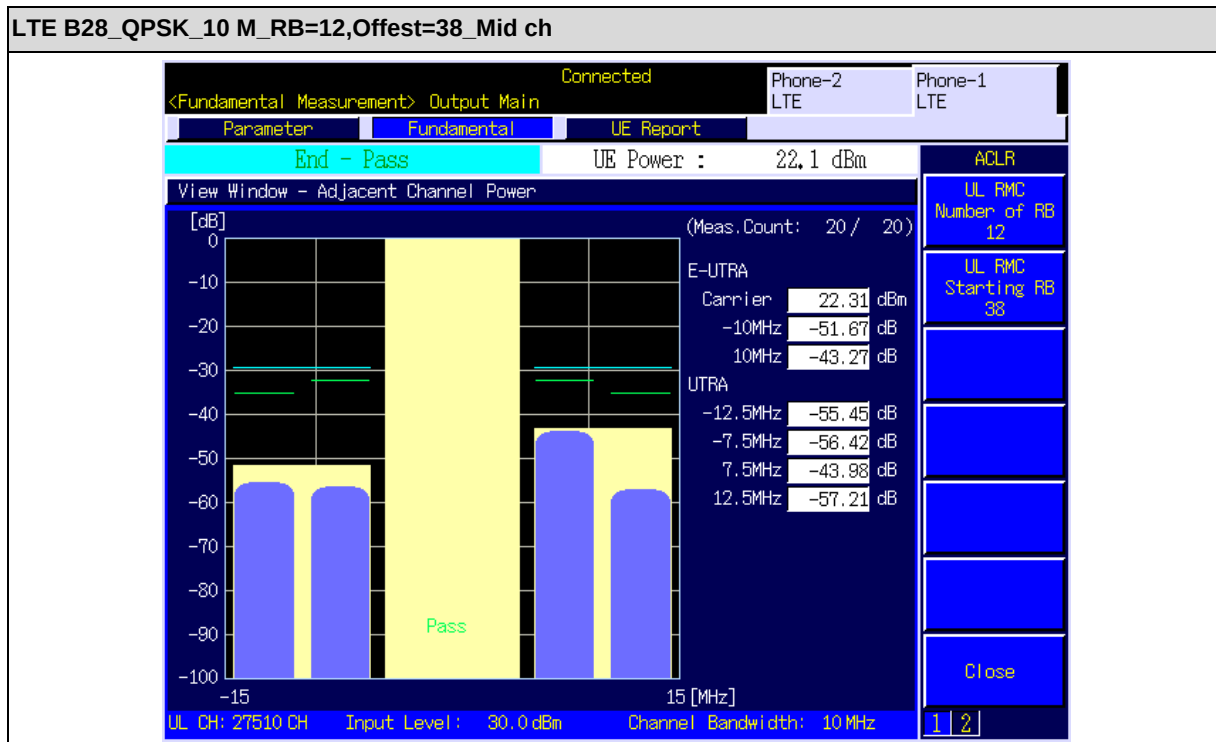


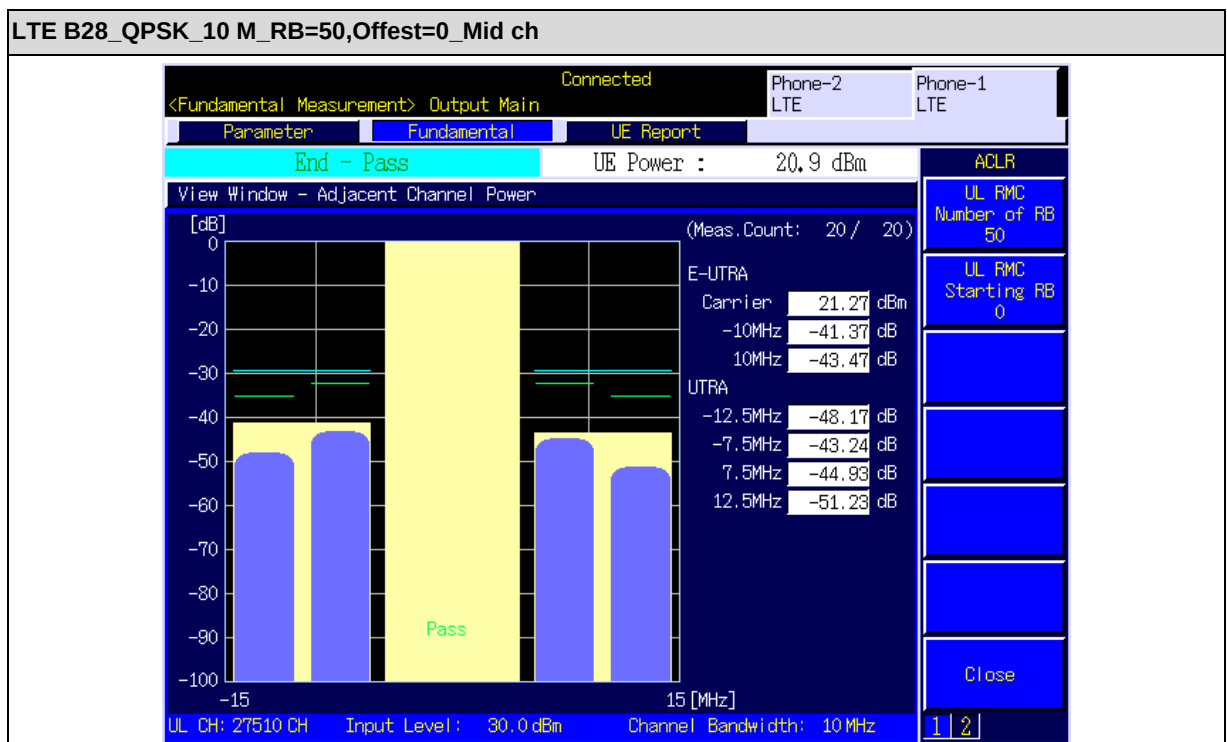
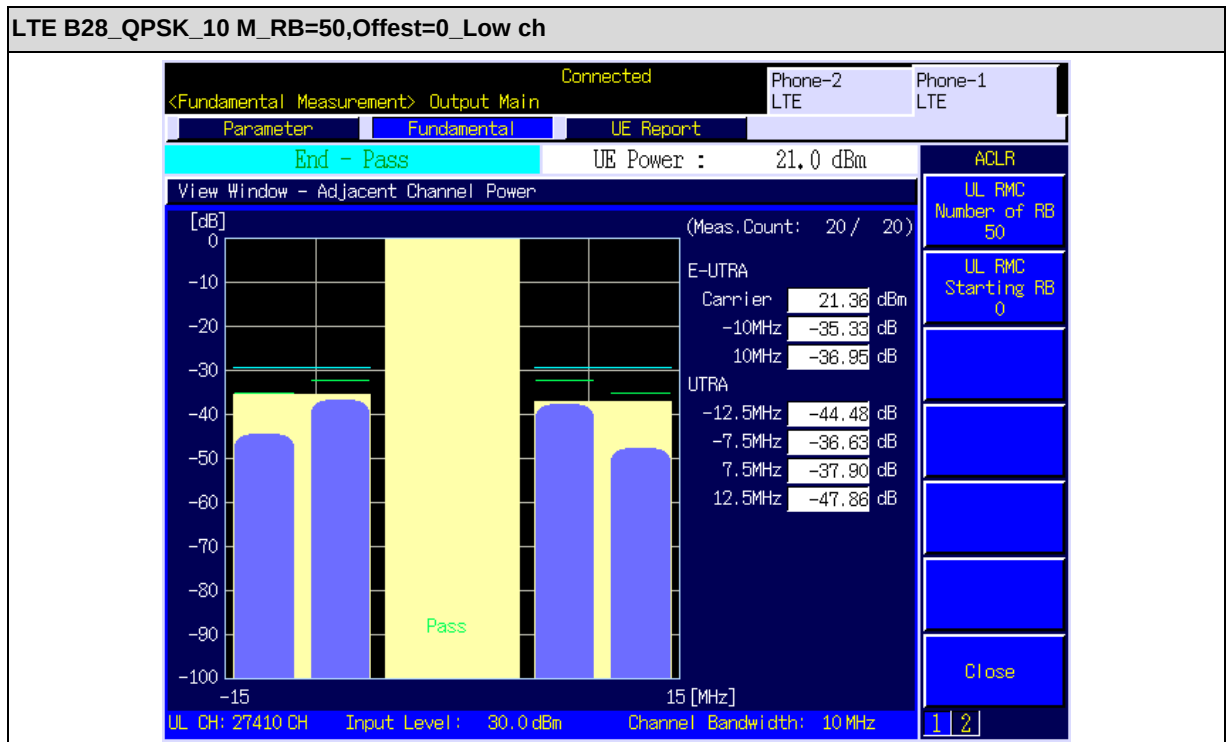


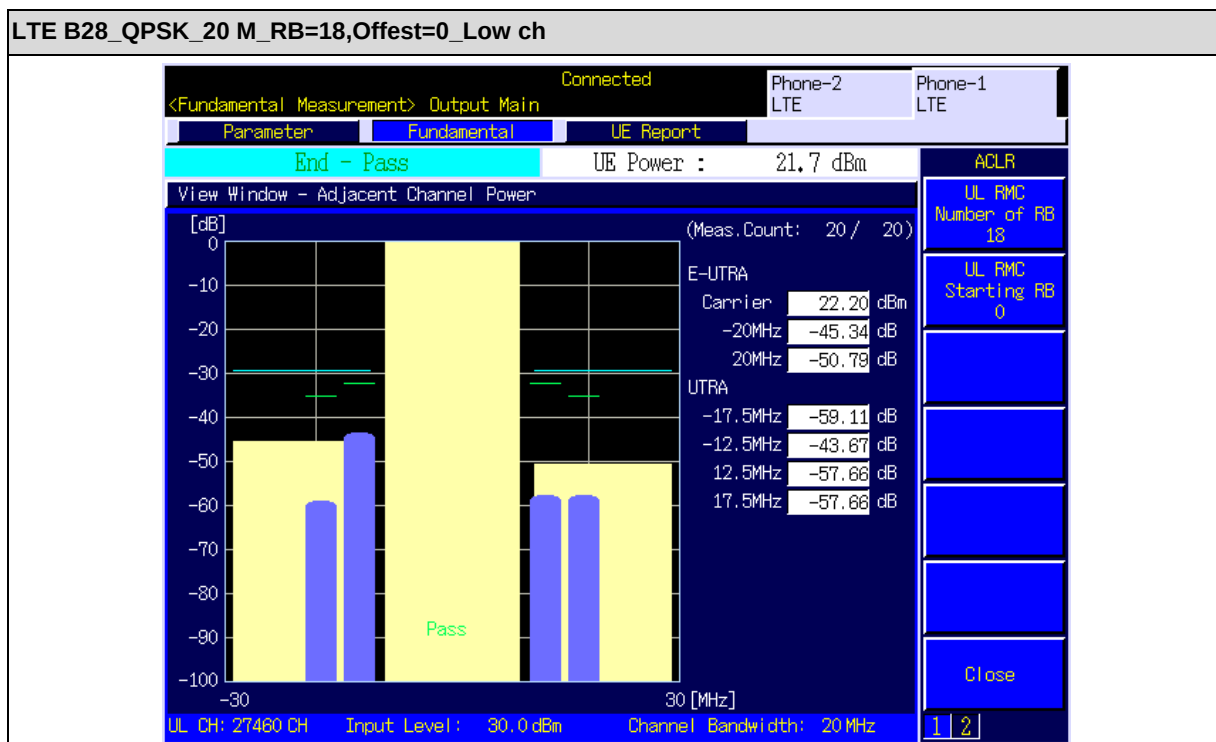
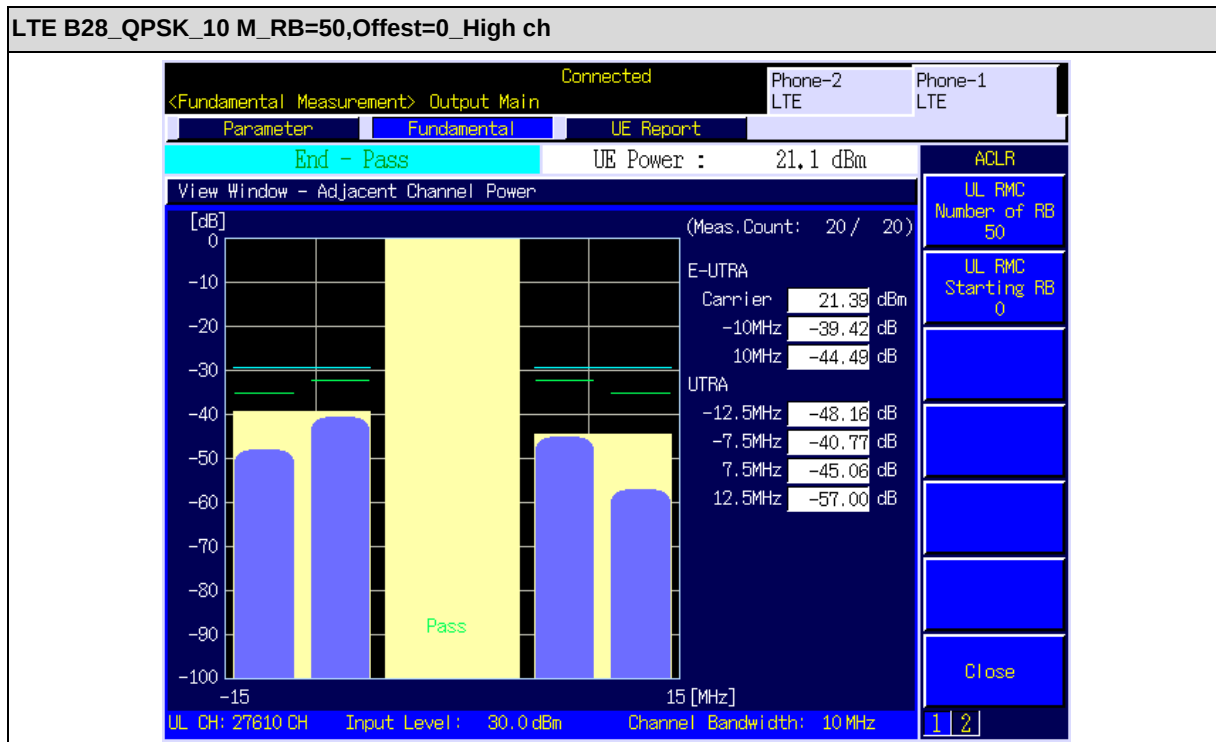


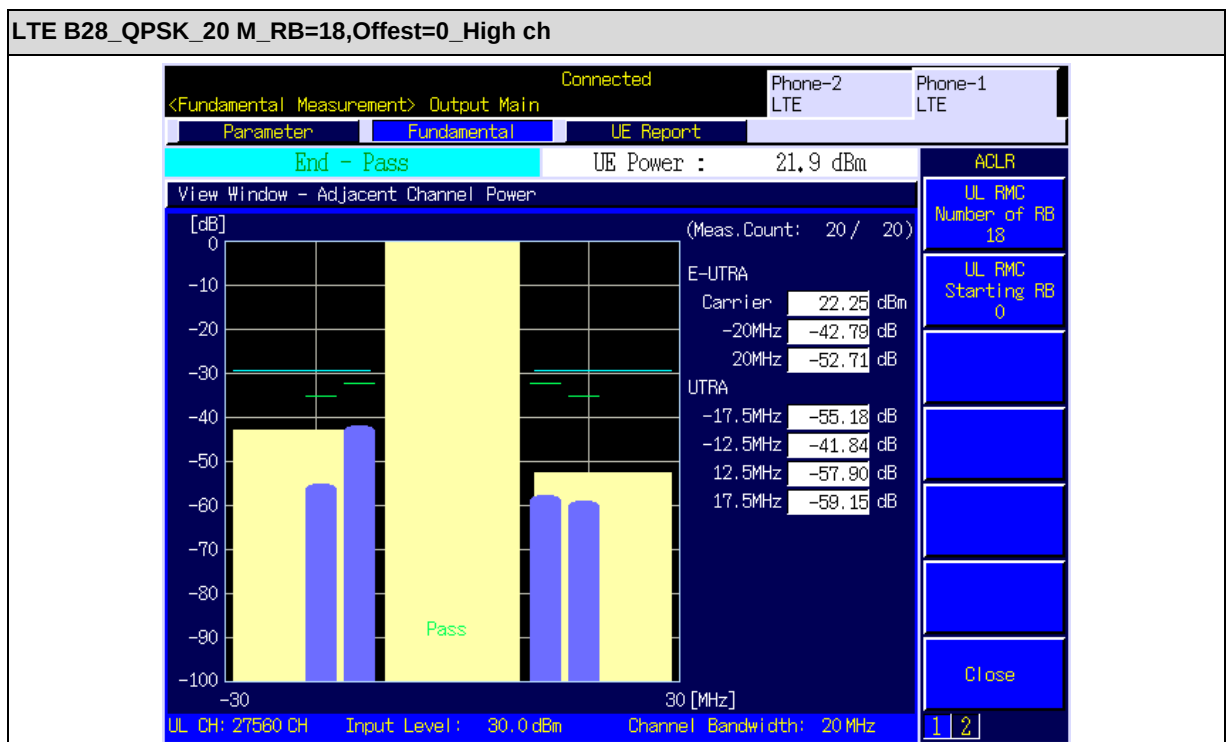
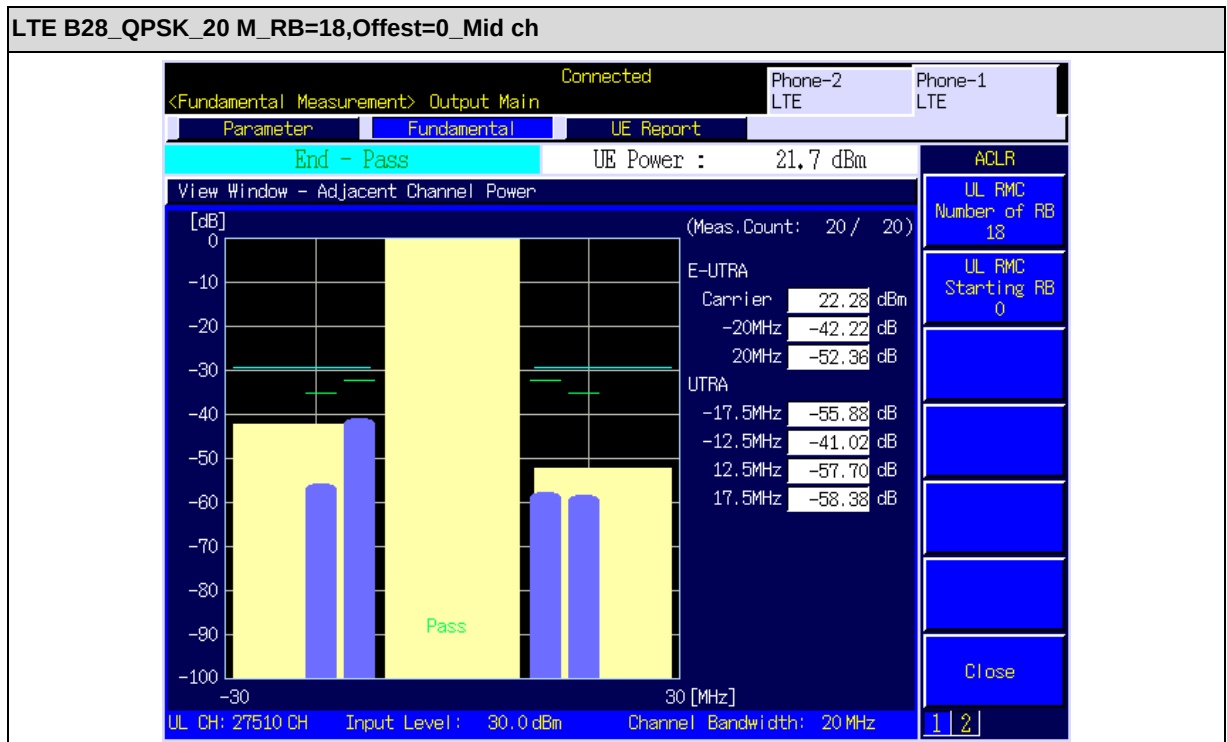


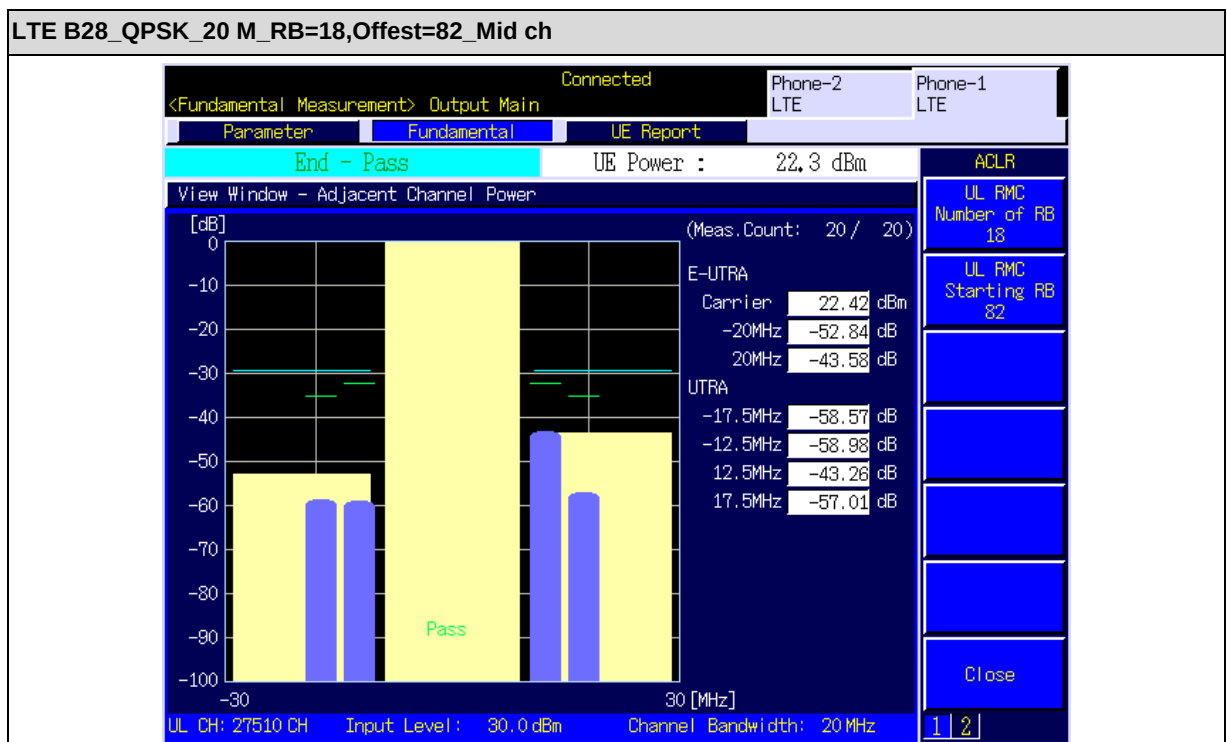
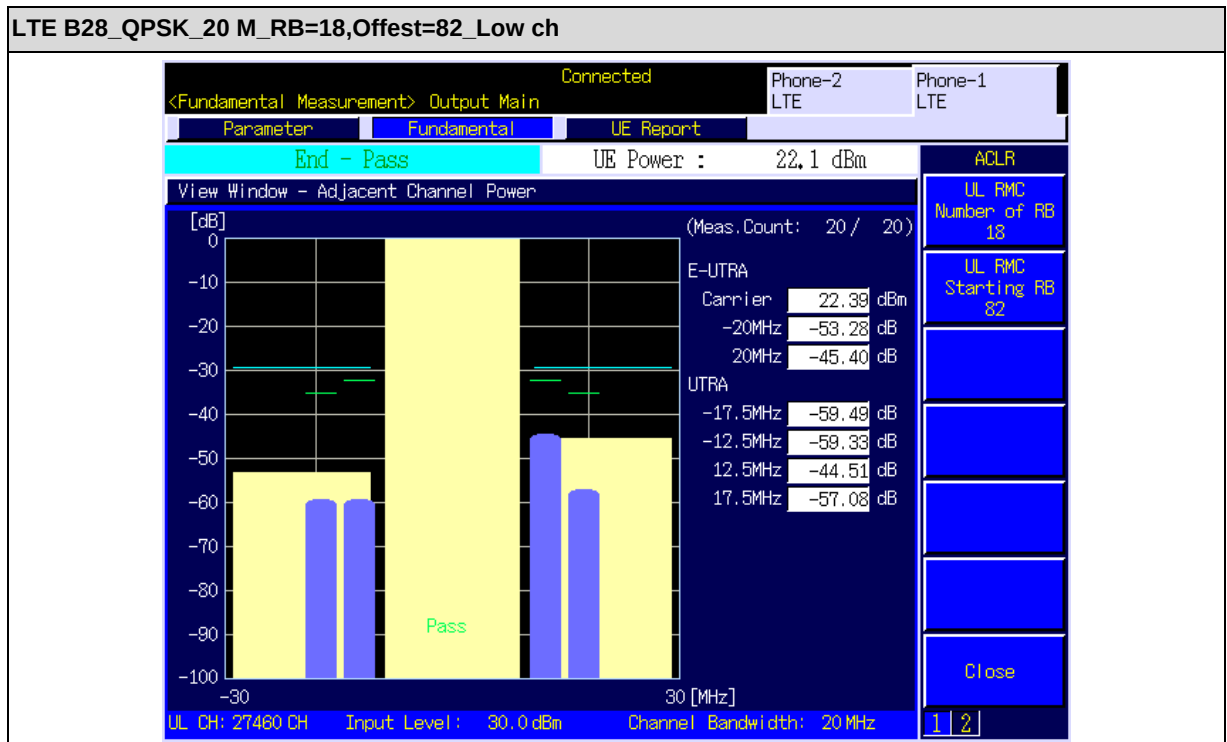


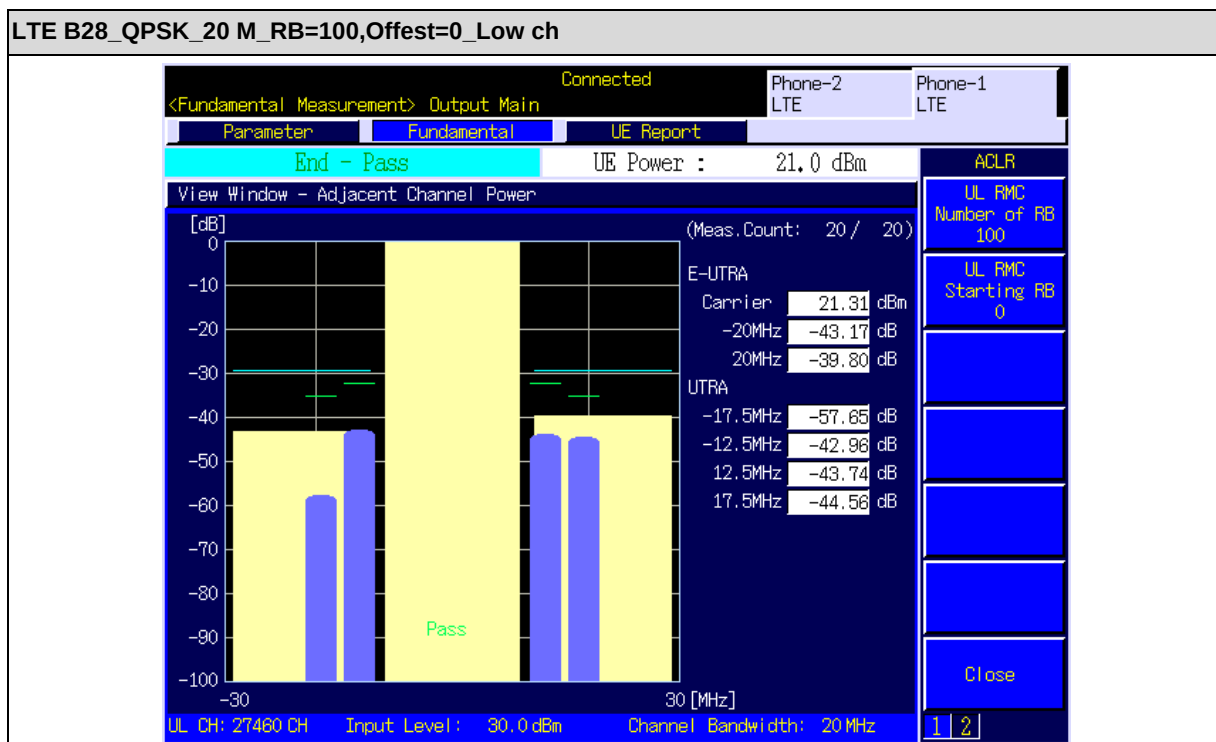
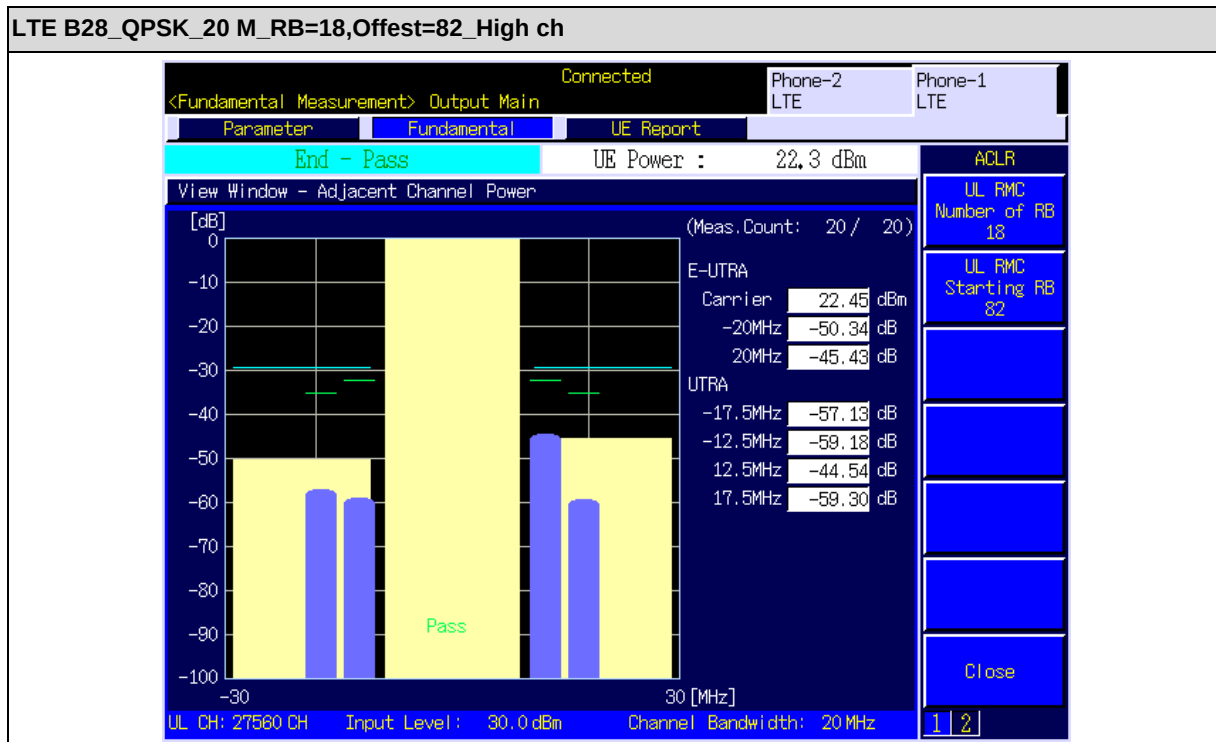


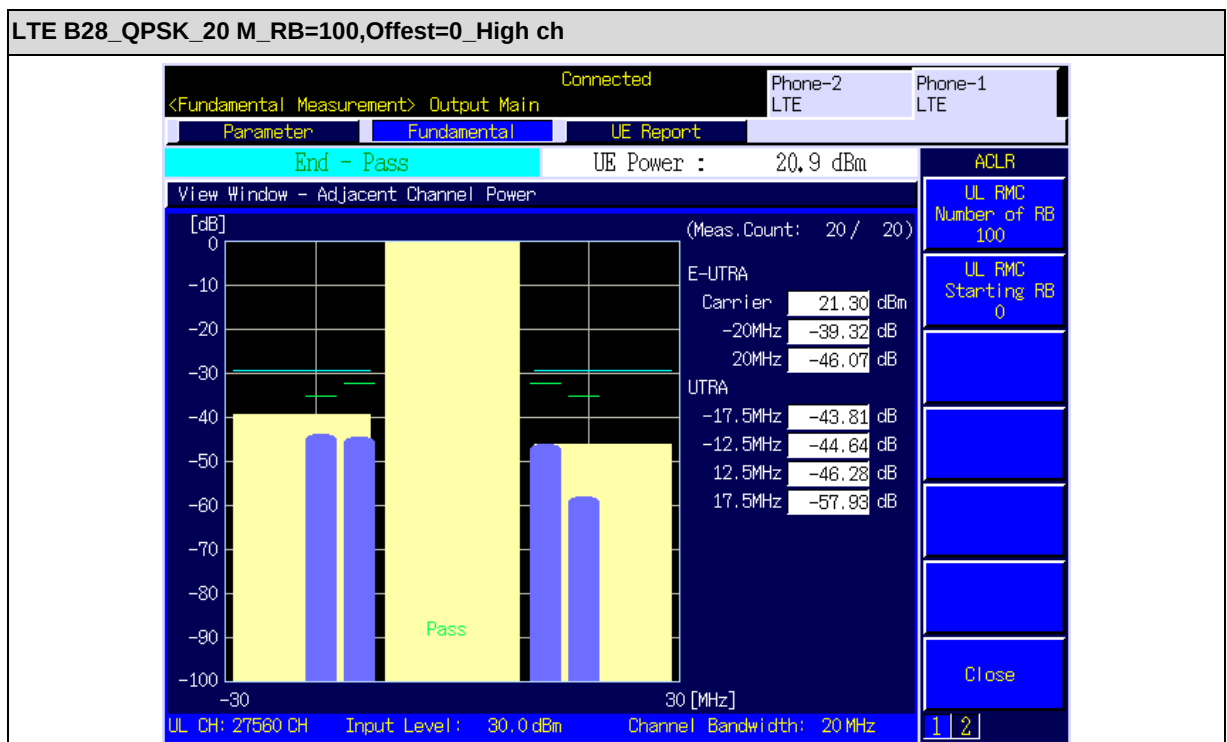
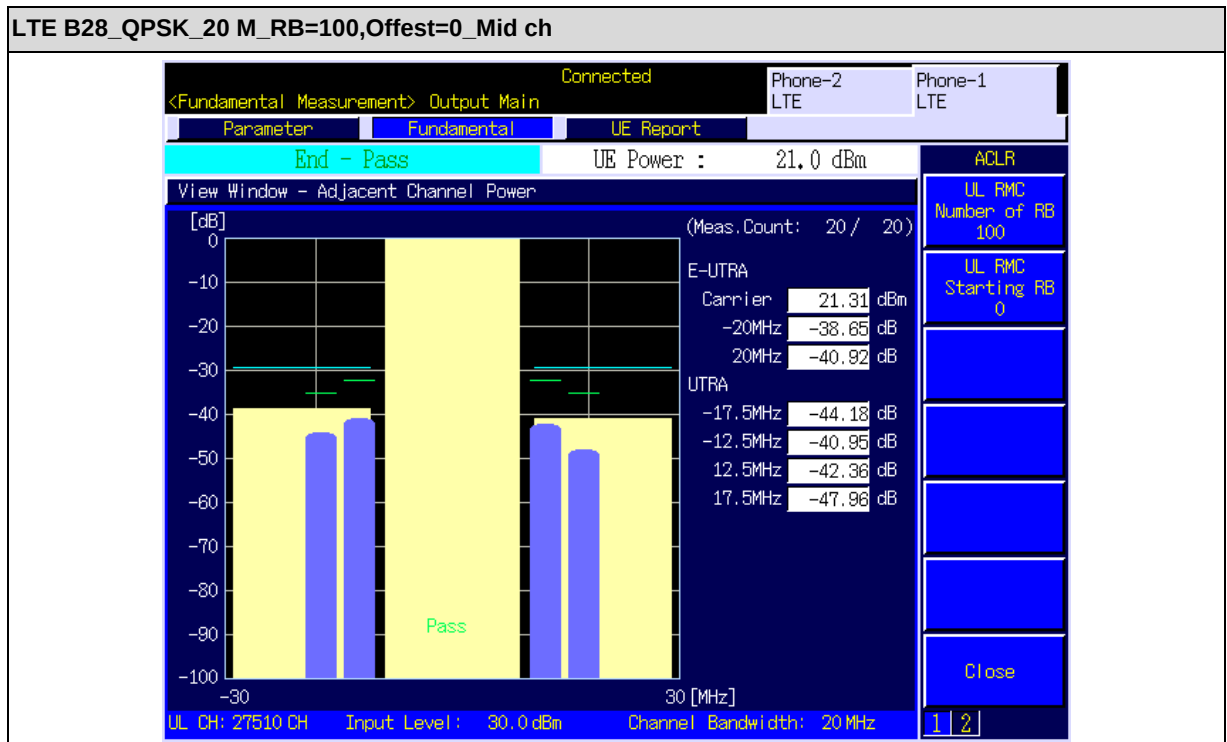


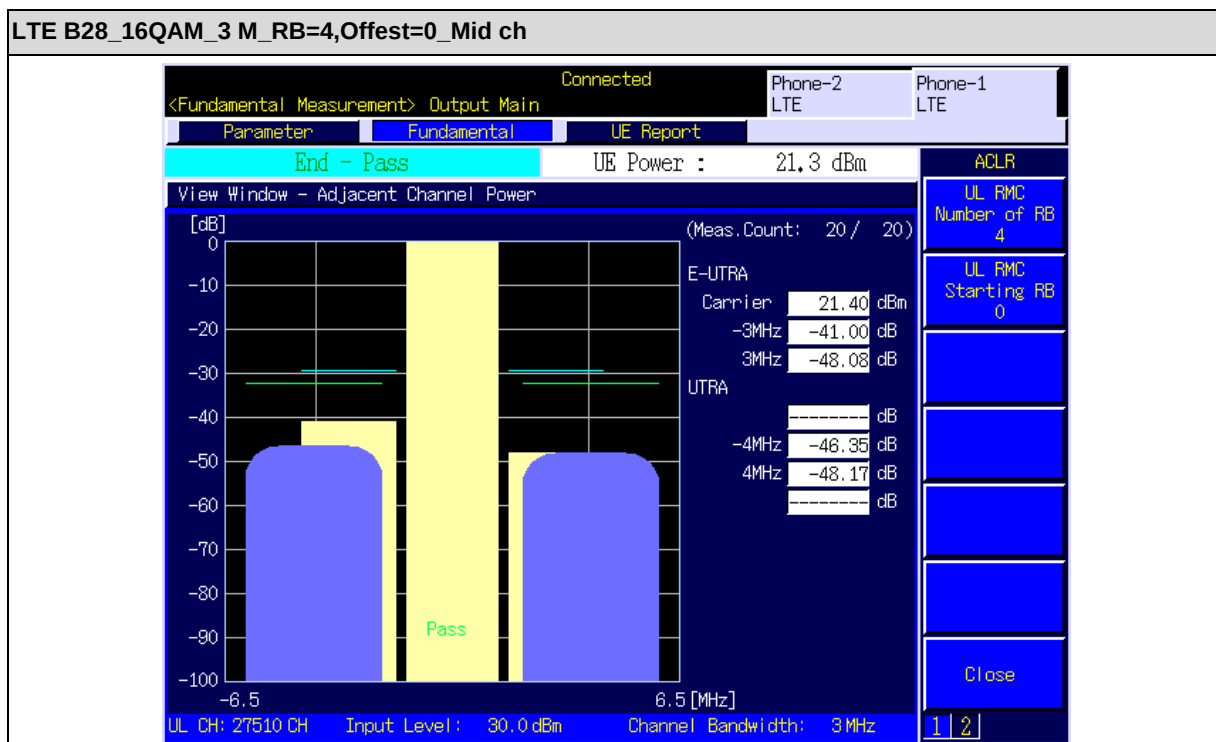
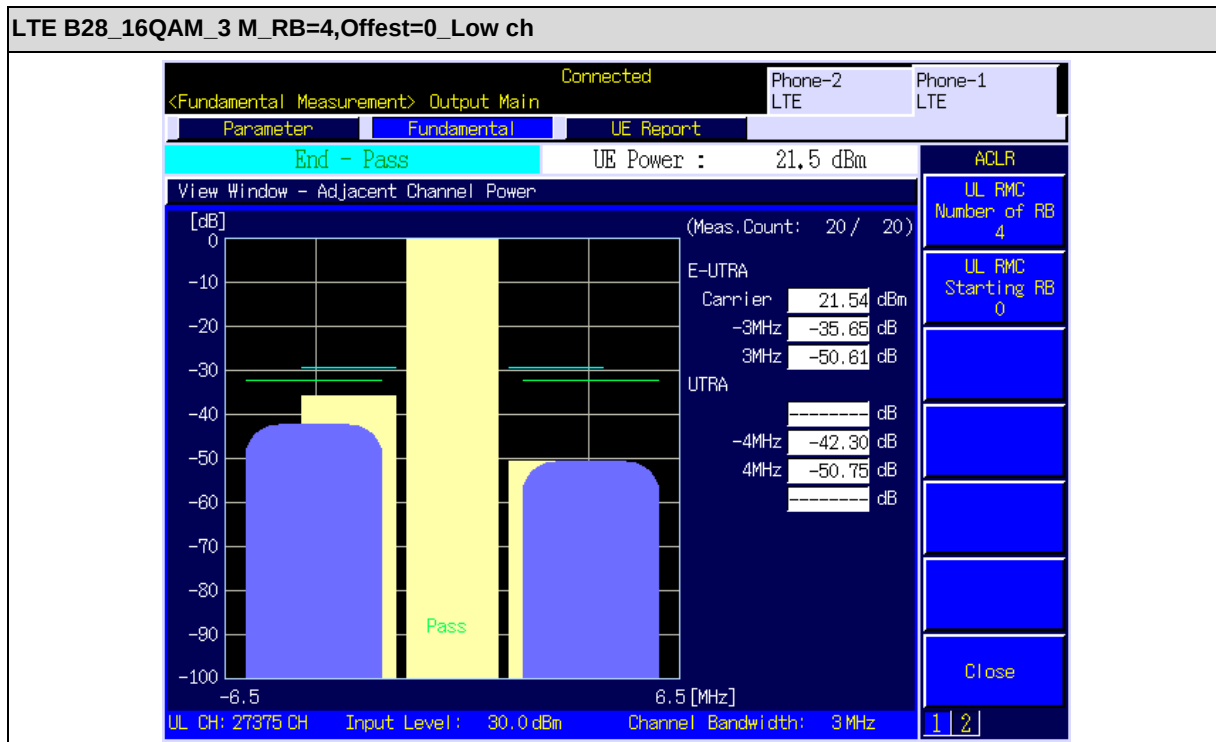


