



NCC

行動通信電信終端設備技術規範試驗報告

產品名稱 : NCT 集抄集中器
型號 : NCT1.0.0.0
廠牌 : WME
申請者 : 銓準科技有限公司
申請者地址 : 台南市善化區南科九路 16 號
測試標準 : PLMN ALL (109 年版)
適用範圍 : 窄頻終端設備(PLMN11)-NB-IOT
測試結果 : 符合
接收日期 : 2021/9/7
測試日期 : 2021/9/7

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報告簽署人 : 
(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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備註：

此份報告為複製報告，報告內相關測試數據是根據原始報告 2109TW5201-T2 所引用，僅變更申請者、製造商資訊及廠牌。

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1. 一般資訊

申請者	銓準科技有限公司
申請者地址	台南市善化區南科九路 16 號
製造商	銓準科技有限公司
製造商地址	台南市善化區南科九路 16 號
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

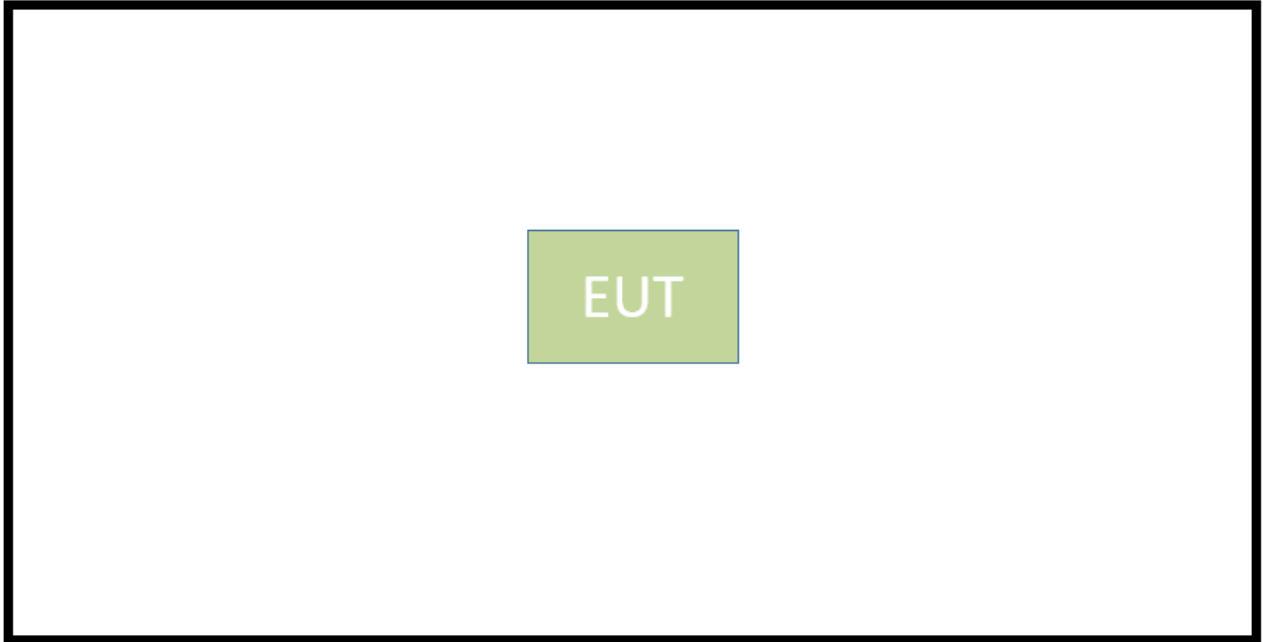
2. 產品描述

2.1 產品資訊

產品名稱	NCT 集抄集中器
產品型號	NCT1.0.0.0
廠牌	WME
支援規格	Cat-M1: Band3 NB-IoT: Band8,28
IMEI 碼	359205103748820
NB-IoT 功率限制定義	Class 3: 23dBm
天線樣式	PCB Antenna
天線規格	MFR: Taiwan Anjie Electronics Co.,Ltd M/N: AJLP2P-B0002 Gain: Band8: 1.665dBi; Band28: 3.414dBi
TX Frequency	Band8: 885~915MHz; Band28: 703~748MHz.
Rx Frequency	Band8: 930~960MHz; Band28: 758~803MHz.
是否有照相功能	☐ 有 (聲響 : 有 ☐ ; 無 ☐) ☒ 無
電池	Brand: FANSO Model No: ER34615H Rating: 3.6V

2.2 測試配置

待測物測試配置圖



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	2021/10/5
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2022/3/24
Active Loop Antenna	Schwarzbeck	FMZB 1519B	MRTTWA00002	1 year	2022/5/6
Broadband Horn antenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2022/4/21
Breitband Hornantenna	Schwarzbeck	BBHA 9170	MRTTWA00004	1 year	2022/4/28
Broadband Amplifier	Schwarzbeck	BBV 9721	MRTTWA00006	1 year	2022/4/26
Broadband Preamplifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2022/4/21
Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2022/6/15

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	2021/10/14
EXA Signal Analyzer	KEYSIGHT	N9010B	MRTTWA00074	1 year	2022/7/19
Wideband Radio Communication Taster	R&S	CMW 500	MRTTWA00084	1 year	2021/9/8
Temperature & Humidity Chamber	TEN BILLION	TTH-B3UP	MRTTWA00036	1 year	2022/6/14

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: $\pm 4.45\text{dB}$
頻率穩定度量測 (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 NCT集抄集中器
型號 NCT1.0.0.0

法規章節	量測項目	限制值	測試結果	測試數據
6.2.3.1	功率限制	有效輻射功率(Effective Radiated Power, ERP) 攜帶式終端設備限制為1W。 移動式終端臺設備限制為2W。 傳導輸出功率限制值 採Class 3者：23 dBm +2.7/-2.7 dB。 採Class 5者：20 dBm +2.7/-2.7 dB。	符合	第 5.1 章節
6.2.3.2	發射頻譜波罩	需符合行動通信電信終端設備技術規範附表 38	符合	第 5.2 章節
6.2.3.3	傳導帶外輻射發射	需符合行動通信電信終端設備技術規範附表 40	符合	第 5.3 章節
6.2.3.4	相鄰頻道洩漏功率比 (ACLR)	需符合行動通信電信終端設備技術規範附表 42	符合	第 5.4 章節
6.2.3.5	非資源區塊帶內發射	需符合行動通信電信終端設備技術規範附表 44	符合	第 5.5 章節
6.2.1.1	頻率穩定度	$\pm 0.1\text{PPM}$ 以內	符合	第 5.6 章節
6.6.2	電波功率密度	適用於移動式終端設備 700 MHz 頻段為 0.35 毫瓦特/平方公分(mW/cm^2)； 900 MHz 頻段為 0.45 mW/cm^2 ； 1800 MHz 頻段為 0.9 mW/cm^2 ； 2100MHz、2500 MHz 與 2600 MHz 頻段為 1.0 mW/cm^2 。	符合	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，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) 等效輻射功率(Effective Radiated Power, ERP)

攜帶式終端設備限制為 1W；

移動式終端臺設備限制為 2W。

(2) 傳導輸出功率限制為

採 Class 3 者：23 dBm +2.7/-2.7 dB；

採 Class 5 者：20 dBm +2.7/-2.7 dB。

5.1.2 測試方法

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。

依附下表進行檢測。

NB-IoT 終端設備發射功率之頻道頻寬測試參數

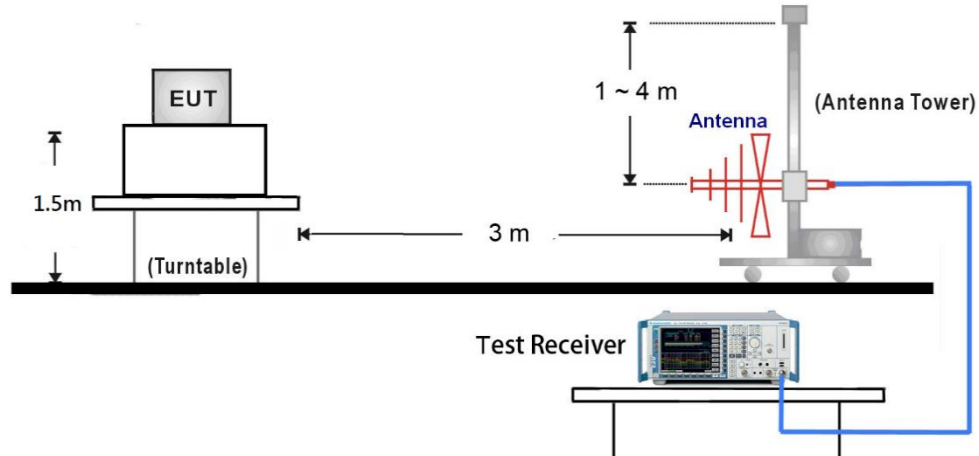
結構編號 Configuration ID	下行結構	上行結構		
		調變方式	N _{tones}	子載波間距(kHz)
1(註二)	最大發射功率測試 不適用	BPSK	1@0	3.75
2(註三)		BPSK	1@47	3.75
3(註二)		QPSK	1@0	15
4(註三)		QPSK	1@11	15
5(註一)		QPSK	3@3	15

註：

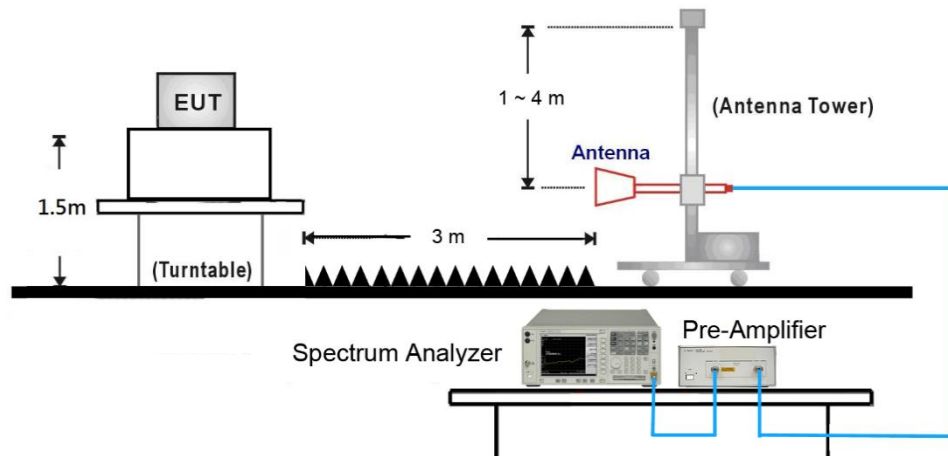
- 一、適用於支援上行多頻傳輸 (multi-tone transmissions) 的終端設備。
- 二、僅適用於低頻道。
- 三、僅適用於高頻道。
- 四、測試頻道根據 ETSI TS 136 521-1 Annex K.1.2 所定義。

5.1.3 實驗方法方塊圖

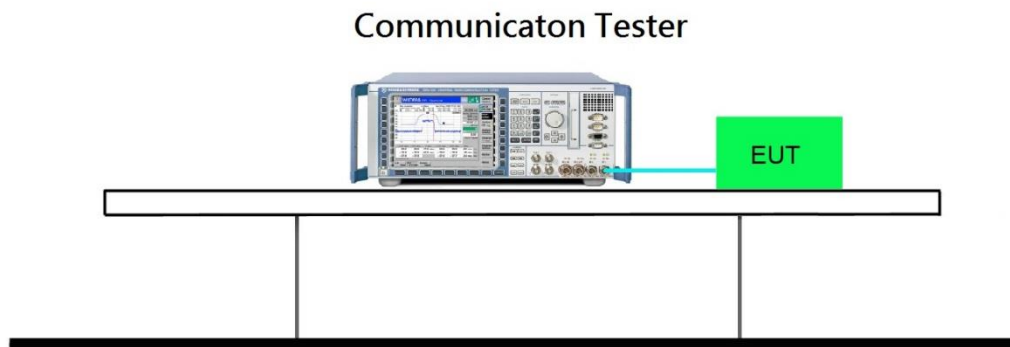
(1) 等效輻射功率 (1G 以下):



(2) 等效輻射功率 (1G 以上):

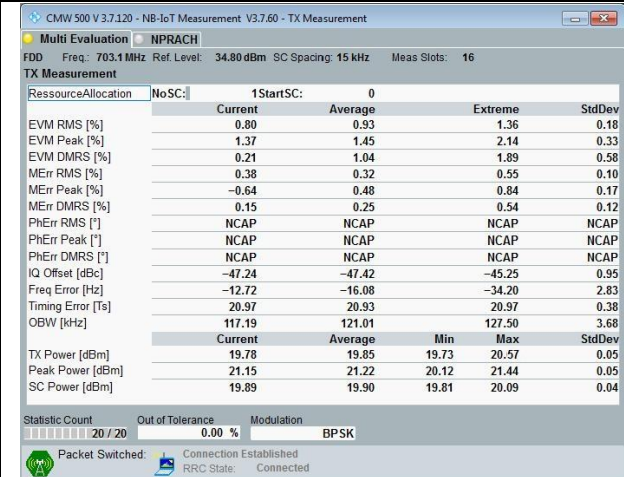


(3) 傳導輸出功率 :



5.1.4 實驗數據

Band 8 (900MHz)									
Test Channel	Channel	Modulation	Ntones	Subcarrier Spacing (kHz)	Max Power (Conducted)	Limit (dBm)	Antenna Gain (dBi)	Max Power (ERP)	Limit (dBm)
LOW	21451	BPSK	1@0	3.75	21.06	20.3~25.7	1.665	20.58	30
		QPSK	1@0	15	21.16	20.3~25.7	1.665	20.68	30
MID	21625	QPSK	3@3	15	20.57	20.3~25.7	1.665	20.09	30

BPSK CH 21451 / 1@0 / 3.75kHz	QPSK CH 21451 / 1@0 / 15kHz
	
QPSK CH 21625 / 3@3 / 15kHz	
	

註：

- 一、適用於支援上行多頻傳輸（multi-tone transmissions）的終端設備。
- 二、僅適用於低頻道及高頻道。
- 三、測試頻道根據 ETSI TS 136 521-1 Annex K.1.2 所定義。
- 四、ERP= Conducted Power + Antenna Gain(dBi) - 2.15。

Band 28 (700MHz)									
Test Channel	Channel	Modulation	Ntones	Subcarrier Spacing (kHz)	Max Power (Conducted)	Limit (dBm)	Antenna Gain (dBi)	Max Power (ERP)	Limit (dBm)
LOW	27211	BPSK	1@0	3.75	20.58	20.3~25.7	3.414	21.84	30
		QPSK	1@0	15	20.97	20.3~25.7	3.414	22.23	30
MID	27435	QPSK	3@3	15	20.62	20.3~25.7	3.414	21.88	30

BPSK CH 21451 / 1@0 / 3.75kHz	QPSK CH 21451 / 1@0 / 15kHz
QPSK CH 21625 / 3@3 / 15kHz	

註：

- 一、適用於支援上行多頻傳輸（multi-tone transmissions）的終端設備。
- 二、僅適用於低頻道及高頻道。
- 三、測試頻道根據 ETSI TS 136 521-1 Annex K.1.2 所定義。
- 四、ERP= Conducted Power + Antenna Gain(dBi) - 2.15。

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

NB-IoT 終端設備頻譜波罩規範值

Δf_{OOB} (kHz)	發射限制值(dBm)	解析頻寬
± 0 to 100	$(27.5 + (F - 0) \times \frac{-3.5 - 27.5}{100 - 0})$	30 kHz
± 100 to 150	$(-3.5 + (F - 100) \times \frac{-6.5 - (-3.5)}{150 - 100})$	30 kHz
± 150 to 300	$(-6.5 + (F - 150) \times \frac{-27.5 - (-6.5)}{300 - 150})$	30 kHz
± 300 to 500	$(-27.5 + (F - 300) \times \frac{-33.5 - (-27.5)}{500 - 300})$	30 kHz
± 500 to 1700	-33.5	30 kHz

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。

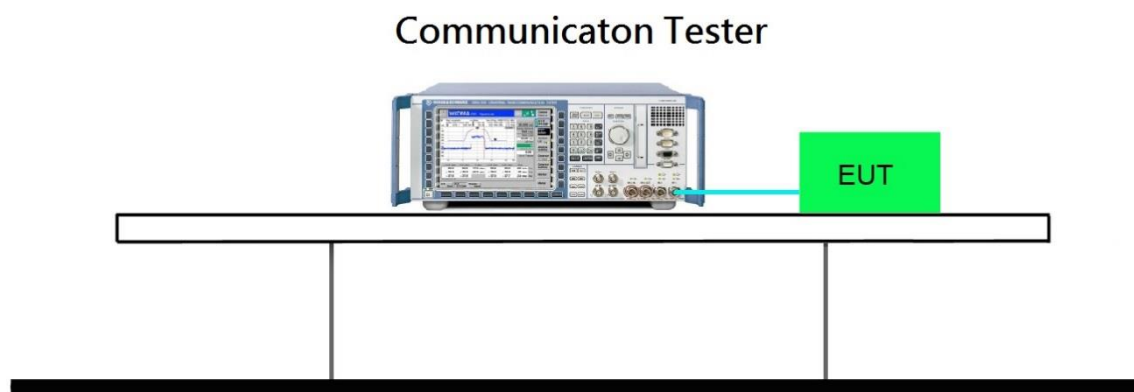
(2) 依下表進行檢測。

NB-IoT 終端設備頻譜波罩之頻道頻寬測試參數

結構編號 Configuration ID	下行結構	上行結構		
		調變方式	N _{tones}	子載波間距(kHz)
1	頻譜波罩測試不適用	QPSK	1@0	3.75
2		QPSK	1@47	3.75
3		QPSK	1@0	15
4		QPSK	1@11	15
5(註)		QPSK	3@0	15
6(註)		QPSK	3@3	15
7(註)		QPSK	3@9	15
8(註)		QPSK	6@0	15
9(註)		QPSK	6@6	15
10(註)		QPSK	12@0	15

註：終端設備於最大輸出功率時之最大功率減少(MPR)，依 3GPP TS 36.521-1, 6.2.3F.3 規定。

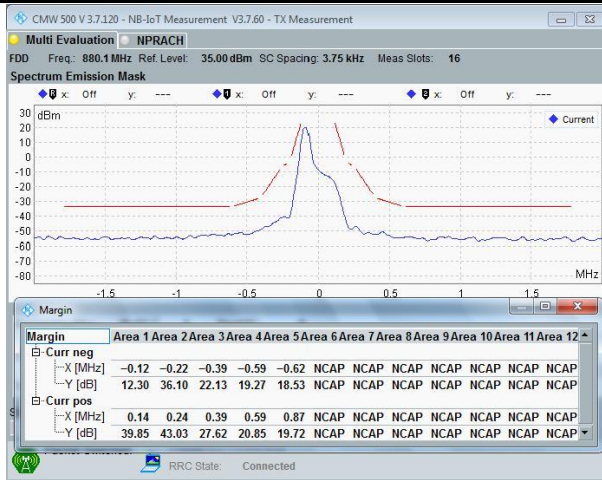
5.2.3 實驗方法方塊圖



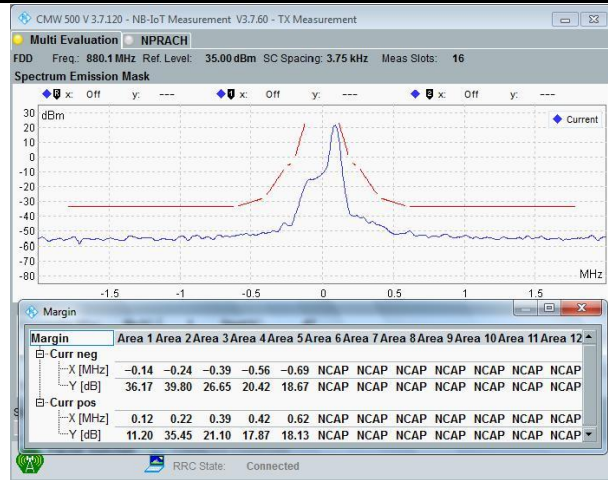
5.2.4 實驗數據

Band 8 (900MHz)									
Test Channel	Channel	Modulation	Ntones	Subcarrier Spacing (kHz)	Δf_{OOB} (kHz)				
					± 0 to 100	± 100 to 150	± 150 to 300	± 300 to 500	± 500 to 1700
LOW	21451	QPSK	1@0	3.75	12.30	36.10	22.13	19.27	18.53
			1@47		11.20	35.45	21.10	17.87	18.13
			1@0	15	25.16	45.29	30.46	24.54	20.80
			1@11		24.85	45.98	28.40	23.40	21.13
			3@0		25.98	40.83	26.57	20.95	19.94
			3@3		35.20	43.42	29.24	20.12	19.71
			3@9		26.57	41.02	24.43	20.77	20.38
			6@0		24.07	38.59	26.30	21.10	19.10
			6@6		25.30	36.81	25.81	20.31	18.69
			12@0		19.98	25.82	25.87	18.45	18.29
MID	21625	QPSK	1@0	3.75	11.38	33.19	22.05	18.43	17.55
			1@47		11.33	33.94	22.05	18.45	19.12
			1@0	15	26.73	47.09	28.30	21.42	20.26
			1@11		26.08	46.06	30.04	21.29	19.31
			3@0		23.49	38.88	27.10	20.25	20.41
			3@3		38.16	45.40	28.63	20.89	19.34
			3@9		26.94	41.04	27.83	22.11	19.24
			6@0		38.29	37.95	27.13	20.12	19.98
			6@6		27.95	40.53	26.86	21.00	19.32
			12@0		24.96	31.40	24.35	19.99	18.00
HIGHT	21799	QPSK	1@0	3.75	11.45	33.62	20.92	19.14	18.05
			1@47		11.23	34.03	22.32	18.22	17.64
			1@0	15	24.64	44.56	29.52	20.47	19.43
			1@11		25.12	45.03	25.56	21.25	19.32
			3@0		22.58	38.35	25.95	20.78	20.03
			3@3		35.19	40.31	26.91	18.96	19.16
			3@9		21.84	40.19	25.03	19.52	16.13
			6@0		20.55	34.10	26.13	19.89	18.44
			6@6		21.64	37.71	23.72	18.84	17.83
			12@0		20.83	21.34	21.69	17.50	18.57

