



行動通信電信終端設備檢驗報告

產品名稱：平板電腦

廠 牌：Lenovo

型 號：Lenovo TB-J616X

申請廠商：荷蘭商聯想股份有限公司 台灣分公司
台北市中山區樂群三路 128 號 16 樓

製造廠商：聯想（香港）有限公司
香港鰂魚湧英皇道 979 號太古坊林肯大廈 23 樓

技術規範：國家通訊傳播委員會行動通信電信終端設備技術規範

- 測試產品接收日期為民國 110 年 6 月 30 日
- 於民國 110 年 7 月 8 日開始測試，民國 110 年 7 月 28 日結束測試。
- 此份試驗報告，僅針對保留於本實驗室的試驗樣品有效。
- 未獲本公司書面允許，證書或報告不得節錄複製。

耕興股份有限公司電磁相容及無線通信實驗室

報告簽署人：吳忠泰



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報告履歷

報告編號	報告版本	說明	報告發行日期
TM161911	01	初版	2021 年 8 月 12 日

測試結果總表

報告章節	法規章節	檢驗項目	結果判定	備註
2	6.4.1	工作頻帶/ 收發頻率間隔/ 標稱頻道間隔	符合	-
附錄 A	6.4.2	最大發射輸出功率	符合	Band 1: 23.60 dBm Band 8: 23.50 dBm
附錄 A	6.4.3	頻率穩定度	符合	Band 1: 0.0113 PPM Band 8: 0.0178 PPM
附錄 A	6.4.4	功率控制狀態下之 最小平均輸出功率	符合	Band 1: -54.69 dBm Band 8: -54.96 dBm
附錄 A	6.4.5	佔用頻道頻寬	符合	-
附錄 A	6.4.6	發射頻譜波罩	符合	-
附錄 A	6.4.7	相鄰頻道洩漏功率比(ACLR)	符合	
附錄 A	6.6.2	電波功率密度	符合	-
附錄 A	5.2	電壓條件	符合	-
附錄 B	6.4.8	混附波輻射	符合	-
附錄 C	6.10	災防告警細胞廣播 訊息接收功能	符合	-

符合性聲明:

上述報告所列測試結果判定，不納入不確定度評估，且依法規所列限制值或製造商宣告作為判定準則。

意見與解釋:

報告中 EUT 呈現的技術規格由製造商提供，製造商承擔所有規格準確性的責任。

報告審查: 李安傑

報告製作: 羅聿珊

1. 一般資料

1.1 測試方法及依據

國家通訊傳播委員會【PLMN ALL】行動通信電信終端設備技術規範109年09月25日修訂版

1.2 待測物特性與規格

GSM/WCDMA/LTE, Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n/ac, Wi-Fi 5GHz 802.11a/n/ac, and GPS/Glonass.

Product Specification subjective to this standard		
Equipment	Portable Tablet Computer	
Brand Name	Lenovo	
Model Name	Lenovo TB-J616X	
Sample 1	1st source (refer to the PED)	
Sample 2	2nd source (refer to the PED)	
Sample 3	3rd source (refer to the PED)	
Sample 4	4th source (refer to the PED)	
Sample 5	5th source (refer to the PED)	
IMEI Code	Conducted:	865736050008898
	PWS:	865736050005480
Tx Frequency	WCDMA Band I: 1920 MHz ~ 1980 MHz WCDMA Band VIII: 885 MHz ~ 915 MHz	
Rx Frequency	WCDMA Band I: 2110 MHz ~ 2170 MHz WCDMA Band VIII: 930 MHz ~ 960 MHz	
Type of Modulation	QPSK / 16QAM / 64QAM	
EUT Stage	Identical Prototype	

Remark: The above EUT's information was declared by manufacturer.

Antenna Information				
Antenna	Brand Name	海通	Peak Gain	WCDMA Band I: -1.18 dBi WCDMA Band VIII: -3.94 dBi
	Model Name	PFC	Type	IFA Antenna

Remark:

1. The detail internal, external and transmit antenna photo please refer to Sporton report no.: EP161911.
2. The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.



Specification of Accessory		
AC Adapter 1	Brand Name	Lenovo
	Model Name	MC-201
	Manufacturer	Acbel
AC Adapter 2	Brand Name	Lenovo
	Model Name	MC-201
	Manufacturer	Chenyang
Battery 1	Brand Name	Lenovo
	Model Name	L20D2P32
	Manufacturer	SCUD
Battery 2	Brand Name	Lenovo
	Model Name	L20D2P32
	Manufacturer	Sunwoda
USB Cable 1	Brand Name	Saibao
	Model Name	SLQ-A166A
USB Cable 2	Brand Name	Jieye
	Model Name	JY-C03-271
Lenovo Precision Pen 2	Brand Name	Lenovo
	Model Name	Lenovo LP-151
Lenovo Active Pen 3	Brand Name	Lenovo
	Model Name	Lenovo LP-251
Keyboard	Brand Name	Lenovo
	Model Name	Lenovo KB-J7016-2
Cradle	Brand Name	Lenovo
	Model Name	Lenovo CR-421

1.3 測試環境

實驗室名稱	耕興股份有限公司電磁相容及無線通信實驗室
實驗室資訊	桃園市龜山區華亞一路 52 號 TEL: +886-3-3273456 / FAX: +886-3-3284978
耕興場地編號	TH03-HY

Test Item	Conducted	PWS
Test Engineer	季怡然	賴則宇
Ambient Temperature	23~24°C	24~25°C
Relative Humidity	48~49%	56~57%



1.4 測試頻道

操作頻段		低頻道	中間頻道	高頻道
■	WCDMA Band I	9612	9750	9888
■	WCDMA Band VIII	2737	2800	2863

