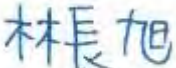




NCC

行動寬頻業務終端設備技術規範試驗報告

產品名稱 : BWC W-240
型號 : BWC W-240
廠牌 : BOVIA
商標 :  BOVIA
申請者 : 博遠智能科技股份有限公司
申請者地址 : 0273 新竹縣竹北市復興三路二段 168 號 10 樓之 1
測試標準 : PLMN10 (107 年版)
測試結果 : 符合
接收日期 : 2020/6/10
測試日期 : 2020/7/22~8/3

測試工程師 : 
(林長旭)
報告審核人 : 
(陳柏均)
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(柯承志)



本測試報告僅對實驗室所受測之樣品負責

本測試報告非經本公司同意不可局部複製使用

修訂紀錄

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1. 一般資訊

申請者	博遠智能科技股份有限公司
申請者地址	0273 新竹縣竹北市復興三路二段 168 號 10 樓之 1
製造商	博遠智能科技股份有限公司
製造商地址	0273 新竹縣竹北市復興三路二段 168 號 10 樓之 1
實驗室	台灣曼瑞檢測科技有限公司
實驗室地址	33377 台灣桃園市龜山區復興二路 38 號
實驗室資訊	1. MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Film. 2. MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada. 3. MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.
實驗室測試環境條件	溫度 (°C): 20-35 / 濕度 (%RH): 30-65

2. 產品描述

2.1 產品資訊

產品名稱	BWC W-240
產品型號	BWC W-240
廠牌	BOVIA
商標	
IMEI 碼	865255040122248
天線樣式	FPCB
天線規格	MFR: Forever Innovation Technology M/N: 4G13-00 Gain: 2dBi
TX Frequency	Band1: 1920~1980MHz; Band3: 1710~1785MHz; Band7: 2500~2570MHz; Band8: 885~915MHz,
Rx Frequency	Band1: 2110~2170MHz; Band3: 1805~1880MHz; Band7: 2620~2690MHz; Band8: 930~960MHz
是否有照相功能	☒ 有 (聲響 : 有 ☒ ; 無 ☐) ☐ 無
配件	
電池	Model No: K9026 Rating: DC 3.80V, 2460mAh, 9.34Wh
電源供應器	Brand: Topcom Model No: TC-S300Q Input: AC 100-240V~0.5A, 50-60Hz Output: DC 5-6V, 3.0A / DC 6-9V, 2.0A / DC 9-12V, 1.5A
USB Cable	Length: 0.5m

2.2 產品規格

Band1 Channel	5M/1922.5MHz(CH 18025);1950MHz(CH 18300);1977.5MHz(CH 18575) 10M/1925MHz(CH 18050); 1950MHz(CH 18300);1975MHz(CH 18550) 15M/1927.5MHz(CH 18075); 1950MHz(CH 18300);1972.5MHz(CH 18525) 20M/1930MHz(CH 18300); 1950MHz(CH 18300);1970MHz(CH 18500)
Band3 Channel	1.4M/1710.7MHz(CH 19207);1747.5MHz(CH 19575);1784.3MHz(CH 19943) 3M/1711.5MHz(CH 19215);1747.5MHz(CH 19575);1783.5MHz(CH 19935) 5M/1712.5MHz(CH 19225);1747.5MHz(CH 19575);1782.5MHz(CH 19925) 10M/1715MHz(CH 19250);1747.5MHz(CH 19575);1780MHz(CH 19900) 15M/1717.5MHz(CH 19275);1747.5MHz(CH 19575);1777.5MHz(CH 19875) 20M/1720MHz(CH 19300);1747.5MHz(CH 19575);1775MHz(CH 19850)
Band7 Channel	5M/2502.5MHz(CH 20775);2535MHz(CH 21100);2567.5MHz(CH 21425) 10M/2505MHz(CH 20800); 2535MHz(CH 21100);2565MHz(CH 21400) 15M/2507.5MHz(CH 20825); 2535MHz(CH 21100);2562.5MHz(CH 21375) 20M/2510MHz(CH 20850); 2535MHz(CH 21100);2560MHz(CH 21350)
Band8 Channel	1.4M/885.7MHz(CH 21507);900MHz(CH 21650);914.3MHz(CH 21793) 3M/886.5MHz(CH21515); 900MHz(CH 21650);913.5MHz(CH 21785) 5M/887.5MHz(CH 21525); 900MHz(CH 21650);912.5MHz(CH 21775) 10M/890MHz(CH 21550); 900MHz(CH 21650);910MHz(CH 21750)

3. 測試設備明細

輻射干擾 – AC1

儀器名稱	製造商	型號	財產編號	校正週期	有效日期
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2020/9/4
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2021/3/25
Active Loop Antenna	Schwarzbeck	FMZB 1519B	MRTTWA00002	1 year	2021/4/27
Broadband Horn antenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2021/4/24
Breitband Hornantenna	Schwarzbeck	BBHA 9170	MRTTWA00004	1 year	2021/4/24
Broadband Amplifier	Schwarzbeck	BBV 9721	MRTTWA00006	1 year	2021/4/24
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2021/4/24
Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2021/6/16

傳導測試 – AC1

儀器名稱	製造商	型號	財產編號	校正週期	有效日期
EXA Signal Analyzer	KEYSIGHT	N9010A	MRTTWA00012	1 year	2020/10/2
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2021/7/14
Wideband Radio Communication Taster	R&S	CMW 500	MRTTWA00041	1 year	2021/1/7
Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2021/6/09

EMI 測試軟體

軟體名稱	製造商	版本
e3	Audix	9.160520a
EMI	Quietek	V3

4. 量測不確定度

輻射干擾量測 (Radiated Spurious Emission)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 9kHz~30MHz: $\pm 3.92\text{dB}$ 30MHz~1GHz: $\pm 4.25\text{dB}$ 1GHz~18GHz: $\pm 4.40\text{dB}$ 18GHz~40GHz: $\pm 4.45\text{dB}$
頻率誤差量測 (Frequency Error)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 78.4\text{Hz}$
傳導功率量測 (Conducted Power)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.84\text{dB}$
傳導干擾量測 (Conducted Spurious Emission)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 2.65\text{ dB}$
佔用頻寬量測 (Occupied Bandwidth)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): 3.3%
溫度 / 濕度 (Temp. / Humidity)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.82^\circ\text{C}/ \pm 3\%$
直流電源 (DC Voltage)
Measuring Uncertainty for a Level of Confidence of 95% ($U=2U_c(y)$): $\pm 0.3\%$

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

5. 測試結果

產品名稱 **BWC W-240**
型號 **BWC W-240**

法規章節	量測項目	限制值	測試結果	測試數據
5.1	功率限制	有效輻射功率(Effective Radiated Power, ERP) 手持式行動臺設備限制為1瓦特(W)。 移動式行動臺設備限制為 2 W。 傳導輸出功率限制值 採 FDD者：23dBm +2.0/-2.5 dB。 採TDD者：23 dBm + 2.0/-3 dB。	符合	第 5.1 章節
5.2	發射頻譜波罩	需符合行動寬頻行動臺技術規範附表二	符合	第 5.2 章節
5.3	傳導帶外輻射發射	需符合行動寬頻行動臺技術規範附表四	符合	第 5.3 章節
5.4	相鄰頻道洩漏功率比 (ACLR)	$\leq 29.2\text{dB}$	符合	第 5.4 章節
5.5	頻率容許差度	$\pm 0.1\text{PPM}$ 以內	符合	第 5.5 章節
5.6	電波功率密度	僅適用於移動式行動臺設備 700 MHz 頻段為 0.35 毫瓦特/平方公分(mW/cm^2)； 900 MHz 頻段為 $0.45 \text{ mW}/\text{cm}^2$ ； 1800 MHz 頻段為 $0.9 \text{ mW}/\text{cm}^2$ ； 2100, 2500 MHz 與 2600 MHz 頻段為 $1.0 \text{ mW}/\text{cm}^2$ 。	N/A	第 5.6 章節
5.14	災防告警細胞廣播訊息 接收功能	適用行動臺設備具接取行動寬頻業務經營者提供之 語音服務功能者。 需符合行動寬頻行動臺技術規範附表四	N/A	第 5.7 章節

備註：符合性的判定是基於測試結果符合規範的限制值或客戶的宣告要求，測試結果的判定是不考慮測量不確定度的值。

5.1 功率限制

5.1.1 合格標準

(1) 等效幅射功率(Effective Radiated Power, ERP)

- 手持式行動臺設備限制為 1W。
- 移動式行動臺設備限制為 2W。

(2) 傳導輸出功率限制為

- FDD 為: 23dBm +2.7/-3.2 dB。
- TDD 為: 23dBm +2.7/-2.7 dB。

5.1.2 測試方法

檢測頻道為低、中、高三個頻道，對最低、5MHz 及最高的工作頻寬之 QPSK 調變級數發射模式，均應分別檢測之。(請參照 3GPP 36.521-1 規定測試)。

(1) 等效幅射功率：

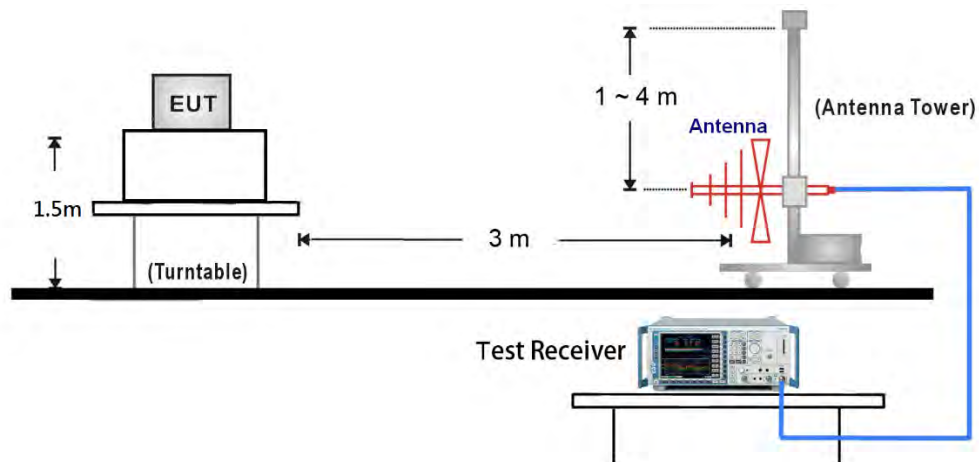
- a. 量測發射功率時，必須使用均方根值等效電壓之儀器量測於任何連續傳輸時段，量測結果須依儀器之反應時間、解析頻寬能力及靈敏度等調整得出正確之發射功率。對每一測量頻率調整儀器足夠之頻率掃描範圍以檢測所欲測量之發射。
- b. 在 1 到 4 米高度內上升下降水平極化之接收天線，將接收天線置於儀器顯示最高讀值時的高度，然後以 360 度轉動測試桌上的受測物，紀錄顯示在儀器上的最高值，以為參考位準。
- c. 以發射天線(不大於 1GHz 為線諧調之偶極天線，1GHz 以上為號角型天線)取代受測物，並與接收天線之同為水平極化。將偶極天線連接至標準之信號產生器，信號產生器設定至前述步驟所得之頻率以及適當之輸出位準。上升、下降接收天線使測試儀器量得最高值，並置於該高度。調整信號產生器之輸出位準以使測試儀器顯示與步驟 2 所得之值相同。紀錄此值以計算結果值。
- d. 若受測物相對於偶極天線(或全向性天線)之天線增益為已知，則 ERP(或 EIRP)可由天線端子之傳導輸出功率與天線增益之積求得。

(2) 傳導輸出功率：

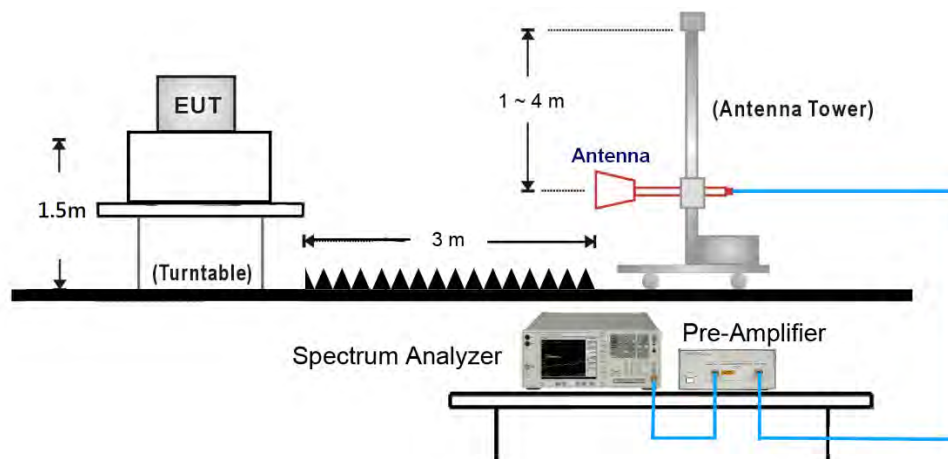
發射機輸出功率的測量藉由模擬基地台調諧頻率至測量頻率並量測其峰值。

5.1.3 實驗方法方塊圖

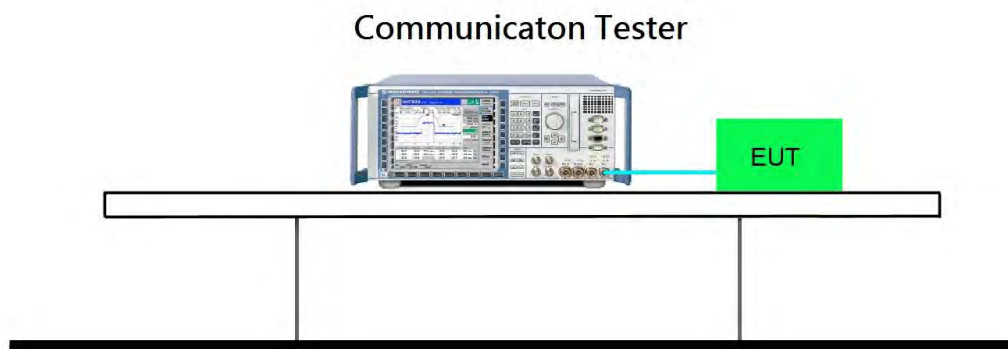
(1) 等效輻射功率 (1G 以下):



(2) 等效輻射功率 (1G 以上):



(3) 傳導輸出功率 :



5.1.4 實驗數據

Band 1 (2100MHz) FDD									
Bandwidth	Channel	Modulation	RB No.	RB Offset	Max Power (Conducted)	Limit (dBm)	Antenna Gain (dBi)	Max Power (ERP) (dBm)	ERP Limit (dBm)
5MHz	18025	QPSK	1	#0	21.82	19.8~25.7	2	23.82	30
			8	#0	21.69	19.8~25.7	2	23.69	30
	18300	QPSK	1	#0	21.67	19.8~25.7	2	23.67	30
			8	#0	21.52	19.8~25.7	2	23.52	30
	18575	QPSK	1	#24	21.61	19.8~25.7	2	23.61	30
			8	#17	21.48	19.8~25.7	2	23.48	30
20MHz	18100	QPSK	1	#0	21.56	19.8~25.7	2	23.56	30
			18	#0	21.59	19.8~25.7	2	23.59	30
	18300	QPSK	1	#0	21.56	19.8~25.7	2	23.56	30
			18	#0	21.54	19.8~25.7	2	23.54	30
	18500	QPSK	1	#99	21.44	19.8~25.7	2	23.44	30
			18	#82	21.37	19.8~25.7	2	23.37	30

5MHz CH18025 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement									
Multi Evaluation PRACH SRS									
FDD	Freq: 1922.5 MHz	Ref Level: 41.00 dBm	BW: 5.0 MHz	CP: Normal	Meas Subfr/Slot: 0 / All				
TX Measurement									
Detected Allocation	NoRB:	1 OffsetRB:		0					
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h	3.21	3.32	2.90	3.31	3.39	0.34	0.34		
EVM Peak [%] /h	10.41	10.54	9.46	9.49	11.14	10.93	1.21	1.04	
EVM DMRS [%] /h	2.93	2.89	2.60	2.62	3.41	3.58	0.29	0.17	
MErr RMS [%] /h	2.88	3.04	2.57	2.71	2.93	3.09	0.33	0.35	
MErr Peak [%] /h	-10.21	-10.53	9.33	9.47	-10.93	-10.90	1.10	1.05	
MErr DMRS [%] /h	2.65	2.49	2.26	2.10	2.79	2.61	0.32	0.33	
PhErr RMS [%] /h	0.82	0.78	0.78	0.74	0.97	0.92	0.06	0.04	
PhErr Peak [%] /h	-2.63	-2.66	2.37	2.16	-3.13	-3.16	0.25	0.33	
PhErr DMRS [%] /h	0.71	0.83	0.73	0.90	1.61	1.80	0.05	0.12	
IQ Offset [dBc]		-50.69		-50.94		-49.86		0.29	
IQ Gain Imbalance [dB]									
IQ Quadrature Error [°]									
Freq Error [Hz]		-6.69		-4.03		-19.98		2.07	
Timing Error [Ts]		7.20		7.22		11.36		0.20	
OBW [MHz]		0.21		0.21		0.23		0.01	
		Current	Average	Min	Max	StdDev			
TX Power [dBm]		21.61	21.63	21.54	21.82	0.03			
Peak Power [dBm]		25.13	25.16	25.37	25.68	0.03			
Statistic Count	20 / 20	Out of Tolerance	Detected Modulation	Detected Channel Type	View Filter Throughput				
		0.00 %	OPSK	PUSCH	100.0 %				
PS: Connection Established RRC State: Connected									

5MHz CH18025 8RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDDFreq: 1922.5 MHzRef Level: 41.00 dBmBW: 5.0 MHzCP: NormalMeas Subfr/Slot: 0 / All

TX Measurement

Detected Allocation	NoRB:	8 OffsetRB:		0				
		Current	Average	Extreme	StdDev			
EVM RMS [%] /h	2.82	3.18	2.69	3.00	2.90	3.30	0.15	0.23
EVM Peak [%] /h	19.08	28.16	17.64	24.70	20.00	30.36	1.17	4.34
EVM DMRS [%] /h	2.40	1.89	2.39	2.51	2.67	3.33	0.10	0.50
MErr RMS [%] /h	2.44	2.72	2.29	2.60	2.48	2.79	0.17	0.15
MErr Peak [%] /h	-17.64	-27.73	17.22	24.42	-18.78	-29.65	0.75	4.08
MErr DMRS [%] /h	1.90	1.50	1.84	1.91	2.01	2.41	0.09	0.35
PhErr RMS [%] /h	0.81	0.98	0.81	0.88	0.94	1.06	0.03	0.13
PhErr Peak [%] /h	5.42	9.36	6.09	6.28	-7.76	11.23	0.87	3.25
PhErr DMRS [%] /h	0.84	0.65	0.87	0.93	1.08	1.31	0.05	0.21
IQ Offset [dBc]		-51.09		-51.23		-50.39		0.31
IQ Gain Imbalance [dB]								
IQ Quadrature Error [°]								
Freq Error [Hz]		-13.66		-10.71		-15.95		5.24
Timing Error [Ts]		8.37		8.09		8.37		0.18
OBW [MHz]		1.41		1.40		1.41		0.01
		Current	Average	Min	Max		StdDev	
TX Power [dBm]		21.56	21.64	21.56	21.69		0.05	
Peak Power [dBm]		25.84	25.80	25.78	25.87		0.05	