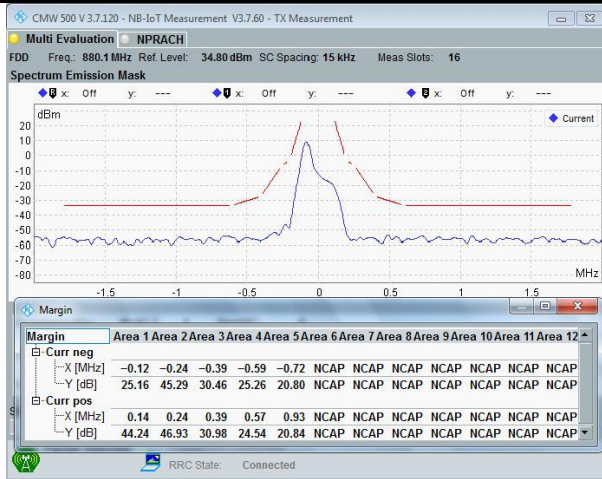
QPSK CH 21451 / 1@0 / 3.75kHz



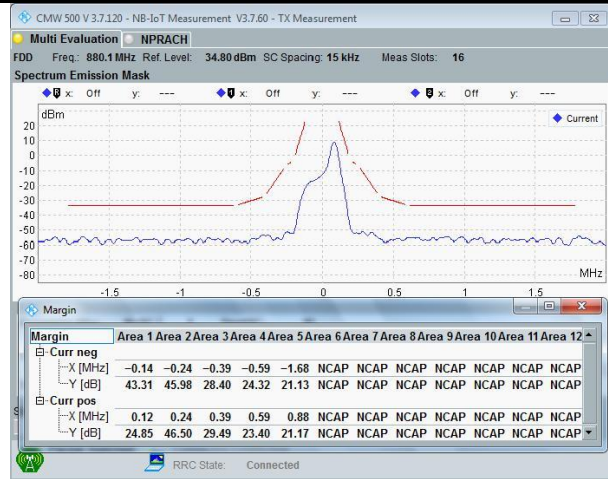
QPSK CH 21451 / 1@47 / 3.75kHz



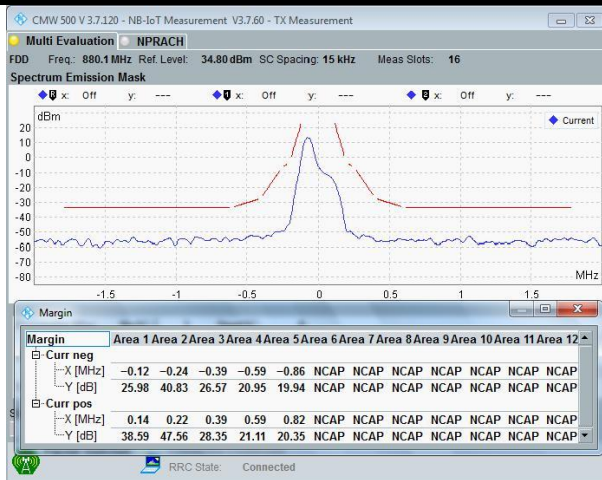
QPSK CH 21451 / 1@0 / 15kHz



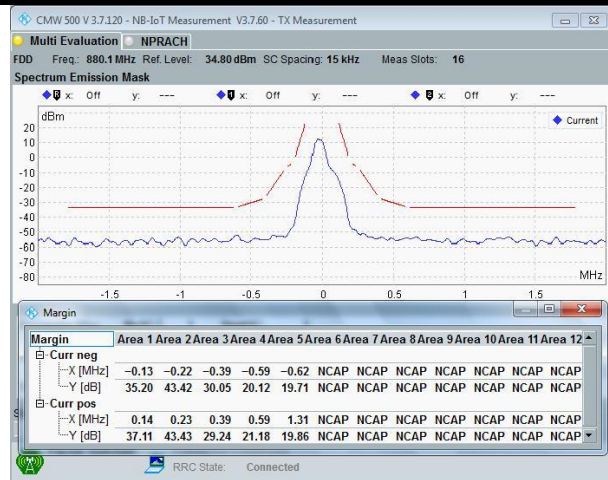
QPSK CH 21451 / 1@11 / 15kHz



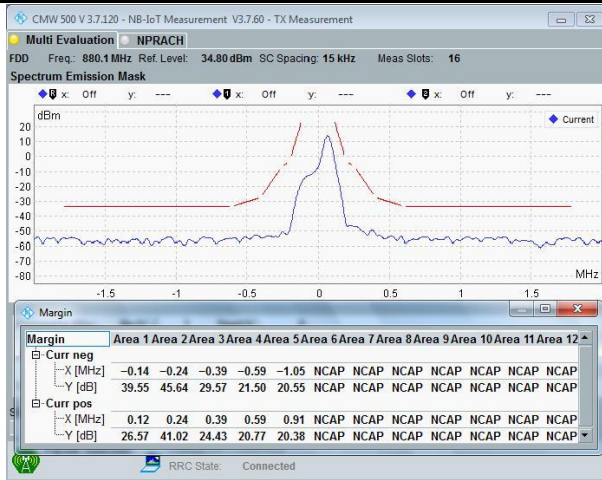
QPSK CH 21451 / 3@0 / 15kHz



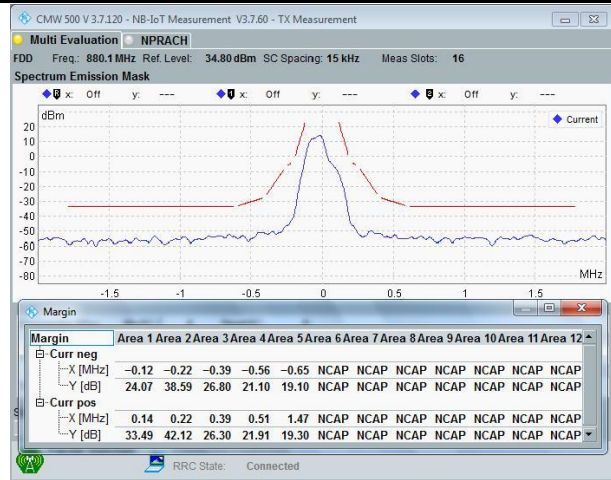
QPSK CH 21451 / 3@3 / 15kHz



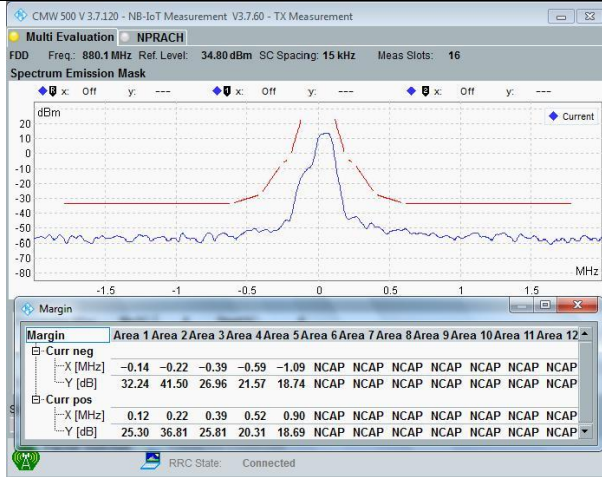
QPSK CH 21451 / 3@9 / 15kHz



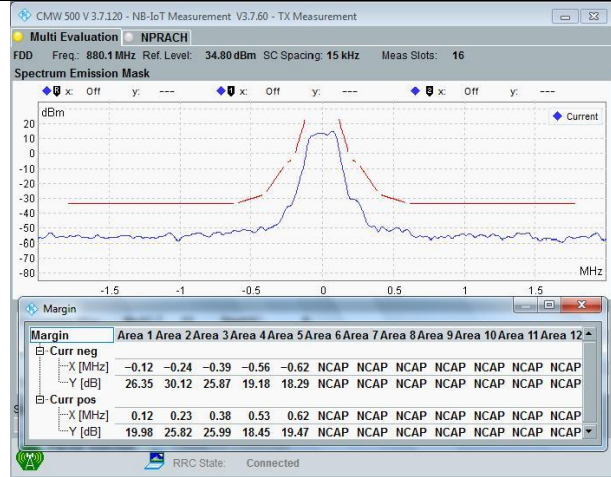
QPSK CH 21451 / 6@0 / 15kHz



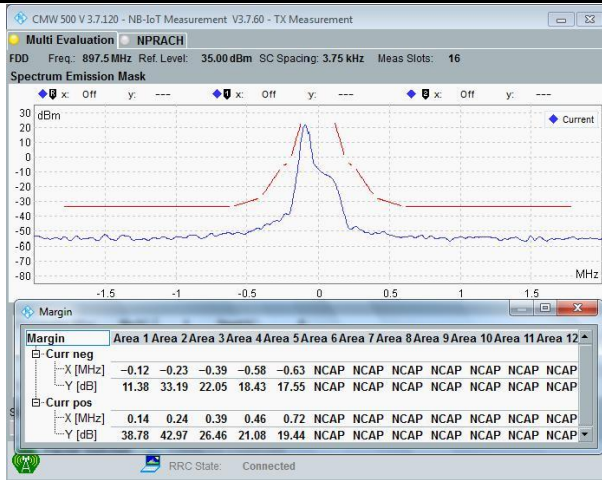
QPSK CH 21451 / 6@6 / 15kHz



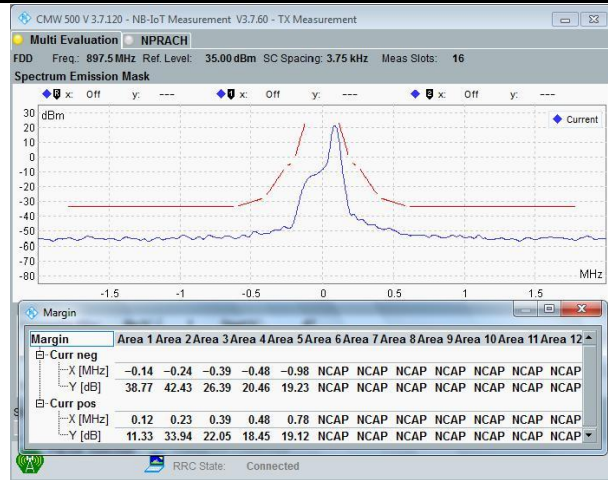
QPSK CH 21451 / 12@0 / 15kHz



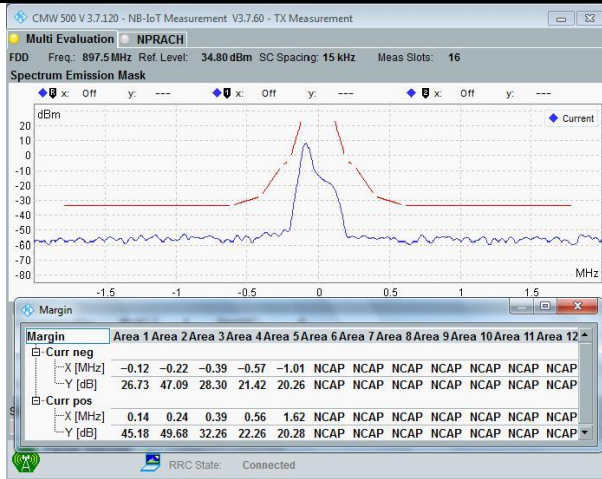
QPSK CH 21625 / 1@0 / 3.75kHz



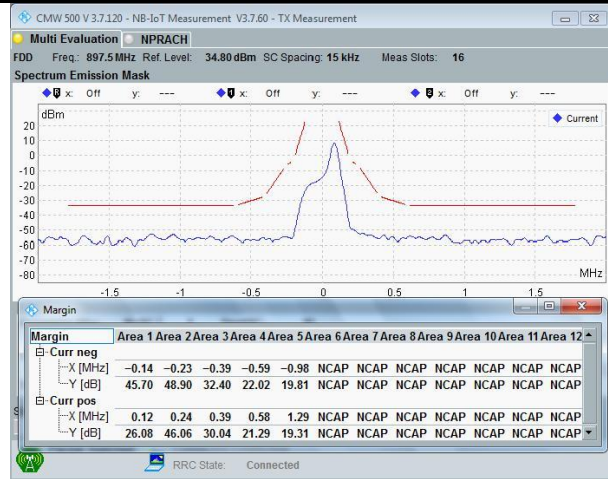
QPSK CH 21625 / 1@47 / 3.75kHz



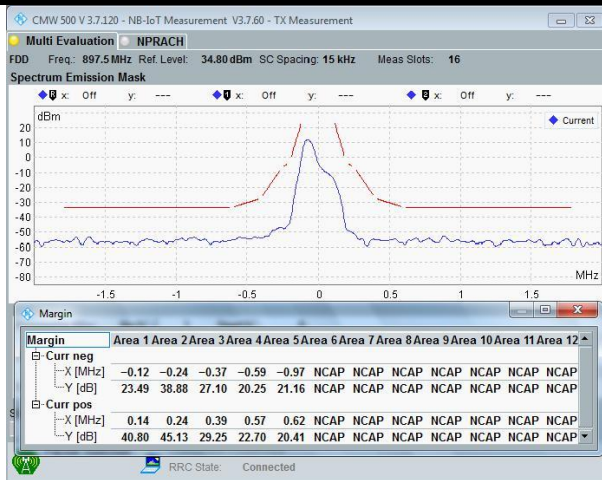
QPSK CH 21625 / 1@0 / 15kHz



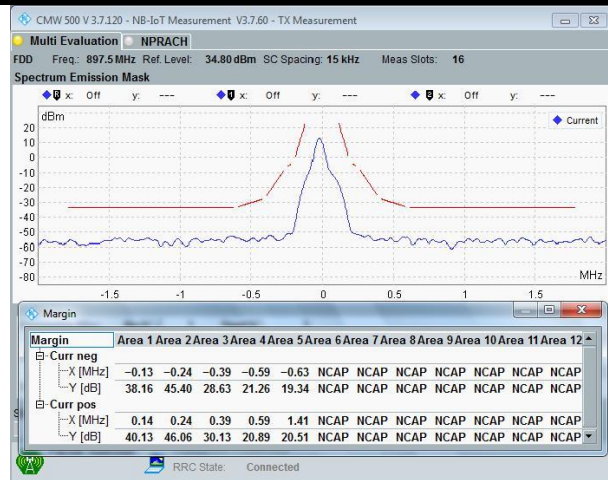
QPSK CH 21625 / 1@11 / 15kHz



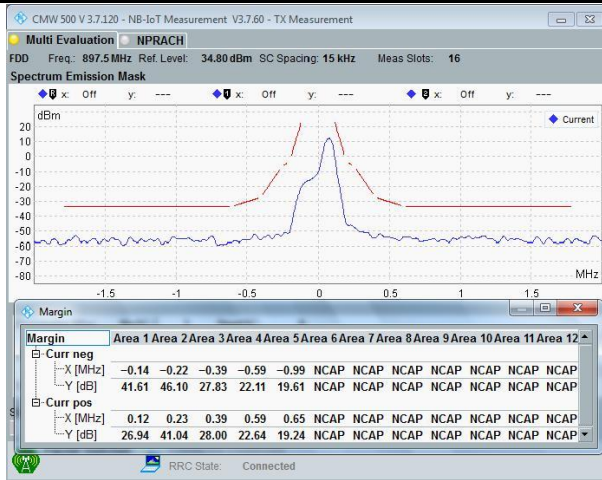
QPSK CH 21625 / 3@0 / 15kHz



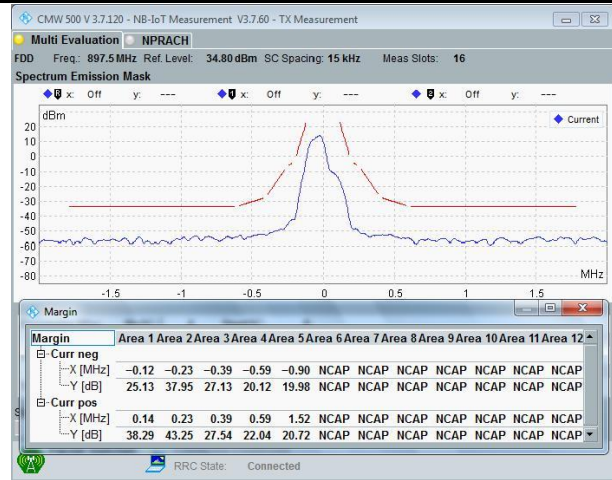
QPSK CH 21625 / 3@3 / 15kHz



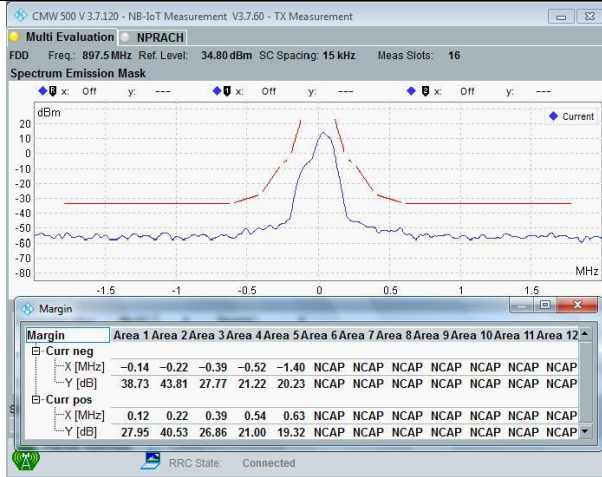
QPSK CH 21625 / 3@9 / 15kHz



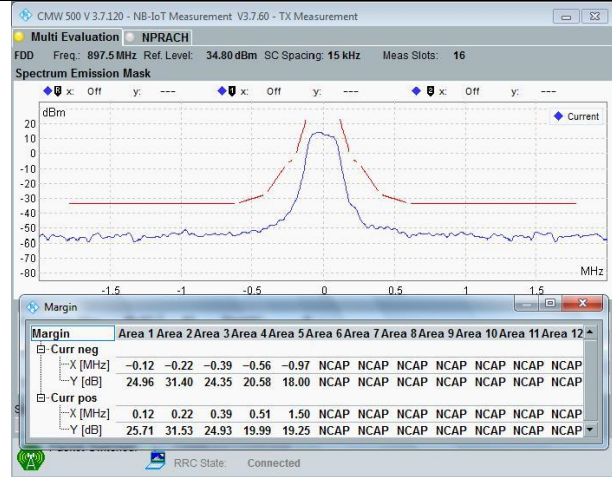
QPSK CH 21625 / 6@0 / 15kHz



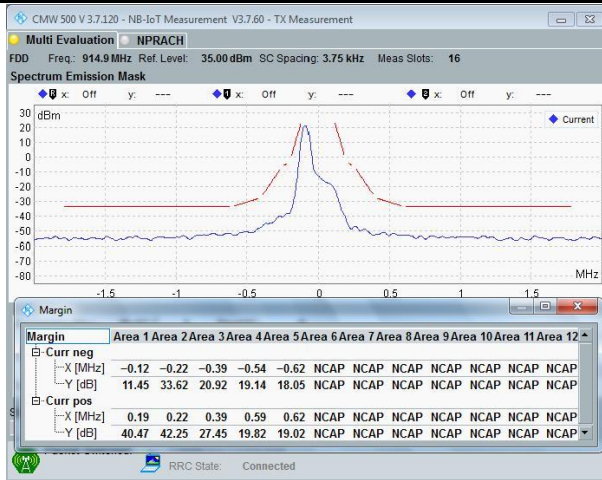
QPSK CH 21625 / 6@6 / 15kHz



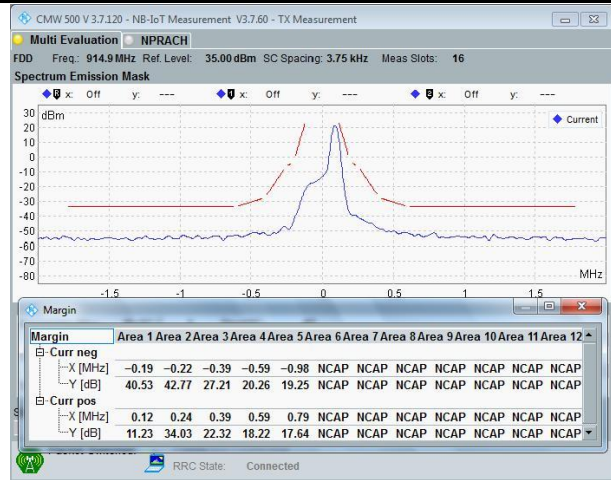
QPSK CH 21625 / 12@0 / 15kHz



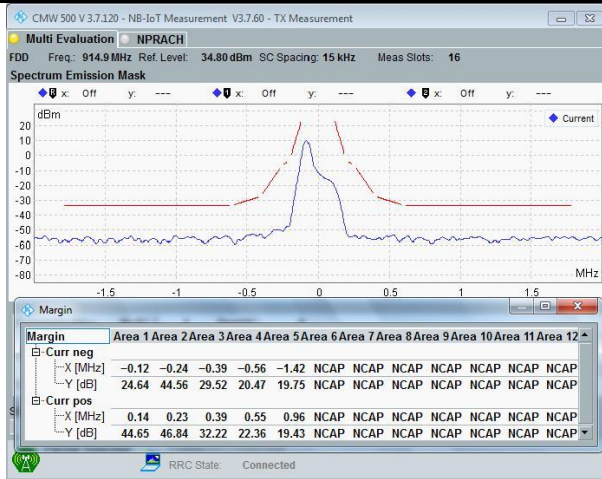
QPSK CH 21799 / 1@0 / 3.75kHz



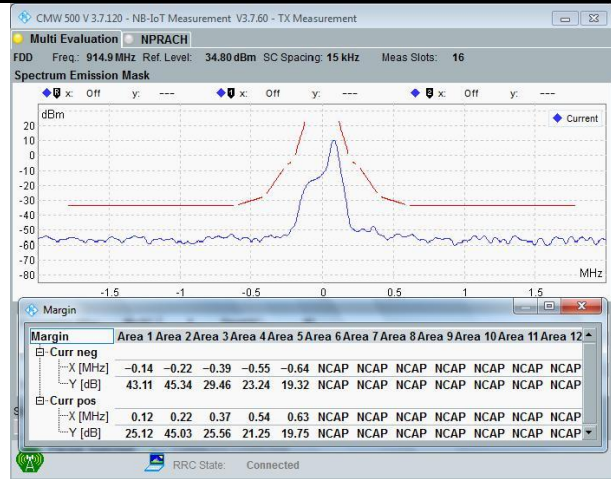
QPSK CH 21799 / 1@47 / 3.75kHz



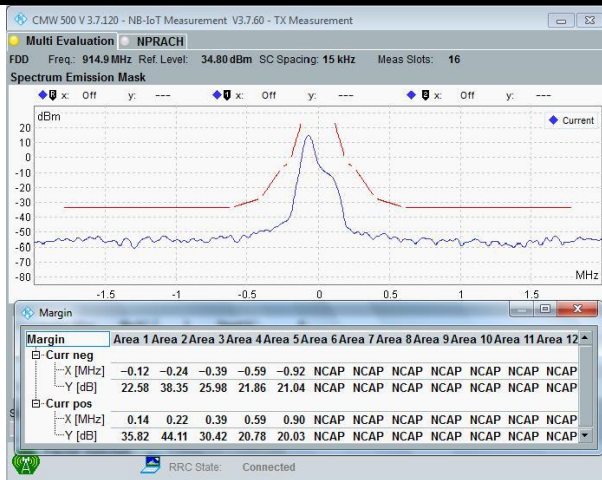
QPSK CH 21799 / 1@0 / 15kHz



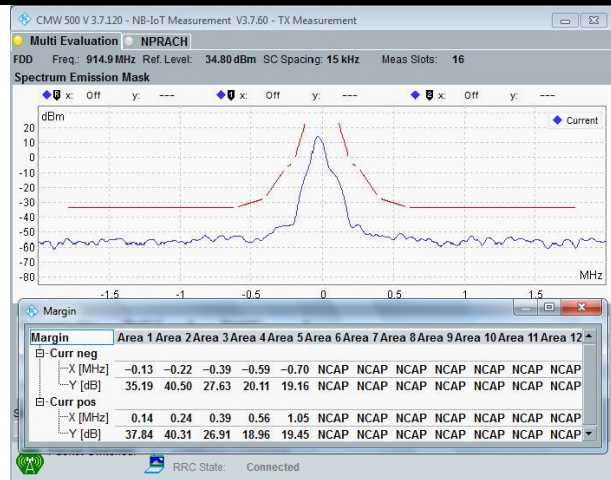
QPSK CH 21799 / 1@11 / 15kHz



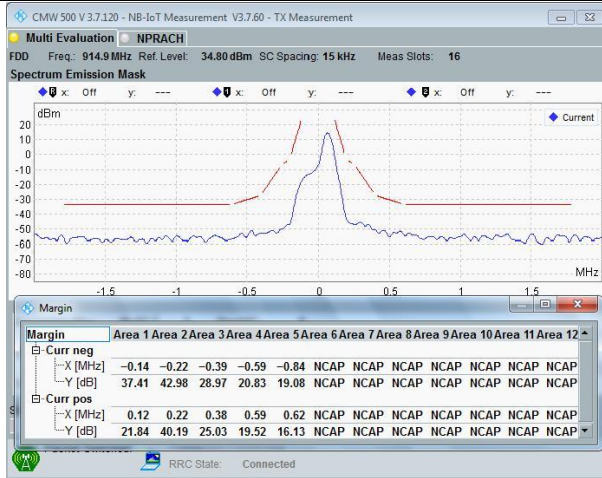
QPSK CH 21799 / 3@0 / 15kHz



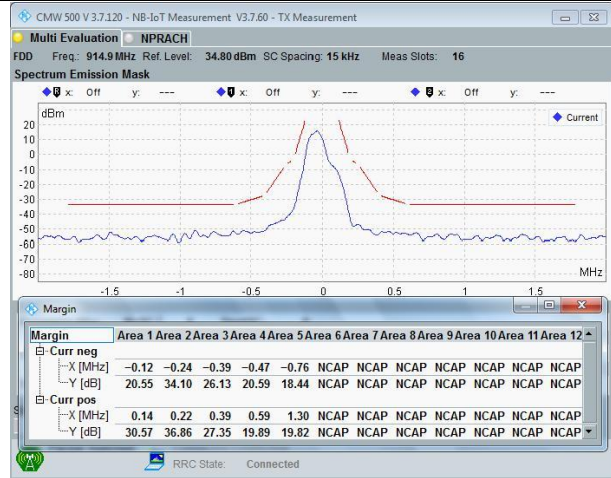
QPSK CH 21799 / 3@3 / 15kHz



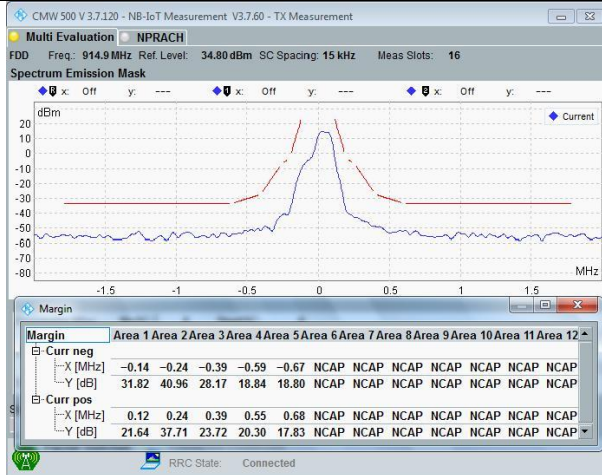
QPSK CH 21799 / 3@9 / 15kHz



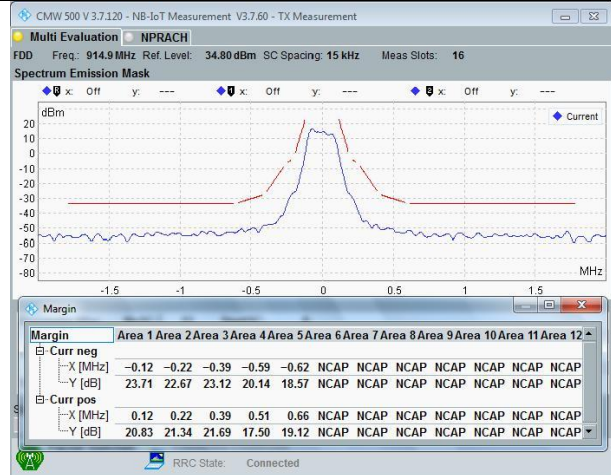
QPSK CH 21799 / 6@0 / 15kHz



QPSK CH 21799 / 6@6 / 15kHz

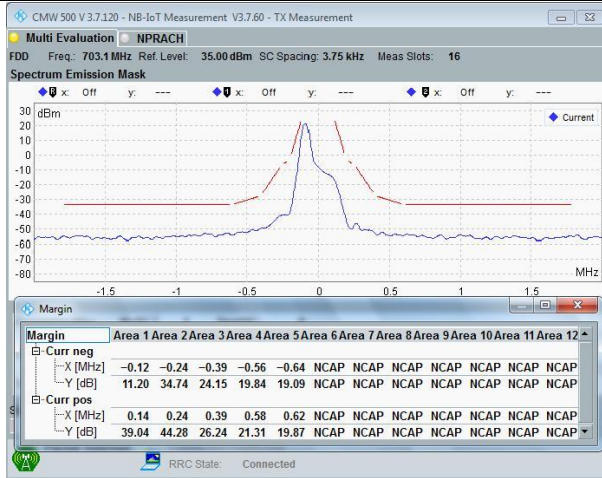


QPSK CH 21799 / 12@0 / 15kHz

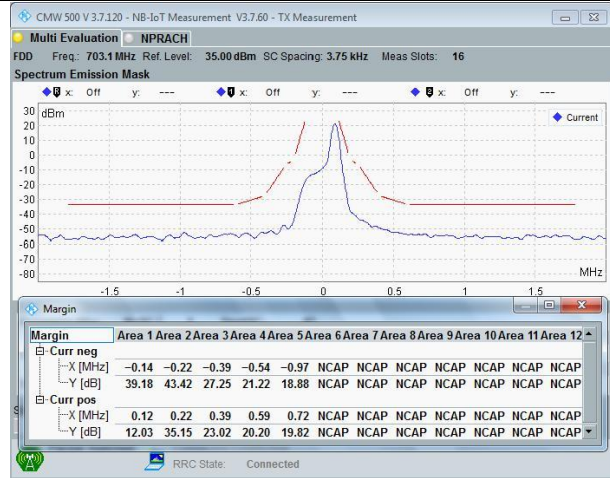


Band 28 (700MHz)									
Test Channel	Channel	Modulation	Ntones	Subcarrier Spacing (kHz)	Δf_{OOB} (kHz)				
					± 0 to 100	± 100 to 150	± 150 to 300	± 300 to 500	± 500 to 1700
LOW	27211	QPSK	1@0	3.75	11.20	34.74	24.15	19.84	19.09
			1@47		12.03	35.15	23.02	20.20	18.88
			1@0	15	24.86	44.23	28.05	22.86	20.32
			1@11		24.73	46.71	29.88	20.37	20.14
			3@0		25.79	41.79	28.57	20.24	19.72
			3@3		35.17	41.77	28.63	21.85	18.53
			3@9		26.15	38.83	27.15	21.16	19.48
			6@0		22.66	38.69	25.72	19.13	19.48
			6@6		21.79	36.41	25.78	20.43	18.91
			12@0		23.67	27.02	25.15	19.67	16.77
MID	27435	QPSK	1@0	3.75	11.53	35.58	20.54	18.40	17.11
			1@47		11.02	35.10	20.85	18.46	17.75
			1@0	15	23.53	44.64	29.24	22.17	19.26
			1@11		23.80	43.14	27.99	21.29	19.36
			3@0		25.53	37.67	28.59	20.98	19.32
			3@3		35.69	40.38	27.52	21.22	18.61
			3@9		22.37	37.85	24.27	17.77	17.15
			6@0		22.26	36.63	25.21	20.82	19.28
			6@6		26.02	35.08	24.48	19.06	17.65
			12@0		19.63	24.91	24.09	18.32	18.24
HIGHT	27659	QPSK	1@0	3.75	10.69	34.74	21.07	17.35	16.98
			1@47		10.86	35.01	22.00	18.30	16.32
			1@0	15	24.01	43.37	27.53	22.39	19.31
			1@11		24.17	42.63	26.88	20.20	19.43
			3@0		25.59	37.73	26.83	18.46	18.35
			3@3		34.56	40.95	27.65	19.16	18.65
			3@9		21.05	39.79	26.44	20.44	18.50
			6@0		22.69	35.35	24.62	20.39	19.31
			6@6		20.77	37.89	24.77	19.81	17.70
			12@0		22.52	25.44	22.30	17.67	17.85