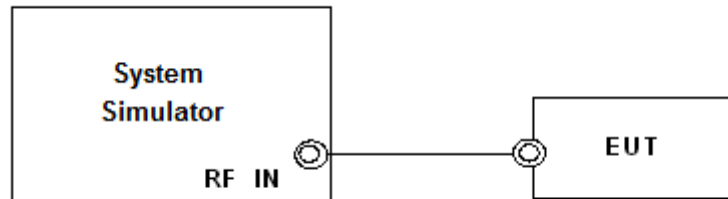


2. 一般特性檢驗

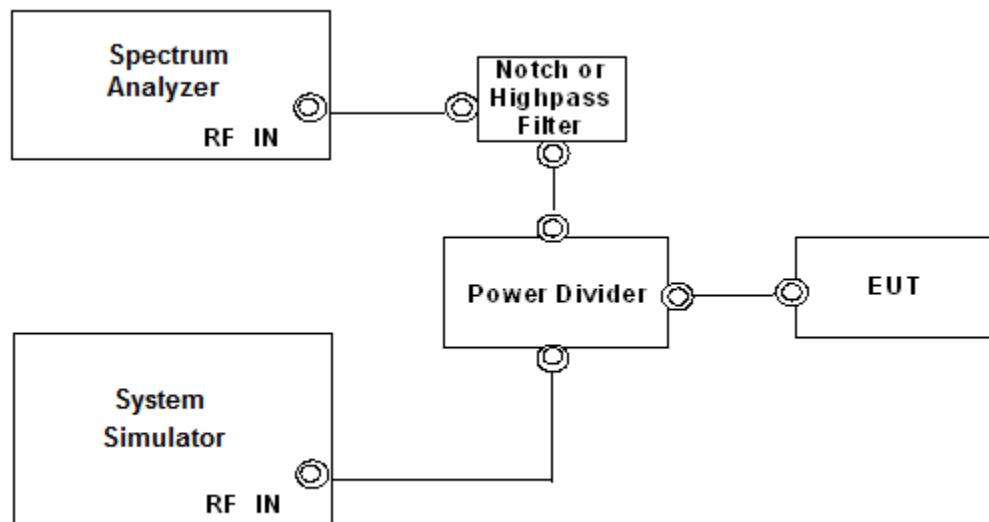
項次	檢驗項目	合格標準
1	工作頻帶	限制值參照5.1
	收發頻率間隔	
	標稱頻道間隔	
2	最大發射輸出功率	限制值參照5.2
3	頻率穩定度	± 0.1 百萬分之一(PPM)之內
4	功率控制狀態下之最小平均輸出功率	$\leq -50\text{dBm}$ (in one time slot)
5	佔用頻道頻寬	$\leq 5\text{ MHz}$
6	發射頻譜波罩	限制值參照5.3
7	相鄰頻道洩漏功率比	相鄰頻道偏移 $\pm 5\text{ MHz}$ 相鄰頻道洩漏功率限制33 dB 相鄰頻道偏移 $\pm 10\text{ MHz}$ 相鄰頻道洩漏功率限制43 dB
8	電壓條件	參照5.5
9	電波功率密度	限制值參照5.5
10	混附波輻射	限制值參照5.4
11	災防告警細胞廣播訊息接收功能	符合PLMN ALL規範6.10規定

3. 檢驗接續圖

檢驗項目：1~7



檢驗項目：8~10



檢驗項目：11





4. 檢驗使用儀器

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP30	101329	9kHz~30GHz	Sep. 03, 2020	Jul. 16, 2021~ Jul. 19, 2021	Sep. 02, 2021	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~4A	Oct. 05, 2020	Jul. 16, 2021~ Jul. 19, 2021	Oct. 04, 2021	Conducted (TH03-HY)
Base Station (Measure)	Rohde & Schwarz	CMU200	117997	GSM / GPRS / WCDMA / CDMA	Sep. 22, 2020	Jul. 16, 2021~ Jul. 19, 2021	Sep. 21, 2021	Conducted (TH03-HY)
Power Divider	Warison	WCOU-0.4-26. 5S-20	#A	N/A	Nov. 02, 2020	Jul. 16, 2021~ Jul. 19, 2021	Nov. 01, 2021	Conducted (TH03-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃ ~90℃	Sep. 14, 2020	Jul. 16, 2021~ Jul. 19, 2021	Sep. 13, 2021	Conducted (TH03-HY)
LTE Base Station	Anritsu	MD8475A	6201357747	-	May 04, 2021	Jul. 08, 2021~ Jul. 28, 2021	May 03, 2022	PWS (TH03-HY)
CompactDAQ	NI	USB-4432	19397EE	-	Jan. 18, 2021	Jul. 08, 2021~ Jul. 28, 2021	Jan. 17, 2022	PWS (TH03-HY)

5. 量測設定及限制值

5.1 工作頻帶、收發頻率間隔、標稱頻道間隔限制值

檢 驗 項 目	Band 1	Band 8
工作頻帶 (frequency bands)	Tx : 1920 -1980MHz Rx : 2110 -2170MHz	Tx : 885 -915MHz Rx : 930 -960MHz
收發頻率間隔 (TX-RX frequency separation)	190 MHz	45 MHz
標稱頻道間隔 (channel spacing)	5 MHz	

5.2 最大發射輸出功率限制值

最大發射輸出功率	Band 1	Band 8
Power class 1	33 dBm +1.7/-3.7 dB	-
Power class 2	27 dBm +1.7/-3.7 dB	-
Power class 3	24 dBm +1.7/-3.7 dB	
Power class 4	21 dBm +2.7/-2.7 dB	

5.3 發射頻譜波罩限制值

量測濾波器中心載波 頻率偏移量 Δf (MHz)	最大允許值		量測頻寬
	相對允許值(dBc)	絕對允許值(dBm)	
2.5 – 3.5	$\left\{-35-15\cdot\left(\frac{\Delta f}{MHz}-2.5\right)\right\}dBc$	-71.1	30 千赫(kHz)
3.5 – 7.5	$\left\{-35-1\cdot\left(\frac{\Delta f}{MHz}-3.5\right)\right\}dBc$	-55.8	1 MHz
7.5 – 8.5	$\left\{-39-10\cdot\left(\frac{\Delta f}{MHz}-7.5\right)\right\}dBc$	-55.8	1 MHz
8.5 – 12.5	-49 dBc	-55.8	1 MHz

註：最大允許值取相對允許值及絕對允許值較大者。

5.4 混附波輻射設定及限制值

頻率範圍	量測頻寬	最大允許值
$9 \text{ kHz} \leq f < 150 \text{ kHz}$	1 kHz	-36 dBm
$150 \text{ kHz} \leq f < 30 \text{ MHz}$	10 kHz	-36 dBm
$30 \text{ MHz} \leq f < 1000 \text{ MHz}$	100 kHz	-36 dBm
$1 \text{ GHz} \leq f < 12.75 \text{ GHz}$	1 MHz	-30 dBm

下表僅適用於工作頻帶為Band 1

頻率範圍	測量頻寬	最大允許值
$462.5 \text{ MHz} \leq f \leq 467.5 \text{ MHz}$	1 MHz	-50 dBm
$703 \text{ MHz} \leq f \leq 803 \text{ MHz}$	1 MHz	-50 dBm
$791 \text{ MHz} \leq f \leq 821 \text{ MHz}$	3.84 MHz	-60 dBm
$852 \text{ MHz} \leq f \leq 859 \text{ MHz}$	1 MHz	-50 dBm
$859 \text{ MHz} \leq f \leq 894 \text{ MHz}$	3.84 MHz	-60 dBm
$921 \text{ MHz} \leq f < 925 \text{ MHz}$	100 kHz	-60 dBm
$925 \text{ MHz} \leq f \leq 935 \text{ MHz}$	100 kHz 3.84 MHz	-67 dBm -60 dBm
$935 \text{ MHz} < f \leq 960 \text{ MHz}$	100 kHz 3.84 MHz	-79 dBm -60 dBm
$1447 \text{ MHz} \leq f \leq 1467 \text{ MHz}$	1 MHz	-50 dBm
$1452 \text{ MHz} \leq f \leq 1510.9 \text{ MHz}$	3.84 MHz	-60 dBm
$1805 \text{ MHz} \leq f \leq 1880 \text{ MHz}$	100 kHz 3.84 MHz	-71 dBm -60 dBm
$1839.9 \text{ MHz} \leq f \leq 1879.9 \text{ MHz}$	3.84 MHz	-60 dBm
$1884.5 \text{ MHz} < f < 1915.7 \text{ MHz}$	300 kHz	-41 dBm
$2010 \text{ MHz} < f < 2025 \text{ MHz}$	3.84 MHz	-60 dBm
$2110 \text{ MHz} \leq f \leq 2170 \text{ MHz}$	3.84 MHz	-60 dBm
$2170 \text{ MHz} \leq f \leq 2200 \text{ MHz}$	1 MHz	-50 dBm
$2300 \text{ MHz} \leq f \leq 2400 \text{ MHz}$	3.84 MHz	-60 dBm
$2496 \text{ MHz} \leq f \leq 2570 \text{ MHz}$	1 MHz	-50 dBm
$2570 \text{ MHz} \leq f \leq 2690 \text{ MHz}$	3.84 MHz	-60 dBm
$3510 \text{ MHz} \leq f \leq 3590 \text{ MHz}$	3.84 MHz	-60 dBm
$3400 \text{ MHz} \leq f \leq 3800 \text{ MHz}$	1 MHz	-50 dBm