Statistic Count: 20 / 20

Out of Tolerance: 0.00 %

Detected Modulation: QPSK

Detected Channel Type: PUSCH

View Filter Throughput: 100.0 %

PS: Connection Established
RRC State: Connected

5MHz CH18300 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement									
Multi Evaluation			PRACH		SRS				
FDD	Freq: 1950.0 MHz	Ref Level:	41.00 dBm		BW: 5.0 MHz		CP: Normal	Meas Subfr/Slot:	0 / All
TX Measurement									
Detected Allocation	NoRB:	1 OffsetRB:		0					
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h	2.70	2.89	2.36	2.50	2.72	2.96	0.36	0.44	
EVM Peak [%] /h	9.47	9.61	8.08	8.12	10.25	10.33	1.76	1.86	
EVM DMRS [%] /h	2.26	2.15	2.22	2.06	2.55	2.39	0.16	0.14	
MErr RMS [%] /h	2.34	2.58	2.04	2.22	2.41	2.66	0.36	0.45	
MErr Peak [%] /h	-9.47	-9.60	7.62	7.76	-10.26	-10.33	2.20	2.21	
MErr DMRS [%] /h	2.08	1.75	1.78	1.70	2.26	1.89	0.40	0.10	
PhErr RMS [%] /h	0.78	0.75	0.69	0.67	0.79	0.79	0.05	0.06	
PhErr Peak [%] /h	-1.79	-2.15	2.02	2.05	2.44	-2.50	0.16	0.17	
PhErr DMRS [%] /h	0.50	0.71	0.75	0.66	1.00	0.92	0.17	0.08	
IQ Offset [dBc]		-50.71		-50.94		-50.30		0.31	
IQ Gain Imbalance [dB]									
IQ Quadrature Error [°]									
Freq Error [Hz]		7.12		10.79		18.10		2.66	
Timing Error [Ts]		5.76		5.39		6.11		0.68	
OBW [MHz]		0.19		0.21		0.23		0.01	
		Current		Average		Min	Max	StdDev	
TX Power [dBm]		21.46		21.56		21.45	21.67	0.05	
Peak Power [dBm]		25.18		25.27		25.14	25.36	0.05	
Statistic Count		Out of Tolerance		Detected Modulation		Detected Channel Type		View Filter Throughput	
20 / 20		0.00 %		OPSK		PUSCH		100.0 %	
PS: Connection Established RRC State: Connected									

5MHz CH18300 8RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDDFreq: 1950.0 MHzRef Level: 41.00 dBmBW: 5.0 MHzCP: NormalMeas Subfr/Slot: 0 / All

TX Measurement

Detected Allocation	NoRB:	8 OffsetRB:		0					
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h	2.72	2.88	2.64	2.90	2.80	3.02	0.11	0.05	
EVM Peak [%] /h	20.61	22.79	19.78	23.85	21.70	26.26	1.16	1.70	
EVM DMRS [%] /h	2.60	2.23	2.53	2.21	2.82	2.39	0.19	0.08	
MErr RMS [%] /h	2.42	2.39	2.32	2.49	2.48	2.62	0.13	0.11	
MErr Peak [%] /h	-20.57	-21.79	19.54	23.14	-21.70	-25.81	1.37	1.93	
MErr DMRS [%] /h	2.03	1.71	1.98	1.73	2.22	1.83	0.13	0.03	
PhErr RMS [%] /h	0.73	0.95	0.73	0.88	0.80	0.97	0.02	0.06	
PhErr Peak [%] /h	5.28	9.73	4.09	7.26	5.36	9.85	0.84	2.20	
PhErr DMRS [%] /h	0.93	0.81	0.89	0.78	1.04	0.93	0.09	0.06	
IQ Offset [dBc]		-51.57		-51.92		-50.78		0.88	
IQ Gain Imbalance [dB]									
IQ Quadrature Error [°]									
Freq Error [Hz]		14.26		8.44		17.21		6.87	
Timing Error [Ts]		3.02		3.80		23.43		3.01	
OBW [MHz]		1.41		1.41		1.41		0.00	
		Current	Average	Min	Max	StdDev			
TX Power [dBm]		21.49	21.50	21.39	21.52	0.02			
Peak Power [dBm]		25.88	25.75	25.55	25.85	0.07			

Statistic Count20 / 20Out of Tolerance0.00 %Detected ModulationOPSKDetected Channel TypePUSCHView Filter Throughput100.0 %

PS: Connection Established
RRC State: Connected

5MHz CH18575 1RB#24

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement									
Multi Evaluation PRACH SRS									
FDD	Freq: 1977.5 MHz	Ref Level: 41.00 dBm	BW: 5.0 MHz	CP: Normal	Meas Subfr/Slot: 0 / All				
TX Measurement									
Detected Allocation	NoRB:	1 OffsetRB:		24					
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h	2.11	2.24	2.36	2.54	2.72	2.91	0.28	0.31	
EVM Peak [%] /h	5.78	8.35	7.12	8.65	9.07	9.60	1.41	0.34	
EVM DMRS [%] /h	2.50	2.87	2.34	2.39	3.00	3.58	0.13	0.55	
MErr RMS [%] /h	1.70	1.83	1.94	2.15	2.23	2.51	0.24	0.32	
MErr Peak [%] /h	-5.62	-7.81	7.05	8.36	-9.07	-9.41	1.47	0.57	
MErr DMRS [%] /h	1.74	2.04	1.71	1.76	1.92	2.23	0.10	0.28	
PhErr RMS [%] /h	0.71	0.75	0.77	0.79	0.90	0.88	0.09	0.05	
PhErr Peak [%] /h	-1.75	-1.78	1.98	1.99	2.42	2.52	0.14	0.18	
PhErr DMRS [%] /h	1.02	1.15	0.91	0.93	1.46	1.70	0.15	0.30	
IQ Offset [dBc]		-51.94		-51.62		-50.98		0.25	
IQ Gain Imbalance [dB]		----		----					
IQ Quadrature Error [°]		----		----					
Freq Error [Hz]		6.84		5.62		11.12		2.79	
Timing Error [Ts]		8.69		8.80		9.73		0.89	
OBW [MHz]		0.23		0.20		0.23		0.02	
		Current	Average	Min	Max	StdDev			
TX Power [dBm]		21.47	21.44	21.36	21.61	0.07			
Peak Power [dBm]		21.92	21.96	21.97	25.06	0.07			
Statistic Count Out of Tolerance Detected Modulation Detected Channel Type View Filter Throughput									
	20 / 20	0.00 %		OPSK		PUSCH		100.0 %	
PS: Connection Established RRC State: Connected									

20MHz CH18100 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement										
Multi Evaluation PRACH SRS										
FDD Freq: 1930.0 MHz Ref Level: 41.00 dBm BW: 20.0 MHz CP: Normal Meas Subfr/Slot: 0 / All										
TX Measurement										
Detected Allocation	NoRB:	1 OffsetRB:		0						StdDev
		Current	Average		Extreme					
EVM RMS [%] /h	3.24	3.24	2.74	2.75	3.29	3.28	0.57	0.56		
EVM Peak [%] /h	14.46	14.44	11.83	11.85	14.69	14.67	2.55	2.54		
EVM DMRS [%] /h	2.24	2.17	2.08	1.97	2.33	2.19	0.15	0.12		
MErr RMS [%] /h	2.82	2.82	2.39	2.40	2.86	2.86	0.50	0.48		
MErr Peak [%] /h	-14.34	-14.31	11.59	11.63	-14.48	-14.46	2.67	2.63		
MErr DMRS [%] /h	2.10	1.96	1.90	1.75	2.15	2.02	0.19	0.19		
PhErr RMS [%] /h	0.93	0.93	0.78	0.78	0.98	0.98	0.17	0.18		
PhErr Peak [%] /h	-4.46	-4.44	3.09	3.10	-5.01	-5.00	1.38	1.33		
PhErr DMRS [%] /h	0.44	0.52	0.48	0.52	0.67	0.71	0.07	0.10		
IQ Offset [dBc]		-58.64		-58.79		-57.68		0.68		
IQ Gain Imbalance [dB]										
IQ Quadrature Error [°]										
Freq Error [Hz]		-10.61		-6.88		-15.71		6.29		
Timing Error [Ts]		4.05		2.72		4.34		0.96		
OBW [MHz]		0.24		0.25		0.26		0.01		
		Current	Average	Min	Max		StdDev			
TX Power [dBm]		21.51	21.53	21.51	21.56		0.02			
Peak Power [dBm]		25.27	25.24	25.24	25.28		0.04			
Statistic Count Out of Tolerance Detected Modulation Detected Channel Type View Filter Throughput										
20 / 20 0.00 % QPSK PUSCH 100.0 %										
PS: Connection Established RRC State: Connected										

20MHz CH18100 18RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement										
Multi Evaluation PRACH SRS										
FDD Freq: 1930.0 MHz Ref Level: 41.00 dBm BW: 20.0 MHz CP: Normal Meas Subfr/Slot: 0 / All										
TX Measurement										
Detected Allocation	NoRB:	18 OffsetRB:		0						StdDev
		Current	Average	Extrem	Extrem					
EVM RMS [%] /h	2.80	2.84	2.75	2.76	2.84	2.85	0.04	0.05		
EVM Peak [%] /h	19.74	19.54	19.79	19.92	20.52	21.10	0.32	0.54		
EVM DMRS [%] /h	1.99	2.03	1.95	1.96	2.12	2.15	0.05	0.08		
MErr RMS [%] /h	2.44	2.46	2.40	2.41	2.46	2.46	0.04	0.04		
MErr Peak [%] /h	-19.74	-19.54	19.60	19.83	-20.37	-20.79	0.23	0.47		
MErr DMRS [%] /h	1.70	1.71	1.64	1.64	1.78	1.77	0.07	0.08		
PhErr RMS [%] /h	0.79	0.81	0.78	0.78	0.81	0.83	0.02	0.02		
PhErr Peak [%] /h	-4.10	-4.11	3.70	3.71	-4.55	-4.54	0.37	0.37		
PhErr DMRS [%] /h	0.60	0.62	0.60	0.61	0.72	0.74	0.03	0.03		
IQ Offset [dBc]		-58.47		-58.66		-57.16		0.72		
IQ Gain Imbalance [dB]										
IQ Quadrature Error [°]										
Freq Error [Hz]		-8.67		-8.35		-17.94		4.96		
Timing Error [Ts]		1.54		3.14		5.82		0.97		
OBW [MHz]		3.18		3.18		3.18		0.00		
		Current	Average	Min	Max		StdDev			
TX Power [dBm]		21.58	21.54	21.46	21.59		0.05			
Peak Power [dBm]		25.76	25.67	25.56	25.76		0.05			
Statistic Count Out of Tolerance Detected Modulation Detected Channel Type View Filter Throughput										
20 / 20		0.00 %		QPSK		PUSCH		100.0 %		
PS: Connection Established RRC State: Connected										

20MHz CH18300 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement										
Multi Evaluation PRACH SRS										
FDD Freq: 1950.0 MHz Ref Level: 41.00 dBm BW: 20.0 MHz CP: Normal Meas Subfr/Slot: 0 / All										
TX Measurement										
Detected Allocation	NoRB:	1 OffsetRB:		0						StdDev
		Current	Average	Extreme						
EVM RMS [%] /h	1.65	1.70	2.57	2.60	3.32	3.34	0.84	0.82		
EVM Peak [%] /h	5.73	7.29	11.36	12.02	17.70	17.70	5.78	5.11		
EVM DMRS [%] /h	1.21	1.20	1.58	1.57	2.06	2.05	0.33	0.31		
MErr RMS [%] /h	1.39	1.47	2.31	2.33	3.01	3.02	0.80	0.77		
MErr Peak [%] /h	-5.56	-6.92	11.07	11.64	-17.07	-17.11	5.61	5.07		
MErr DMRS [%] /h	1.02	0.89	1.41	1.36	1.88	1.88	0.35	0.40		
PhErr RMS [%] /h	0.51	0.49	0.67	0.67	0.87	0.89	0.18	0.19		
PhErr Peak [%] /h	-1.53	-1.54	2.92	2.96	-5.09	-5.10	1.69	1.64		
PhErr DMRS [%] /h	0.38	0.45	0.41	0.45	0.62	0.64	0.05	0.07		
IQ Offset [dBc]		-59.96		-58.92		-57.24		0.73		
IQ Gain Imbalance [dB]										
IQ Quadrature Error [°]										
Freq Error [Hz]		4.29		2.00		15.34		5.21		
Timing Error [Ts]		3.31		2.73		5.13		1.10		
OBW [MHz]		0.27		0.26		0.28		0.02		
		Current	Average	Min	Max		StdDev			
TX Power [dBm]		21.55	21.50	21.41	21.56		0.05			
Peak Power [dBm]		25.11	25.10	25.04	25.17		0.05			
Statistic Count Out of Tolerance Detected Modulation OPSC Detected Channel Type View Filter Throughput										
20 / 20 0.00 % PUSCH 100.0 %										
PS: Connection Established RRC State: Connected										

20MHz CH18300 18RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 1950.0 MHz Ref Level: 41.00 dBm BW: 20.0 MHz CP: Normal Meas Subfr/Slot: 0 / All

TX Measurement

Detected Allocation	NoRB:	18 OffsetRB:		0				StdDev
	Current	Average	Extreme					
EVM RMS [%] /h	2.40	2.40	2.44	2.47	2.51	2.58	0.04	0.07
EVM Peak [%] /h	14.00	13.94	15.56	15.43	18.08	17.91	1.81	1.74
EVM DMRS [%] /h	1.73	1.77	1.77	1.77	1.91	1.87	0.05	0.04
MErr RMS [%] /h	2.03	2.05	2.09	2.12	2.17	2.21	0.05	0.07
MErr Peak [%] /h	-13.75	-13.71	15.25	15.14	-17.52	-17.33	1.72	1.64
MErr DMRS [%] /h	1.48	1.49	1.48	1.47	1.58	1.56	0.03	0.03
PhErr RMS [%] /h	0.74	0.72	0.72	0.73	0.76	0.77	0.01	0.01
PhErr Peak [%] /h	-3.74	-3.14	3.28	3.69	-3.96	5.39	0.28	0.61
PhErr DMRS [%] /h	0.51	0.55	0.55	0.56	0.64	0.66	0.04	0.03
IQ Offset [dBc]		-61.85		-61.72		-59.29		0.86
IQ Gain Imbalance [dB]								
IQ Quadrature Error [°]								
Freq Error [Hz]		11.96		7.20		14.86		3.55
Timing Error [Ts]		3.22		3.52		5.96		0.95
OBW [MHz]		3.18		3.18		3.18		0.00
		Current	Average	Min	Max		StdDev	
TX Power [dBm]		21.41	21.45	21.40	21.54		0.05	
Peak Power [dBm]		25.12	25.16	25.09	25.58		0.05	

Statistic Count 20 / 20 Out of Tolerance 0.00 % Detected Modulation QPSK Detected Channel Type PUSCH View Filter Throughput 100.0 %

PS: Connection Established RRC State: Connected

20MHz CH18550 1RB#99

Multi Evaluation

PRACH

SRS

FDD

Freq: 1970.0 MHz

Ref Level: 41.00 dBm

BW: 20.0 MHz

CP: Normal

Meas Subfr/Slot: 0 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		99				
		Current	Average		Extreme		StdDev	
EVM RMS [%] /h	3.60	3.64	3.24	3.24	3.70	3.74	0.41	0.46
EVM Peak [%] /h	11.42	11.50	10.67	10.69	11.57	11.65	0.63	0.65
EVM DMRS [%] /h	2.89	2.84	2.76	2.67	3.04	2.99	0.18	0.22
MErr RMS [%] /h	3.23	3.27	2.83	2.85	3.28	3.34	0.42	0.47
MErr Peak [%] /h	-11.23	-11.08	10.55	10.50	-11.39	-11.38	0.54	0.49
MErr DMRS [%] /h	2.67	2.60	2.44	2.35	2.80	2.73	0.26	0.29
PhErr RMS [%] /h	0.93	0.92	0.91	0.89	1.01	0.99	0.06	0.07
PhErr Peak [%] /h	-2.85	-2.84	2.79	2.57	-3.50	-3.50	0.32	0.47
PhErr DMRS [%] /h	0.62	0.66	0.73	0.71	0.87	0.83	0.07	0.05
IQ Offset [dBc]		-56.96		-57.38		-55.85		0.64
IQ Gain Imbalance [dB]		---		---		---		
IQ Quadrature Error [%]		---		---		---		
Freq Error [Hz]		-10.76		-3.10		-11.89		6.11
Timing Error [Ts]		2.57		3.59		5.61		0.86
OBW [MHz]		0.19		0.25		0.30		0.05
		Current		Average		Min		Max
TX Power [dBm]		21.30		21.32		21.20		21.44
Peak Power [Rm]		21.87		21.90		21.79		21.99

Statistic Count

20 / 20

Out of Tolerance

0.00 %

Detected Modulation

QPSK

Detected Channel Type

PUSCH

View Filter Throughput

100.0 %

Connection Established

PRC State: Connected

Band 3 (1800MHz) FDD									
Bandwidth	Channel	Modulation	RB No.	RB Offset	Max Power (Conducted)	Limit (dBm)	Antenna Gain (dBi)	Max Power (ERP) (dBm)	ERP Limit (dBm)
1.4MHz	19207	QPSK	1	#0	21.32	19.8~25.7	2	23.32	30
	19575	QPSK	1	#0	21.50	19.8~25.7	2	23.50	30
			5	#0	21.31	19.8~25.7	2	23.31	30
	19943	QPSK	1	#0	21.15	19.8~25.7	2	23.15	30
5MHz	19225	QPSK	1	#0	21.32	19.8~25.7	2	23.32	30
			1	#24	21.31	19.8~25.7	2	23.31	30
	19575	QPSK	1	#0	21.38	19.8~25.7	2	23.38	30
			1	#24	21.41	19.8~25.7	2	23.41	30
			8	#0	21.46	19.8~25.7	2	23.46	30
	19925	QPSK	1	#0	21.22	19.8~25.7	2	23.22	30
			1	#24	21.19	19.8~25.7	2	23.19	30
	20MHz	19300	QPSK	1	#0	21.17	19.8~25.7	2	23.17
1				#99	21.30	19.8~25.7	2	23.30	30
19575		QPSK	1	#0	21.38	19.8~25.7	2	23.38	30
			1	#99	21.46	19.8~25.7	2	23.46	30
			18	#0	21.30	19.8~25.7	2	23.30	30
19850		QPSK	1	#0	21.15	19.8~25.7	2	23.15	30
			1	#99	21.26	19.8~25.7	2	23.26	30

5MHz CH19575 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 1747.5 MHz Ref Level: 39.20 dBm BW: 5.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		0				StdDev
	Current	Average	Extreme					
EVM RMS [%] /h	4.92	5.24	4.59	4.82	5.00	5.37	0.37	0.52
EVM Peak [%] /h	21.93	22.84	18.30	19.37	22.48	23.57	3.84	3.61
EVM DMRS [%] /h	2.79	2.61	2.55	2.91	3.00	3.31	0.28	0.24
MErr RMS [%] /h	4.45	4.72	4.09	4.26	4.48	4.79	0.38	0.51
MErr Peak [%] /h	-21.63	-20.04	18.05	17.60	-22.11	-20.68	3.81	2.66
MErr DMRS [%] /h	2.53	2.36	2.15	2.24	2.77	2.60	0.48	0.19
PhErr RMS [%] /h	1.22	1.37	1.22	1.33	1.33	1.51	0.05	0.11
PhErr Peak [%] /h	3.60	7.02	3.82	5.56	4.77	7.87	0.27	1.73
PhErr DMRS [%] /h	0.67	0.63	0.77	1.06	0.99	1.44	0.14	0.35
IQ Offset [dBc]		-53.07		-53.24		-52.46		0.30
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]		-1.99		-1.19		-22.72		4.36
Timing Error [Ts]		17.38		17.31		19.41		0.18
OBW [MHz]		0.21		0.22		0.23		0.01
		Current	Average	Min	Max		StdDev	
TX Power [dBm]		21.33	21.35	21.32	21.38		0.02	
Peak Power [dBm]		24.70	24.65	24.62	24.72		0.02	