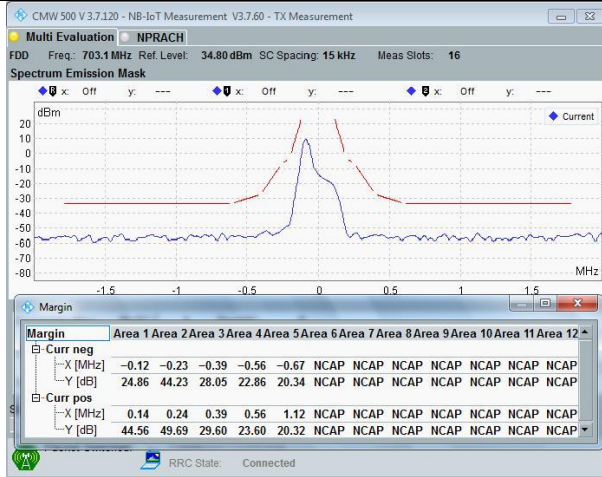
QPSK CH 27211 / 1@0 / 3.75kHz



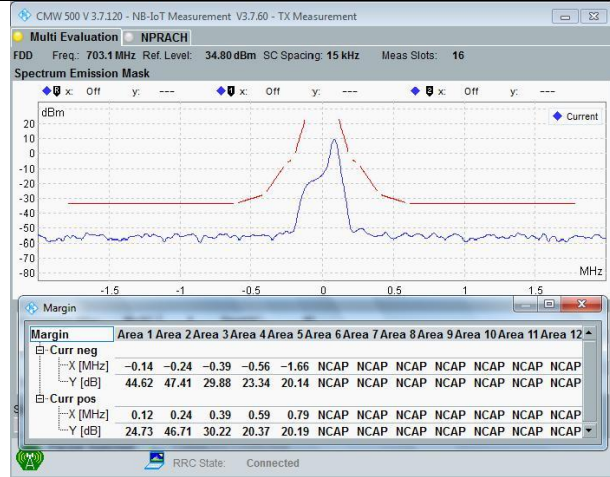
QPSK CH 27211 / 1@47 / 3.75kHz



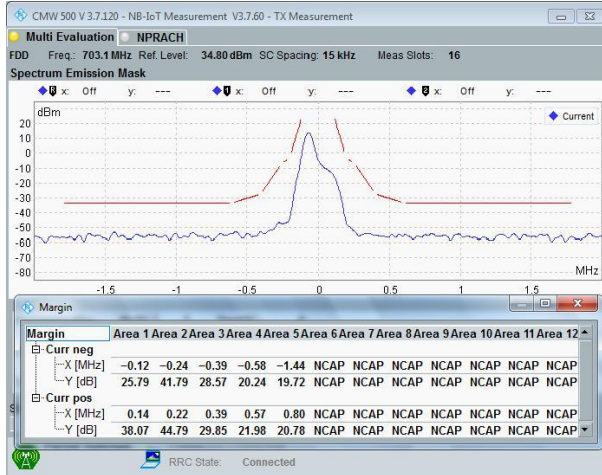
QPSK CH 27211 / 1@0 / 15kHz



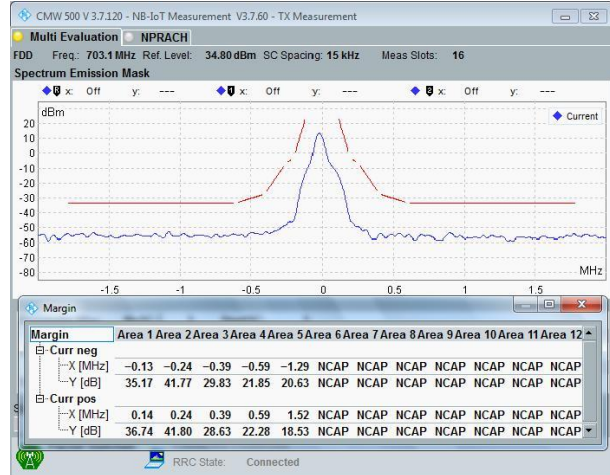
QPSK CH 27211 / 1@11 / 15kHz



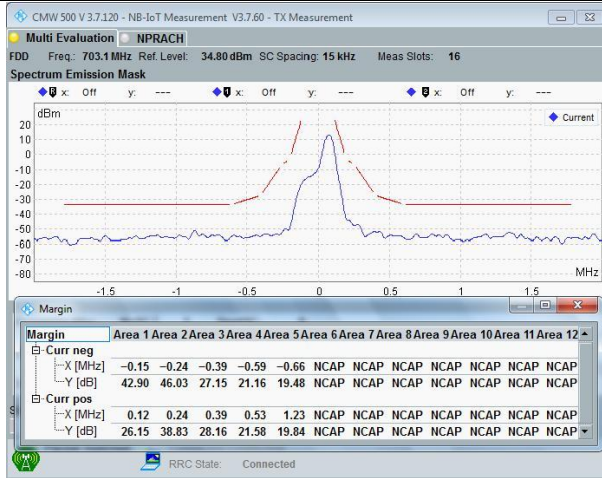
QPSK CH 27211 / 3@0 / 15kHz



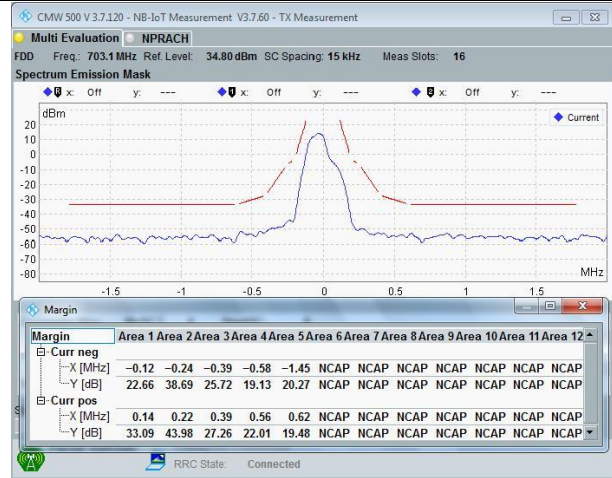
QPSK CH 27211 / 3@3 / 15kHz



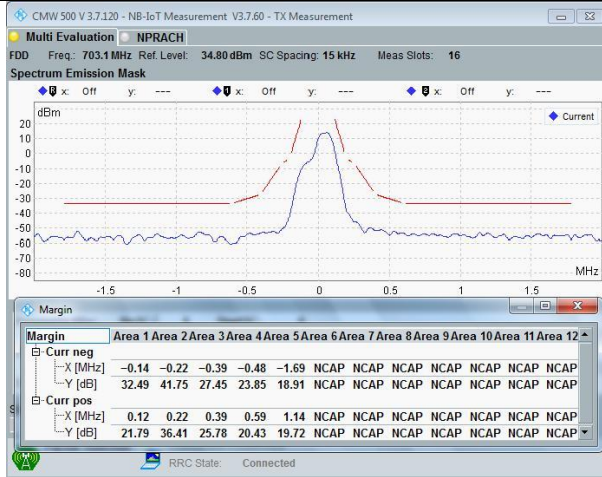
QPSK CH 27211 / 3@9 / 15kHz



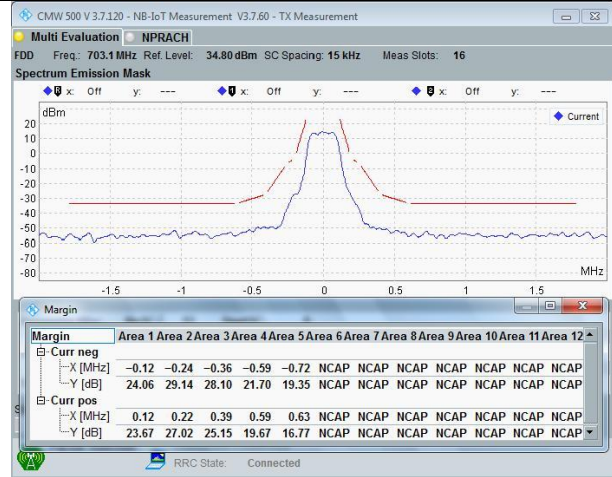
QPSK CH 27211 / 6@0 / 15kHz



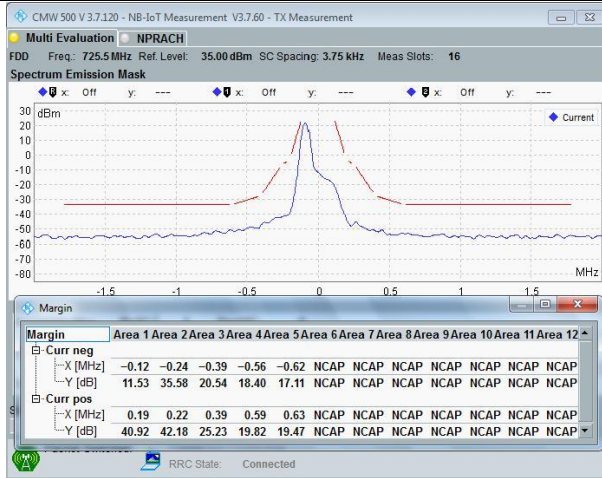
QPSK CH 27211 / 6@6 / 15kHz



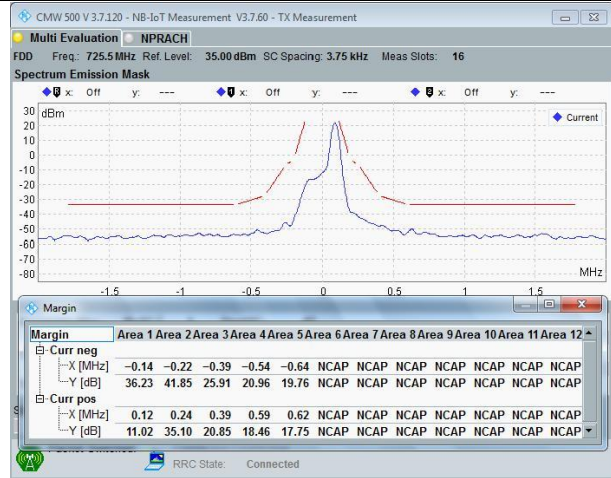
QPSK CH 27211 / 12@0 / 15kHz



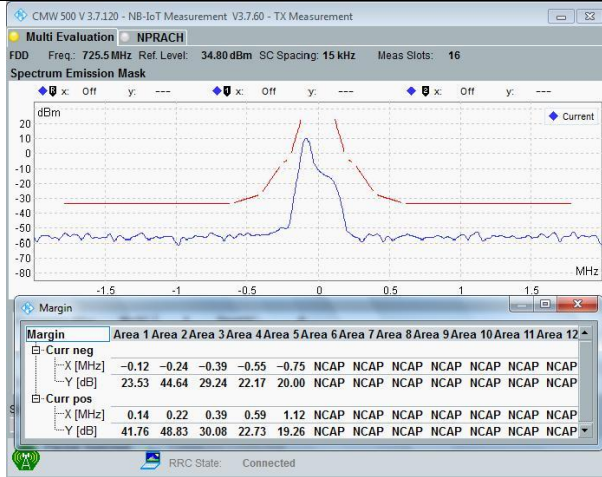
QPSK CH 27435 / 1@0 / 3.75kHz



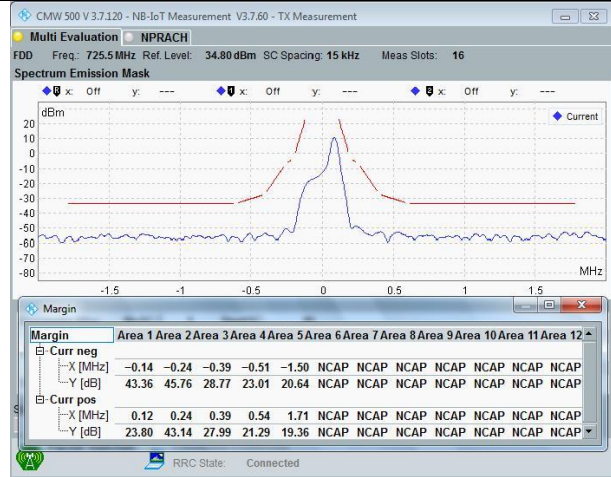
QPSK CH 27435 / 1@47 / 3.75kHz



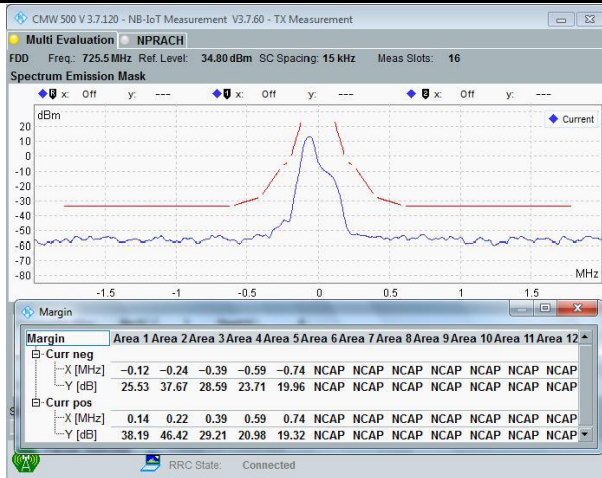
QPSK CH 27435 / 1@0 / 15kHz



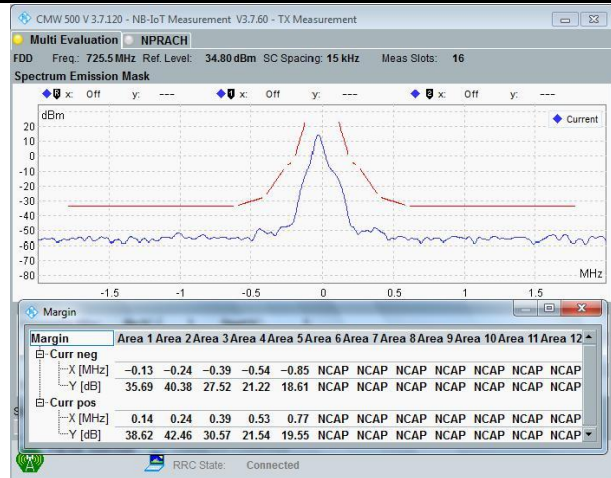
QPSK CH 27435 / 1@11 / 15kHz



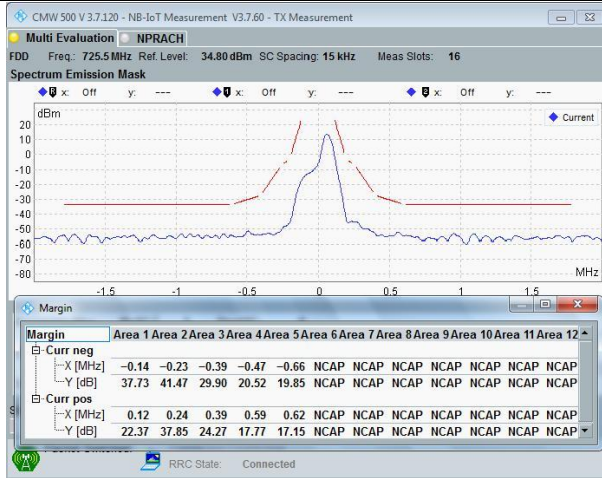
QPSK CH 27435 / 3@0 / 15kHz



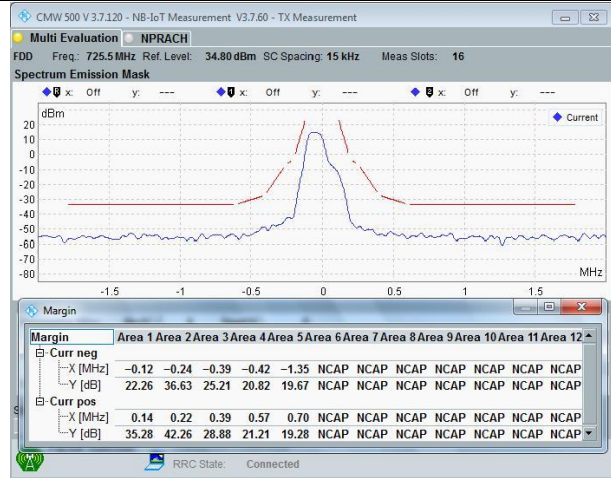
QPSK CH 27435 / 3@3 / 15kHz



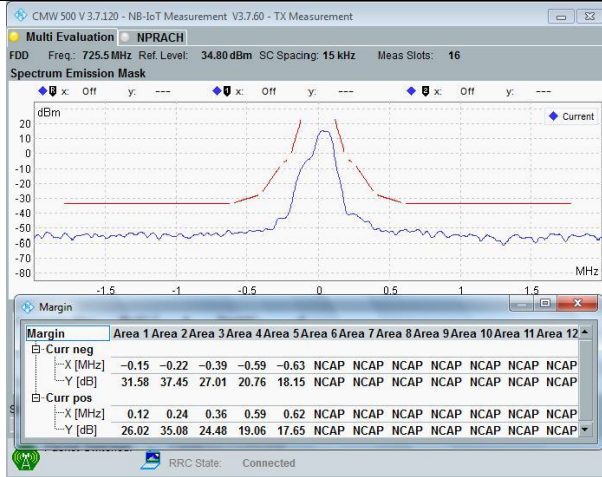
QPSK CH 27435 / 3@9 / 15kHz



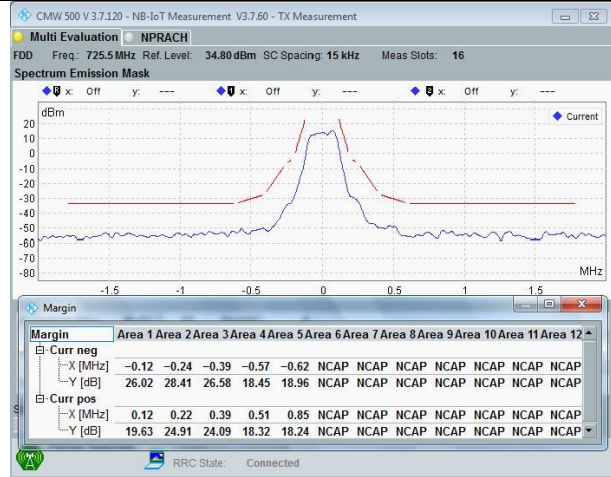
QPSK CH 27435 / 6@0 / 15kHz



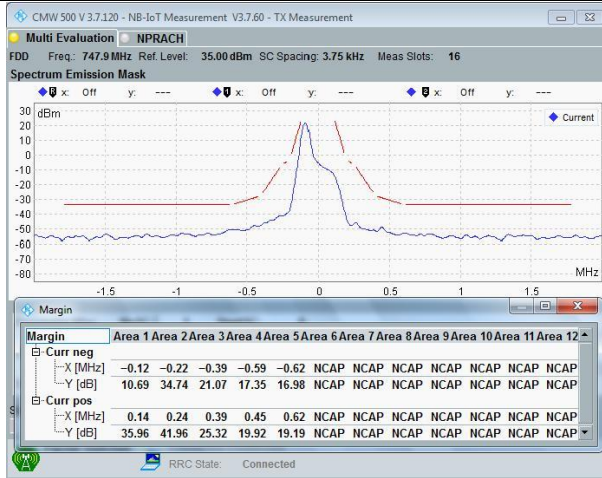
QPSK CH 27435 / 6@6 / 15kHz



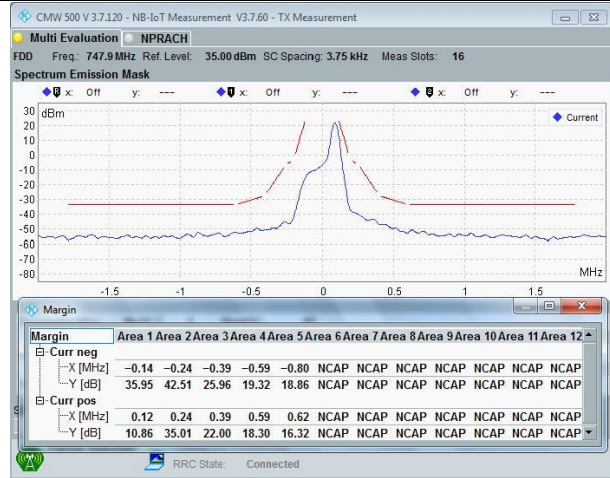
QPSK CH 27435 / 12@0 / 15kHz



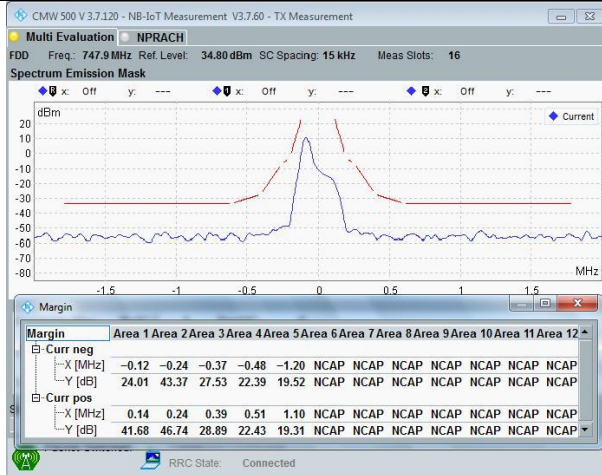
QPSK CH 27659 / 1@0 / 3.75kHz



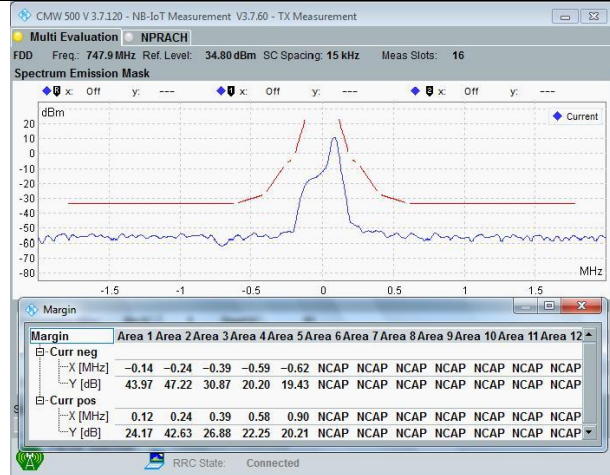
QPSK CH 27659 / 1@47 / 3.75kHz



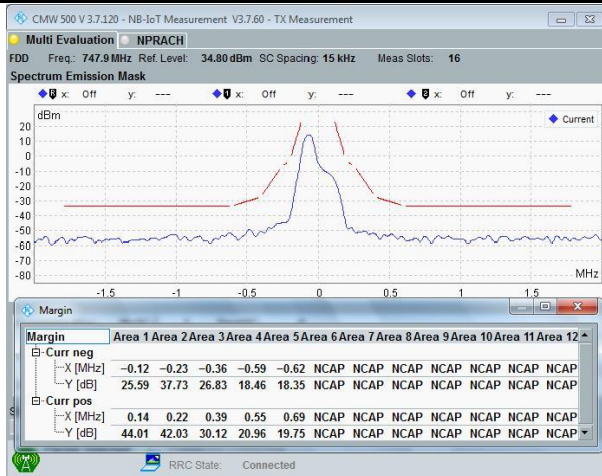
QPSK CH 27659 / 1@0 / 15kHz



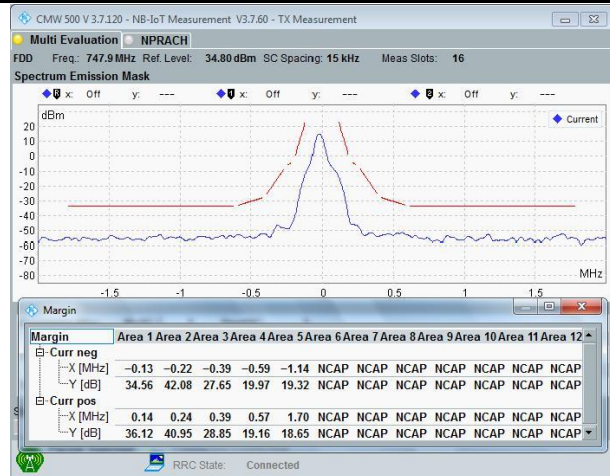
QPSK CH 27659 / 1@11 / 15kHz



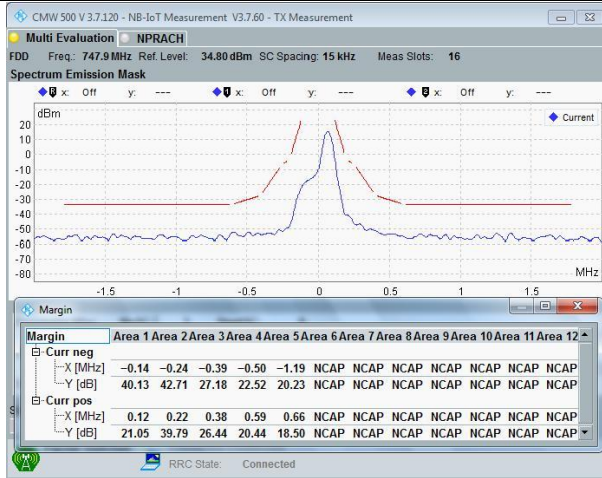
QPSK CH 27659 / 3@0 / 15kHz



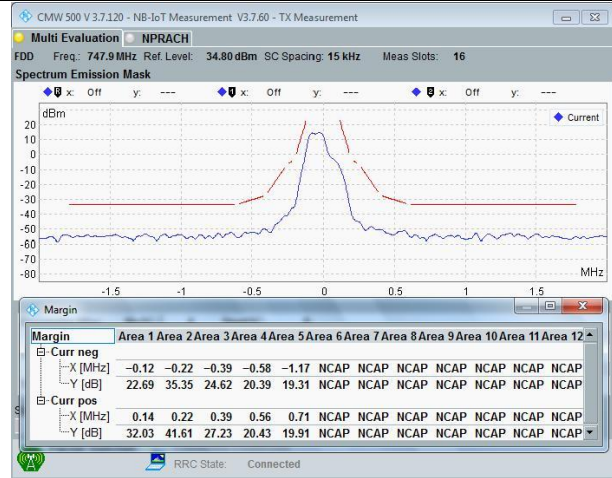
QPSK CH 27659 / 3@3 / 15kHz



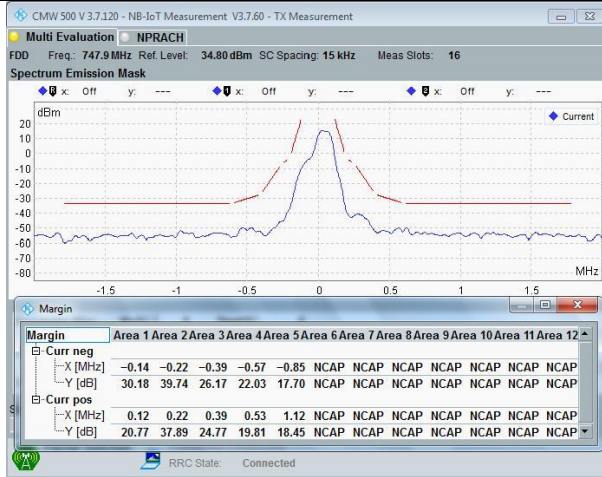
QPSK CH 27659 / 3@9 / 15kHz



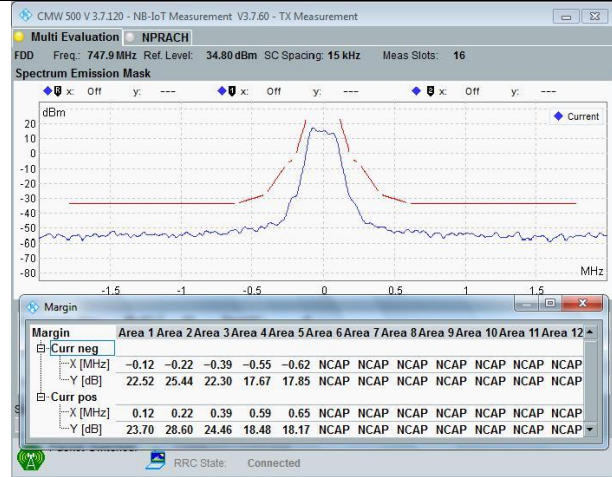
QPSK CH 27659 / 6@0 / 15kHz



QPSK CH 27659 / 6@6 / 15kHz



QPSK CH 27659 / 12@0 / 15kHz



5.3 傳導帶外輻射發射限制

5.3.1 合格標準

工作頻帶外輻射發射應符合下表之帶外輻射規範值。

頻率範圍	最大位準	解析頻寬
$9\text{kHz} \leq f < 150\text{kHz}$	-36 dBm	1kHz
$150\text{kHz} \leq f < 30\text{MHz}$	-36 dBm	10kHz
$30\text{MHz} \leq f < 1\text{GHz}$	-36 dBm	100kHz
$1\text{GHz} \leq f < 12.75\text{Hz}$	-30 dBm	1MHz

5.3.2 測試方法

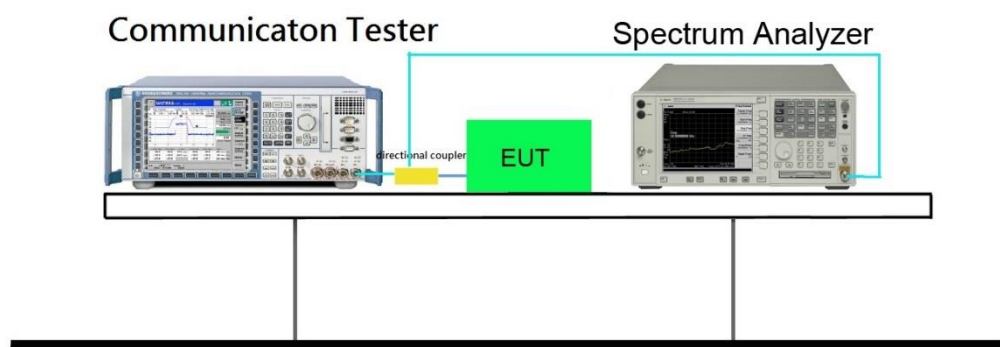
- (1) 帶外輻射量測頻率範圍，不包含 Δf_{OOB} 為1.7MHz。量測時的解析頻寬不小於表的設定值。
- (2) 依下表進行檢測。

NB-IoT 終端設備帶外輻射之頻道頻寬測試參數

結構編號 Configuration ID	下行結構	上行結構		
		調變方式	Ntones	子載波間距(kHz)
1	帶外輻射測試不適用	QPSK	1@0	3.75
2		QPSK	1@47	3.75
3		BPSK	1@0	15
4		BPSK	1@11	15
5(註)		QPSK	12@0	15

註：適用於支援上行多頻傳輸（multi-tone transmissions）的終端設備。

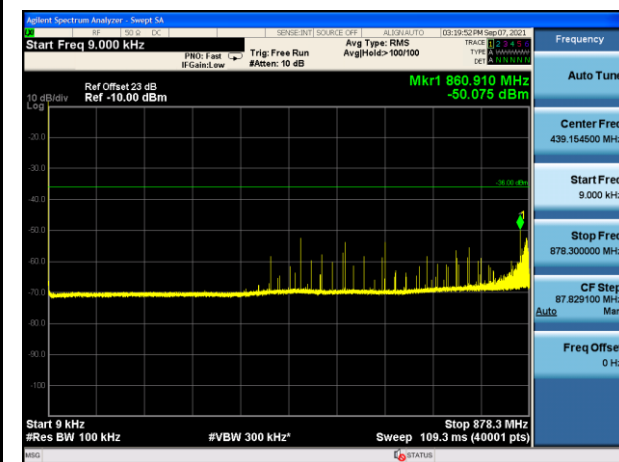
5.3.3 實驗方法方塊圖



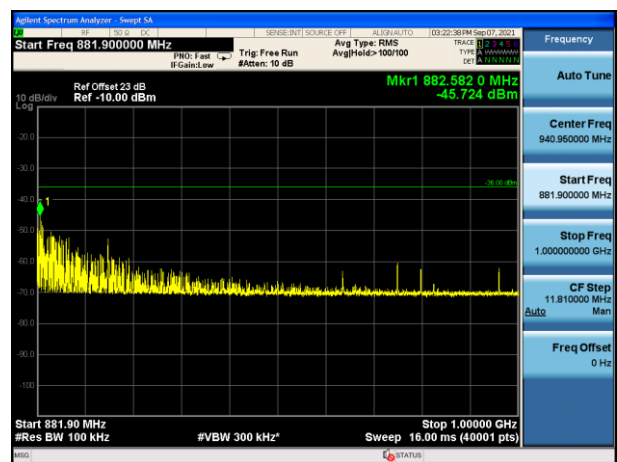
5.3.4 實驗數據

Band 8 (900MHz)					
Test Channel	Channel / Freq	Modulation	Ntones	Subcarrier Spacing (kHz)	Result
LOW	CH21451 / 880.1MHz	QPSK	1@0	3.75	Pass
		QPSK	1@47		Pass
		BPSK	1@0	15	Pass
		BPSK	1@11		Pass
		QPSK	12@0		Pass
MID	CH21625 / 897.5MHz	QPSK	1@0	3.75	Pass
		QPSK	1@47		Pass
		BPSK	1@0	15	Pass
		BPSK	1@11		Pass
		QPSK	12@0		Pass
HIGHT	CH21799 / 914.9MHz	QPSK	1@0	3.75	Pass
		QPSK	1@47		Pass
		BPSK	1@0	15	Pass
		BPSK	1@11		Pass
		QPSK	12@0		Pass