下表僅適用於工作頻帶為Band 8

頻率範圍	測量頻寬	最大允許值
$462.5 \text{ MHz} \leq f \leq 467.5 \text{ MHz}$	1 MHz	-50 dBm
$703 \text{ MHz} \leq f \leq 803 \text{ MHz}$	1 MHz	-50 dBm
$791 \text{ MHz} \leq f \leq 821 \text{ MHz}$	3.84 MHz	-60 dBm
$860 \text{ MHz} \leq f \leq 890 \text{ MHz}$	1 MHz	-37 dBm (註)
$925 \text{ MHz} \leq f \leq 935 \text{ MHz}$	100 kHz 3.84 MHz	-67 dBm -60 dBm
$935 \text{ MHz} < f \leq 960 \text{ MHz}$	100 kHz 3.84 MHz	-79 dBm -60 dBm
$1447 \text{ MHz} \leq f \leq 1467 \text{ MHz}$	1 MHz	-50 dBm
$1452 \text{ MHz} \leq f \leq 1496 \text{ MHz}$	3.84 MHz	-60 dBm
$1475.9 \text{ MHz} \leq f \leq 1510.9 \text{ MHz}$	3.84 MHz	-60 dBm (註)
$1805 \text{ MHz} < f \leq 1830 \text{ MHz}$	100 kHz 3.84 MHz	-71 dBm -60 dBm
$1830 \text{ MHz} < f \leq 1880 \text{ MHz}$	100 kHz 3.84 MHz	-71 dBm -60 dBm
$1880 \text{ MHz} \leq f \leq 1920 \text{ MHz}$	3.84 MHz	-60 dBm
$1884.5 \text{ MHz} \leq f \leq 1915.7 \text{ MHz}$	300 kHz	-41 dBm (註)
$2010 \text{ MHz} \leq f \leq 2025 \text{ MHz}$	3.84 MHz	-60 dBm
$2110 \text{ MHz} \leq f \leq 2170 \text{ MHz}$	3.84 MHz	-60 dBm
$2170 \text{ MHz} \leq f \leq 2200 \text{ MHz}$	1 MHz	-50 dBm
$2300 \text{ MHz} < f < 2400 \text{ MHz}$	3.84 MHz	-60 dBm
$2496 \text{ MHz} \leq f \leq 2570 \text{ MHz}$	1 MHz	-50 dBm
$2570 \text{ MHz} \leq f \leq 2640 \text{ MHz}$	3.84 MHz	-60 dBm
$2640 \text{ MHz} < f \leq 2690 \text{ MHz}$	3.84 MHz	-60 dBm
$3510 \text{ MHz} \leq f \leq 3590 \text{ MHz}$	3.84 MHz	-60 dBm
$3400 \text{ MHz} \leq f \leq 3800 \text{ MHz}$	1 MHz	-50 dBm

註：僅適用於 900 MHz 至 915 MHz 內之傳輸。

5.5 電壓條件

5.5.1 Limit

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	$0.9 \times \text{nominal}$	$1.1 \times \text{nominal}$	nominal
調節式鉛酸電池	$0.9 \times \text{nominal}$	$1.3 \times \text{nominal}$	$1.1 \times \text{nominal}$
非調節式電池： 勒克朗社電池 / 鋰電池 / 水銀電池/鎳鎘電池	$0.85 \times \text{nominal}$ $0.95 \times \text{nominal}$ $0.90 \times \text{nominal}$	nominal $1.1 \times \text{nominal}$ $1.1 \times \text{nominal}$	nominal $1.1 \times \text{nominal}$ nominal

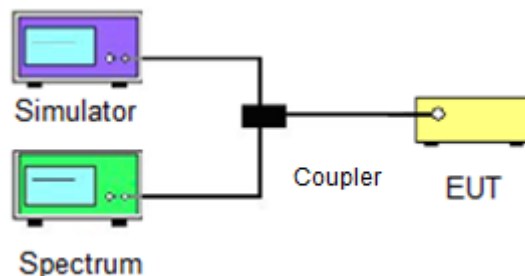
電源電壓低於上表之低極端電壓或高於上表之高極端電壓，終端設備若可通電開機時，不得無效使用第 3 點規定之頻段。

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。

5.5.2 Test Procedure

終端設備與 WWAN 基地台做連線，以低極端電壓往下調整至客戶宣告之關機電壓，查看終端設備與 WWAN 基地台是否中斷連線。

5.5.3 Test Setup



5.5.4 Test Result of Voltage Conditions

關機電壓數值 Please refer to 附錄 A.

測試結果：符合

5.6 電波功率密度

5.6.1 Limit

本項測試適用於移動式終端設備

頻段	電波功率密度最大值
700 MHz	0.35 mW/cm ²
900 MHz	0.45 mW/cm ²
1800 MHz	0.90 mW/cm ²
2100 MHz	1.00 mW/cm ²
2500 MHz ~ 2600 MHz	1.00 mW/cm ²
3500 MHz	1.00 mW/cm ²

5.6.2 Test Procedure

The following formula was used to calculate the Power Density:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna

5.6.3 Test Result of Power Density

Please refer to 附錄 A.

5.7 頻率穩定度

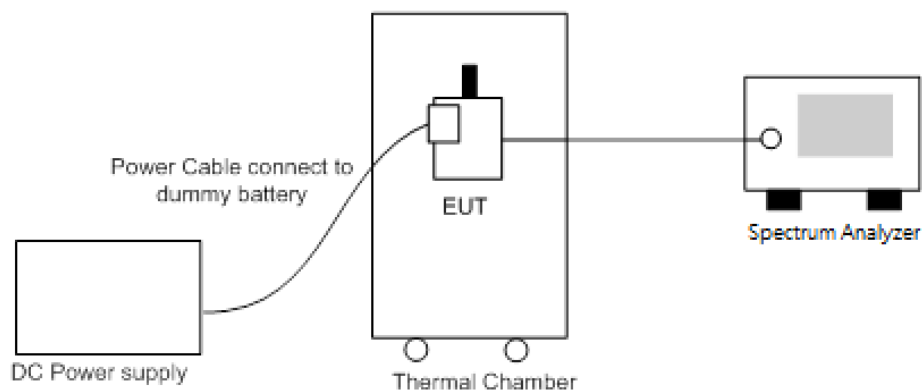
5.7.1 Limit

頻率應維持在 ± 0.1 PPM 以內。

5.7.2 Test Procedures

溫度在攝氏 $-10^{\circ}\text{C} \sim 55^{\circ}\text{C}$ 間，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 0.1 百萬分之一(PPM)以內。

5.7.3 Test Setup



1.1.1 Test Result of Frequency Tolerance

Please refer to 附錄A.