Statistic Count: 20 / 20

Out of Tolerance: 0.00 %

Detected Modulation: QPSK

Detected Channel Type: PUSCH

View Filter Throughput: 100.0 %

PS: Connection Established

PRG State: Connected

5MHz CH19575 1RB#24

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 1747.5 MHz Ref Level: 39.20 dBm BW: 5.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		24				
		Current	Average	Extreme	StdDev			
EVM RMS [%] /h	4.35	4.41	4.07	4.17	4.45	4.52	0.34	0.30
EVM Peak [%] /h	19.51	19.12	16.59	16.69	19.90	19.63	2.92	2.54
EVM DMRS [%] /h	2.56	2.64	2.45	2.52	2.94	2.98	0.12	0.15
MErr RMS [%] /h	3.94	4.02	3.65	3.79	4.01	4.11	0.34	0.28
MErr Peak [%] /h	-19.41	-19.10	16.34	16.40	-19.72	-19.34	3.05	2.67
MErr DMRS [%] /h	2.40	2.41	1.98	2.03	2.58	2.59	0.48	0.44
PhErr RMS [%] /h	1.08	1.07	1.05	1.02	1.19	1.19	0.06	0.07
PhErr Peak [%] /h	3.99	3.89	3.58	3.57	4.58	4.70	0.47	0.37
PhErr DMRS [%] /h	0.51	0.61	0.83	0.85	1.20	1.18	0.27	0.21
IQ Offset [dBc]		-52.38		-52.35		-51.81		0.30
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]		-10.83		-6.21		-15.68		3.56
Timing Error [Ts]		16.90		17.08		21.07		0.90
OBW [MHz]		0.19		0.20		0.21		0.00
		Current	Average	Min	Max	StdDev		
TX Power [dBm]		21.36	21.38	21.36	21.41		0.02	
Peak Power [dBm]		24.82	24.82	24.79	24.91		0.02	

Statistic Count20 / 20Out of Tolerances0.00 %Detected ModulationOPSKDetected Channel TypePUSCHView Filter Throughput100.0 %

PS: Connection EstablishedPRG State: Connected

5MHz CH19575 8RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 1747.5 MHz Ref Level: 39.20 dBm BW: 5.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	8 OffsetRB:		0							
		Current	Average	Extreme	StdDev						
EVM RMS [%] /h		3.63	3.85	3.91	4.02	4.20	4.21	0.26	0.16		
EVM Peak [%] /h		16.85	20.15	18.99	20.80	22.00	22.05	2.20	0.57		
EVM DMRS [%] /h		2.87	3.30	2.97	3.35	3.13	3.52	0.06	0.07		
MErr RMS [%] /h		3.25	3.32	3.52	3.53	3.82	3.75	0.27	0.21		
MErr Peak [%] /h		-16.72	-19.06	18.54	19.68	-21.22	-21.37	2.01	1.03		
MErr DMRS [%] /h		1.96	2.09	1.96	2.16	2.12	2.33	0.05	0.09		
PhErr RMS [%] /h		0.94	1.14	0.99	1.12	1.06	1.19	0.03	0.03		
PhErr Peak [%] /h		-5.45	10.98	5.33	10.03	-6.34	12.27	0.49	1.26		
PhErr DMRS [%] /h		1.21	1.47	1.28	1.47	1.40	1.54	0.05	0.03		
IQ Offset [dBc]			-52.89		-53.27		-52.54		0.34		
IQ Gain Imbalance [dB]											
IQ Quadrature Error [%]											
Freq Error [Hz]			-9.57		-6.98		-14.82		2.69		
Timing Error [Ts]			17.71		17.73		17.92		0.14		
OBW [MHz]			1.41		1.41		1.41		0.00		
			Current		Average		Min		Max		StdDev
TX Power [dBm]			21.36		21.41		21.34		21.46		0.04
Peak Power [dBm]			25.16		25.25		25.11		25.35		0.06

Statistic Count: 20 / 20

Out of Tolerance: 0.00 %

Detected Modulation: QPSK

Detected Channel Type: PUSCH

View Filter Throughput: 100.0 %

PS: Connection Established

PRG State: Connected

5MHz CH19925 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDDFreq: 1782.5 MHzRef Level: 41.00 dBmBW: 5.0 MHzCP: NormalMeas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		0		StdDev			
		Current	Average	Extreme					
EVM RMS [%] /h		4.70	5.25	4.28	4.56	4.75	5.28	0.47	0.75
EVM Peak [%] /h		14.22	20.19	14.00	17.00	14.68	20.49	0.30	3.18
EVM DMRS [%] /h		3.01	2.50	2.80	2.72	3.18	3.11	0.25	0.22
MErr RMS [%] /h		4.23	4.73	3.87	4.12	4.27	4.76	0.39	0.67
MErr Peak [%] /h		-13.79	-19.19	13.76	16.49	-14.25	-19.56	0.14	2.71
MErr DMRS [%] /h		2.15	2.03	2.06	2.06	2.23	2.30	0.08	0.09
PhErr RMS [%] /h		1.21	1.35	1.07	1.16	1.27	1.41	0.16	0.22
PhErr Peak [%] /h		-5.69	-5.91	4.19	4.36	-6.45	-6.40	1.65	1.70
PhErr DMRS [%] /h		1.20	0.83	1.08	1.01	1.34	1.24	0.17	0.15
IQ Offset [dBc]			-54.29		-54.52		-53.64		0.30
IQ Gain Imbalance [dB]									
IQ Quadrature Error [%]									
Freq Error [Hz]			-4.41		9.11		18.78		7.58
Timing Error [Ts]			19.73		19.88		25.73		0.21
OBW [MHz]			0.19		0.21		0.23		0.01
			Current		Average		Min		Max
TX Power [dBm]			21.14		21.18		21.05		21.22
Peak Power [dBm]			24.18		24.11		24.33		24.18

Statistic Count: 20 / 20

Out of Tolerance: 0.00 %

Detected Modulation: QPSK

Detected Channel Type: PUSCH

View Filter Throughput: 100.0 %

PS: Connection Established

PRG State: Connected

5MHz CH19925 1RB#24

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement										
Multi Evaluation			PRACH		SRS					
FDD	Freq: 1782.5 MHz	Ref Level: 41.00 dBm	BW: 5.0 MHz		CP: Normal		Meas Subfr/Slot: 1 / All			
TX Measurement										
Detected Allocation		NoRB: 1		OffsetRB: 24						
		Current		Average		Extreme		StdDev		
EVM RMS [%] /h		3.77	3.83	3.28	3.36	3.84	3.92	0.57	0.56	
EVM Peak [%] /h		11.14	16.02	11.22	13.53	11.77	16.52	0.20	2.64	
EVM DMR5 [%] /h		2.29	2.22	2.03	2.06	2.49	2.47	0.31	0.20	
MErr RMS [%] /h		3.35	3.53	2.95	3.10	3.41	3.61	0.47	0.52	
MErr Peak [%] /h		-10.92	-15.92	11.03	13.49	-11.57	-16.46	0.12	2.62	
MErr DMR5 [%] /h		1.97	1.83	1.80	1.72	2.13	2.05	0.20	0.15	
PhErr RMS [°] /h		1.02	0.88	0.85	0.76	1.07	0.95	0.21	0.13	
PhErr Peak [°] /h		5.04	3.57	3.54	2.84	5.64	4.31	1.60	0.96	
PhErr DMR5 [°] /h		0.67	0.71	0.53	0.65	0.79	0.83	0.17	0.08	
IQ Offset [dBc]		-51.50		-51.51		-50.66		0.31		
IQ Gain Imbalance [dB]		-----		-----		-----		-----		
IQ Quadrature Error [°]		-----		-----		-----		-----		
		14.63		10.91		18.60		6.04		
Freq Error [Hz]		21.07		21.32		22.89		0.51		
Timing Error [Ts]		0.19		0.19		0.19		0.02		
OBW [MHz]		Current		Average		Min		Max		StdDev
TX Power [dBm]		21.07		21.11		21.07		21.19		0.04
Peak Power [Rm]		21.67		21.69		21.66		21.70		0.02
Statistic Count		Out of Tolerance		Detected Modulation		Detected Channel Type		View Filter Throughput		
20 / 20		0.00 %		QPSK		PUSCH		100.0 %		
PS:		Connection Established		RRC State: Connected						

Band 7 (2600MHz) FDD									
Bandwidth	Channel	Modulation	RB No.	RB Offset	Max Power (Conducted)	Limit (dBm)	Antenna Gain (dBi)	Max Power (ERP) (dBm)	ERP Limit (dBm)
5MHz	20775	QPSK	1	#0	21.73	19.8~25.7	2	23.73	30
	21100	QPSK	1	#0	21.97	19.8~25.7	2	23.97	30
			8	#0	22.10	19.8~25.7	2	24.10	30
	21425	QPSK	1	#0	22.02	19.8~25.7	2	24.02	30
20MHz	20850	QPSK	1	#0	21.74	19.8~25.7	2	23.74	30
			1	#99	21.98	19.8~25.7	2	23.98	30
	21100	QPSK	1	#0	21.94	19.8~25.7	2	23.94	30
			1	#99	22.15	19.8~25.7	2	24.15	30
			18	#0	21.94	19.8~25.7	2	23.94	30
			1	#0	22.03	19.8~25.7	2	24.03	30
	21350	QPSK	1	#0	22.03	19.8~25.7	2	24.03	30
			1	#99	22.00	19.8~25.7	2	24.00	30

Band 8 (900MHz) FDD									
Bandwidth	Channel	Modulation	RB No.	RB Offset	Max Power (Conducted)	Limit (dBm)	Antenna Gain (dBi)	Max Power (ERP) (dBm)	ERP Limit (dBm)
1.4MHz	21507	QPSK	1	#0	23.11	19.8~25.7	2	25.11	30
	21650	QPSK	1	#0	23.04	19.8~25.7	2	25.04	30
			5	#0	23.20	19.8~25.7	2	25.20	30
	21793	QPSK	1	#0	23.02	19.8~25.7	2	25.02	30
5MHz	21525	QPSK	1	#0	23.08	19.8~25.7	2	25.08	30
			1	#24	23.19	19.8~25.7	2	25.19	30
	21650	QPSK	1	#0	23.10	19.8~25.7	2	25.10	30
			1	#24	23.10	19.8~25.7	2	25.10	30
			8	#0	23.17	19.8~25.7	2	25.17	30
	21775	QPSK	1	#0	23.01	19.8~25.7	2	25.01	30
			1	#24	22.93	19.8~25.7	2	24.93	30
	10MHz	21550	QPSK	1	#0	23.27	19.8~25.7	2	25.27
1				#49	23.25	19.8~25.7	2	25.25	30
21650		QPSK	1	#0	23.20	19.8~25.7	2	25.20	30
			1	#49	23.08	19.8~25.7	2	25.08	30
			12	#0	23.17	19.8~25.7	2	25.17	30
21750		QPSK	1	#0	23.13	19.8~25.7	2	25.13	30
			1	#49	23.07	19.8~25.7	2	25.07	30

1.4MHz CH21507 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 885.7 MHz Ref Level: 41.00 dBm BW: 1.4 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		0				
	Current	Average	Extreme	StdDev				
EVM RMS [%] /h	3.39	3.59	2.91	3.12	3.40	3.60	0.51	0.49
EVM Peak [%] /h	11.64	11.38	10.44	10.43	11.68	11.42	1.07	0.81
EVM DMRS [%] /h	2.24	2.44	1.96	2.29	2.35	2.51	0.28	0.14
MErr RMS [%] /h	3.07	3.29	2.62	2.82	3.08	3.30	0.50	0.50
MErr Peak [%] /h	-11.32	-11.01	10.10	10.01	-11.47	-11.18	1.15	0.96
MErr DMRS [%] /h	1.76	2.01	1.54	1.78	1.87	2.07	0.23	0.20
PhErr RMS [%] /h	0.83	0.82	0.74	0.77	0.86	0.87	0.09	0.06
PhErr Peak [%] /h	1.97	1.96	1.86	2.04	2.37	2.49	0.18	0.14
PhErr DMRS [%] /h	0.80	0.79	0.70	0.83	0.86	0.91	0.10	0.04
IQ Offset [dBc]		-53.36		-53.35		-52.00		0.61
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]		-0.97		-1.79		-9.44		2.68
Timing Error [Ts]		15.28		17.38		20.41		1.10
OBW [MHz]		0.19		0.19		0.19		0.01
		Current	Average	Min	Max	StdDev		
TX Power [dBm]		23.07	23.05	22.98	23.11	0.04		
Peak Power [dBm]		26.54	26.48	26.44	26.54	0.04		

Statistic Count

20 / 20

Out of Tolerance

0.00 %

Detected Modulation

OPSK

Detected Channel Type

PUSCH

View Filter Throughput

100.0 %

PS:

Connection Established

RRC State: Connected

1.4MHz CH21650 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 900.0 MHz Ref Level: 41.00 dBm BW: 1.4 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		0				
	Current	Average	Extreme	StdDev				
EVM RMS [%] /h	3.93	4.09	3.83	3.97	3.96	4.12	0.08	0.11
EVM Peak [%] /h	11.92	12.25	12.57	12.94	13.68	14.09	0.69	0.75
EVM DMRS [%] /h	2.47	2.85	2.51	2.96	2.77	3.28	0.09	0.20
MErr RMS [%] /h	3.31	3.44	3.26	3.36	3.33	3.46	0.03	0.06
MErr Peak [%] /h	-11.64	-12.04	12.18	12.59	-13.17	-13.62	0.60	0.63
MErr DMRS [%] /h	1.89	1.94	2.04	2.17	2.35	2.54	0.17	0.24
PhErr RMS [%] /h	1.23	1.29	1.16	1.23	1.26	1.32	0.06	0.06
PhErr Peak [%] /h	3.60	-3.71	3.50	3.67	-4.11	-4.22	0.22	0.18
PhErr DMRS [%] /h	0.90	1.18	0.83	1.14	0.96	1.26	0.06	0.03
IQ Offset [dBc]		-50.54		-51.40		-50.24		0.45
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]		-3.22		-3.22		15.89		0.84
Timing Error [Ts]		-2.01		0.10		15.43		1.79
OBW [MHz]		0.19		0.19		0.19		0.01
		Current	Average	Min	Max	StdDev		
TX Power [dBm]		22.91	22.96	22.89	23.04	0.05		
Peak Power [dBm]		26.33	26.37	26.34	26.44	0.04		

Statistic Count 20 / 20 Out of Tolerance 0.00 % Detected Modulation QPSK Detected Channel Type PUSCH View Filter Throughput 100.0 %

PS: Connection Established RRC State: Connected

1.4MHz CH21650 5RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 900.0 MHz Ref Level: 41.00 dBm BW: 1.4 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	5 OffsetRB: 0								
		Current	Average	Extreme		StdDev				
EVM RMS [%] /h		3.28	3.50	3.89	4.13	4.47	4.75	0.56	0.58	
EVM Peak [%] /h		15.31	15.56	22.43	23.01	30.42	31.16	7.27	7.61	
EVM DMRS [%] /h		2.88	2.50	2.70	2.60	2.99	2.79	0.18	0.11	
MErr RMS [%] /h		2.82	2.88	3.49	3.60	4.11	4.27	0.62	0.67	
MErr Peak [%] /h		-15.06	-15.21	22.13	22.46	-30.03	-30.50	7.25	7.43	
MErr DMRS [%] /h		1.98	1.74	1.86	1.80	2.05	1.98	0.09	0.10	
PhErr RMS [%] /h		0.97	1.15	0.99	1.18	1.04	1.24	0.02	0.02	
PhErr Peak [%] /h		-5.11	-5.58	4.31	6.46	-5.54	-8.10	0.76	0.96	
PhErr DMRS [%] /h		1.20	1.03	1.12	1.08	1.29	1.19	0.10	0.04	
IQ Offset [dBc]			-50.53		-52.43		-49.63		1.98	
IQ Gain Imbalance [dB]										
IQ Quadrature Error [%]										
Freq Error [Hz]			0.96		4.99		21.51		4.63	
Timing Error [Ts]			7.40		8.52		13.99		0.94	
OBW [MHz]			0.87		0.88		0.89		0.01	
			Current		Average		Min		Max	StdDev
TX Power [dBm]			23.02		23.08		22.96		23.20	0.05
Peak Power [dBm]			27.11		27.30		26.95		27.58	0.11

Statistic Count: 20 / 20

Out of Tolerance: 0.00 %

Detected Modulation: QPSK

Detected Channel Type: PUSCH

View Filter Throughput: 100.0 %

PS: Connection Established RRC State: Connected

1.4MHz CH21793 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi Evaluation PRACH SRS

FDD Freq: 914.3 MHz Ref Level: 41.00 dBm BW: 1.4 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		0		StdDev		
		Current	Average	Extreme				
EVM RMS [%] /h	3.81	4.15	3.43	3.78	3.83	4.19	0.38	0.37
EVM Peak [%] /h	12.52	13.63	11.73	12.44	12.69	13.86	0.60	1.11
EVM DMRS [%] /h	2.40	2.92	2.26	2.94	2.58	3.10	0.16	0.05
MErr RMS [%] /h	3.33	3.66	2.91	3.30	3.36	3.68	0.44	0.37
MErr Peak [%] /h	-12.51	-12.68	11.39	11.93	-12.65	-13.10	0.93	0.80
MErr DMRS [%] /h	1.91	2.08	1.76	1.98	2.09	2.28	0.16	0.13
PhErr RMS [%] /h	1.07	1.14	1.05	1.07	1.11	1.18	0.02	0.06
PhErr Peak [%] /h	2.60	3.07	3.31	3.37	-4.28	-3.97	0.54	0.22
PhErr DMRS [%] /h	0.83	1.16	0.81	1.24	0.97	1.40	0.04	0.09
IQ Offset [dBc]		-55.48		-54.99		-53.51		0.46
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]		-1.40		-1.50		-9.38		0.84
Timing Error [Ts]		14.02		14.28		16.36		0.21
OBW [MHz]		0.21		0.21		0.21		0.00
		Current	Average	Min	Max	StdDev		
TX Power [dBm]		22.96	22.95	22.87	23.02	0.05		
Peak Power [dBm]		26.35	26.34	26.27	26.44	0.04		

Statistic Count 20 / 20 Out of Tolerance 0.00 % Detected Modulation QPSK Detected Channel Type PUSCH View Filter Throughput 100.0 %

PS: Connection Established RRC State: Connected

5MHz CH21525 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi Evaluation

PRACH

SRS

FDD

Freq.: 887.5 MHz

Ref Level: 41.00 dBm

BW: 5.0 MHz

CP: Normal

Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation

NoRB:

1 OffsetRB: 0

	Current	Average	Extreme	StdDev				
EVM RMS [%] /h	4.16	4.49	3.51	3.73	4.19	4.56	0.73	0.91
EVM Peak [%] /h	15.36	16.71	11.49	12.07	15.78	17.08	3.94	4.73
EVM DMRS [%] /h	2.79	2.75	2.55	2.73	2.95	2.97	0.30	0.06
MErr RMS [%] /h	3.58	3.88	3.04	3.25	3.61	3.93	0.61	0.74
MErr Peak [%] /h	-13.02	-16.29	10.05	11.73	-13.32	-16.83	2.92	4.78
MErr DMRS [%] /h	2.30	2.31	1.91	2.01	2.41	2.45	0.44	0.35
PhErr RMS [%] /h	1.24	1.33	1.04	1.08	1.30	1.39	0.25	0.32
PhErr Peak [%] /h	-5.02	-5.21	3.82	3.64	-5.65	-5.84	1.32	1.70
PhErr DMRS [%] /h	0.90	0.85	0.96	1.05	1.16	1.42	0.40	0.18
IQ Offset [dBc]	-53.99			-54.12		-52.69		0.38
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]	-3.68			-3.12		-9.40		4.01
Timing Error [Ts]	7.31			7.50		8.79		0.21
OBW [MHz]	0.21			0.22		0.23		0.01
	Current	Average	Min	Max	StdDev			
TX Power [dBm]	23.02	23.04	22.93	23.08	0.04			
Peak Power [dBm]	26.38	26.38	26.37	26.42	0.03			

Statistic Count

20 / 20

Out of Tolerance

0.00 %

Detected Modulation

QPSK

Detected Channel Type

PUSCH

View Filter

Throughput

100.0 %

PS:

Connection Established

RRC State: Connected

5MHz CH21650 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 900.0 MHz Ref Level: 41.00 dBm BW: 5.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB: 0						
		Current	Average	Extreme	StdDev			
EVM RMS [%] /h	3.30	3.32	3.80	4.07	4.30	4.77	0.47	0.70
EVM Peak [%] /h	12.83	12.84	12.67	15.33	13.07	18.32	0.20	2.54
EVM DMRS [%] /h	2.43	2.74	2.66	2.60	3.12	2.79	0.35	0.10
MErr RMS [%] /h	3.02	3.01	3.44	3.68	3.86	4.31	0.40	0.63
MErr Peak [%] /h	-12.83	-12.83	12.44	14.81	-13.06	-17.18	0.41	2.01
MErr DMRS [%] /h	1.89	1.90	1.98	1.95	2.28	2.13	0.23	0.10
PhErr RMS [%] /h	0.77	0.82	0.94	1.02	1.13	1.26	0.15	0.19
PhErr Peak [%] /h	-2.28	-2.39	3.67	3.80	-5.65	-5.52	1.36	1.37
PhErr DMRS [%] /h	0.87	1.12	1.01	0.97	1.22	1.17	0.15	0.14
IQ Offset [dBc]		-54.19		-53.91		-53.05		0.26
IQ Gain Imbalance [dB]								
IQ Quadrature Error [°]								
Freq Error [Hz]		3.15		3.55		6.45		1.09
Timing Error [Ts]		7.55		7.58		8.51		0.17
OBW [MHz]		0.23		0.21		0.23		0.01
		Current	Average	Min	Max	StdDev		
TX Power [dBm]		23.00	23.03	22.93	23.10	0.05		
Peak Power [dBm]		26.36	26.11	26.35	26.49	0.04		

Statistic Count20 / 20Out of Tolerance: 0.00 %Detected Modulation: QPSKDetected Channel Type: PUSCHView Filter Throughput: 100.0 %

PS: Connection Established RRC State: Connected

5MHz CH21650 1RB#24

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 900.0 MHz Ref Level: 41.00 dBm BW: 5.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB:		24				
		Current	Average	Extreme	StdDev			
EVM RMS [%] /h	4.72	4.78	4.19	4.21	4.77	4.82	0.60	0.63
EVM Peak [%] /h	13.92	18.76	13.62	15.96	14.02	18.80	0.15	2.62
EVM DMRS [%] /h	2.88	2.92	2.54	2.60	3.04	2.98	0.35	0.24
MErr RMS [%] /h	4.18	4.39	3.73	3.85	4.20	4.40	0.48	0.59
MErr Peak [%] /h	-13.31	-18.76	13.23	15.94	-13.78	-18.80	0.28	2.64
MErr DMRS [%] /h	2.24	2.00	2.06	1.95	2.37	2.11	0.19	0.05
PhErr RMS [%] /h	1.31	1.11	1.12	1.00	1.38	1.19	0.24	0.14
PhErr Peak [%] /h	6.09	4.86	4.37	3.65	6.61	5.42	1.87	1.32
PhErr DMRS [%] /h	1.02	1.21	0.84	0.97	1.14	1.24	0.20	0.21
IQ Offset [dBc]		-53.74		-53.46		-52.38		0.43
IQ Gain Imbalance [dB]								
IQ Quadrature Error [°]								
Freq Error [Hz]		0.74		0.14		9.14		1.24
Timing Error [Ts]		9.07		9.53		10.77		0.22
OBW [MHz]		0.19		0.19		0.19		0.01
		Current	Average	Min	Max	StdDev		
TX Power [dBm]		23.01	23.04	22.91	23.10	0.05		
Peak Power [dBm]		26.25	26.37	26.46	26.35	0.01		

Statistic Count 20 / 20 Out of Tolerance: 0.00 % Detected Modulation: QPSK Detected Channel Type: PUSCH View Filter Throughput: 100.0 %

PS: Connection Established RRC State: Connected

5MHz CH21650 8RB#0

Multi Evaluation

PRACH

SRS

FDD

Freq: 900.0 MHz

Ref Level: 41.00 dBm

BW: 5.0 MHz

CP: Normal

Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation

NoRB:

8 OffsetRB: 0

0

	Current	Average	Extreme	StdDev						
EVM RMS [%] /h	2.95	3.28	3.20	3.40	3.48	3.55	0.26	0.11		
EVM Peak [%] /h	20.99	24.27	22.62	23.21	24.97	25.62	1.63	1.53		
EVM DMRS [%] /h	2.20	3.08	2.47	2.79	2.78	3.27	0.23	0.38		
MErr RMS [%] /h	2.53	2.83	2.81	2.96	3.10	3.11	0.27	0.12		
MErr Peak [%] /h	-20.99	-22.49	21.55	20.30	-22.74	-23.33	0.55	2.48		
MErr DMRS [%] /h	1.16	1.82	1.49	1.66	1.82	1.94	0.29	0.19		
PhErr RMS [%] /h	0.88	0.97	0.90	0.98	0.95	1.01	0.03	0.01		
PhErr Peak [%] /h	4.59	9.42	5.57	9.11	-7.43	10.56	1.03	0.64		
PhErr DMRS [%] /h	1.07	1.43	1.13	1.28	1.24	1.52	0.05	0.20		
IQ Offset [dBc]		-50.94		-51.91		-50.44		1.10		
IQ Gain Imbalance [dB]										
IQ Quadrature Error [°]										
Freq Error [Hz]		-3.40		-2.78		-7.28		1.12		
Timing Error [Ts]		6.36		6.34		7.11		0.16		
OBW [MHz]		1.41		1.41		1.41		0.00		
		Current		Average		Min		Max		StdDev
TX Power [dBm]		23.07		23.11		23.04		23.17		0.05
Peak Power [dBm]		26.89		26.91		26.87		26.99		0.01

Statistic Count

20 / 20

Out of Tolerance

0.00 %

Detected Modulation

QPSK

Detected Channel Type

PUSCH

View Filter Throughput

100.0 %

PS:

Connection Established

RRC State: Connected

5MHz CH21775 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement										
Multi Evaluation PRACH SRS										
FDD	Freq: 912.5 MHz	Ref Level: 41.00 dBm	BW: 5.0 MHz	CP: Normal	Meas Subfr/Slot: 1 / All					
TX Measurement										
Detected Allocation	NoRB:	1 OffsetRB:		0						
		Current	Average	Extreme	StdDev					
EVM RMS [%] /h	3.42	3.49	3.77	3.99	4.17	4.52	0.37	0.51		
EVM Peak [%] /h	12.18	12.90	15.97	17.10	20.53	21.87	4.03	4.26		
EVM DMRS [%] /h	2.09	2.93	2.61	2.87	3.20	3.04	0.50	0.05		
MErr RMS [%] /h	3.01	3.04	3.39	3.55	3.81	4.07	0.40	0.50		
MErr Peak [%] /h	-12.16	-12.30	15.86	15.22	-20.27	-18.79	3.94	3.05		
MErr DMRS [%] /h	2.01	2.11	2.39	2.32	2.90	2.72	0.37	0.26		
PhErr RMS [%] /h	0.95	1.00	0.97	1.09	1.04	1.23	0.03	0.10		
PhErr Peak [%] /h	-2.74	3.22	3.34	5.00	4.36	7.57	0.55	2.04		
PhErr DMRS [%] /h	0.34	1.16	0.59	0.97	0.88	1.20	0.23	0.19		
IQ Offset [dBc]		-53.97		-53.27		-52.23		0.35		
IQ Gain Imbalance [dB]										
IQ Quadrature Error [°]										
Freq Error [Hz]		3.98		3.43		8.68		0.97		
Timing Error [Ts]		9.07		8.64		10.15		1.31		
OBW [MHz]		0.23		0.22		0.23		0.01		
		Current	Average	Min	Max	StdDev				
TX Power [dBm]		23.00	22.97	22.86	23.01	0.04				
Peak Power [dBm]		26.67	26.61	26.57	26.68	0.01				
Statistic Count Out of Tolerance Detected Modulation Detected Channel Type View Filter Throughput										
20 / 20		0.00 %		QPSK		PUSCH		100.0 %		
PS: Connection Established RRC State: Connected										

5MHz CH21775 1RB#24

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 912.5 MHz Ref Level: 41.00 dBm BW: 5.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB: 24							
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h		3.62	3.77	3.98	4.10	4.39	4.46	0.36	0.32
EVM Peak [%] /h		13.49	13.95	16.24	16.50	19.48	19.55	2.85	2.66
EVM DMRS [%] /h		2.34	2.49	2.66	2.70	3.07	3.09	0.30	0.30
MErr RMS [%] /h		3.23	3.44	3.58	3.73	3.95	4.04	0.34	0.30
MErr Peak [%] /h		-13.15	-13.67	16.01	16.14	-19.43	-19.18	3.02	2.64
MErr DMRS [%] /h		1.74	1.87	2.28	2.29	2.87	2.84	0.54	0.50
PhErr RMS [%] /h		0.94	0.90	1.02	1.00	1.15	1.14	0.08	0.10
PhErr Peak [%] /h		-2.98	-3.11	3.61	3.55	4.93	4.57	0.69	0.52
PhErr DMRS [%] /h		0.89	0.94	0.78	0.82	1.01	1.04	0.17	0.13
IQ Offset [dBc]		-52.34		-51.56		-50.77			0.31
IQ Gain Imbalance [dB]		----		----		----			
IQ Quadrature Error [°]		----		----		----			
Freq Error [Hz]		7.51		6.31		10.30			1.62
Timing Error [Ts]		6.81		7.03		8.20			0.23
OBW [MHz]		0.19		0.20		0.21			0.01
		Current		Average		Min	Max		StdDev
TX Power [dBm]		22.91		22.90		22.89	22.93		0.01
Peak Power [dBm]		26.38		26.37		26.32	26.40		0.01

Statistic Count 20 / 20 Out of Tolerance 0.00 % Detected Modulation QPSK Detected Channel Type PUSCH View Filter Throughput 100.0 %

PS: Connection Established (ARC State: Connected)

10MHz CH21550 1RB#49

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 890.0 MHz Ref Level: 40.70 dBm BW: 10.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB: 49							
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h	3.08	3.24	2.46	2.68	3.10	3.28	0.74	0.65	
EVM Peak [%] /h	11.06	12.16	8.31	10.82	11.30	12.46	2.66	1.41	
EVM DMRS [%] /h	2.34	2.54	1.97	2.00	2.48	2.64	0.42	0.68	
MErr RMS [%] /h	2.77	2.93	2.17	2.38	2.78	2.95	0.71	0.65	
MErr Peak [%] /h	-10.90	-12.06	8.23	9.98	-11.18	-12.25	2.60	2.13	
MErr DMRS [%] /h	2.10	2.09	1.65	1.62	2.21	2.17	0.58	0.59	
PhErr RMS [%] /h	0.77	0.81	0.67	0.72	0.82	0.85	0.14	0.10	
PhErr Peak [%] /h	1.95	3.19	1.82	3.10	2.60	3.58	0.38	0.18	
PhErr DMRS [%] /h	0.59	0.83	0.62	0.67	0.72	0.90	0.05	0.20	
IQ Offset [dBc]		-52.63		-53.01		-52.32			0.29
IQ Gain Imbalance [dB]									
IQ Quadrature Error [%]									
Freq Error [Hz]		5.71		4.88		9.41		1.04	
Timing Error [Ts]		7.83		7.75		9.01		0.28	
OBW [MHz]		0.23		0.21		0.23		0.01	
		Current	Average	Min	Max	StdDev			
TX Power [dBm]		23.07	23.17	23.07	23.25	0.06			
Peak Power [dBm]		26.59	26.66	26.59	26.78	0.05			
Statistic Count	20 / 20								
Out of Tolerance	0.00 %								
Detected Modulation	OPSK								
Detected Channel Type	PUSCH								
View Filter Throughput	100.0 %								
PS: Connection Established									
RRC State: Connected									

10MHz CH21650 1RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement										
Multi Evaluation PRACH SRS										
FDD	Freq: 900.0 MHz	Ref Level: 41.00 dBm	BW: 10.0 MHz	CP: Normal	Meas Subfr/Slot: 1 / All					
TX Measurement										
Detected Allocation	NoRB:	1 OffsetRB: 0								
		Current	Average	Extreme	StdDev					
EVM RMS [%] /h	1.80	1.93	2.30	2.43	2.76	2.90	0.46	0.46		
EVM Peak [%] /h	7.72	7.65	8.53	8.59	9.55	9.74	0.64	0.77		
EVM DMRS [%] /h	1.07	1.12	1.69	1.59	2.27	2.09	0.52	0.40		
MErr RMS [%] /h	1.60	1.68	2.09	2.16	2.54	2.60	0.46	0.44		
MErr Peak [%] /h	-7.71	-7.64	8.52	8.57	-9.49	-9.68	0.63	0.75		
MErr DMRS [%] /h	0.91	0.94	1.39	1.37	1.90	1.78	0.43	0.37		
PhErr RMS [%] /h	0.47	0.54	0.54	0.64	0.64	0.76	0.07	0.09		
PhErr Peak [%] /h	1.76	2.55	1.59	2.30	2.08	2.83	0.14	0.23		
PhErr DMRS [%] /h	0.33	0.34	0.54	0.47	0.78	0.69	0.18	0.11		
IQ Offset [dBc]		-51.10		-51.29		-50.93		0.20		
IQ Gain Imbalance [dB]										
IQ Quadrature Error [%]										
Freq Error [Hz]		-1.07		-0.57		-2.95		0.84		
Timing Error [Ts]		7.91		8.30		10.57		0.44		
OBW [MHz]		0.19		0.19		0.19		0.00		
		Current	Average	Min	Max	StdDev				
TX Power [dBm]		23.09	23.12	23.06	23.20	0.05				
Peak Power [dBm]		26.55	26.50	26.54	26.69	0.05				
Statistic Count 20 / 20 Out of Tolerance 0.00 % Detected Modulation QPSK Detected Channel Type PUSCH View Filter Throughput 100.0 %										
PS: Connection Established RRC State: Connected										

10MHz CH21650 1RB#49

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 900.0 MHz Ref Level: 41.00 dBm BW: 10.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	1 OffsetRB: 49							
		Current	Average	Extreme	StdDev				
EVM RMS [%] /h	2.99	3.08	2.56	2.64	3.01	3.10	0.47	0.50	
EVM Peak [%] /h	10.06	10.77	8.88	9.53	10.30	11.35	1.20	1.51	
EVM DMRS [%] /h	2.04	2.15	1.78	1.94	2.14	2.27	0.32	0.24	
MErr RMS [%] /h	2.72	2.82	2.31	2.40	2.74	2.85	0.46	0.48	
MErr Peak [%] /h	-9.83	-10.61	8.53	9.27	-10.00	-11.25	1.29	1.67	
MErr DMRS [%] /h	1.78	1.65	1.47	1.49	1.84	1.73	0.34	0.18	
PhErr RMS [%] /h	0.73	0.72	0.65	0.63	0.75	0.74	0.07	0.09	
PhErr Peak [%] /h	2.04	2.07	1.84	1.95	2.24	-2.38	0.15	0.16	
PhErr DMRS [%] /h	0.57	0.79	0.57	0.71	0.71	0.89	0.06	0.10	
IQ Offset [dBc]		-51.37		-51.03		-50.41		0.23	
IQ Gain Imbalance [dB]									
IQ Quadrature Error [%]									
Freq Error [Hz]		1.82		0.86		-8.53		1.10	
Timing Error [Ts]		8.66		8.36		10.88		0.71	
OBW [MHz]		0.21		0.22		0.23		0.01	
		Current	Average	Min	Max	StdDev			
TX Power [dBm]		23.08	22.99	22.98	23.08	0.02			
Peak Power [dBm]		26.54	26.40	26.35	26.54	0.03			

Statistic Count20 / 20

Out of Tolerance0.00 %

Detected ModulationOPSK

Detected Channel TypePUSCH

View Filter Throughput100.0 %

PS: Connection Established
RRC State: Connected

10MHz CH21650 12RB#0

CMW 500 V 3.7.22 - LTE Measurement - V3.7.30 - TX Measurement

Multi EvaluationPRACHSRS

FDD Freq: 900.0 MHz Ref Level: 41.00 dBm BW: 10.0 MHz CP: Normal Meas Subfr/Slot: 1 / All

TX Measurement

Detected Allocation	NoRB:	12 OffsetRB: 0						StdDev
		Current	Average	Extreme				
EVM RMS [%] /h	3.03	3.08	2.86	2.99	3.07	3.10	0.19	0.09
EVM Peak [%] /h	22.73	22.78	19.70	20.94	23.58	23.64	3.37	2.18
EVM DMRS [%] /h	1.85	2.03	1.76	2.01	1.92	2.08	0.11	0.02
MErr RMS [%] /h	2.70	2.74	2.54	2.65	2.72	2.76	0.18	0.10
MErr Peak [%] /h	-22.52	-22.55	19.56	20.76	-23.16	-23.20	3.25	2.07
MErr DMRS [%] /h	1.55	1.63	1.45	1.60	1.59	1.68	0.10	0.03
PhErr RMS [%] /h	0.80	0.82	0.77	0.81	0.83	0.84	0.04	0.01
PhErr Peak [%] /h	-4.27	5.03	4.42	5.07	-5.15	-6.03	0.22	0.39
PhErr DMRS [%] /h	0.57	0.70	0.56	0.69	0.63	0.76	0.02	0.03
IQ Offset [dBc]		-52.50		-53.14		-52.12		0.48
IQ Gain Imbalance [dB]								
IQ Quadrature Error [%]								
Freq Error [Hz]		1.24		-0.09		-6.57		2.03
Timing Error [Ts]		8.04		8.29		10.30		0.70
OBW [MHz]		2.13		2.12		2.13		0.01
		Current	Average	Min	Max		StdDev	
TX Power [dBm]		23.06	23.07	23.06	23.17		0.02	
Peak Power [dBm]		27.10	27.07	26.96	27.25		0.08	

Statistics Count 20 / 20 Out of Tolerance 0.00 % Detected Modulation QPSK Detected Channel Type PUSCH View Filter Throughput 100.0 %

PS: Connection Established
PRC State: Connected

5.2 發射頻譜波罩

5.2.1 合格標準

需符合下表之頻譜波罩規範值

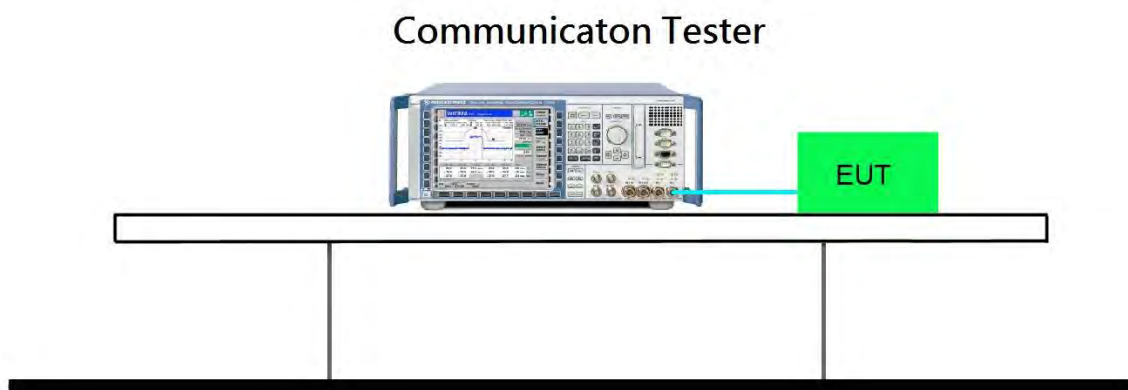
Δf_{OOB} (MHz)	發射限制值(dB)/頻道頻寬						
	1.4MHz	3MHz	5MHz	10MHz	15MHz	20MHz	解析頻寬
± 0 to 1	-8.5	-11.5	-13.5	-16.5	-18.5	-19.5	30kHz
± 1 to 2.5	-8.5	-8.5	-8.5	-8.5	-8.5	-8.5	1MHz
± 2.5 to 2.8	-23.5	-8.5	-8.5	-8.5	-8.5	-8.5	1MHz
± 2.8 to 5		-8.5	-8.5	-8.5	-8.5	-8.5	1MHz
± 5 to 6		-23.5	-11.5	-11.5	-11.5	-11.5	1MHz
± 6 to 10			-23.5	-11.5	-11.5	-11.5	1MHz
± 10 to 15				-23.5	-11.5	-11.5	1MHz
± 15 to 20					-23.5	-11.5	1MHz
± 20 to 25						-23.5	1MHz

備註： Δf_{OOB} 是發射頻帶外的頻率偏移量 (Δ Frequency of Out-of-band emission)

5.2.2 測試方法

- (1) 頻譜波罩限制值依頻道頻寬及 Δf_{OOB} 而不同，量測時的解析頻寬不小於上表的設定值。
- (2) 檢測頻道為低、中、高三個頻道，對最低、5MHz、10MHz及最高的工作頻寬之調變級數發射模式，均應分別檢測之。
- (3) 其餘相關規定請參照 3GPP 36.521-1。