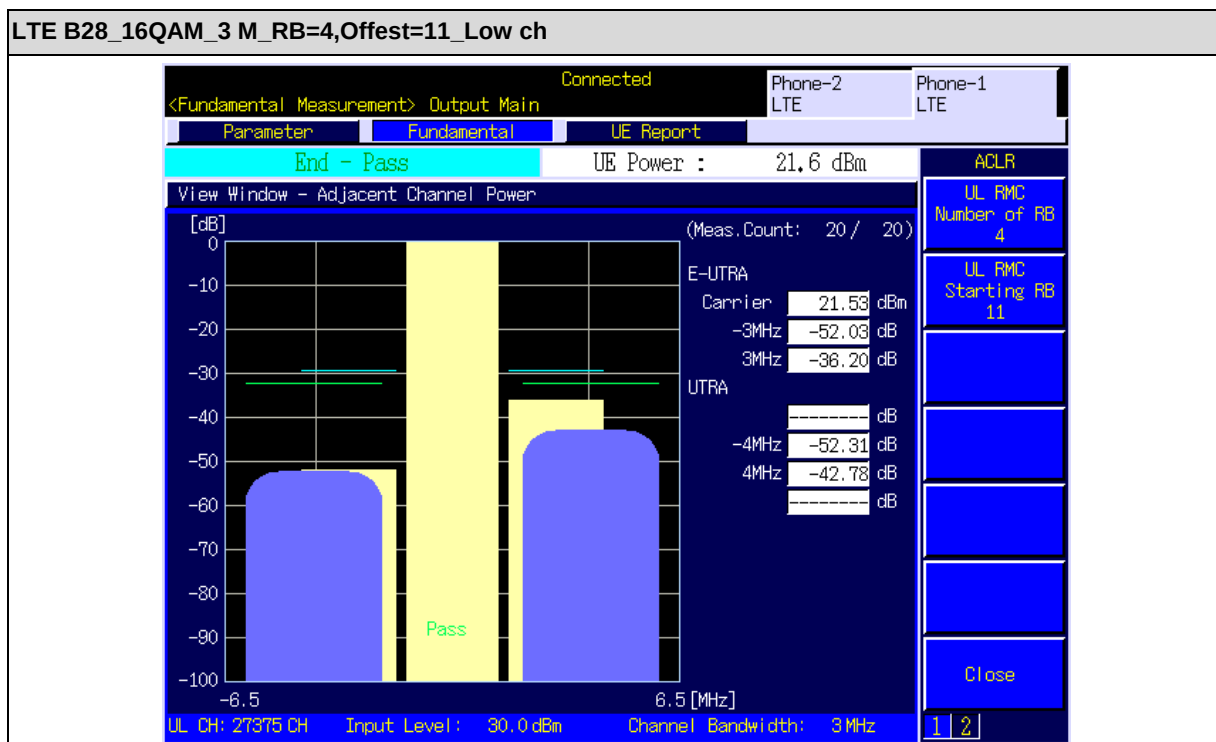
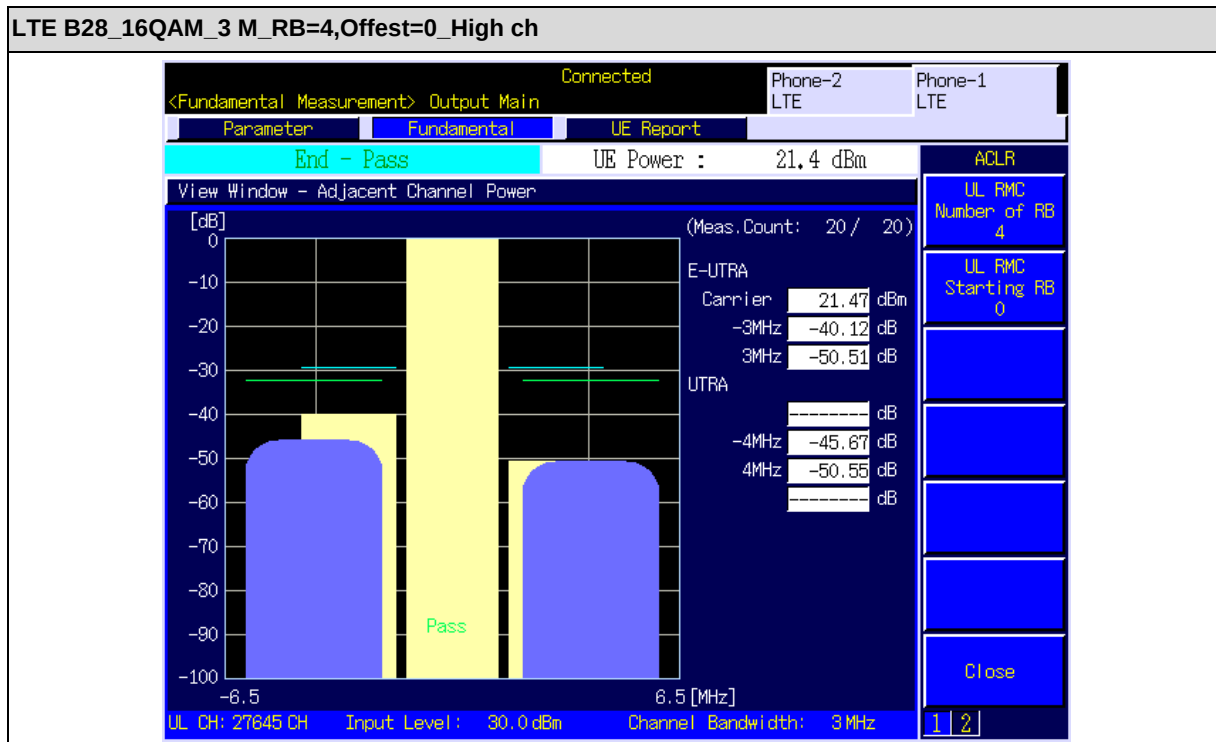


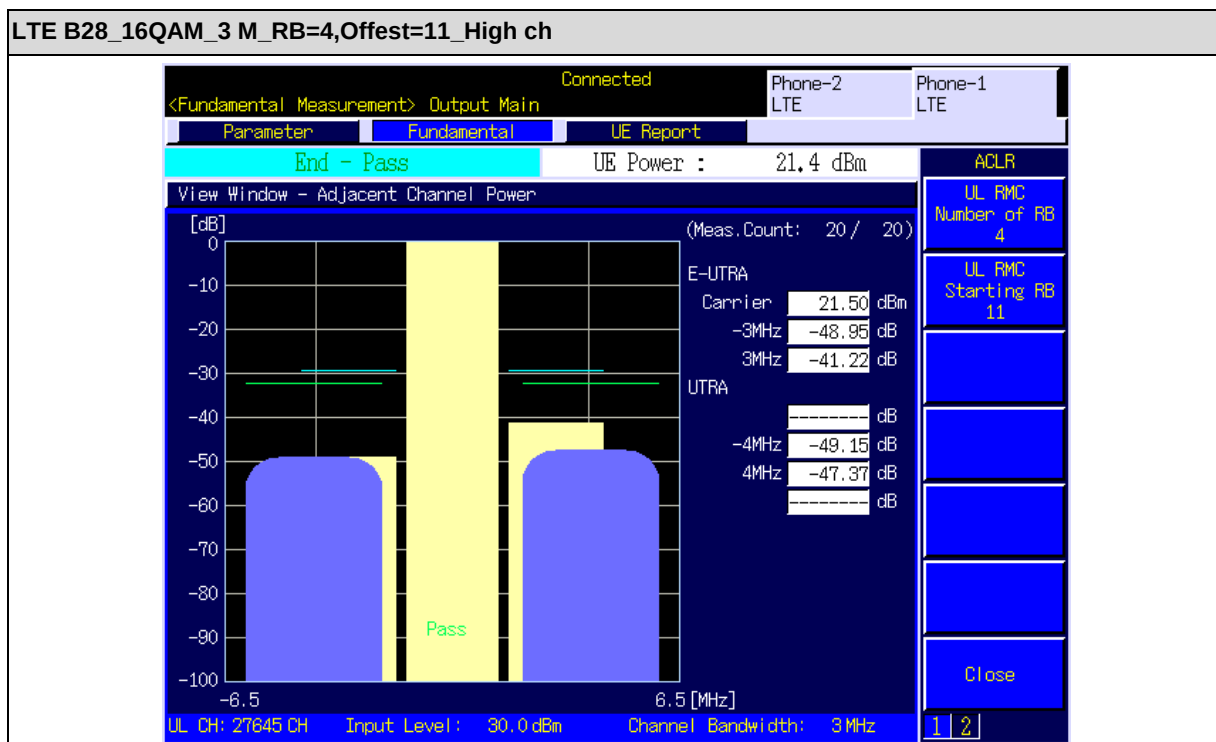
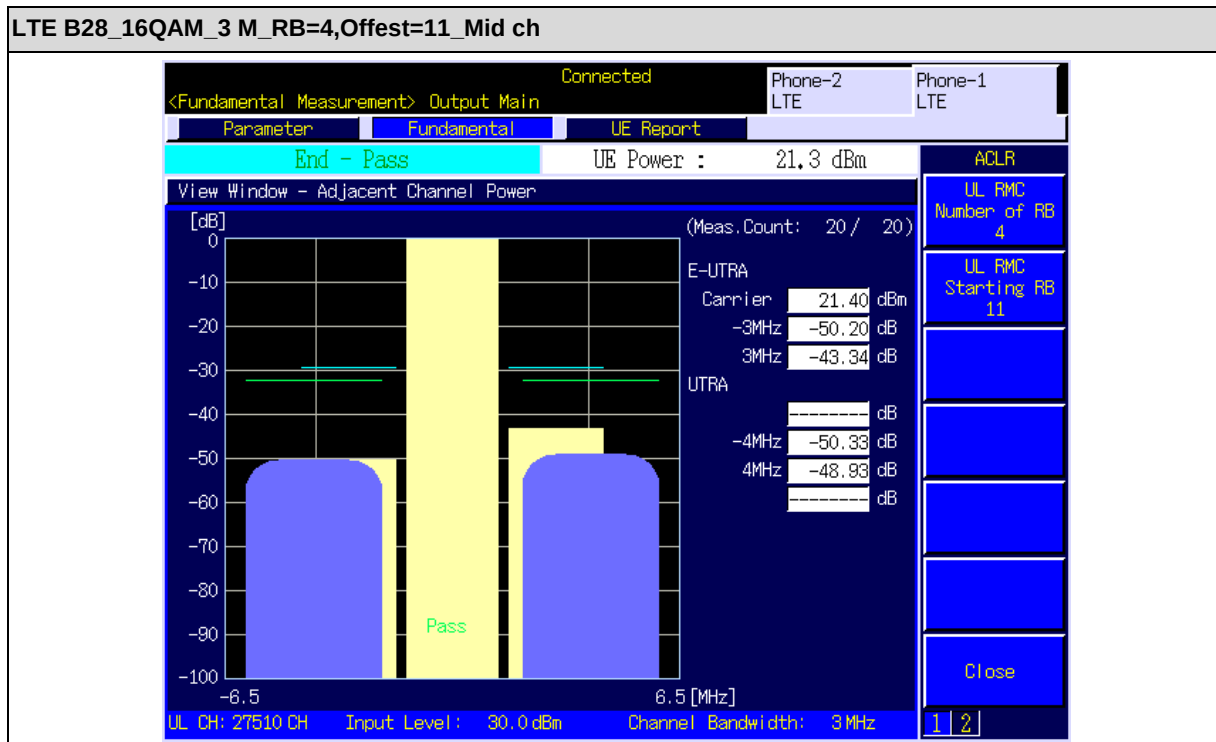


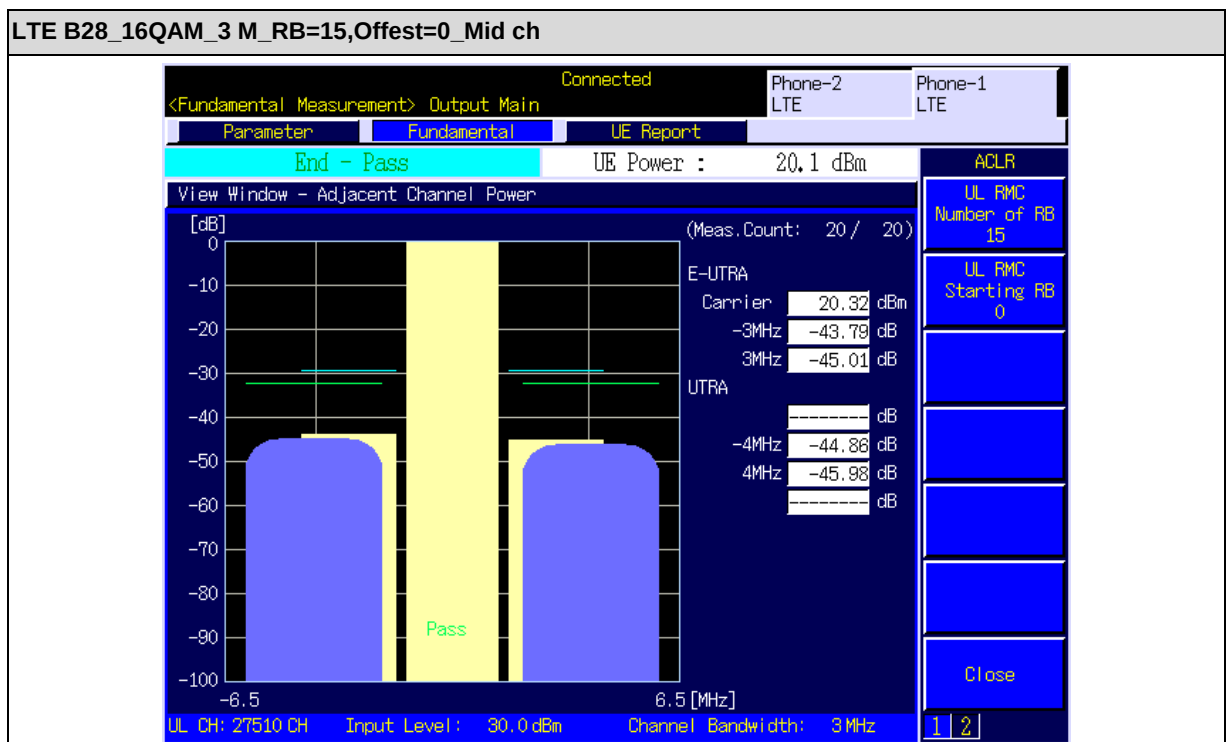
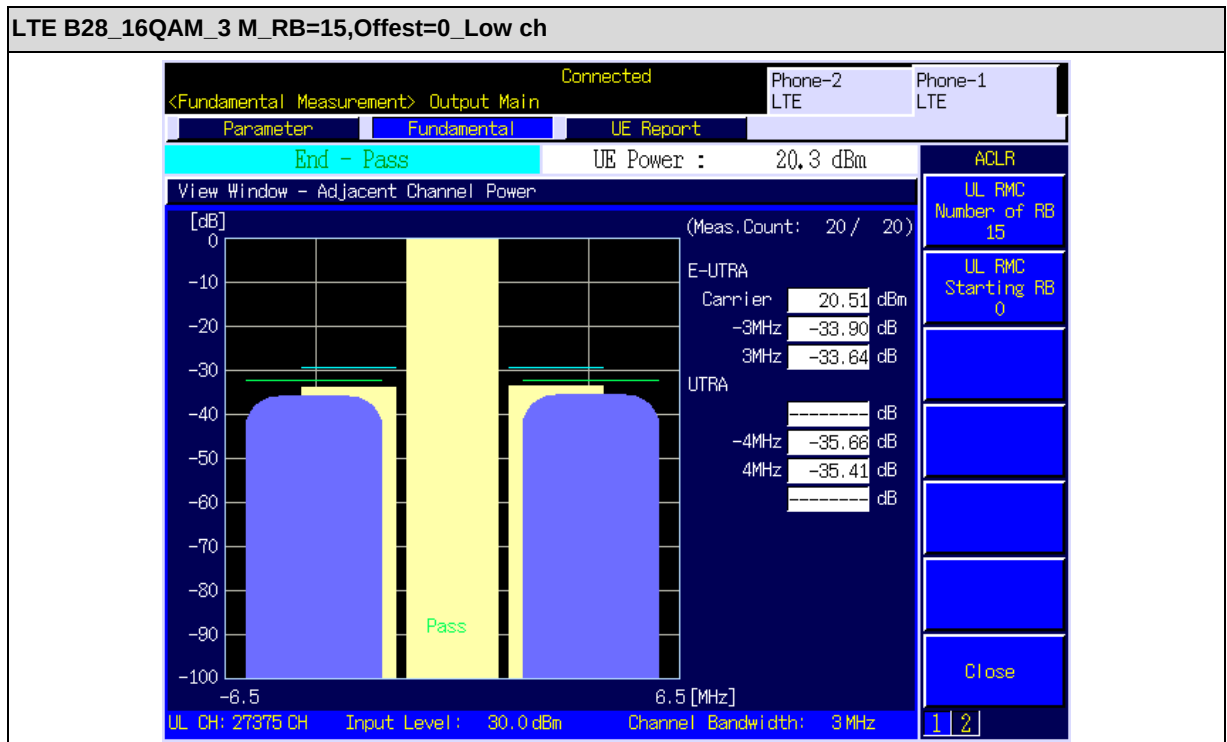


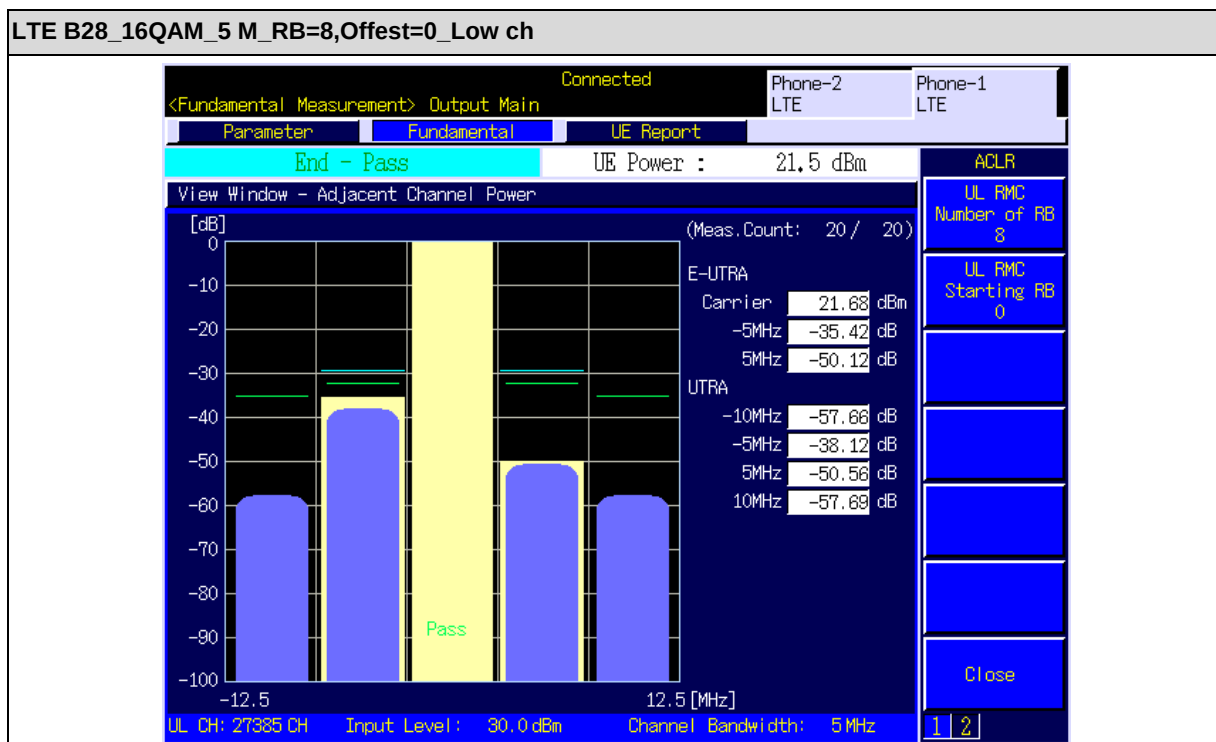
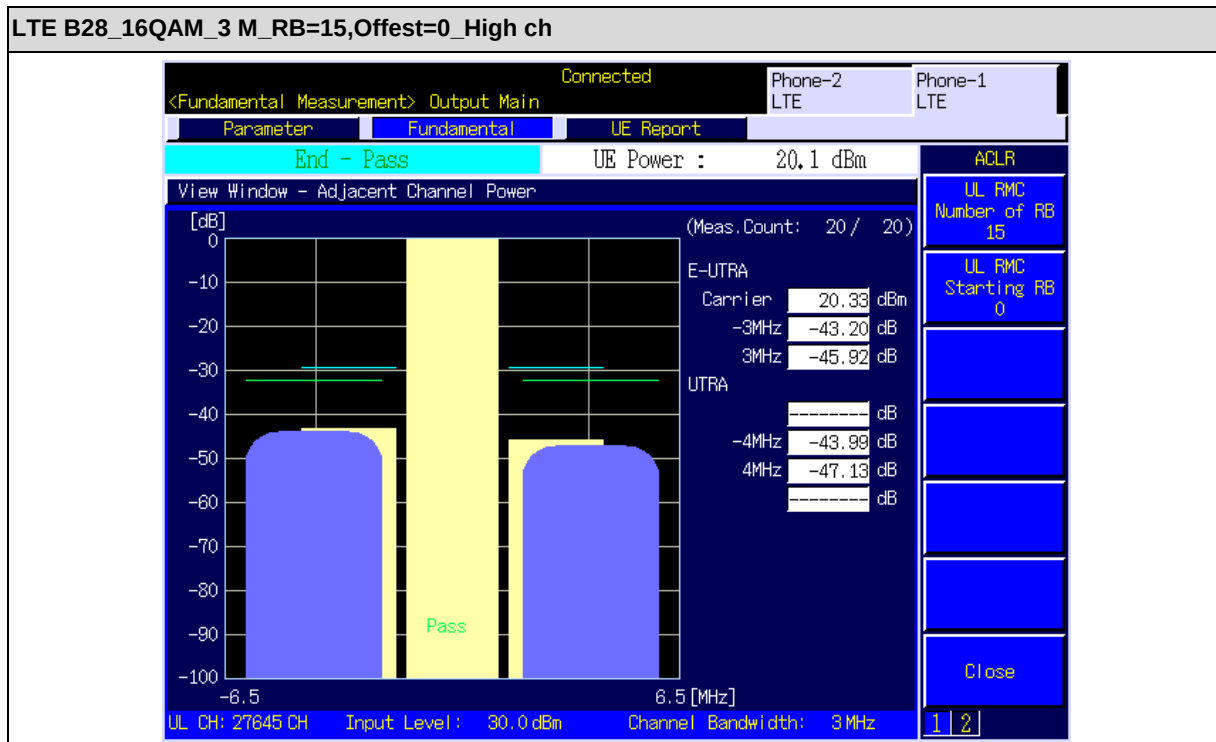


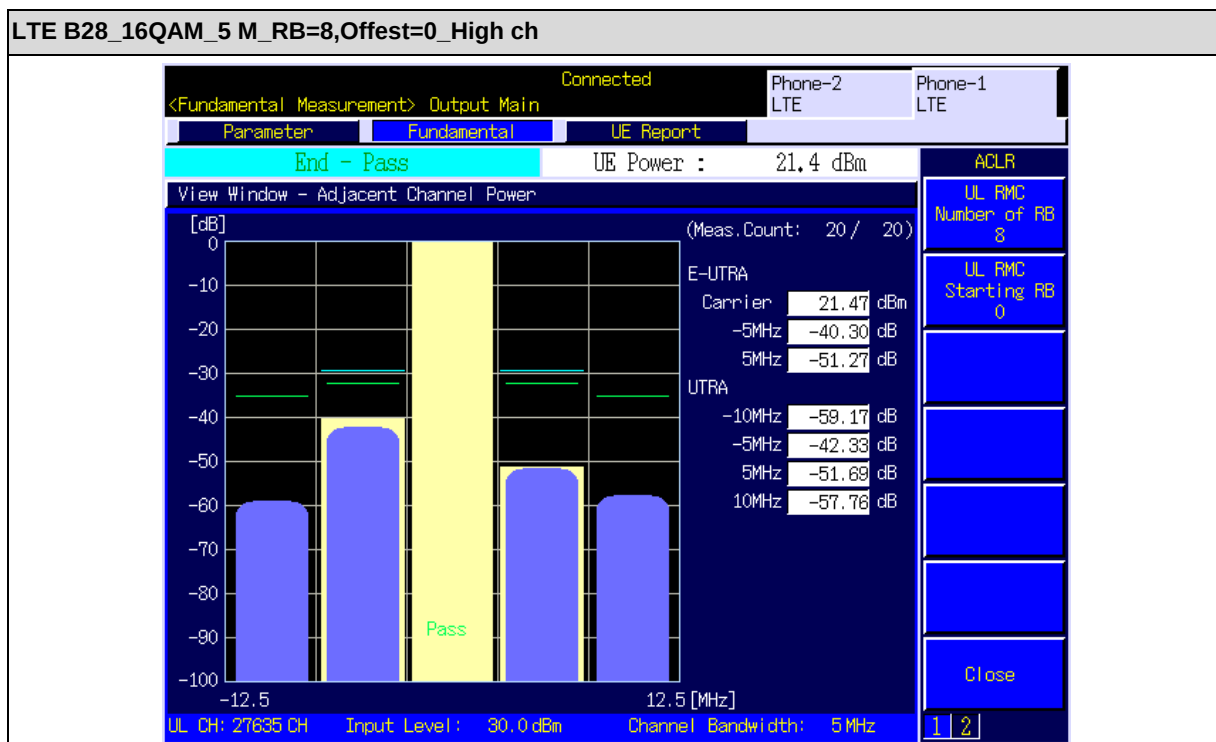
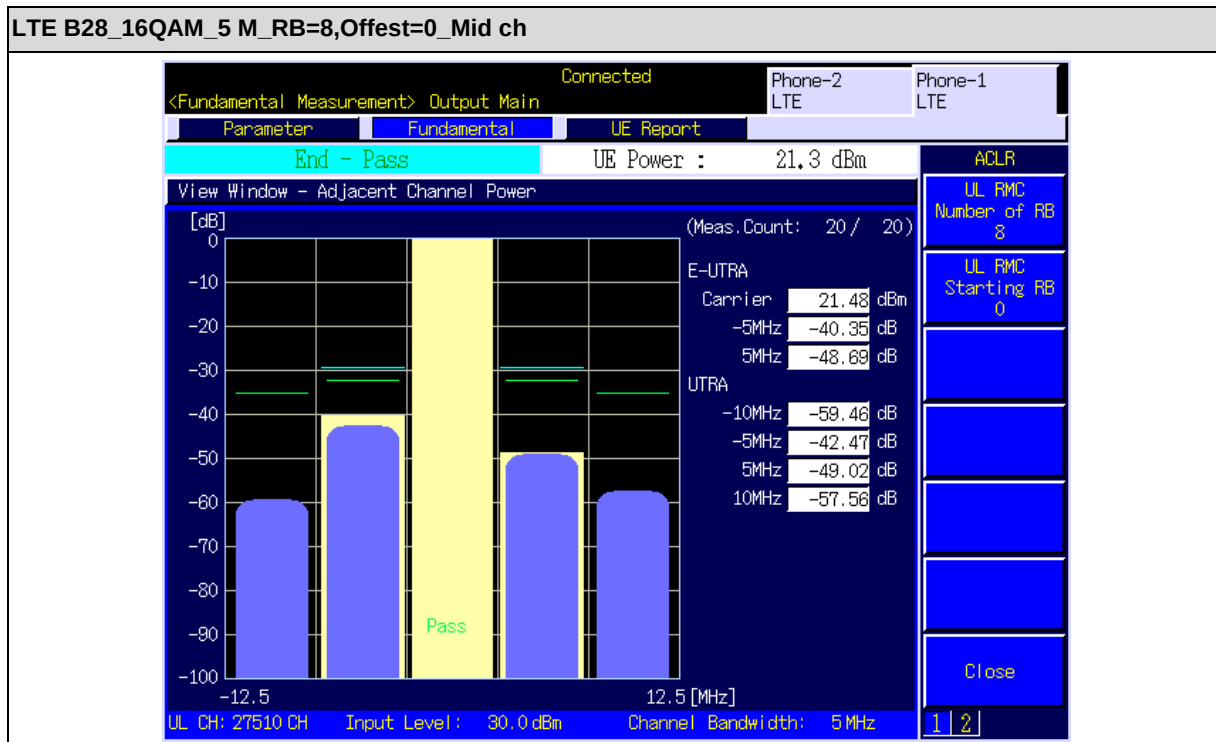


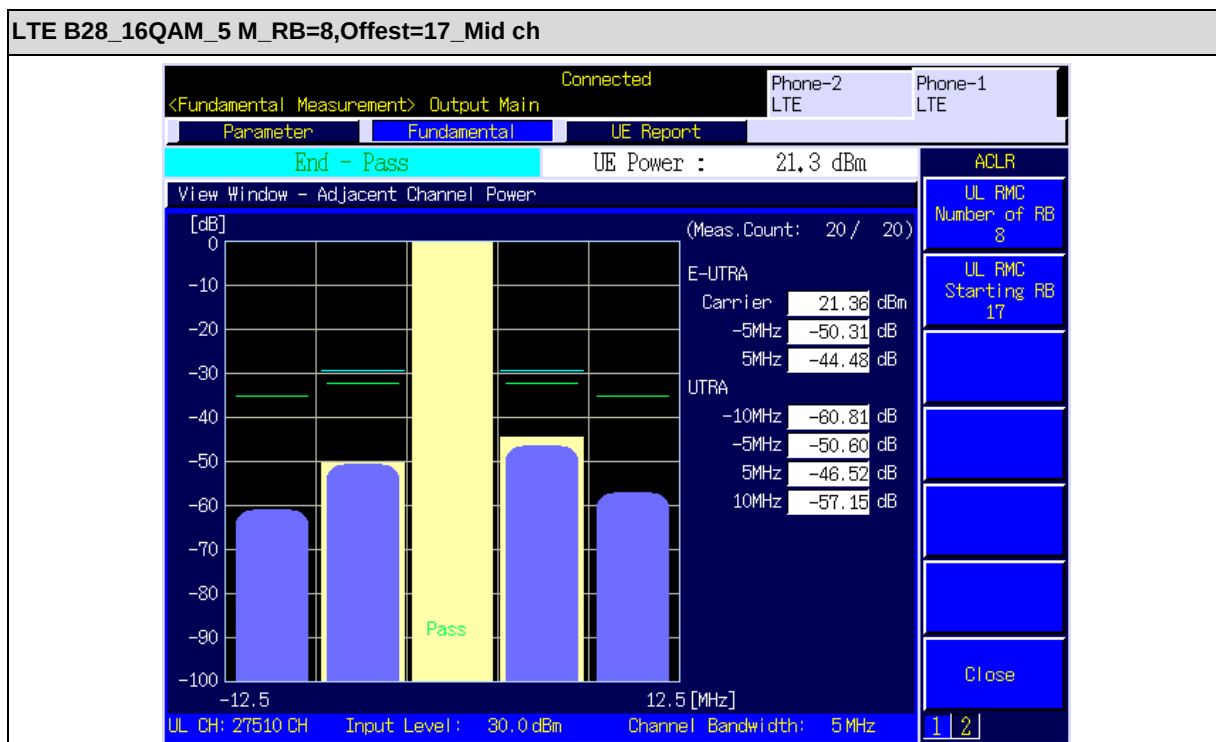
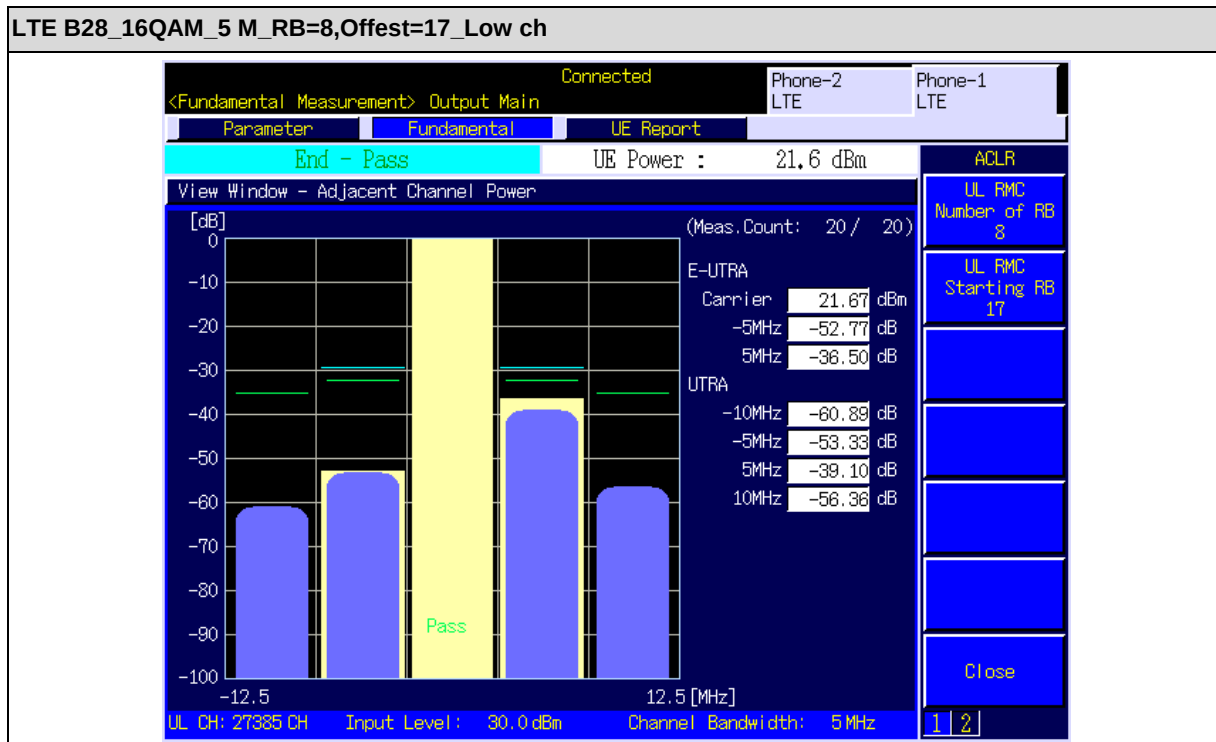


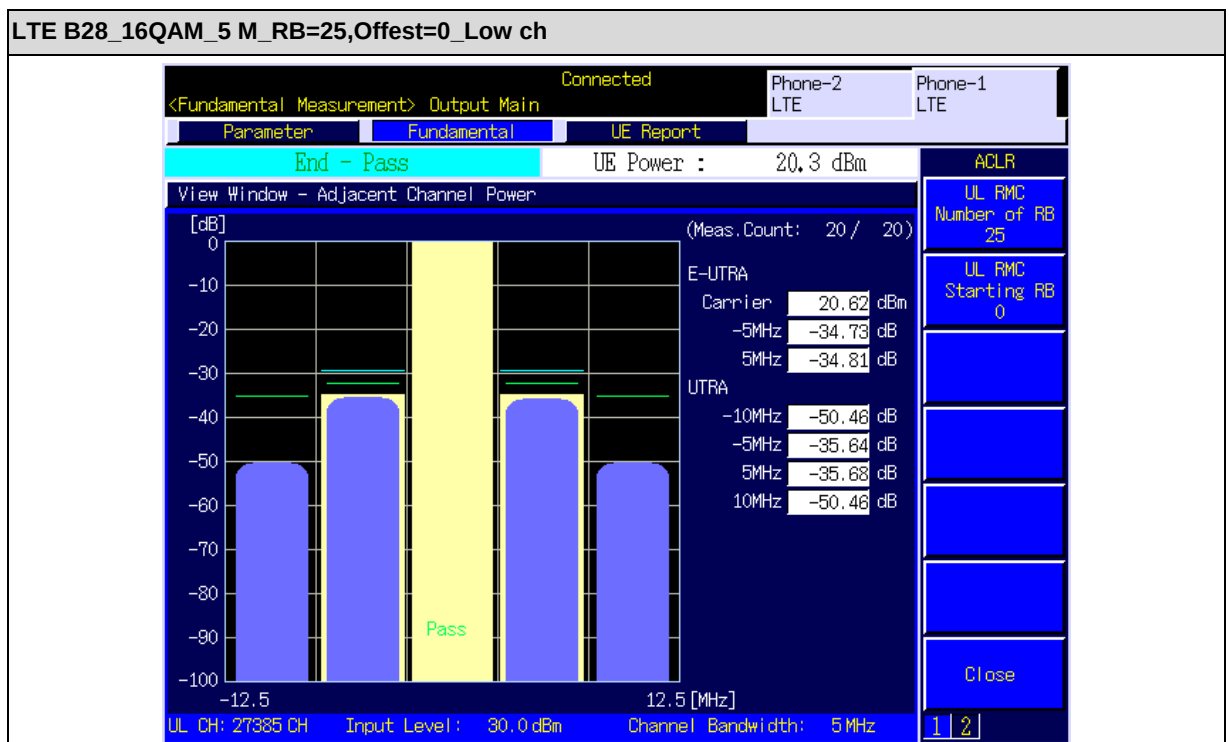
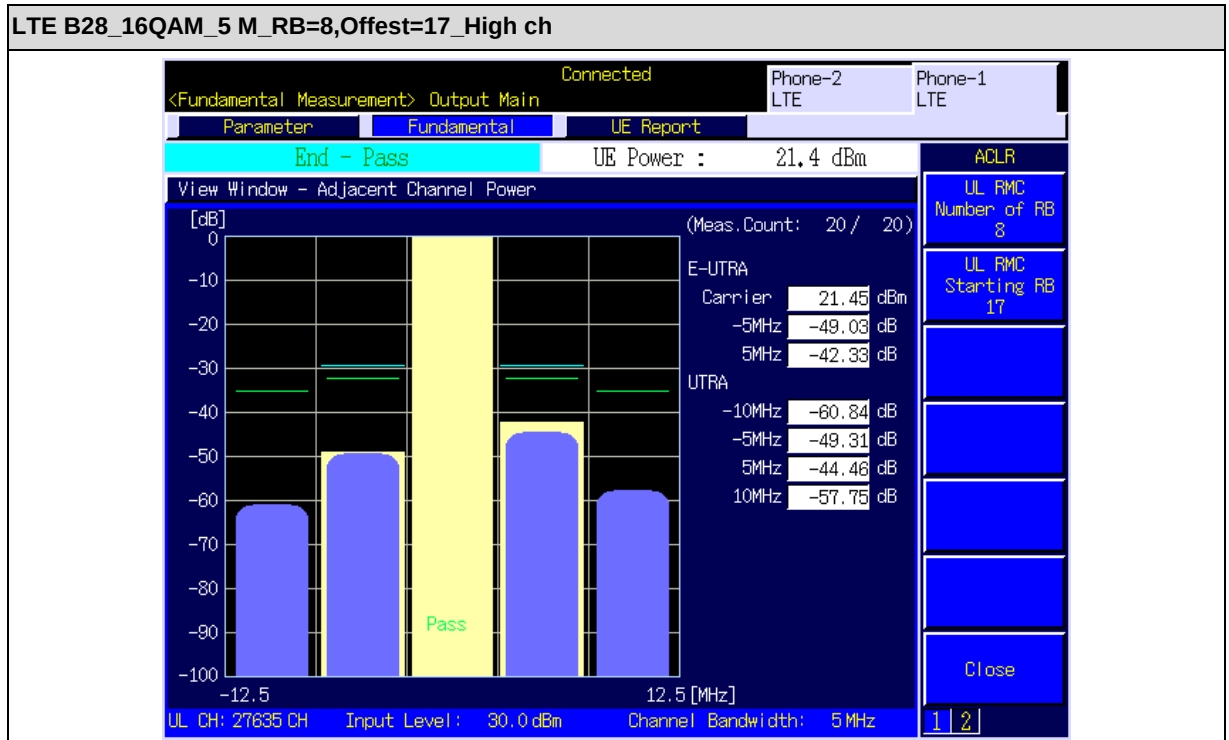


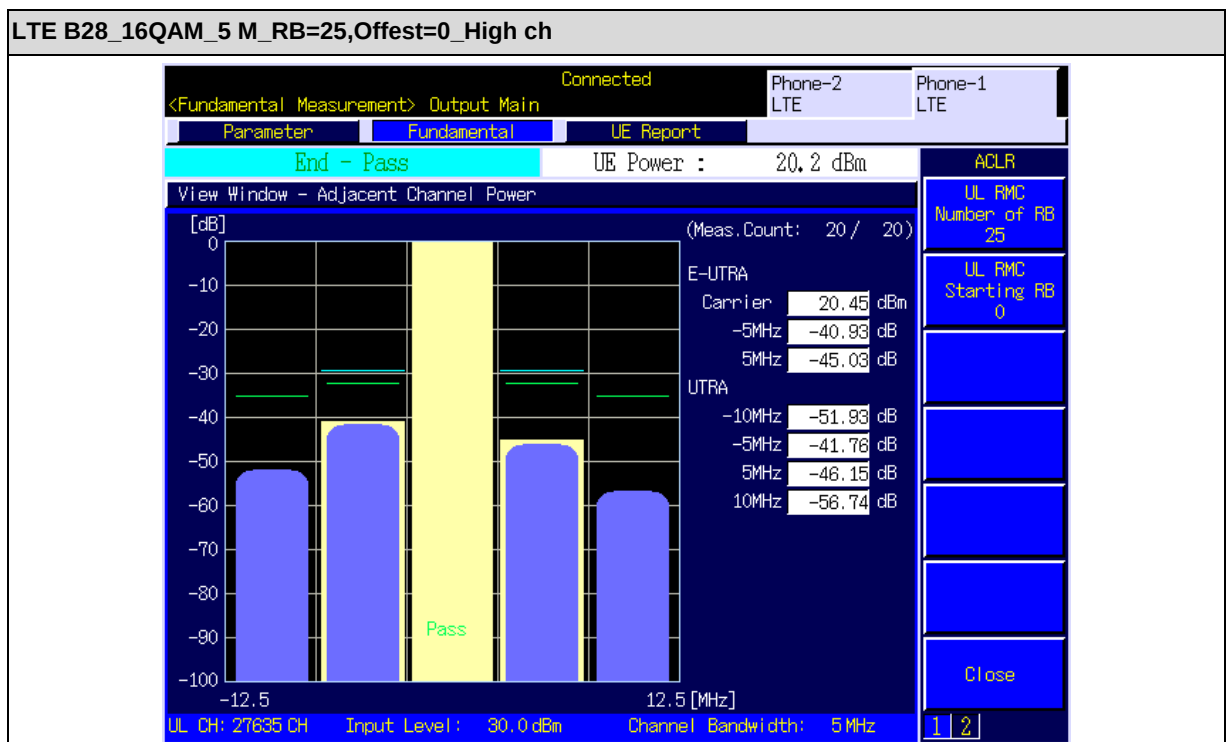
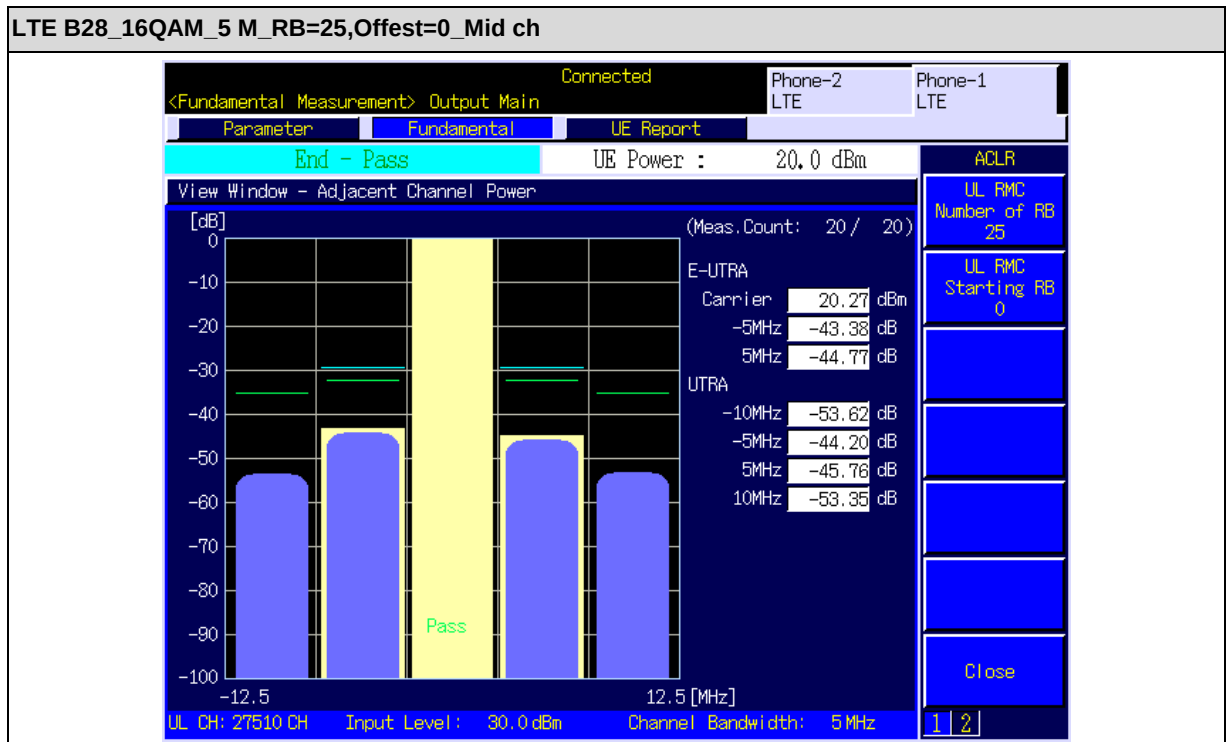