附錄 A. 最大發射輸出功率、頻率穩定度、功率控制狀態下之最小平均輸出功率、佔用頻道頻寬、相鄰頻道洩漏功率比和發射頻譜波罩

測試環境	溫度	°C	23~24
	濕度	%	48~49
測試工程師		-----	Oscar Chi
天線之方向增益		dBi	-1.18
標準供應電壓		VDC	3.86
關機電壓		VDC	3.50

註：檢測終端設備之電源電壓低於關機電壓時，終端設備已關機無發射

A.1 WCDMA Band I

傳導發射功率	單位	低頻道	中頻道	高頻道	限制	結果
	dBm	23.58	23.60	23.49	24 +1.7/-3.7	符合
電波功率密度	mW/cm ²	0.034572	0.034732	0.033863	1	符合

註1： Power Class 3

註2： 移動式終端設備

供電方式		鋰電池						
頻率穩定度		單位	第0分鐘	第2分鐘	第5分鐘	第10分鐘	限制	結果
常溫常壓	20 ℃ + 4.25 V	ppm	0.0041	0.0062	0.0077	0.0097	≤ 0.1	符合
高溫高壓	55 ℃ + 4.25 V	ppm	0.0077	0.0087	0.0097	0.0108	≤ 0.1	符合
高溫低壓	55 ℃ + 3.66 V	ppm	0.0072	0.0097	0.0103	0.0113	≤ 0.1	符合
低溫高壓	-10 ℃ + 4.25 V	ppm	0.0056	0.0067	0.0077	0.0077	≤ 0.1	符合
低溫低壓	-10 ℃ + 3.66 V	ppm	0.0067	0.0067	0.0082	0.0087	≤ 0.1	符合

測試環境	溫度	°C	23~24
	濕度	%	48~49
測試工程師		-----	Oscar Chi
天線之方向增益		dBi	-3.94
標準供應電壓		VDC	3.86
關機電壓		VDC	3.50

註：檢測終端設備之電源電壓低於關機電壓時，終端設備已關機無發射

A.2 WCDMA Band VIII

傳導發射功率	單位	低頻道	中頻道	高頻道	限制	結果
	dBm	23.42	23.38	23.50	24 +1.7/-3.7	符合
電波功率密度	mW/cm ²	0.01765	0.01749	0.01798	0.45	符合

註1： Power Class 3

註2： 移動式終端設備

供電方式		鋰電池						
頻率穩定度		單位	第0分鐘	第2分鐘	第5分鐘	第10分鐘	限制	結果
常溫常壓	20 ℃ + 4.25 V	ppm	0.0078	0.0122	0.0144	0.0144	≤ 0.1	符合
高溫高壓	55 ℃ + 4.25 V	ppm	0.0089	0.0100	0.0122	0.0167	≤ 0.1	符合
高溫低壓	55 ℃ + 3.66 V	ppm	0.0100	0.0122	0.0156	0.0178	≤ 0.1	符合
低溫高壓	-10 ℃ + 4.25 V	ppm	0.0056	0.0067	0.0111	0.0133	≤ 0.1	符合
低溫低壓	-10 ℃ + 3.66 V	ppm	0.0056	0.0078	0.0078	0.0100	≤ 0.1	符合



<WCDMA Band 1>

Measurement Report

Operator: noname

2021年7月16日 下午 15:11:48

CMU Ident: Rohde&Schwarz,CMU 200-1100.0008.02,117997,V5.21

Options: B11/B12,B17,B21Var14,B41,B52Var14,B54Var14,B56Var54,B66,COPROC_FULL,B83,B85,B89,B96,PCMCIA
WDDC400,K16,K17,K20,K21,K22,K23,K24,K27,K28,K29,K42,K43,K56,K57,K58,K59,K60,K61,K62,K63,K64
K65,K66,K67,K68,K69,K83,K84,K85,K86,K88,K839,K849,K859,K869,FMR6,Intel Celeron Mobil,256 MB
rxtx1

Sequence: - - -

Test Name and Condition	Lower Limit	Upper Limit	Measured Value	P/F
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Operating Band I, Channel DL/UL 10700/9750, Attenuation (In/Out) 6.8 / 6.8 dB

P-CPICH: -53.90 dBm, P-SCH: -5.00 dB, S-SCH: -5.00 dB, P-CCPCH: -2.00 dB, S-CCPCH: -2.00 dB

PICH: -5.00 dB, AICH -5.00 dB, DPDCH (Code 6): -7.00 dB, DPCCH/DPDCH Offset 0.00 dB

MCC 1, MNC 1, LAC 1 CallType RMC 12.2 kbps DL/UL, Test Loop Mode 2

IMSI: 001010123456789, Serial Number: ???????-?????-0

Call to Mobile:			passed	✓
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DL Channel 10562, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, UE Power Class 3

Maximum RMS Power:	21.00 dBm	25.00 dBm	23.58 dBm	✓
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DL Channel 10562, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10

Minimum RMS Power:		-50.00 dBm	-55.17 dBm	✓
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DL Channel 10562, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, RF Target Level 0.0 dBm

WCDMA Demodulation (Maximum Values)

Carrier Frequency Error:	-195.00 Hz	195.00 Hz	-1.01 Hz	✓
Magnitude Error (RMS):		17.50 %	3.09 %	✓
Magnitude Error (Peak):	-50.00 %	50.00 %	16.80 %	✓

DL Channel 10562, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10

ACLR FFT/OBW, 640 Chips (Average Values)

ACLR Channel -2 (RMS):		-43.00 dBc	-58.94 dBc	✓
ACLR Channel -1 (RMS):		-33.00 dBc	-46.19 dBc	✓
ACLR Channel +1 (RMS):		-33.00 dBc	-45.47 dBc	✓
ACLR Channel +2 (RMS):		-43.00 dBc	-57.56 dBc	✓
Occupied Bandwidth:		5.00 MHz	4.19 MHz	✓

DL Channel 10562, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, 640 Chips

Emission Mask:			passed	✓
Margin fc-8.5 ... fc-12.5 MHz	0.00 dB		-13.87 dB	
Margin fc-7.5 ... fc-8.5 MHz	0.00 dB		-13.82 dB	
Margin fc-4.0 ... fc-7.5 MHz	0.00 dB		-14.63 dB	
Margin fc-2.5 ... fc-3.5 MHz	0.00 dB		-14.77 dB	
Margin fc+2.5 ... fc+3.5 MHz	0.00 dB		-14.09 dB	
Margin fc+4.0 ... fc+7.5 MHz	0.00 dB		-14.21 dB	
Margin fc+7.5 ... fc+8.5 MHz	0.00 dB		-11.54 dB	
Margin fc+8.5 ... fc+12.5 MHz	0.00 dB		-11.61 dB	

DL Channel 10700, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, UE Power Class 3

Maximum RMS Power:	21.00 dBm	25.00 dBm	23.60 dBm	✓
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DL Channel 10700, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10