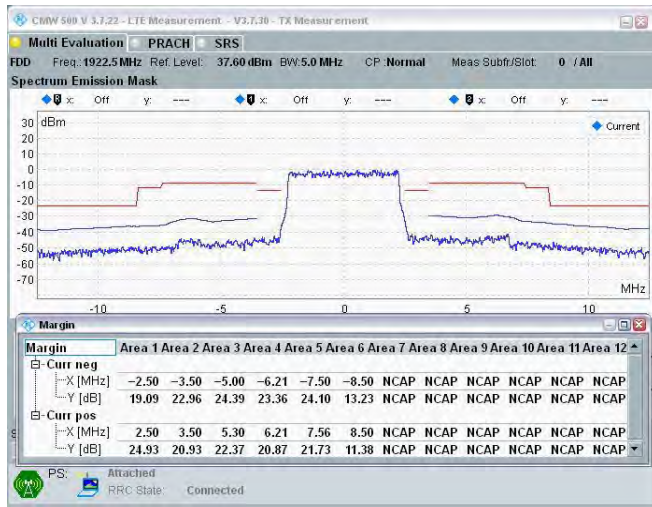
5.2.3 實驗方法方塊圖



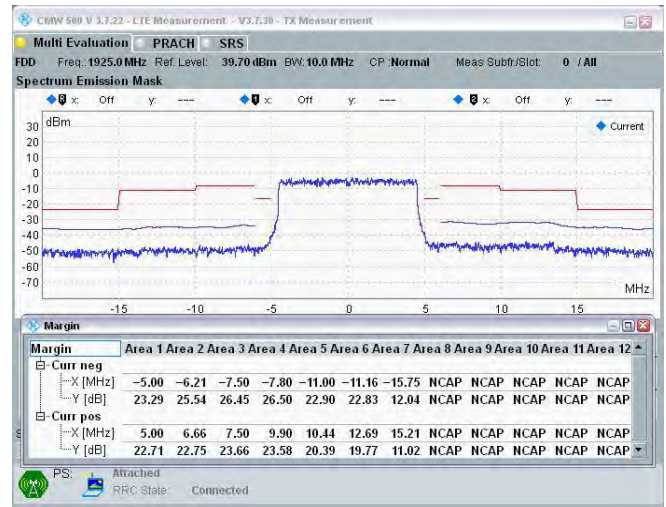
5.2.4 實驗數據

Band 1 (2100MHz)-Full RB														
Modulation	Test CH	CH	ΔF_{OOB} (MHz)	RB No.	RB Offset	MHz / Margin(dB)								
						± 0 to 1	± 1 to 2.5	± 2.5 to 2.8	± 2.8 to 5	± 5 to 6	± 6 to 10	± 10 to 15	± 15 to 20	± 20 to 25
QPSK	LOW	18025	5MHz	25	0	19.09	20.93		21.73	11.38	N/A	N/A	N/A	
		18050	10MHz	50	0	22.71	22.75		19.77		11.02	N/A	N/A	
		18100	20MHz	100	0	21.25	23.46		23.36				14.56	
	MID	18300	5MHz	25	0	20.75	18.18		21.19	10.85	N/A	N/A	N/A	
			10MHz	50	0	23.13	21.19		19.10		12.15	N/A	N/A	
			20MHz	100	0	20.82	22.10		21.14				15.14	
	HIGH	18575	5MHz	25	0	20.30	19.80		21.78	9.88	N/A	N/A	N/A	
		18550	10MHz	50	0	22.40	22.33		21.99		13.23	N/A	N/A	
		18500	20MHz	100	0	24.42	24.08		21.61				14.70	
16-QAM	LOW	18025	5MHz	25	0	22.65	21.14		22.59	11.79	N/A	N/A	N/A	
		18050	10MHz	50	0	26.21	22.33		20.06		11.42	N/A	N/A	
		18100	20MHz	100	0	22.69	22.98		22.68				14.55	
	MID	18300	5MHz	25	0	23.90	19.02		21.69	11.21	N/A	N/A	N/A	
			10MHz	50	0	24.60	21.06		19.63		12.08	N/A	N/A	
			20MHz	100	0	24.93	23.50		21.20				15.12	
	HIGH	18575	5MHz	25	0	22.03	19.78		21.75	11.08	N/A	N/A	N/A	
		18550	10MHz	50	0	27.11	23.01		21.63		13.28	N/A	N/A	
		18500	20MHz	100	0	25.52	24.16		22.60				14.65	

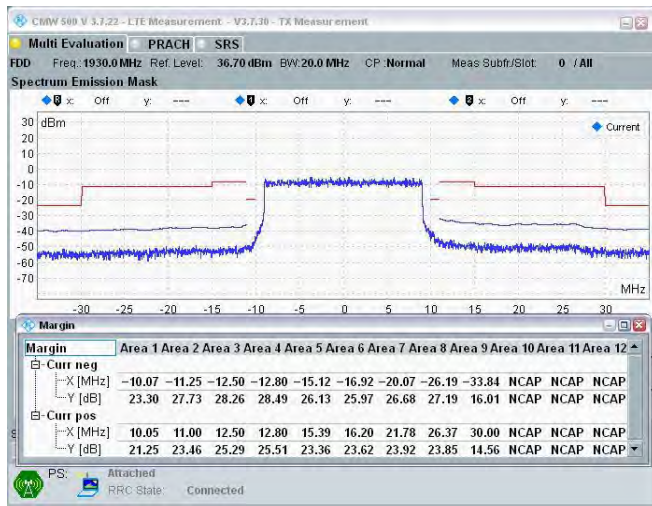
QPSK 5MHz CH18025 25RB#0



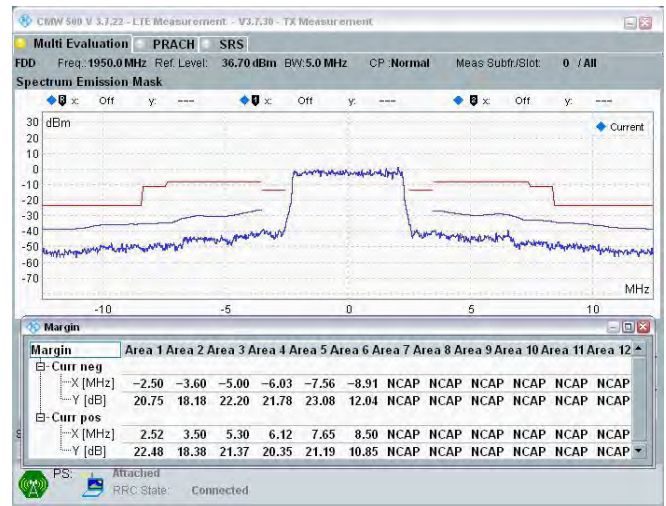
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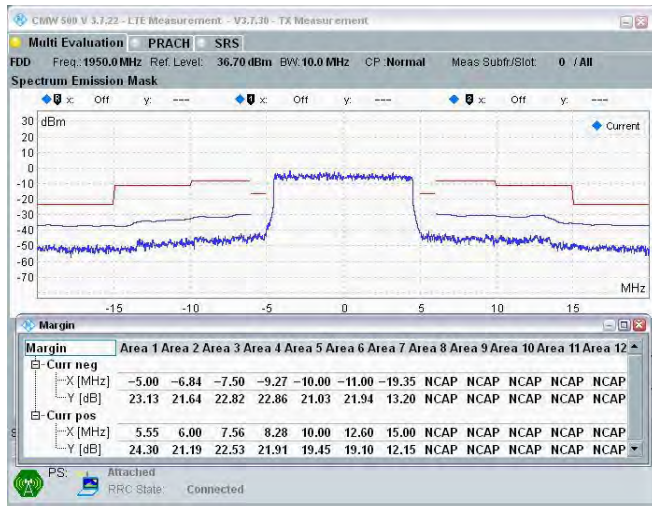
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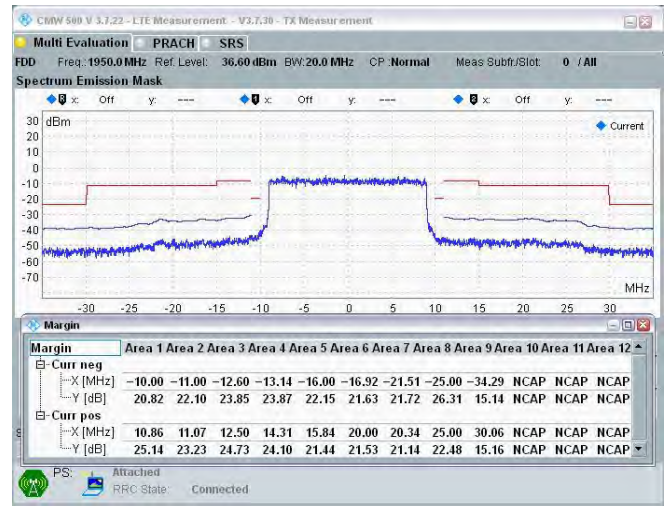
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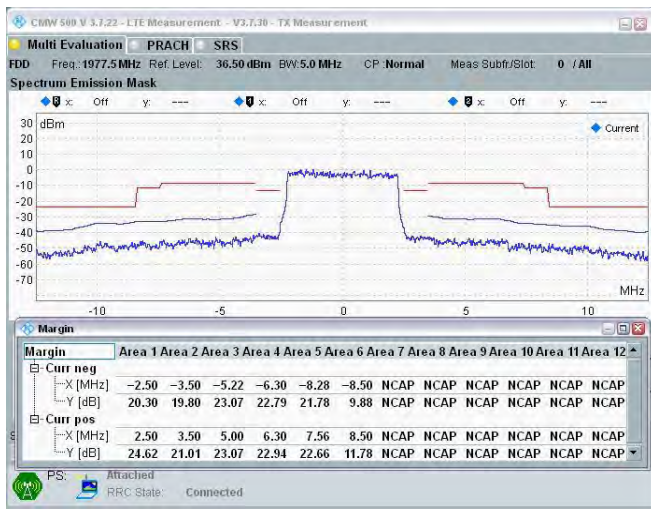
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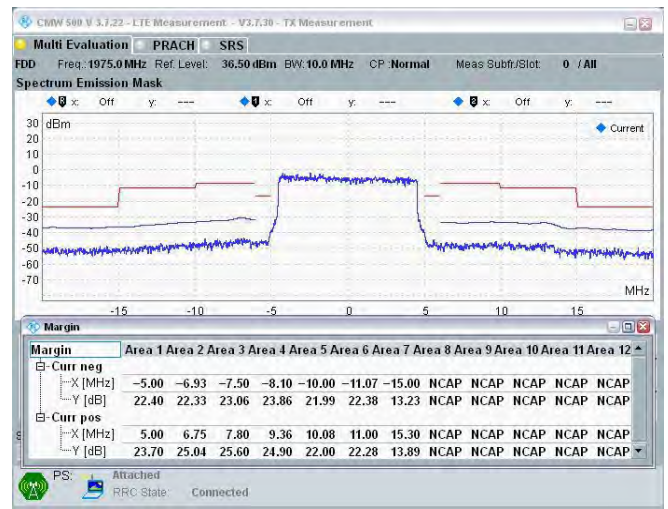
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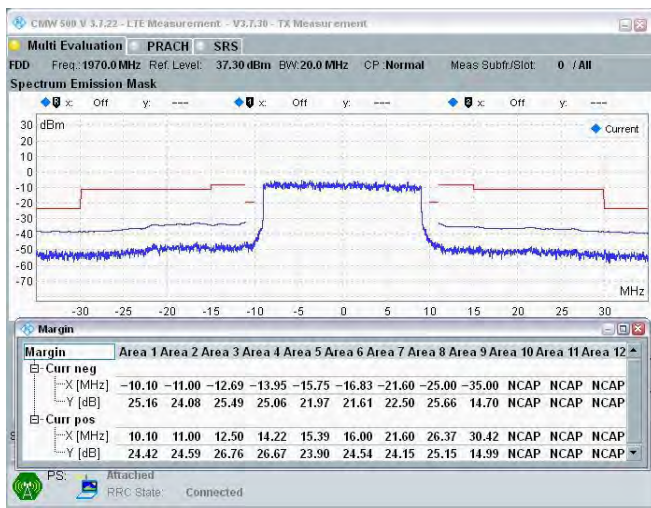
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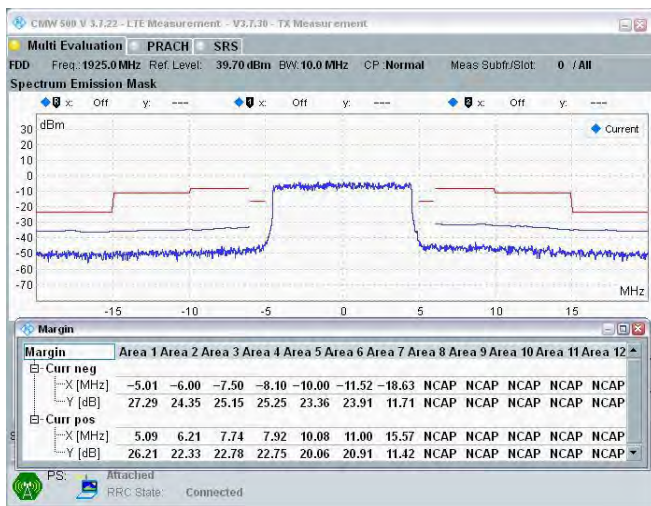
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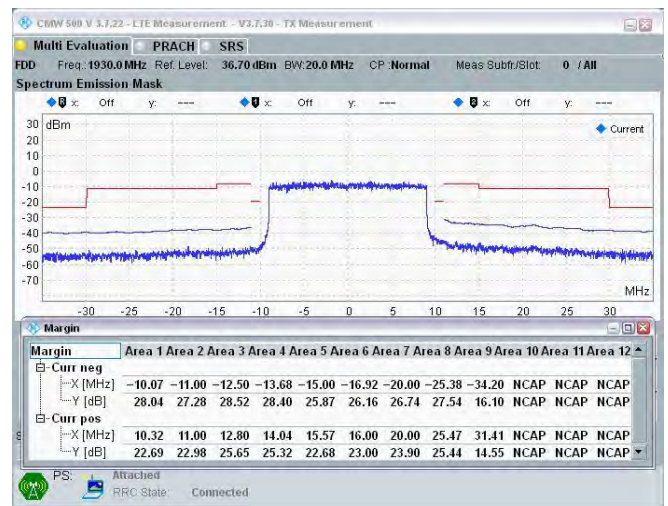
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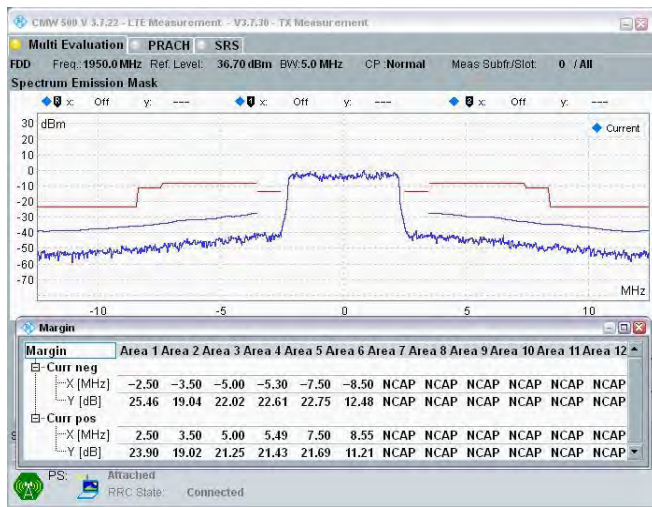
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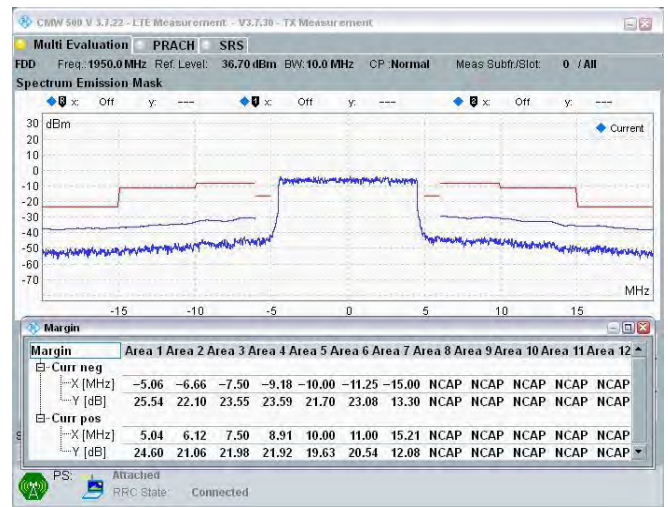
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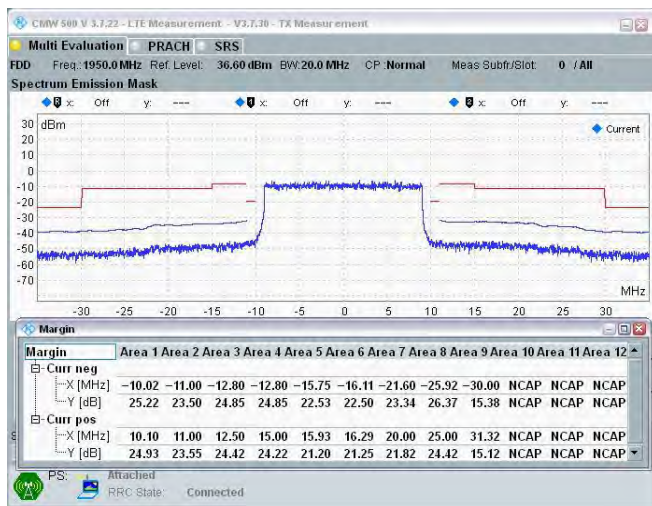
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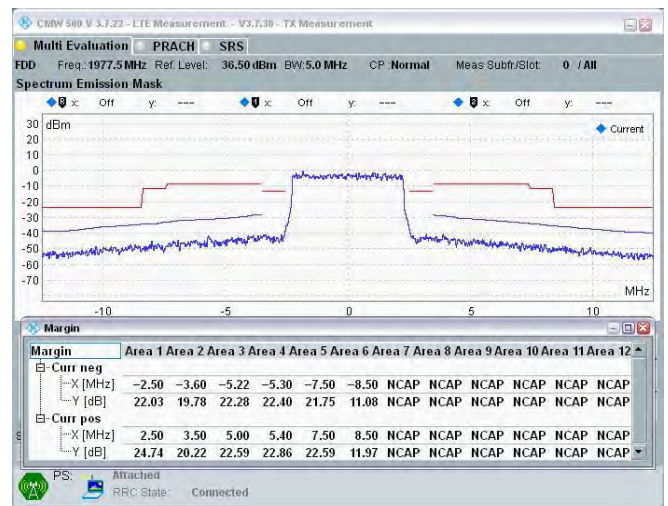
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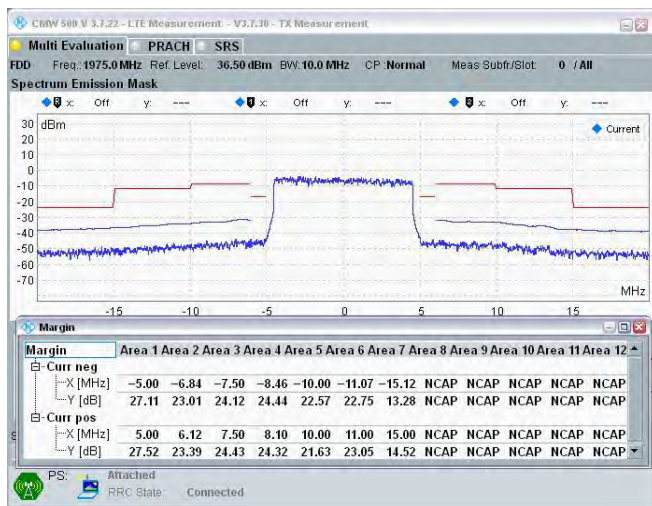
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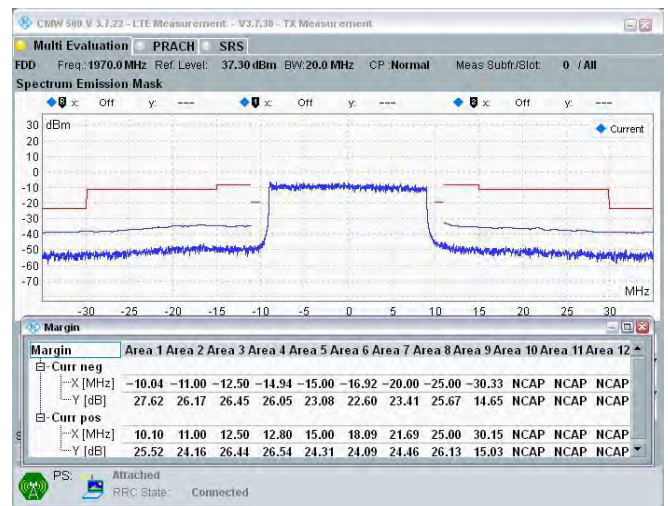
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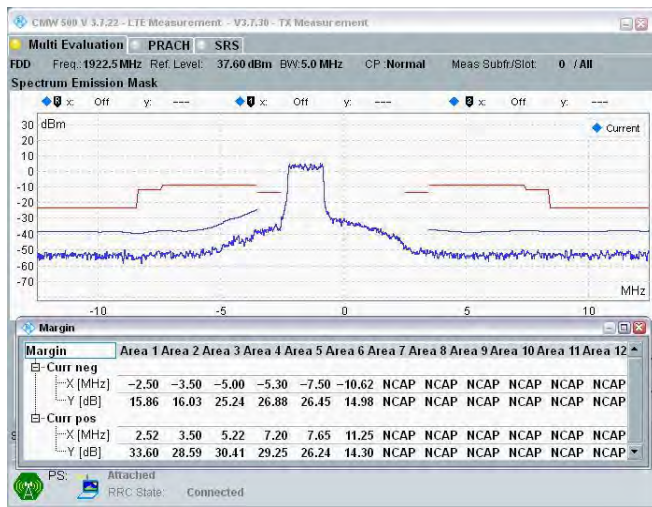