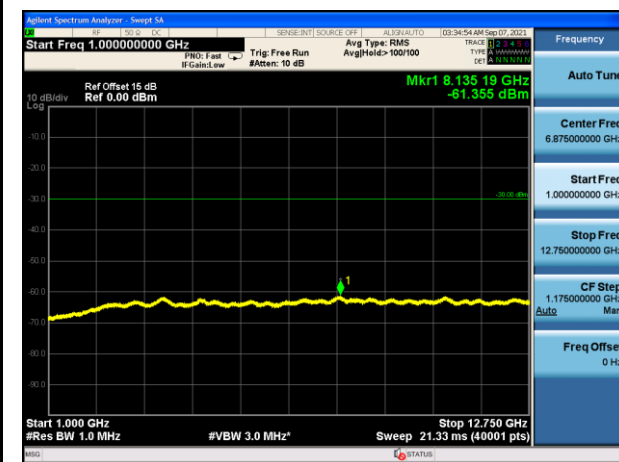
QPSK CH 21451 / 1@0 / 3.75kHz



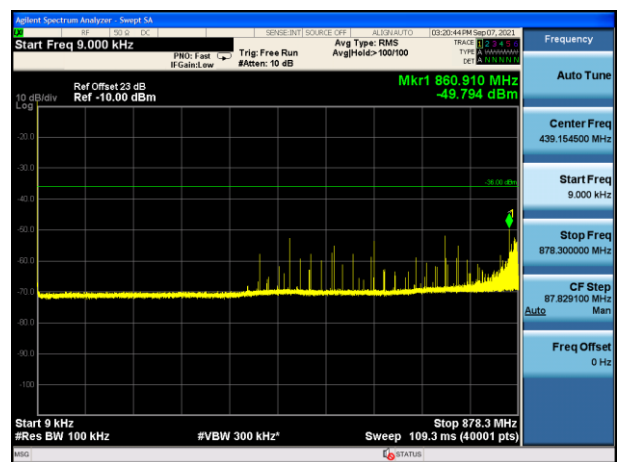
QPSK CH 21451 / 1@0 / 3.75kHz



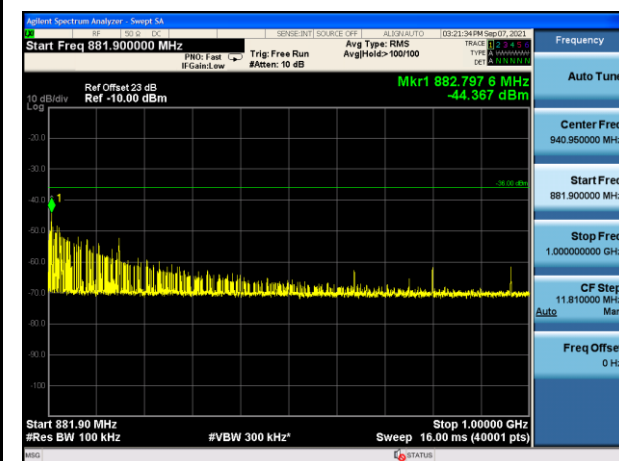
QPSK CH 21451 / 1@0 / 3.75kHz



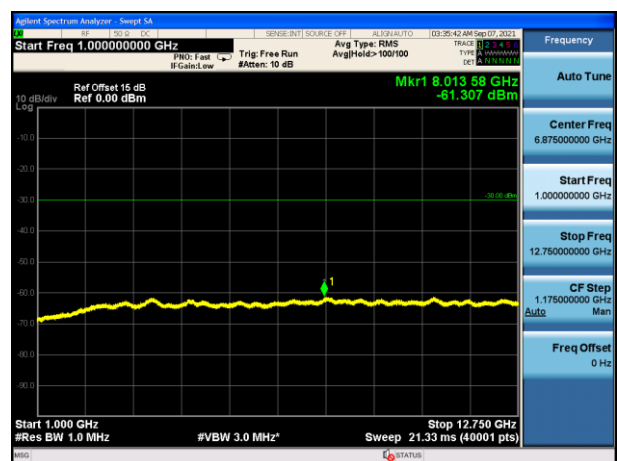
QPSK CH 21451 / 1@47 / 3.75kHz



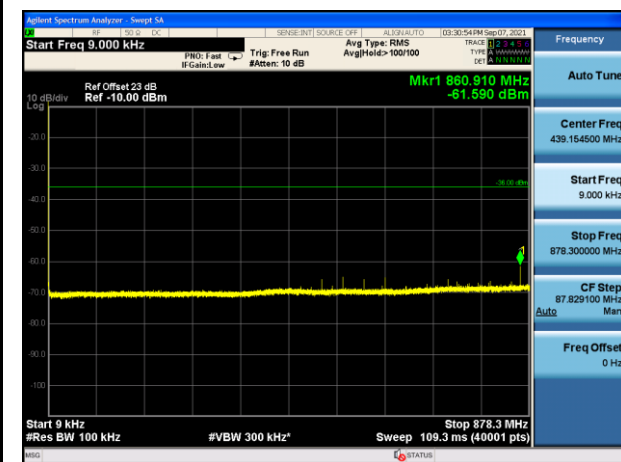
QPSK CH 21451 / 1@47 / 3.75kHz



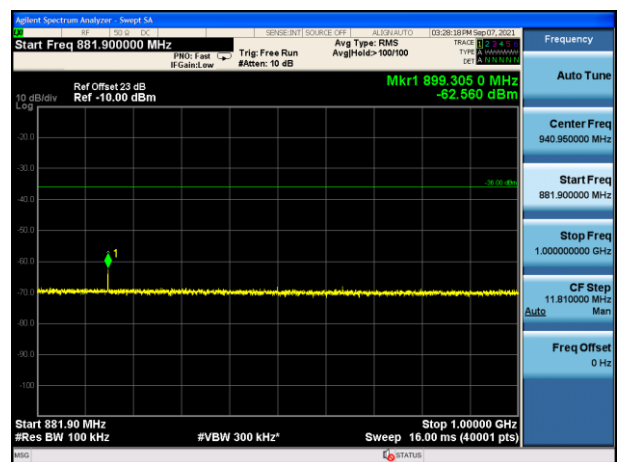
QPSK CH 21451 / 1@47 / 3.75kHz



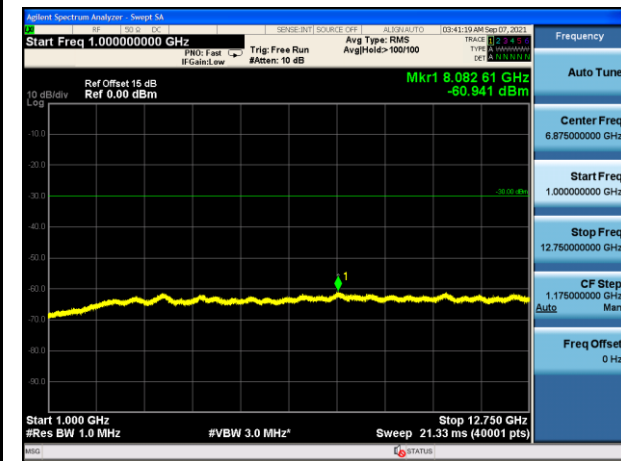
BPSK CH 21451 / 1@0 / 15kHz



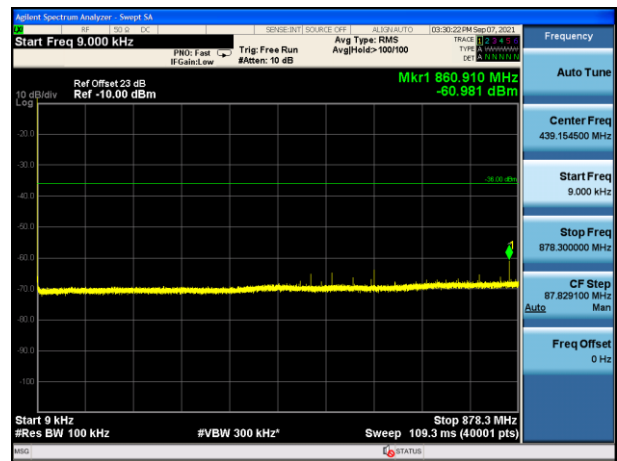
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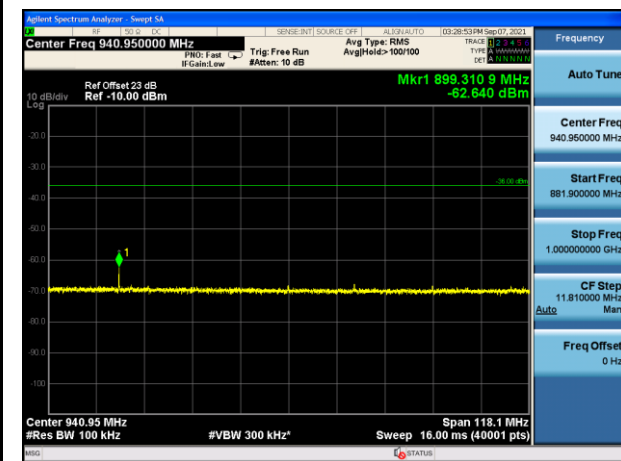
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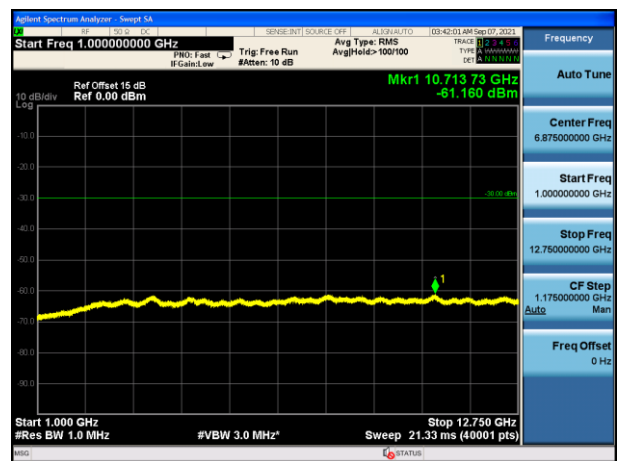
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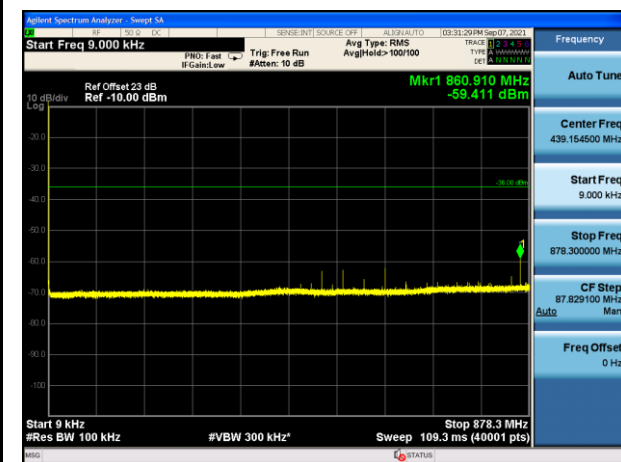
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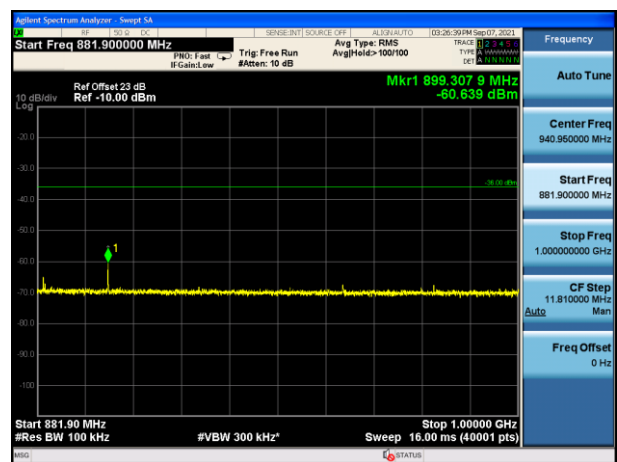
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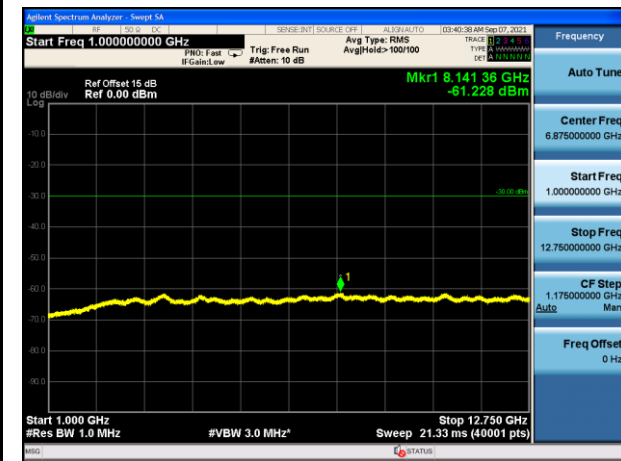
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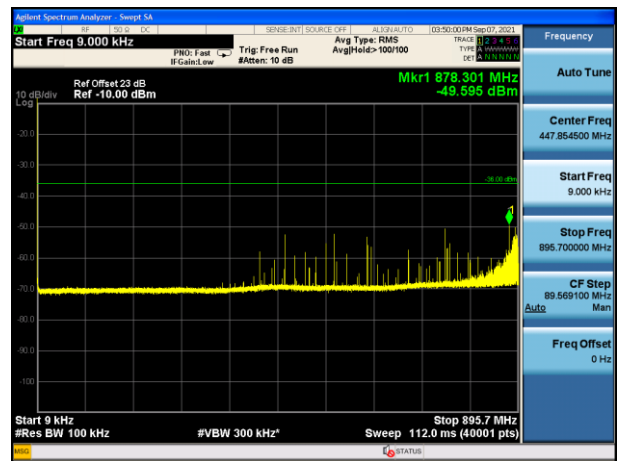
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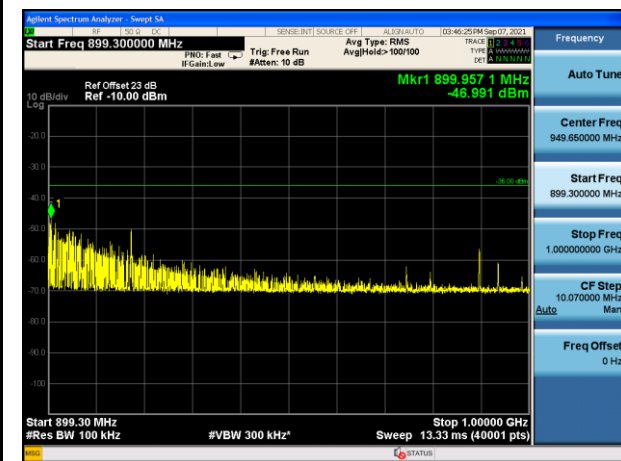
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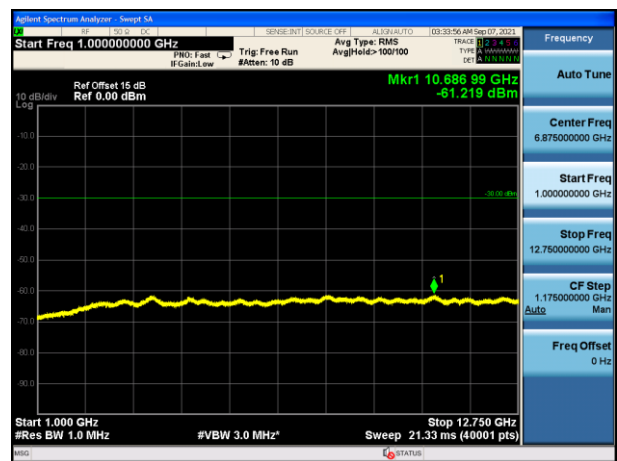
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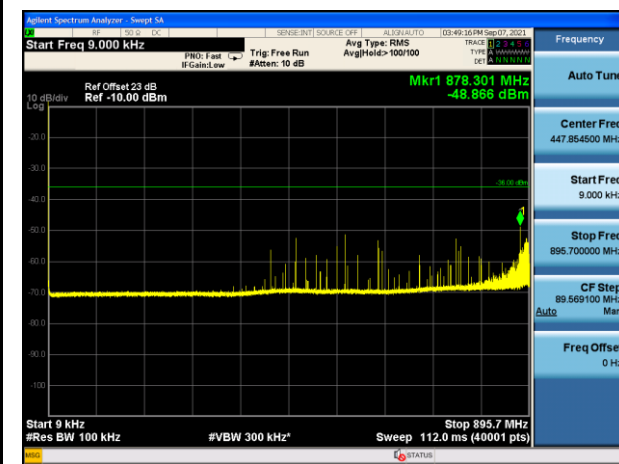
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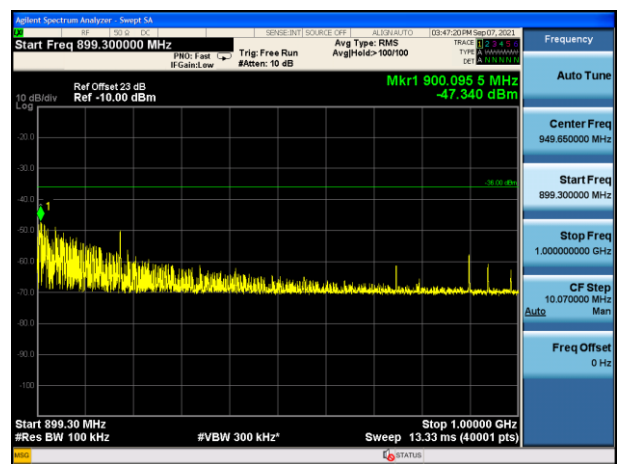
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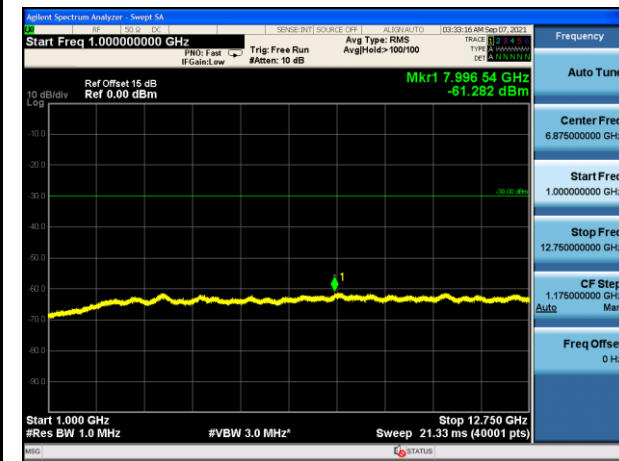
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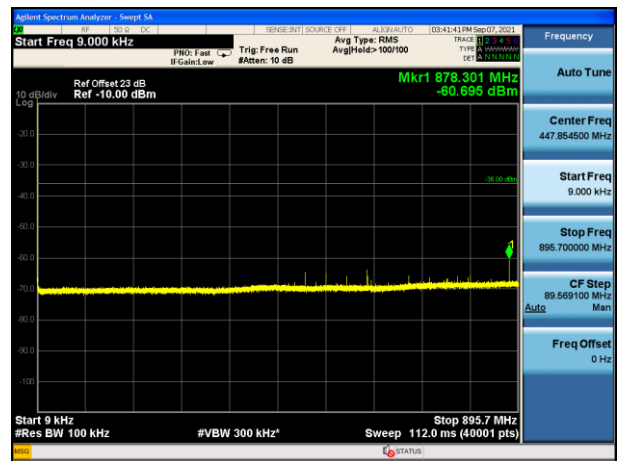
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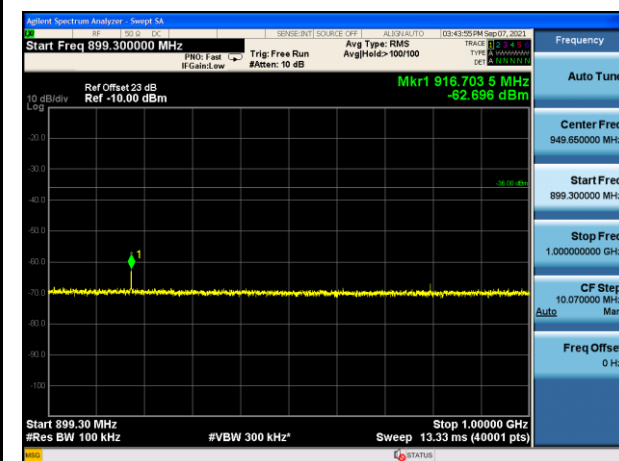
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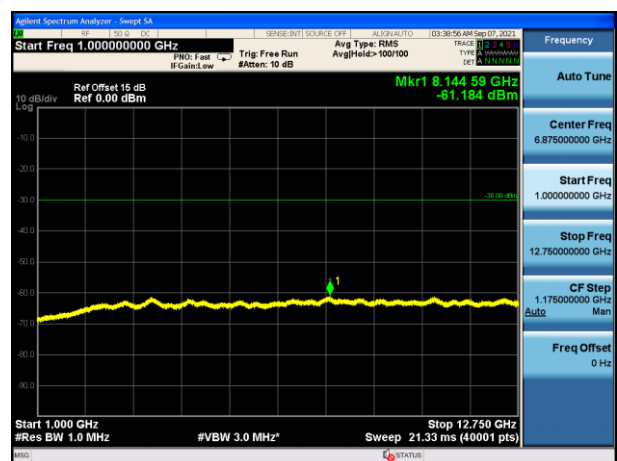
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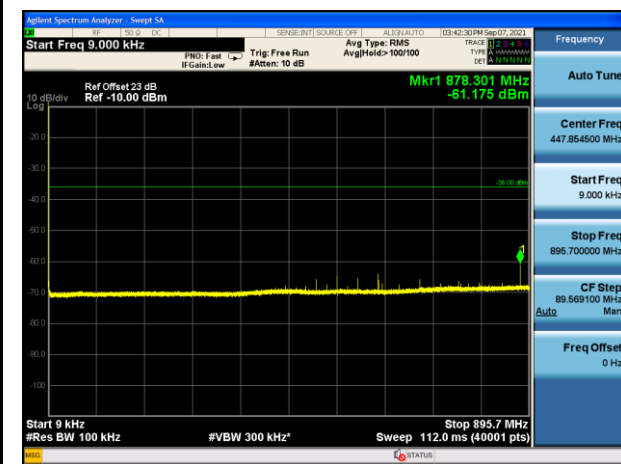
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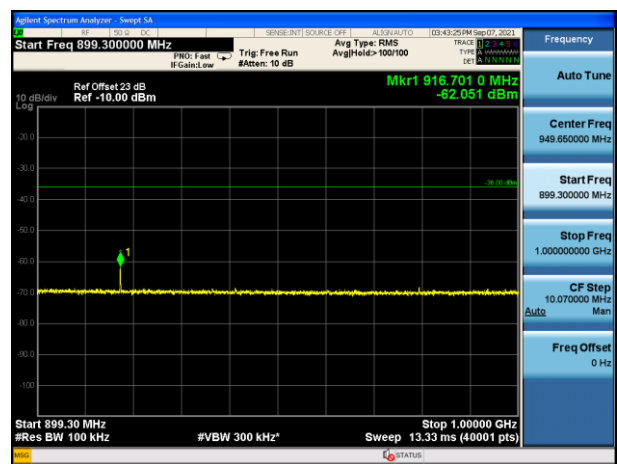
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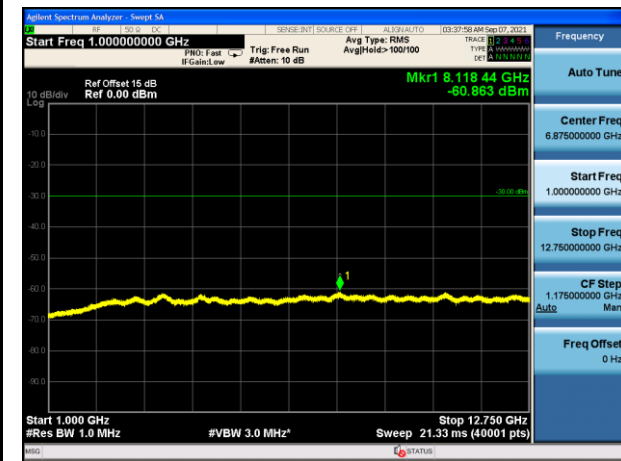
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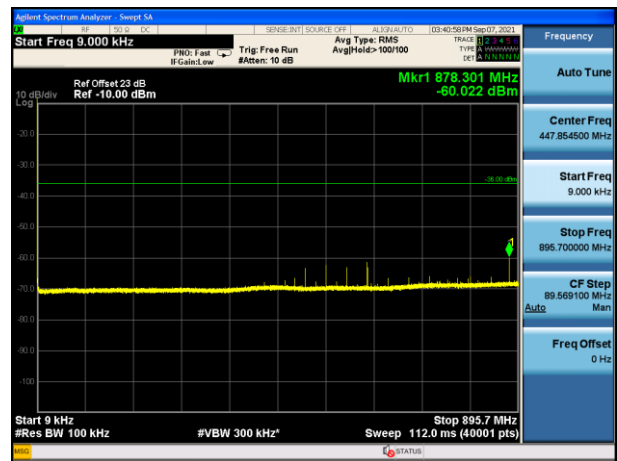
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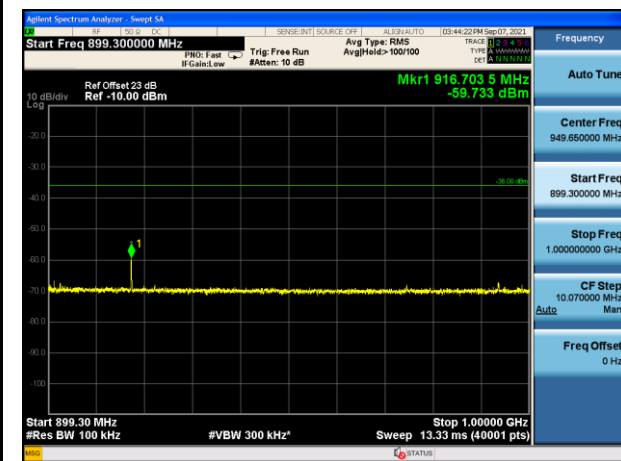
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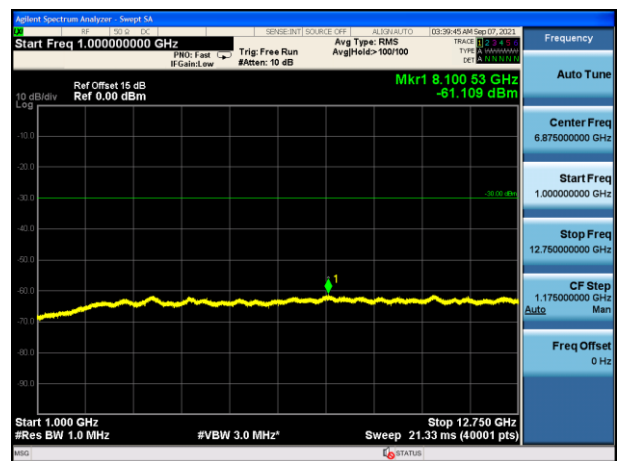
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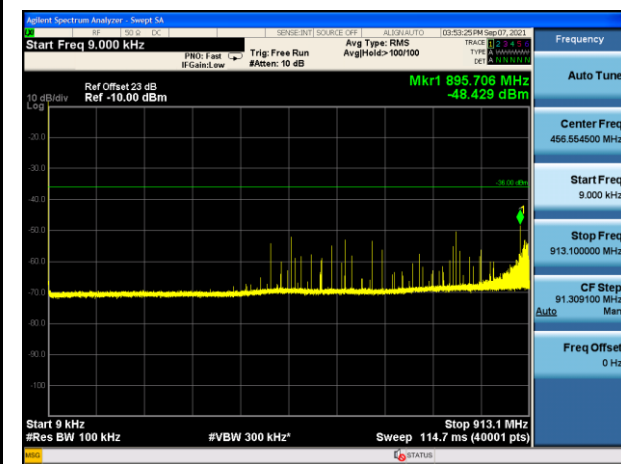
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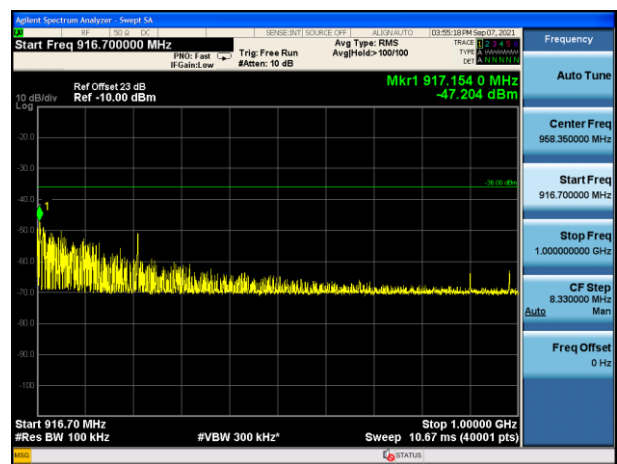
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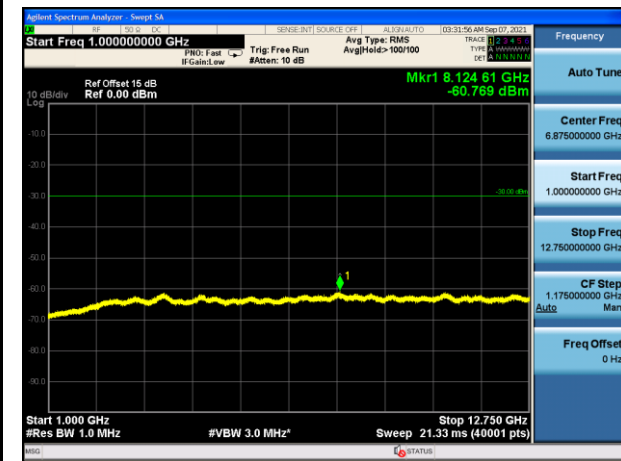
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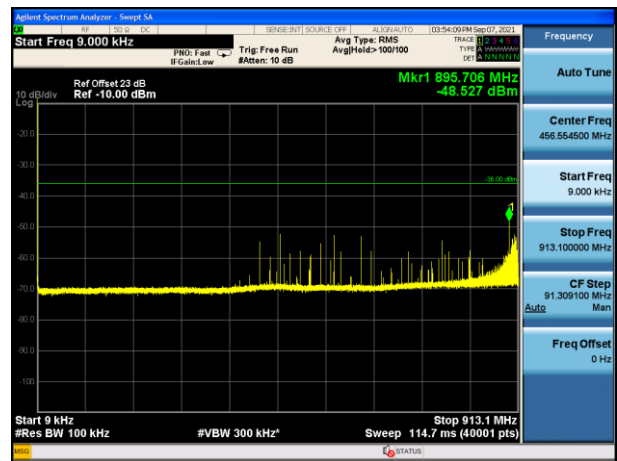
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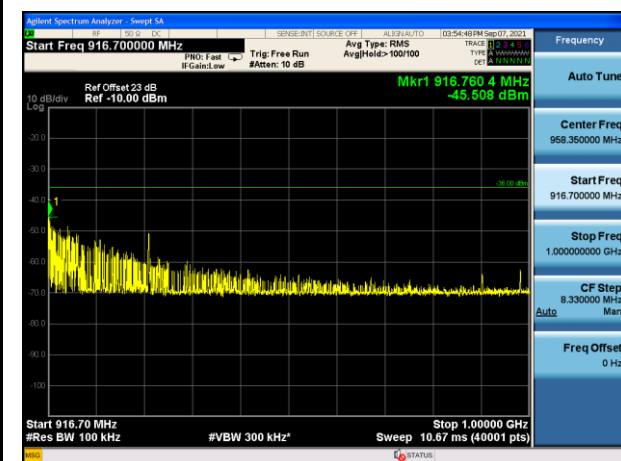
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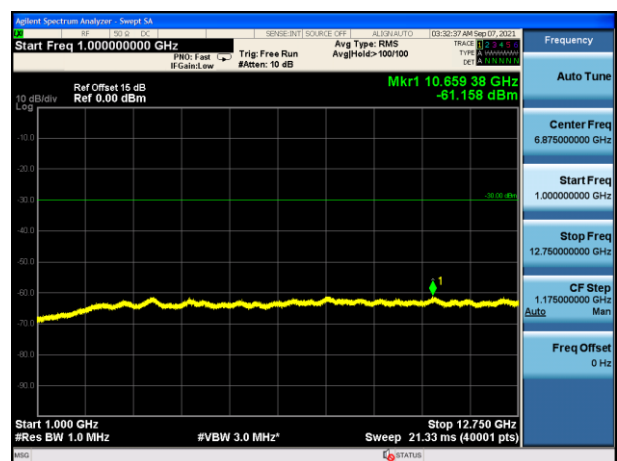
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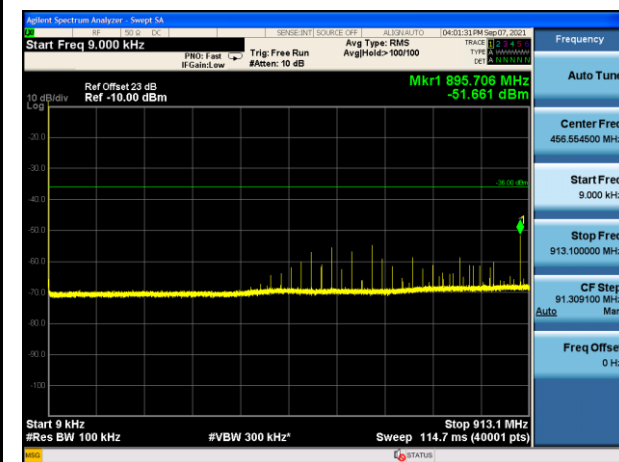
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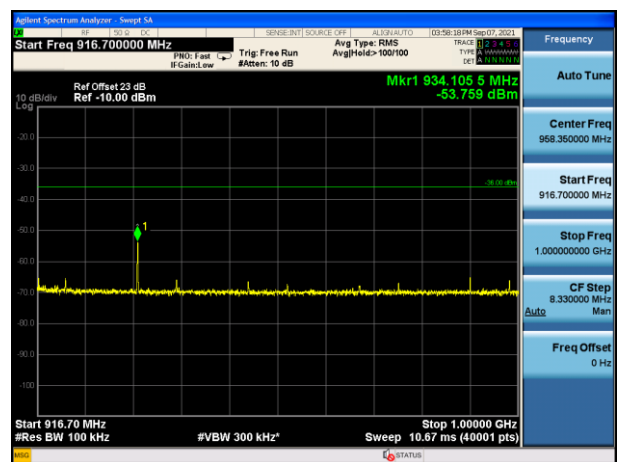
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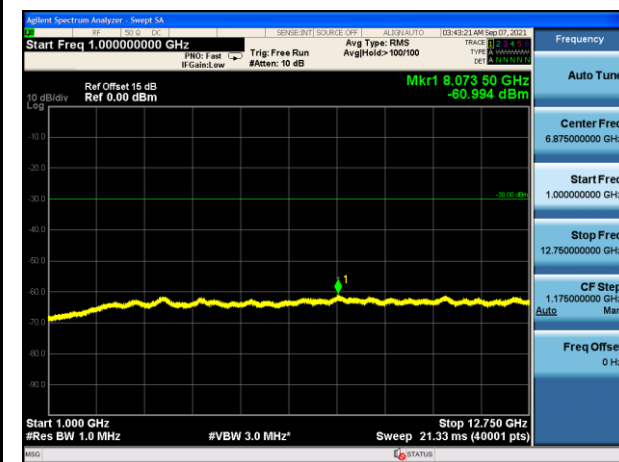
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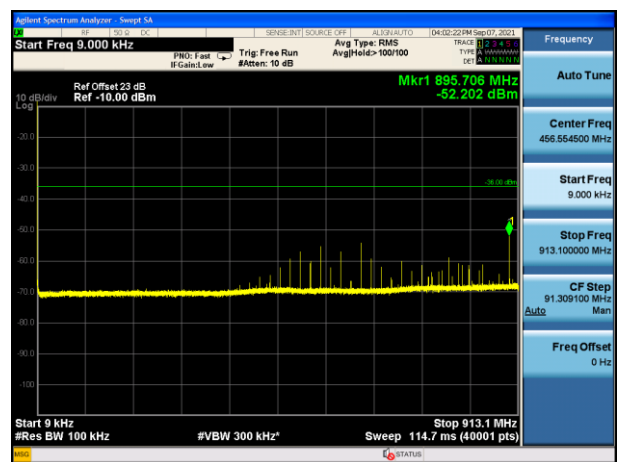
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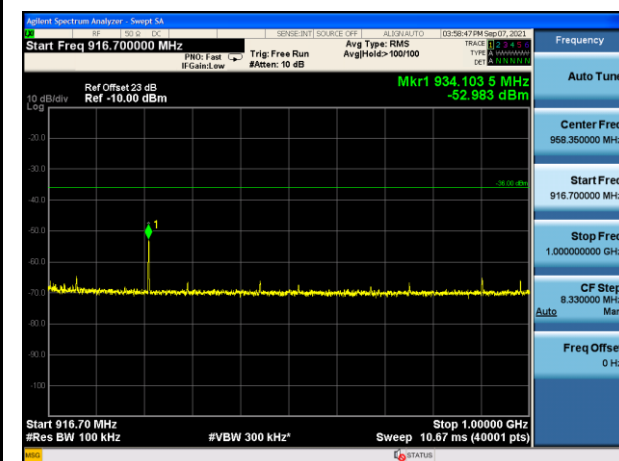
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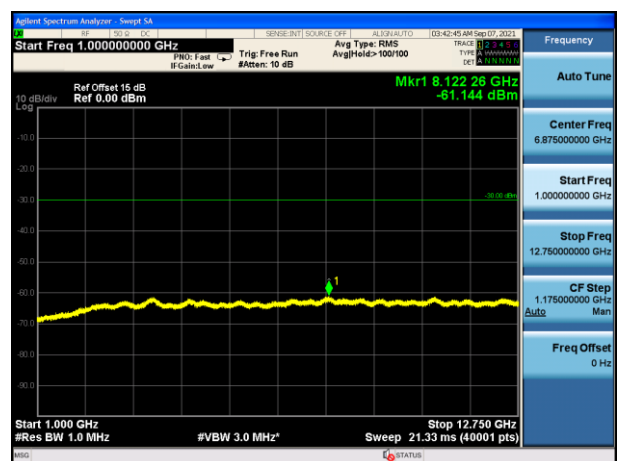
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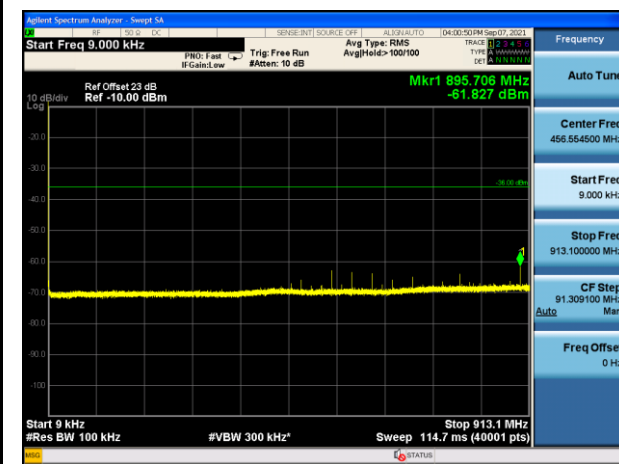
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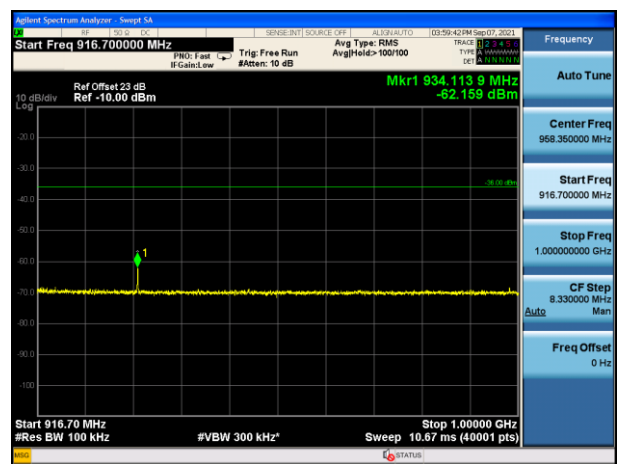
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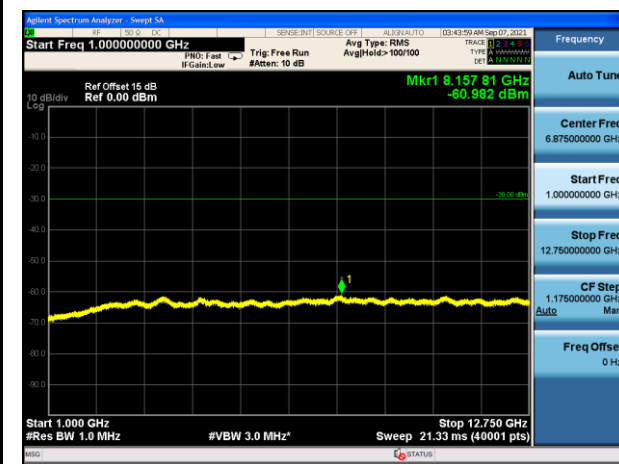
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QPSK CH 21799 / 12@0 / 15kHz

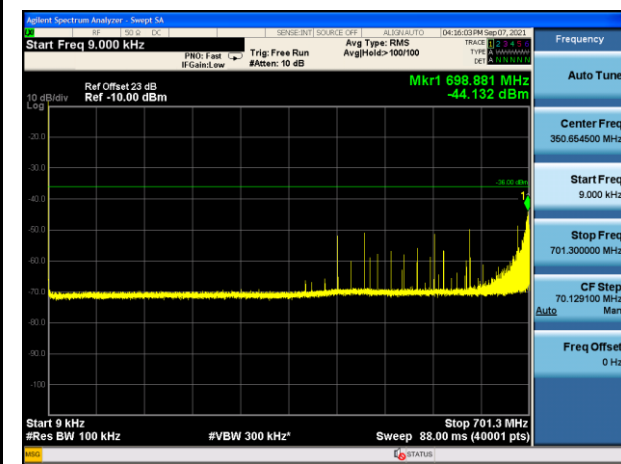


QPSK CH 21799 / 12@0 / 15kHz

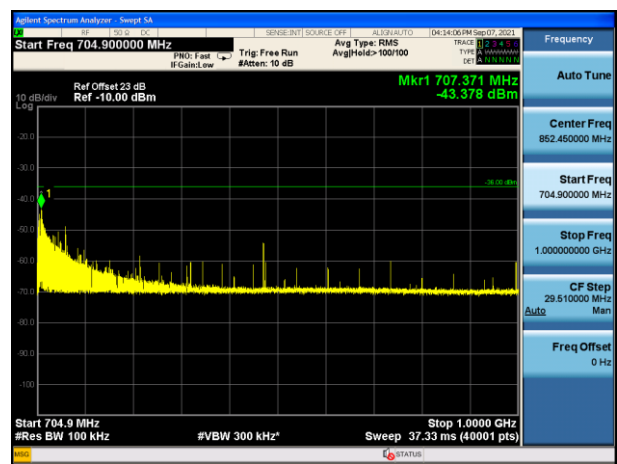


Band 28 (700MHz)					
Test Channel	Channel / Freq	Modulation	Ntones	Subcarrier Spacing (kHz)	Result
LOW	CH27211 / 703.1MHz	QPSK	1@0	3.75	Pass
		QPSK	1@47		Pass
		BPSK	1@0	15	Pass
		BPSK	1@11		Pass
		QPSK	12@0		Pass
MID	CH27435 / 725.5MHz	QPSK	1@0	3.75	Pass
		QPSK	1@47		Pass
		BPSK	1@0	15	Pass
		BPSK	1@11		Pass
		QPSK	12@0		Pass
HIGHT	CH27659 / 747.9MHz	QPSK	1@0	3.75	Pass
		QPSK	1@47		Pass
		BPSK	1@0	15	Pass
		BPSK	1@11		Pass
		QPSK	12@0		Pass

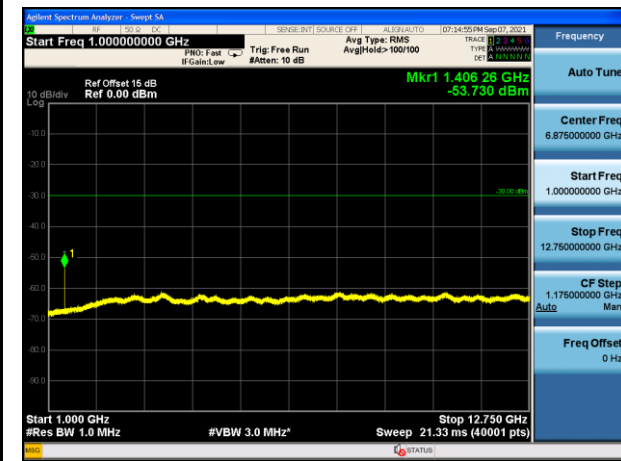
QPSK CH 27211 / 1@0 / 3.75kHz



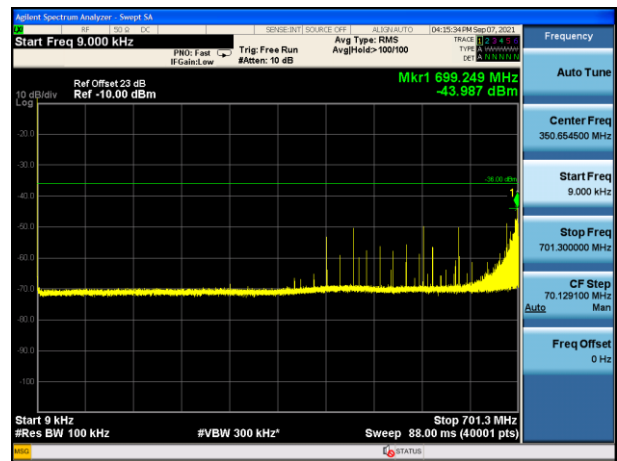
QPSK CH 27211 / 1@0 / 3.75kHz



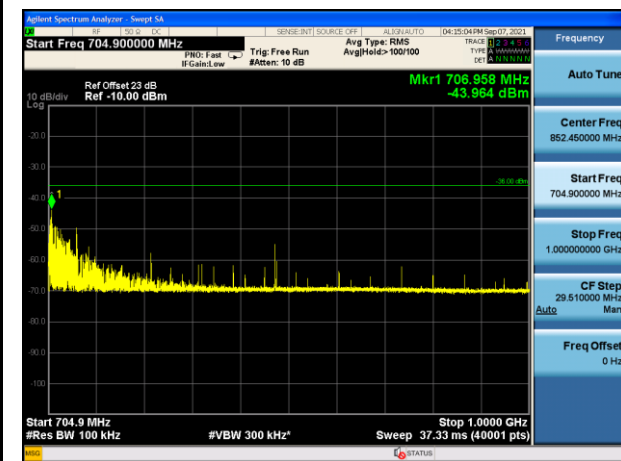
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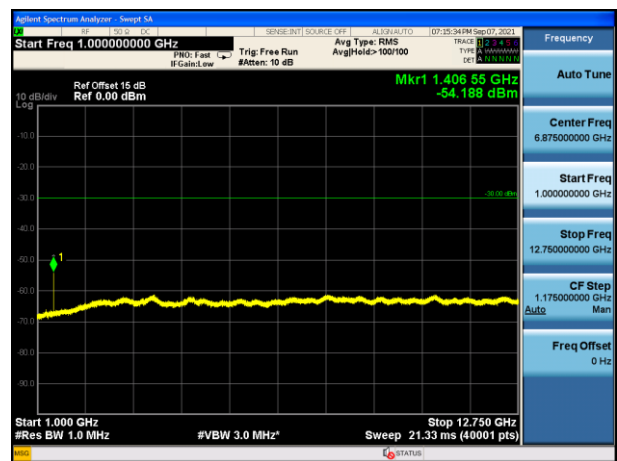
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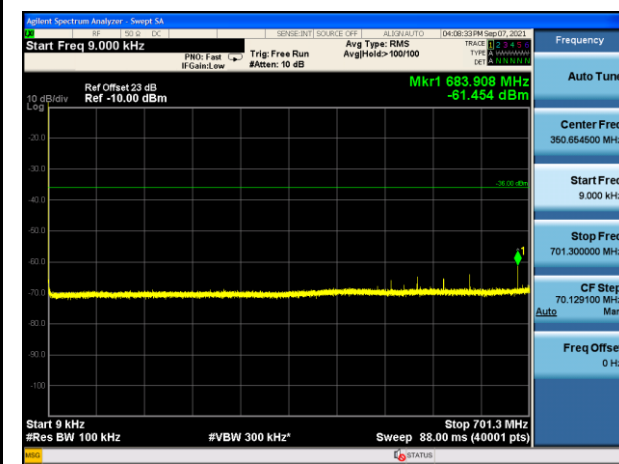
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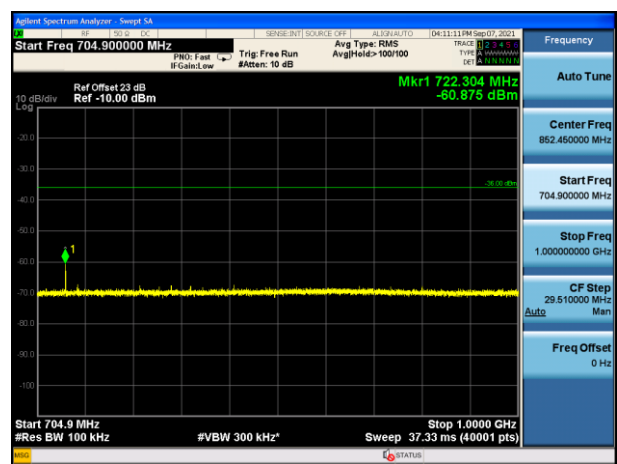
QPSK CH 27211 / 1@47 / 3.75kHz



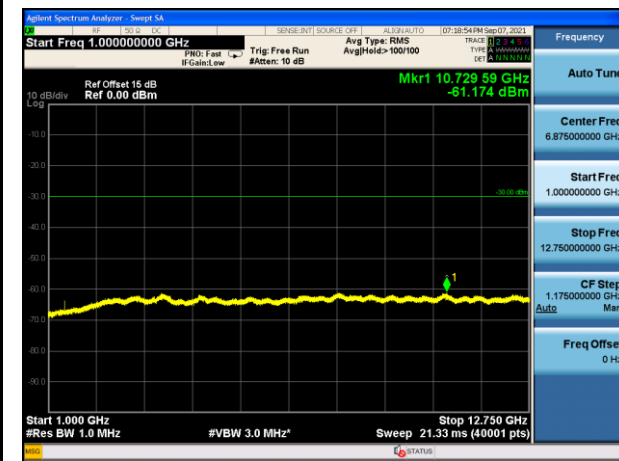
BPSK CH 27211 / 1@0 / 15kHz



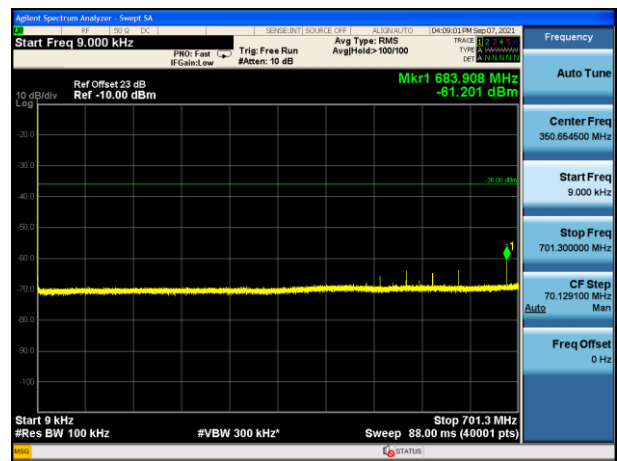
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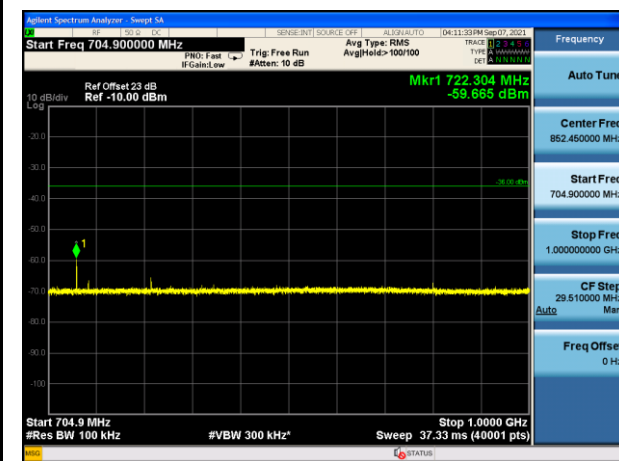
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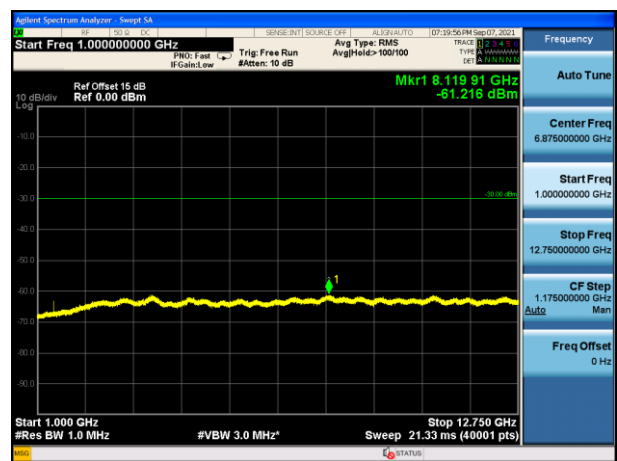
BPSK CH 27211 / 1@11 / 15kHz