Minimum RMS Power:		-50.00 dBm	-54.69 dBm	✓
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Test Name and Condition	Lower Limit	Upper Limit	Measured Value	P/F
DL Channel 10700, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, RF Target Level 0.0 dBm				
WCDMA Demodulation (Maximum Values)				
Carrier Frequency Error:	-195.00 Hz	195.00 Hz	-9.06 Hz	✓
Magnitude Error (RMS):		17.50 %	4.98 %	✓
Magnitude Error (Peak):	-50.00 %	50.00 %	28.53 %	✓
DL Channel 10700, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10				
ACLR FFT/OBW, 640 Chips (Average Values)				
ACLR Channel -2 (RMS):		-43.00 dBc	-59.42 dBc	✓
ACLR Channel -1 (RMS):		-33.00 dBc	-48.13 dBc	✓
ACLR Channel +1 (RMS):		-33.00 dBc	-48.87 dBc	✓
ACLR Channel +2 (RMS):		-43.00 dBc	-59.01 dBc	✓
Occupied Bandwidth:		5.00 MHz	4.19 MHz	✓
DL Channel 10700, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, 640 Chips				
Emission Mask:			passed	✓
Margin fc-8.5 ... fc-12.5 MHz	0.00 dB		-15.35 dB	
Margin fc-7.5 ... fc-8.5 MHz	0.00 dB		-15.34 dB	
Margin fc-4.0 ... fc-7.5 MHz	0.00 dB		-13.99 dB	
Margin fc-2.5 ... fc-3.5 MHz	0.00 dB		-14.57 dB	
Margin fc+2.5 ... fc+3.5 MHz	0.00 dB		-15.31 dB	
Margin fc+4.0 ... fc+7.5 MHz	0.00 dB		-15.30 dB	
Margin fc+7.5 ... fc+8.5 MHz	0.00 dB		-13.94 dB	
Margin fc+8.5 ... fc+12.5 MHz	0.00 dB		-13.98 dB	
DL Channel 10838, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, UE Power Class 3				
Maximum RMS Power:	21.00 dBm	25.00 dBm	23.49 dBm	✓
DL Channel 10838, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10				
Minimum RMS Power:		-50.00 dBm	-54.98 dBm	✓
DL Channel 10838, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, RF Target Level 0.0 dBm				
WCDMA Demodulation (Maximum Values)				
Carrier Frequency Error:	-195.00 Hz	195.00 Hz	-8.16 Hz	✓
Magnitude Error (RMS):		17.50 %	4.64 %	✓
Magnitude Error (Peak):	-50.00 %	50.00 %	25.56 %	✓
DL Channel 10838, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10				
ACLR FFT/OBW, 640 Chips (Average Values)				
ACLR Channel -2 (RMS):		-43.00 dBc	-57.71 dBc	✓
ACLR Channel -1 (RMS):		-33.00 dBc	-40.13 dBc	✓
ACLR Channel +1 (RMS):		-33.00 dBc	-39.73 dBc	✓
ACLR Channel +2 (RMS):		-43.00 dBc	-57.87 dBc	✓
Occupied Bandwidth:		5.00 MHz	4.20 MHz	✓

Measurement Report



ROHDE & SCHWARZ

報告編號：TM161911

Test Name and Condition	Lower Limit	Upper Limit	Measured Value	P/F
DL Channel 10838, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, 640 Chips				
Emission Mask:			passed	✓
Margin fc-8.5 ... fc-12.5 MHz	0.00 dB		-12.28 dB	
Margin fc-7.5 ... fc-8.5 MHz	0.00 dB		-12.18 dB	
Margin fc-4.0 ... fc-7.5 MHz	0.00 dB		-7.40 dB	
Margin fc-2.5 ... fc-3.5 MHz	0.00 dB		-7.40 dB	
Margin fc+2.5 ... fc+3.5 MHz	0.00 dB		-7.01 dB	
Margin fc+4.0 ... fc+7.5 MHz	0.00 dB		-7.72 dB	
Margin fc+7.5 ... fc+8.5 MHz	0.00 dB		-11.79 dB	
Margin fc+8.5 ... fc+12.5 MHz	0.00 dB		-11.86 dB	
Call Release Test:			passed	✓

MS Serial Number: ????????-??????-0

Result:

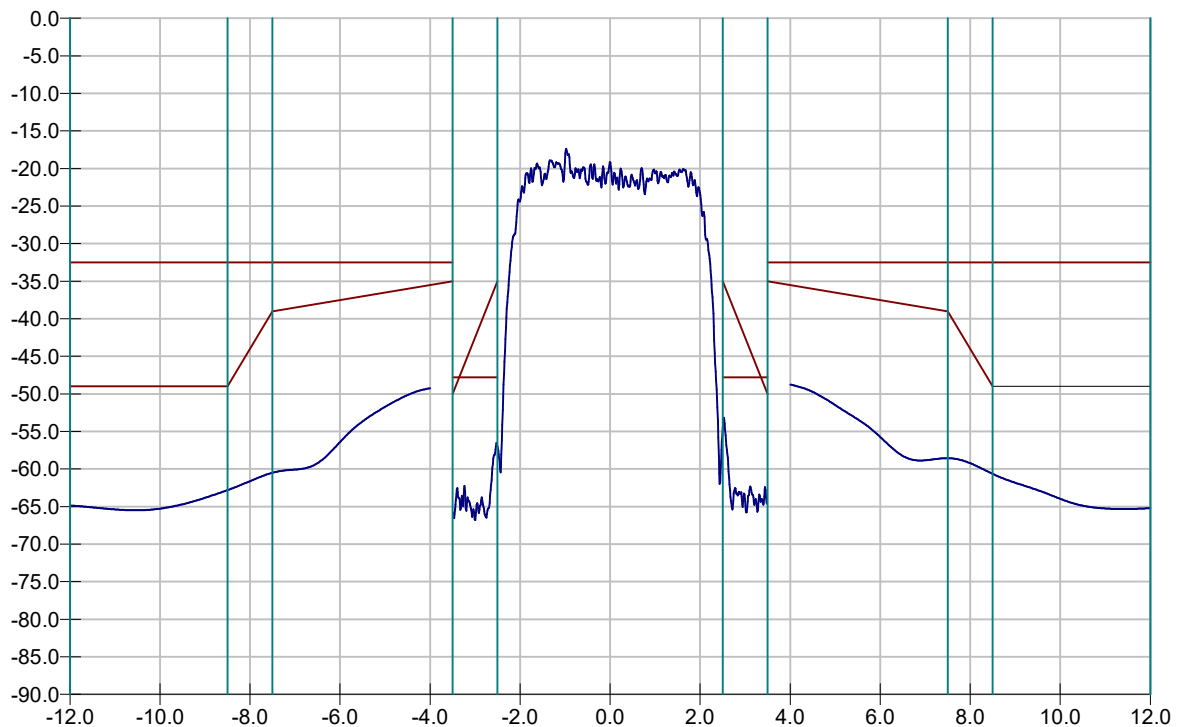
(Execution Time: 39.9 Seconds)

35 Tests passed / 0 Tests failed

Annex:

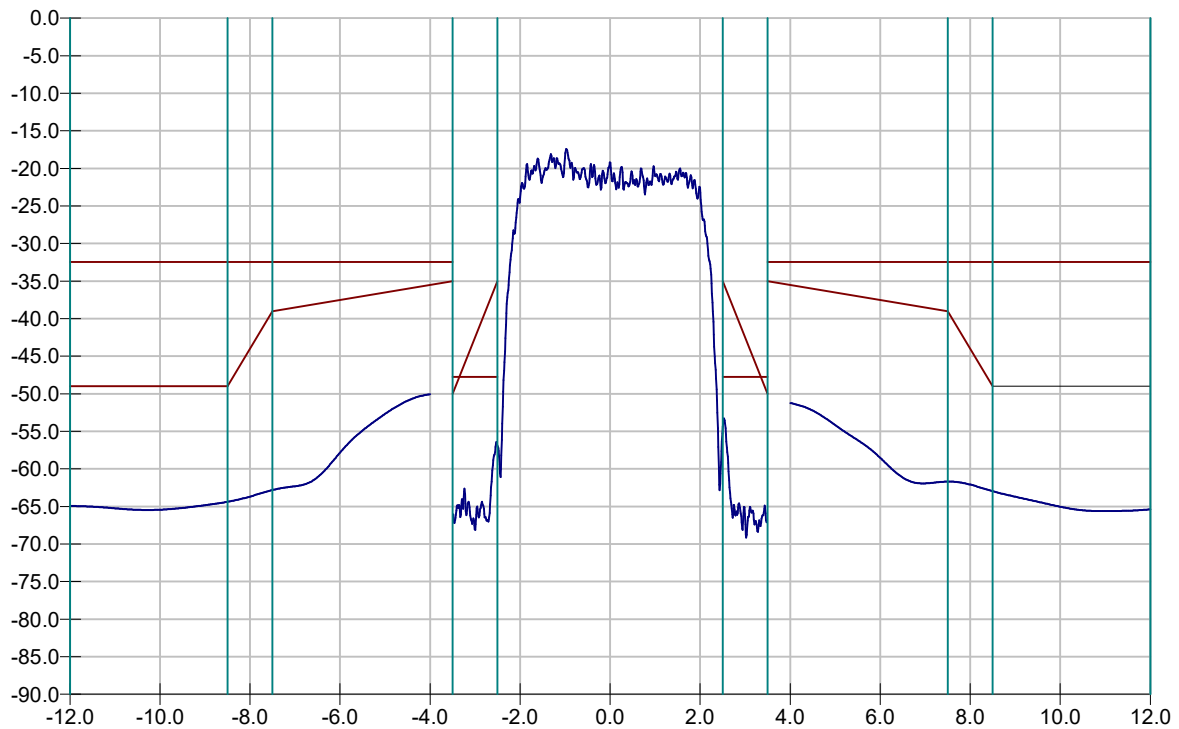
Emission Mask Graph

DL Channel 10562, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, 640 Chips



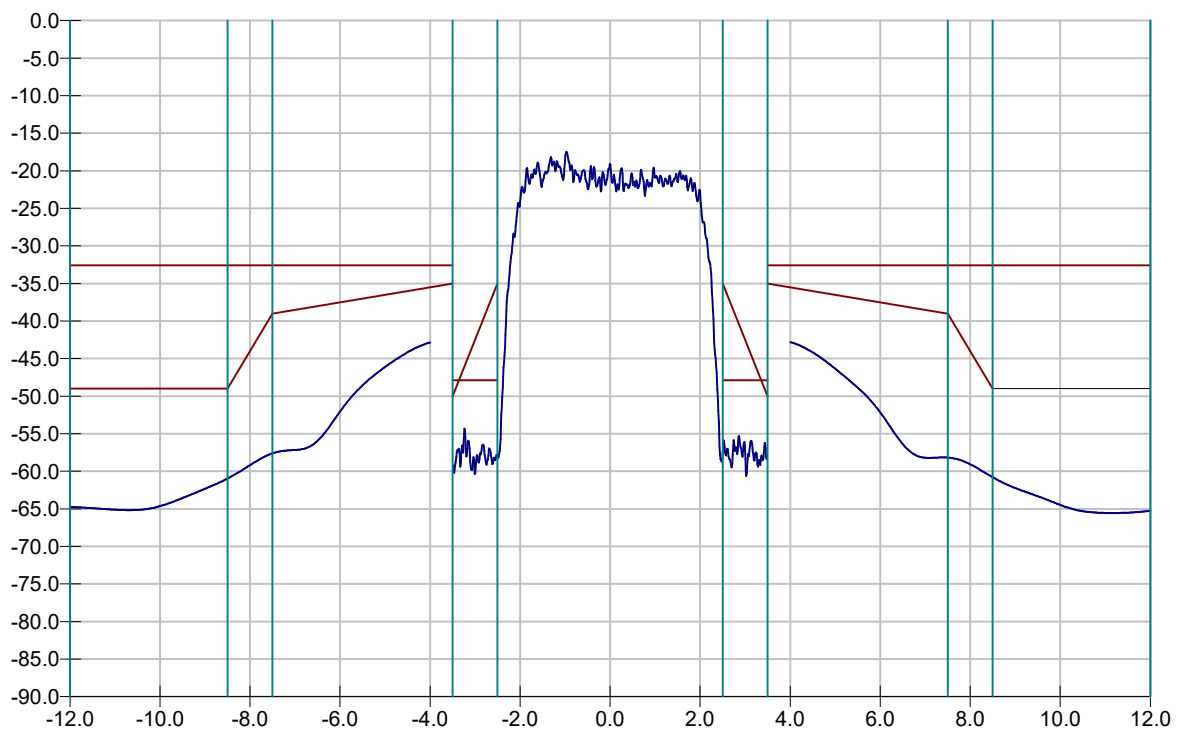
Annex: Emission Mask Graph

DL Channel 10700, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, 640 Chips



Annex: Emission Mask Graph

DL Channel 10838, Attenuation (In/Out) 6.8 / 6.8 dB, Averaging: 10, 640 Chips





<WCDMA Band 8>

Measurement Report

Operator: noname 2021年7月16日 下午 15:00:11

CMU Ident: Rohde&Schwarz,CMU 200-1100.0008.02,117997,V5.21

Options: B11/B12,B17,B21Var14,B41,B52Var14,B54Var14,B56Var54,B66,COPROC_FULL,B83,B85,B89,B96,PCMCIA
WDDC400,K16,K17,K20,K21,K22,K23,K24,K27,K28,K29,K42,K43,K56,K57,K58,K59,K60,K61,K62,K63,K64
K65,K66,K67,K68,K69,K83,K84,K85,K86,K88,K839,K849,K859,K869,FMR6,Intel Celeron Mobil,256 MB
rxtx1

Sequence: - - -

Test Name and Condition	Lower Limit	Upper Limit	Measured Value	P/F
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Operating Band VIII, Channel DL/UL 3025/2800, Attenuation (In/Out) 5.2 / 5.2 dB

P-CPICH: -53.90 dBm, P-SCH: -5.00 dB, S-SCH: -5.00 dB, P-CCPCH: -2.00 dB, S-CCPCH: -2.00 dB

PICH: -5.00 dB, AICH -5.00 dB, DPDCH (Code 6): -7.00 dB, DPCCH/DPDCH Offset 0.00 dB

MCC 1, MNC 1, LAC 1 CallType RMC 12.2 kbps DL/UL, Test Loop Mode 2

IMSI: 001010123456789, Serial Number: ???????-?????-0

Call to Mobile:			passed	✓
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DL Channel 2962, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, UE Power Class 3

Maximum RMS Power:	21.00 dBm	25.00 dBm	23.42 dBm	✓
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DL Channel 2962, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10

Minimum RMS Power:		-50.00 dBm	-54.96 dBm	✓
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DL Channel 2962, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, RF Target Level 0.0 dBm

WCDMA Demodulation (Maximum Values)

Carrier Frequency Error:	-195.00 Hz	195.00 Hz	-0.44 Hz	✓
Magnitude Error (RMS):		17.50 %	4.54 %	✓
Magnitude Error (Peak):	-50.00 %	50.00 %	37.98 %	✓