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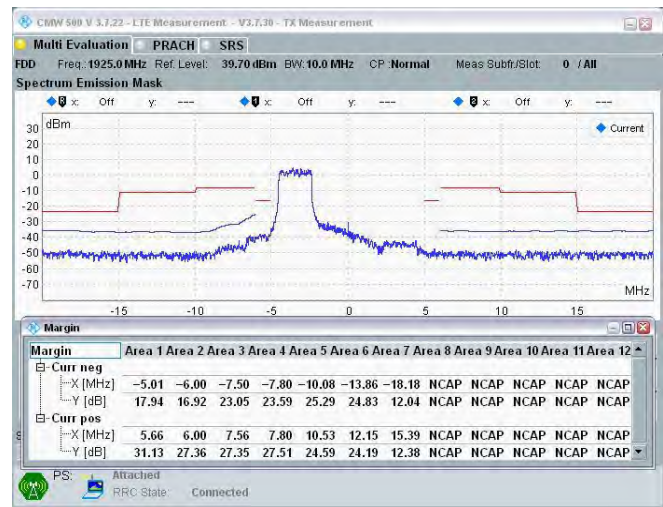


Band 1 (2100MHz)-Partial RB(#0)														
Modulation	Test CH	CH	ΔF_{OOB} (MHz)	RB No.	RB Offset	MHz / Margin(dB)								
						± 0 to 1	± 1 to 2.5	± 2.5 to 2.8	± 2.8 to 5	± 5 to 6	± 6 to 10	± 10 to 15	± 15 to 20	± 20 to 25
QPSK	LOW	18025	5MHz	8	0	15.86	16.03		26,24		14.30	N/A	N/A	N/A
		18050	10MHz	12	0	17.94	16.92		24.19		12.04	N/A	N/A	N/A
		18100	20MHz	18	0	20.19	20.79		26.35					15.62
	MID	18300	5MHz	8	0	20.01	17.12		27.91	15.49	N/A	N/A	N/A	N/A
			10MHz	12	0	17.62	17.39		16.92		15.09	N/A	N/A	N/A
			20MHz	18	0	17.99	20.78		25.18					15.88
	HIGH	18575	5MHz	8	0	18.30	16.23		28.59	16.23	N/A	N/A	N/A	N/A
		18550	10MHz	12	0	18.18	17.76		27.23		15.67	N/A	N/A	N/A
		18500	20MHz	18	0	15.90	18.43		24.69					15.30
16-QAM	LOW	18025	5MHz	8	0	13.04	16.30		27.09	14.50	N/A	N/A	N/A	N/A
		18050	10MHz	12	0	18.85	17.51		24.32		12.45	N/A	N/A	N/A
		18100	20MHz	18	0	20.78	20.67		26.44					15.58
	MID	18300	5MHz	8	0	21.92	17.22		27.59	15.57	N/A	N/A	N/A	N/A
			10MHz	12	0	21.69	17.84		27.16		15.14	N/A	N/A	N/A
			20MHz	18	0	21.12	20.44		25.09					16.01
	HIGH	18575	5MHz	8	0	19.18	16.39		28.03	15.86	N/A	N/A	N/A	N/A
		18550	10MHz	12	0	19.42	18.14		27.64		15.76	N/A	N/A	N/A
		18500	20MHz	18	0	18.91	18.37		24.55					15.10

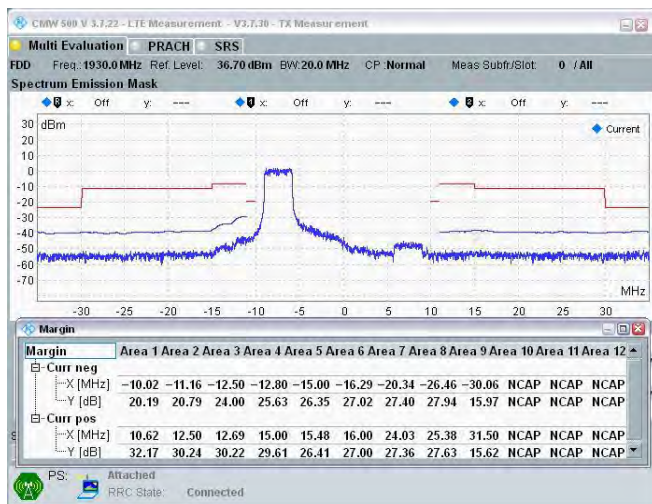
QPSK 5MHz CH18025 8RB#0



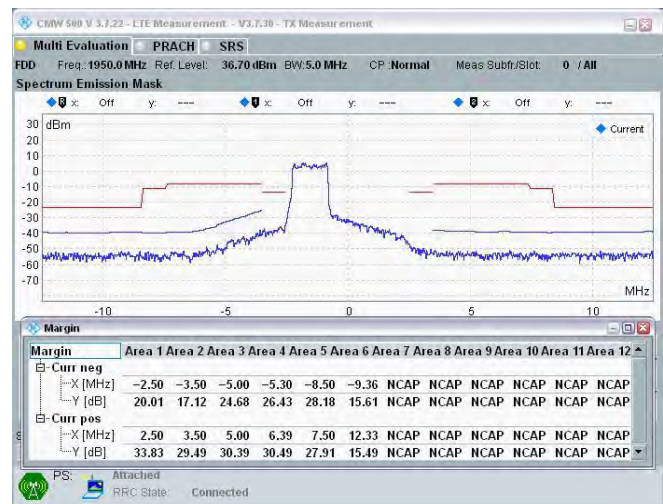
QPSK 10MHz CH18050 12RB#0



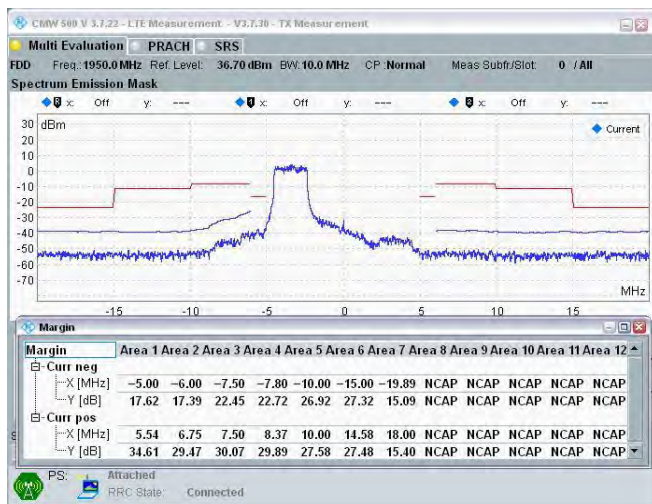
QPSK 20MHz CH18100 18RB#0



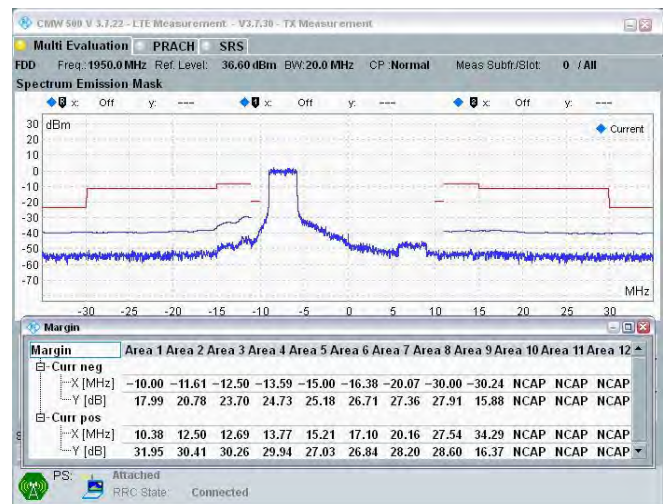
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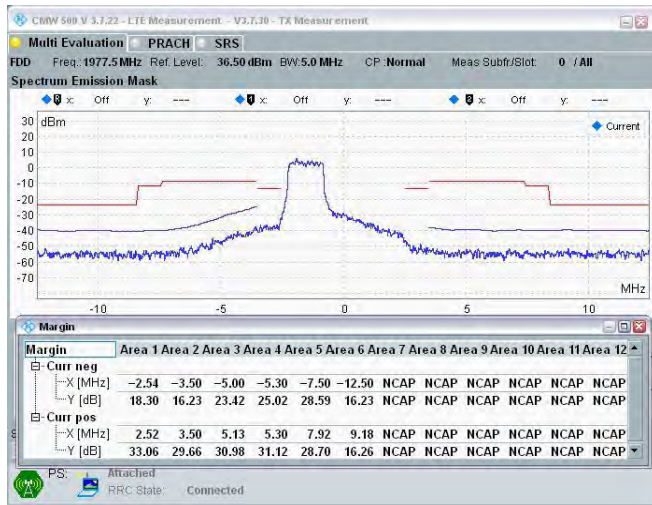
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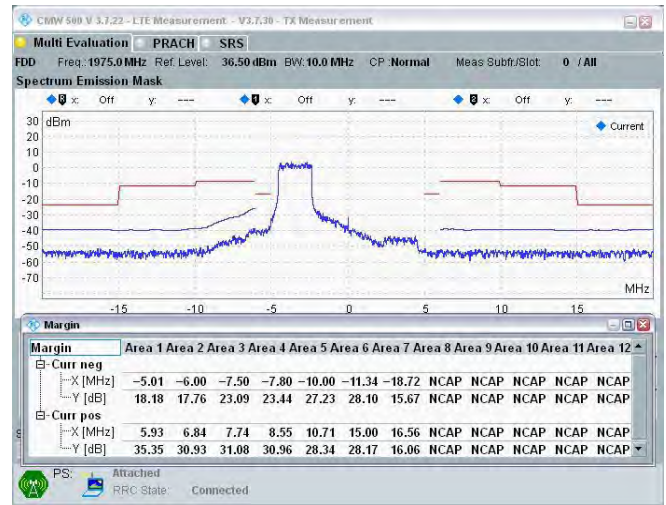
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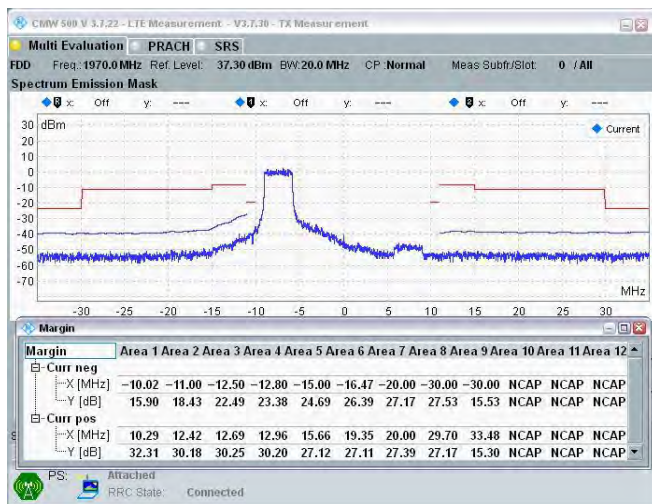
QPSK 5MHz CH18575 8RB#0



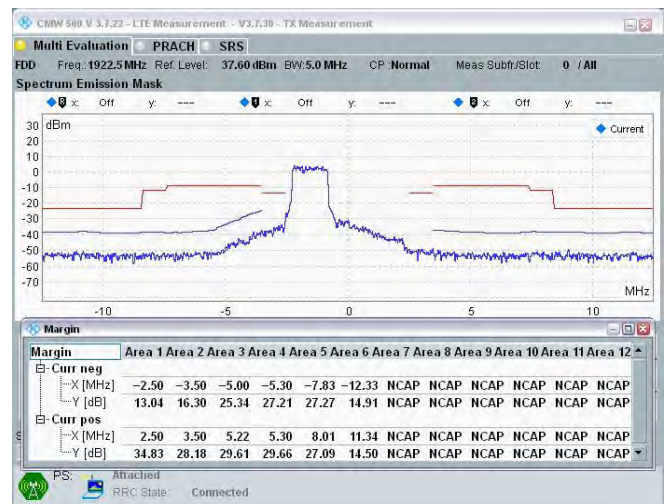
QPSK 10MHz CH18550 12RB#0



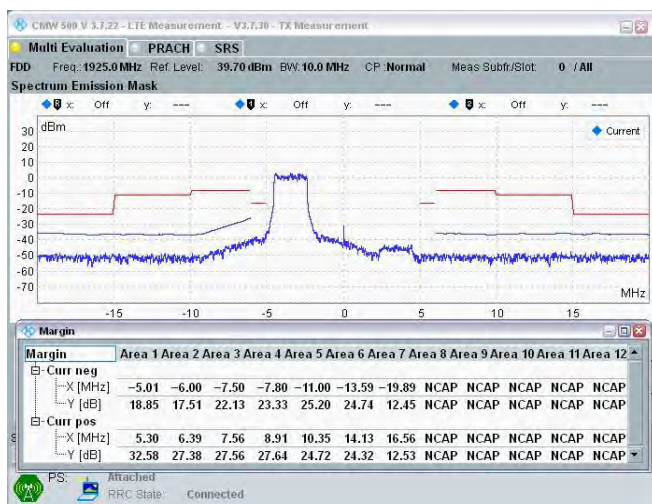
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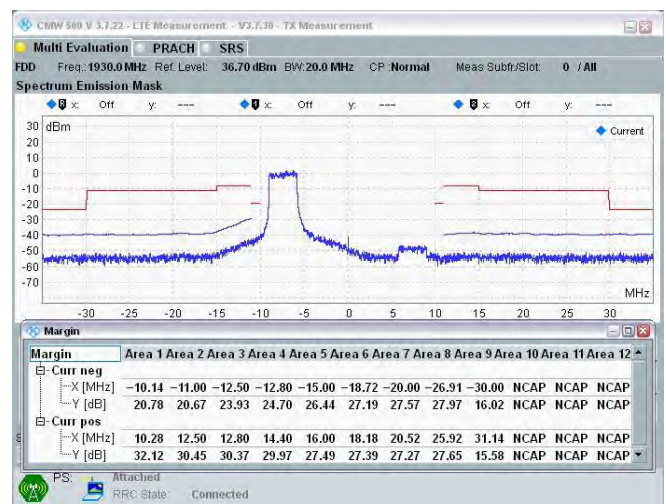
16-QAM 5MHz CH18025 8RB#0



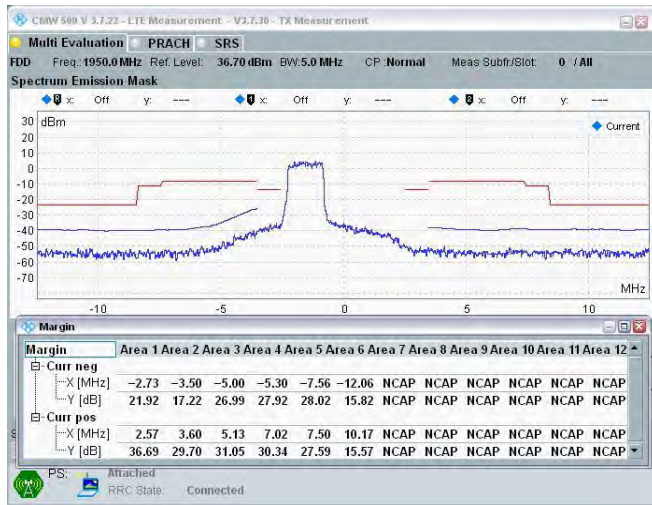
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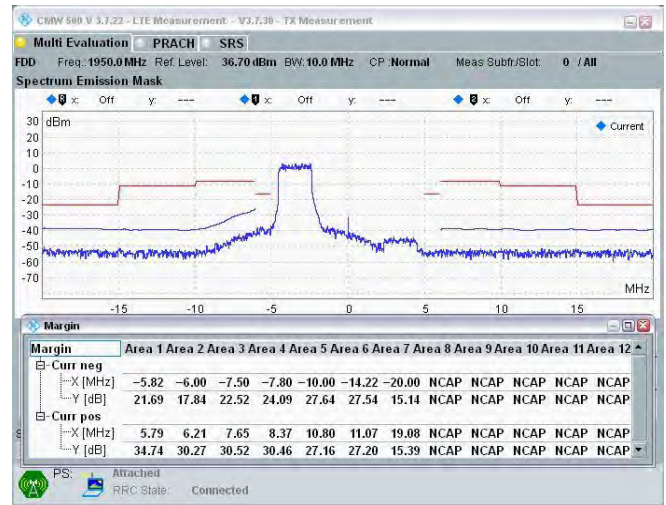
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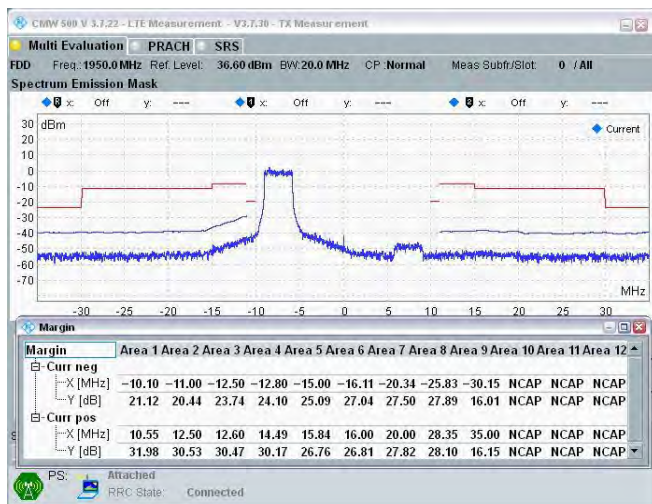
16-QAM 5MHz CH18300 8RB#0