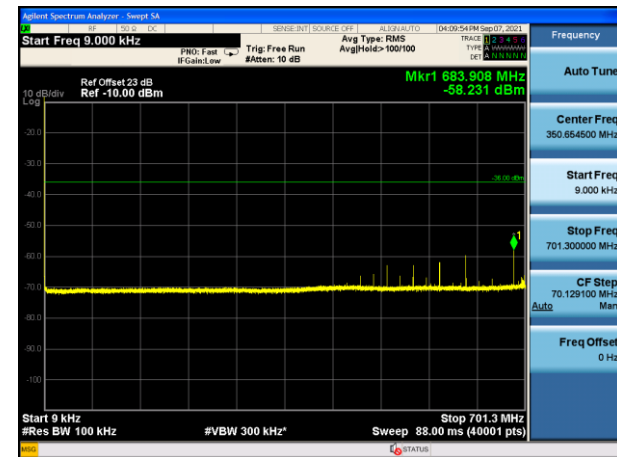
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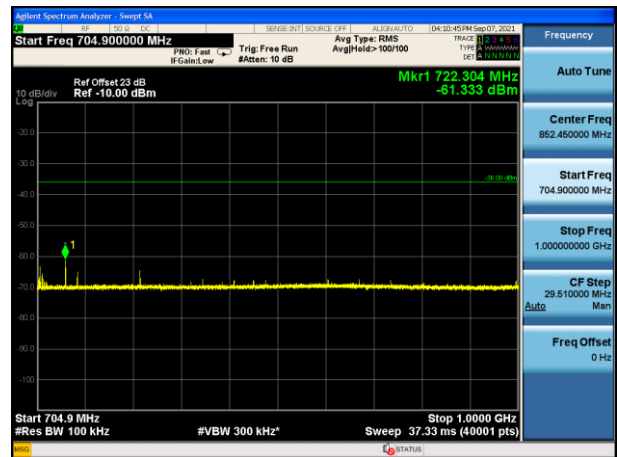
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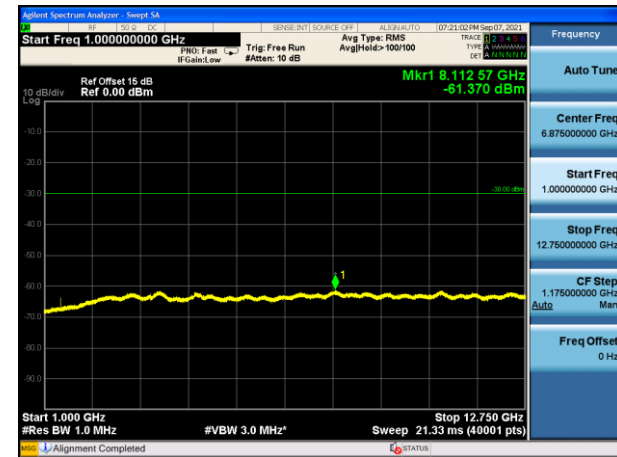
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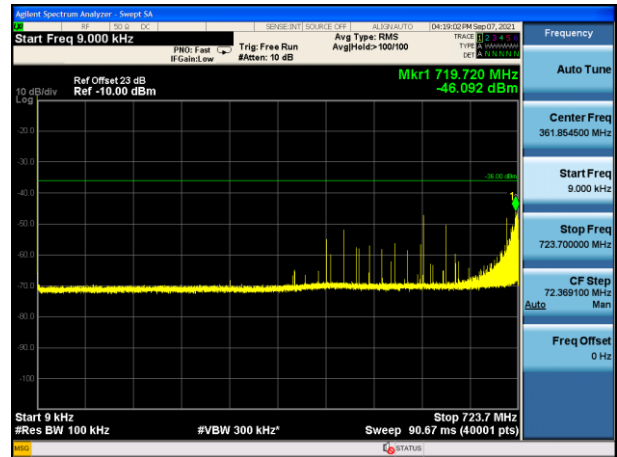
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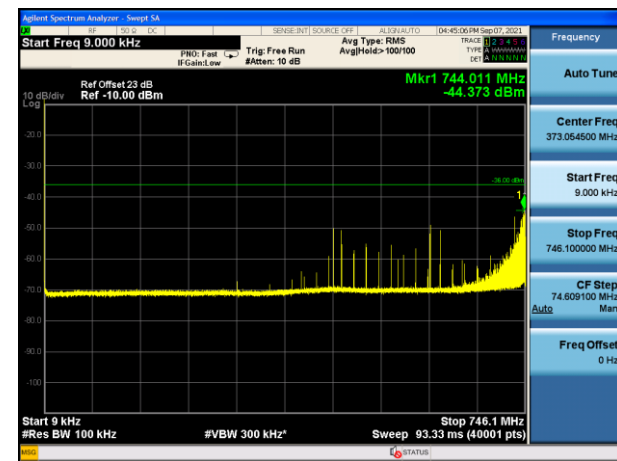
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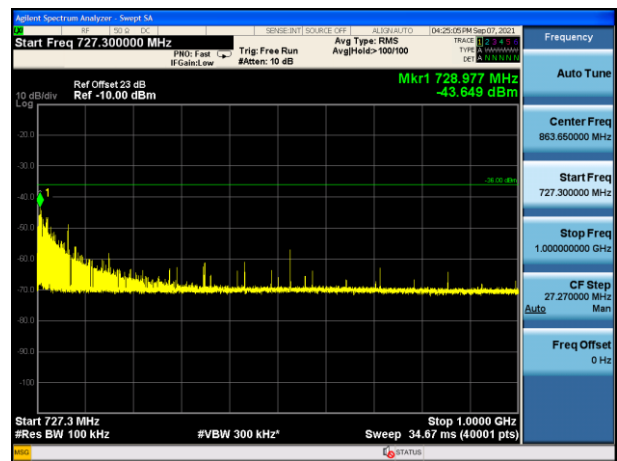
QPSK CH 27435 / 1@0 / 3.75kHz



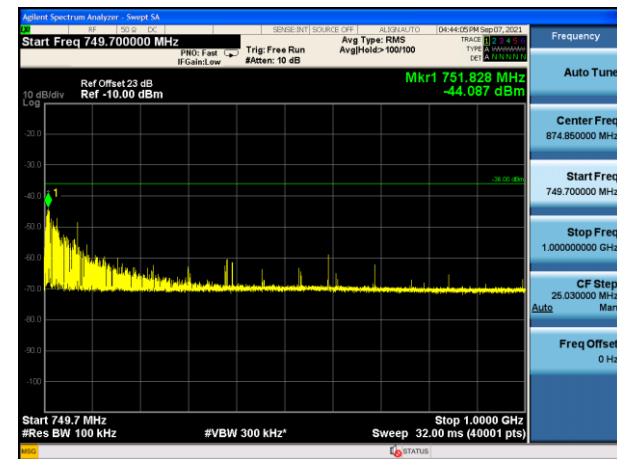
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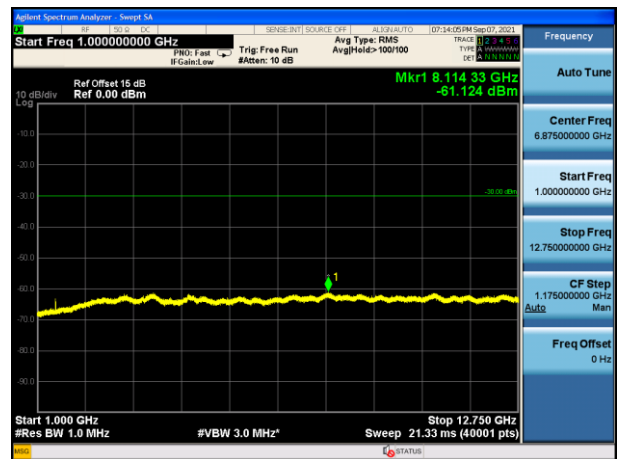
QPSK CH 27435 / 1@0 / 3.75kHz



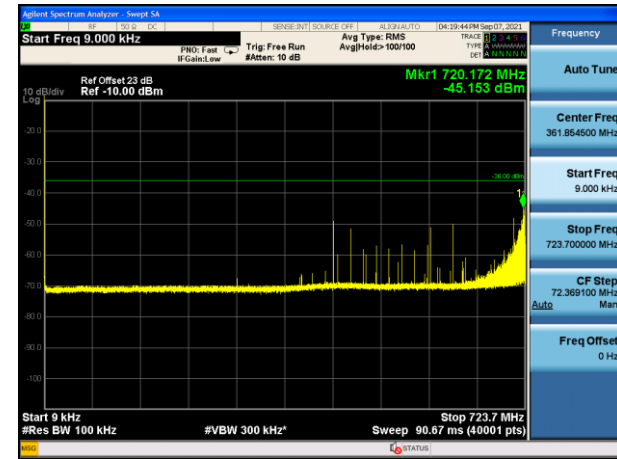
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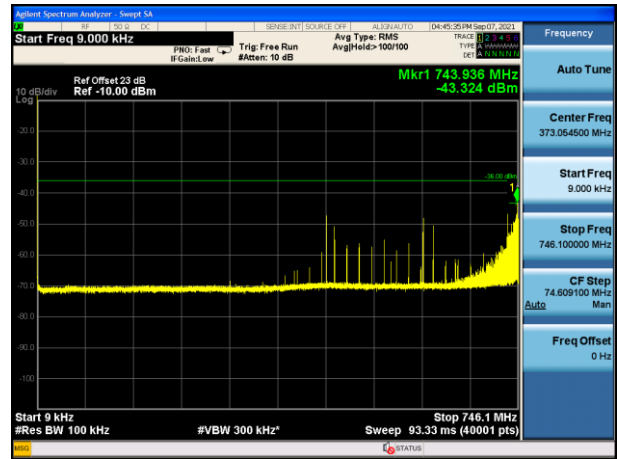
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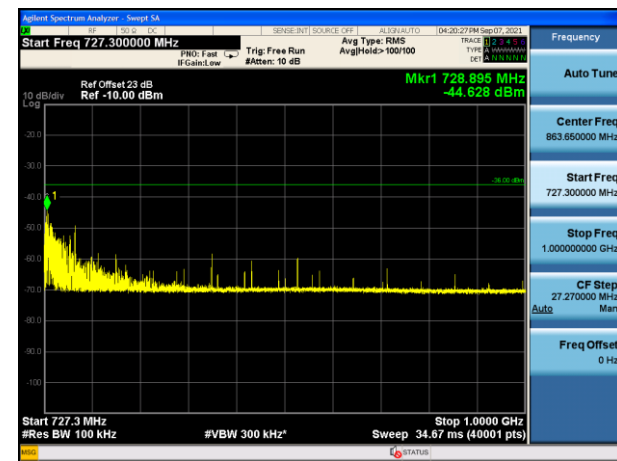
QPSK CH 27435 / 1@47 / 3.75kHz



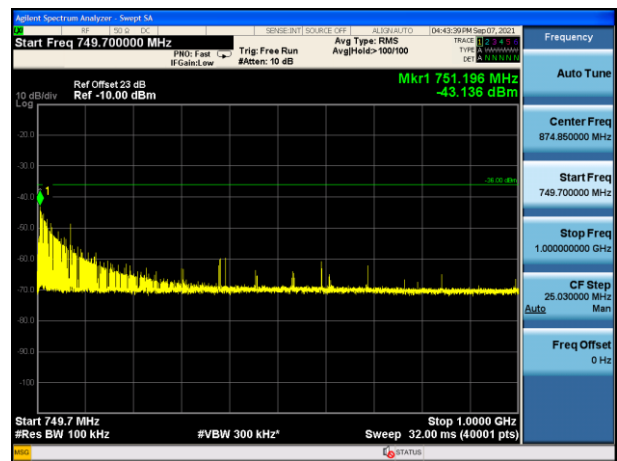
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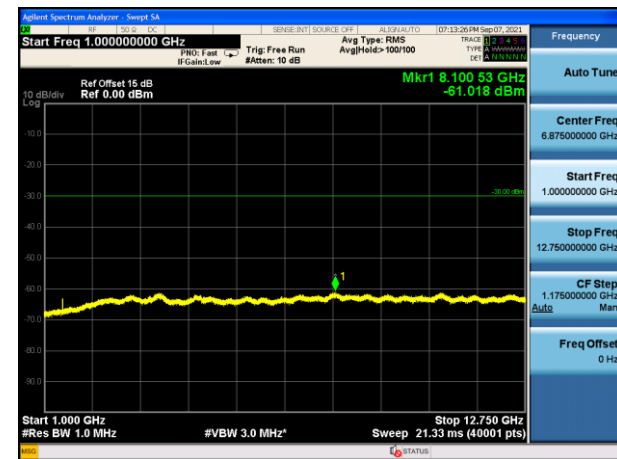
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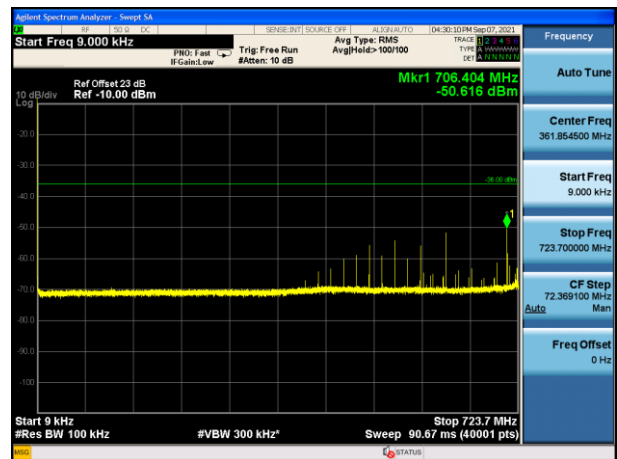
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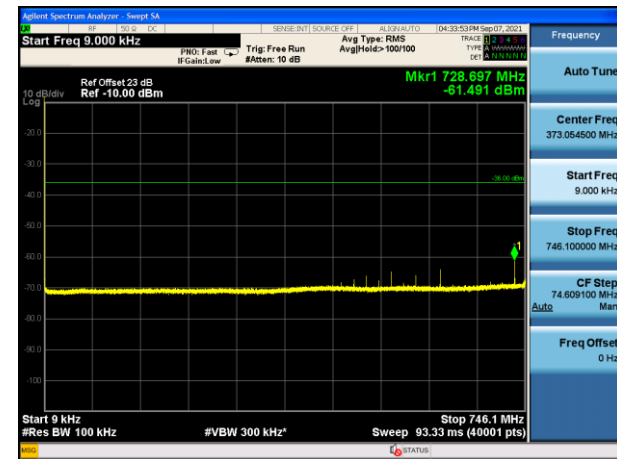
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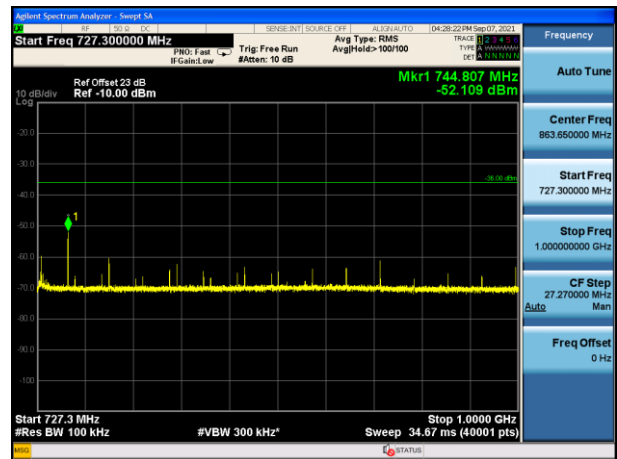
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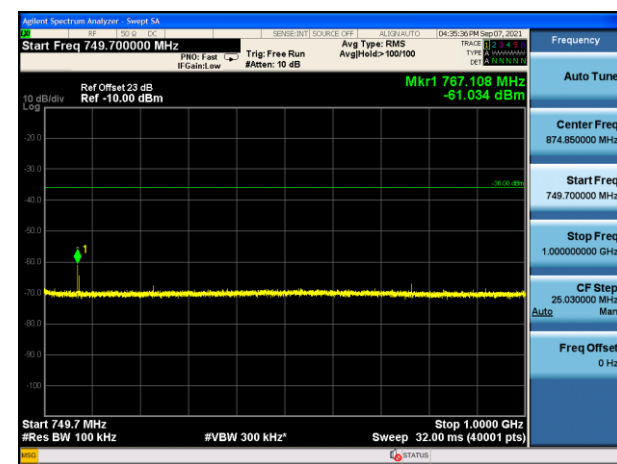
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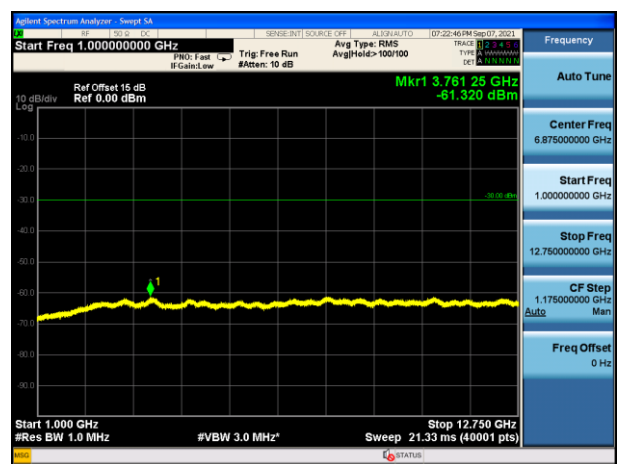
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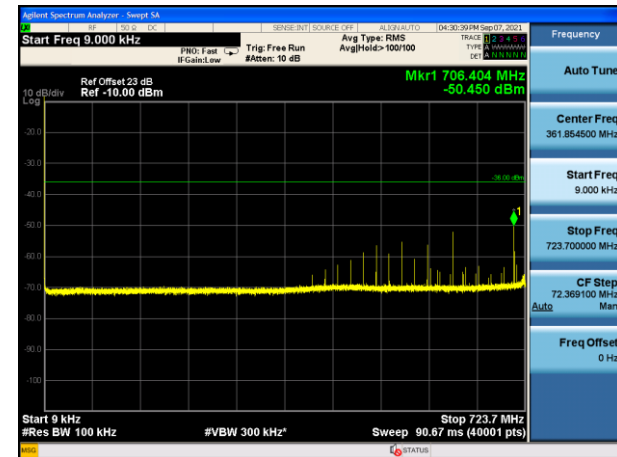
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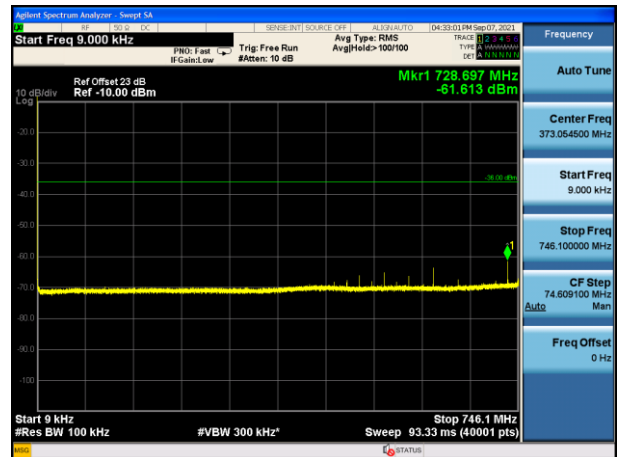
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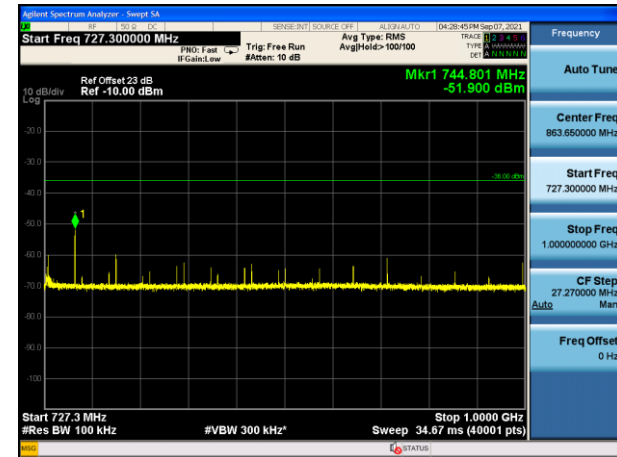
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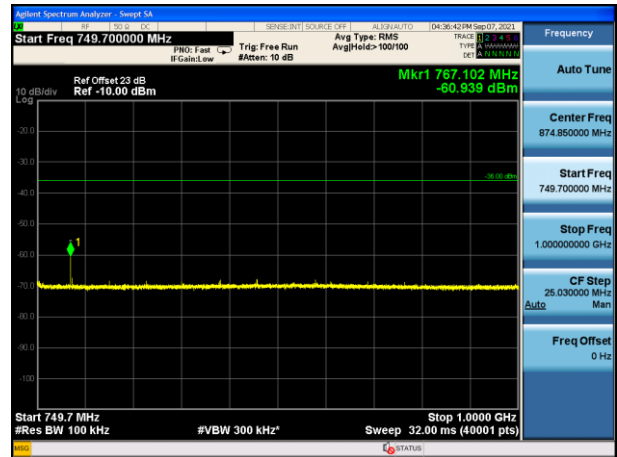
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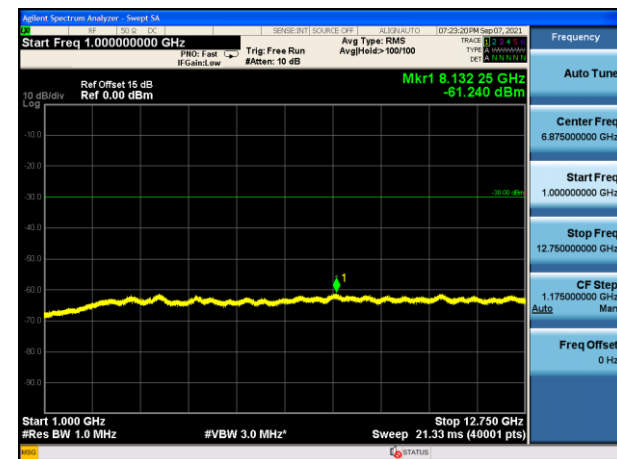
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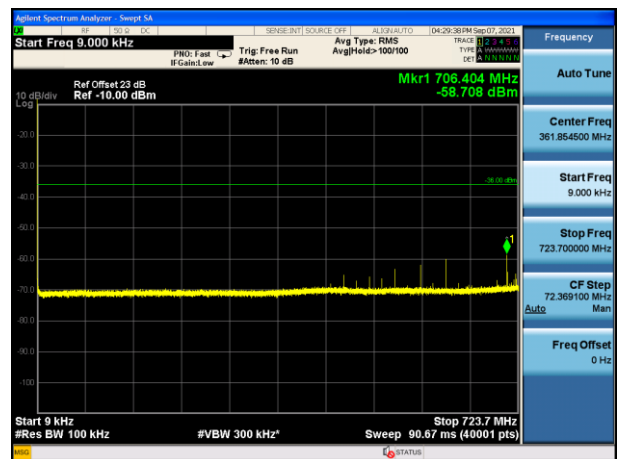
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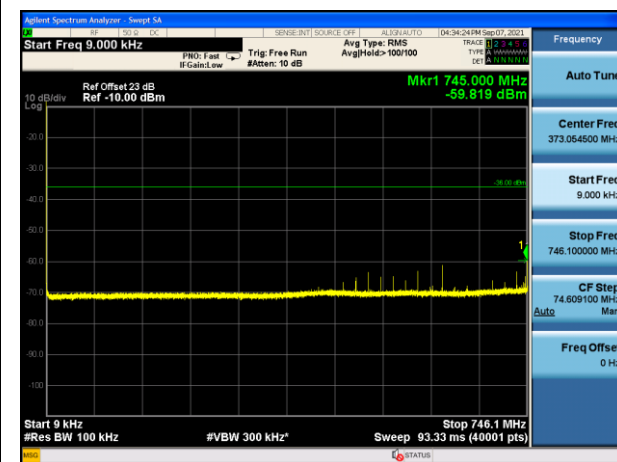
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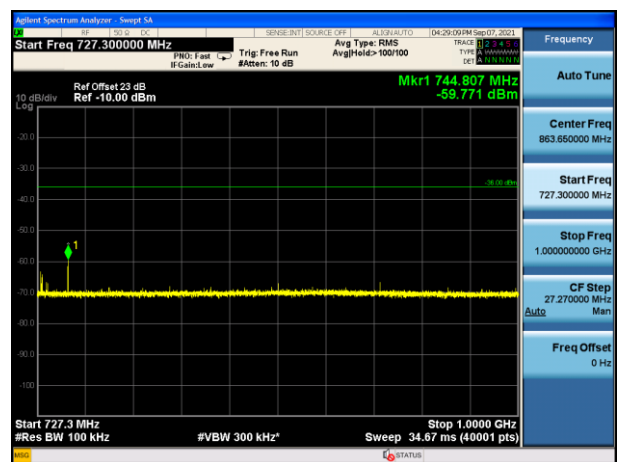
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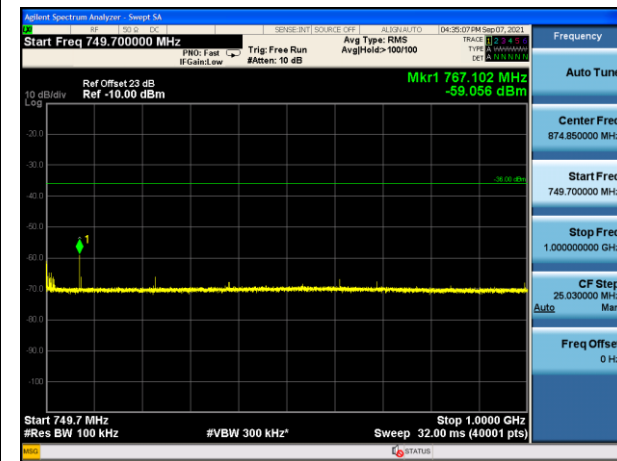
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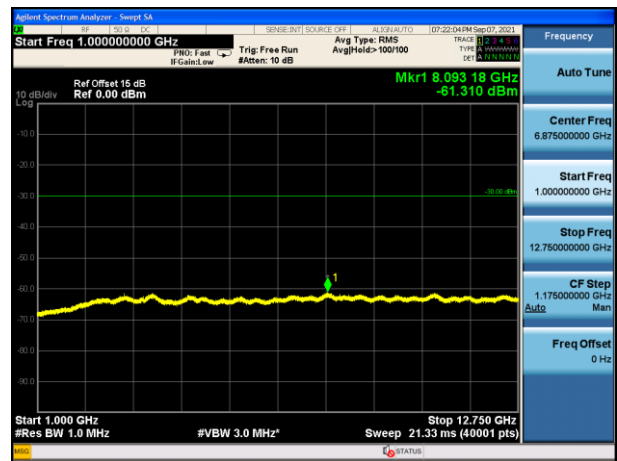
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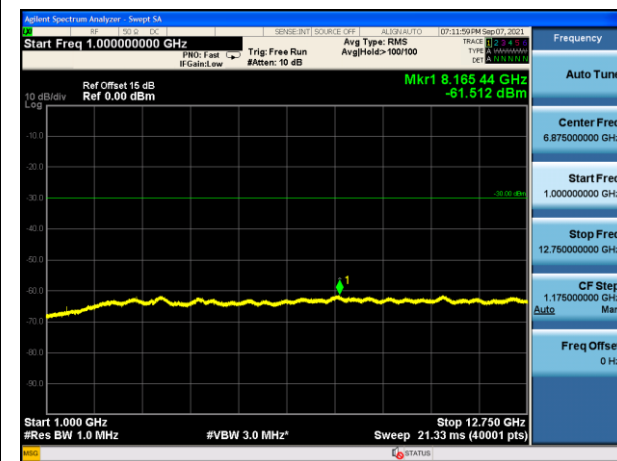
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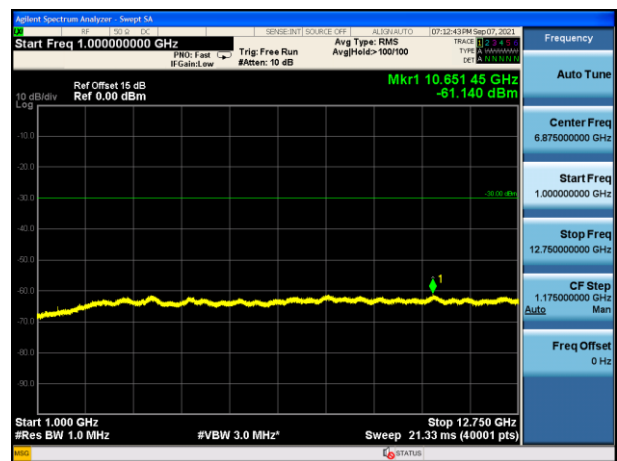
QPSK CH 27435 / 12@0 / 15kHz



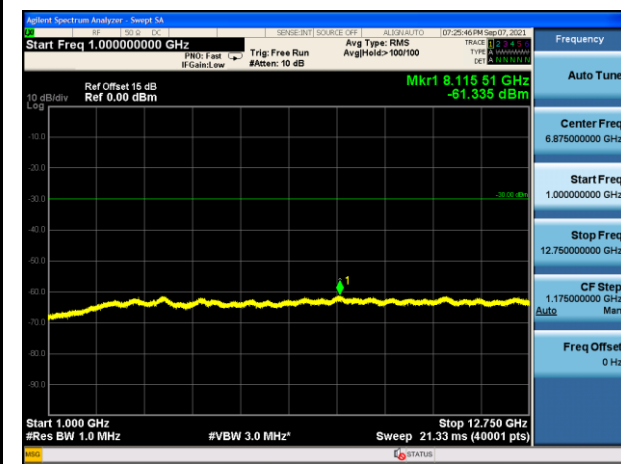
QPSK CH 27659 / 1@0 / 3.75kHz



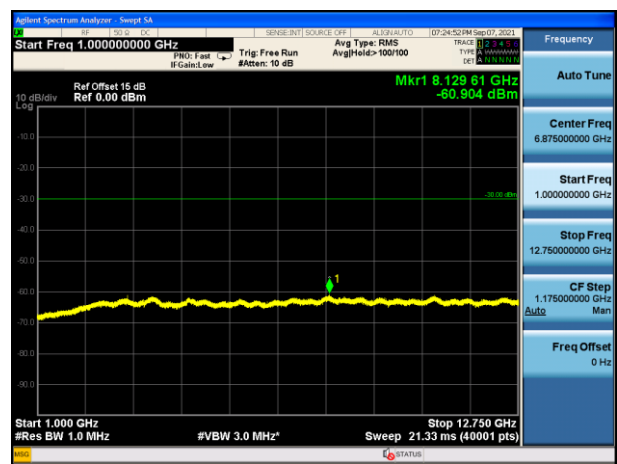
QPSK CH 27659 / 1@47 / 3.75kHz



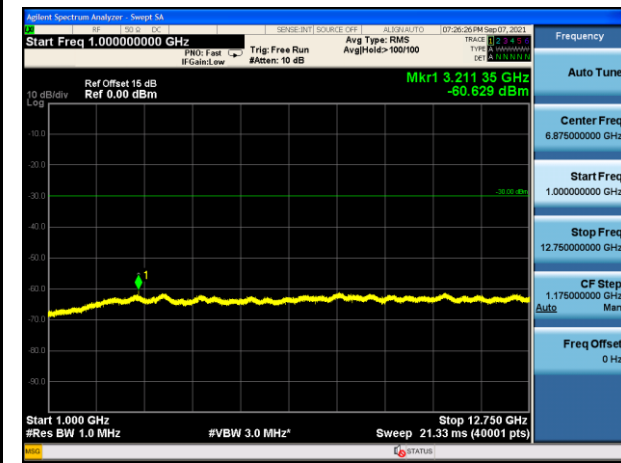
BPSK CH 27659 / 1@0 / 15kHz



BPSK CH 27659 / 1@11 / 15kHz



QPSK CH 27659 / 12@0 / 15kHz



5.4 相鄰頻道洩漏功率比(ACLR)

5.4.1 合格標準

應符合下表相鄰頻道洩漏功率比規範值。

NB-IoT終端設備相鄰頻道洩漏功率比規範值

	GSM _{ACLR}	UTRA _{ACLR}
相鄰頻道洩漏功率限制值	19.2dB	36.2dB
相鄰頻道中心頻率量（由頻道邊緣偏移）	±200kHz	±2.5MHz
相鄰頻道測量頻寬	180kHz	3.84MHz
測量濾波器	矩形濾波器	根餘弦濾波器 $\alpha=0.22$
頻道測量頻寬	180kHz	180kHz
頻道測量濾波器	矩形濾波器	矩形濾波器