DL Channel 2962, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10

ACLR FFT/OBW, 640 Chips (Average Values)

ACLR Channel -2 (RMS):		-43.00 dBc	-56.44 dBc	✓
ACLR Channel -1 (RMS):		-33.00 dBc	-45.13 dBc	✓
ACLR Channel +1 (RMS):		-33.00 dBc	-45.22 dBc	✓
ACLR Channel +2 (RMS):		-43.00 dBc	-56.17 dBc	✓
Occupied Bandwidth:		5.00 MHz	4.18 MHz	✓

DL Channel 2962, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, 640 Chips

Emission Mask:			passed	✓
Margin fc-8.5 ... fc-12.5 MHz	0.00 dB		-12.05 dB	
Margin fc-7.5 ... fc-8.5 MHz	0.00 dB		-12.00 dB	
Margin fc-4.0 ... fc-7.5 MHz	0.00 dB		-14.34 dB	
Margin fc-2.5 ... fc-3.5 MHz	0.00 dB		-14.51 dB	
Margin fc+2.5 ... fc+3.5 MHz	0.00 dB		-14.07 dB	
Margin fc+4.0 ... fc+7.5 MHz	0.00 dB		-14.23 dB	
Margin fc+7.5 ... fc+8.5 MHz	0.00 dB		-10.89 dB	
Margin fc+8.5 ... fc+12.5 MHz	0.00 dB		-10.92 dB	

DL Channel 3025, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, UE Power Class 3

Maximum RMS Power:	21.00 dBm	25.00 dBm	23.38 dBm	✓
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DL Channel 3025, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10

Minimum RMS Power:		-50.00 dBm	-55.06 dBm	✓
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Test Name and Condition	Lower Limit	Upper Limit	Measured Value	P/F
DL Channel 3025, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, RF Target Level 0.0 dBm				
WCDMA Demodulation (Maximum Values)				
Carrier Frequency Error:	-195.00 Hz	195.00 Hz	-0.12 Hz	✓
Magnitude Error (RMS):		17.50 %	3.39 %	✓
Magnitude Error (Peak):	-50.00 %	50.00 %	17.81 %	✓
DL Channel 3025, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10				
ACLR FFT/OBW, 640 Chips (Average Values)				
ACLR Channel -2 (RMS):		-43.00 dBc	-56.37 dBc	✓
ACLR Channel -1 (RMS):		-33.00 dBc	-47.25 dBc	✓
ACLR Channel +1 (RMS):		-33.00 dBc	-47.98 dBc	✓
ACLR Channel +2 (RMS):		-43.00 dBc	-56.50 dBc	✓
Occupied Bandwidth:		5.00 MHz	4.18 MHz	✓
DL Channel 3025, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, 640 Chips				
Emission Mask:			passed	✓
Margin fc-8.5 ... fc-12.5 MHz	0.00 dB		-12.01 dB	
Margin fc-7.5 ... fc-8.5 MHz	0.00 dB		-12.03 dB	
Margin fc-4.0 ... fc-7.5 MHz	0.00 dB		-15.60 dB	
Margin fc-2.5 ... fc-3.5 MHz	0.00 dB		-16.40 dB	
Margin fc+2.5 ... fc+3.5 MHz	0.00 dB		-15.76 dB	
Margin fc+4.0 ... fc+7.5 MHz	0.00 dB		-16.81 dB	
Margin fc+7.5 ... fc+8.5 MHz	0.00 dB		-12.06 dB	
Margin fc+8.5 ... fc+12.5 MHz	0.00 dB		-12.10 dB	
DL Channel 3088, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, UE Power Class 3				
Maximum RMS Power:	21.00 dBm	25.00 dBm	23.50 dBm	✓
DL Channel 3088, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10				
Minimum RMS Power:		-50.00 dBm	-54.97 dBm	✓
DL Channel 3088, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, RF Target Level 0.0 dBm				
WCDMA Demodulation (Maximum Values)				
Carrier Frequency Error:	-195.00 Hz	195.00 Hz	-0.93 Hz	✓
Magnitude Error (RMS):		17.50 %	4.02 %	✓
Magnitude Error (Peak):	-50.00 %	50.00 %	19.94 %	✓
DL Channel 3088, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10				
ACLR FFT/OBW, 640 Chips (Average Values)				
ACLR Channel -2 (RMS):		-43.00 dBc	-52.46 dBc	✓
ACLR Channel -1 (RMS):		-33.00 dBc	-38.07 dBc	✓
ACLR Channel +1 (RMS):		-33.00 dBc	-40.56 dBc	✓
ACLR Channel +2 (RMS):		-43.00 dBc	-60.04 dBc	✓
Occupied Bandwidth:		5.00 MHz	4.20 MHz	✓

Test Name and Condition	Lower Limit	Upper Limit	Measured Value	P/F
DL Channel 3088, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, 640 Chips				
Emission Mask:			passed	✓
Margin fc-8.5 ... fc-12.5 MHz	0.00 dB		-5.99 dB	
Margin fc-7.5 ... fc-8.5 MHz	0.00 dB		-5.90 dB	
Margin fc-4.0 ... fc-7.5 MHz	0.00 dB		-5.55 dB	
Margin fc-2.5 ... fc-3.5 MHz	0.00 dB		-5.46 dB	
Margin fc+2.5 ... fc+3.5 MHz	0.00 dB		-6.59 dB	
Margin fc+4.0 ... fc+7.5 MHz	0.00 dB		-7.61 dB	
Margin fc+7.5 ... fc+8.5 MHz	0.00 dB		-16.44 dB	
Margin fc+8.5 ... fc+12.5 MHz	0.00 dB		-15.94 dB	
Call Release Test:			passed	✓

MS Serial Number: ????????-??????-0

Result:

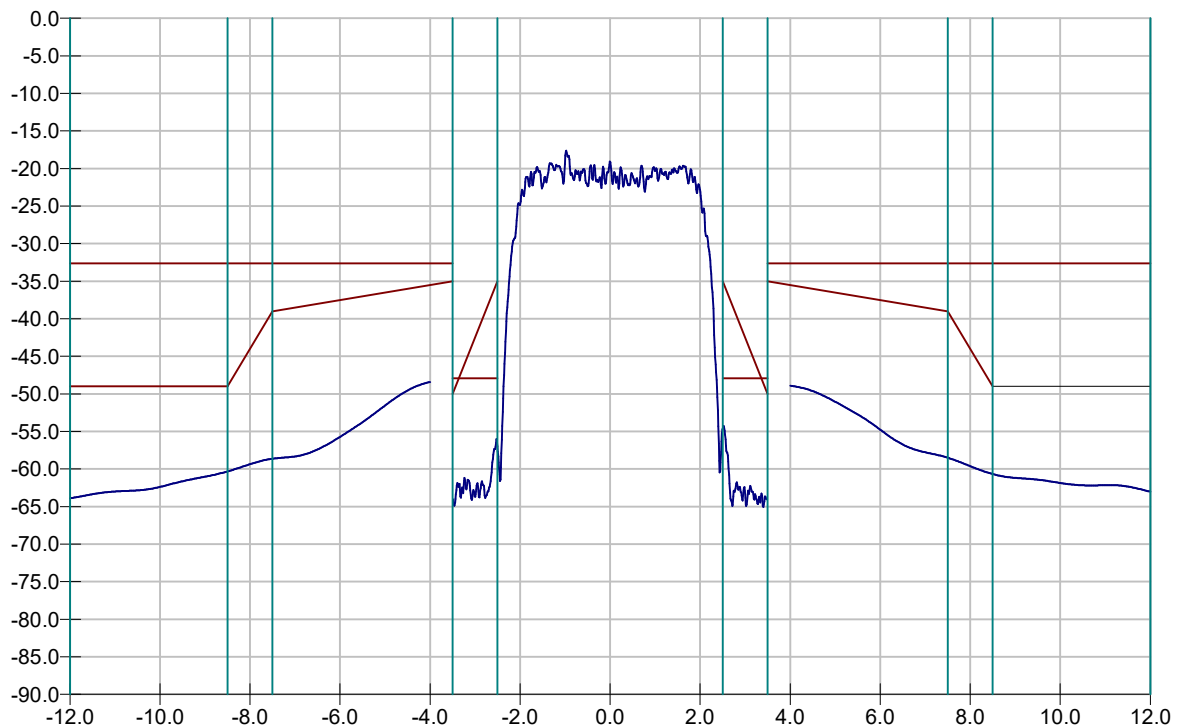
(Execution Time: 39.6 Seconds)