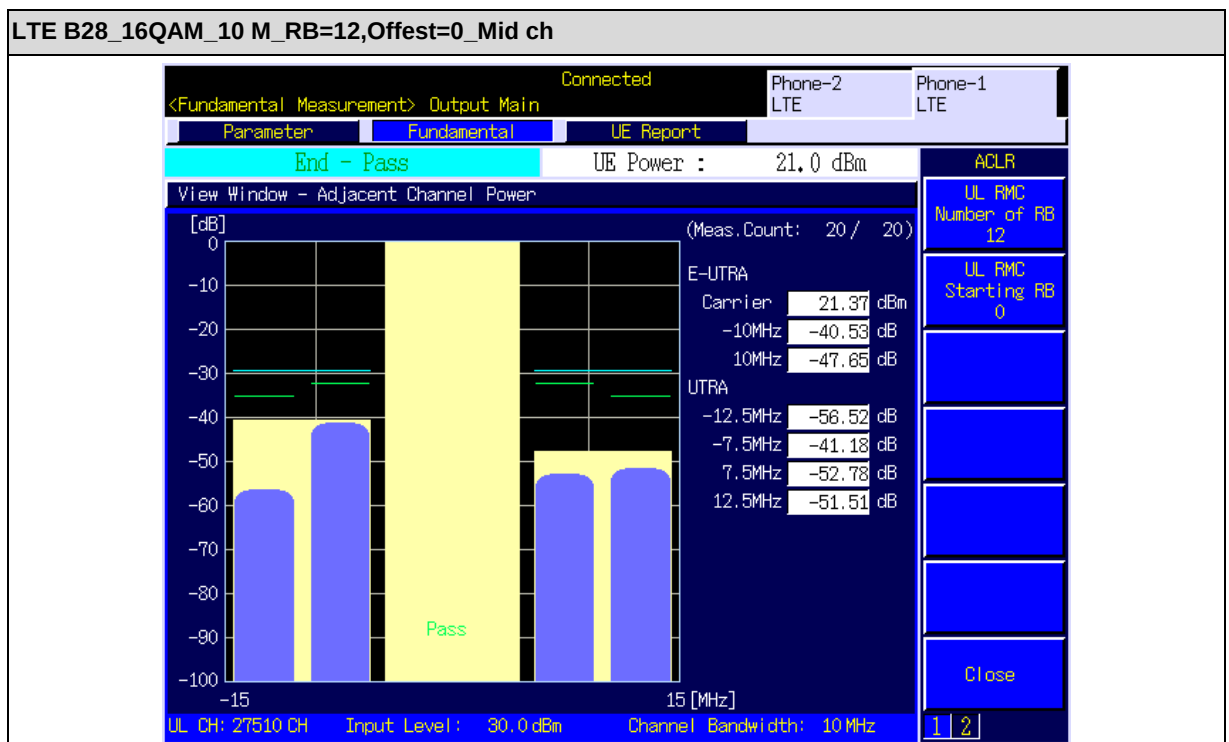
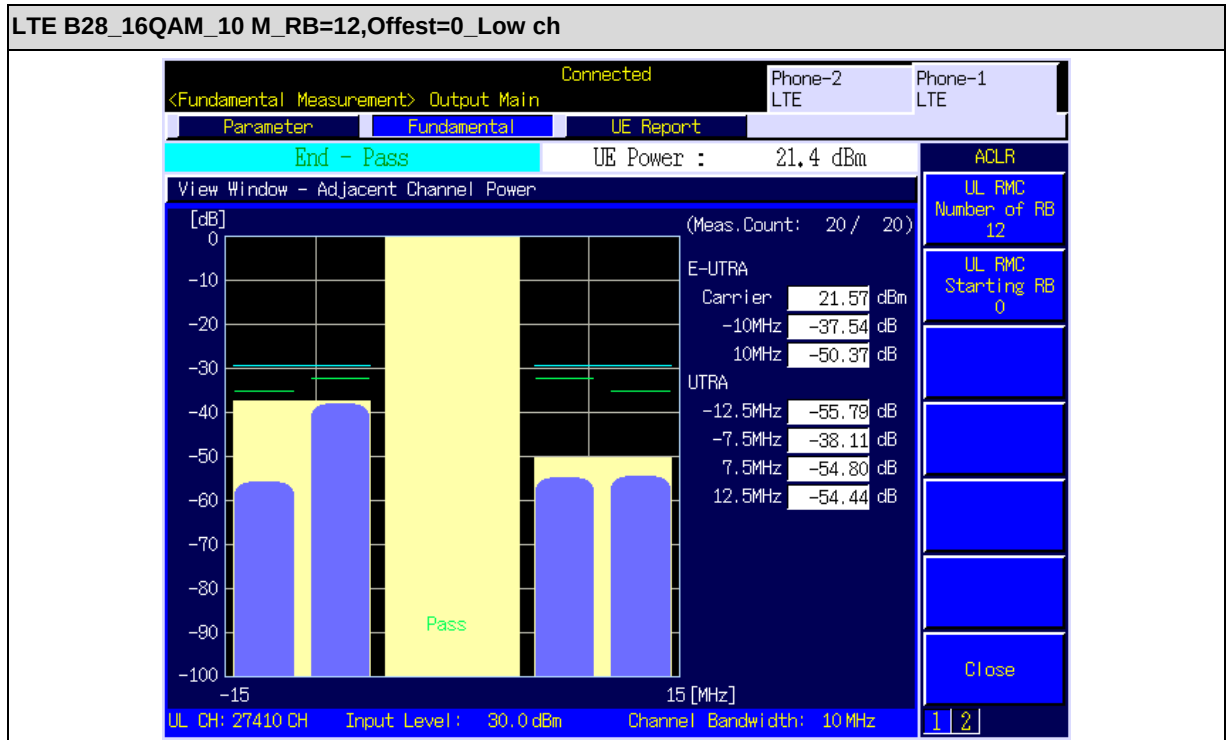


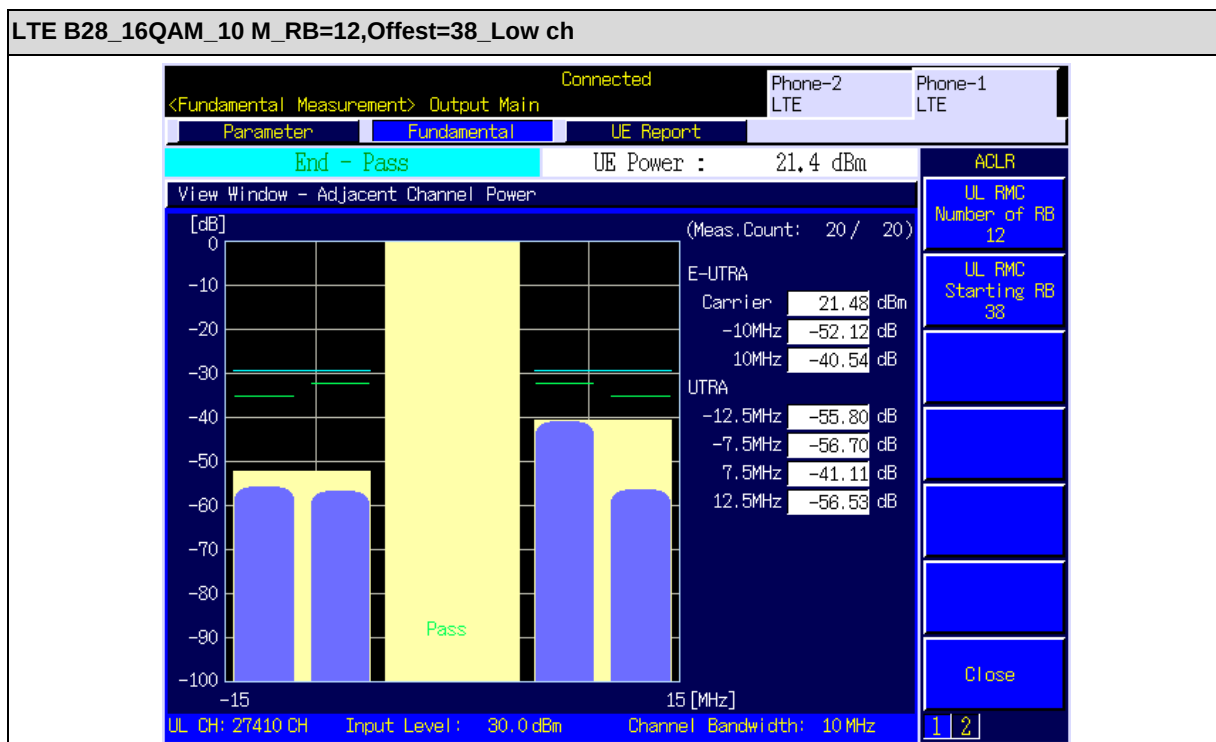
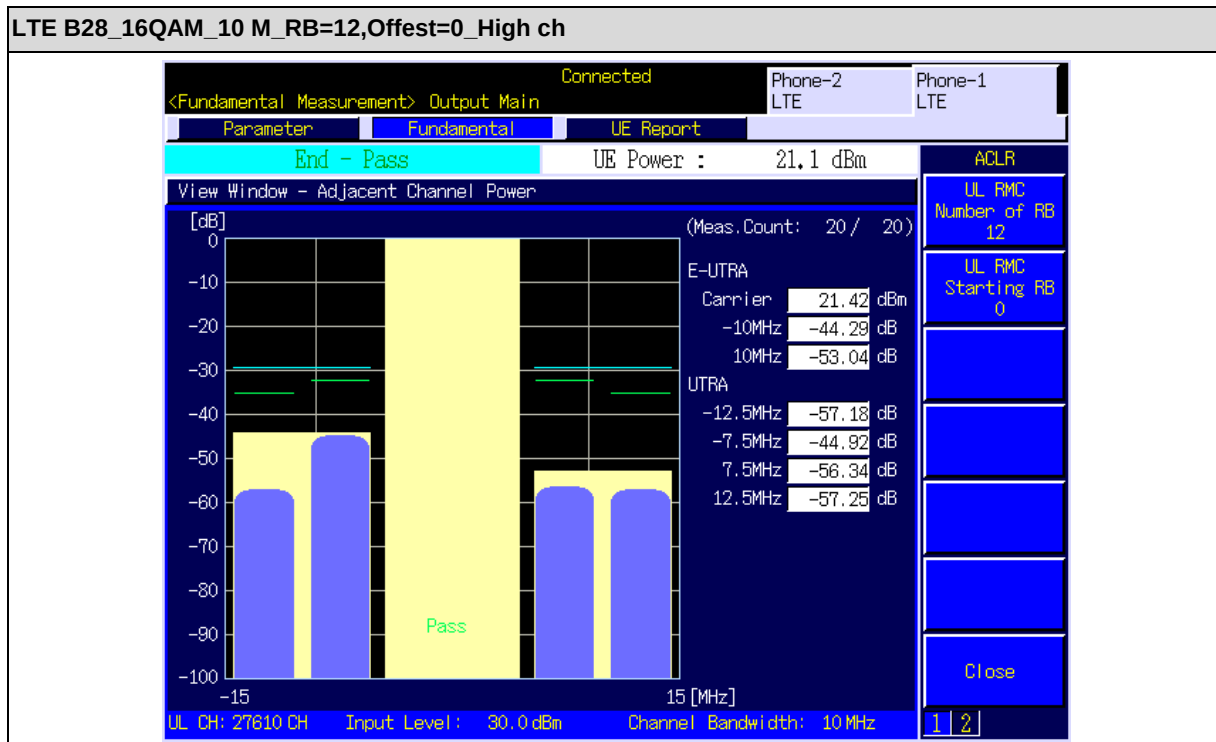


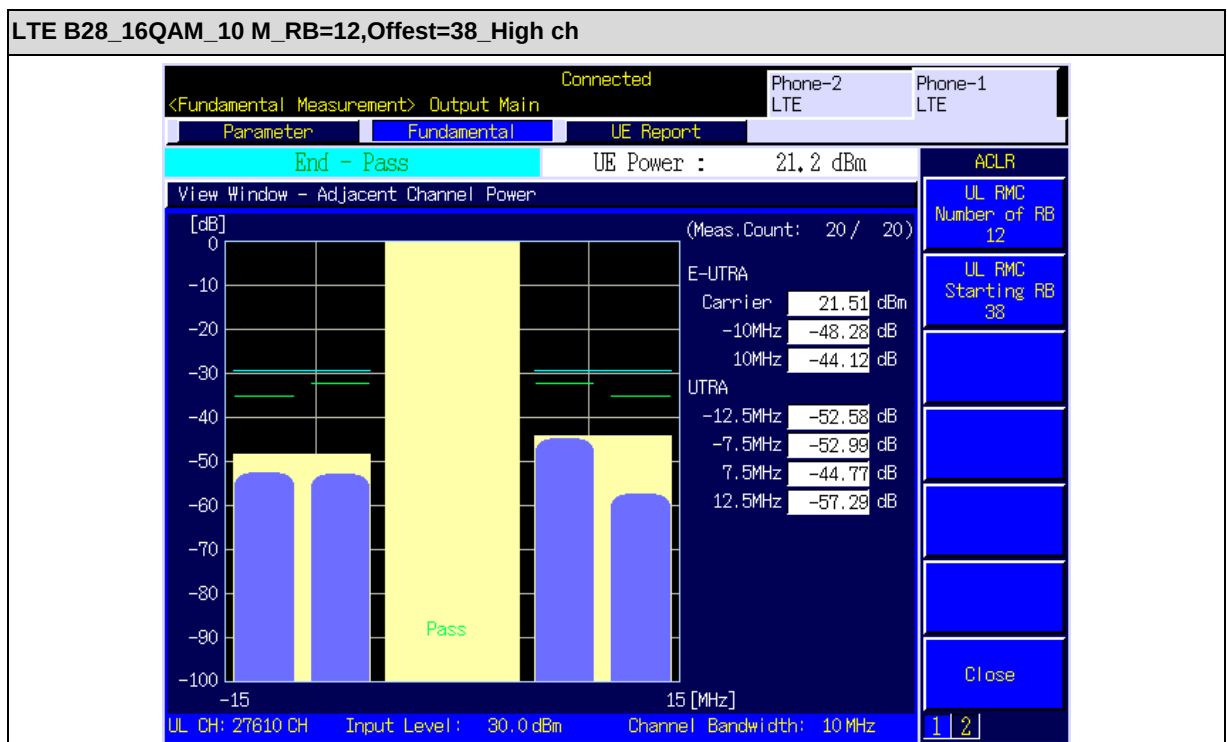
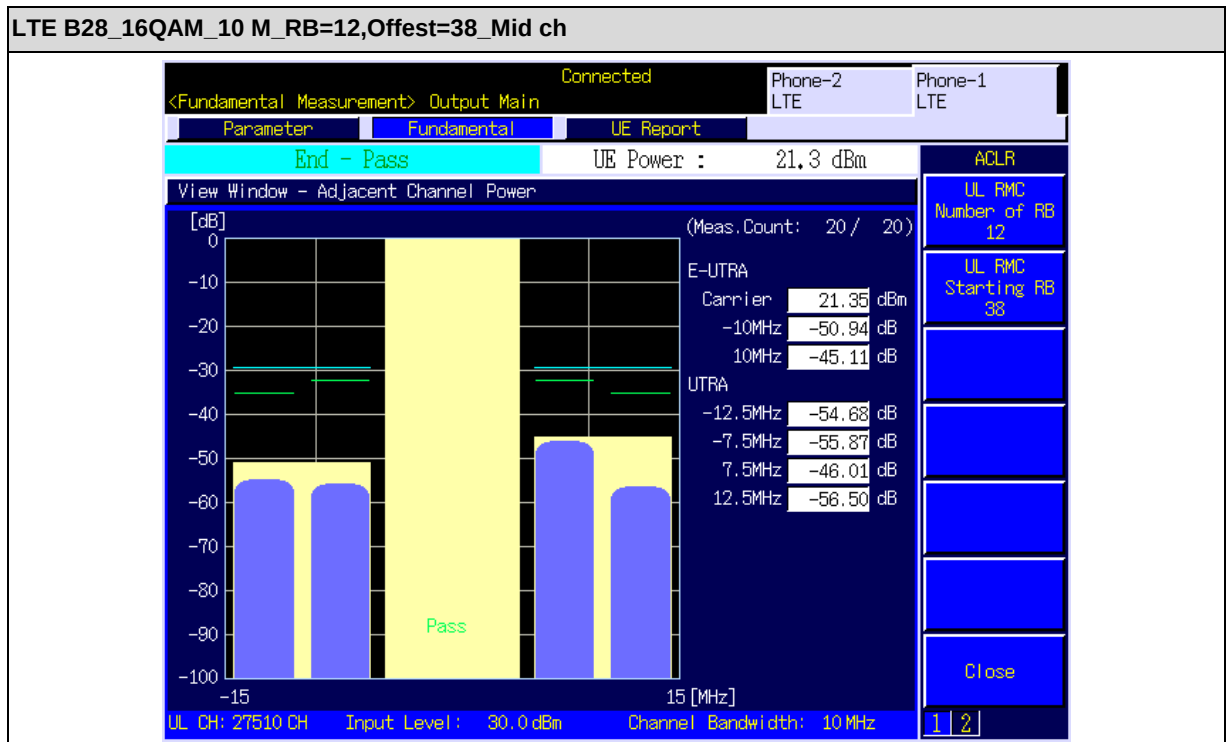


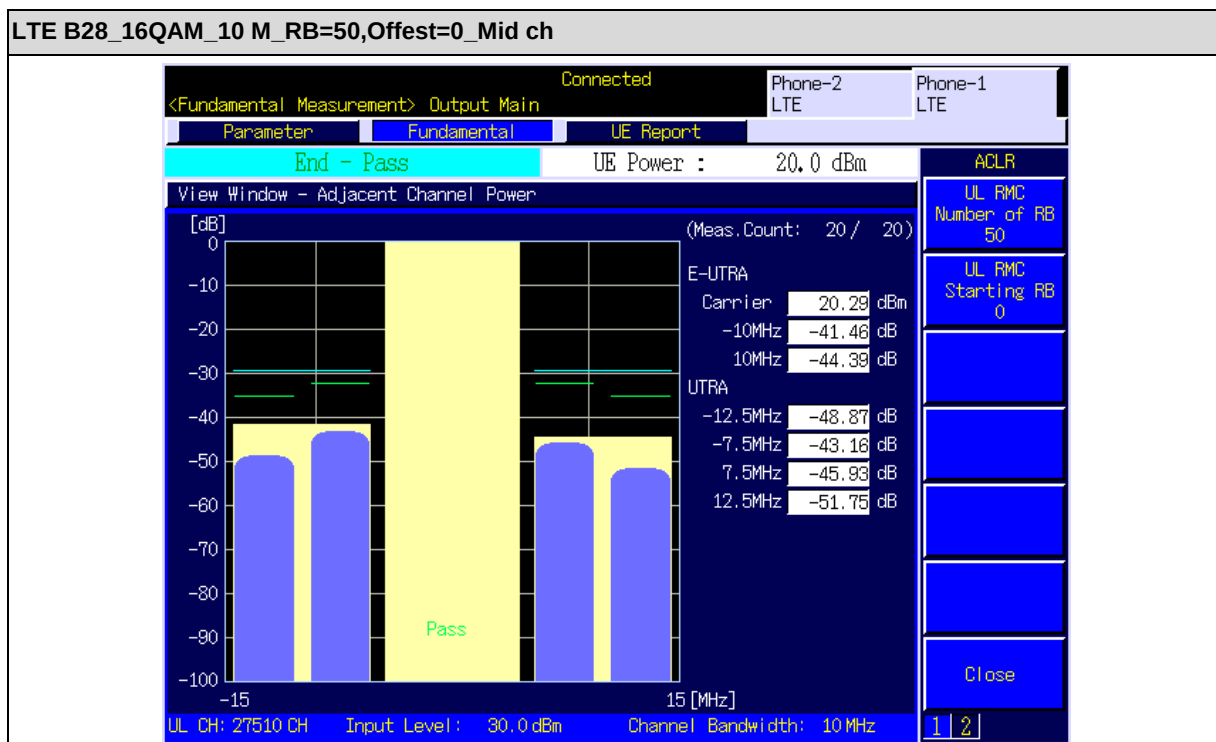
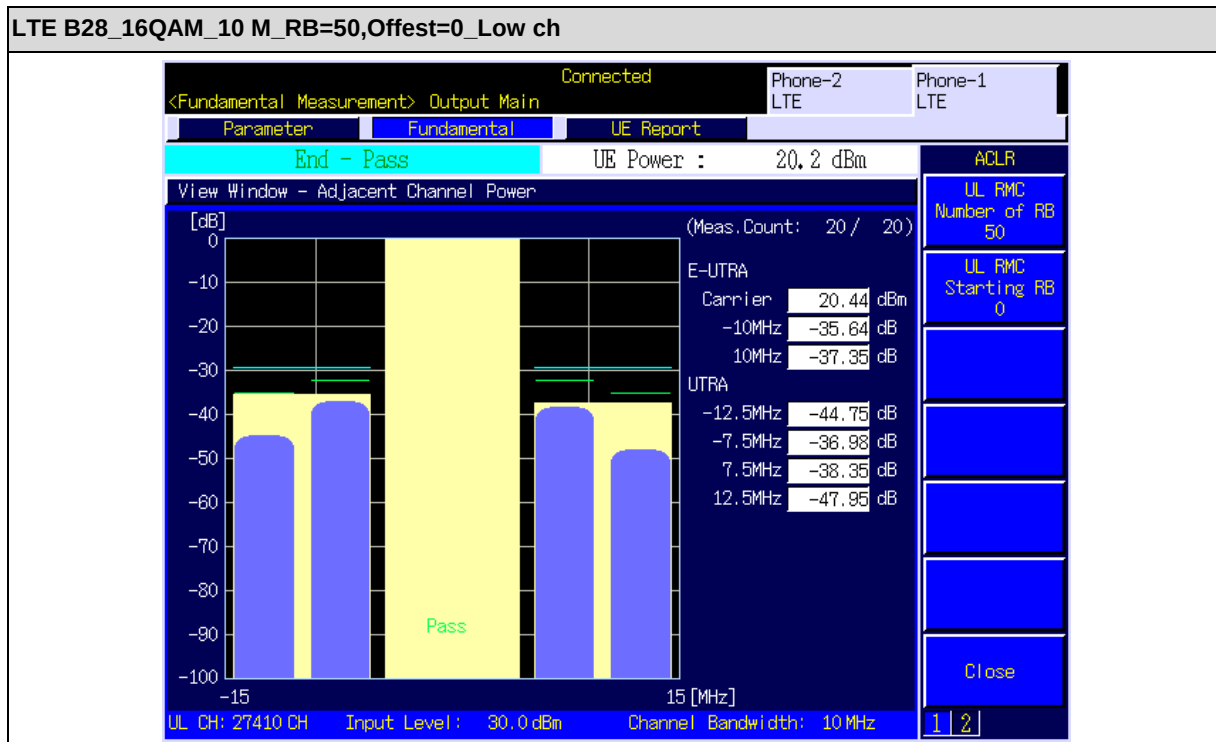


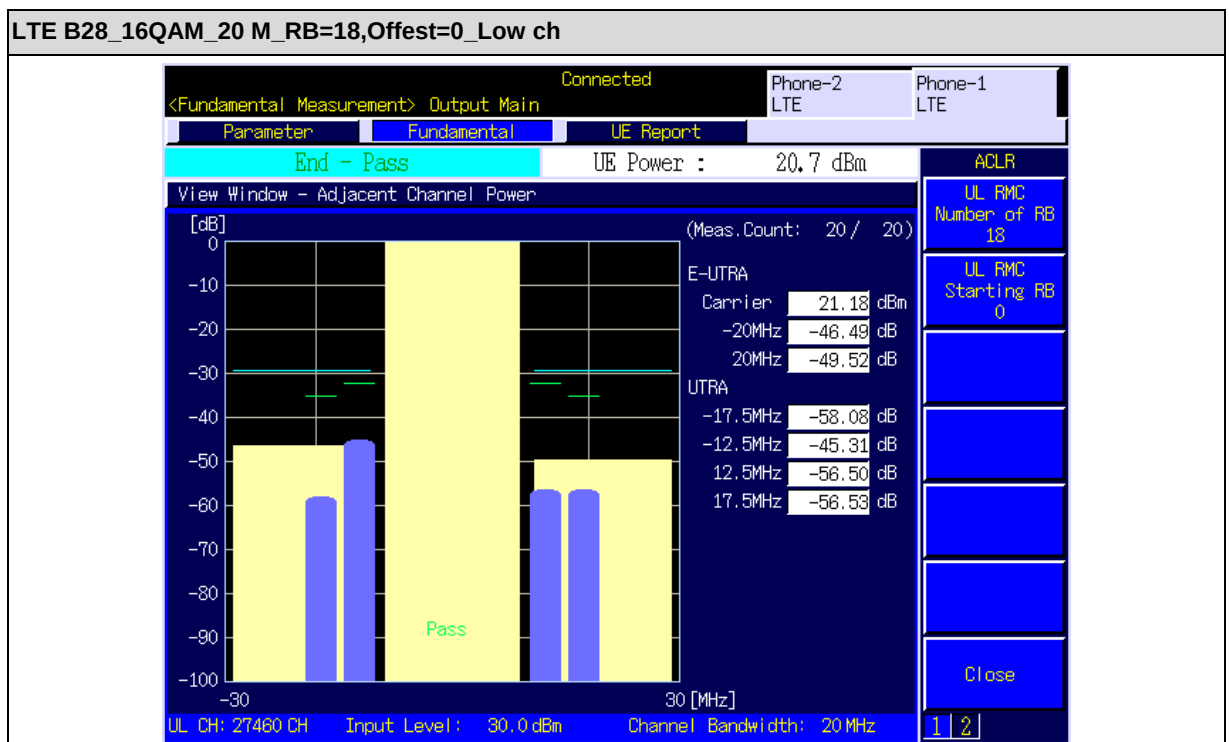
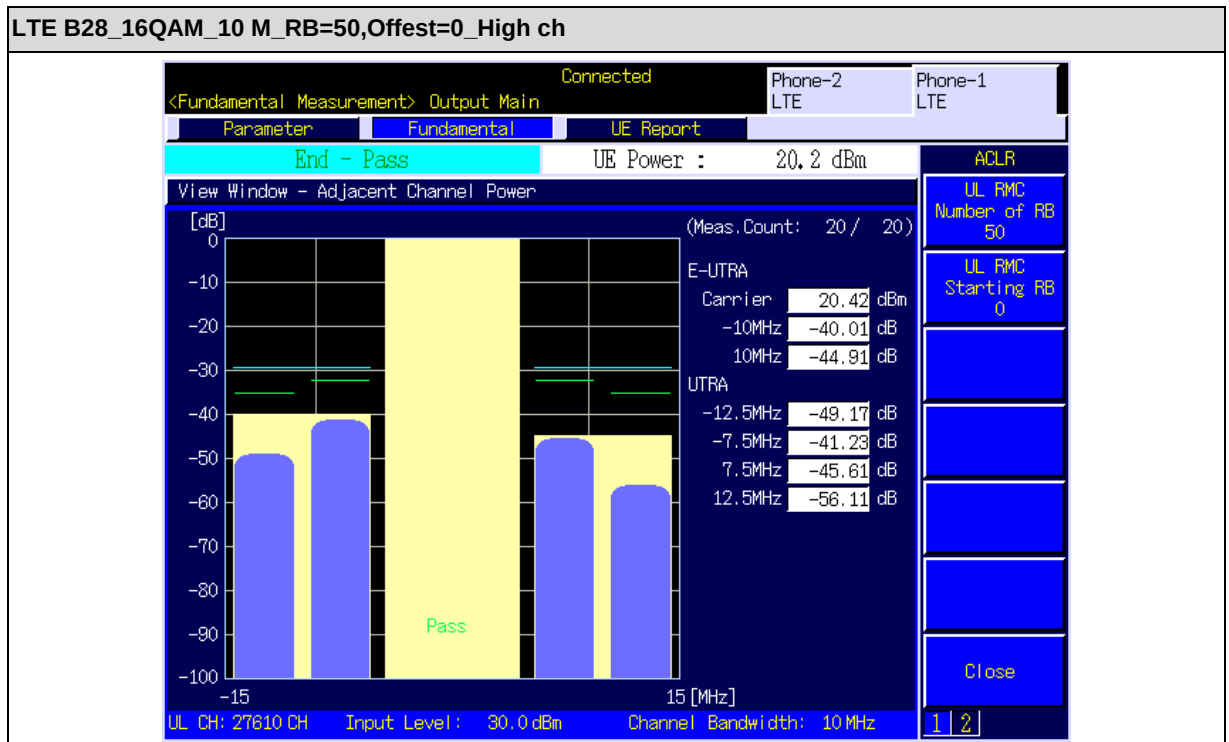


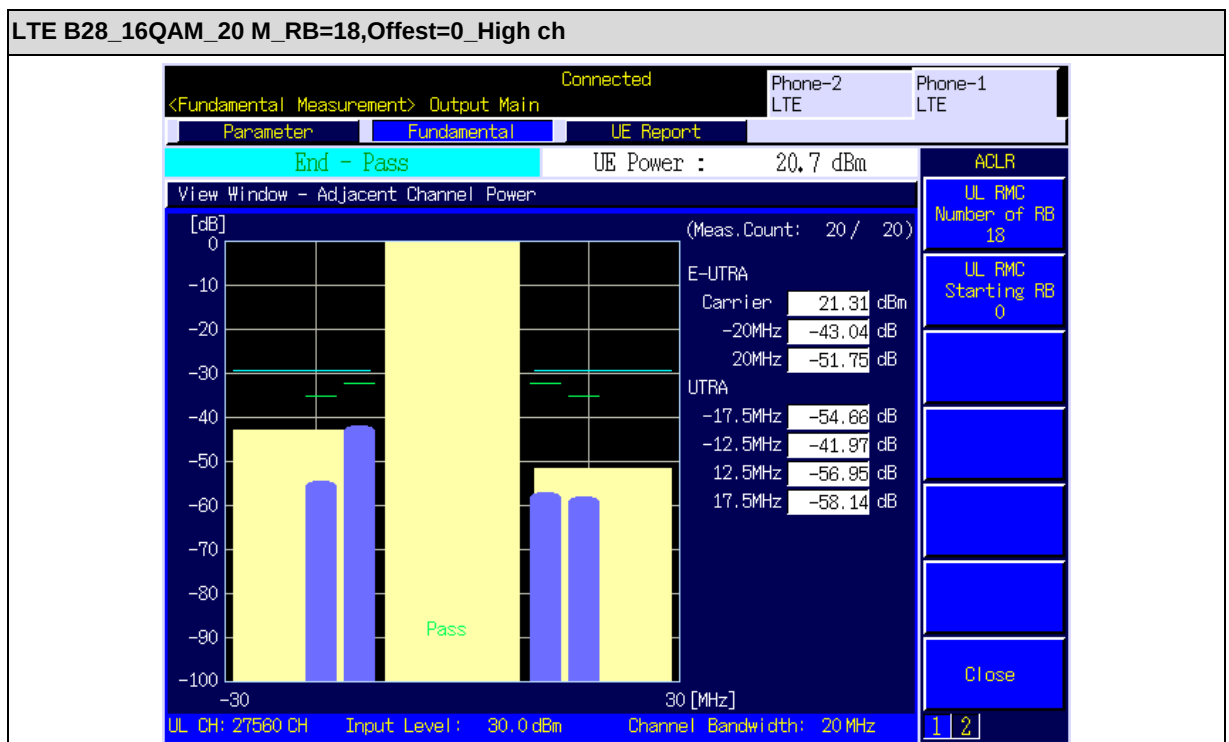
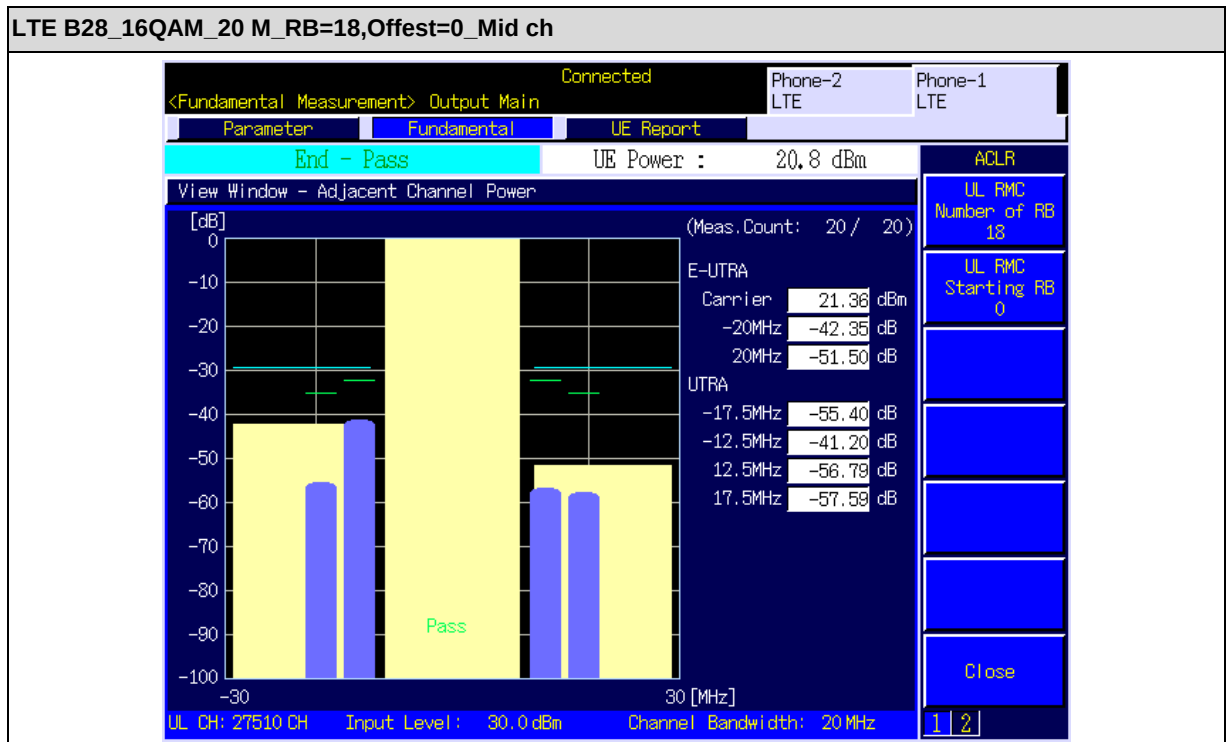


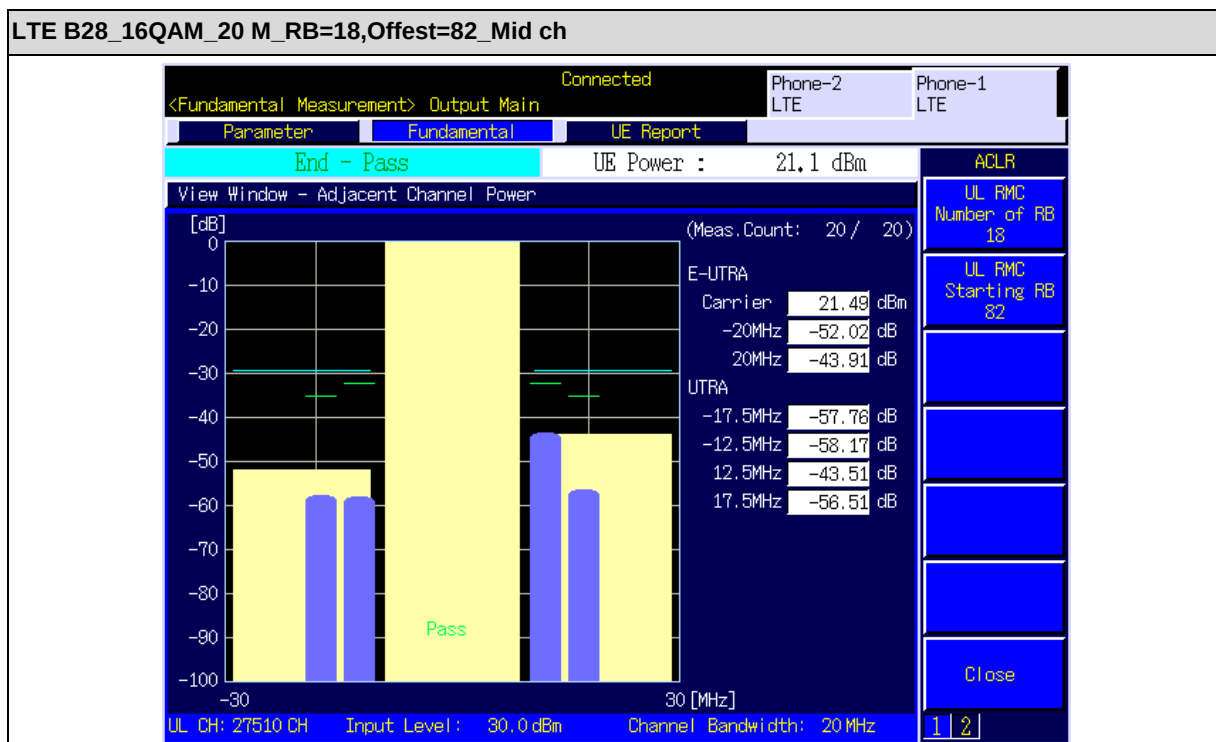
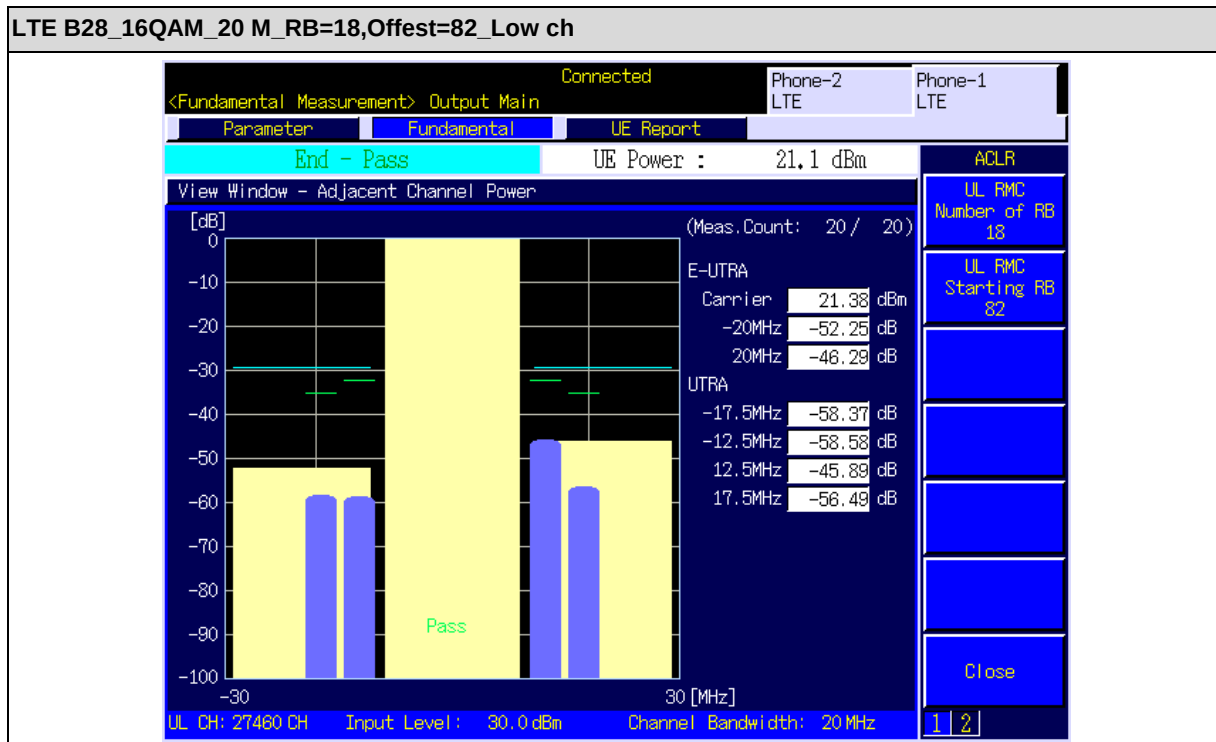