5.4.2 測試方法

- (1)測量檢測頻道與其相鄰通道之平均功率，計算相鄰頻道洩漏功率比。測量時，頻道之量測頻寬依上表規定。
- (2) 依下表進行檢測。

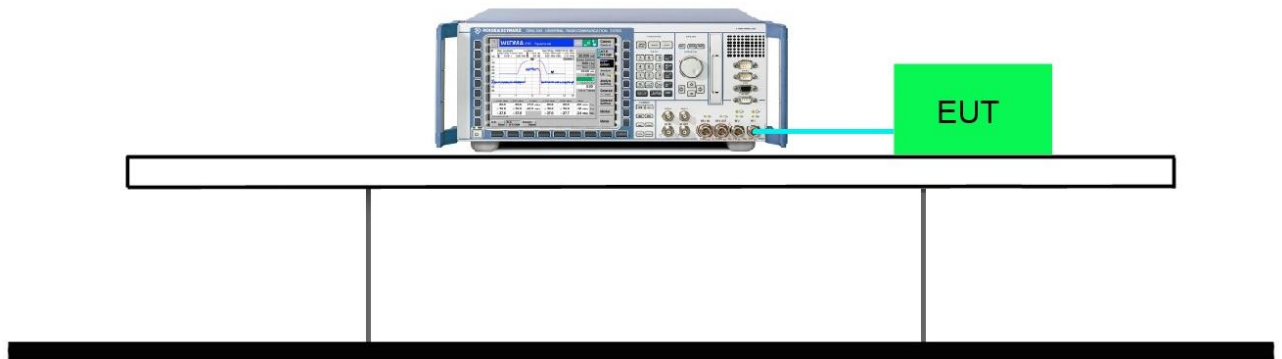
NB-IoT 終端設備相鄰頻道洩漏功率比之頻道頻寬測試參數

結構編號 Configuration ID	下行結構	上行結構		
		調變方式	N _{tones}	子載波間距(kHz)
1	相鄰頻道洩漏功率比測試不適用	QPSK	1@0	3.75
2		QPSK	1@47	3.75
3		QPSK	1@0	15
4		QPSK	1@11	15
5(註)		QPSK	3@0	15
6(註)		QPSK	3@3	15
7(註)		QPSK	3@9	15
8(註)		QPSK	6@0	15
9(註)		QPSK	6@6	15
10(註)		QPSK	12@0	15

註：適用於支援上行多頻傳輸（multi-tone transmissions）的終端設備。

5.4.3 實驗方法方塊圖

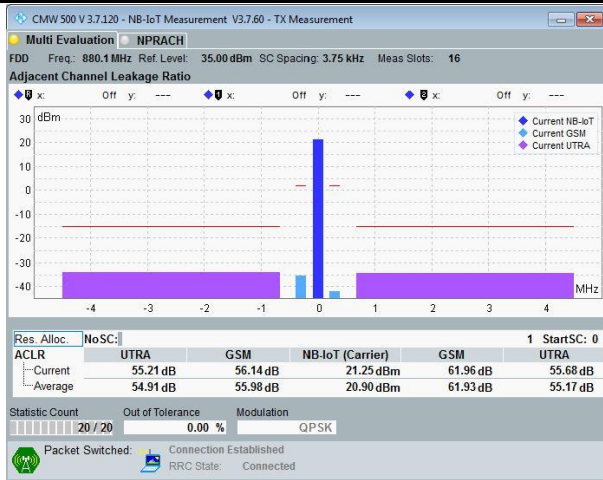
Communicaton Tester



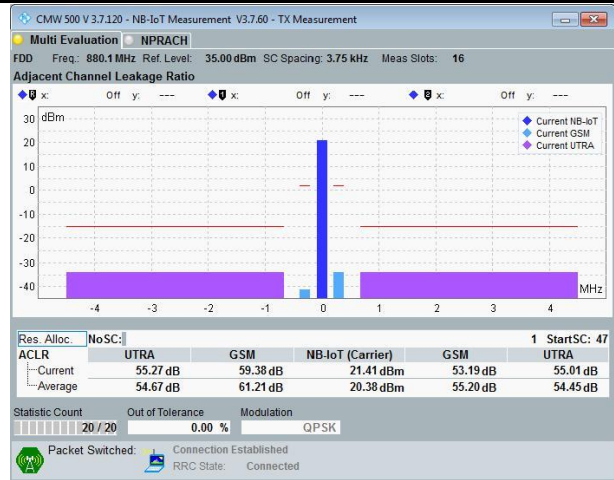
5.4.4 實驗數據

Band 8 (900MHz)						
Test Channel	Channel	Modulation	Ntones	Spacing (kHz)	GSM (dB)	UTRA (dB)
LOW	21451	QPSK	1@0	3.75	55.98	54.91
			1@47		55.20	54.45
			1@0	15	54.34	45.24
			1@11		54.49	45.22
			3@0		56.13	50.55
			3@3		57.60	50.63
			3@9		56.47	50.48
			6@0		56.30	54.26
			6@6		56.59	53.93
			12@0		52.05	55.96
MID	21625	QPSK	1@0	3.75	55.26	54.85
			1@47		55.38	54.93
			1@0	15	54.30	46.06
			1@11		54.61	45.89
			3@0		55.62	51.27
			3@3		57.08	51.22
			3@9		55.86	51.05
			6@0		55.85	54.04
			6@6		56.01	54.07
			12@0		49.96	56.28
HIGHT	21799	QPSK	1@0	3.75	55.20	54.73
			1@47		55.47	54.70
			1@0	15	54.29	46.11
			1@11		54.04	46.01
			3@0		55.36	51.35
			3@3		57.02	51.45
			3@9		55.51	51.28
			6@0		55.54	54.15
			6@6		55.30	54.12
			12@0		49.89	56.45

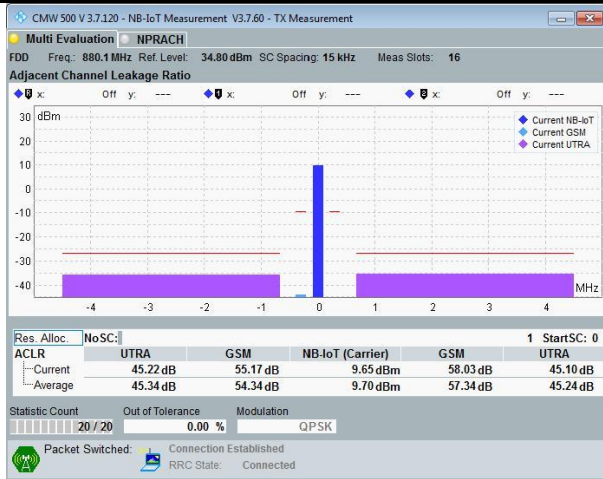
QPSK CH 21451 / 1@0 / 3.75kHz



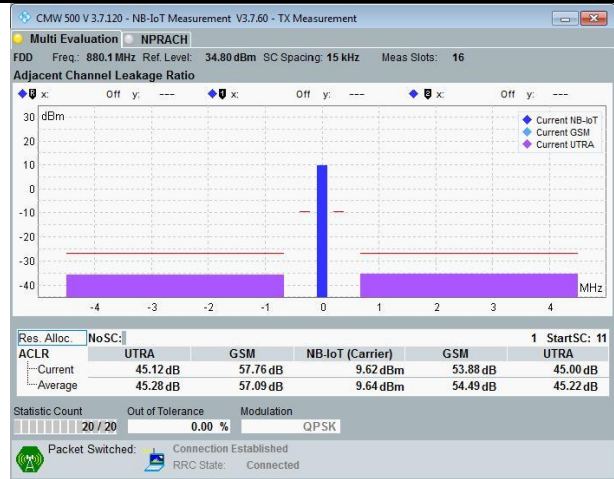
QPSK CH 21451 / 1@47 / 3.75kHz



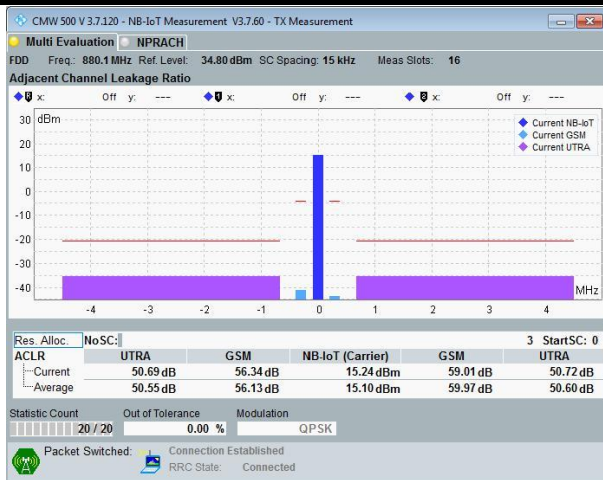
QPSK CH 21451 / 1@0 / 15kHz



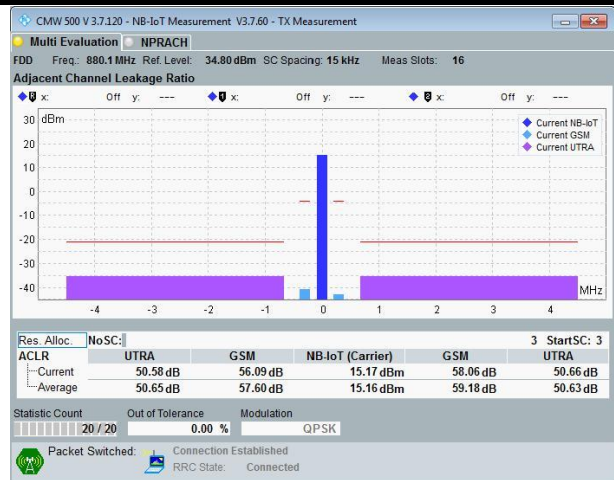
QPSK CH 21451 / 1@11 / 15kHz



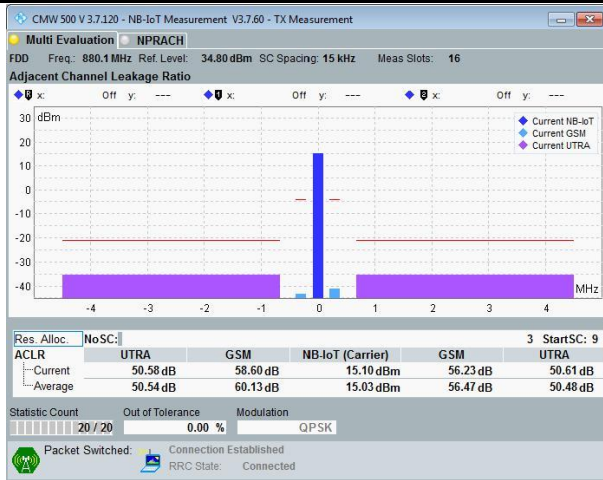
QPSK CH 21451 / 3@0 / 15kHz



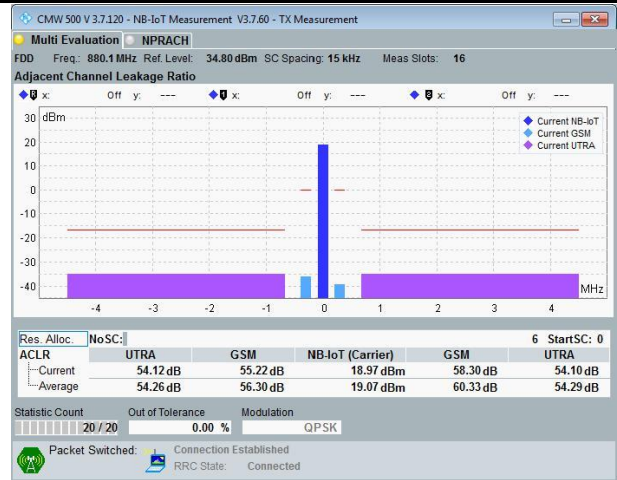
QPSK CH 21451 / 3@3 / 15kHz



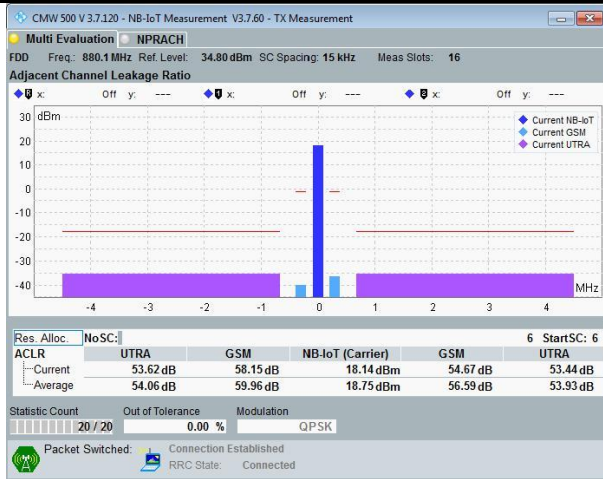
QPSK CH 21451 / 3@9 / 15kHz



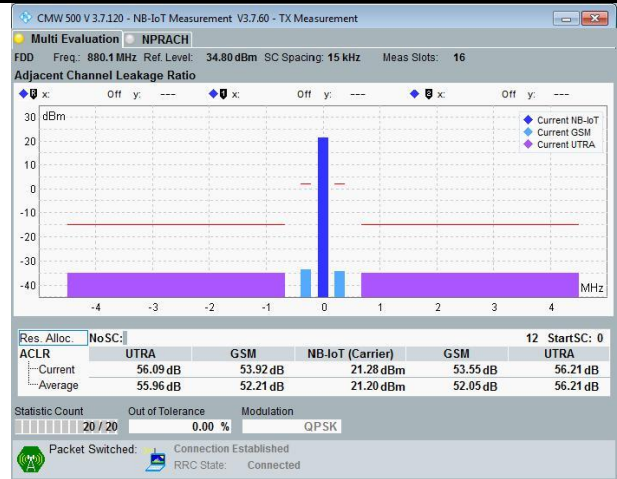
QPSK CH 21451 / 6@0 / 15kHz



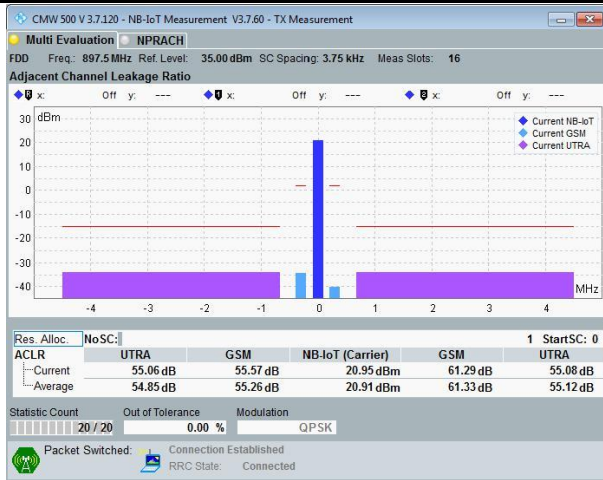
QPSK CH 21451 / 6@6 / 15kHz



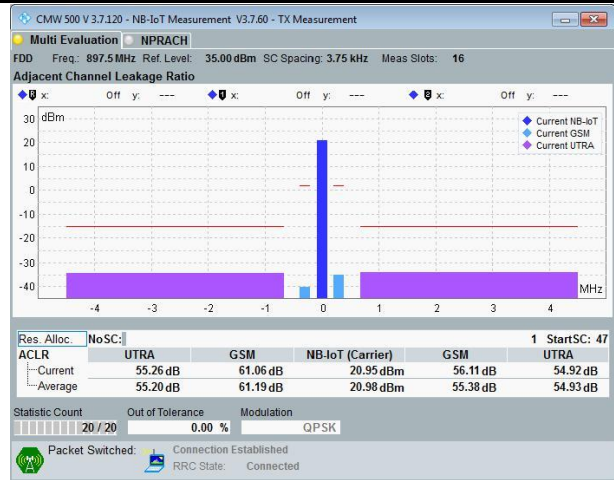
QPSK CH 21451 / 12@0 / 15kHz



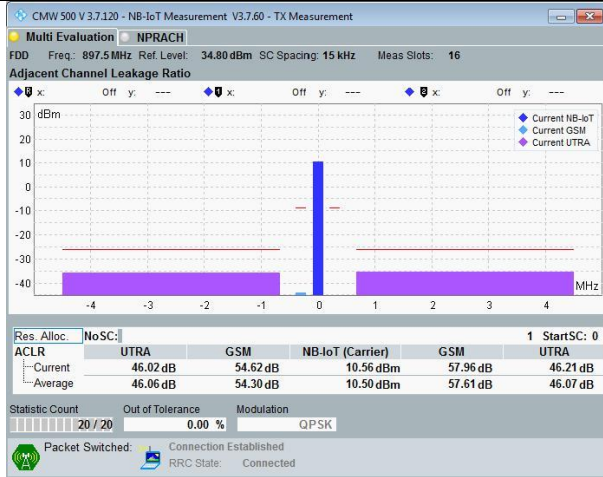
QPSK CH 21625 / 1@0 / 3.75kHz



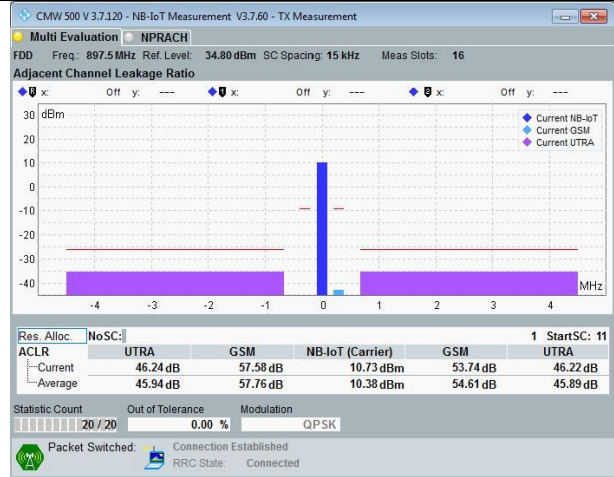
QPSK CH 21625 / 1@47 / 3.75kHz



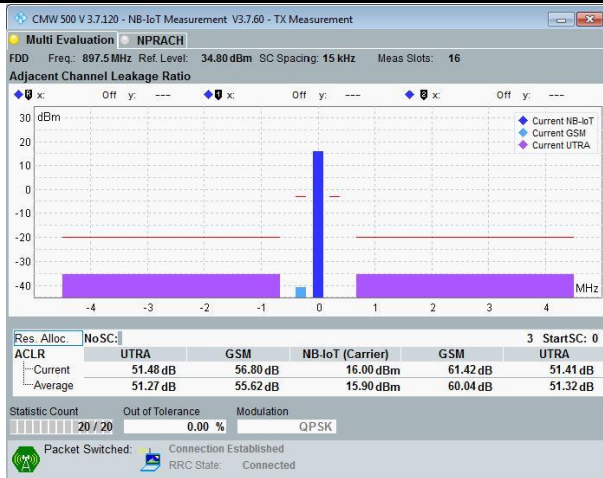
QPSK CH 21625 / 1@0 / 15kHz



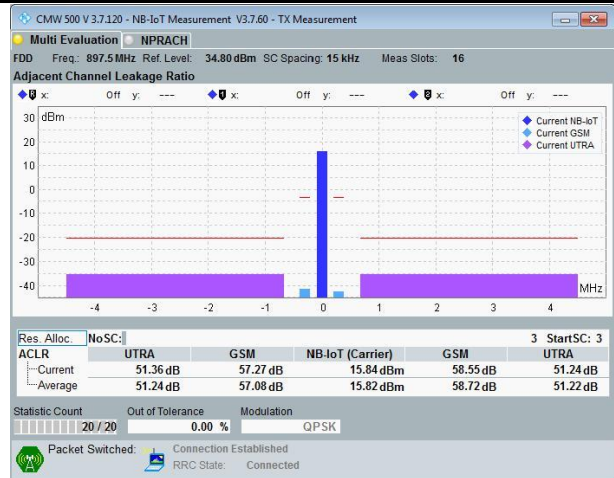
QPSK CH 21625 / 1@11 / 15kHz



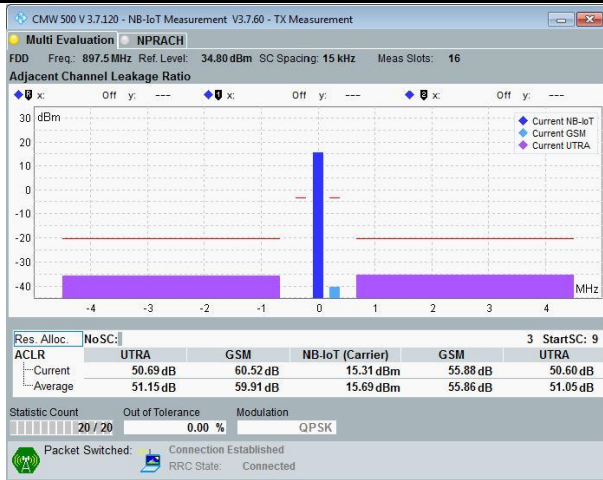
QPSK CH 21625 / 3@0 / 15kHz



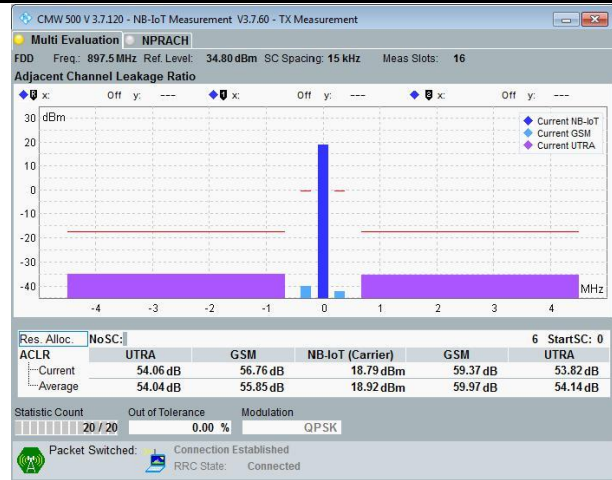
QPSK CH 21625 / 3@3 / 15kHz



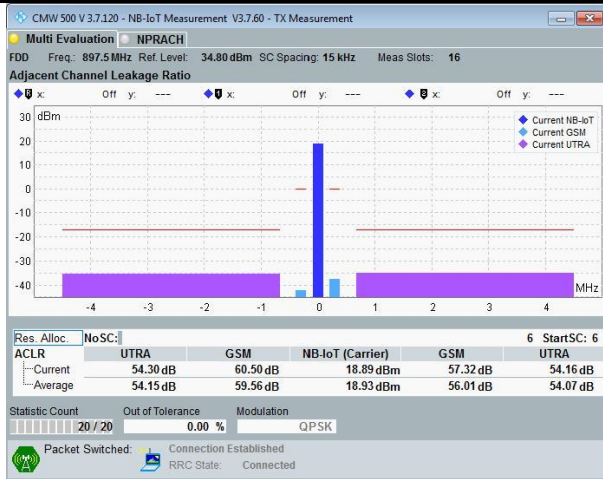
QPSK CH 21625 / 3@9 / 15kHz



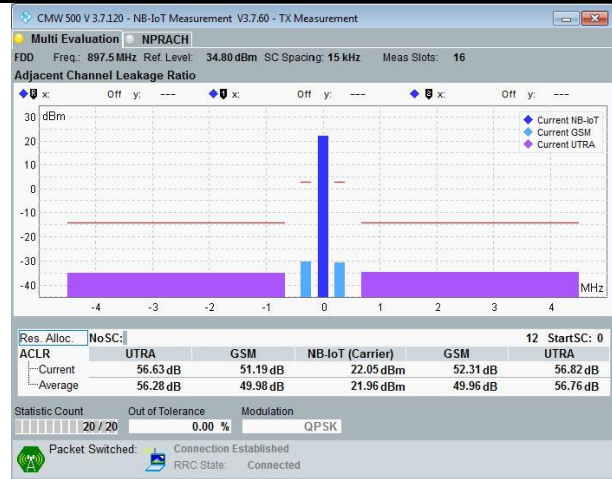
QPSK CH 21625 / 6@0 / 15kHz



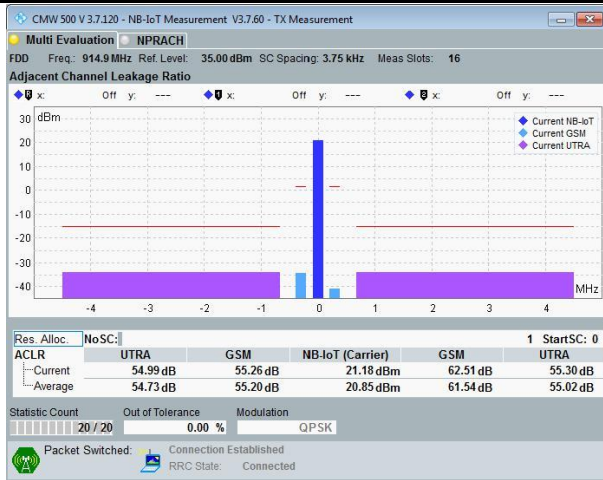
QPSK CH 21625 / 6@6 / 15kHz



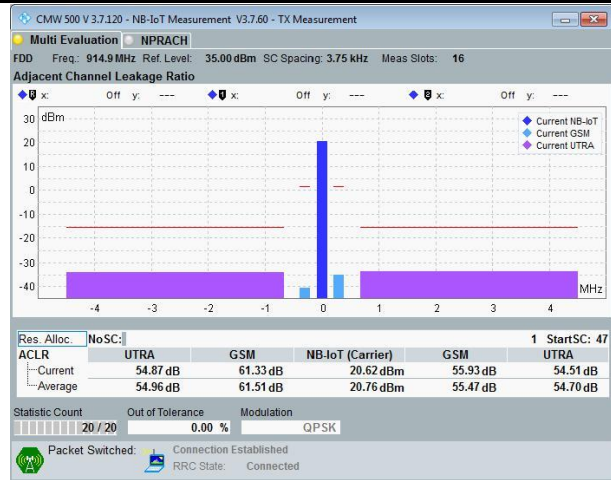
QPSK CH 21625 / 12@0 / 15kHz



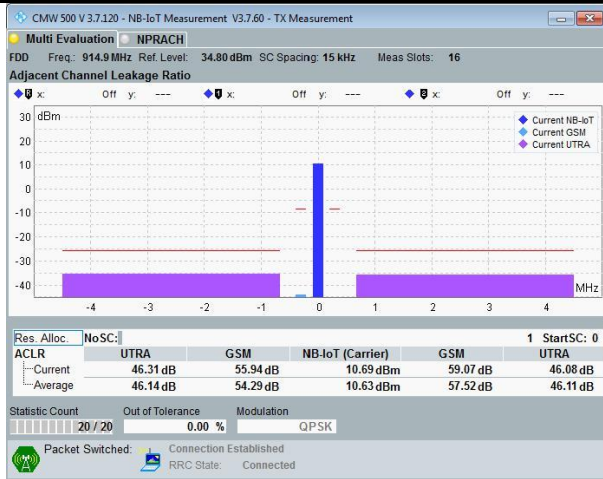
QPSK CH 21799 / 1@0 / 3.75kHz



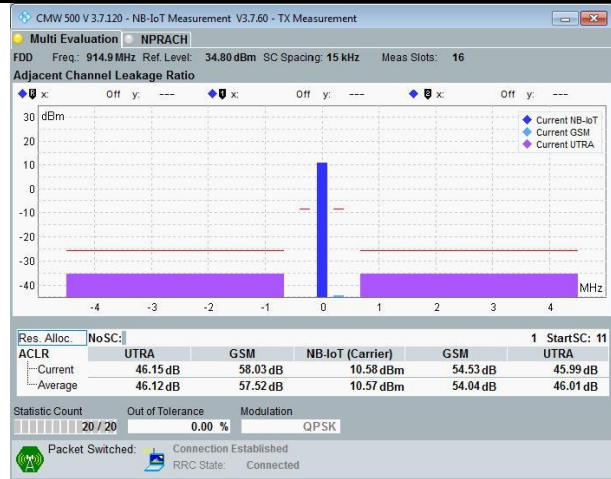
QPSK CH 21799 / 1@47 / 3.75kHz



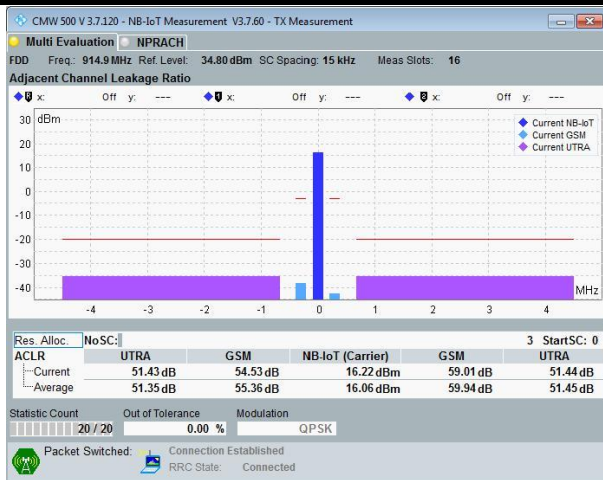
QPSK CH 21799 / 1@0 / 15kHz



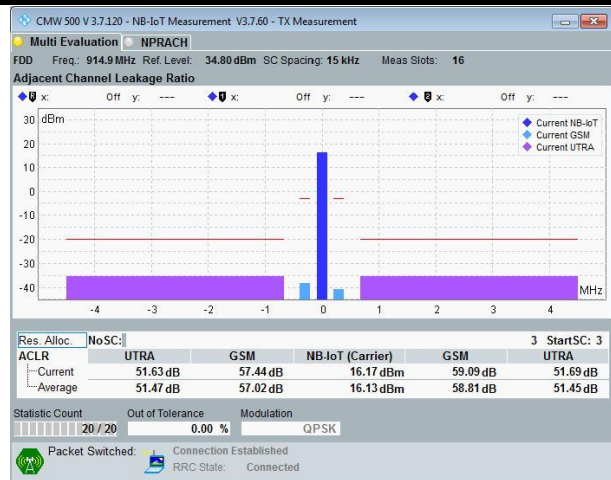
QPSK CH 21799 / 1@11 / 15kHz



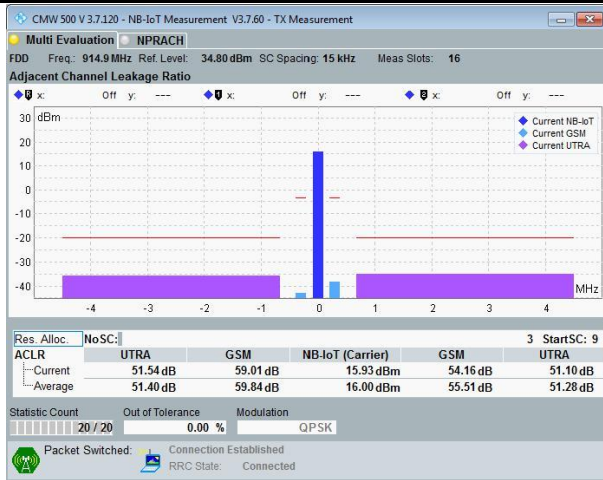
QPSK CH 21799 / 3@0 / 15kHz



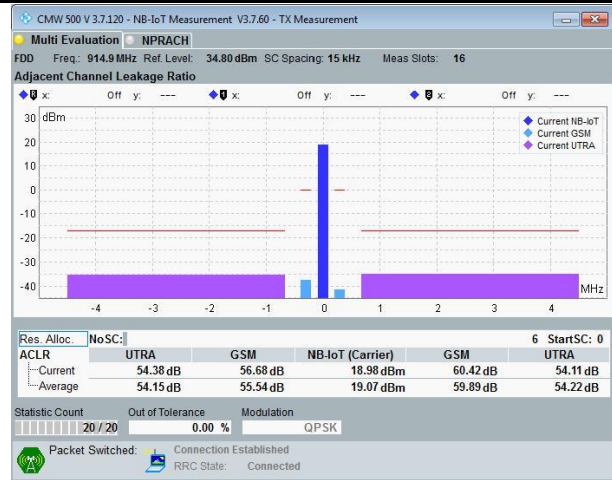
QPSK CH 21799 / 3@3 / 15kHz



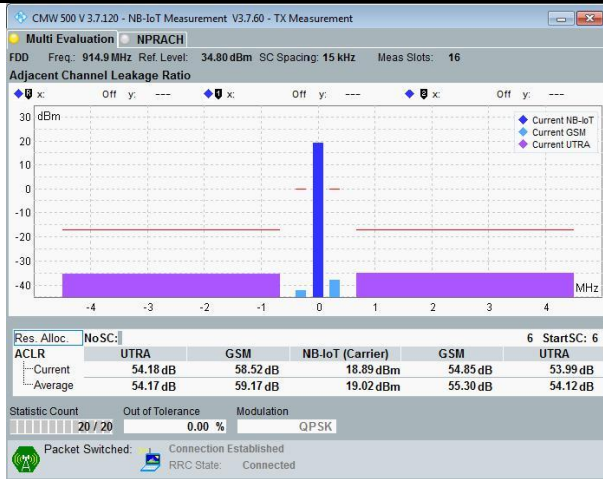
QPSK CH 21799 / 3@9 / 15kHz



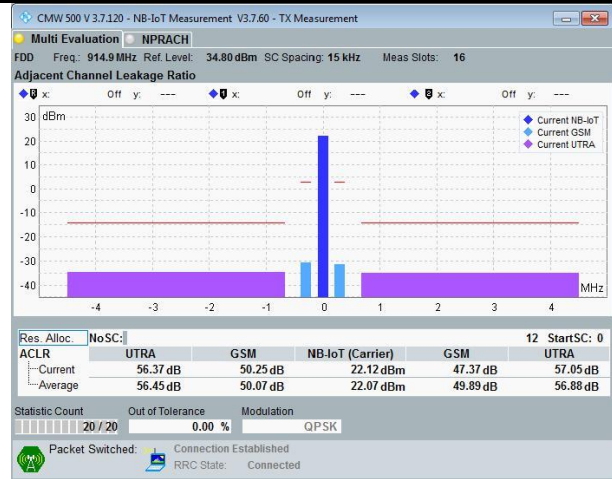
QPSK CH 21799 / 6@0 / 15kHz



QPSK CH 21799 / 6@6 / 15kHz

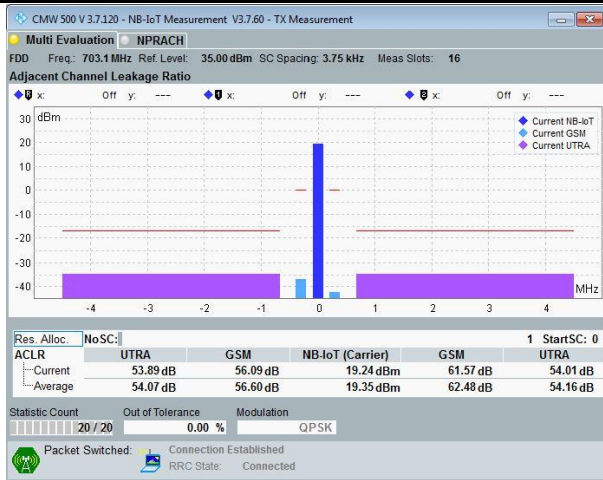


QPSK CH 21799 / 12@0 / 15kHz

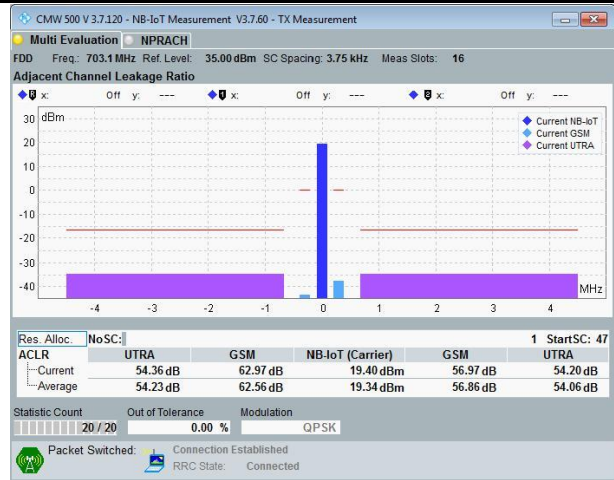


Band 28 (700MHz)						
Test Channel	Channel	Modulation	Ntones	Spacing (kHz)	GSM (dB)	UTRA (dB)
LOW	27211	QPSK	1@0	3.75	56.60	54.07
			1@47		56.86	54.06
			1@0	15	54.93	45.03
			1@11		54.91	45.03
			3@0		55.87	50.33
			3@3		57.75	50.40
			3@9		56.35	50.22
			6@0		57.11	53.23
			6@6		57.08	53.25
			12@0		51.13	55.83
MID	27435	QPSK	1@0	3.75	56.26	55.09
			1@47		56.63	54.96
			1@0	15	54.96	46.40
			1@11		55.04	46.28
			3@0		55.46	51.56
			3@3		56.89	51.65
			3@9		55.77	51.45
			6@0		56.28	54.24
			6@6		55.89	54.20
			12@0		50.78	56.63
HIGHT	27659	QPSK	1@0	3.75	56.33	55.11
			1@47		56.33	55.03
			1@0	15	55.05	45.25
			1@11		55.06	45.14
			3@0		56.26	50.53
			3@3		57.85	50.63
			3@9		56.71	50.53
			6@0		57.53	53.11
			6@6		57.34	53.07
			12@0		55.21	55.82