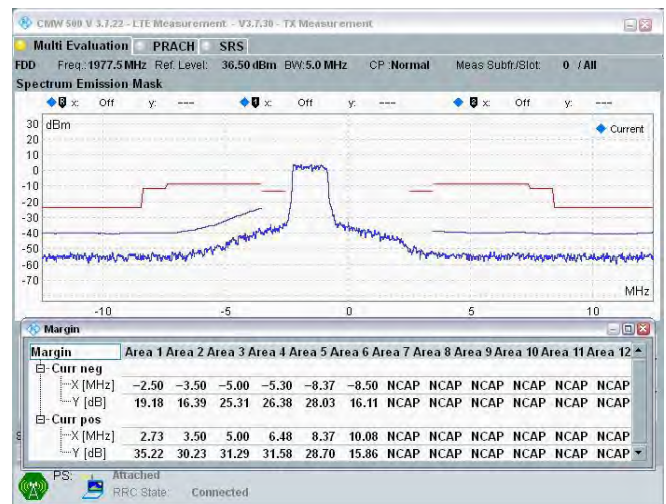
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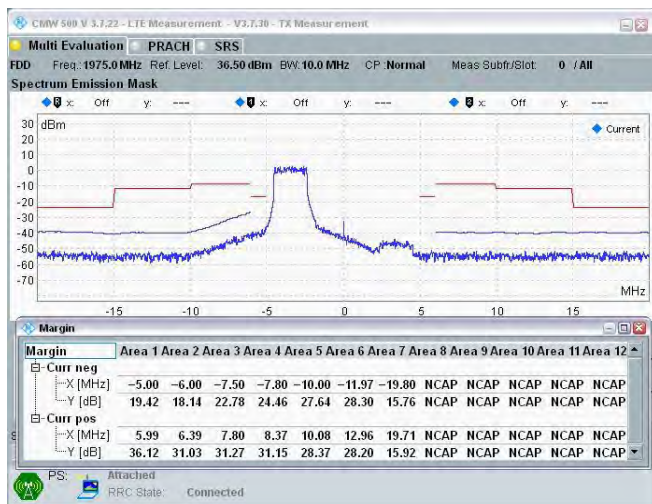
16-QAM 20MHz CH18300 18RB#0



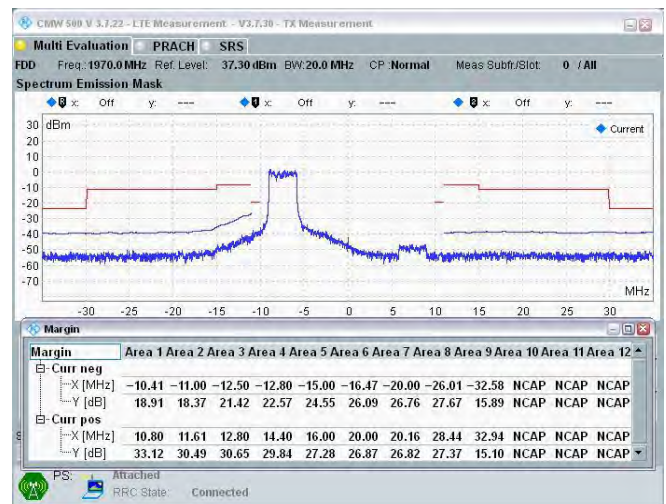
16-QAM 5MHz CH18575 8RB#0



16-QAM 10MHz CH18550 12RB#0

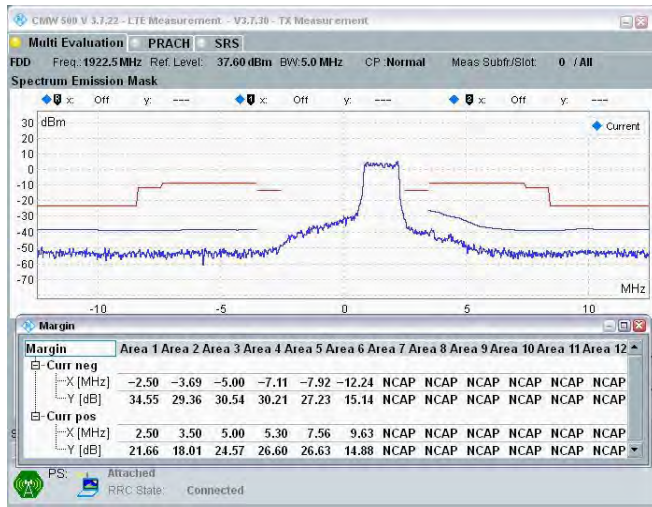


16-QAM 20MHz CH18500 18RB#0

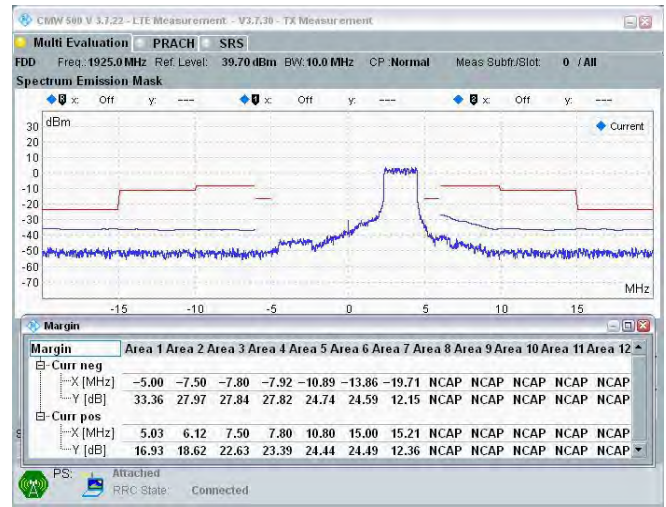


Band 1 (2100MHz)-Partial RB(#Max+1-RB allocation)														
Modulation	Test CH	CH	ΔF_{OOB} (MHz)	RB No.	RB Offset	MHz / Margin(dB)								
						± 0 to 1	± 1 to 2.5	± 2.5 to 2.8	± 2.8 to 5	± 5 to 6	± 6 to 10	± 10 to 15	± 15 to 20	± 20 to 25
QPSK	LOW	18025	5MHz	8	17	21.66	18.01			26.63	14.88	N/A	N/A	N/A
		18050	10MHz	12	38	16.93	18.62			24.44		12.15	N/A	N/A
		18100	20MHz	18	82	15.74	20.05			24.66				15.60
	MID	18300	5MHz	8	17	21.33	16.96			27.51	15.53	N/A	N/A	N/A
			10MHz	12	38	17.23	14.85			25.98		15.12	N/A	N/A
			20MHz	18	82	15.49	15.78			21.95				15.75
	HIGH	18575	5MHz	8	17	19.60	15.75			28.23	16.38	N/A	N/A	N/A
		18550	10MHz	12	38	18.46	16.02			26.15		15.58	N/A	N/A
		18500	20MHz	18	82	17.01	19.75			23.41				15.43
16-QAM	LOW	18025	5MHz	8	17	20.29	17.29			26.62	14.77	N/A	N/A	N/A
		18050	10MHz	12	38	20.25	18.78			24.14		12.27	N/A	N/A
		18100	20MHz	18	82	20.40	20.17			25.76				15.51
	MID	18300	5MHz	8	17	18.50	17.23			27.70	15.23	N/A	N/A	N/A
			10MHz	12	38	19.06	15.84			27.02		15.17	N/A	N/A
			20MHz	18	82	16.70	16.88			24.36				16.06
	HIGH	18575	5MHz	8	17	18.75	15.67			28.21	16.24	N/A	N/A	N/A
		18550	10MHz	12	38	18.09	16.47			26.43		15.60	N/A	N/A
		18500	20MHz	18	82	17.12	18.58			23.00				15.20

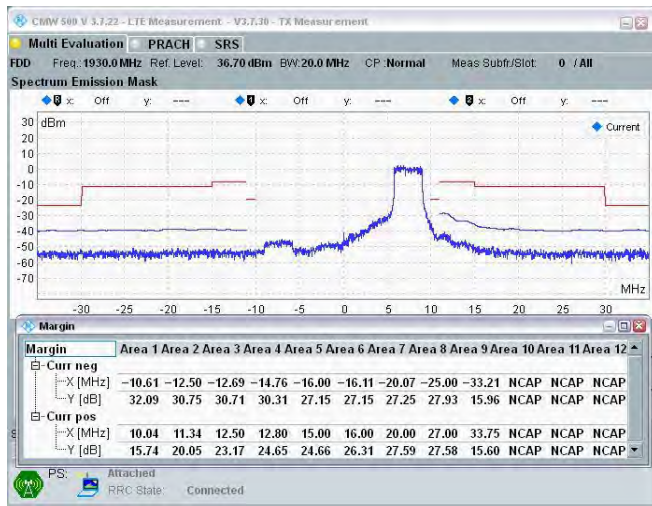
QPSK 5MHz CH18025 8RB#17



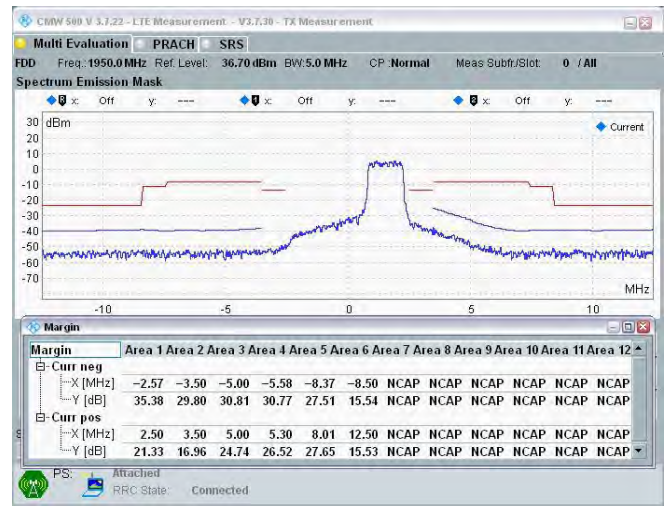
QPSK 10MHz CH18050 12RB#38



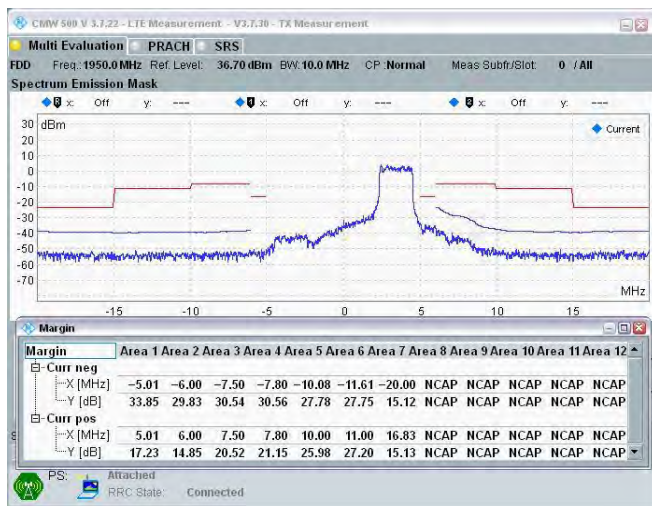
QPSK 20MHz CH18100 18RB#82



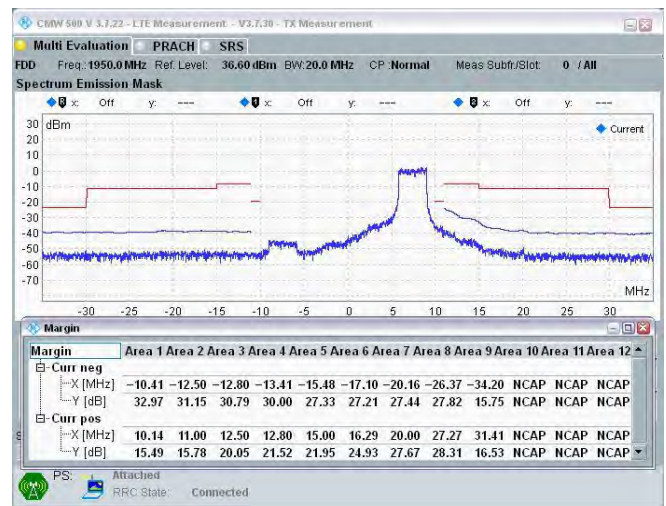
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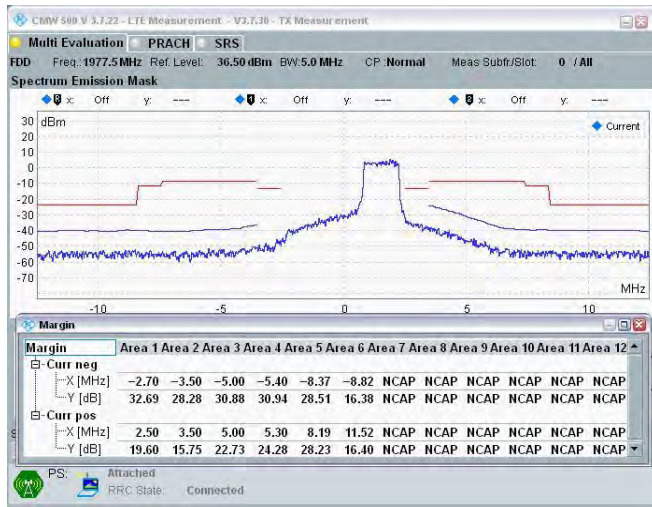
QPSK 10MHz CH18300 12RB#38



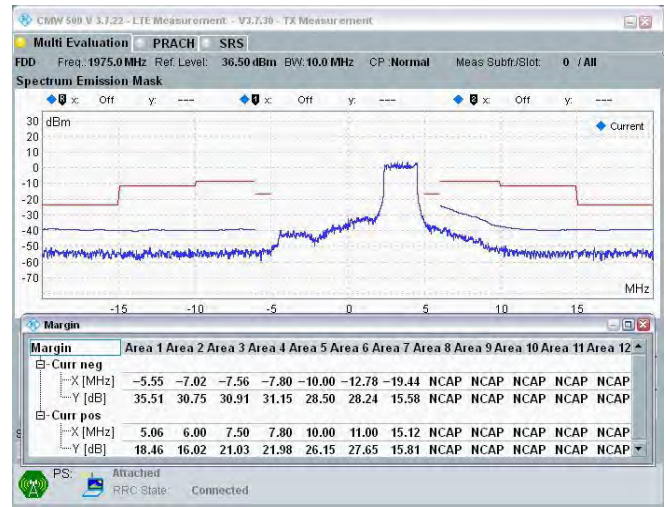
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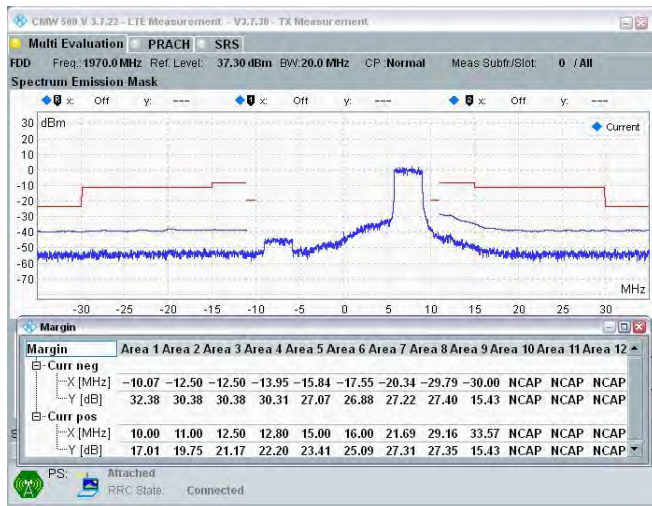
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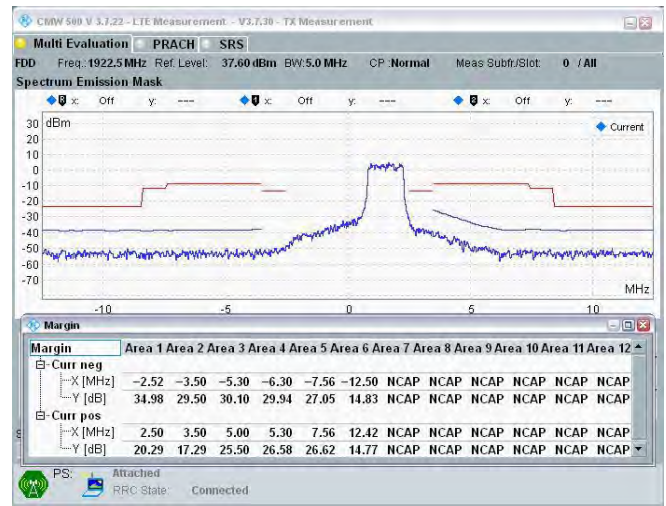
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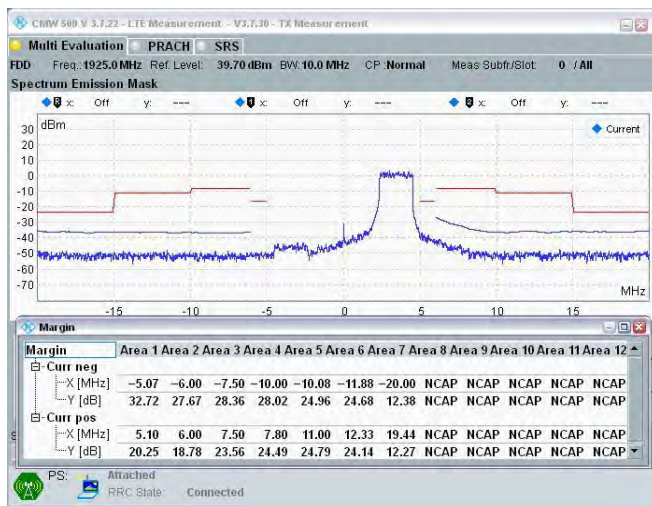
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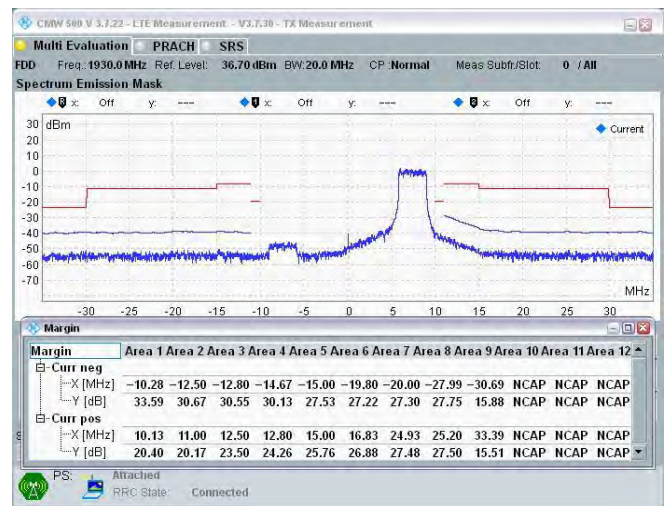
16-QAM 5MHz CH18025 8RB#17