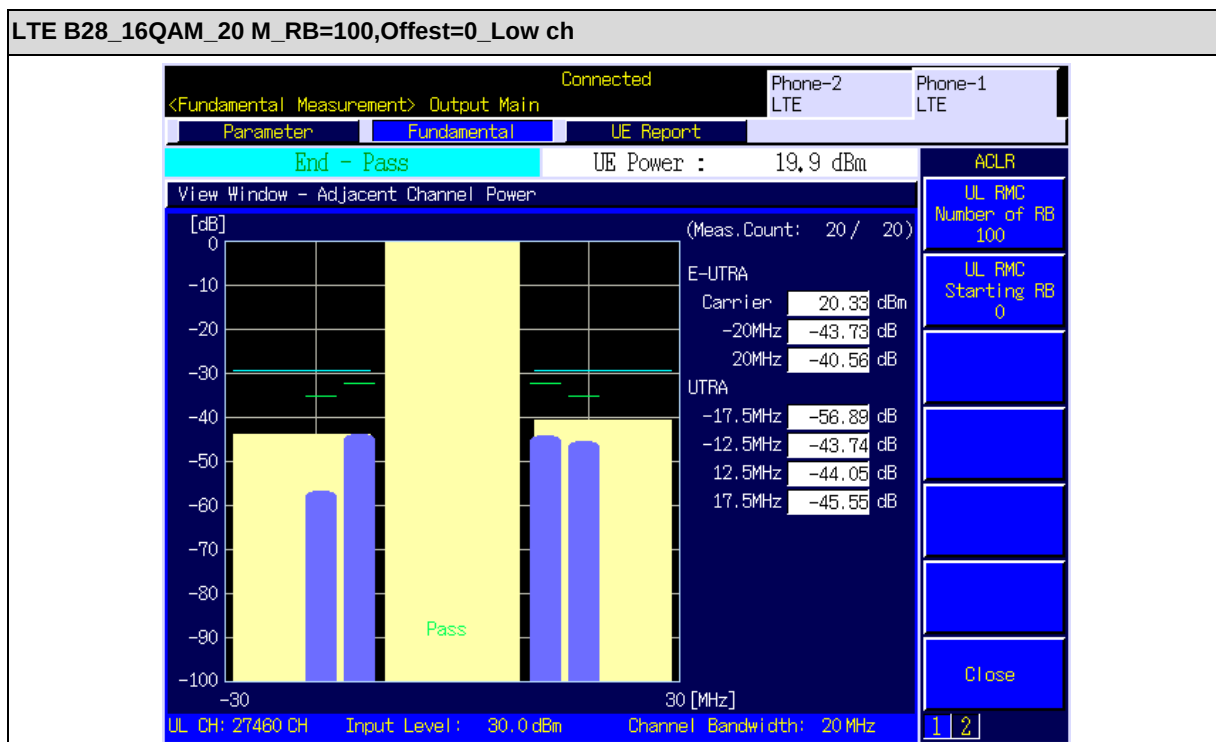
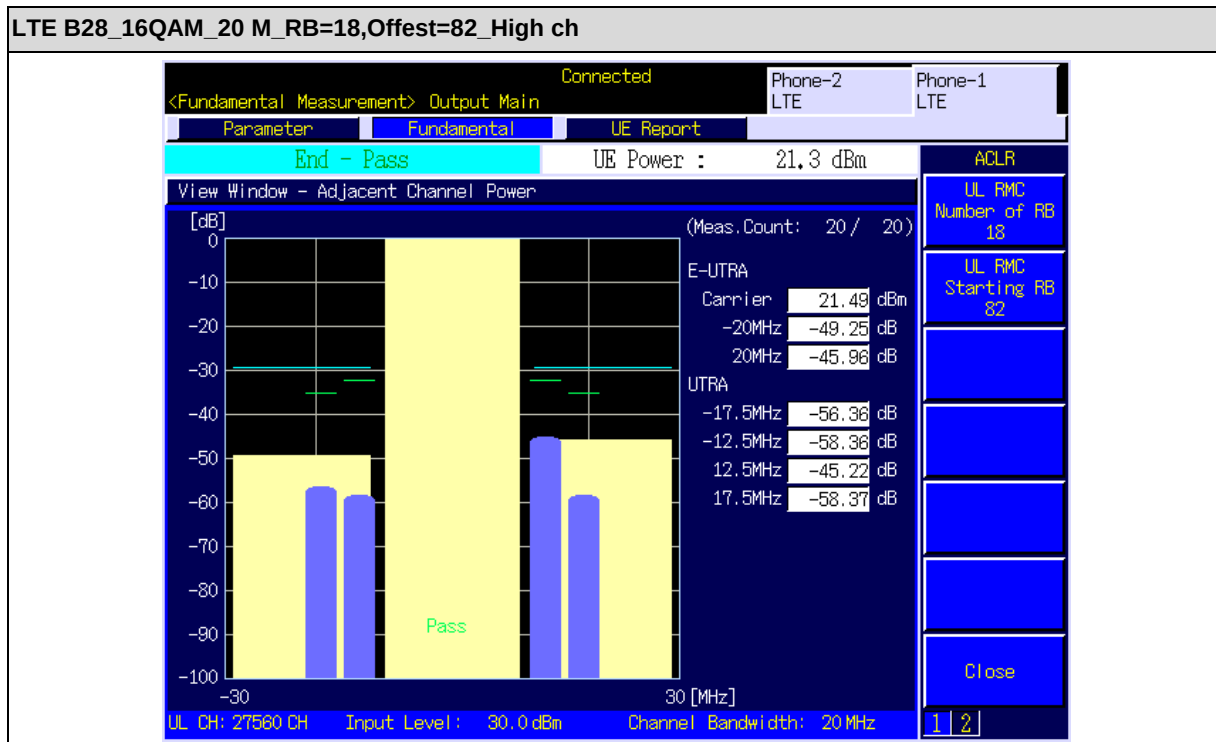


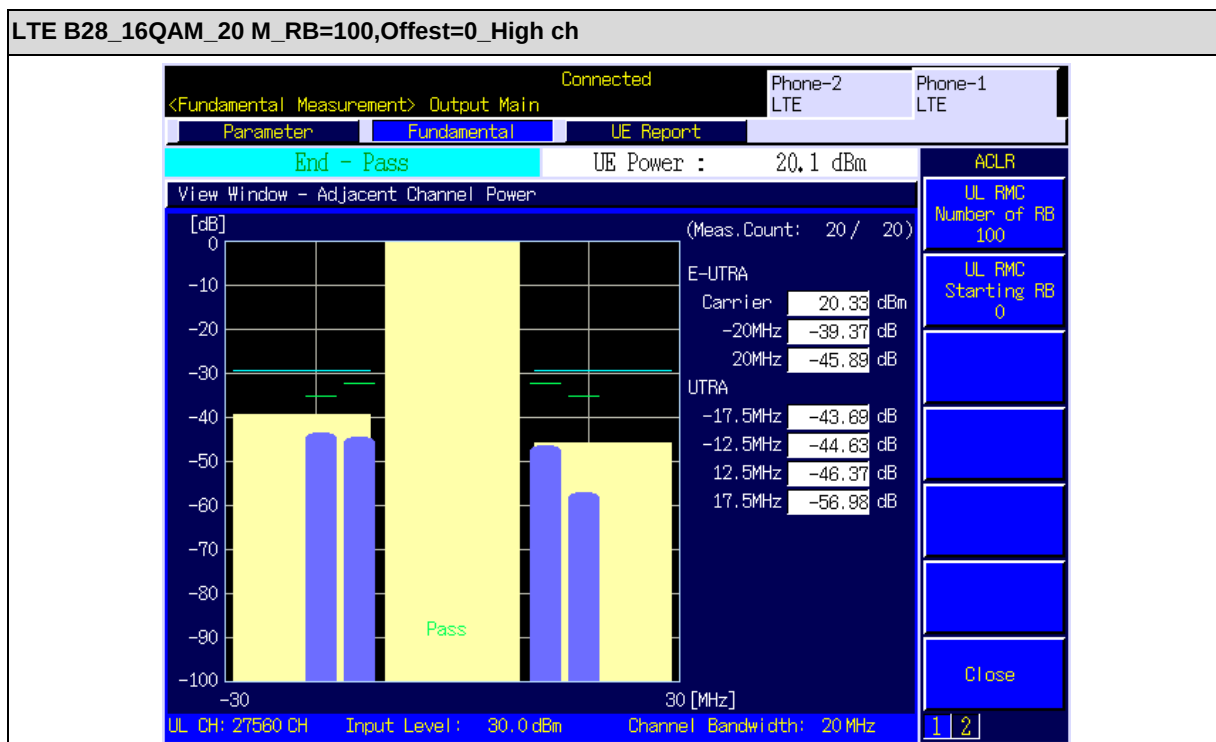
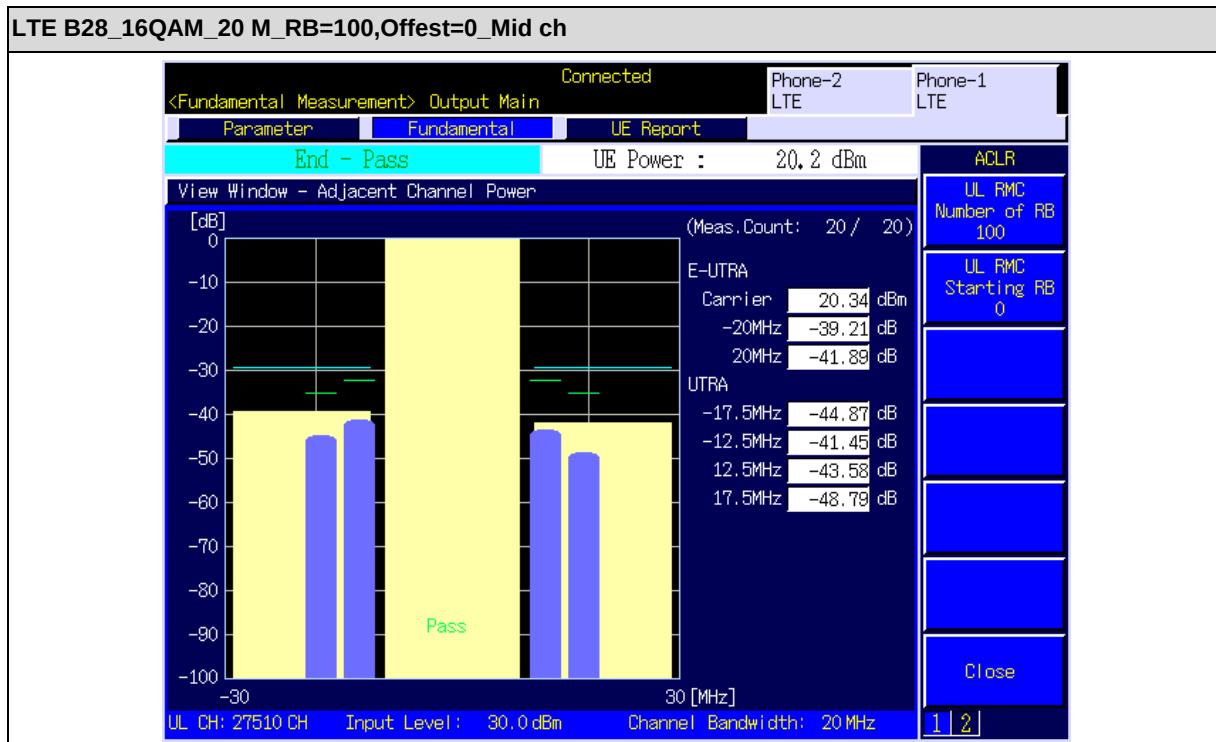




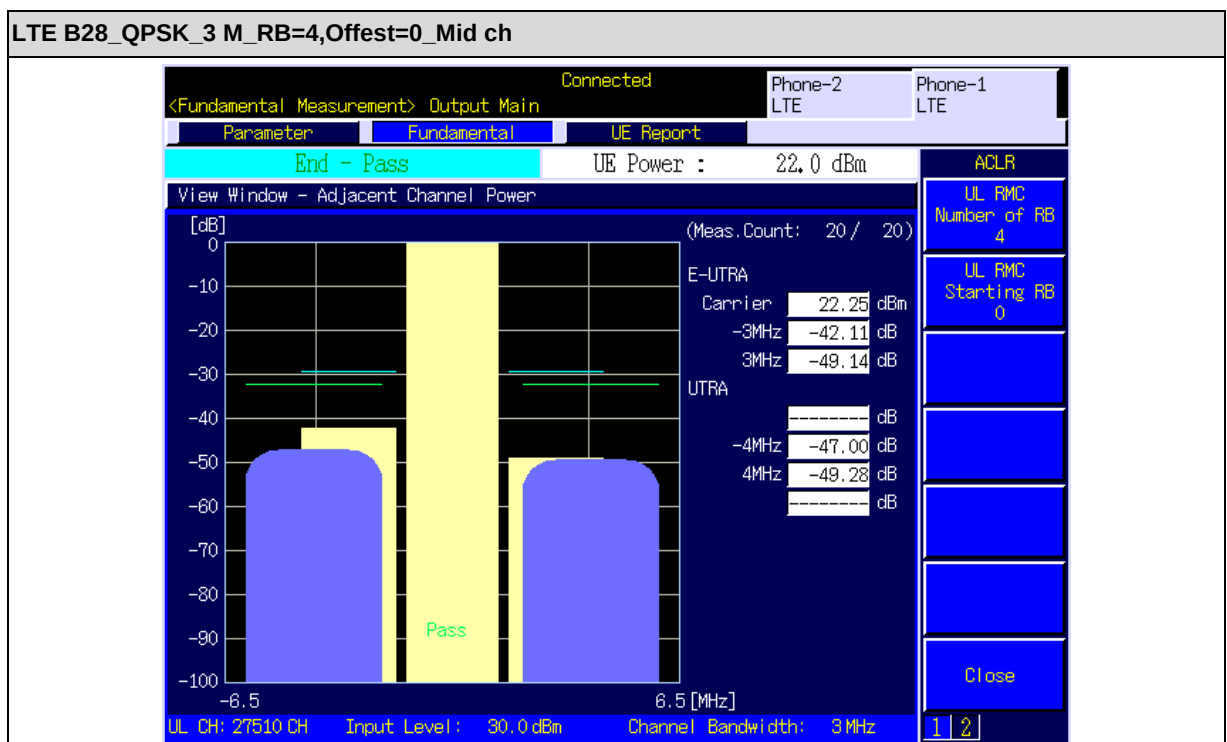
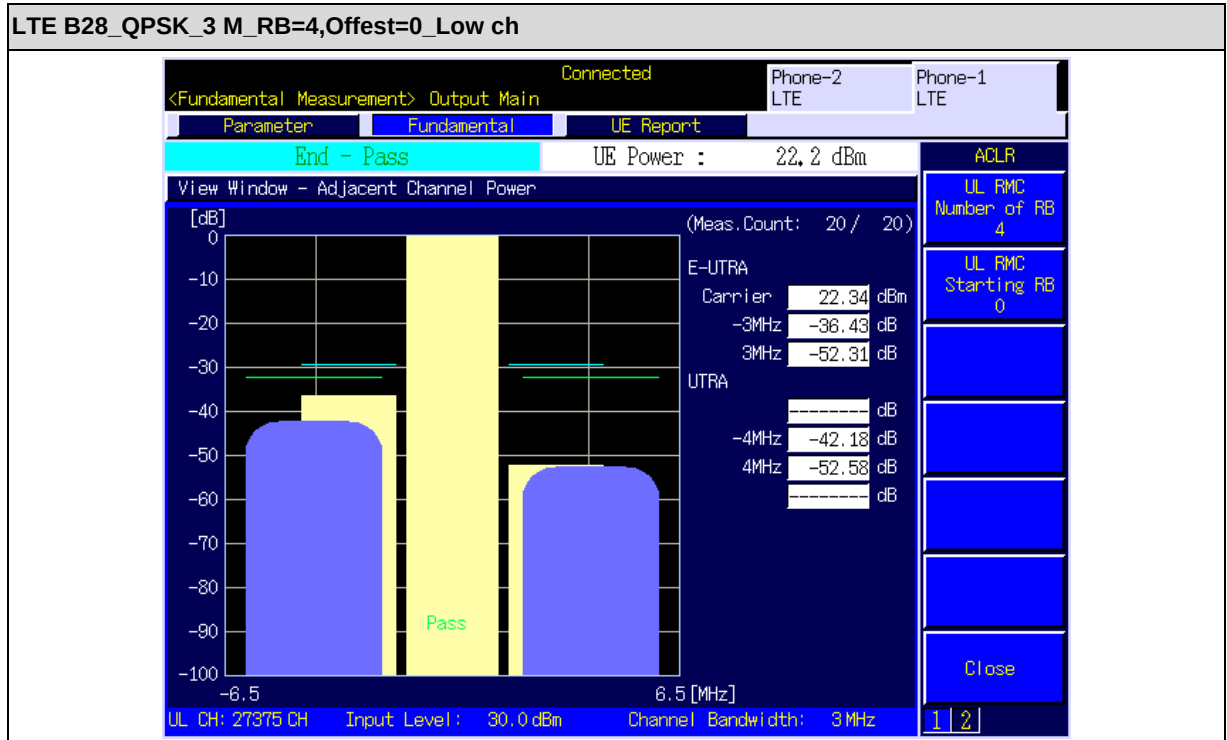


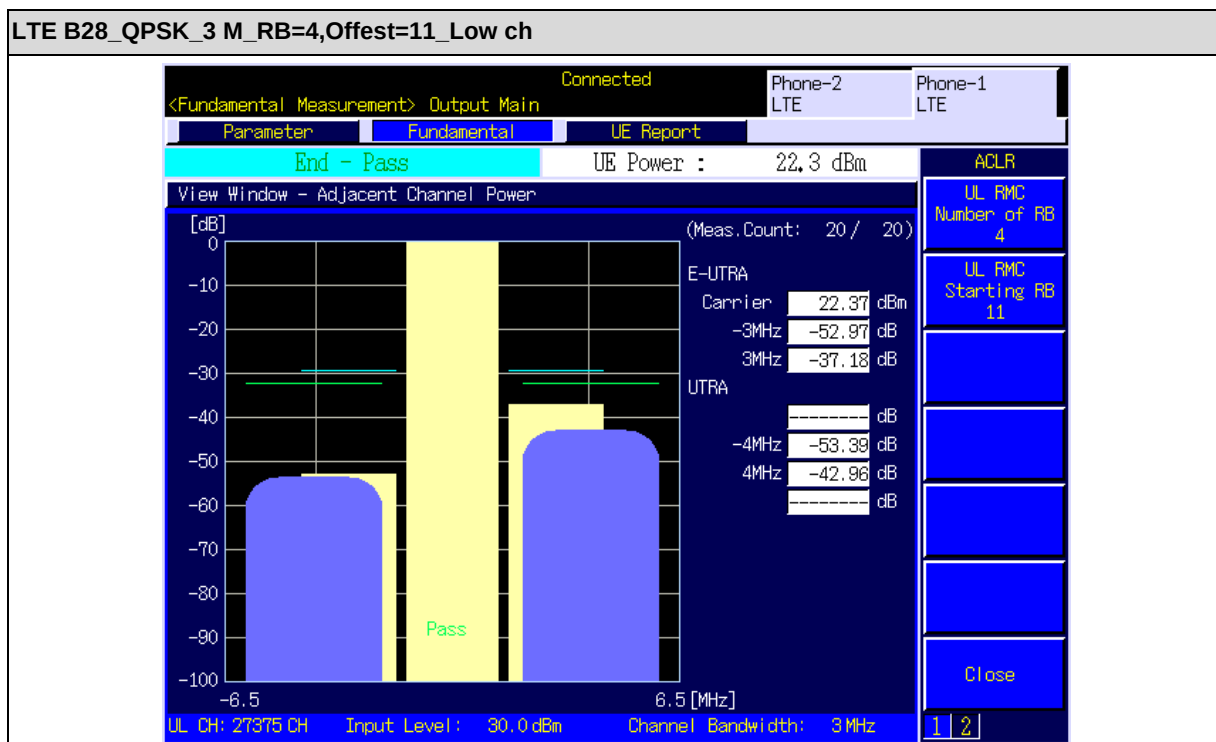
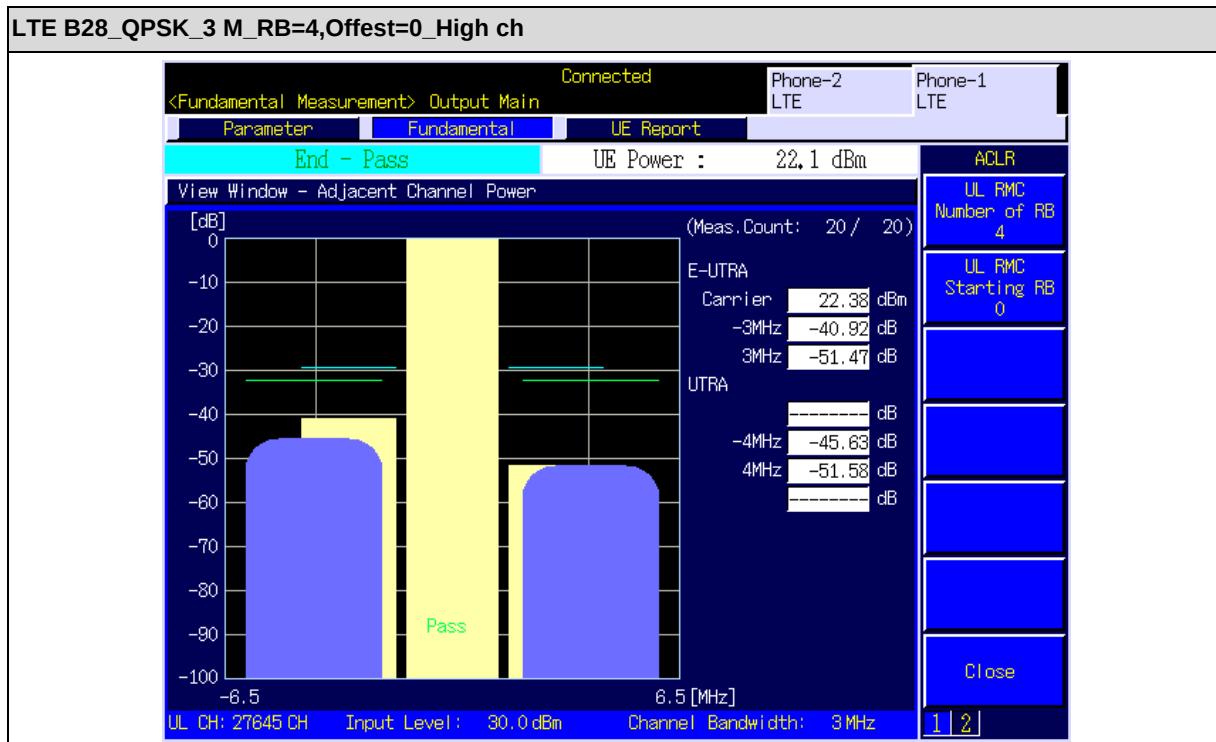


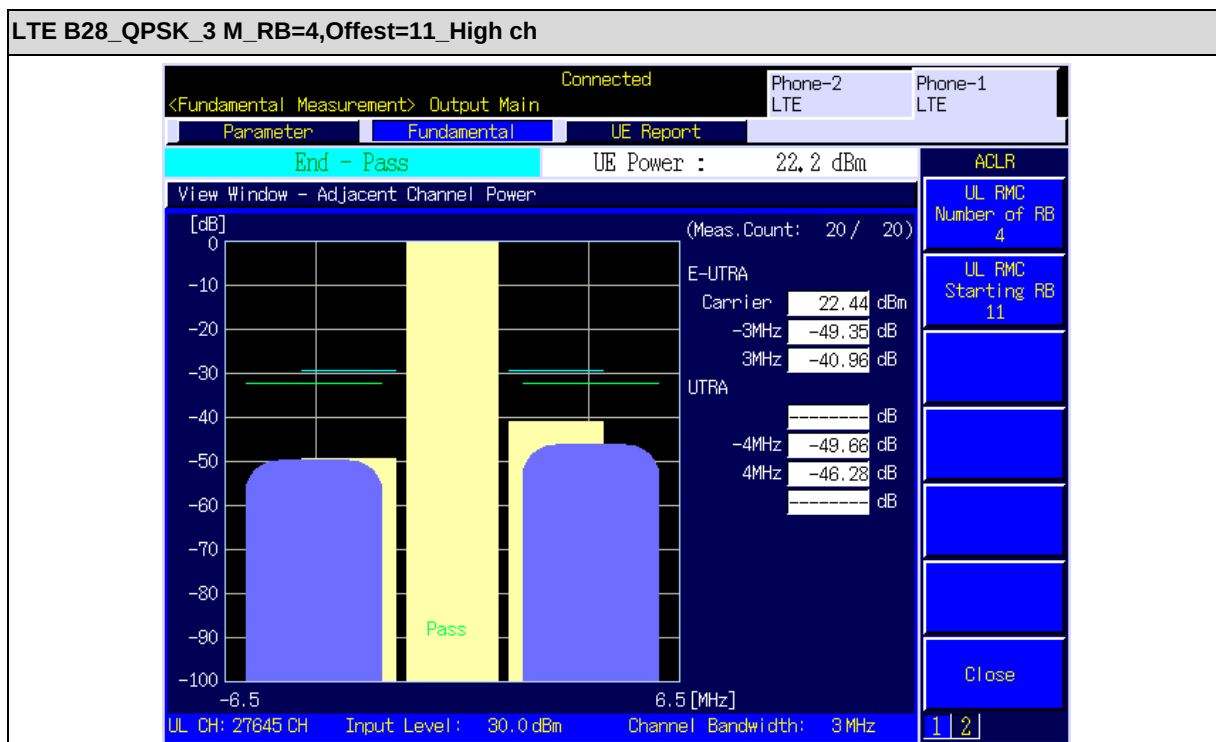
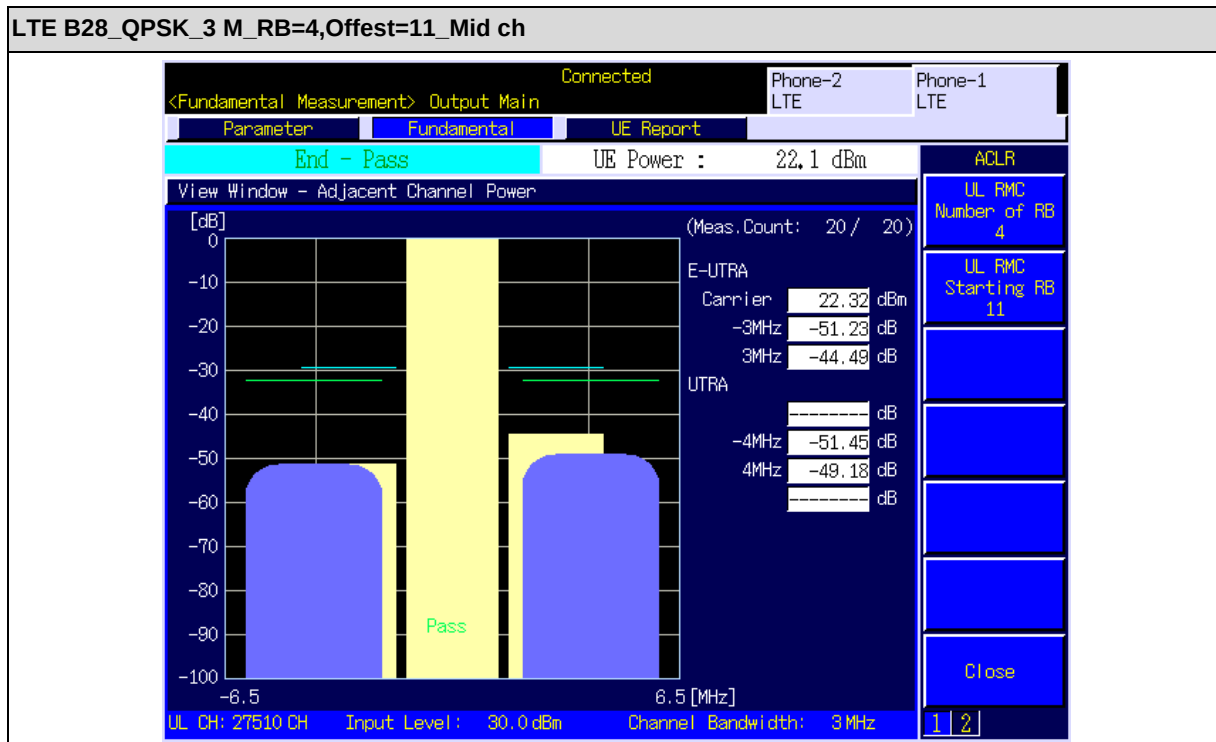


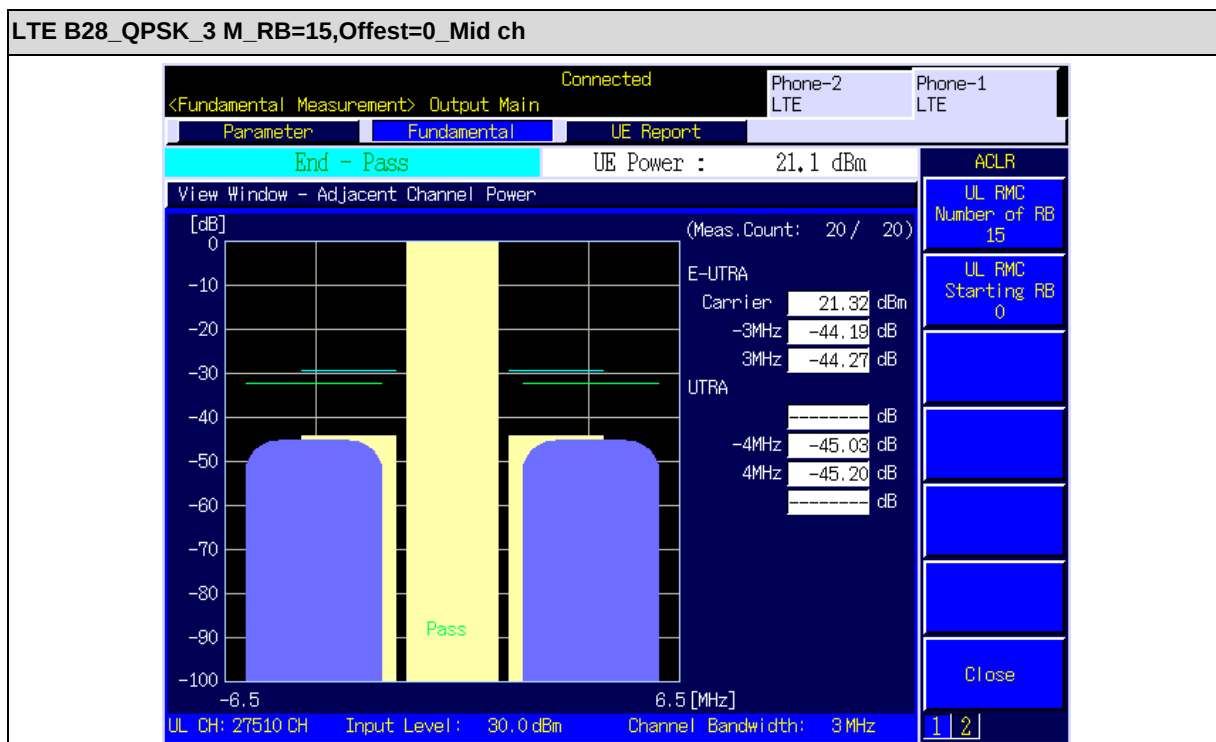
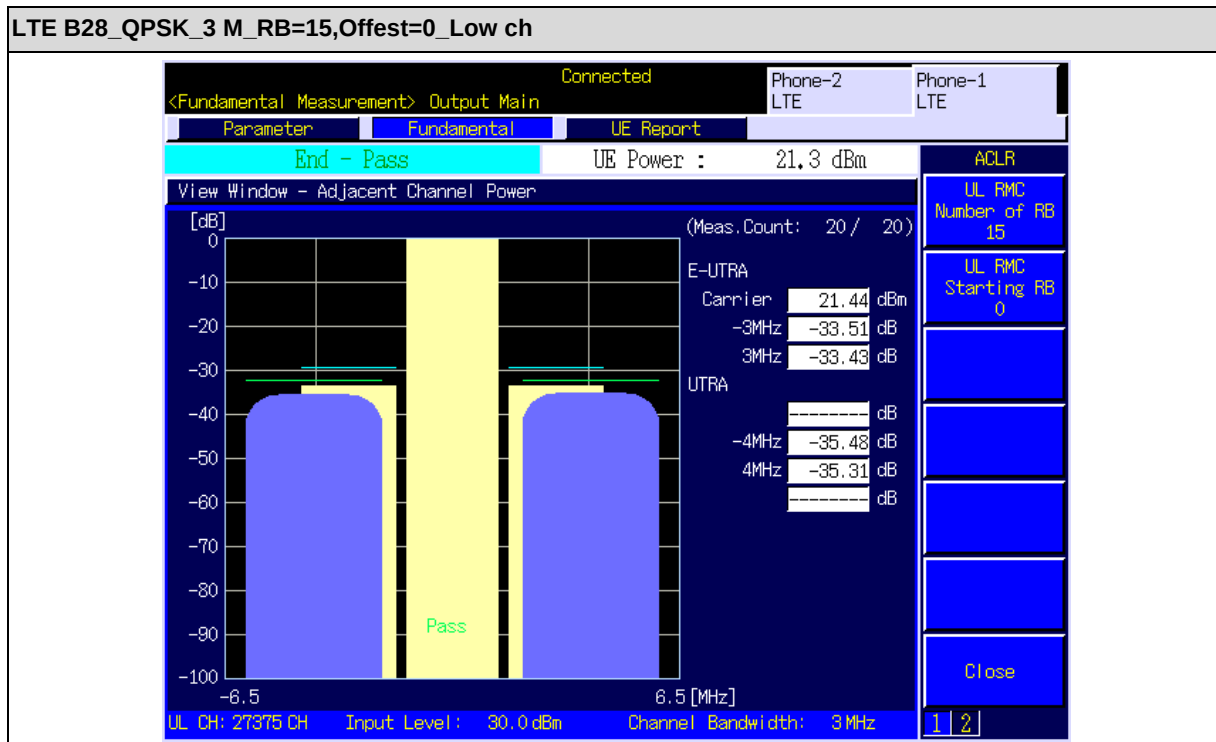


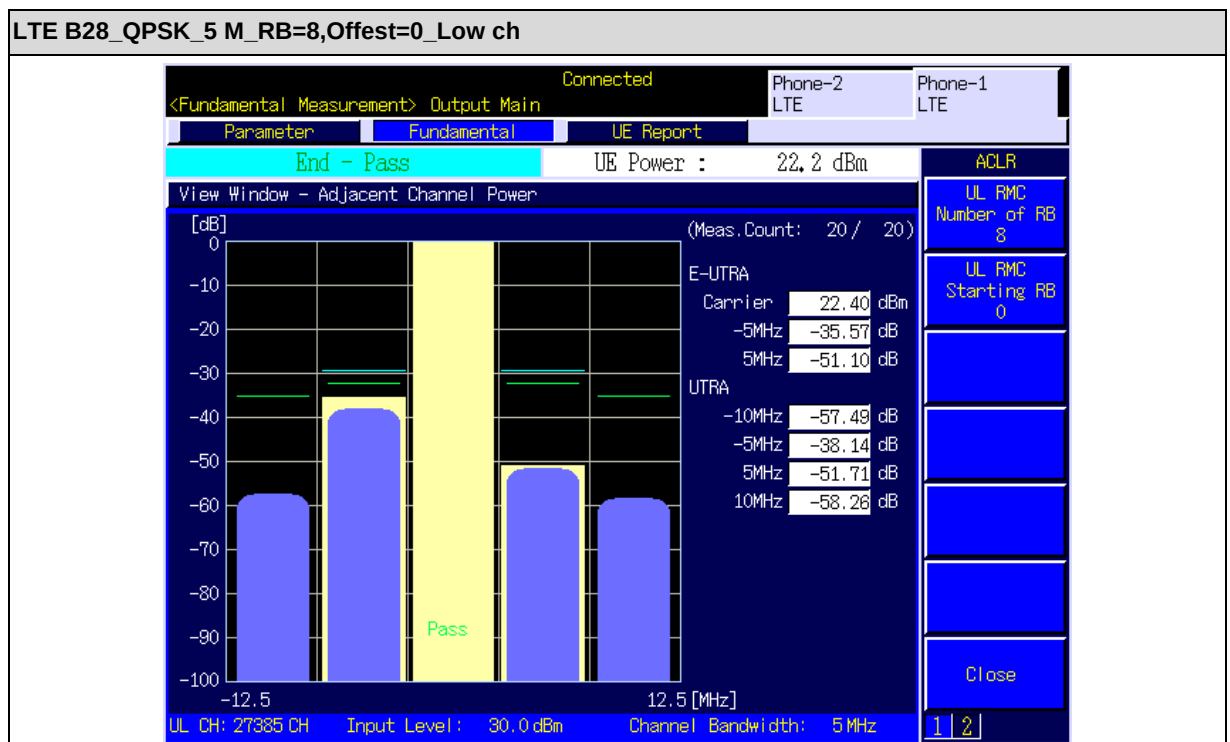
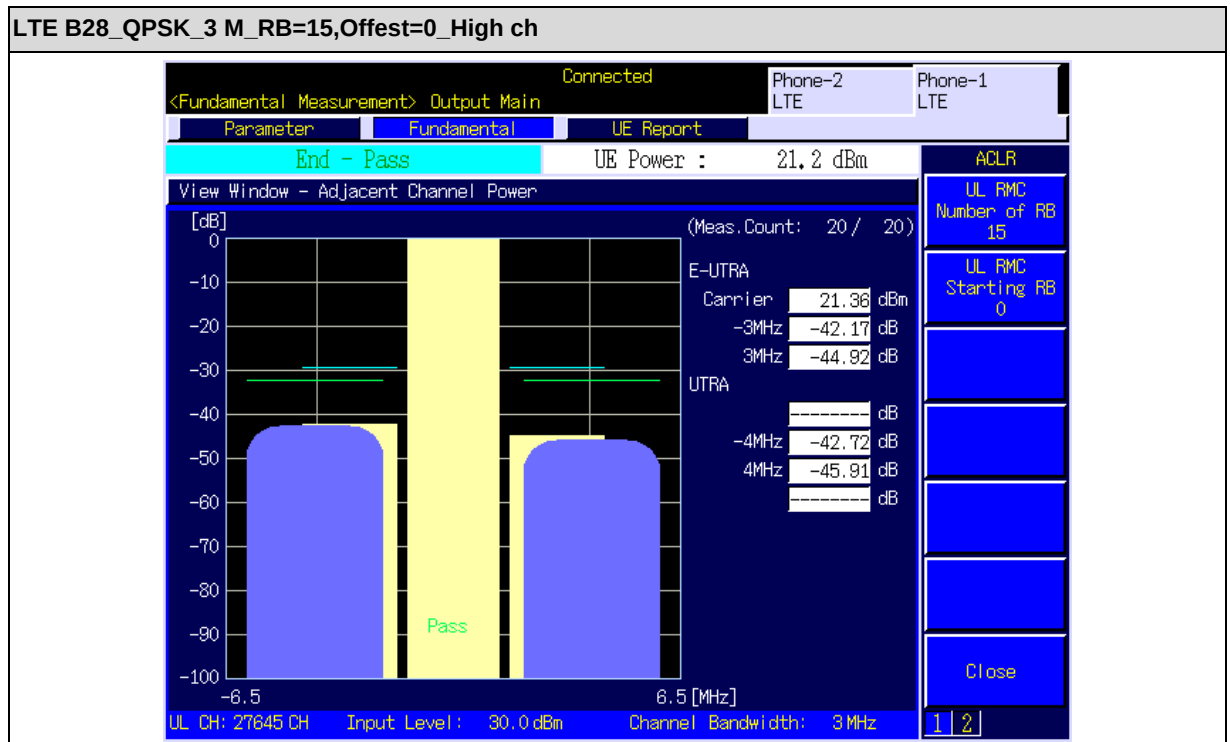
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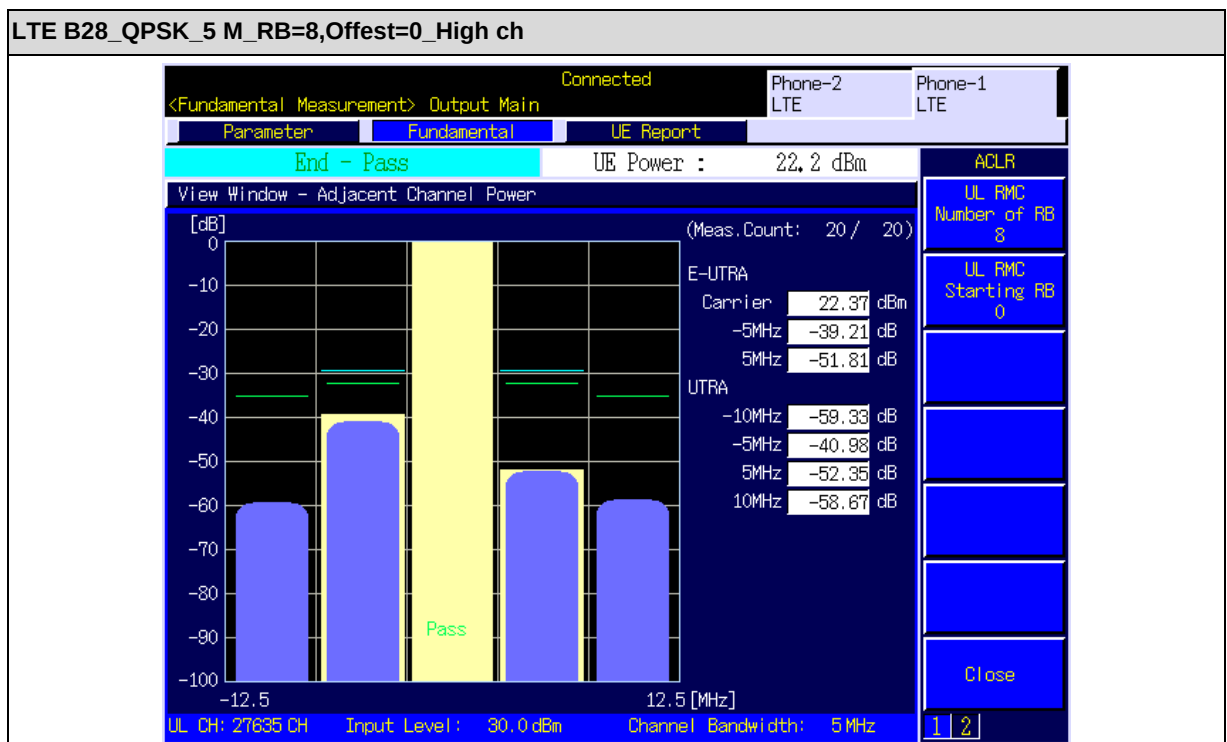
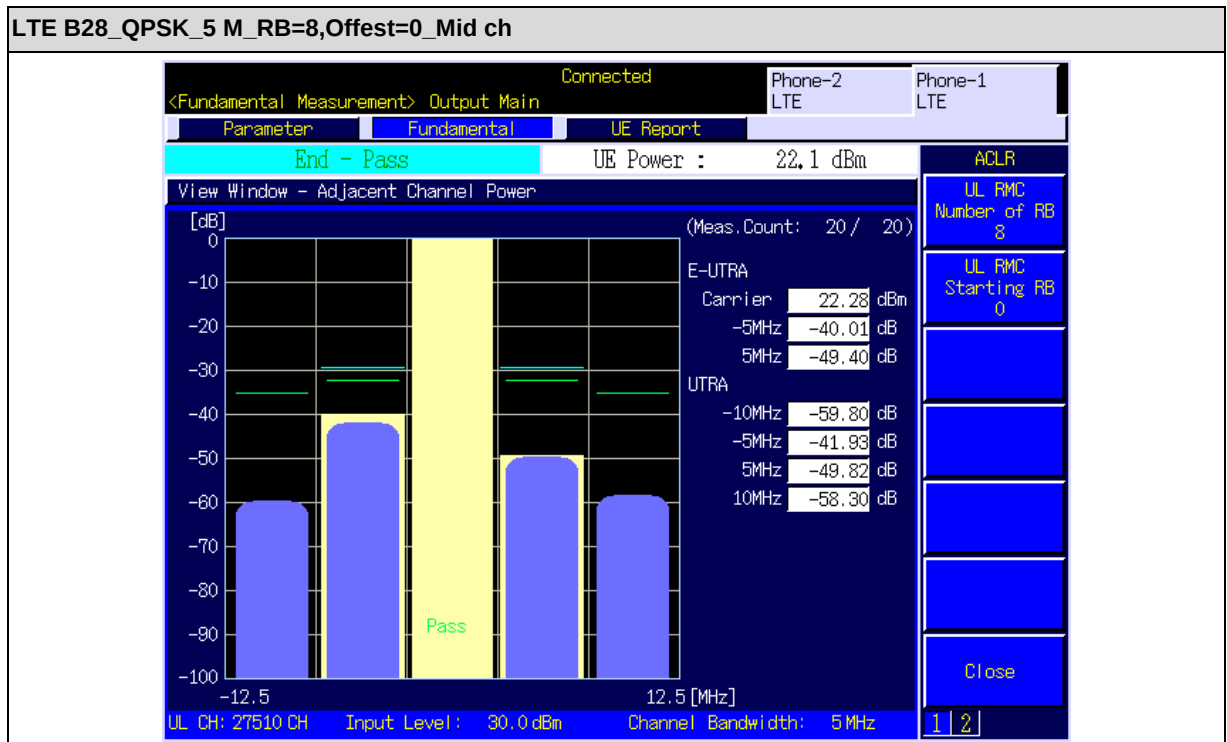