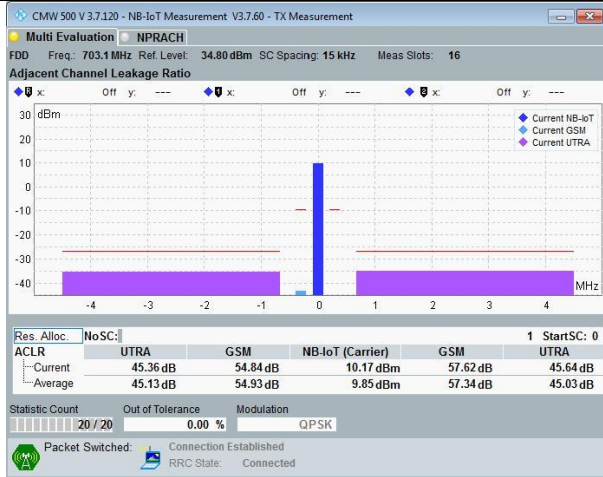
QPSK CH 27211 / 1@0 / 3.75kHz



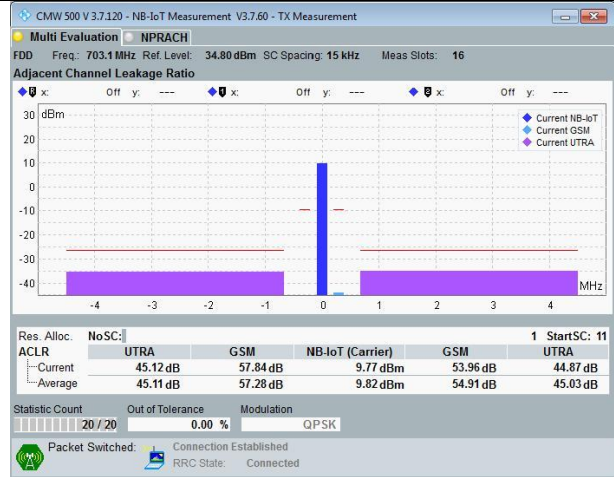
QPSK CH 27211 / 1@47 / 3.75kHz



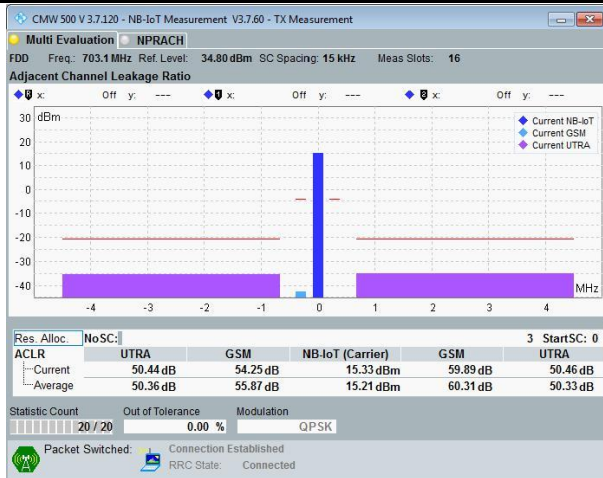
QPSK CH 27211 / 1@0 / 15kHz



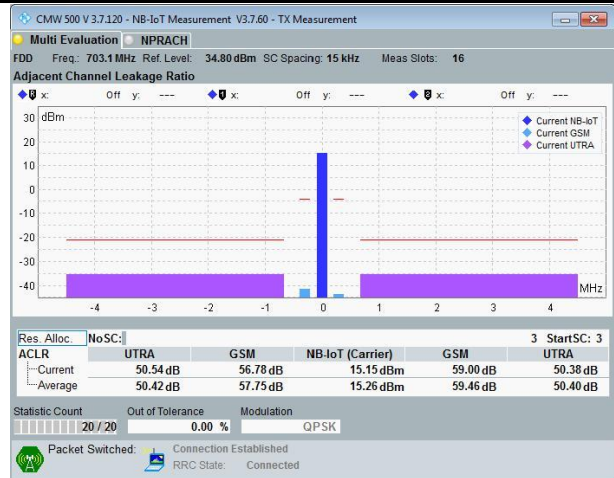
QPSK CH 27211 / 1@11 / 15kHz



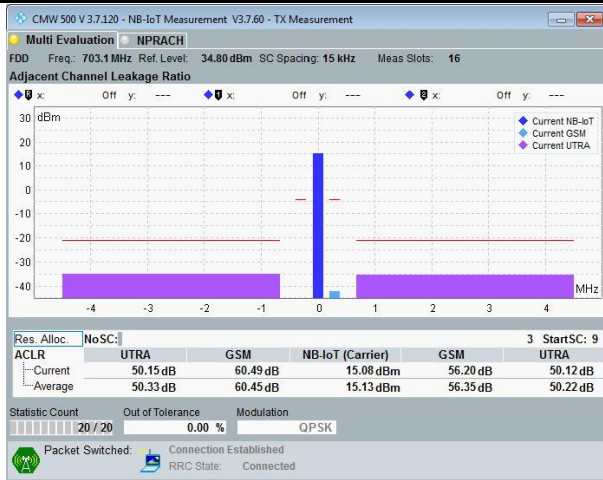
QPSK CH 27211 / 3@0 / 15kHz



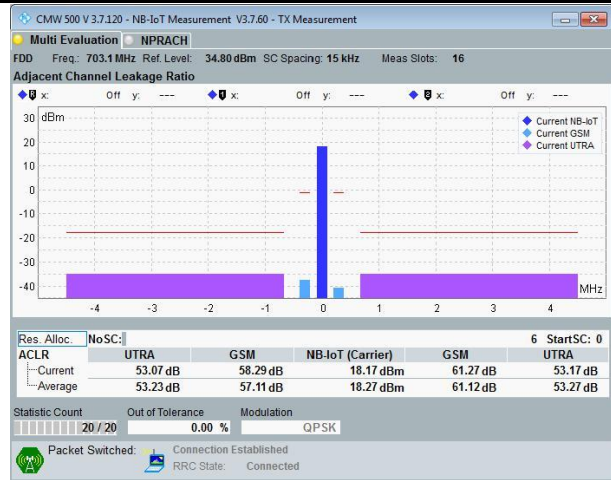
QPSK CH 27211 / 3@3 / 15kHz



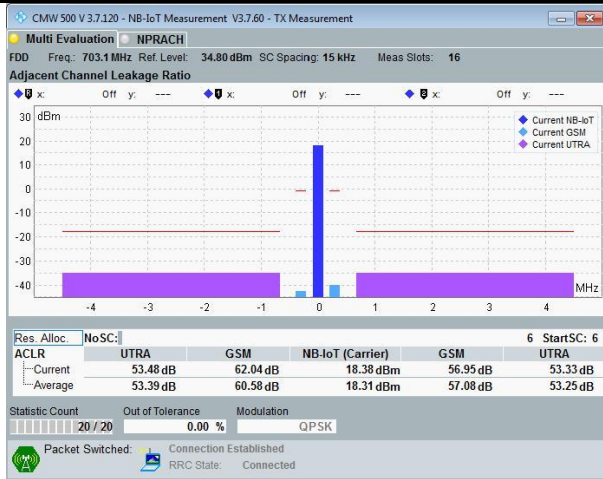
QPSK CH 27211 / 3@9 / 15kHz



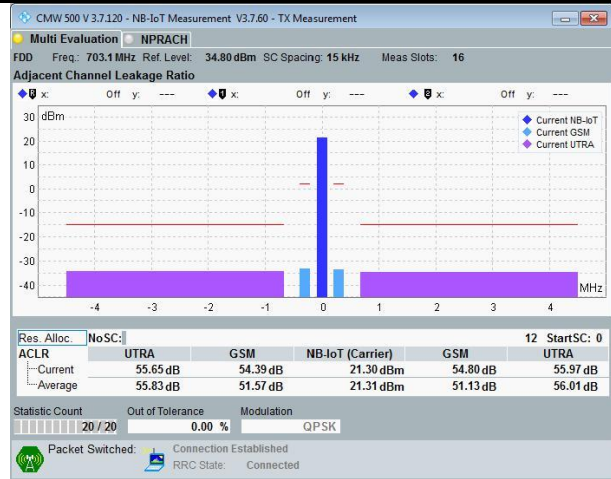
QPSK CH 27211 / 6@0 / 15kHz



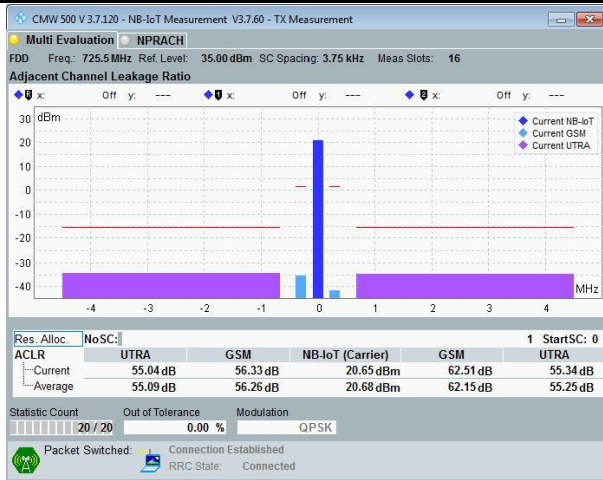
QPSK CH 27211 / 6@6 / 15kHz



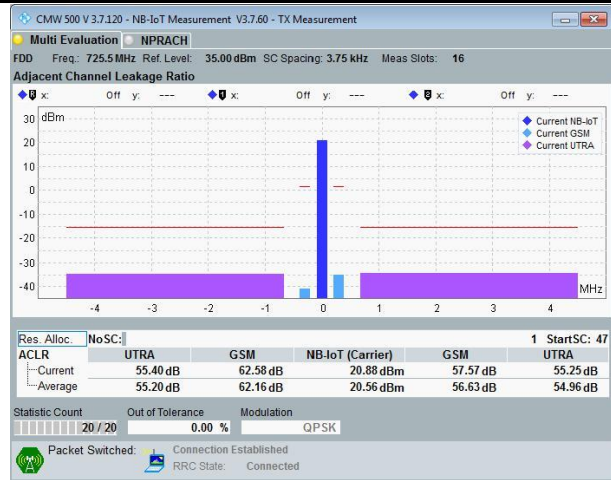
QPSK CH 27211 / 12@0 / 15kHz



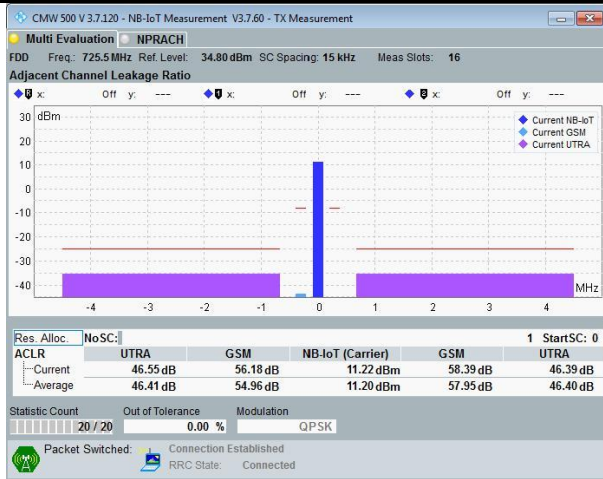
QPSK CH 27435 / 1@0 / 3.75kHz



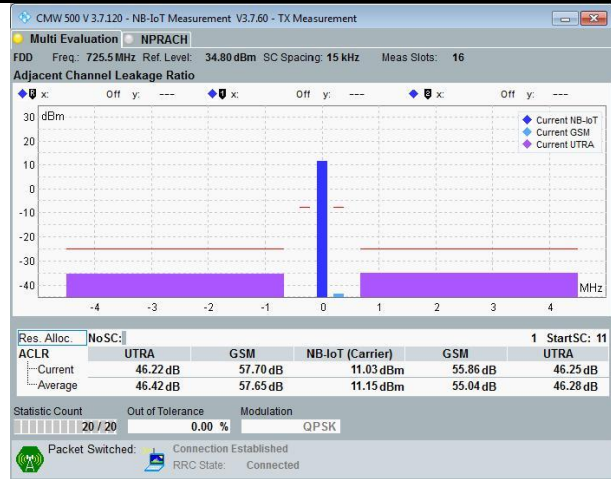
QPSK CH 27435 / 1@47 / 3.75kHz



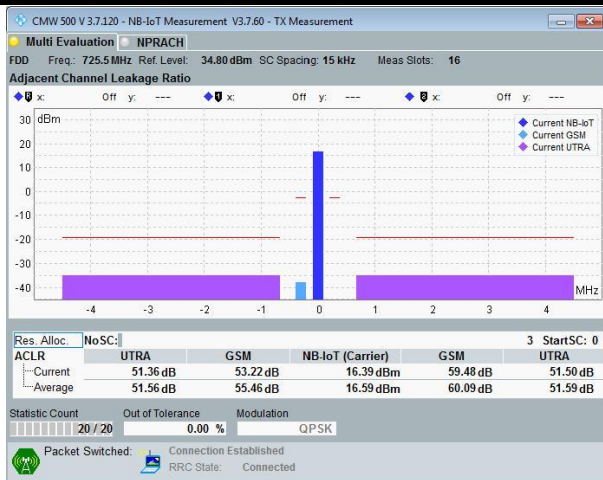
QPSK CH 27435 / 1@0 / 15kHz



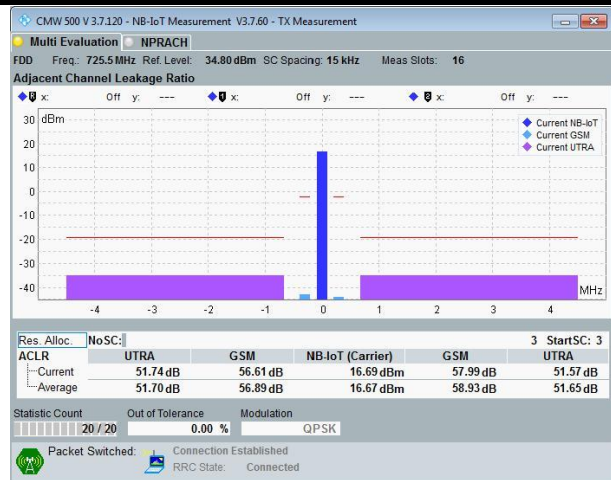
QPSK CH 27435 / 1@11 / 15kHz



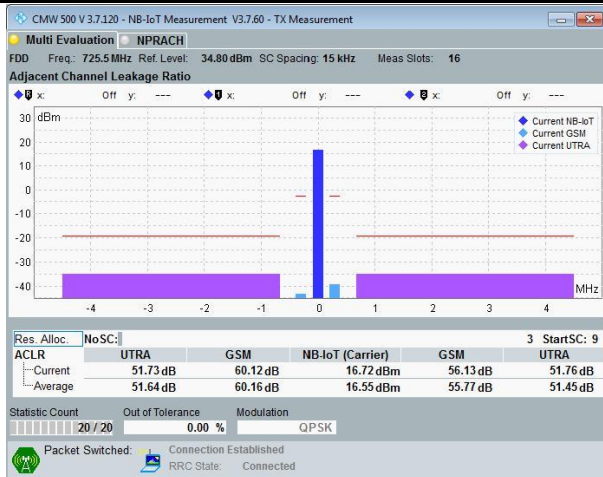
QPSK CH 27435 / 3@0 / 15kHz



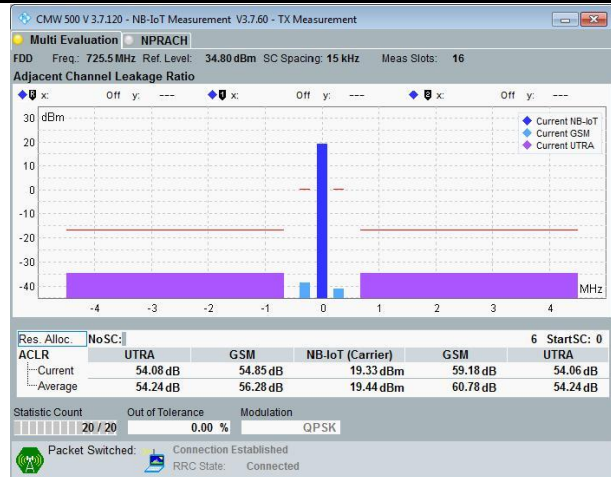
QPSK CH 27435 / 3@3 / 15kHz



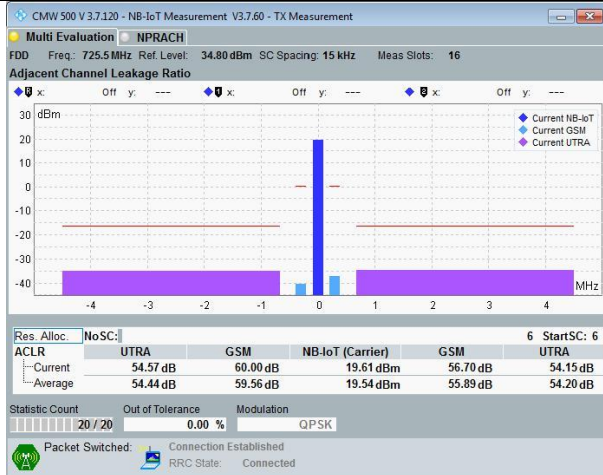
QPSK CH 27435 / 3@9 / 15kHz



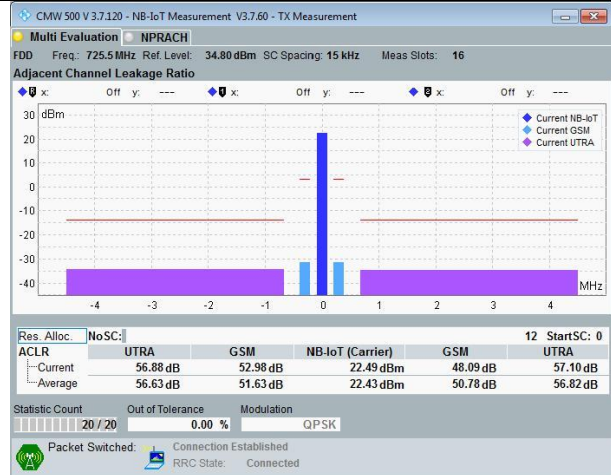
QPSK CH 27435 / 6@0 / 15kHz



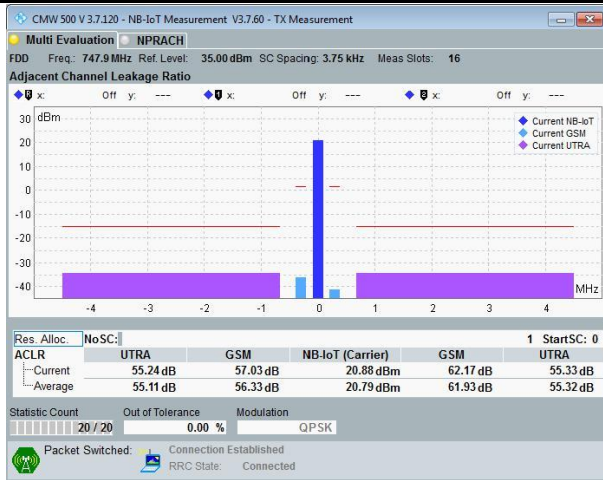
QPSK CH 27435 / 6@6 / 15kHz



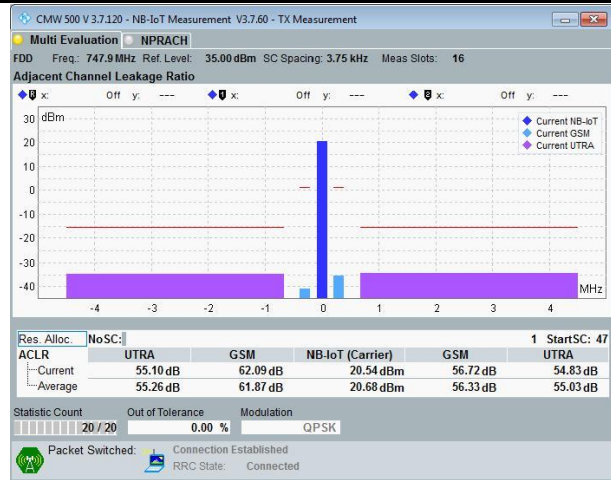
QPSK CH 27435 / 12@0 / 15kHz



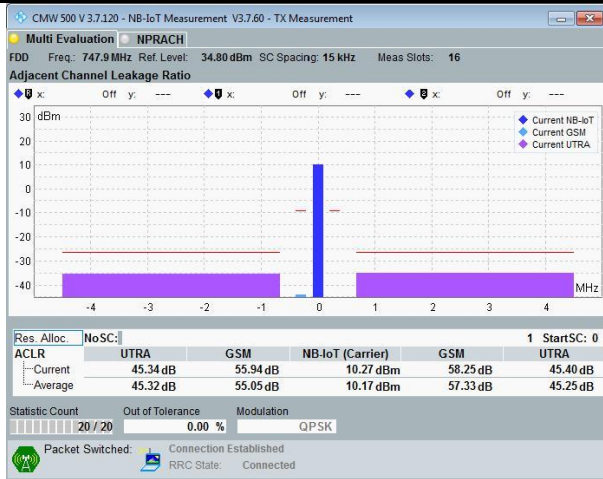
QPSK CH 27659 / 1@0 / 3.75kHz



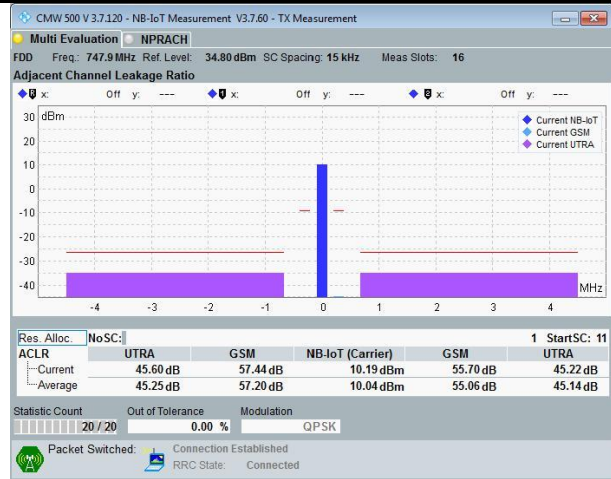
QPSK CH 27659 / 1@47 / 3.75kHz



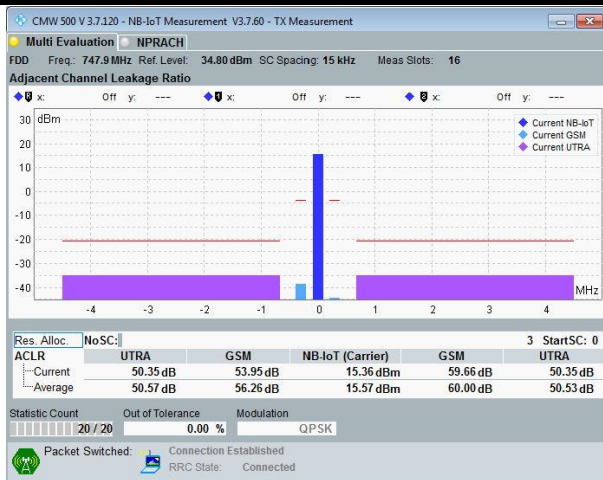
QPSK CH 27659 / 1@0 / 15kHz



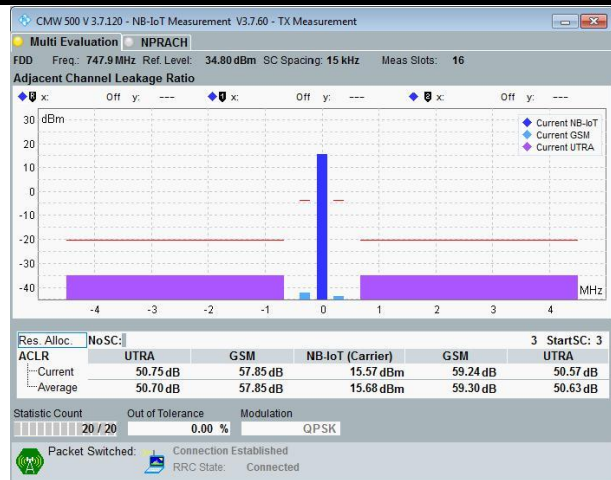
QPSK CH 27659 / 1@11 / 15kHz



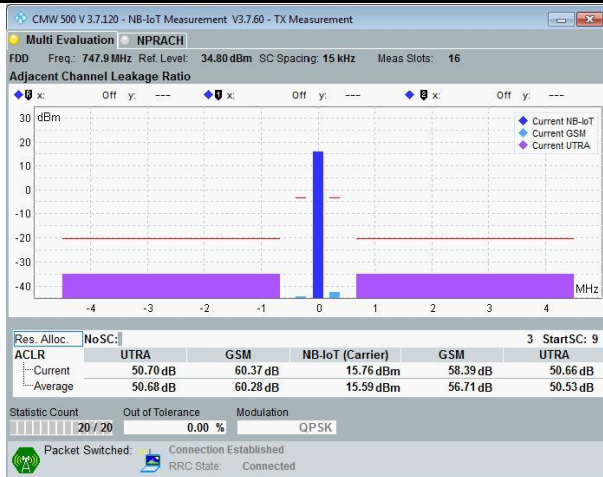
QPSK CH 27659 / 3@0 / 15kHz



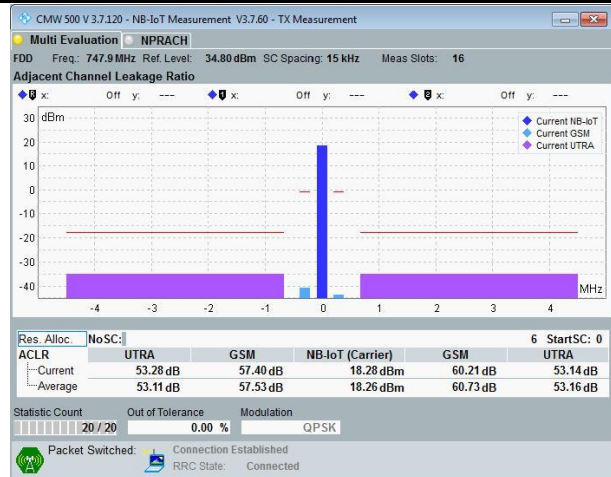
QPSK CH 27659 / 3@3 / 15kHz



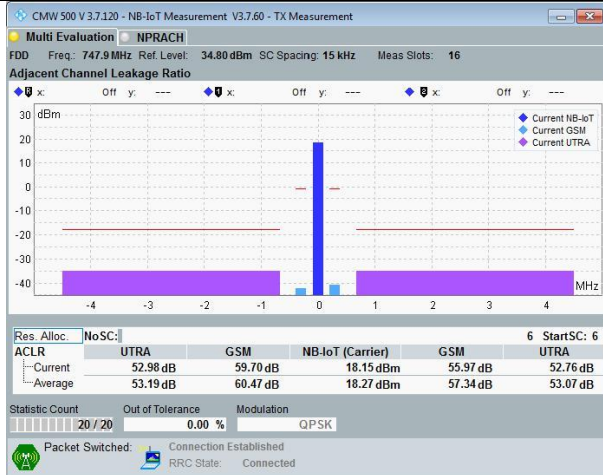
QPSK CH 27659 / 3@9 / 15kHz



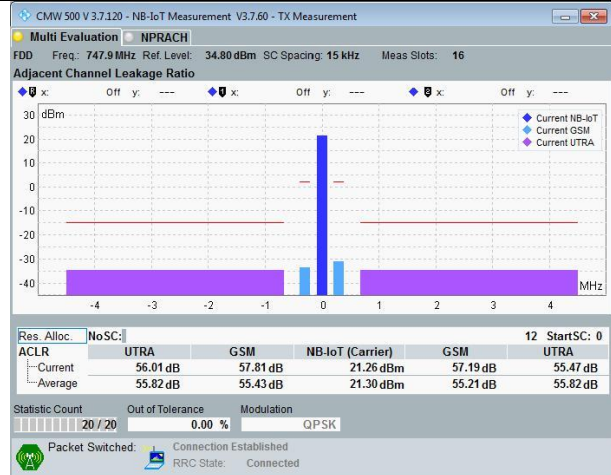
QPSK CH 27659 / 6@0 / 15kHz



QPSK CH 27659 / 6@6 / 15kHz



QPSK CH 27659 / 12@0 / 15kHz



5.5 非資源區塊帶內發射

5.5.1 合格標準

應符合下表非資源區塊帶內發射規範值。

NB-IoT 終端設備未分配資源區塊帶內幅射規範值

參數描述	單位	未分配資源區塊帶內幅射規範值		適用頻率
一般	dB	$\max\{-15-10 \cdot \log_{10}(N_{\text{tone}}/L_{\text{Ctone}}), -18-5 \cdot (\Delta_{\text{tone}} -1)/L_{\text{Ctone}}, -57\text{dBm}/(3.75\text{kHz or } 15\text{ kHz})-P_{\text{tone}}\} + 0.8$		所有未分配的頻率
IQ 鏡像	dB	-24.2		鏡像頻率
載波洩漏	dBc	-24.2	$0\text{ dBm} \leq \text{輸出功率}$ $f \leq 3.0\text{GHz} : 3.2\text{dBm} \pm 3.2\text{dB}$	載波頻率
		-19.2	$-30\text{ dBm} \leq \text{輸出功率} \leq 0\text{ dBm}$ $f \leq 3.0\text{GHz} : -26.8\text{dBm} \pm 3.2\text{dB}$	
		-9.2	$-40\text{ dBm} \leq \text{輸出功率} \leq -30\text{ dBm}$ $f \leq 3.0\text{GHz} : -36.8\text{dBm} \pm 3.2\text{dB}$	

註：

- 一、tone offset 設定值及應檢項目之測試方法，依 3GPP TS 36.521-1 技術標準規定。
- 二、附表參數定義依 3GPP TS 36.521-1, Table 6.5.2.3F.5-1。

5.5.2 測試方法

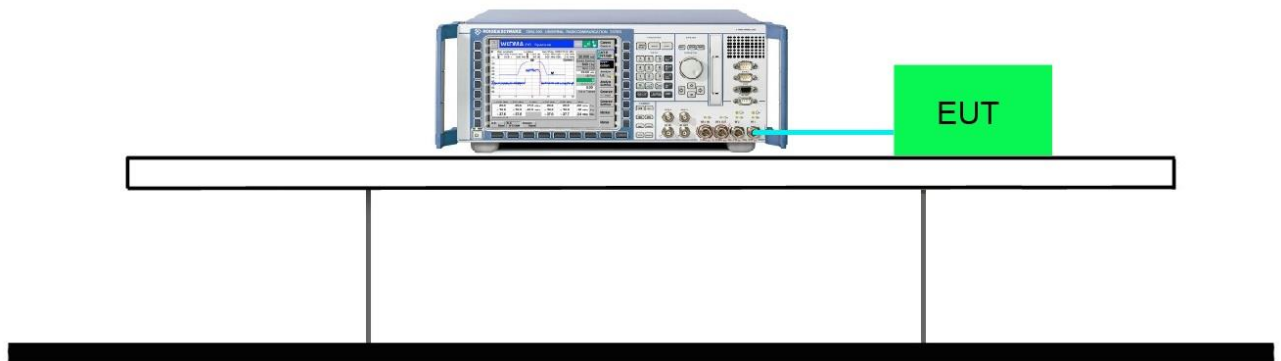
(1)依下表進行檢測。

NB-IoT 終端設備未分配資源區塊帶內幅射之頻道頻寬測試參數

結構編號 Configuration ID	下行結構	上行結構		
		調變方式	N _{tones}	子載波間距(kHz)
1	未分配資源區塊帶 內幅射測試不適用	QPSK	1@0	3.75
2		QPSK	1@47	3.75
3		QPSK	1@0	15
4		QPSK	1@11	15

5.5.3 實驗方法方塊圖

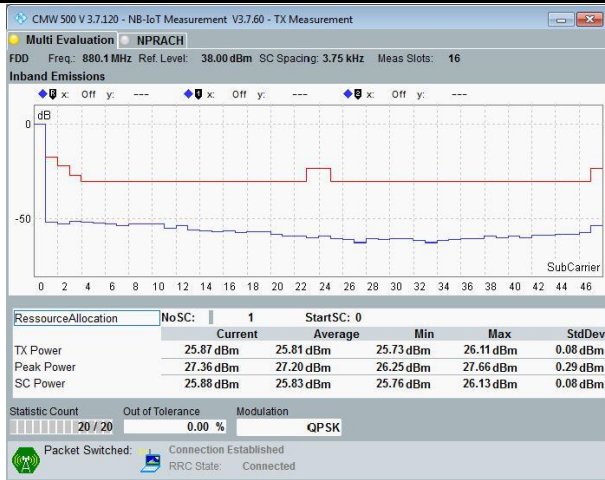
Communicaton Tester



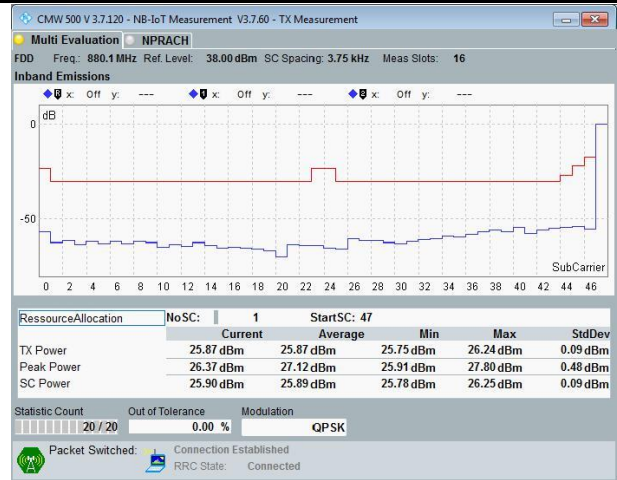
5.5.4 實驗數據

Band 8 (900MHz)					
Test Channel	Channel	Modulation	Ntones	Subcarrier Spacing (kHz)	Result
LOW	21451	QPSK	1@0	3.75	Pass
			1@47		Pass
			1@0	15	Pass
			1@11		Pass
MID	21625	QPSK	1@0	3.75	Pass
			1@47		Pass
			1@0	15	Pass
			1@11		Pass
HIGHT	21799	QPSK	1@0	3.75	Pass
			1@47		Pass
			1@0	15	Pass
			1@11		Pass