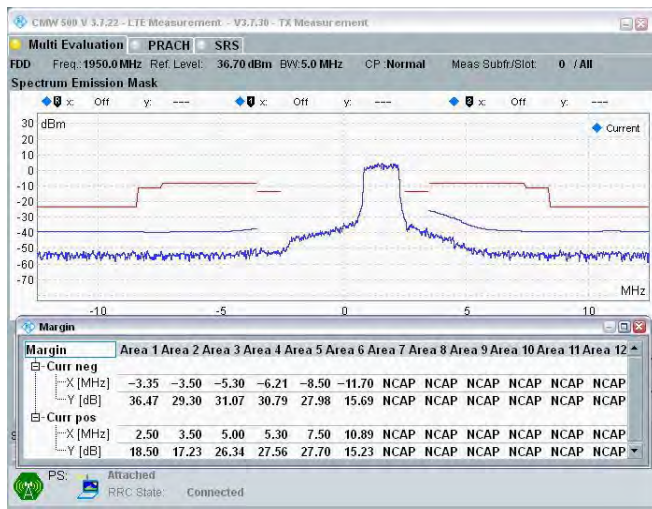
16-QAM 10MHz CH18050 12RB#38



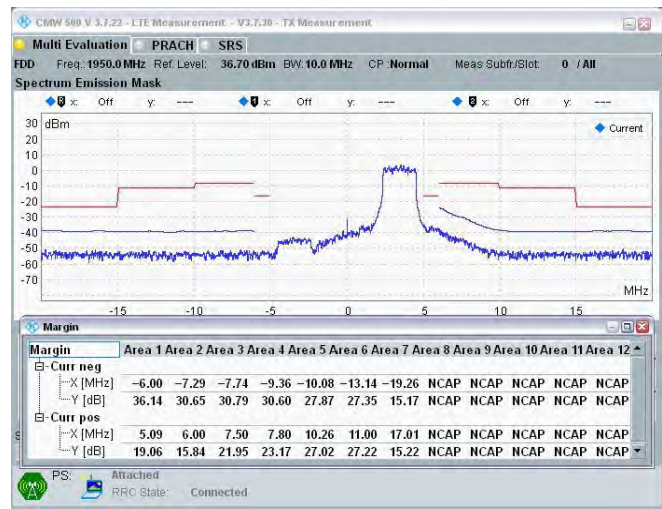
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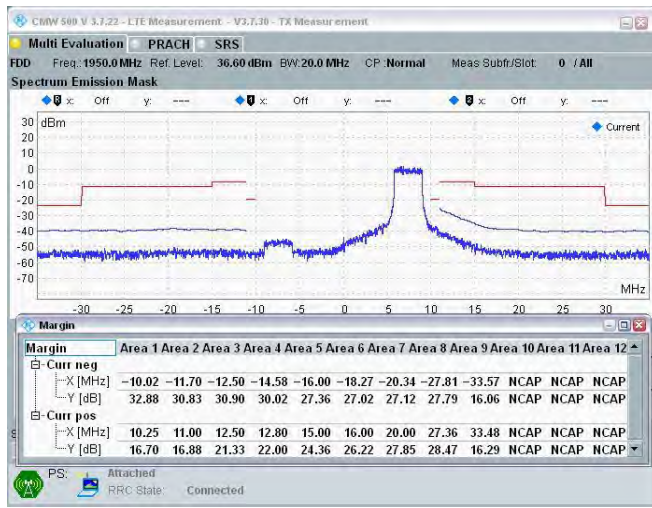
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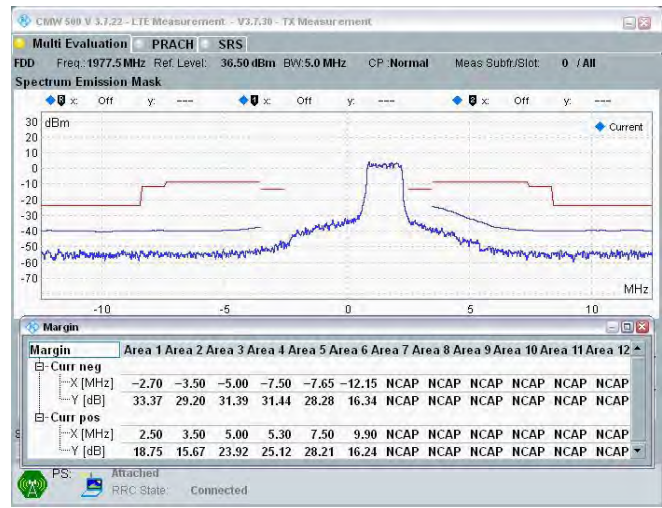
16-QAM 10MHz CH18300 12RB#38



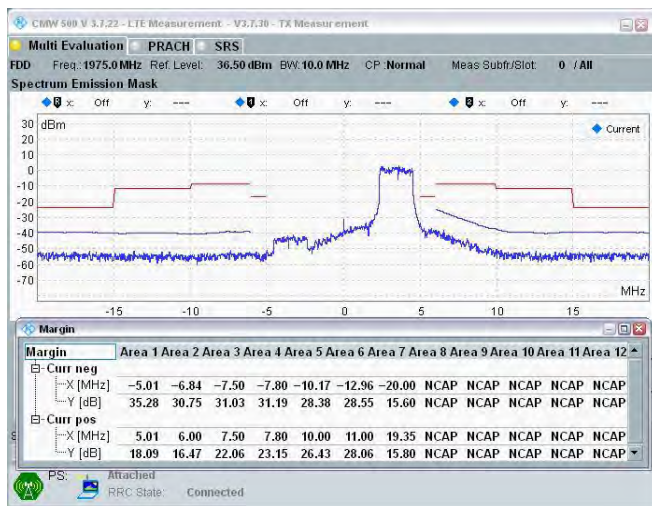
16-QAM 20MHz CH18300 18RB#82



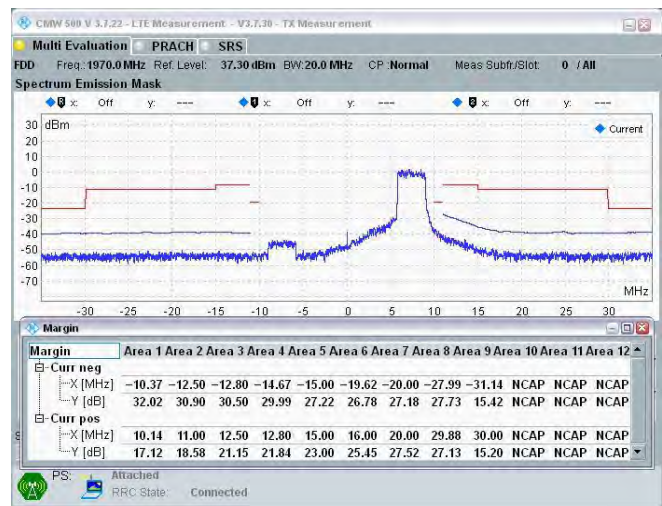
16-QAM 5MHz CH18575 8RB#17



16-QAM 10MHz CH18550 12RB#38

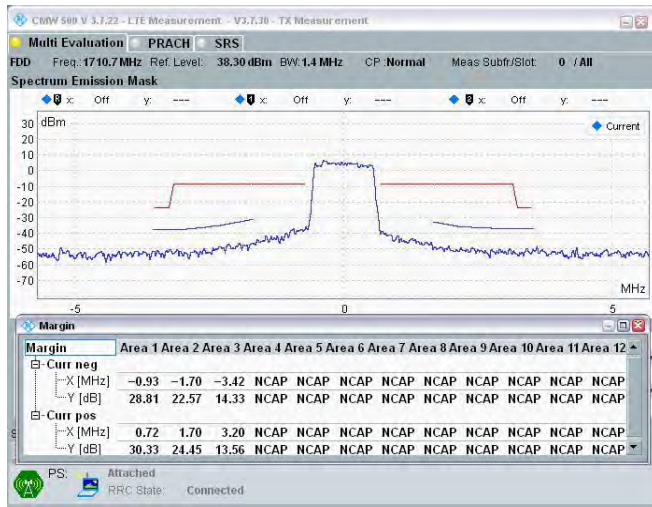


16-QAM 20MHz CH18500 18RB#82

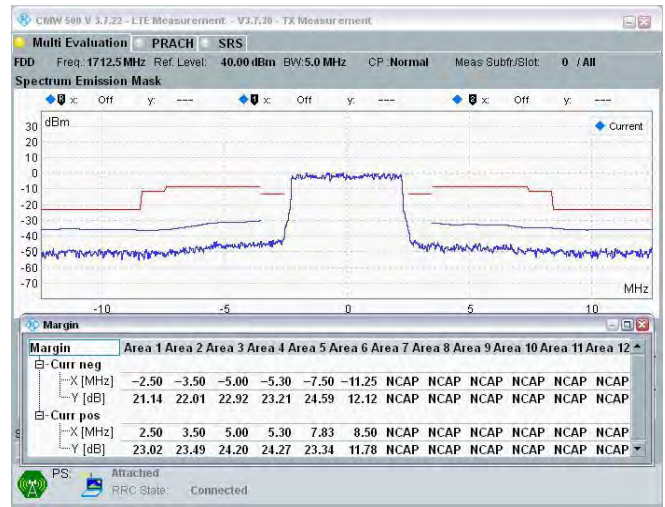


Band 3 (1800MHz)-Full RB														
Modulation	Test CH	CH	ΔF_{OOB} (MHz)	RB No.	RB Offset	MHz / Margin(dB)								
						± 0 to 1	± 1 to 2.5	± 2.5 to 2.8	± 2.8 to 5	± 5 to 6	± 6 to 10	± 10 to 15	± 15 to 20	± 20 to 25
QPSK	LOW	19207	1.4MHz	6	0	28.81	22.57	13.56	N/A	N/A	N/A	N/A	N/A	N/A
		19225	5MHz	25	0	21.14	22.01			23.34	11.78	N/A	N/A	N/A
		19250	10MHz	50	0	12.65	9.46			10.46		10.22	N/A	N/A
		19300	20MHz	100	0	21.30	24.12			22.69				15.02
	MID	19575	1.4MHz	6	0	21.56	20.01	15.09	N/A	N/A	N/A	N/A	N/A	N/A
			5MHz	25	0	18.07	15.54			25.91	13.88	N/A	N/A	N/A
			10MHz	50	0	18.27	18.28			18.83		14.07	N/A	N/A
			20MHz	100	0	17.37	19.27			20.32				14.91
	HIGH	19943	1.4MHz	6	0	26.82	20.83	13.86	N/A	N/A	N/A	N/A	N/A	N/A
		19925	5MHz	25	0	18.10	17.36			25.53	13.32	N/A	N/A	N/A
		19900	10MHz	50	0	17.19	18.49			18.95		13.90	N/A	N/A
		19850	20MHz	100	0	20.54	21.35			21.94				16.12
16-QAM	LOW	19207	1.4MHz	6	0	27.77	23.67	13.79	N/A	N/A	N/A	N/A	N/A	N/A
		19225	5MHz	25	0	23.94	21.47			23.73	11.90	N/A	N/A	N/A
		19250	10MHz	50	0	25.26	23.06			21.23		10.58	N/A	N/A
		19300	20MHz	100	0	26.36	24.46			22.85				15.07
	MID	19575	1.4MHz	6	0	22.66	20.43	15.28	N/A	N/A	N/A	N/A	N/A	N/A
			5MHz	25	0	21.11	17.38			25.94	14.41	N/A	N/A	N/A
			10MHz	50	0	21.61	19.62			20.58		14.26	N/A	N/A
			20MHz	100	0	21.98	21.72			20.30				11.32
	HIGH	19943	1.4MHz	6	0	26.84	23.03	15.06	N/A	N/A	N/A	N/A	N/A	N/A
		19925	5MHz	25	0	19.98	19.27			25.27	14.04	N/A	N/A	N/A
		19900	10MHz	50	0	20.32	19.61			20.40		14.26	N/A	N/A
		19850	20MHz	100	0	22.77	22.66			22.59				16.03

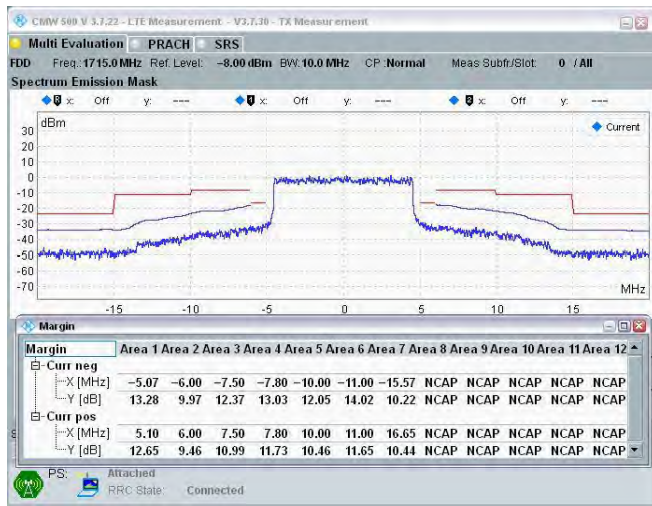
QPSK 1.4MHz CH19207 6RB#0



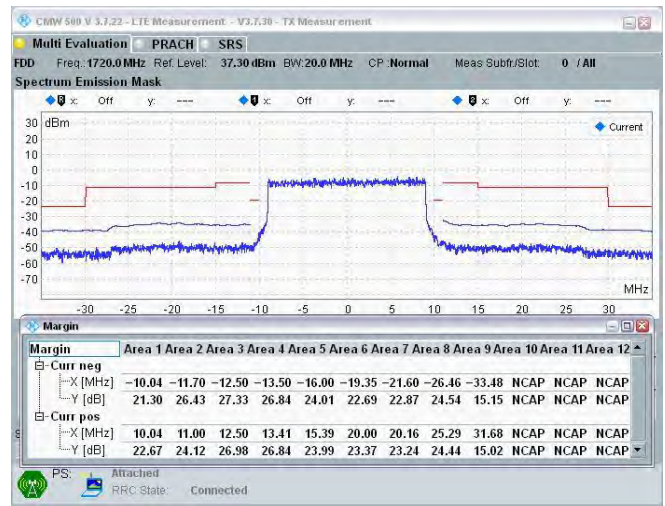
QPSK 5MHz CH19225 25RB#0



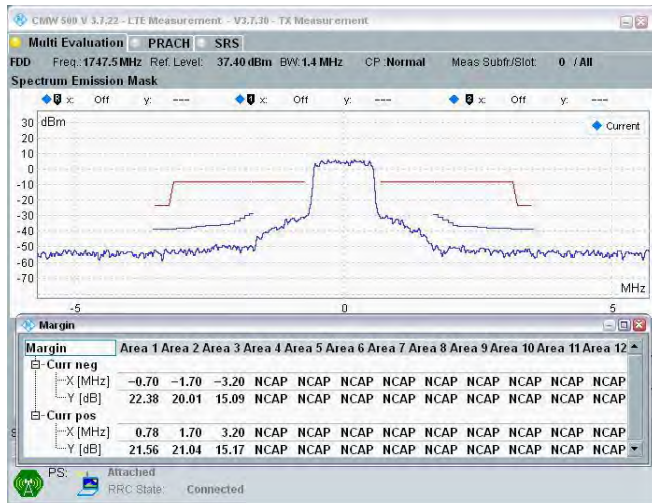
QPSK 10MHz CH19250 50RB#0



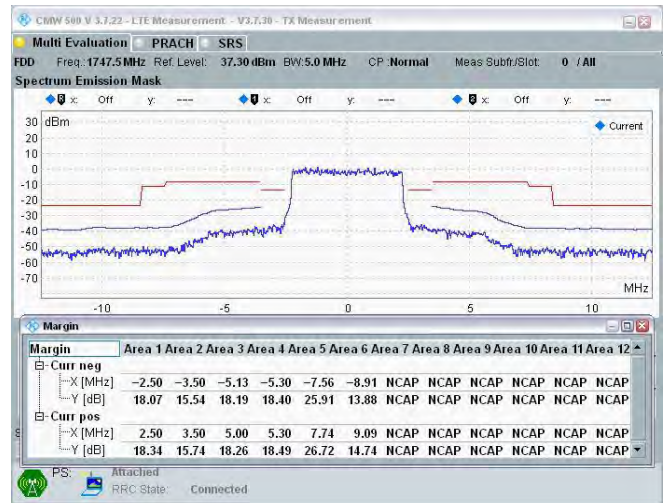
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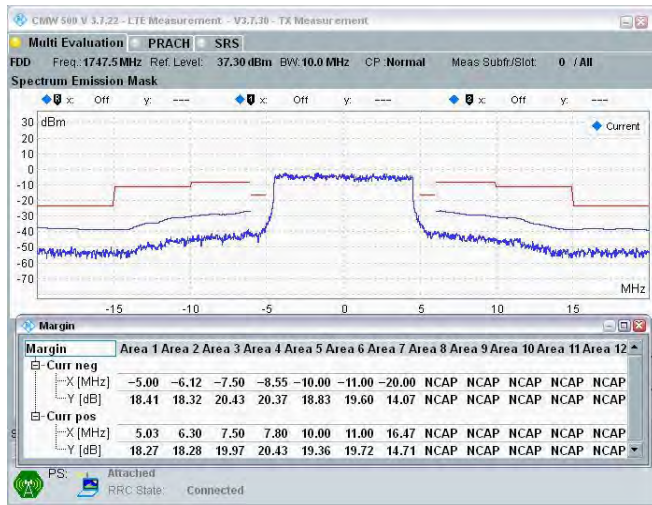
QPSK 1.4MHz CH19575 6RB#0



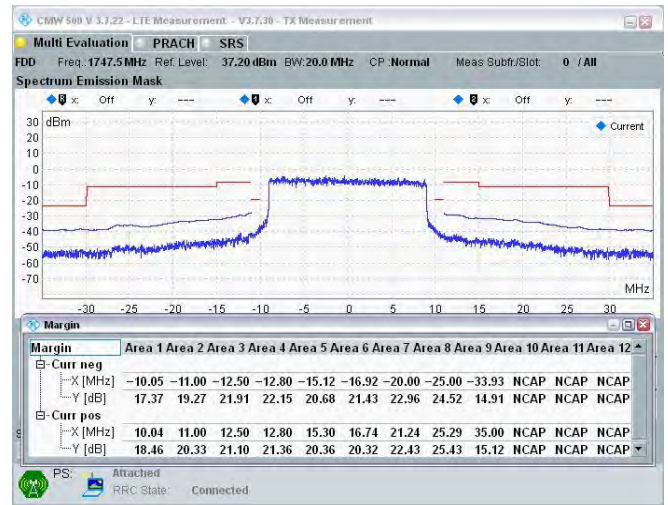
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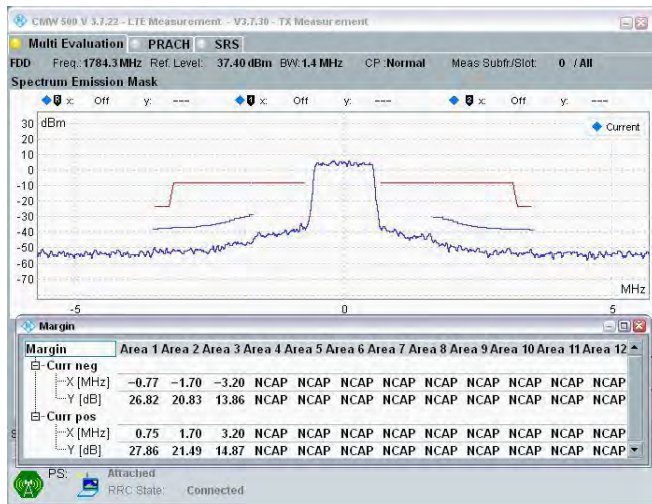
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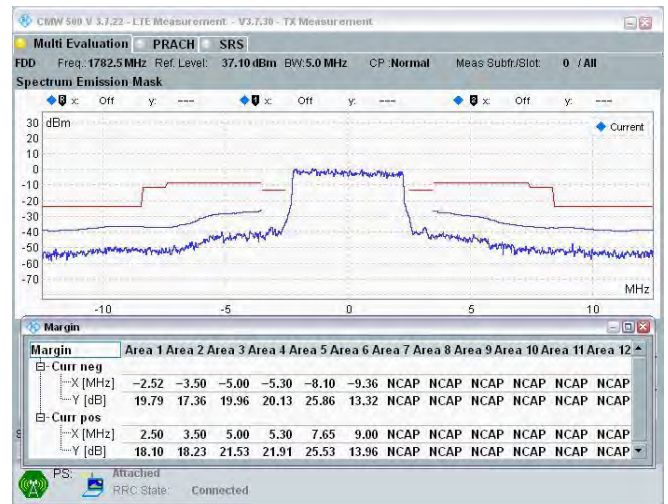
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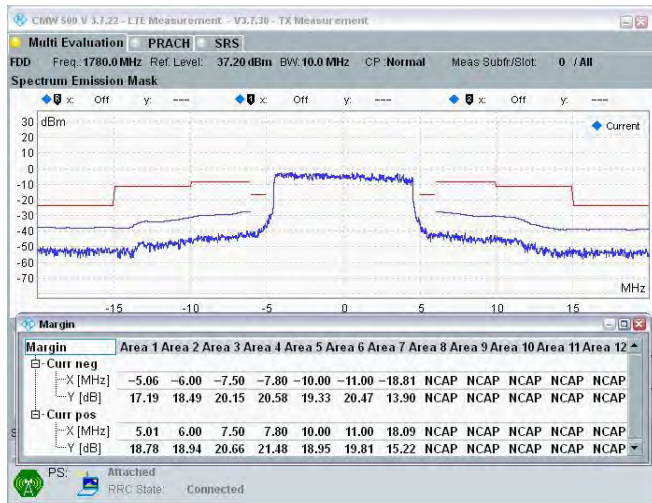
QPSK 1.4MHz CH19943 6RB#0



QPSK 5MHz CH19925 25RB#0



QPSK 10MHz CH19900 50RB#0



QPSK 20MHz CH19850 100RB#0