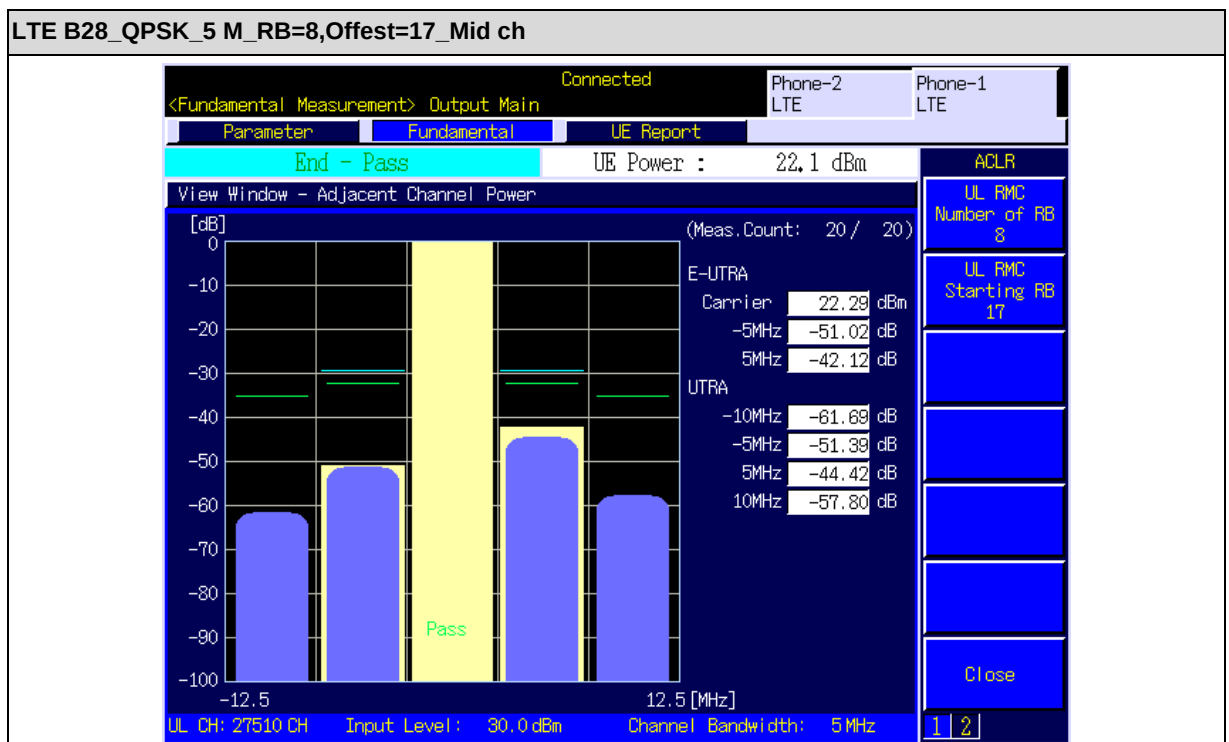
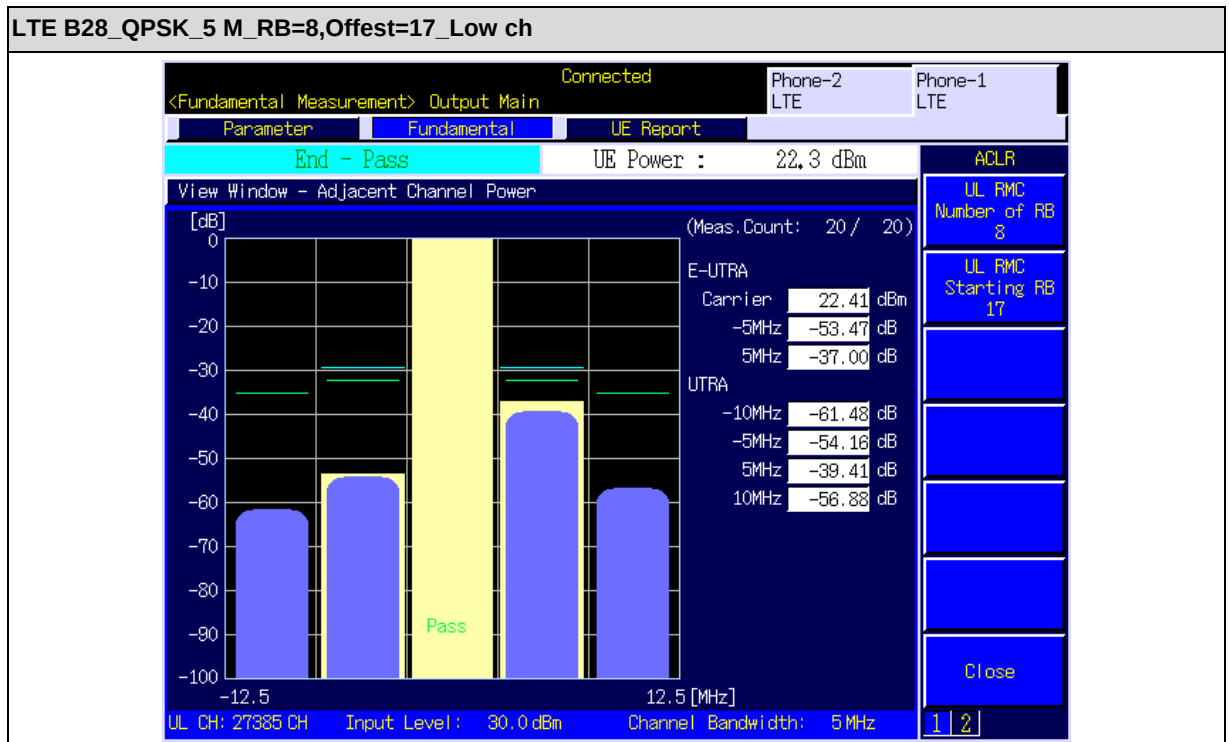


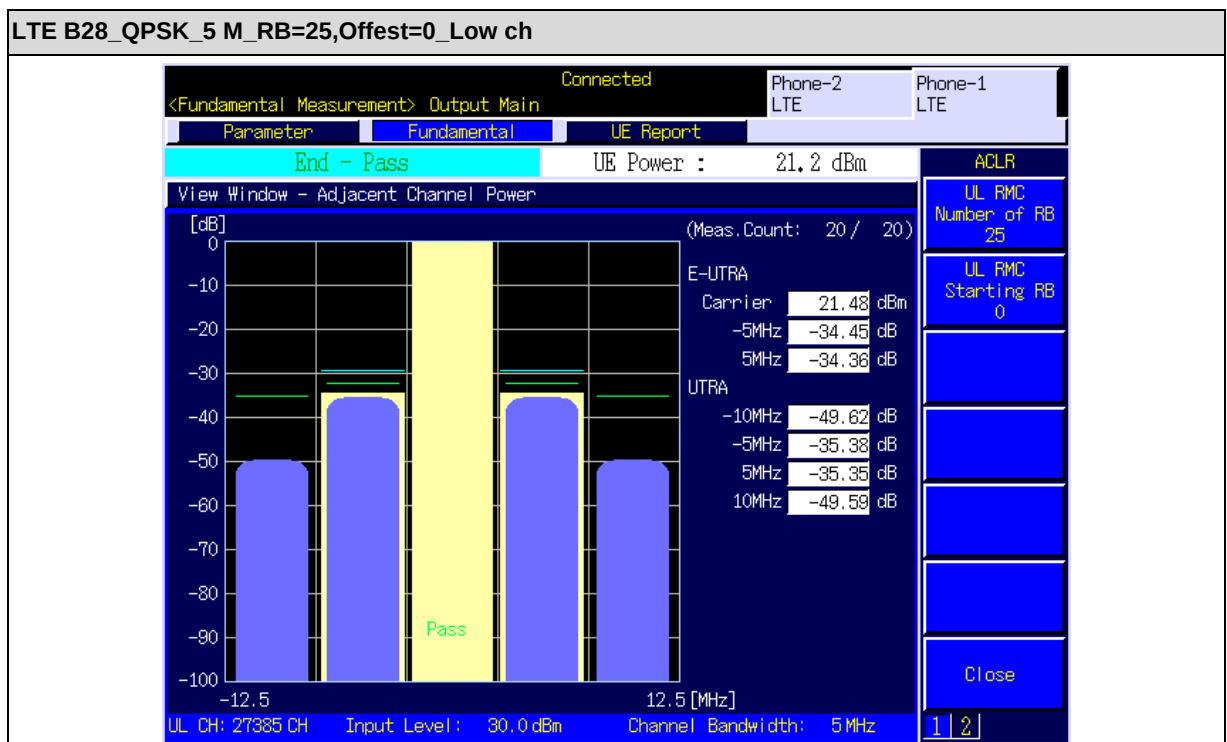
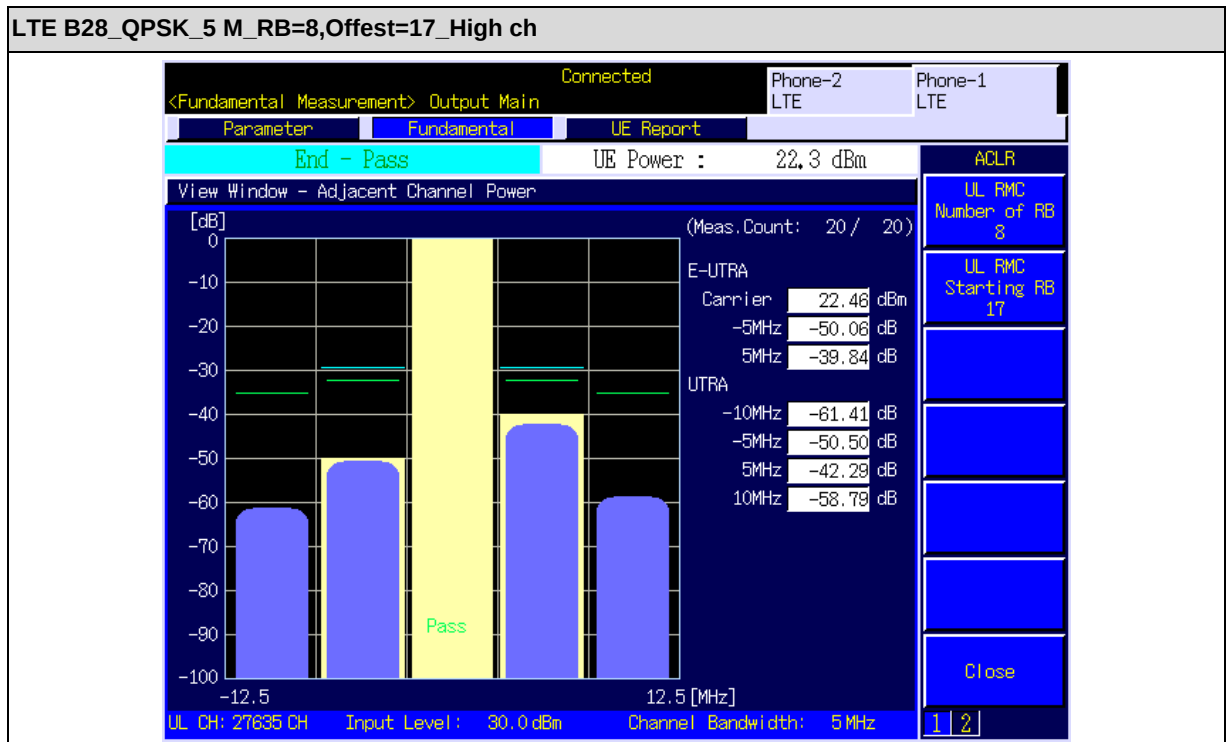


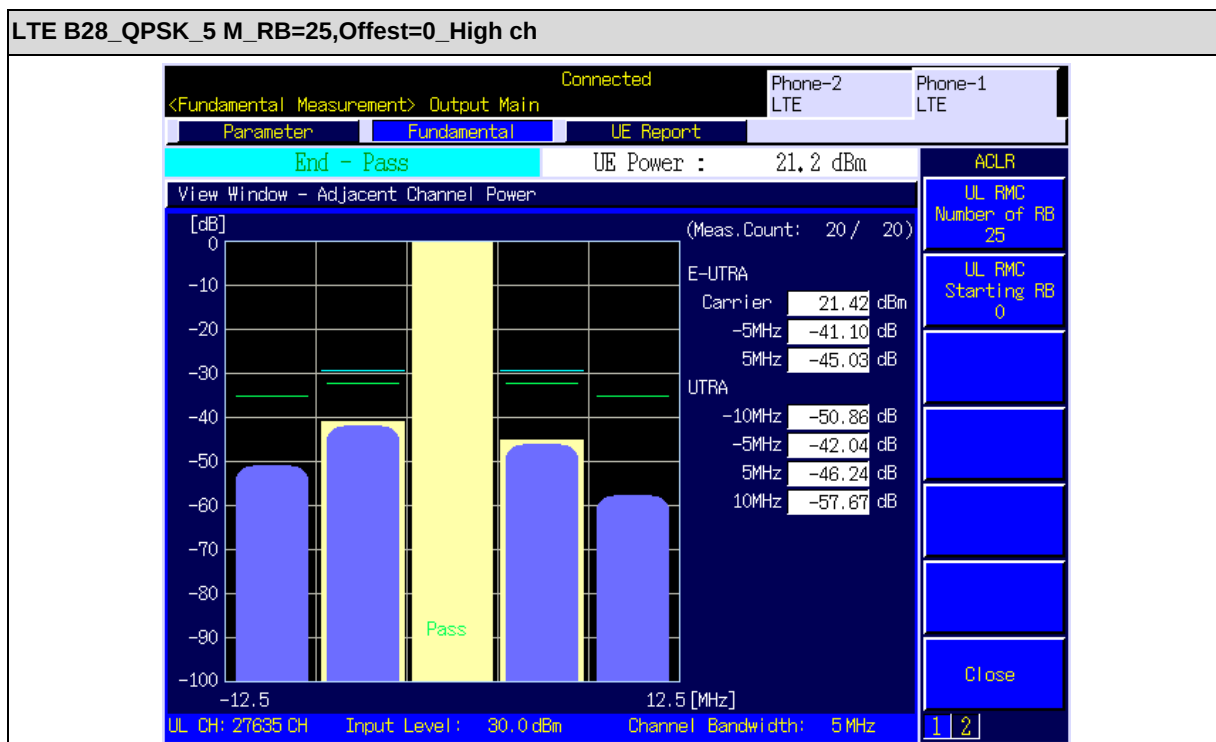
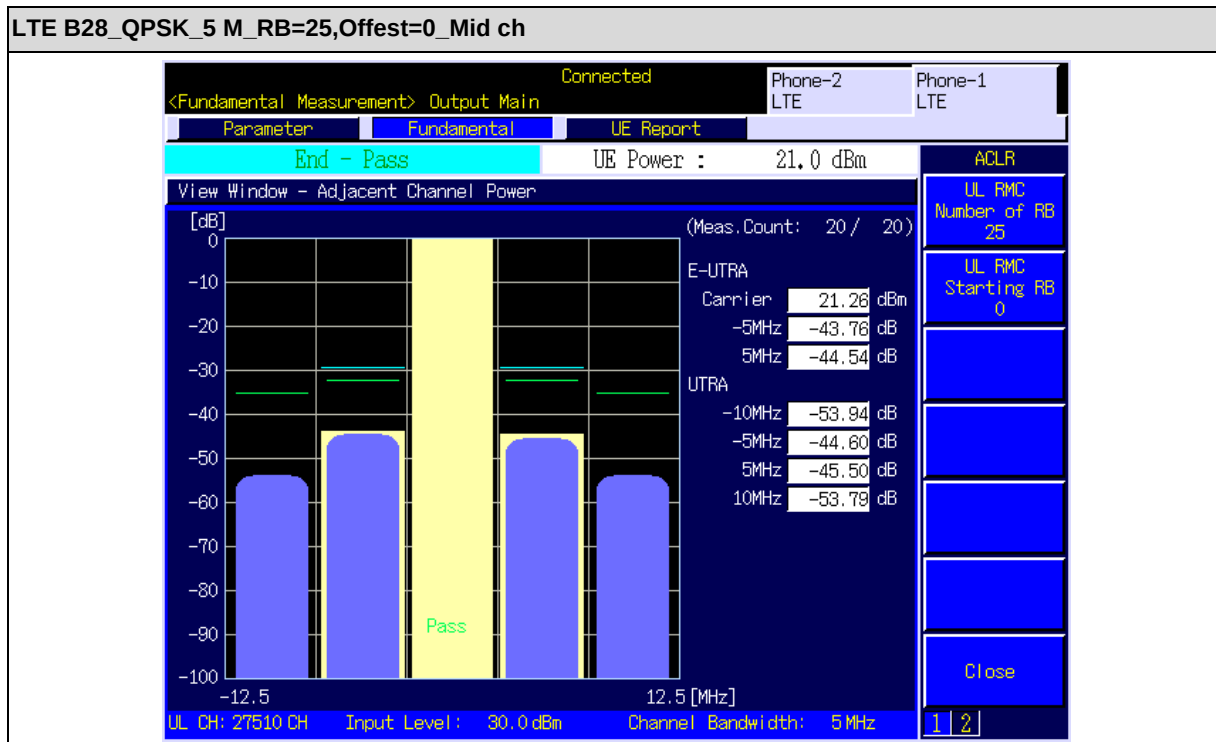


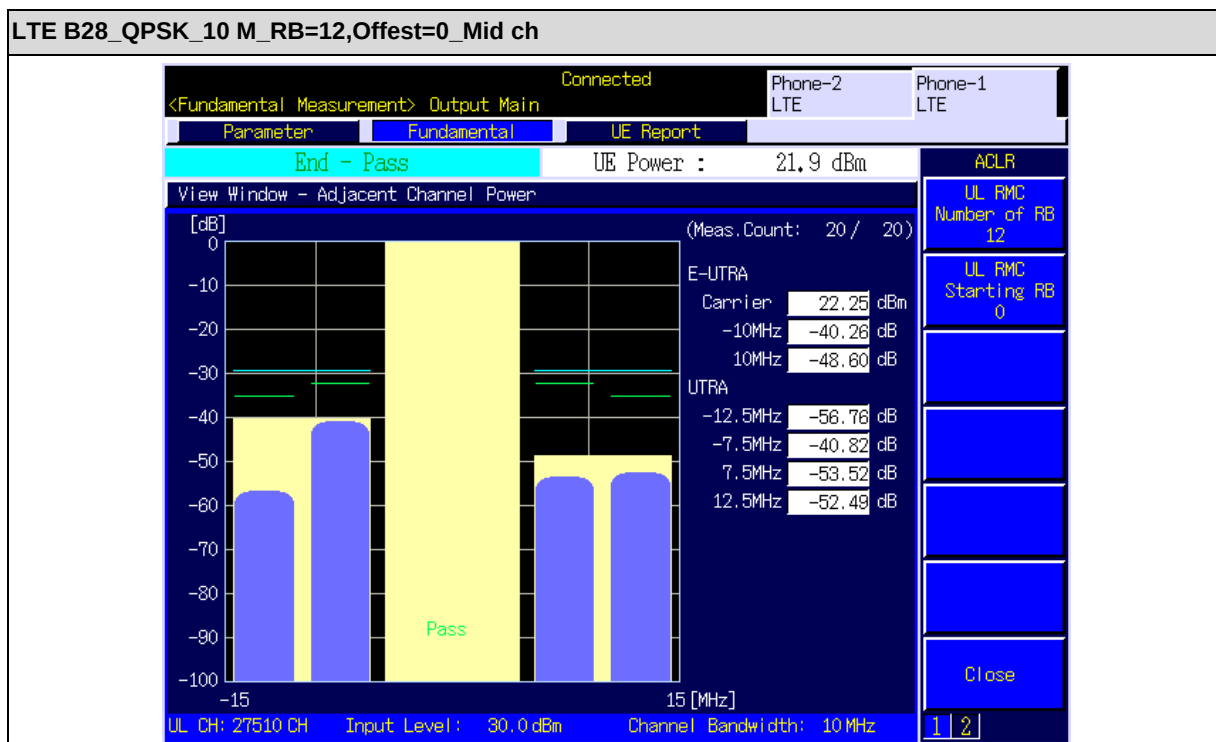
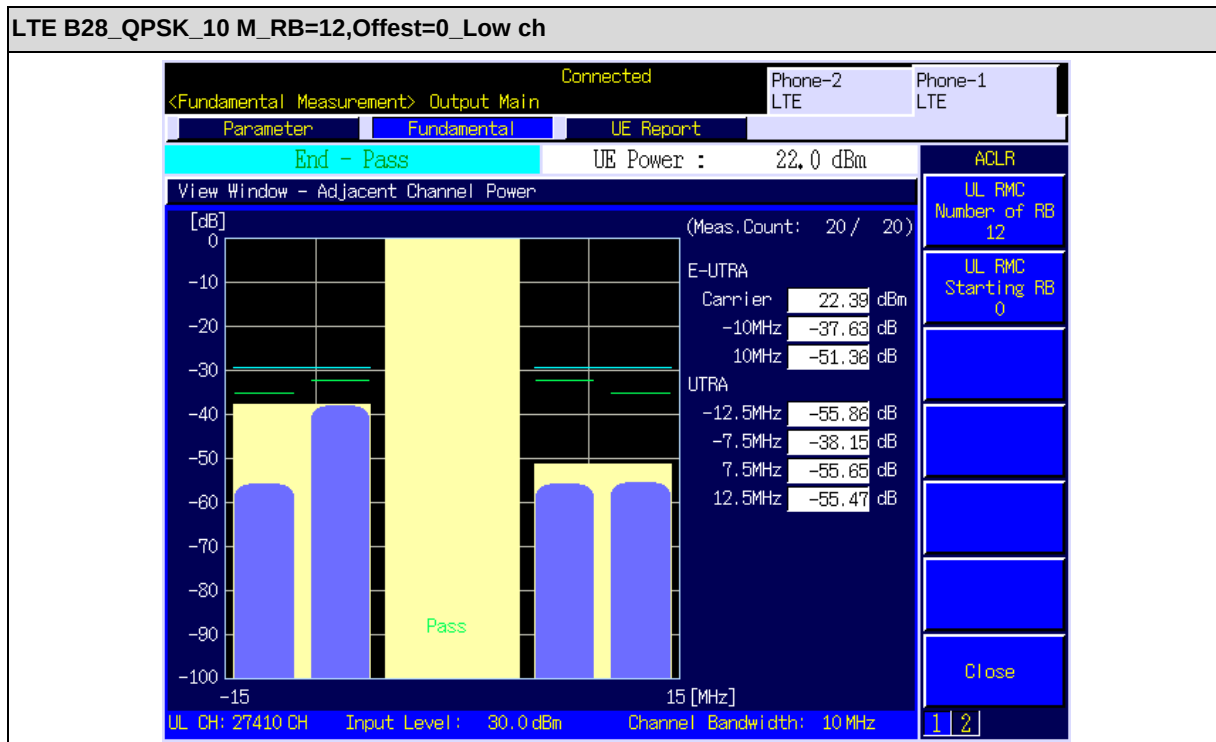


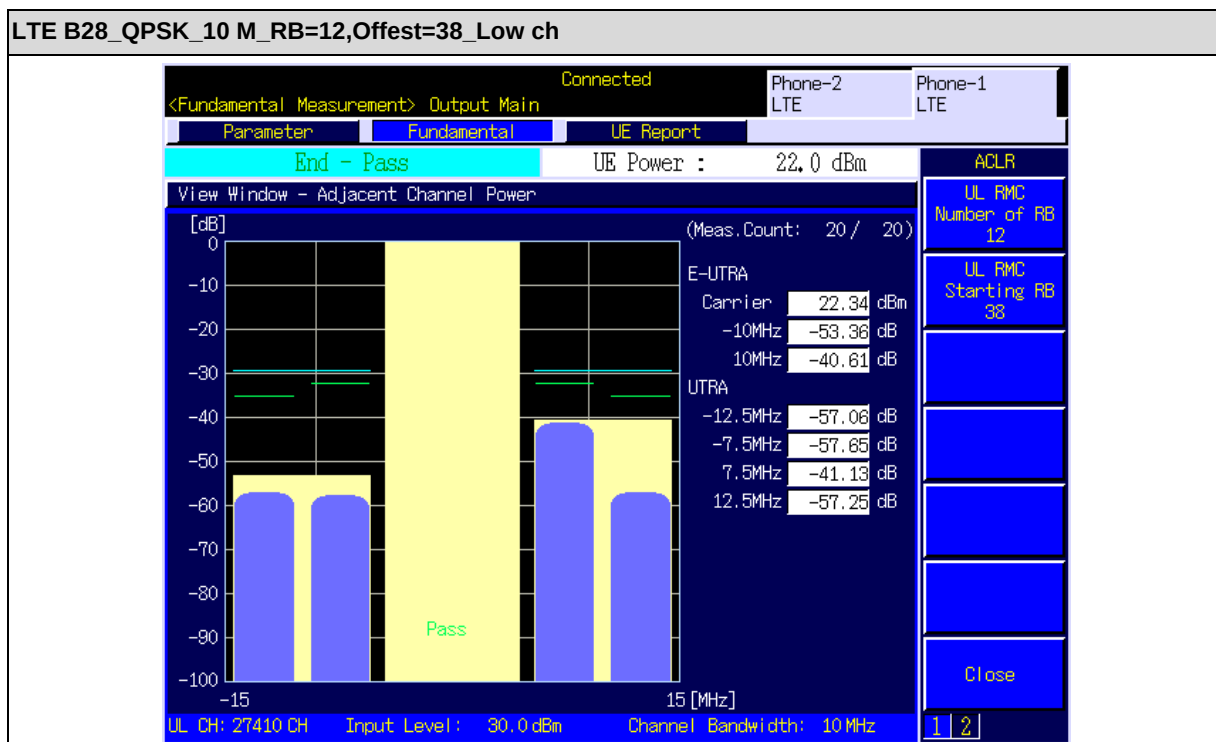
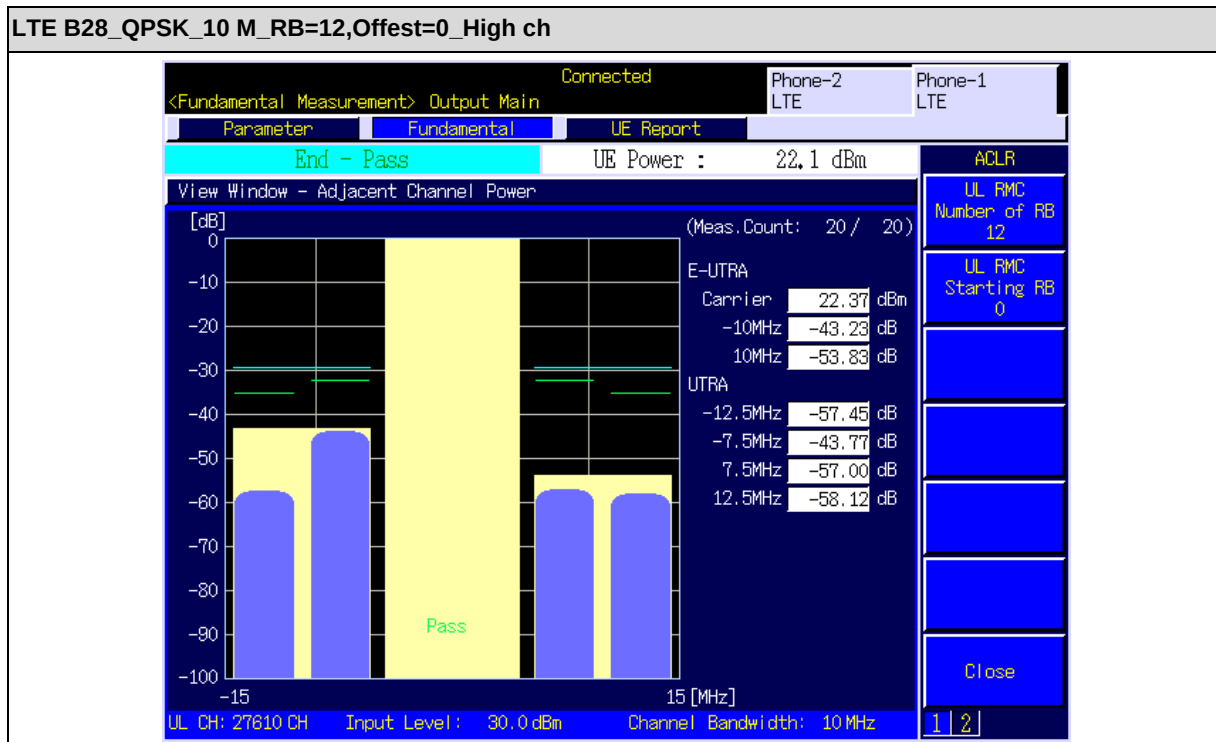


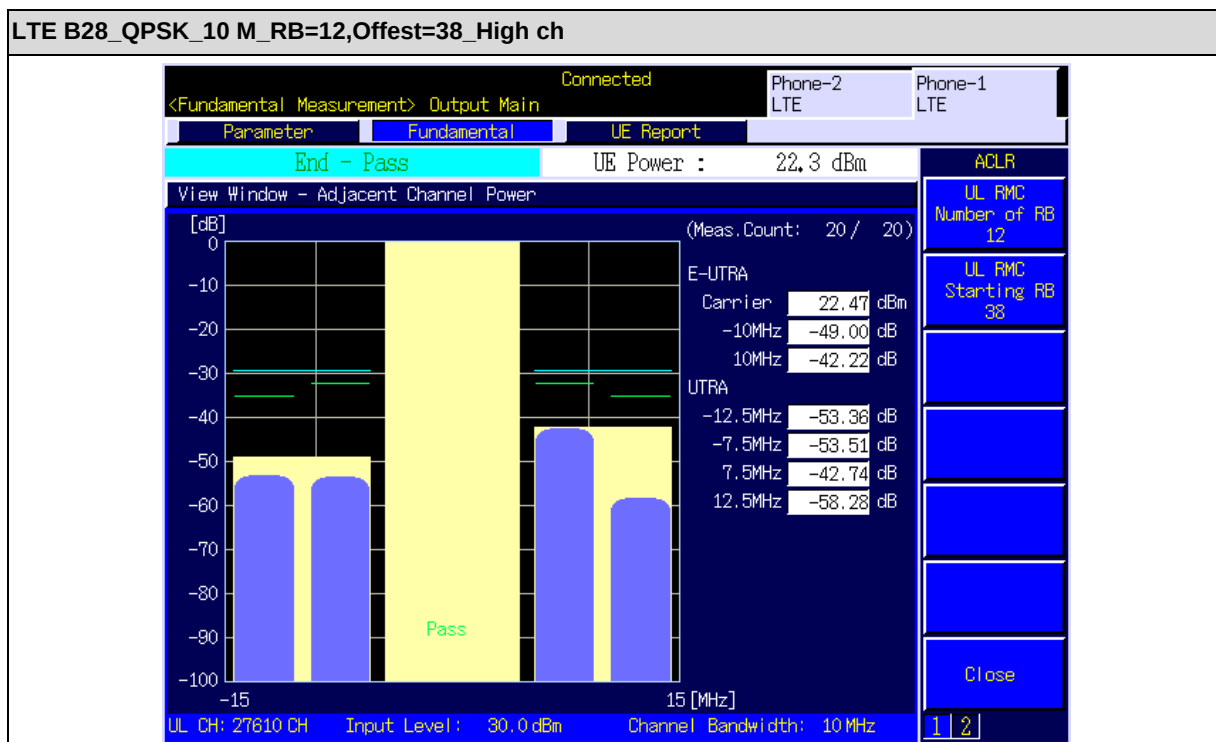
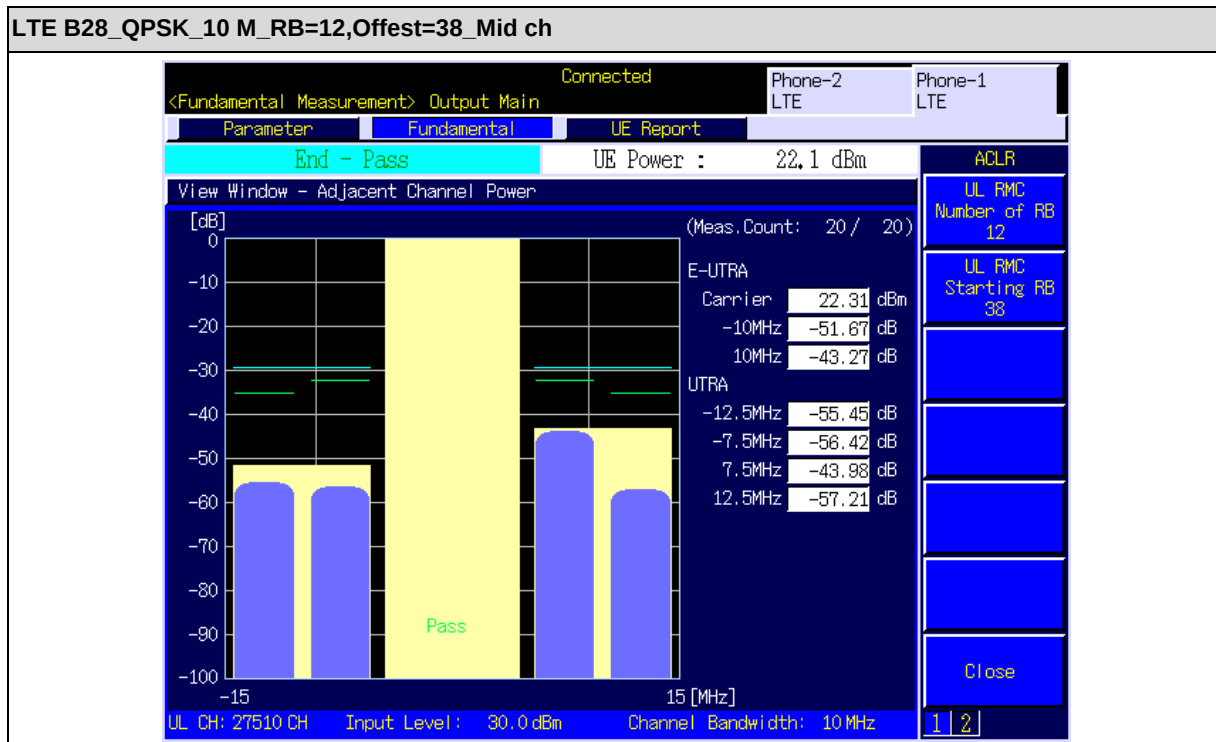


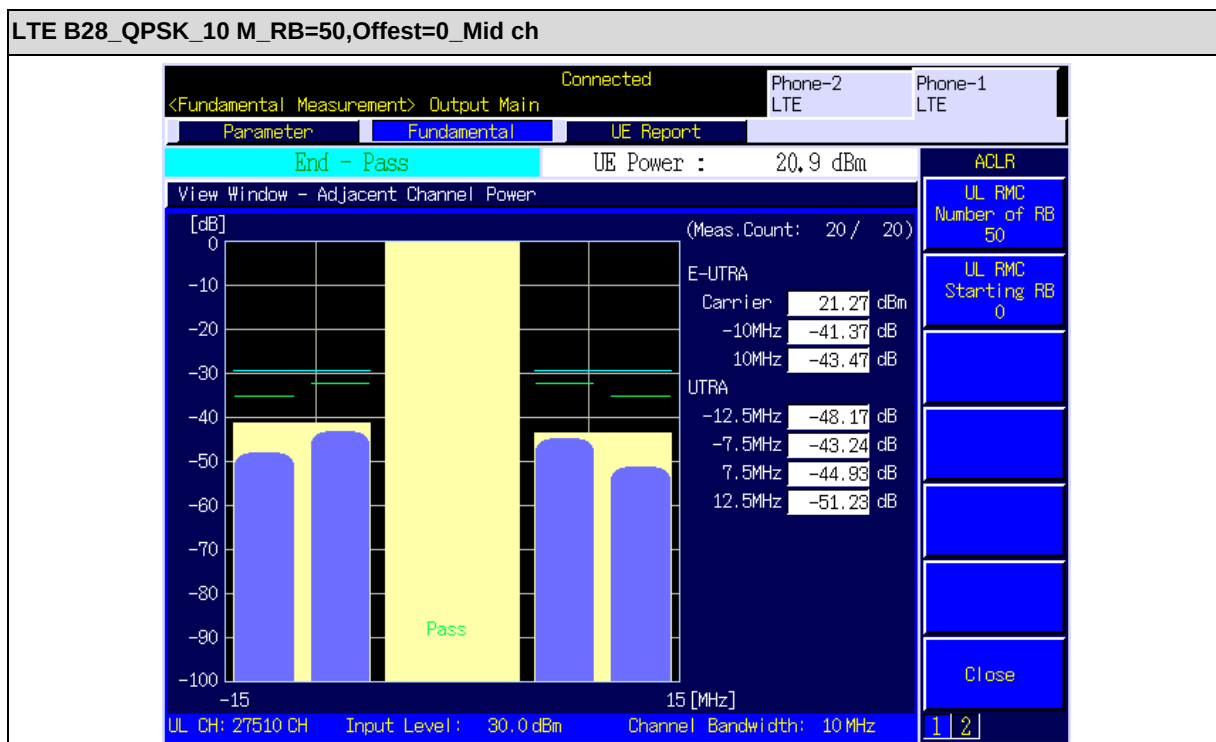
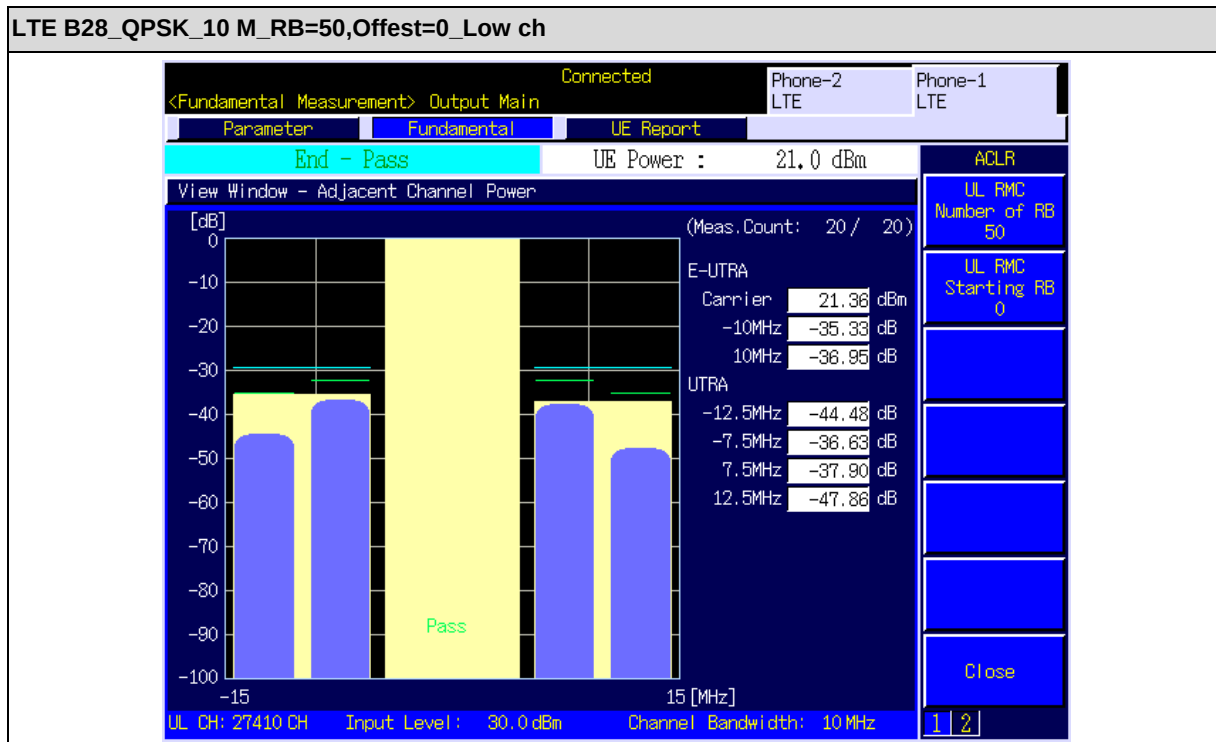