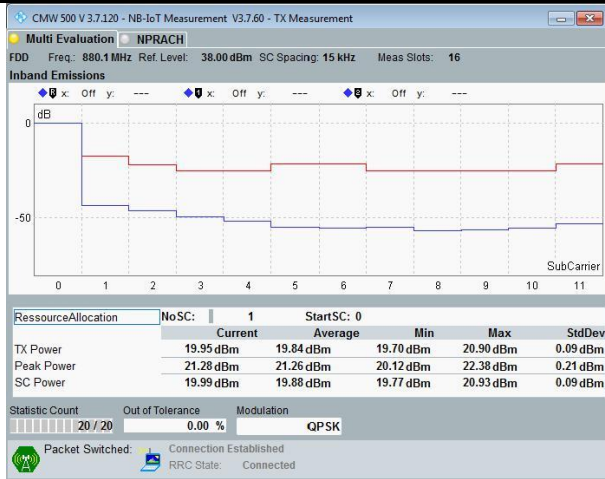
QPSK CH 21451 / 1@0 / 3.75kHz



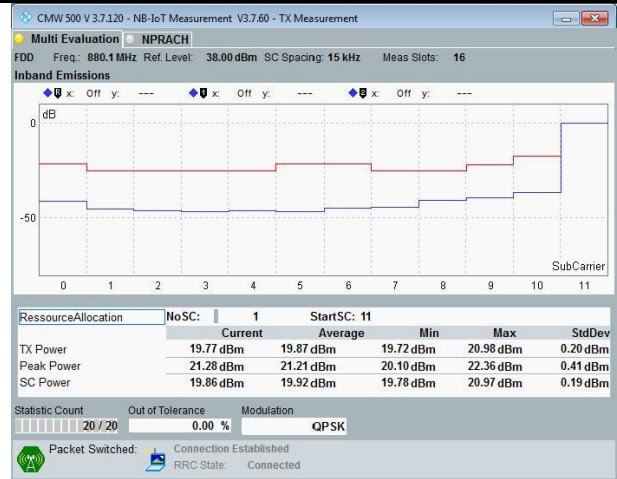
QPSK CH 21451 / 1@47 / 3.75kHz



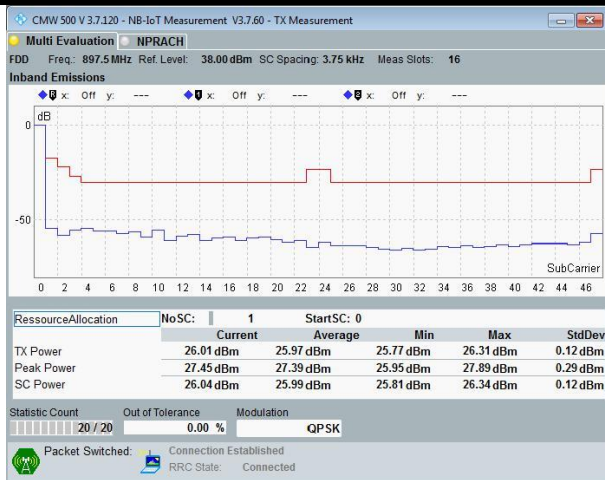
QPSK CH 21451 / 1@0 / 15kHz



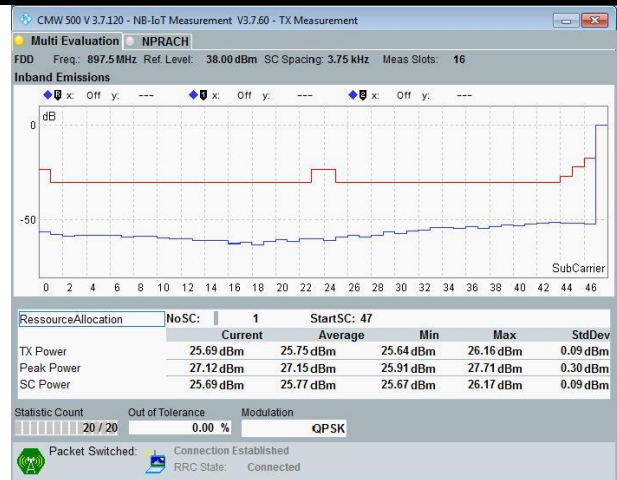
QPSK CH 21451 / 1@11 / 15kHz



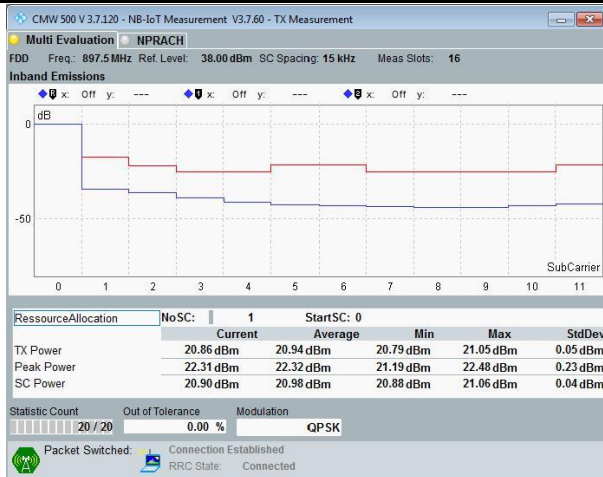
QPSK CH 21625 / 1@0 / 3.75kHz



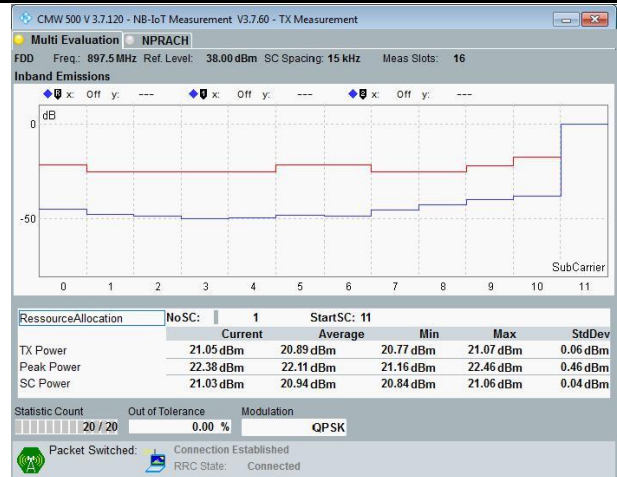
QPSK CH 21625 / 1@47 / 3.75kHz



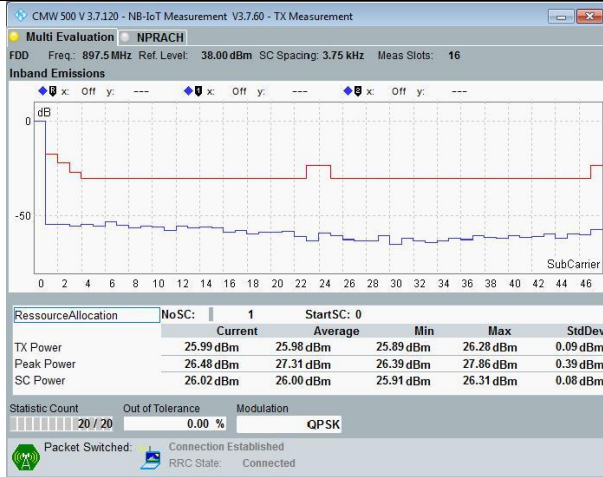
QPSK CH 21625 / 1@0 / 15kHz



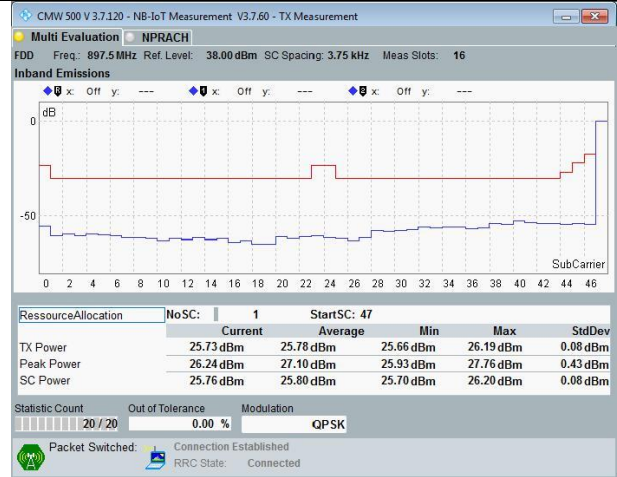
QPSK CH 21625 / 1@11 / 15kHz



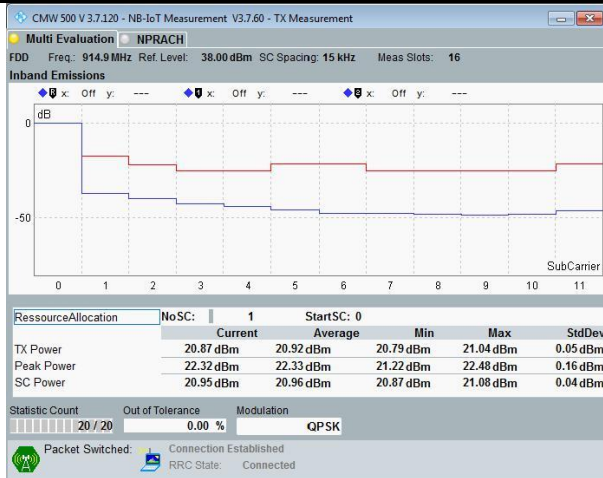
QPSK CH 21799 / 1@0 / 3.75kHz



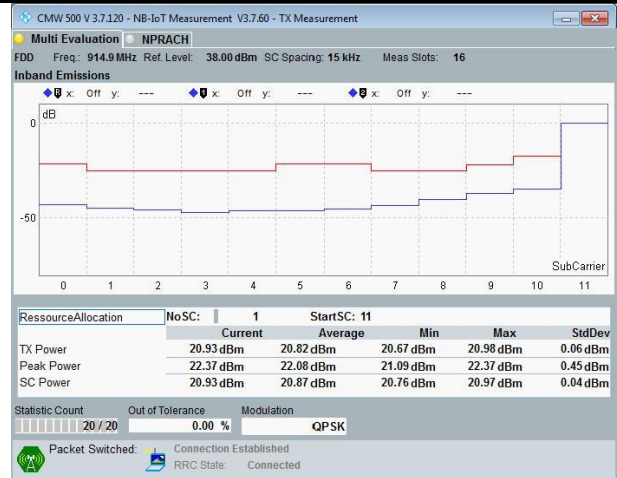
QPSK CH 21799 / 1@47 / 3.75kHz



QPSK CH 21799 / 1@0 / 15kHz

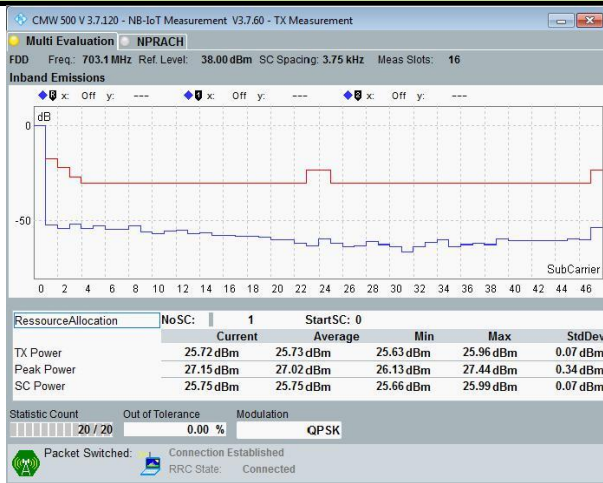


QPSK CH 21799 / 1@11 / 15kHz

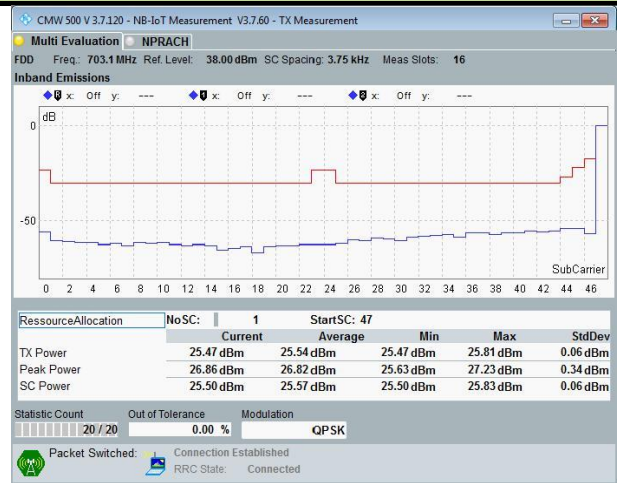


Band 28 (700MHz)					
Test Channel	Channel	Modulation	Ntones	Subcarrier Spacing (kHz)	Result
LOW	27211	QPSK	1@0	3.75	Pass
			1@47		Pass
			1@0	15	Pass
			1@11		Pass
MID	27435	QPSK	1@0	3.75	Pass
			1@47		Pass
			1@0	15	Pass
			1@11		Pass
HIGHT	27659	QPSK	1@0	3.75	Pass
			1@47		Pass
			1@0	15	Pass
			1@11		Pass

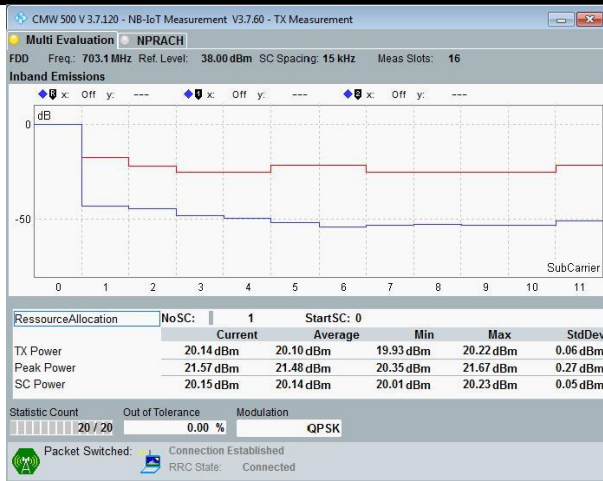
QPSK CH 27211 / 1@0 / 3.75kHz



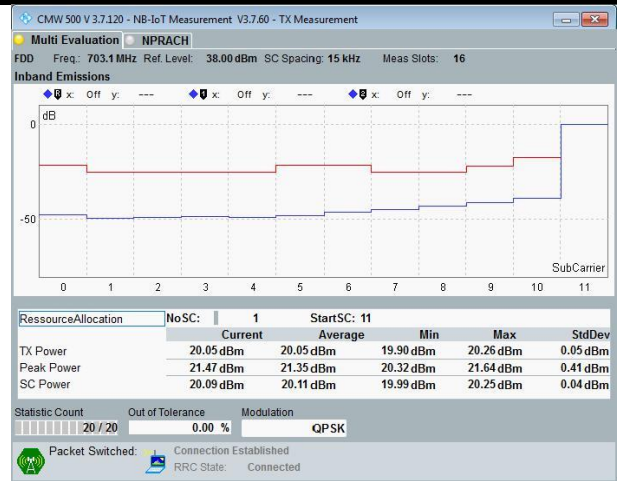
QPSK CH 27211 / 1@47 / 3.75kHz



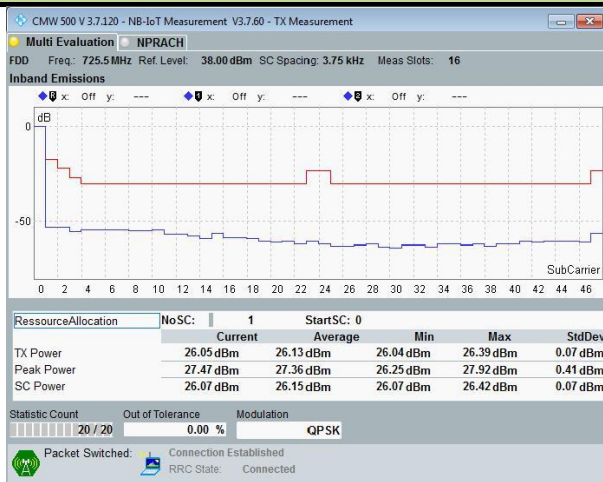
QPSK CH 27211 / 1@0 / 15kHz



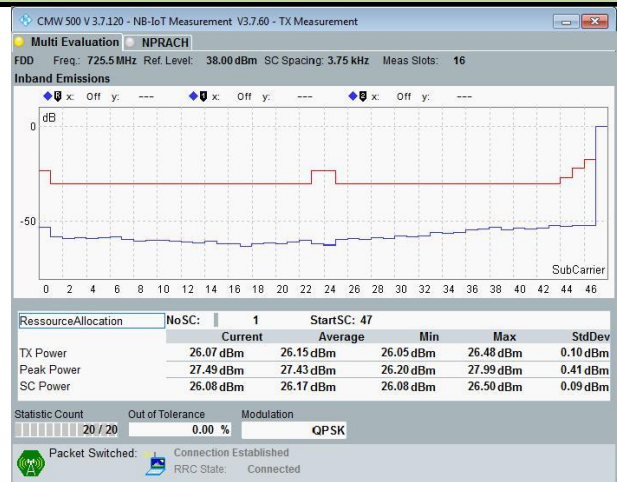
QPSK CH 27211 / 1@11 / 15kHz



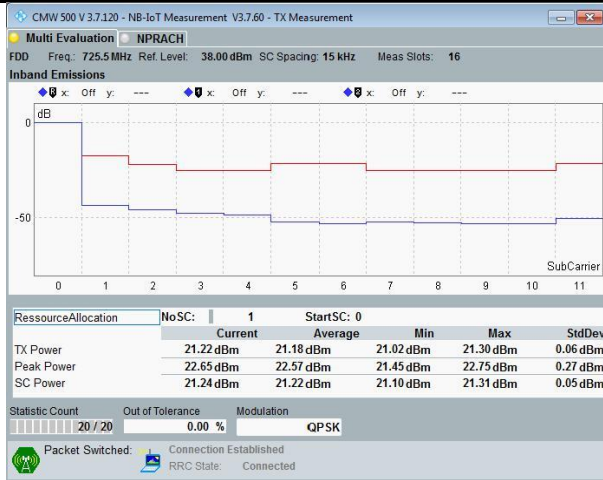
QPSK CH 27435 / 1@0 / 3.75kHz



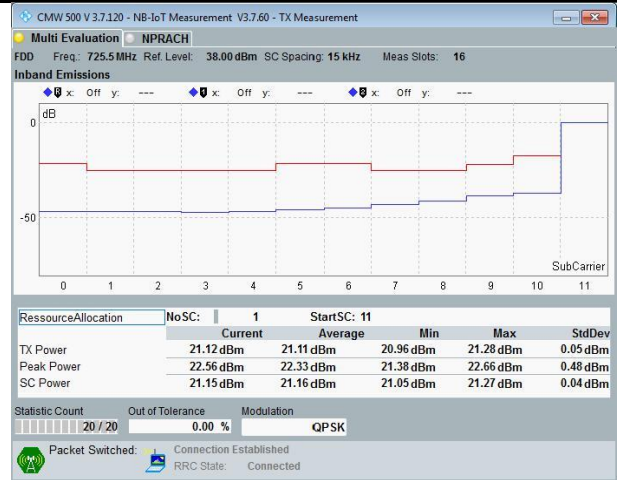
QPSK CH 27435 / 1@47 / 3.75kHz



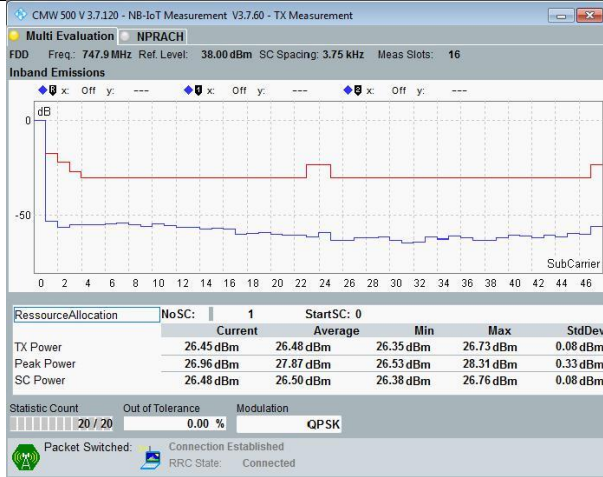
QPSK CH 27435 / 1@0 / 15kHz



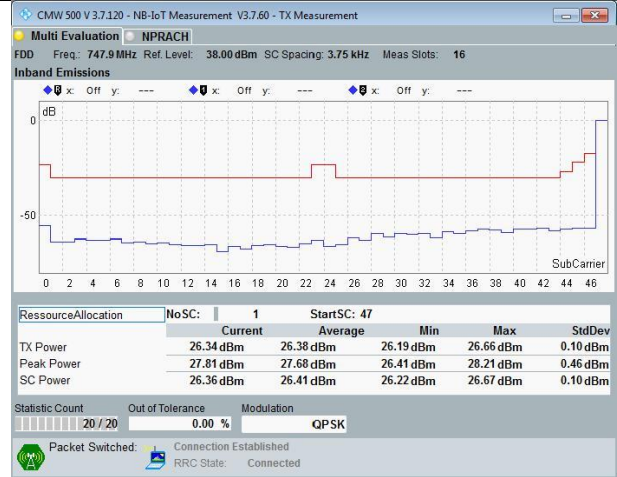
QPSK CH 27435 / 1@11 / 15kHz



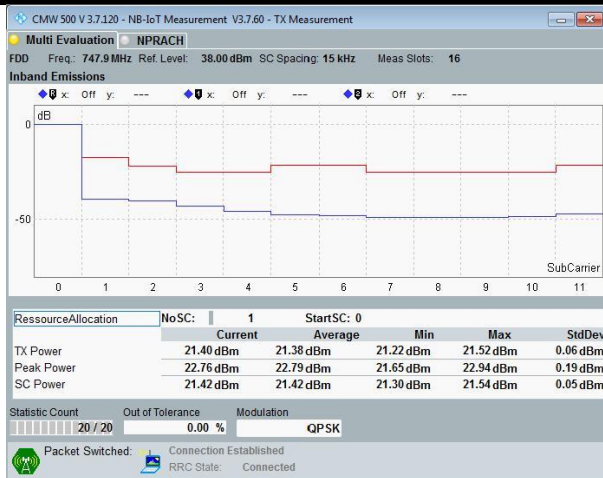
QPSK CH 27659 / 1@0 / 3.75kHz



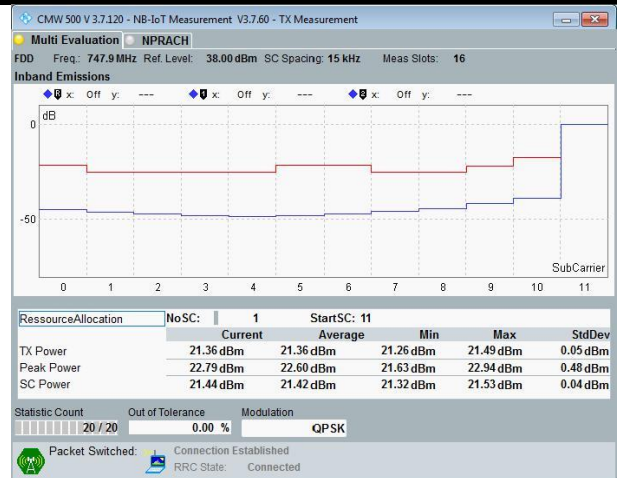
QPSK CH 27659 / 1@47 / 3.75kHz



QPSK CH 27659 / 1@0 / 15kHz



QPSK CH 27659 / 1@11 / 15kHz



5.6 頻率穩定度

5.6.1 合格標準

a) 依測試環境條件，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。

常態環境溫度範圍為+15°C至+35°C，濕度範圍為25%至75%。

極端環境溫度範圍為-10°C至+55°C，其他規定應符合 IEC 60068-2-1 與 IEC 60068-2-2。

在極端環境溫度，終端設備若可通電開機，則不得無效使用第3 點規定之頻段。

電壓條件：

終端設備之電源電壓應於低極端電壓與高極端電壓之間。終端設備審驗申請者應宣告其標稱電壓(nominal)、低極端電壓、高極端電壓與關機電壓。若終端設備可操作在一種或多種電源，其低極端電壓不得高於下表限制值，高極端電壓不得低於下表限制值。

電源	低極端電壓	高極端電壓	常態電壓
交流電源	0.9 * Nominal	1.1 * Nominal	Nominal
調節式鉛酸電池	0.9 * Nominal	1.3 * Nominal	1.1 * Nominal
非調節式電池:			
勒克朗社電池	0.85 * Nominal	Nominal	Nominal
鋰電池	0.95 * Nominal	1.1 * Nominal	1.1 * Nominal
水銀電池/鎳鎘電池	0.9 * Nominal	1.1 * Nominal	Nominal

電源電壓低於上表之低極端電壓或高於上表之高極端電壓，終端設備若可通電開機時，不得無效使用第3 點規定之頻段。

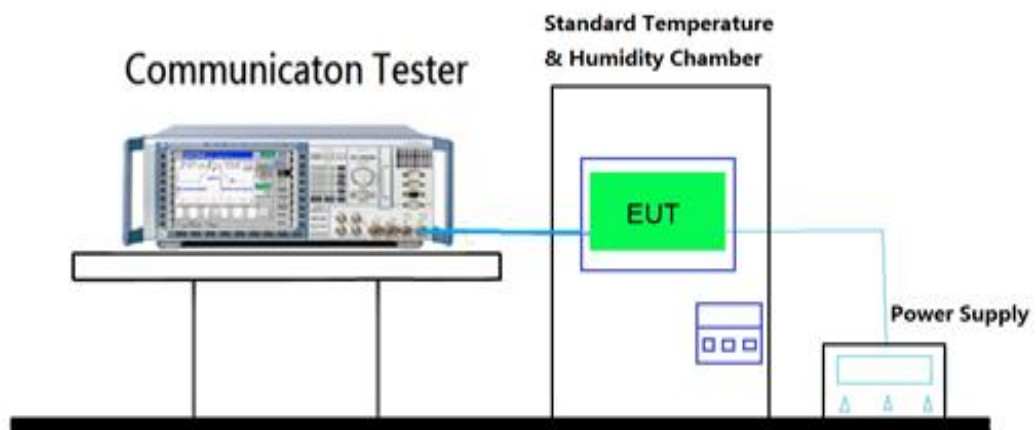
b) 檢測終端設備之電源電壓低於關機電壓時，終端設備不得發射。

5.6.2 測試方法

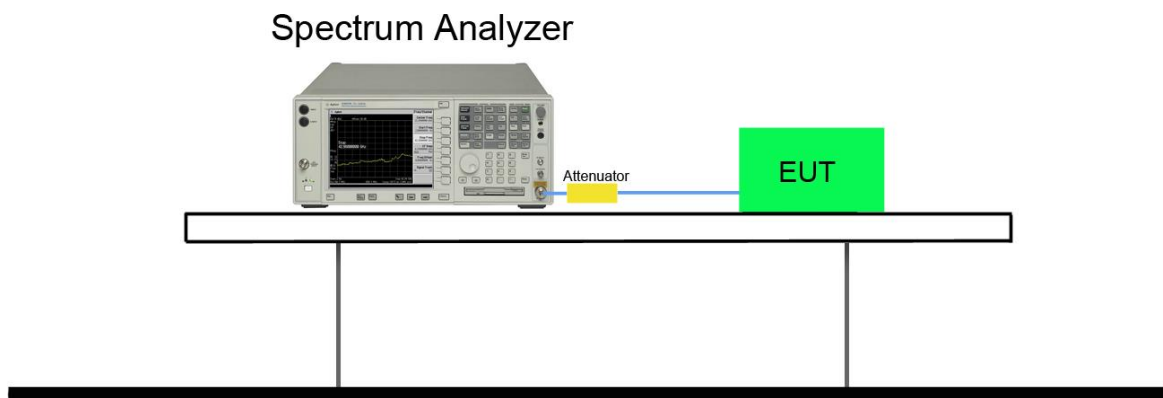
頻率穩定度的測量藉由環境溫櫃控制至指定溫度並將模擬基地台調諧頻率至測量頻率並量測。

5.6.3 實驗方法方塊圖

a)



b)

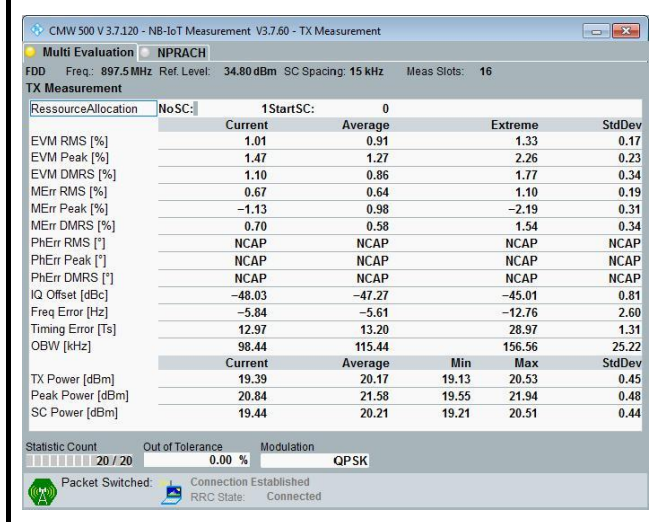
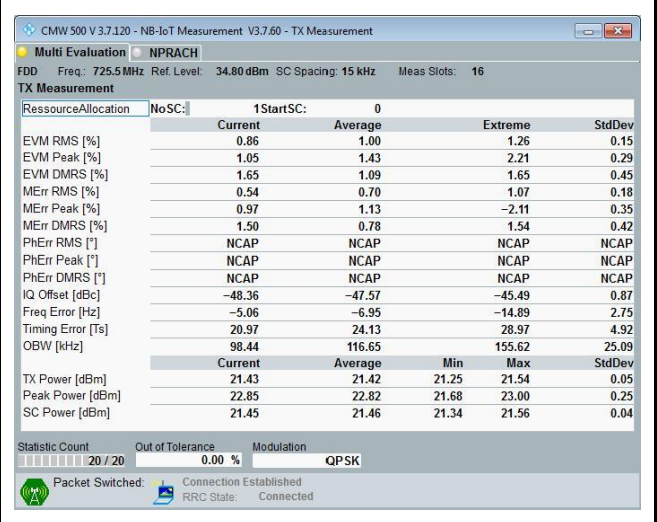


5.6.4 實驗數據

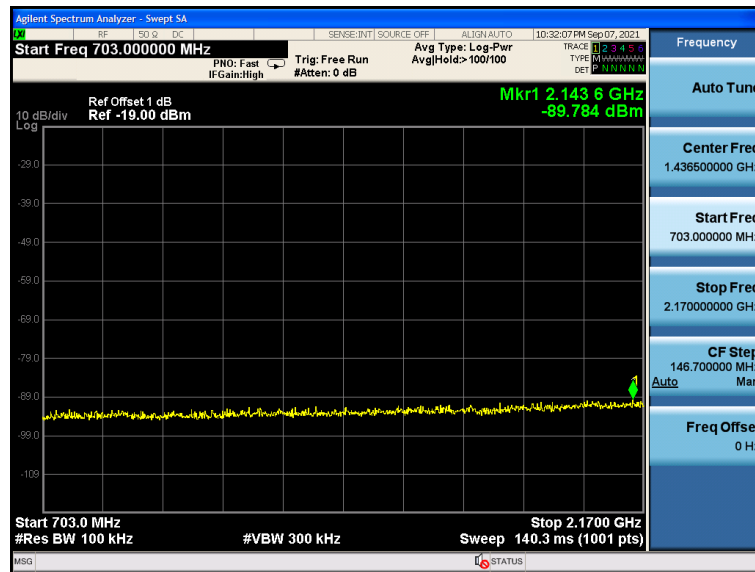
a)

Band 8 (900MHz)											
測試電壓		溫度	測試結果(Hz)				測試結果(ppm)				合格標準
			0min	2min	5min	10min	0min	2min	5min	10min	
正常電壓	DC 3.96V	25℃	-12.76	-10.14	-10.51	-10.57	0.014	0.011	0.012	0.012	0.1ppm (89.75Hz)
低壓	DC 3.42V	-10℃	-8.68	-10.03	-12.32	-9.53	0.010	0.011	0.014	0.011	
高壓	DC 3.96V		-9.77	-9.70	-11.13	-9.03	0.011	0.011	0.012	0.010	
低壓	DC 3.42V	55℃	-10.53	-7.70	-10.66	-10.33	0.012	0.009	0.012	0.011	
高壓	DC 3.96V		-8.31	-10.63	-9.98	-8.87	0.009	0.012	0.011	0.010	

Band 28 (700MHz)											
測試電壓		溫度	測試結果(Hz)				測試結果(ppm)				合格標準
			0min	2min	5min	10min	0min	2min	5min	10min	
正常電壓	DC 3.96V	25℃	-11.54	-11.46	-11.23	-10.87	0.016	0.016	0.015	0.015	0.1ppm (72.55Hz)
低壓	DC 3.42V	-10℃	-14.89	-11.23	-13.92	-12.67	0.021	0.015	0.019	0.017	
高壓	DC 3.96V		-13.38	-13.30	-15.62	-10.76	0.018	0.018	0.022	0.015	
低壓	DC 3.42V	55℃	-11.23	-14.08	-14.33	-11.69	0.015	0.019	0.020	0.016	
高壓	DC 3.96V		-11.43	-14.85	-8.93	-11.01	0.016	0.020	0.012	0.015	

Band 8 (FDD 900MHz)	Band 28 (FDD 700MHz)
	

b) 電源電壓低於關機電壓(DC 2.4V)時，終端設備無發射之結果



5.7 電波功率密度

5.7.1 合格標準

電波功率密度最大值(本項測試適用於移動式行動臺設備)：

700MHz 頻段為 0.35mW/cm²；

900MHz 頻段為 0.45mW/cm²；

1800MHz 頻段為 0.9mW/cm²。

5.7.2 計算方式

$$Pd = (Pout \times G) / (4 \times \pi \times r^2)$$

Pd = 功率密度 (mW/cm²)

Pout = 輸出功率 (mW)

G = 天線增益 (linear)

π = 3.1416

r = 量測距離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。

5.7.3 計算結果

Frequency (MHz)	EIRP (dBm)	Level (mW/cm ²)	Limit (mW/cm ²)
700	24.38	0.0545	0.35
900	22.83	0.0382	0.45

_____ The End _____