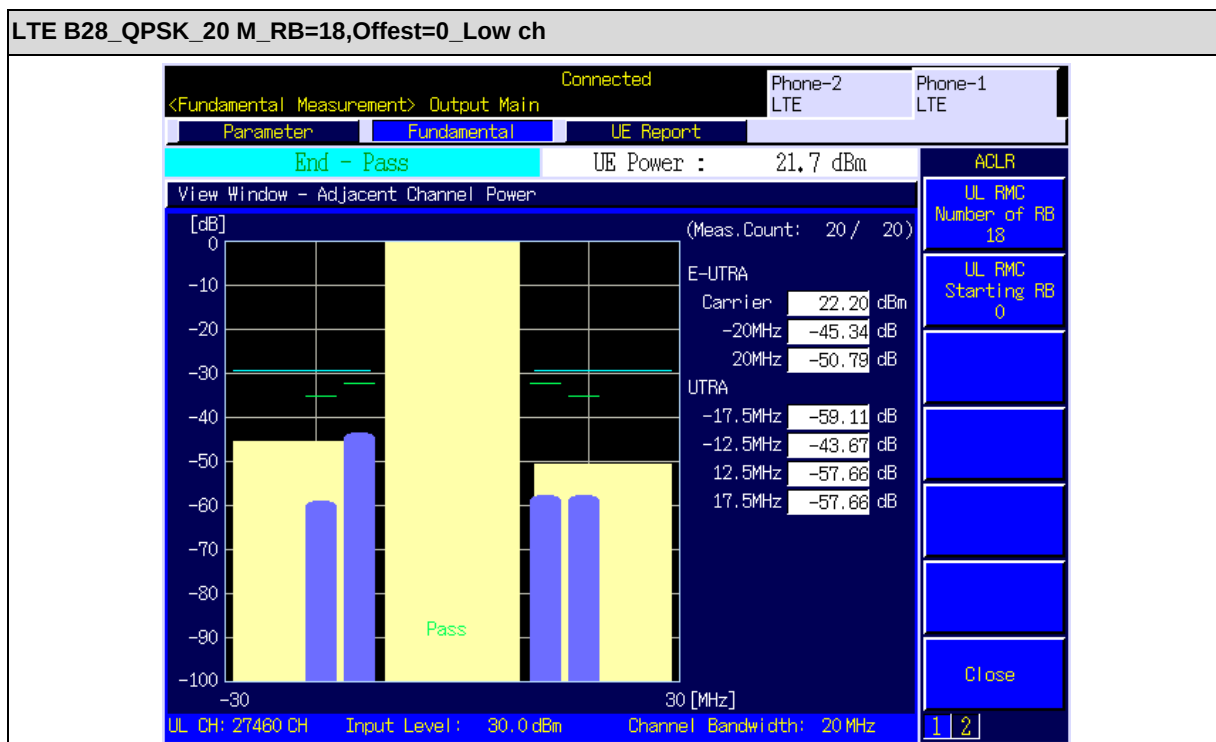
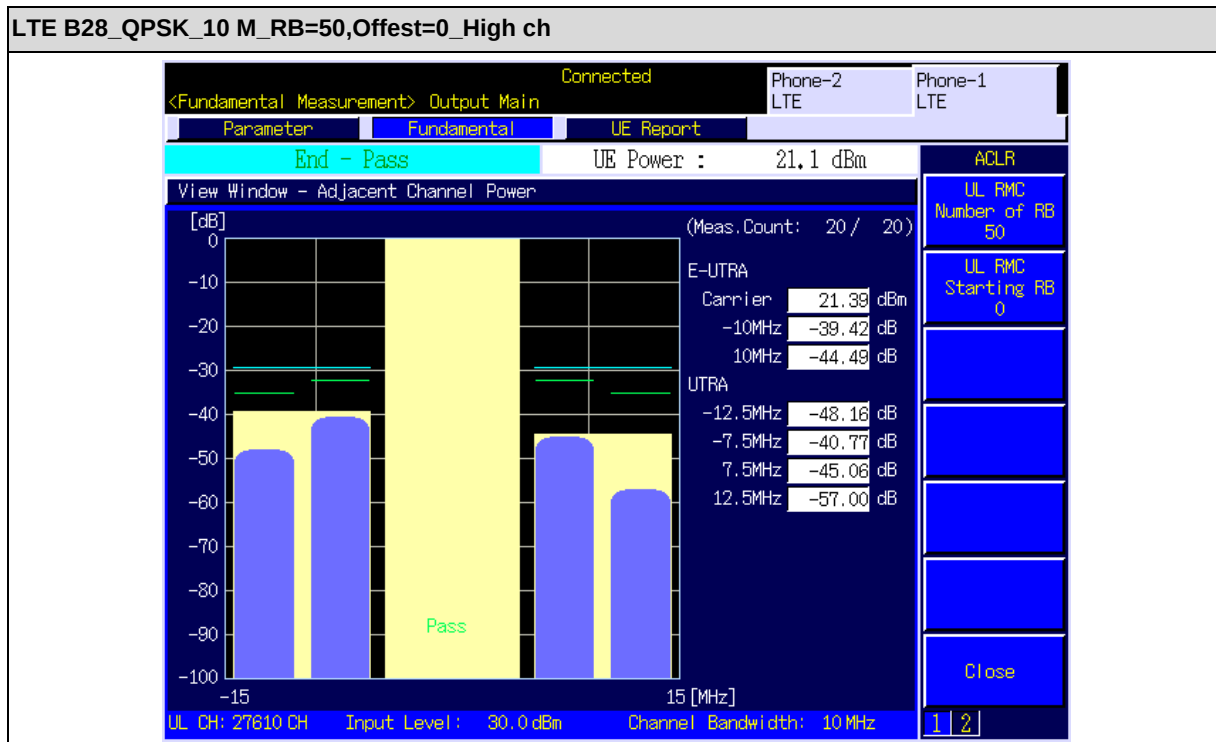


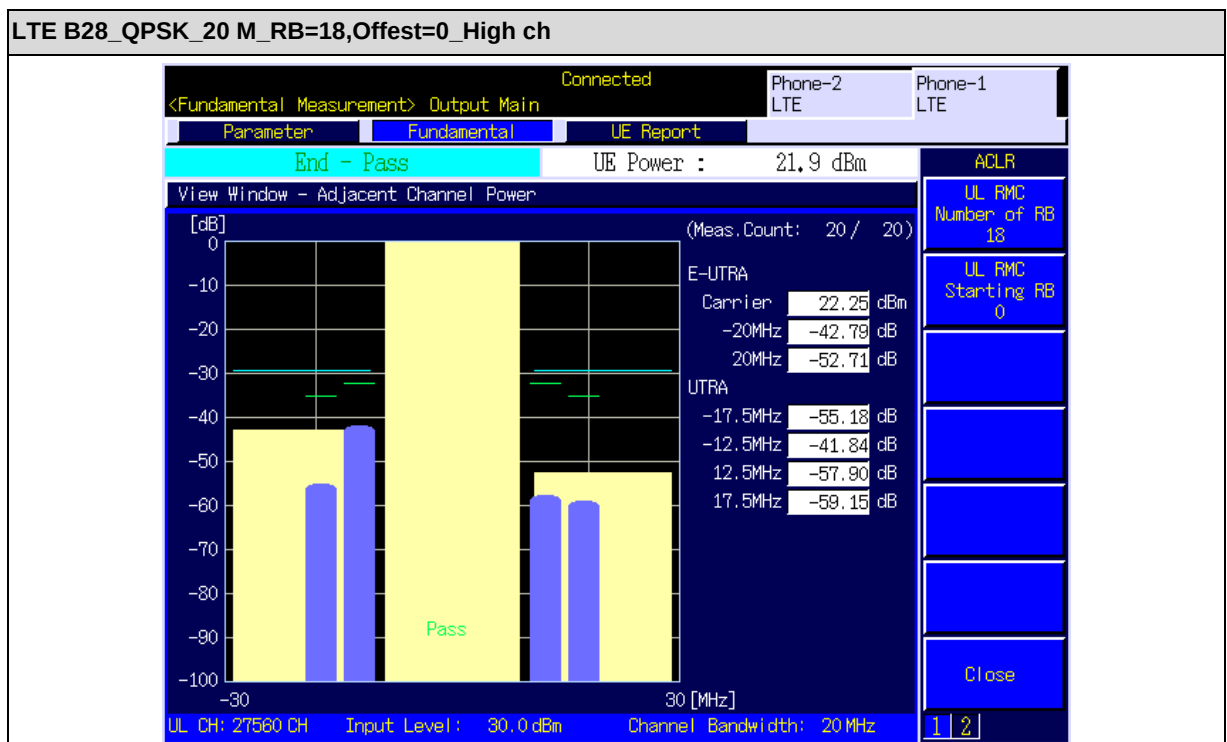
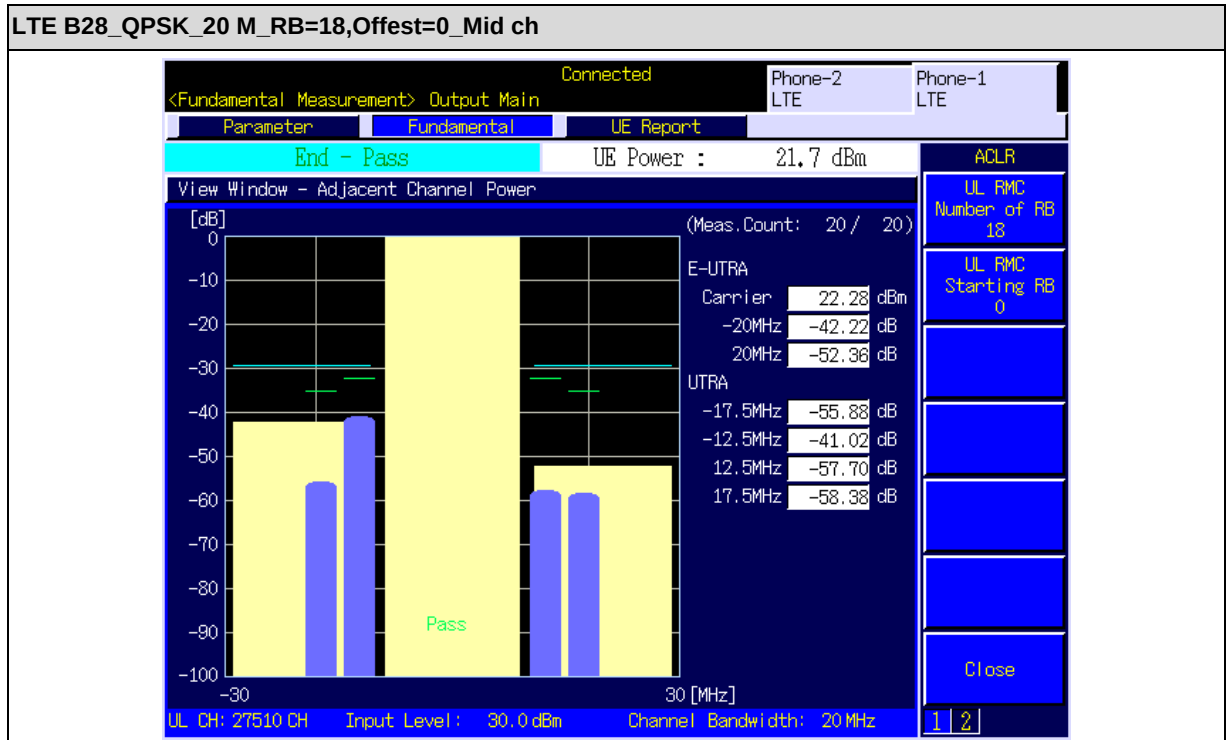


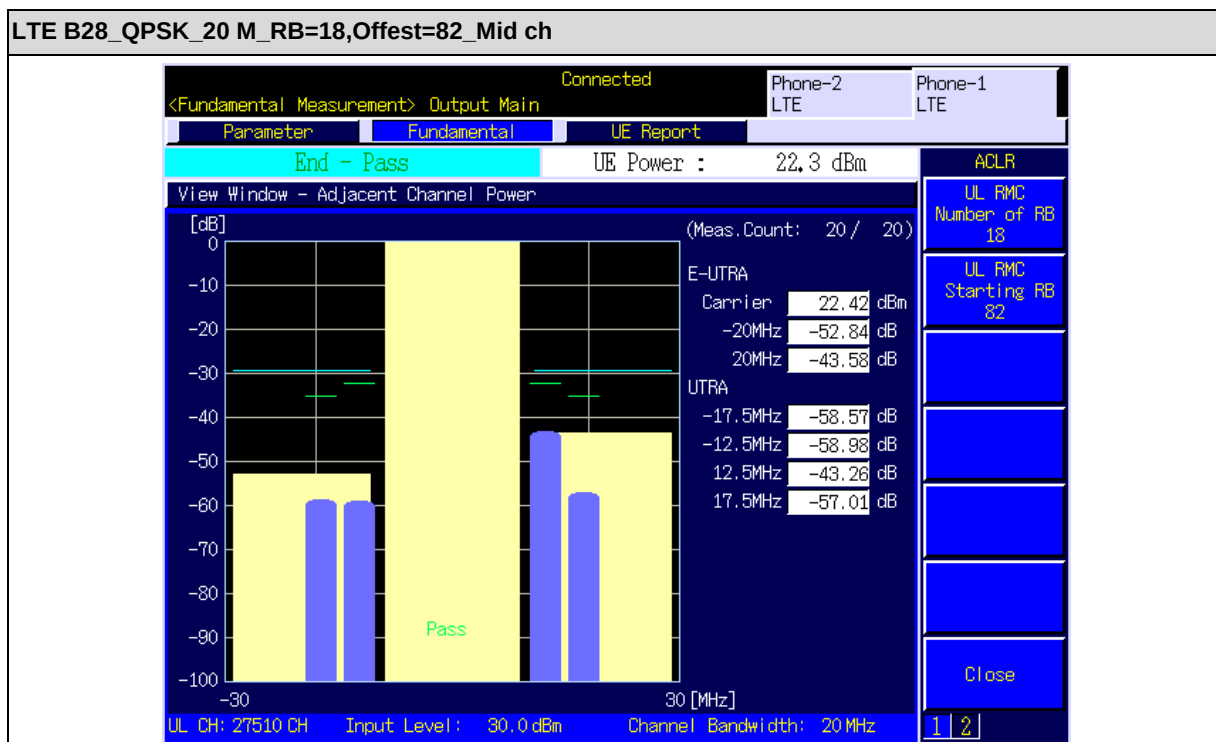
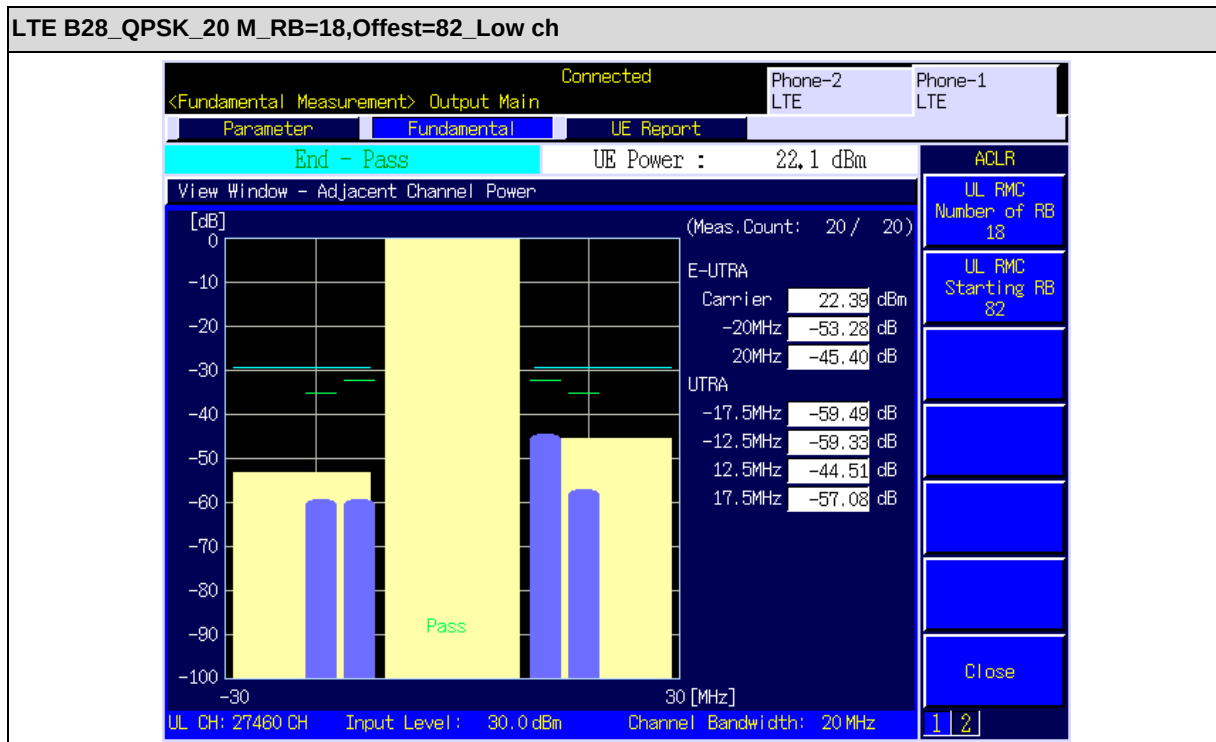


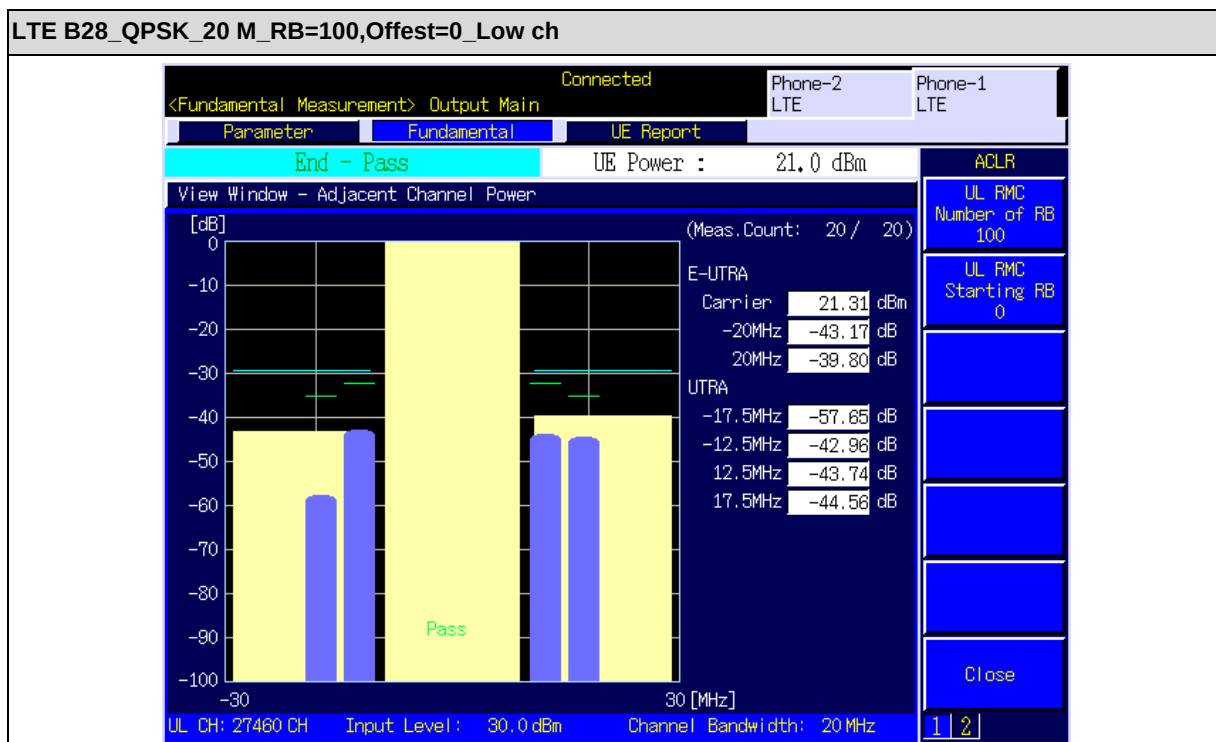
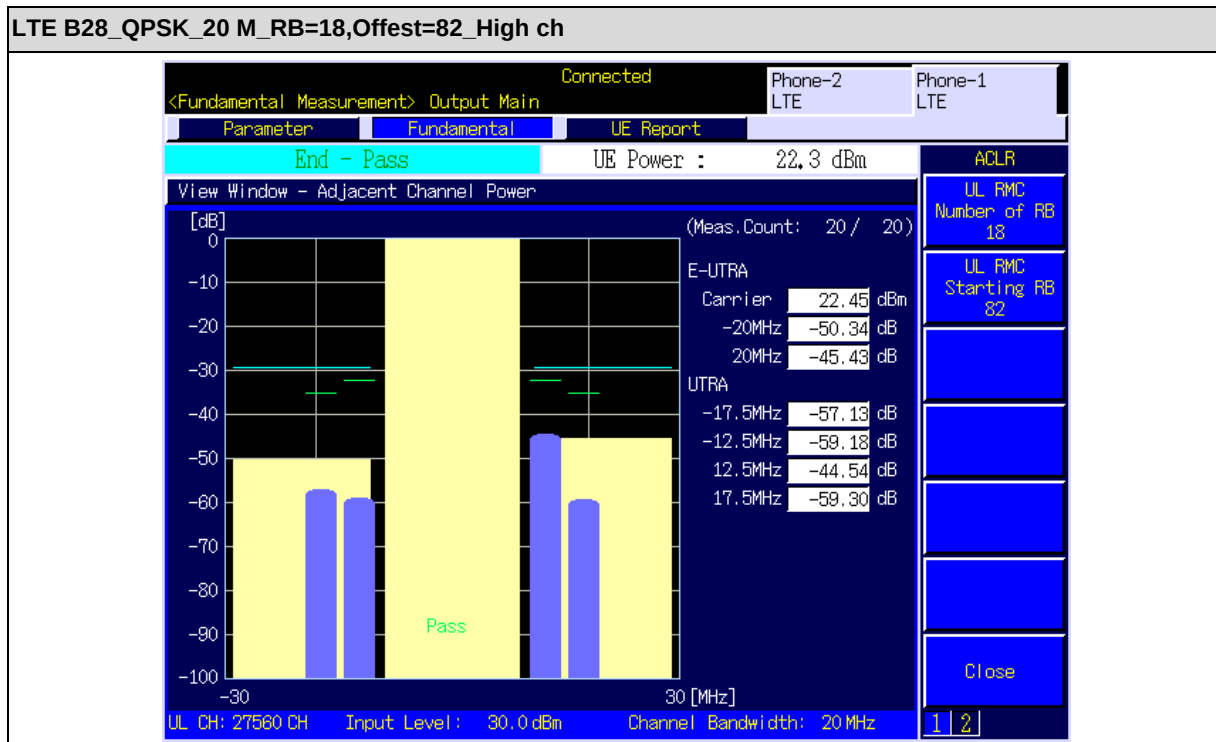


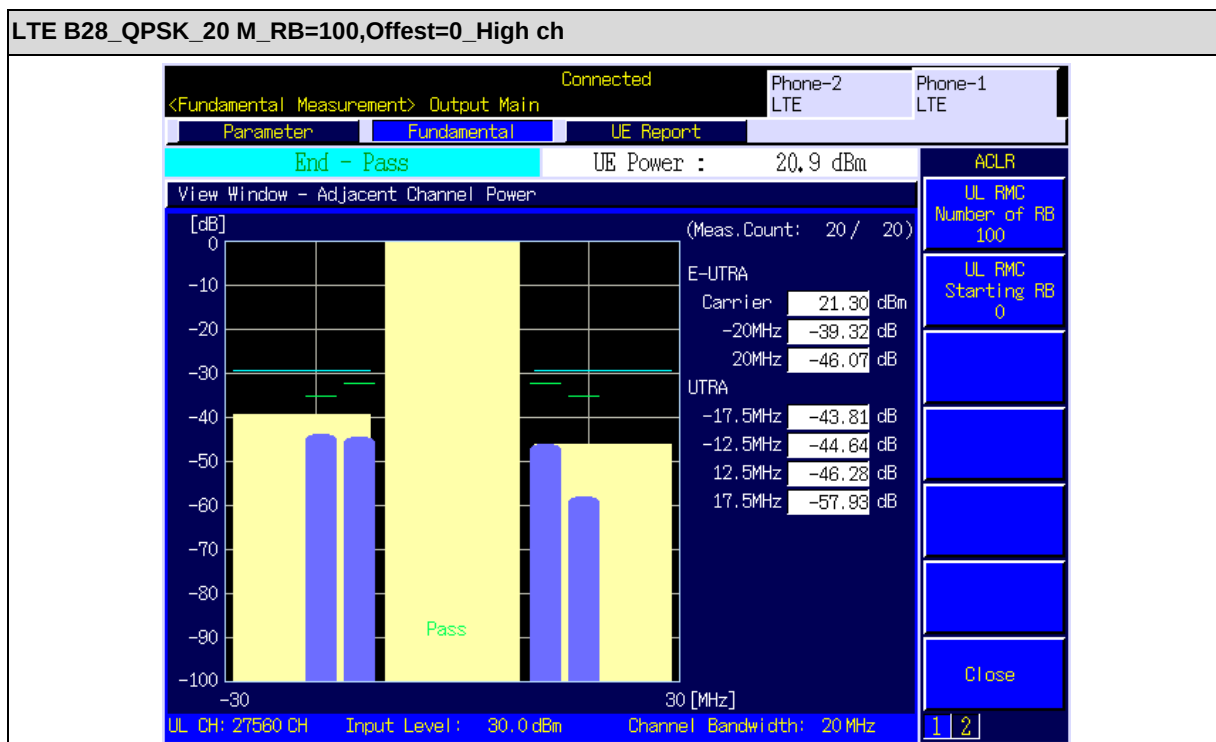
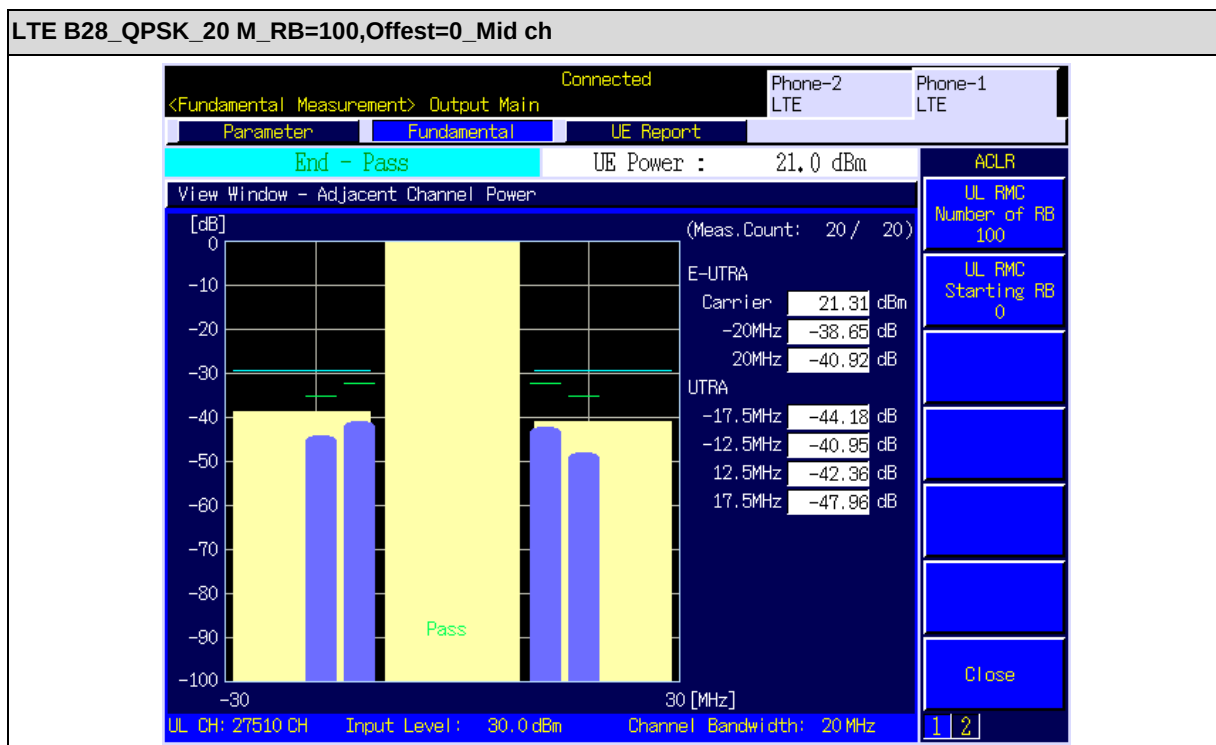


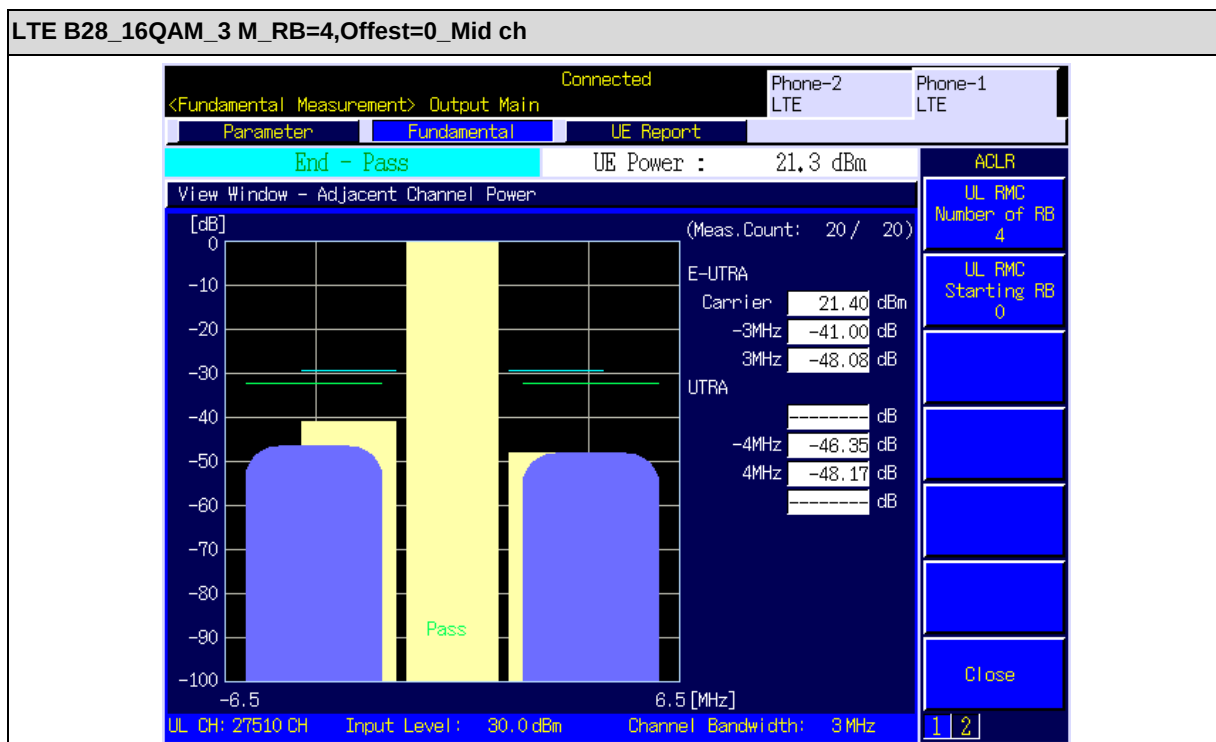
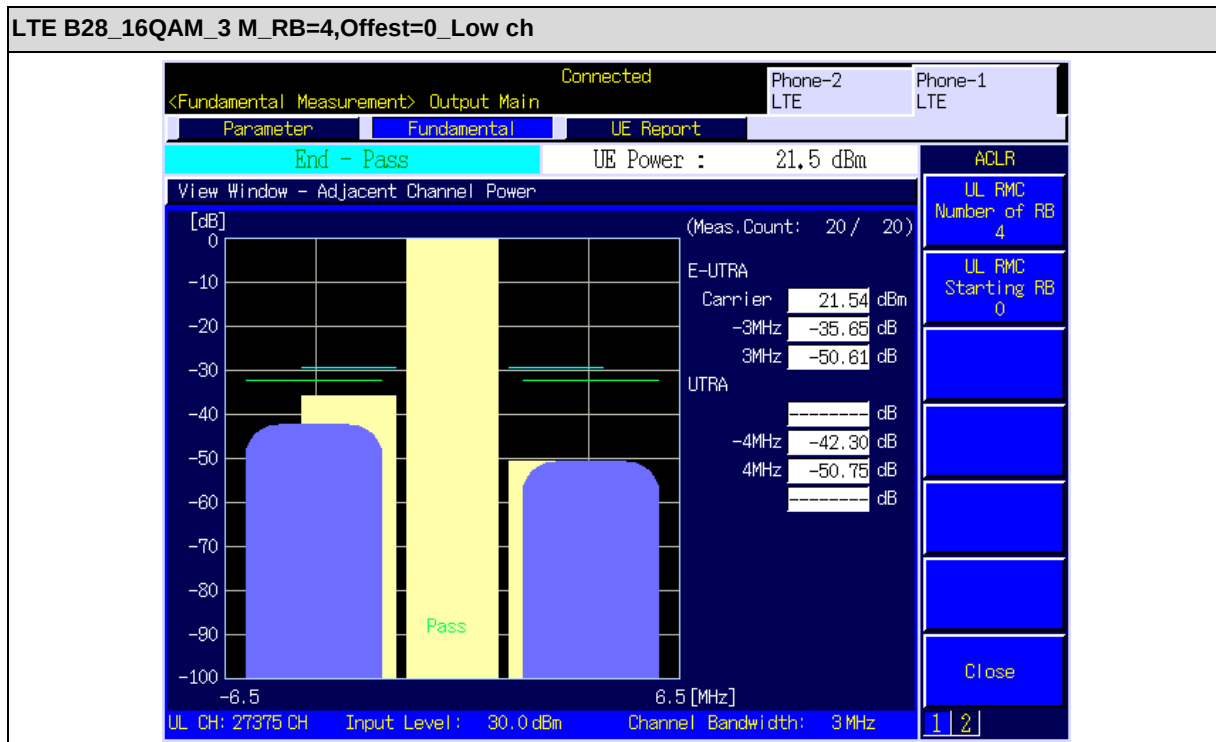


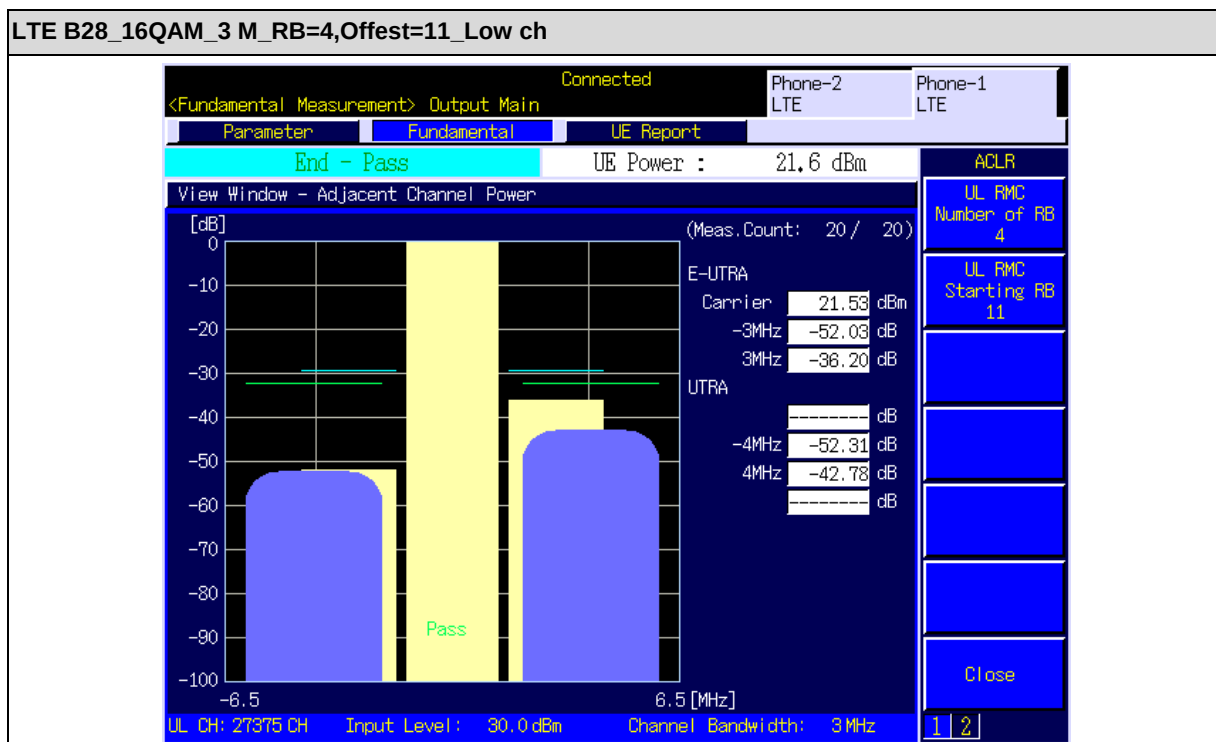
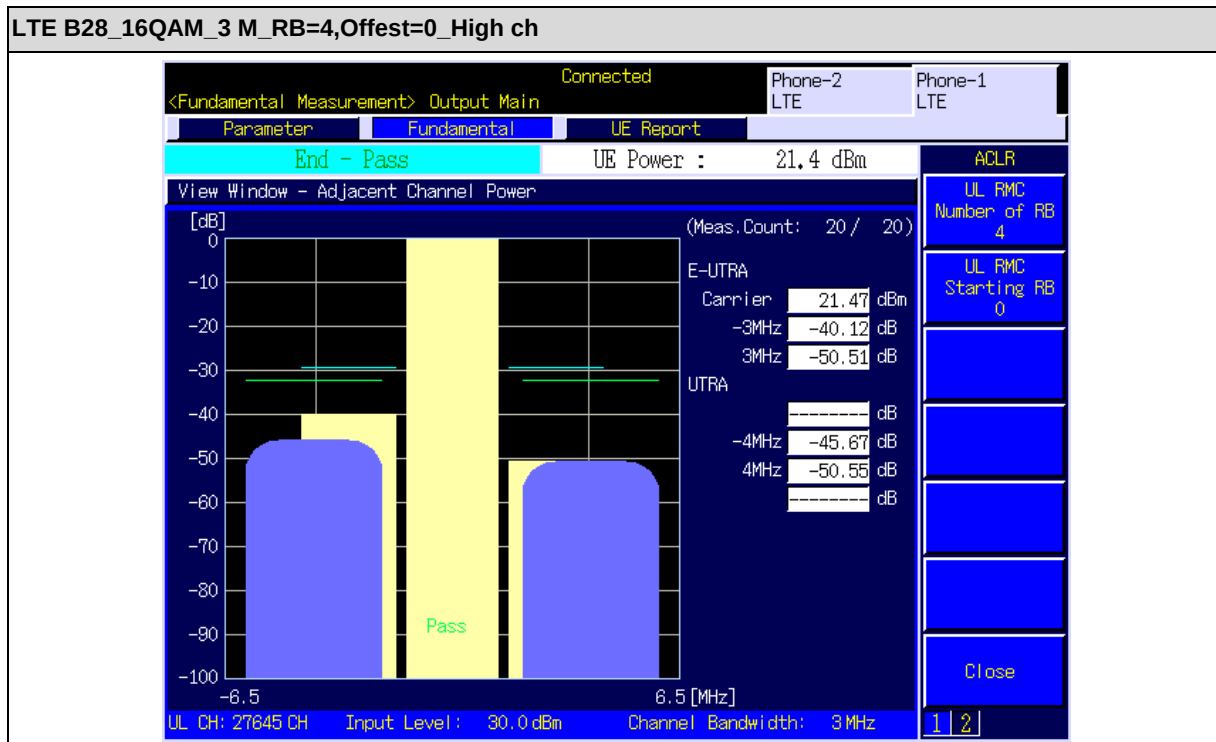


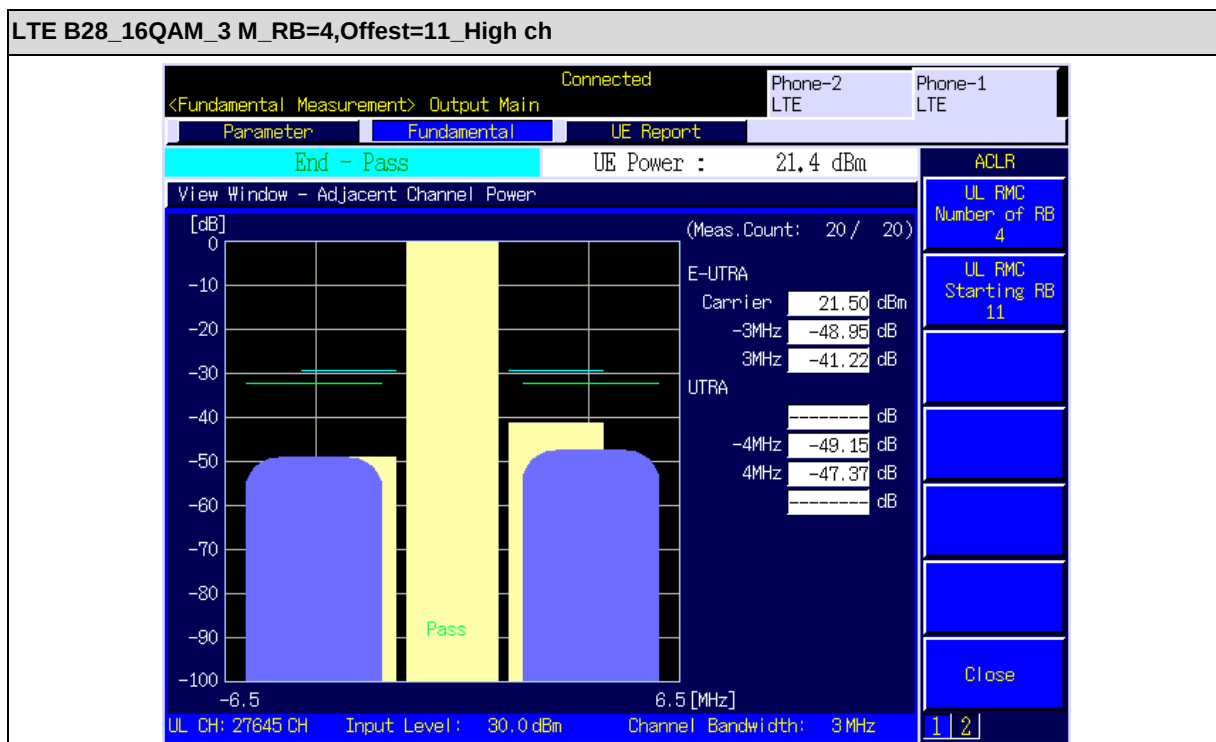
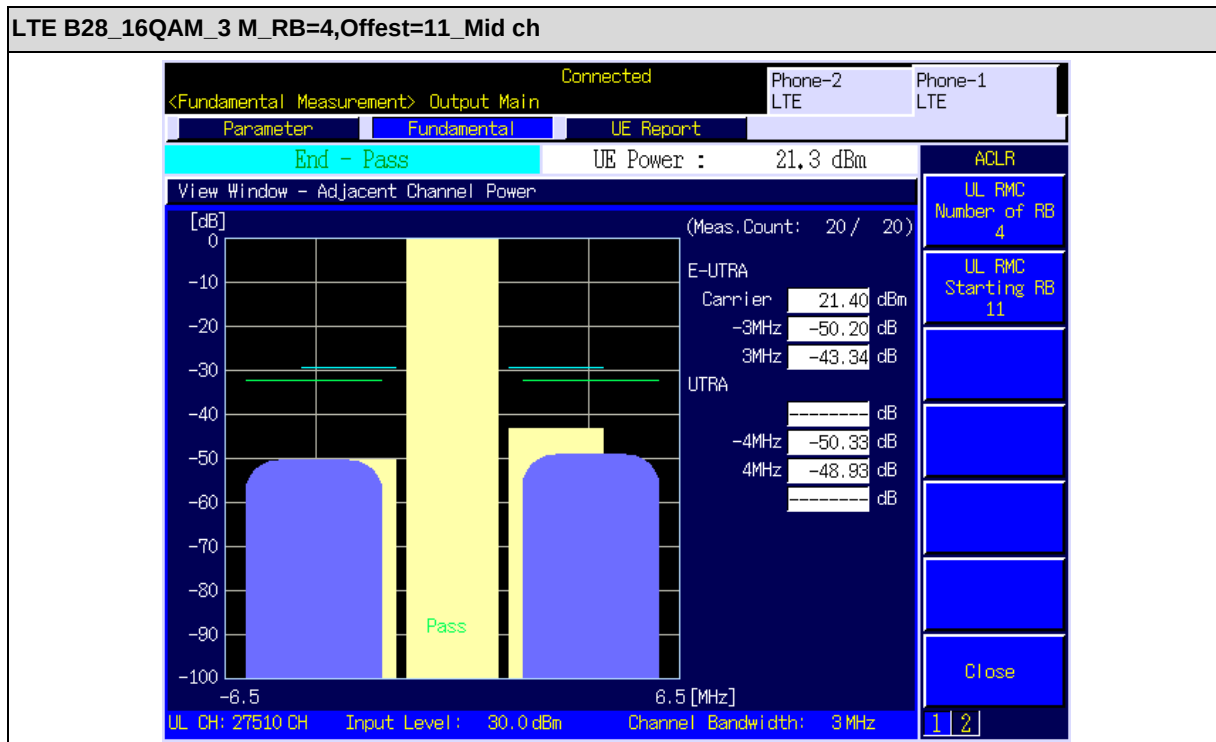




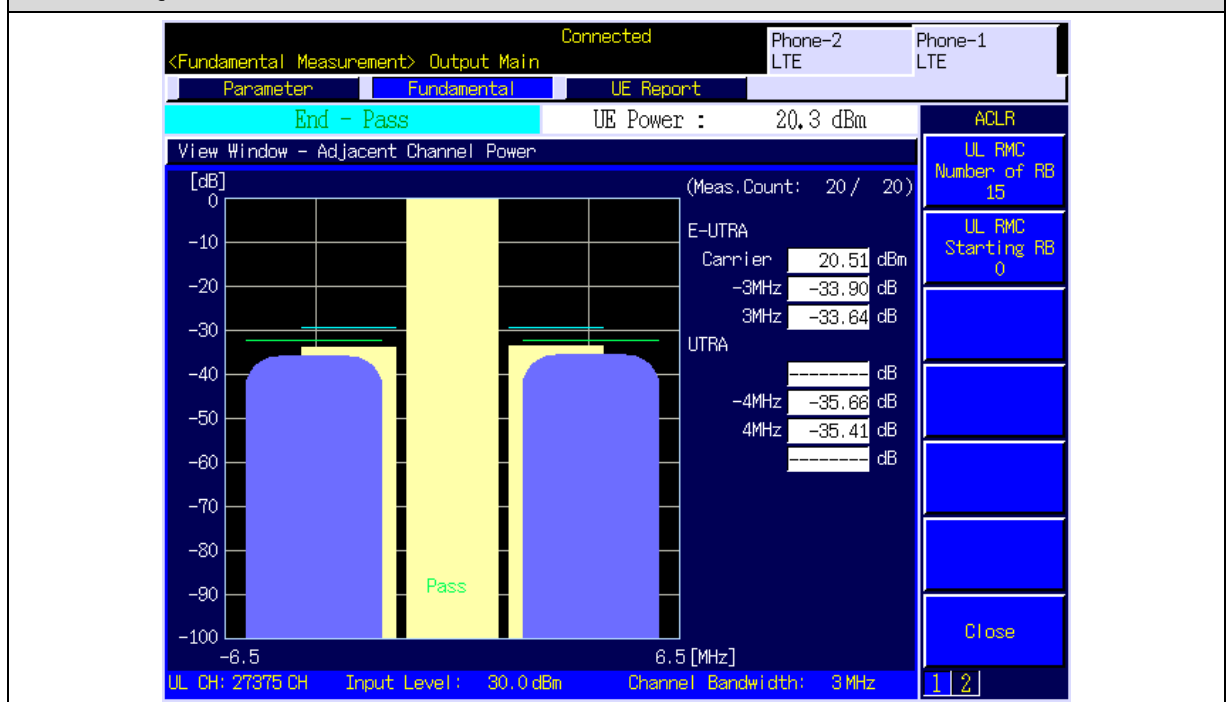




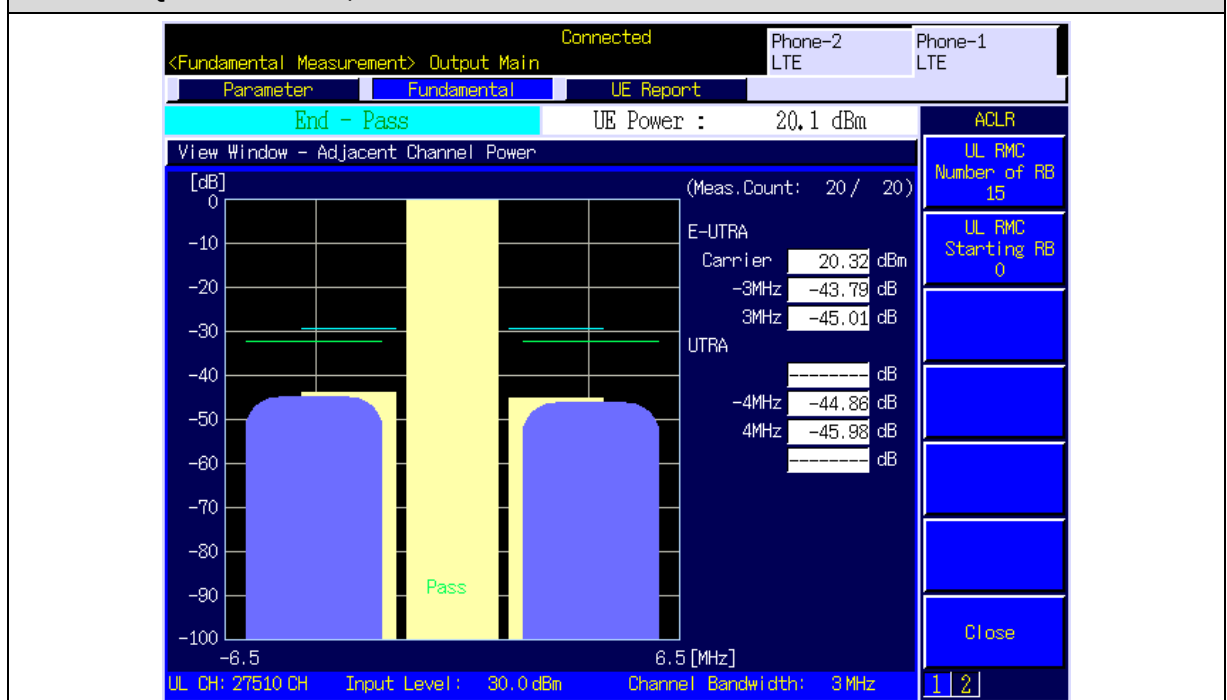


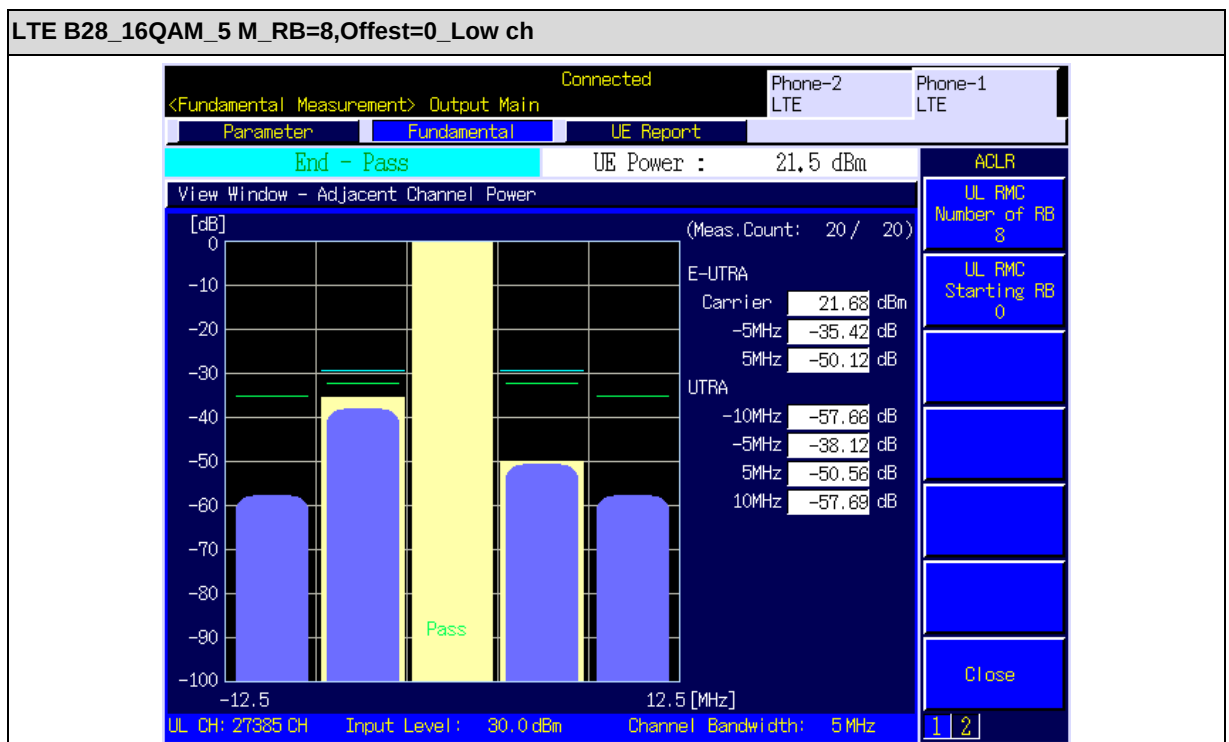
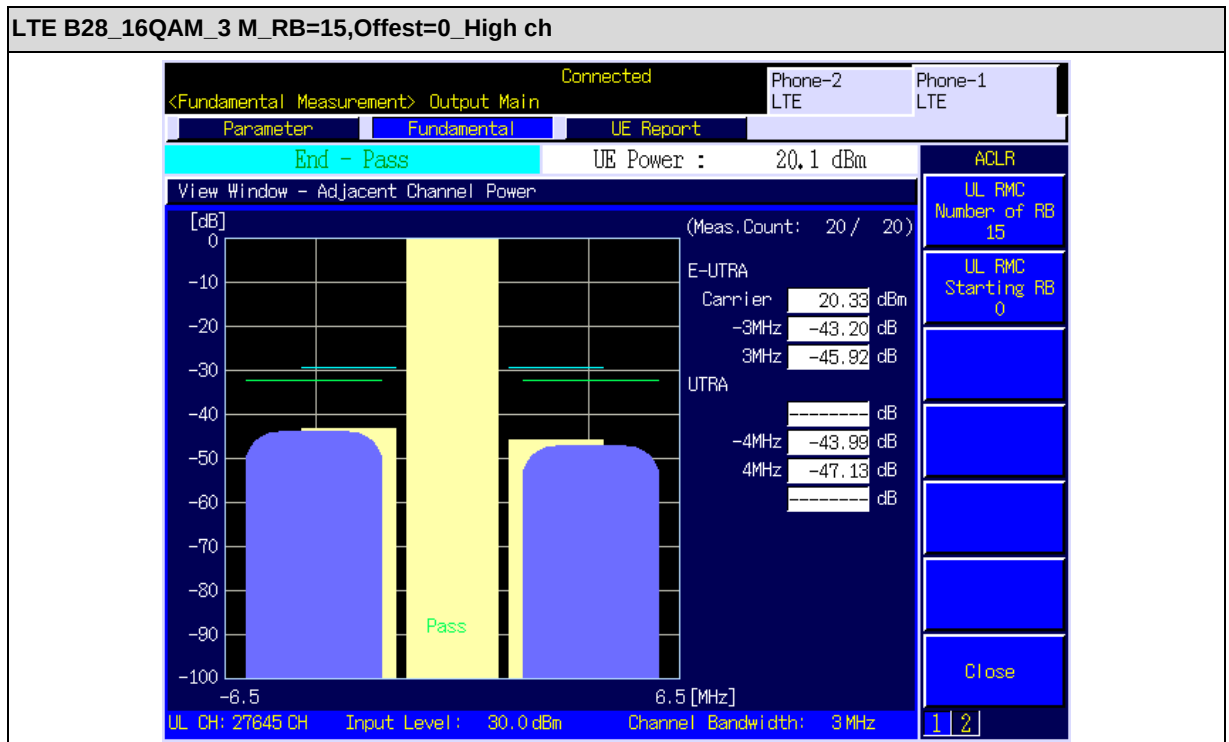


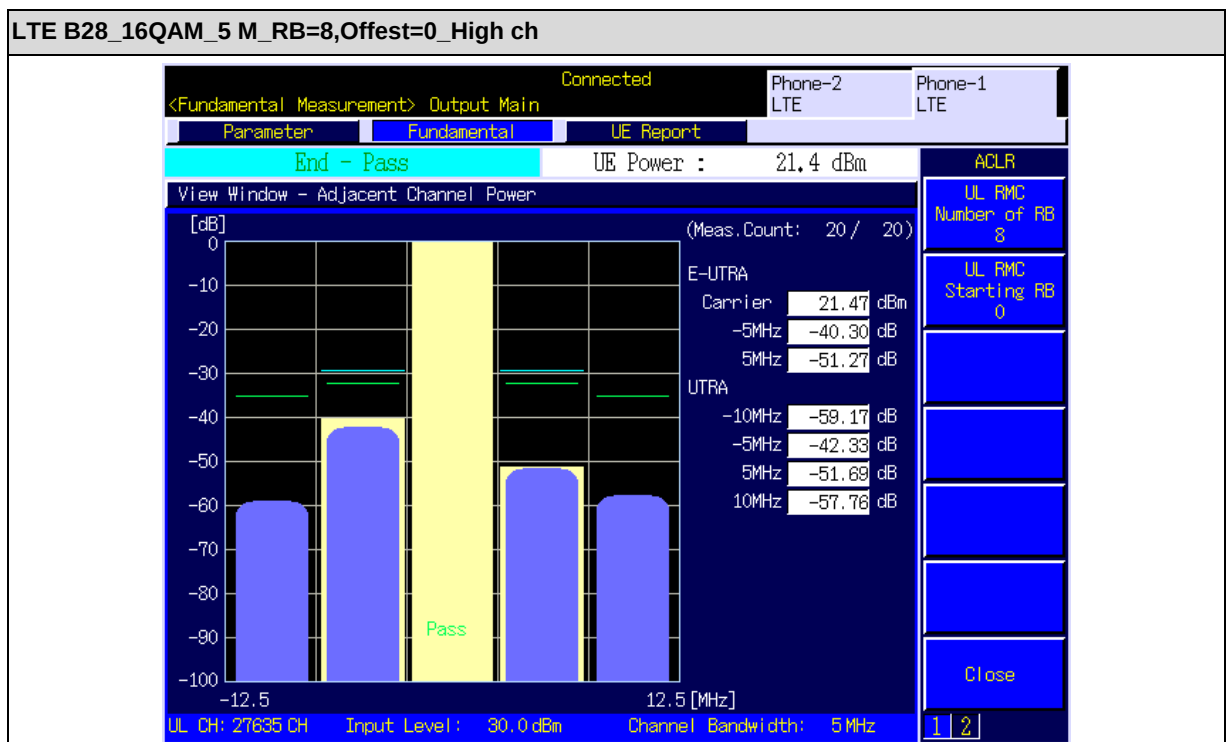
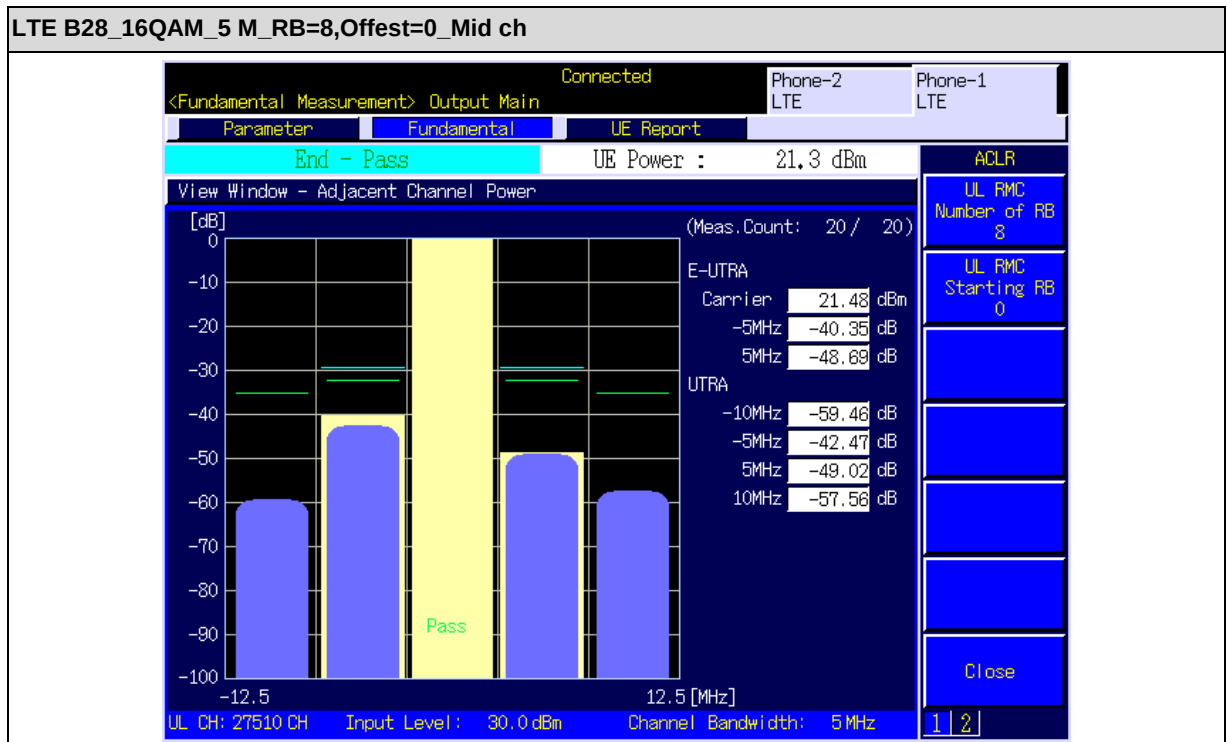
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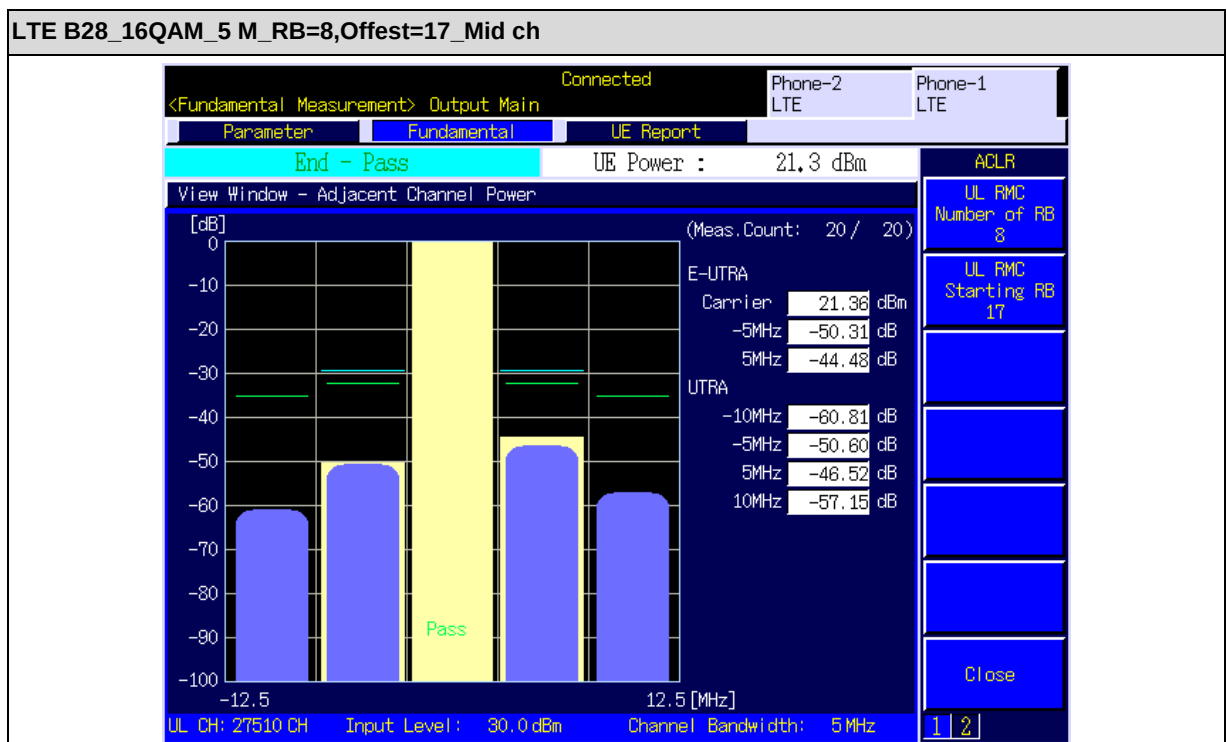
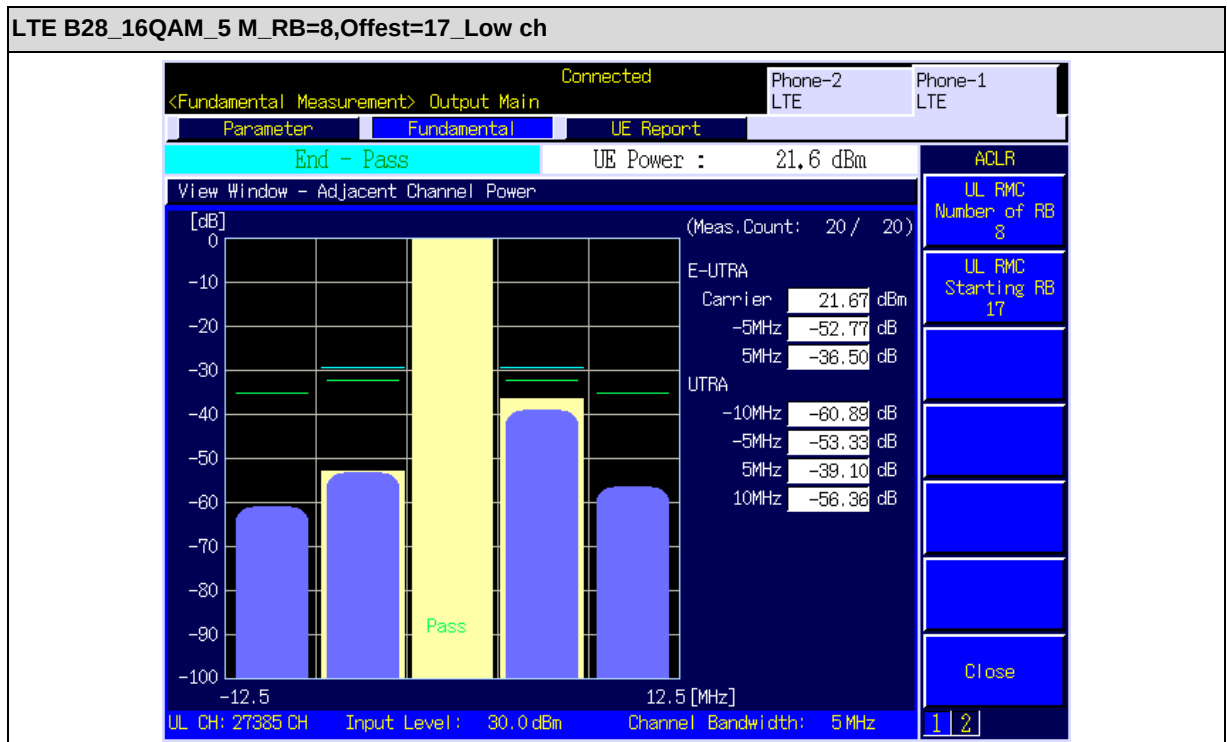


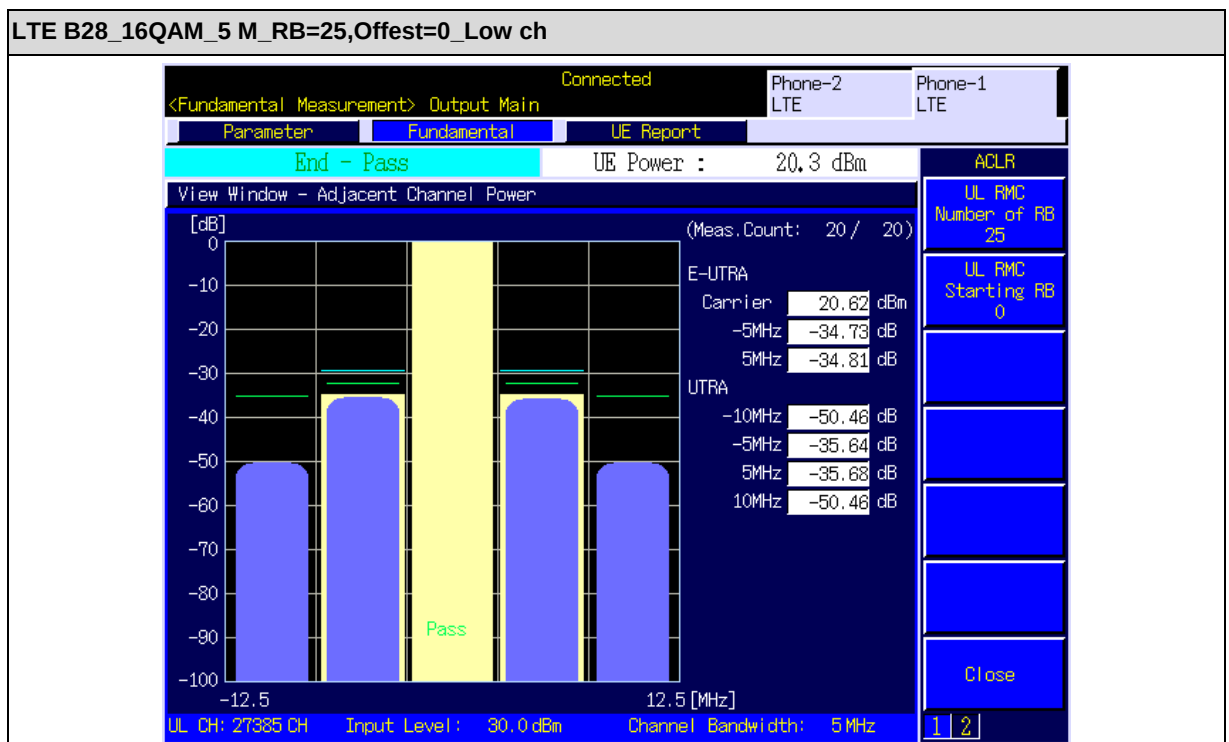
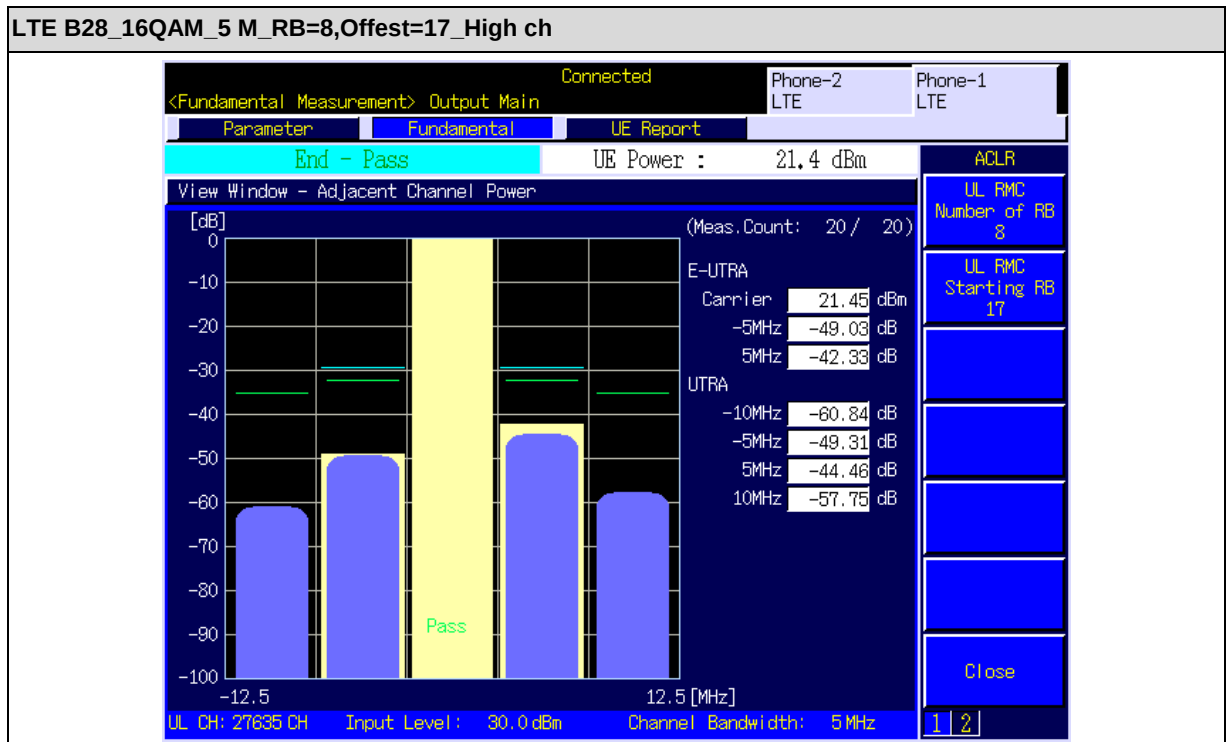
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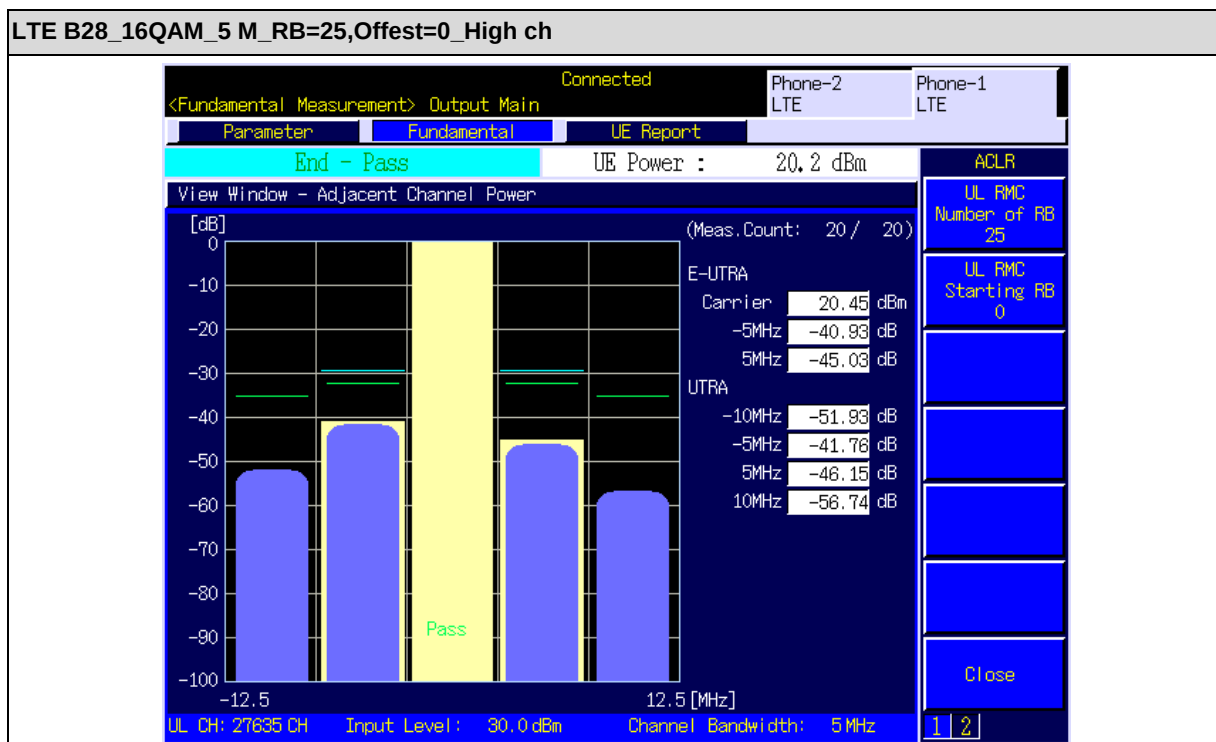
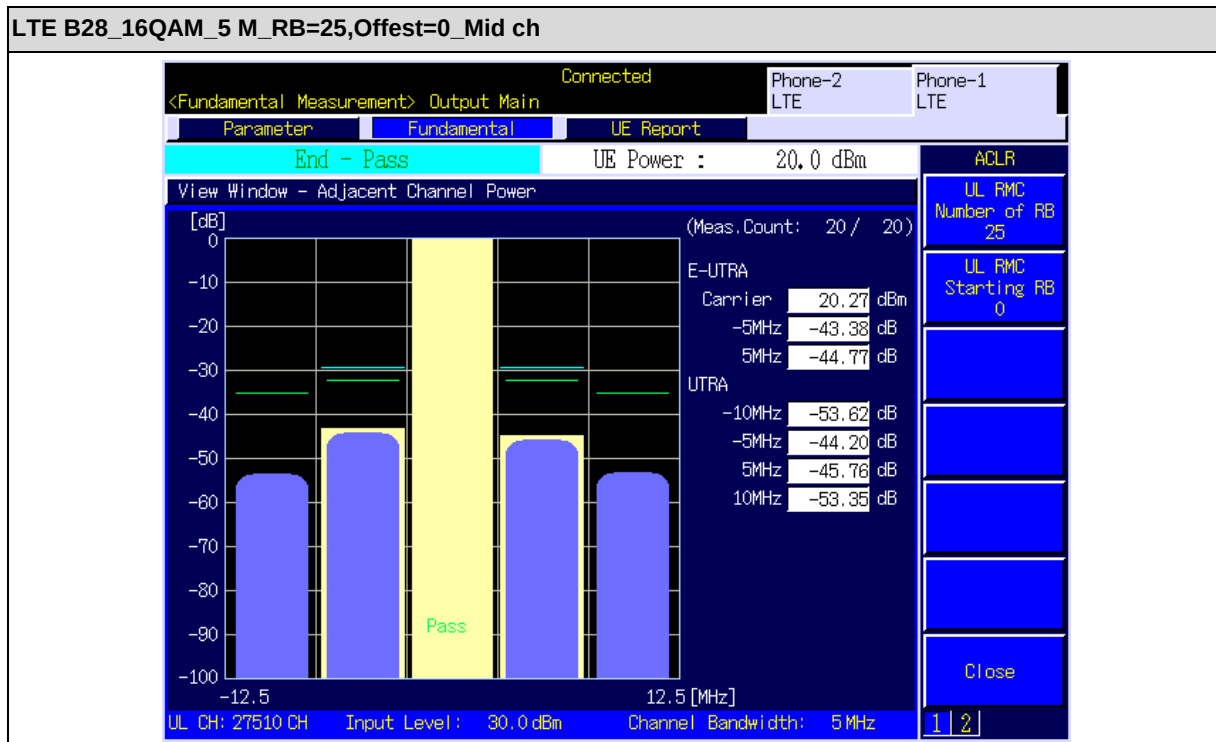




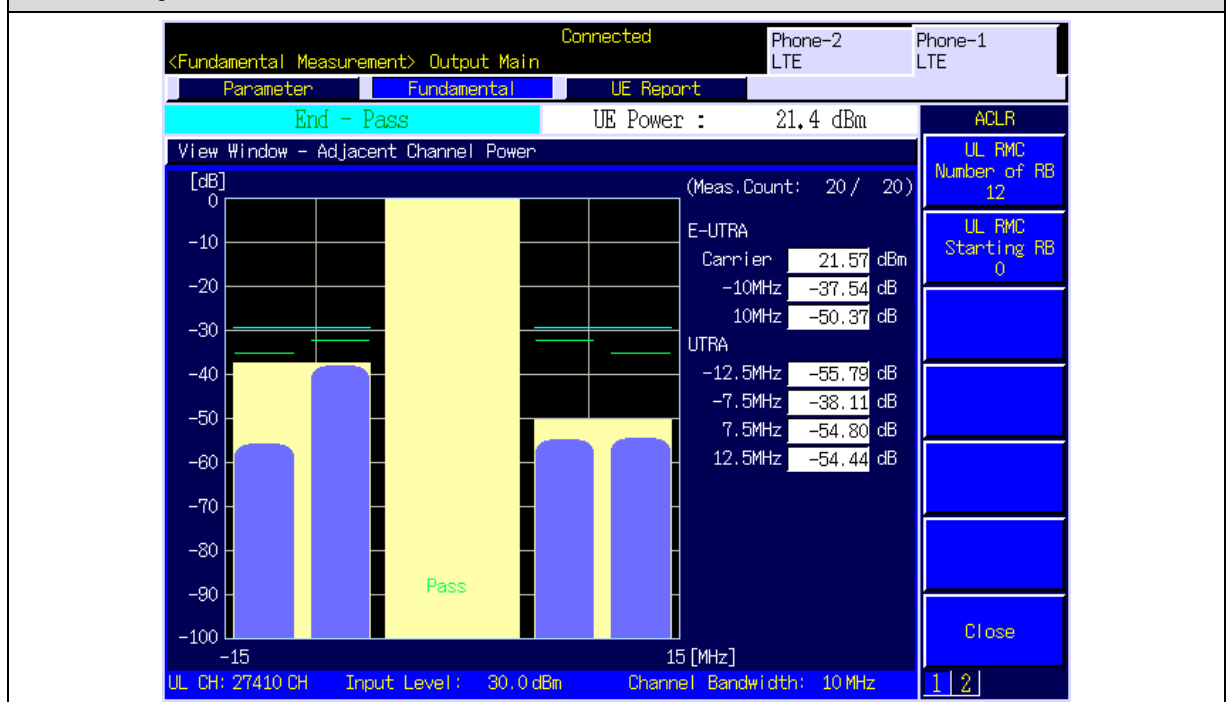




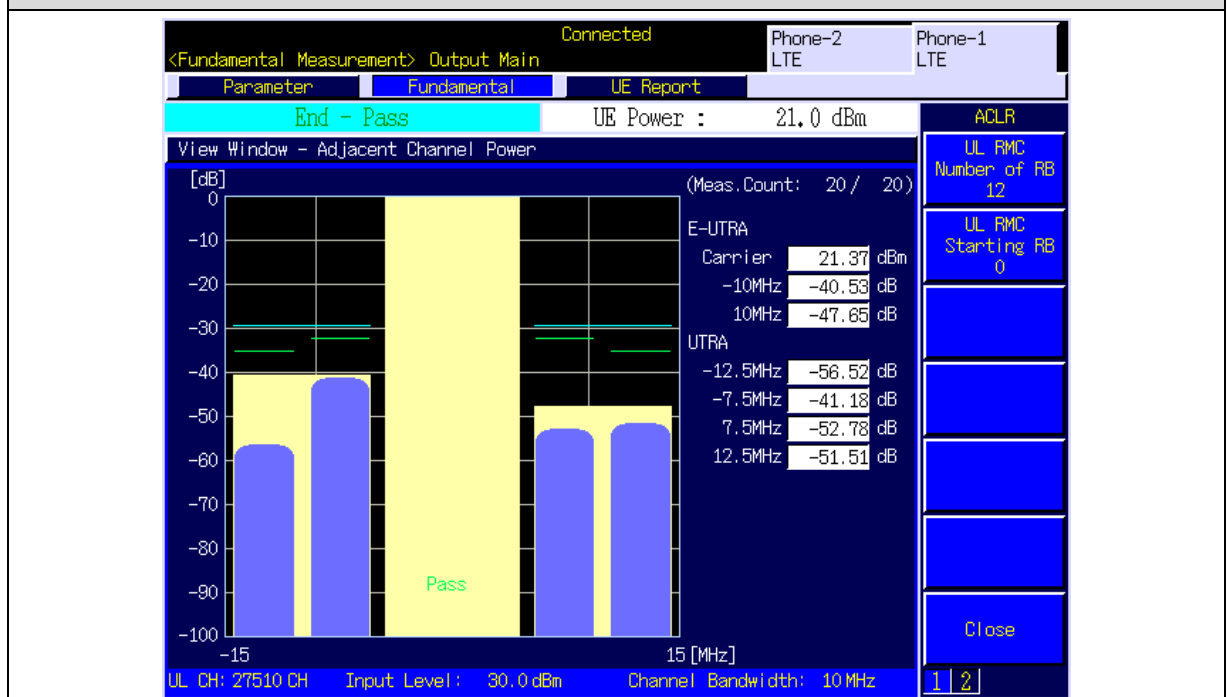


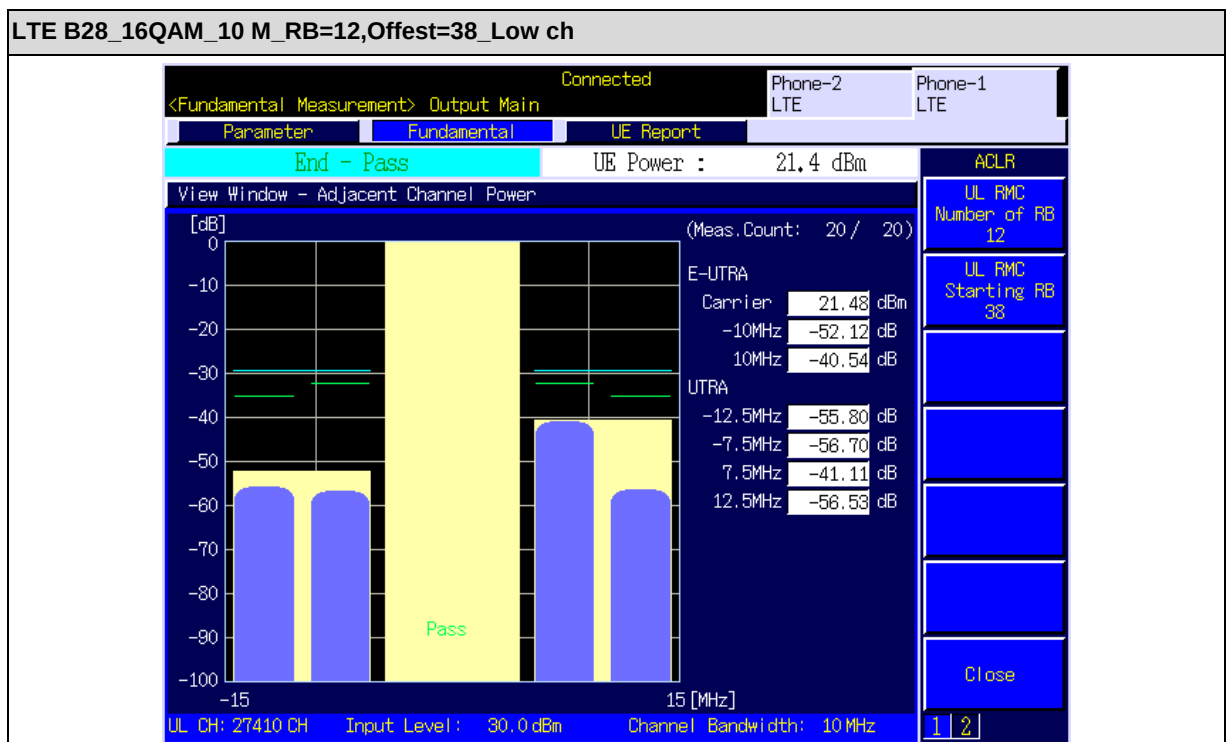
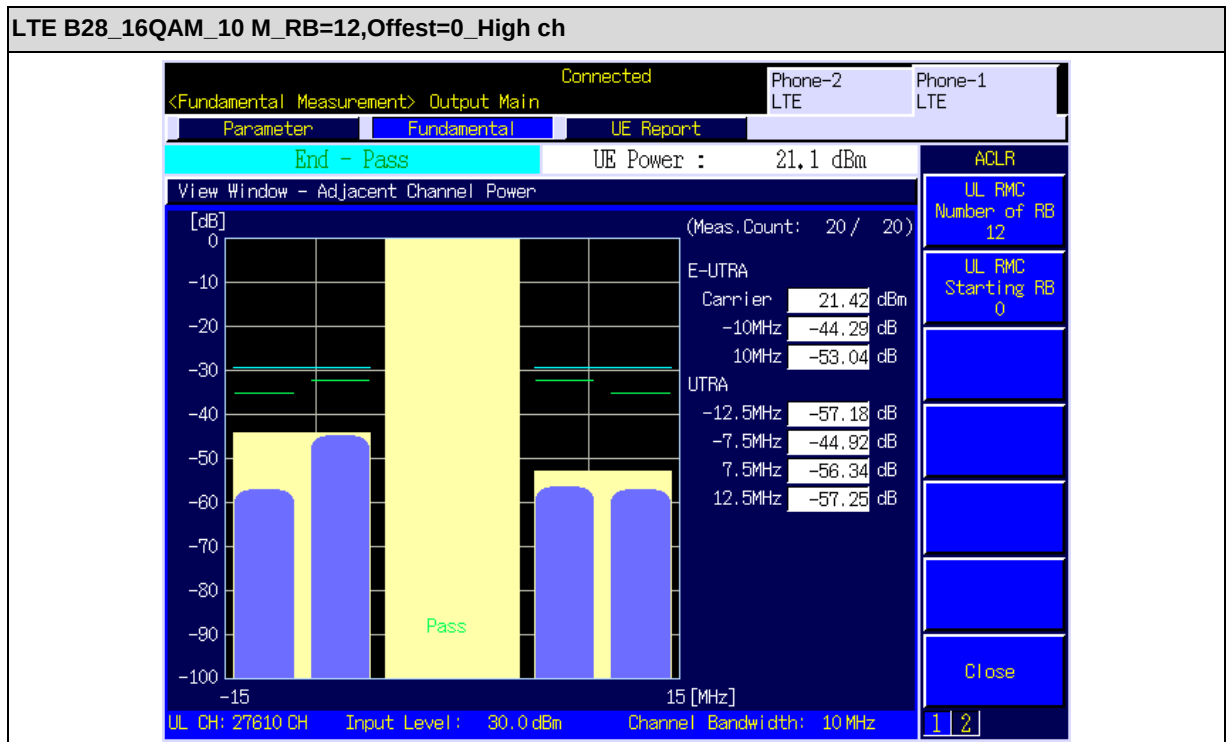


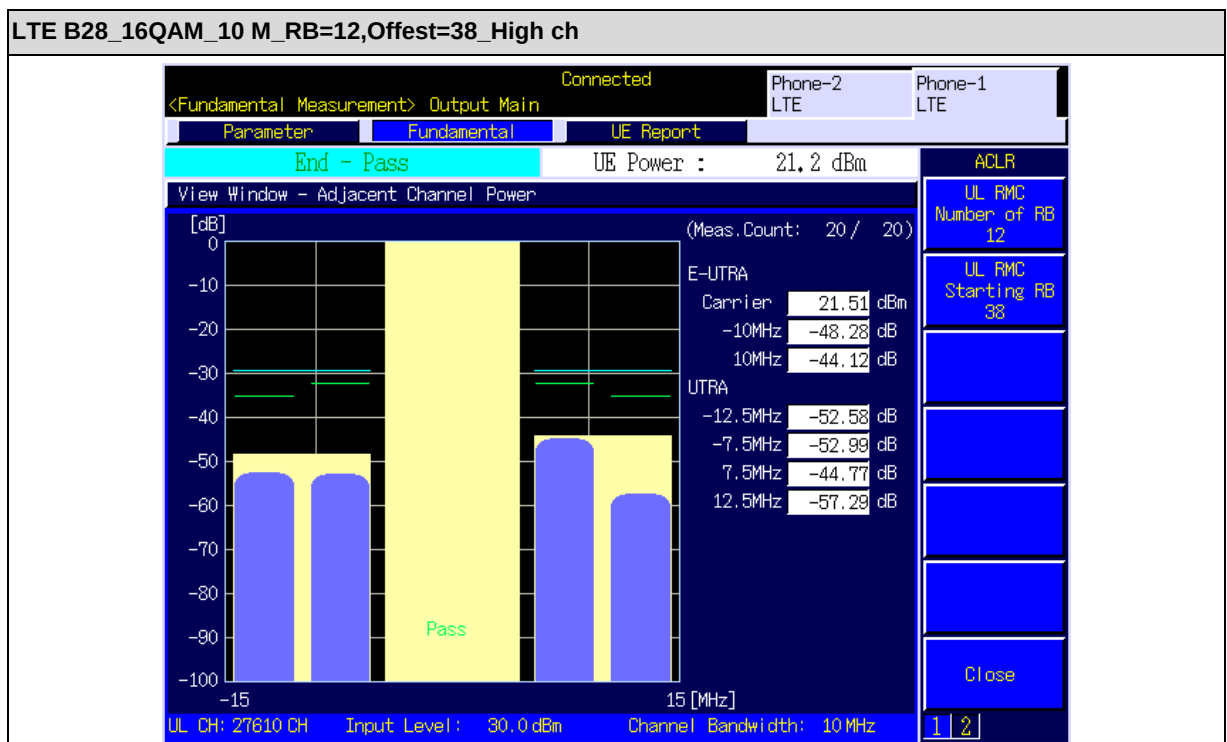
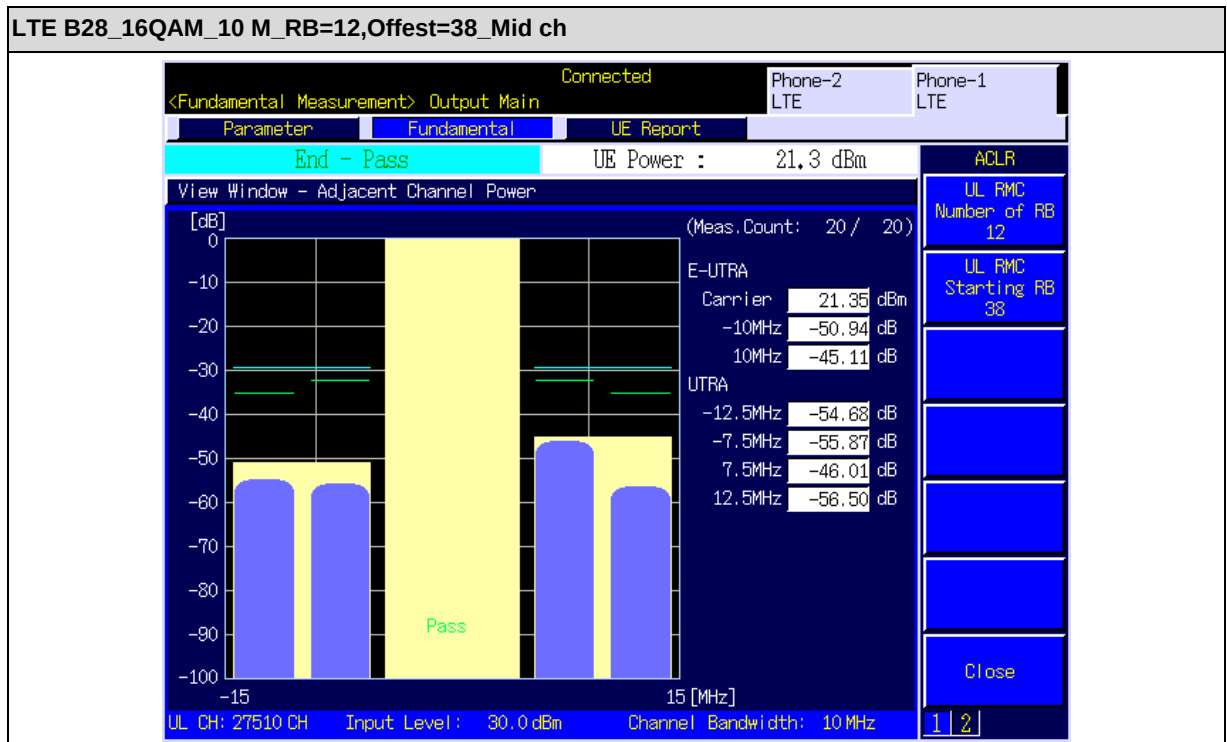
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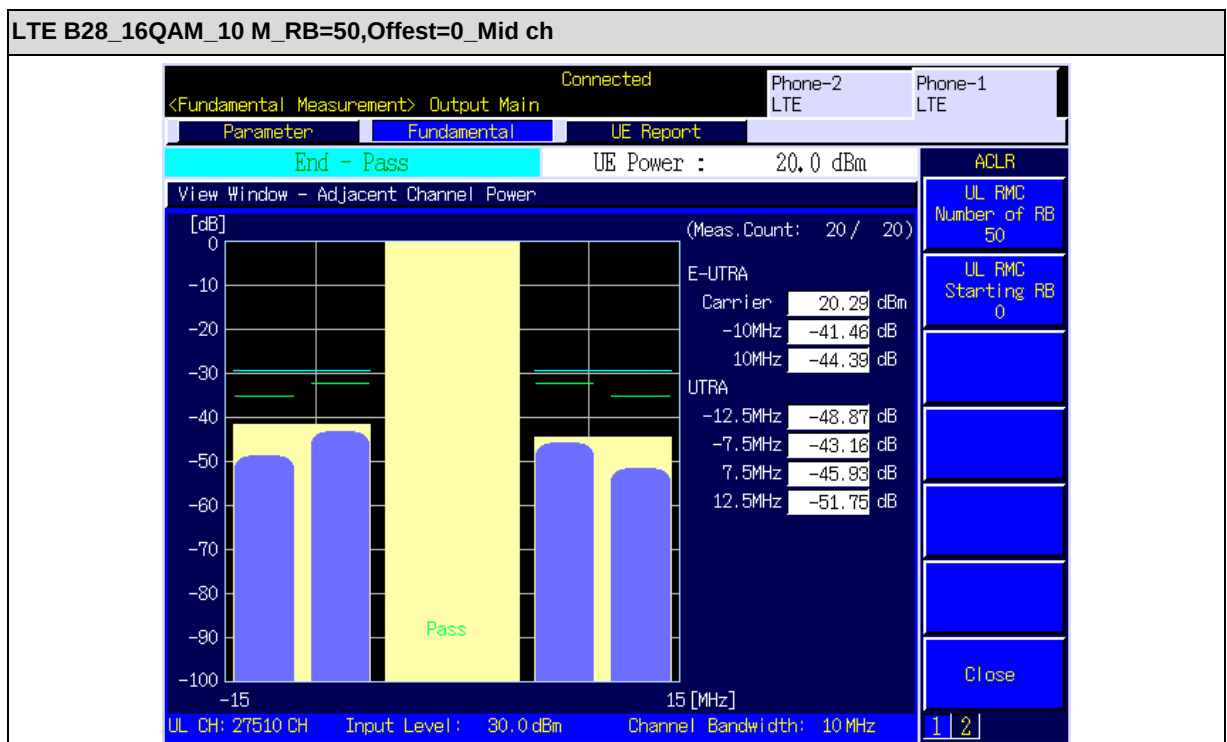
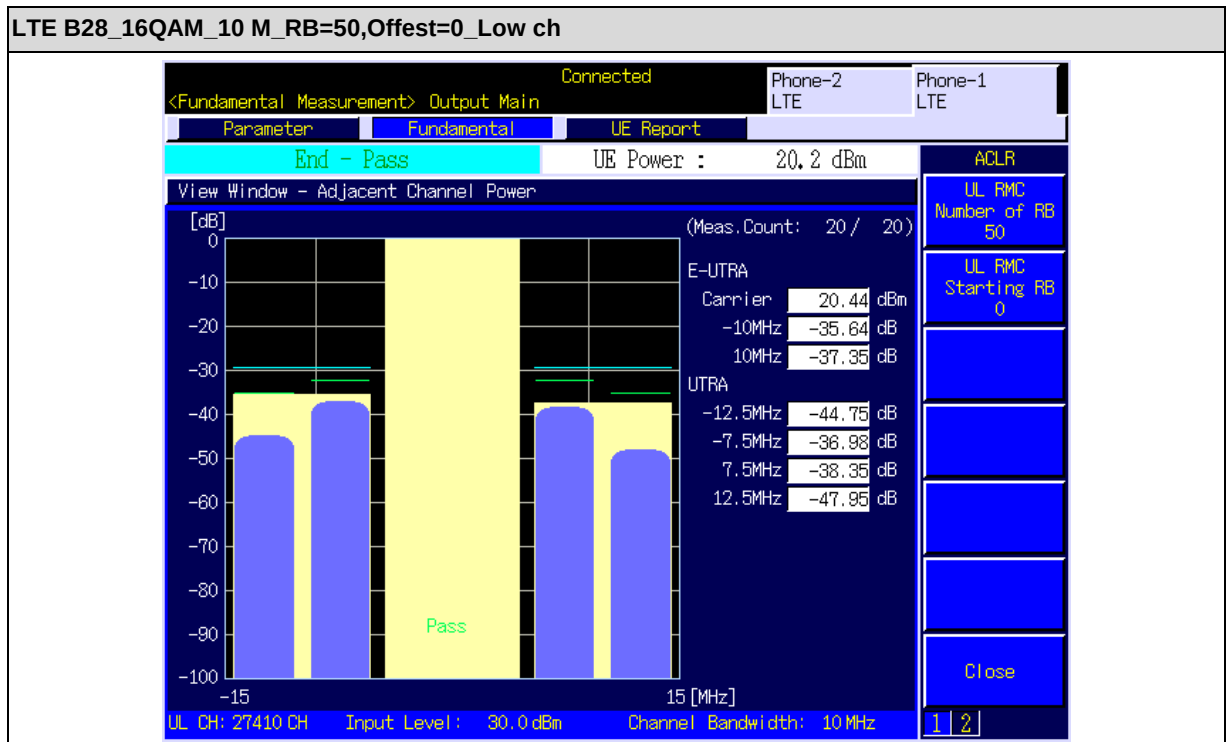


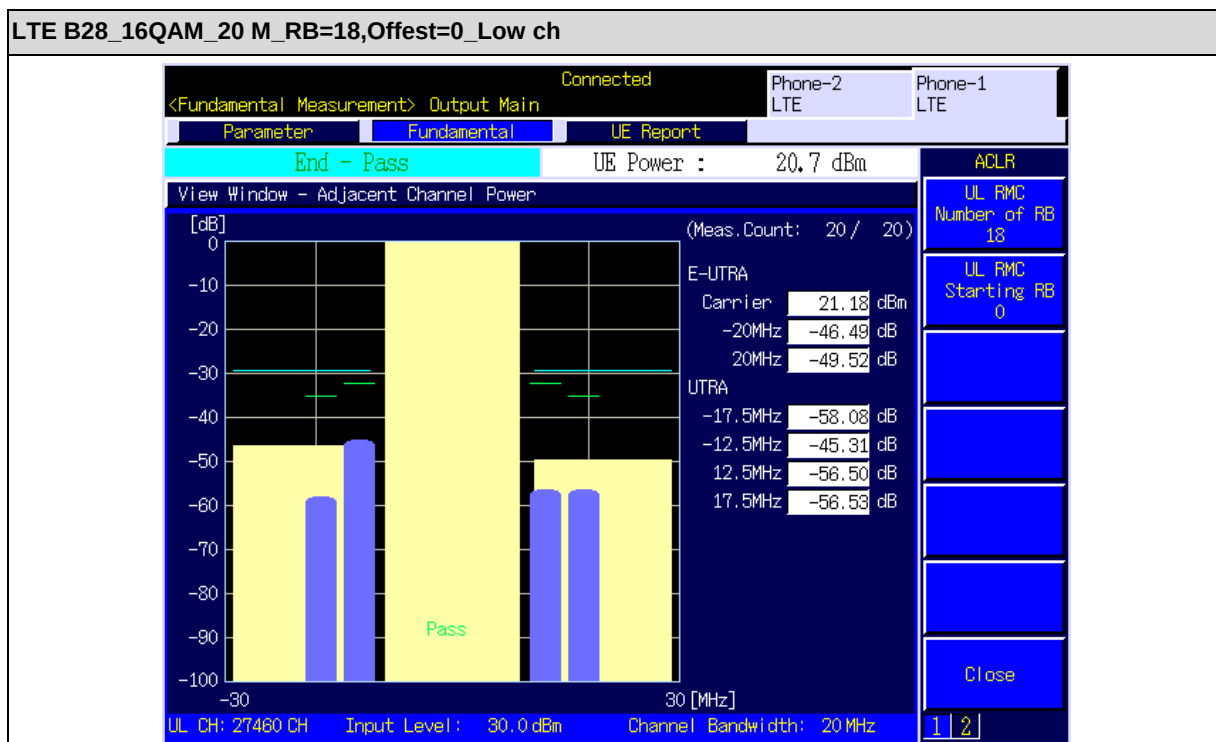
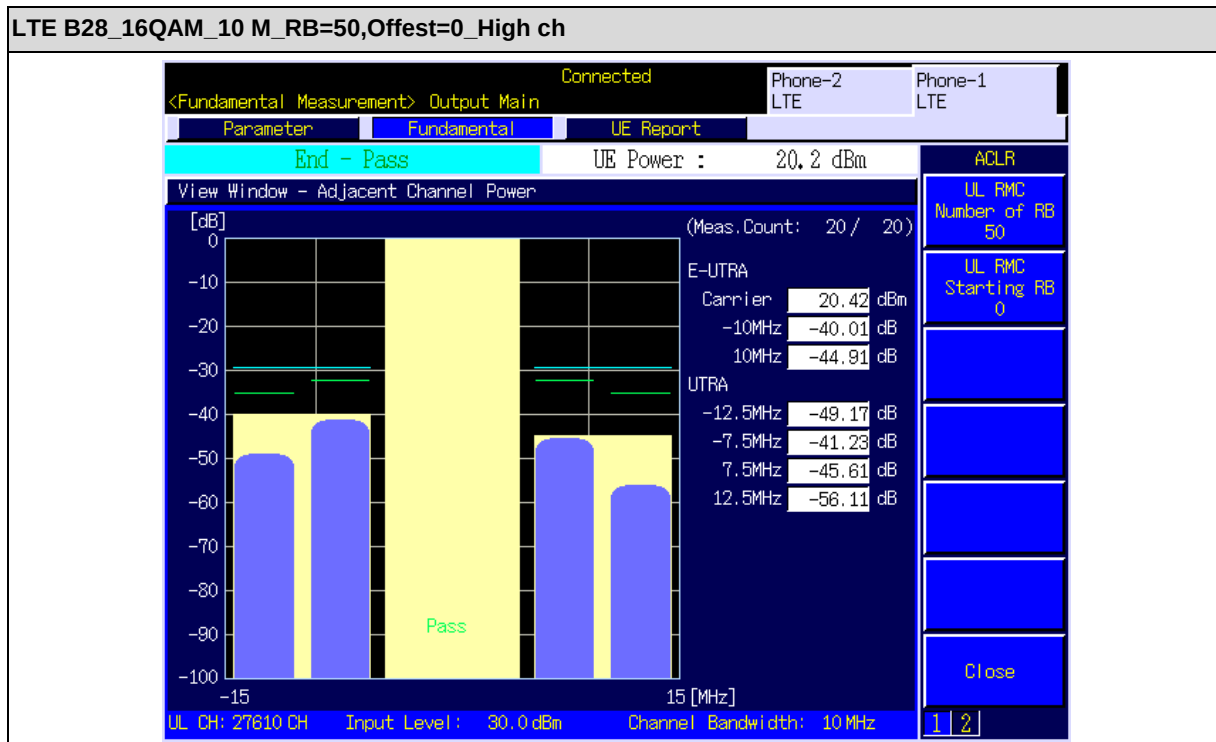
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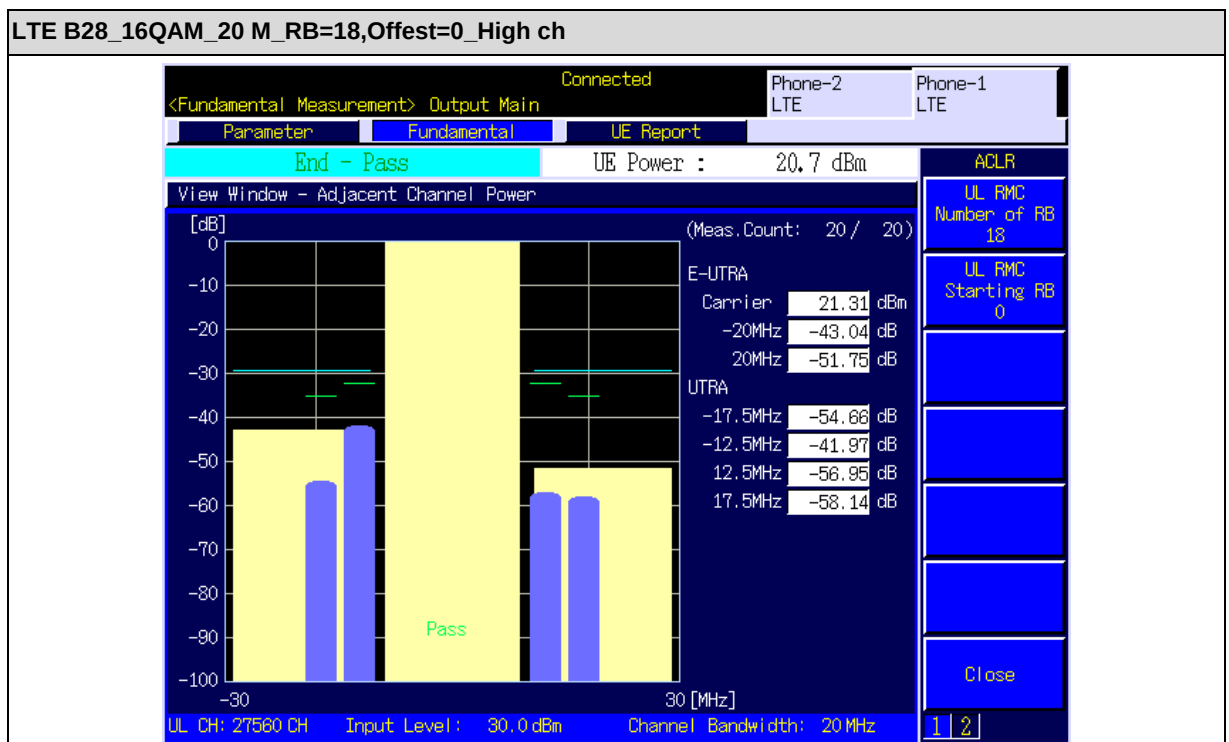
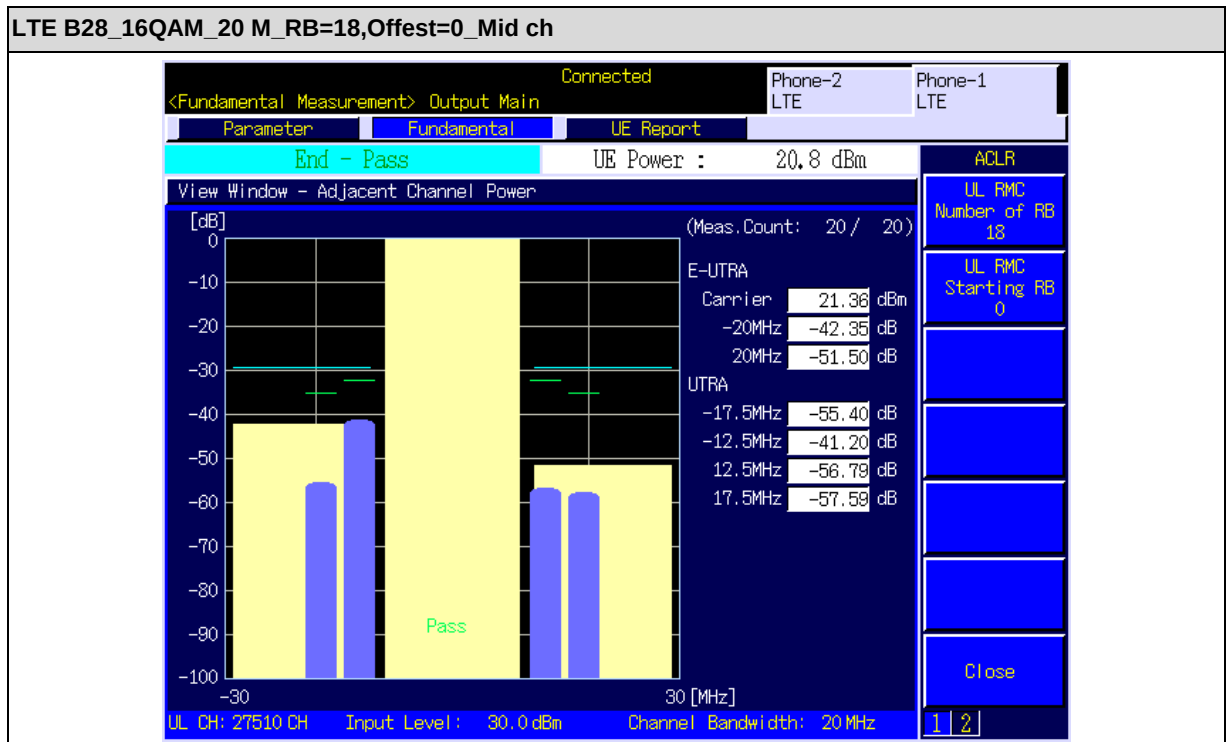


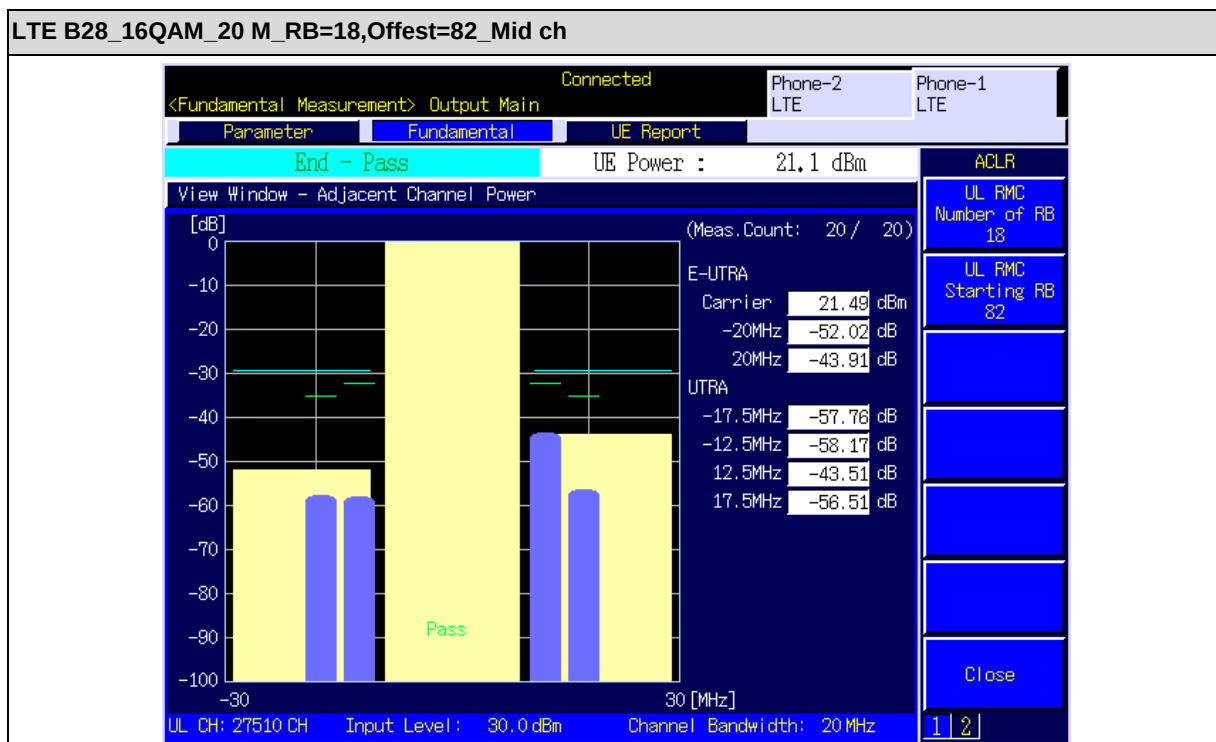
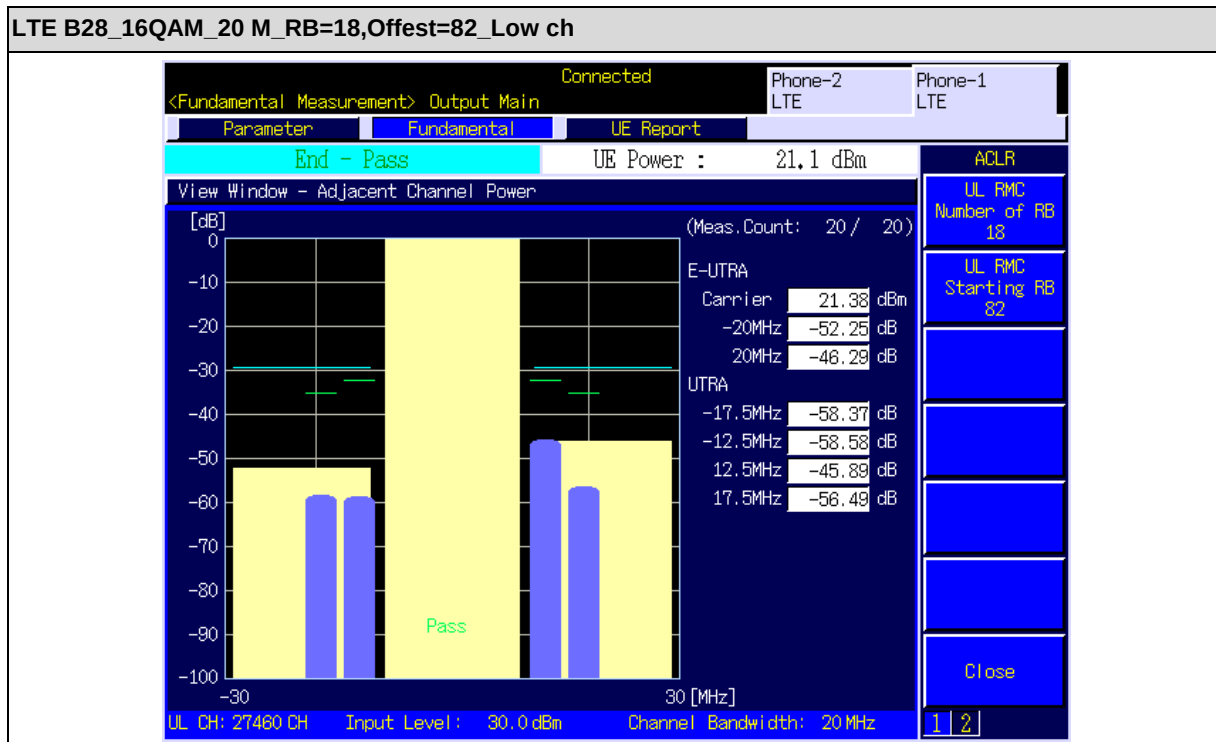


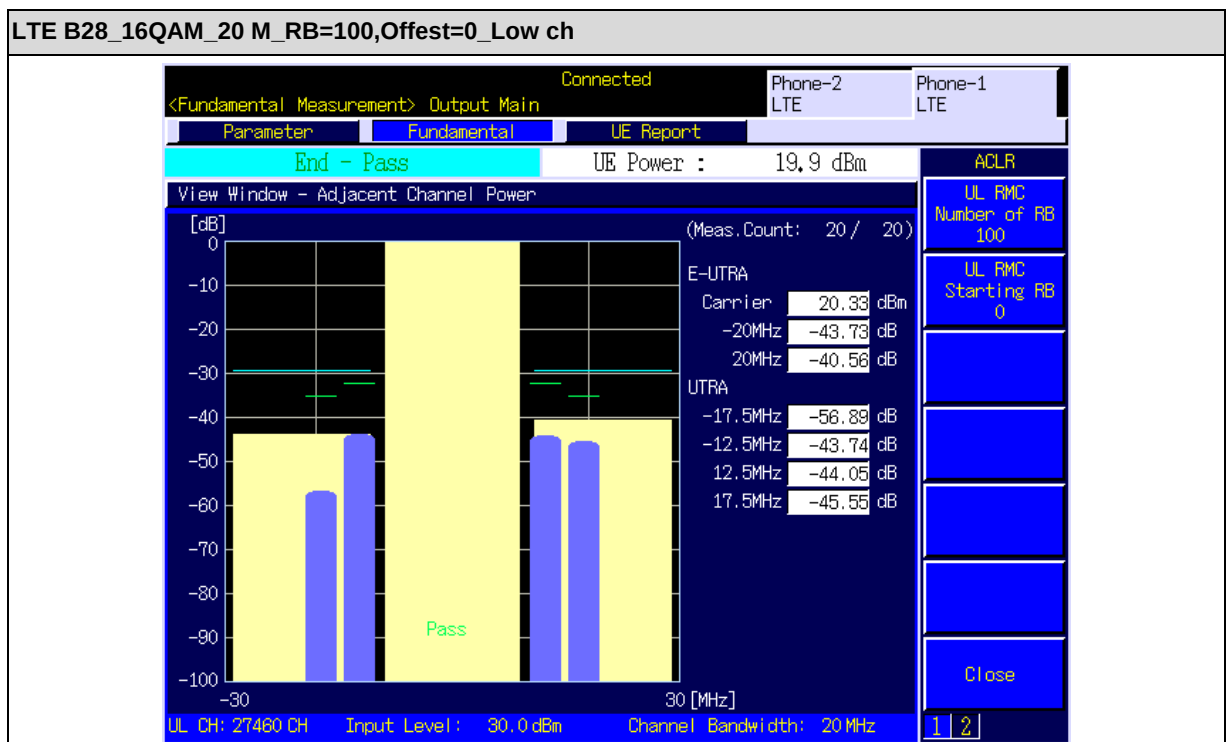
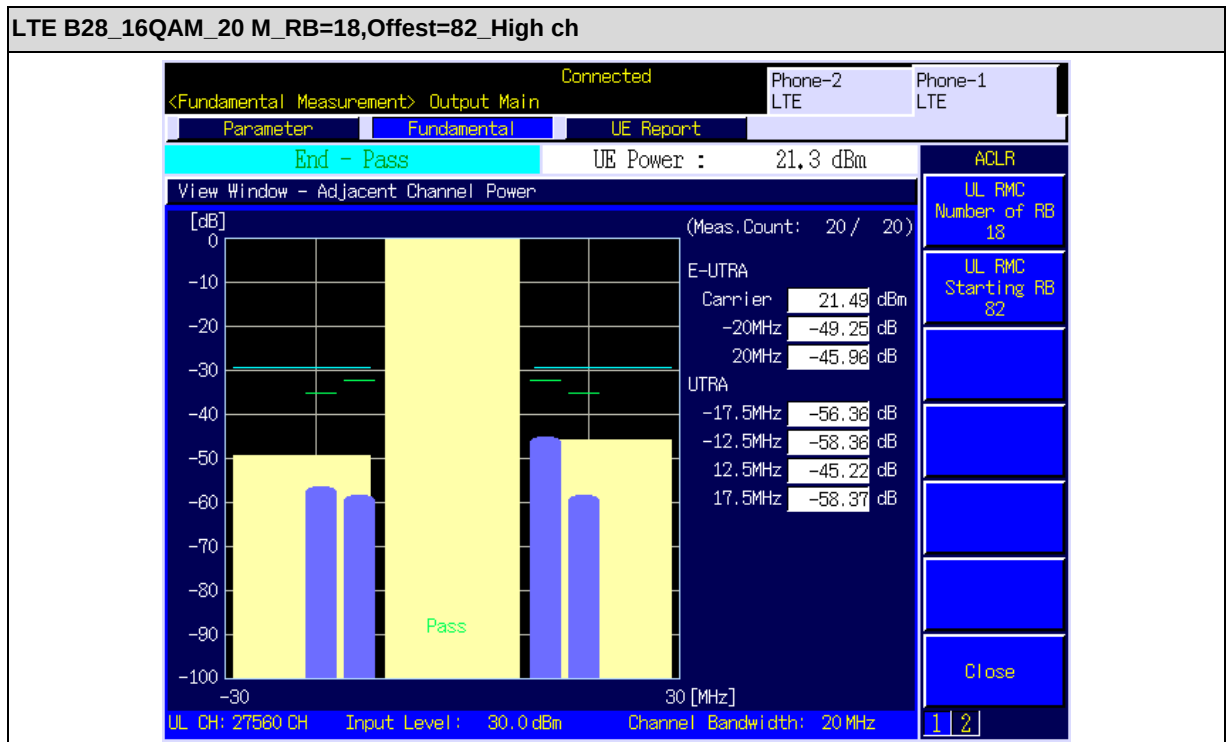


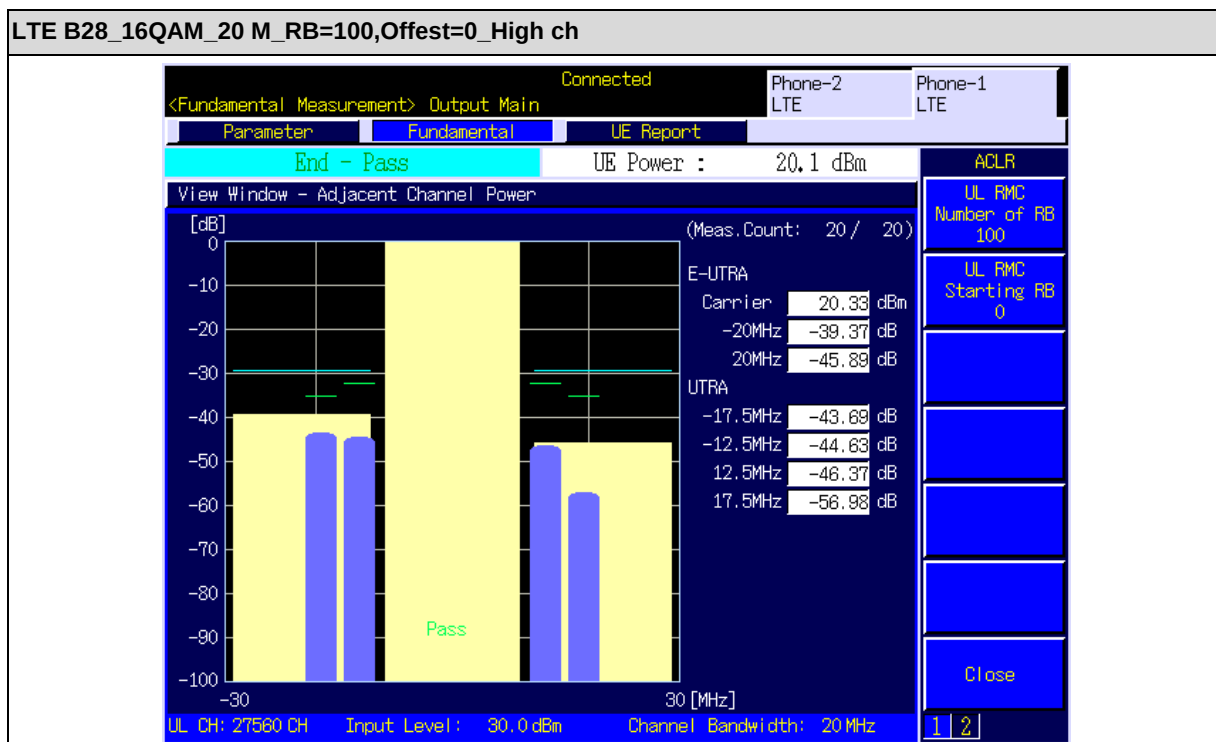
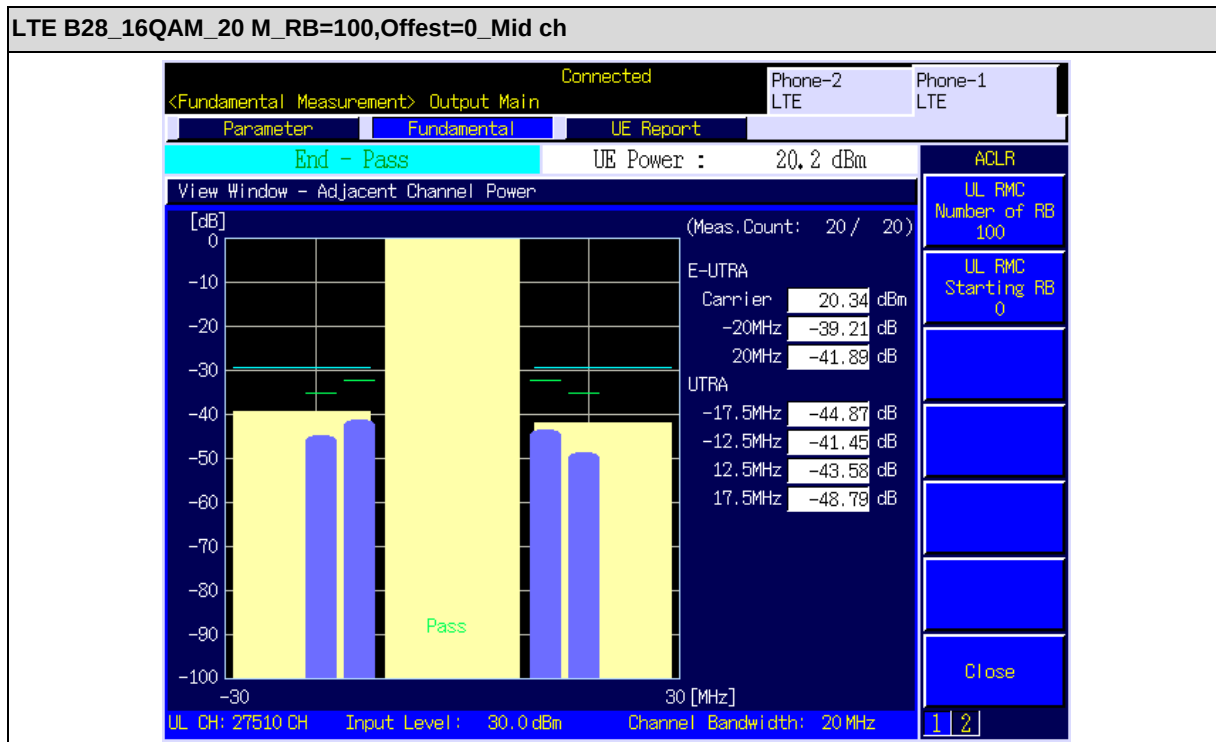












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