35 Tests passed / 0 Tests failed

Annex:

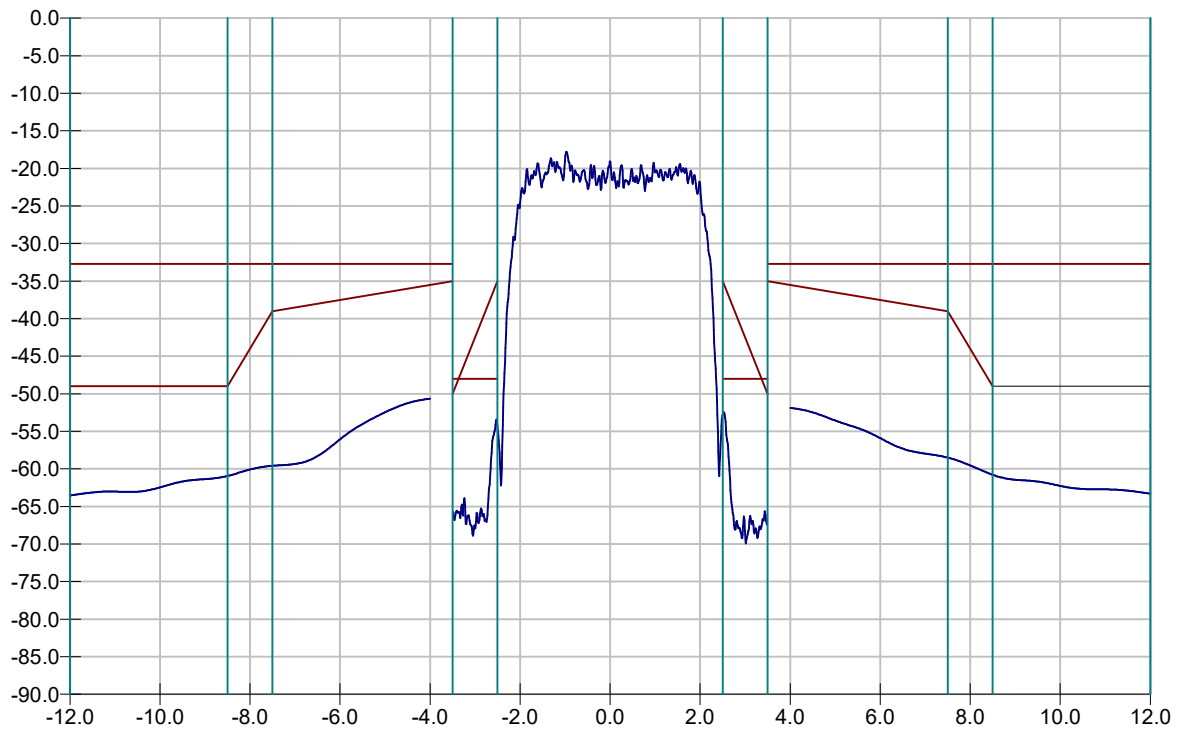
Emission Mask Graph

DL Channel 2962, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, 640 Chips



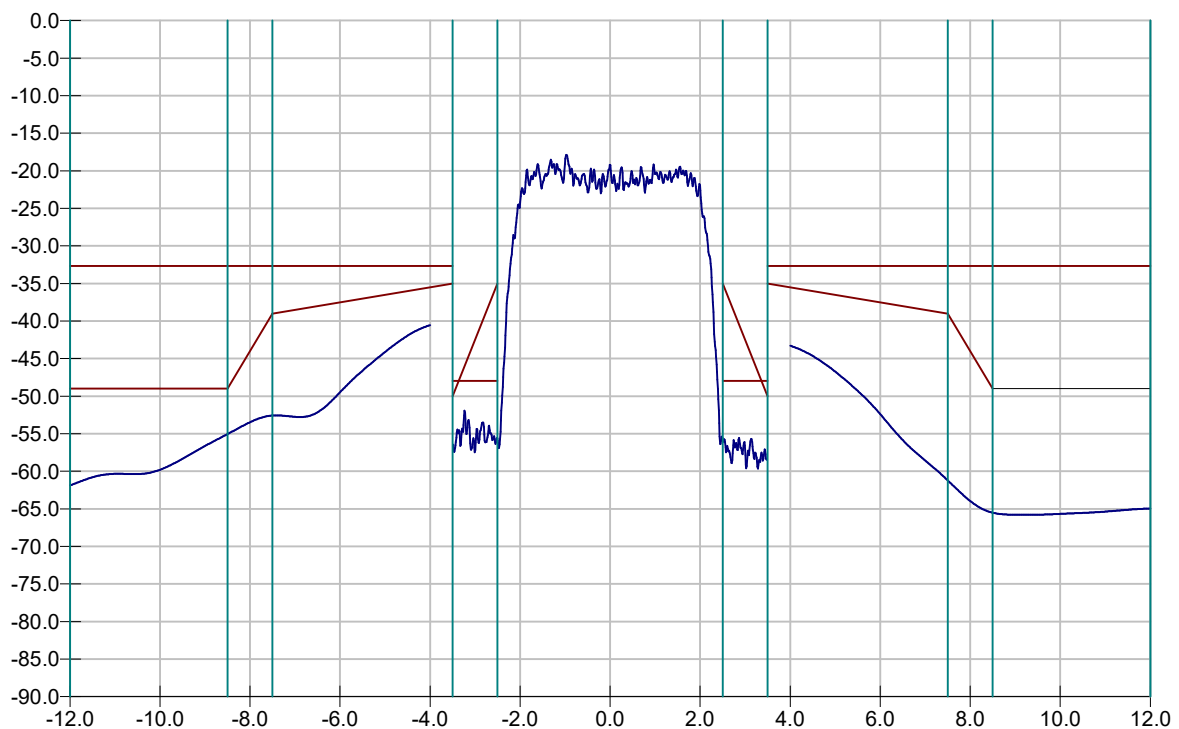
Annex: Emission Mask Graph

DL Channel 3025, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, 640 Chips



Annex: Emission Mask Graph

DL Channel 3088, Attenuation (In/Out) 5.2 / 5.2 dB, Averaging: 10, 640 Chips

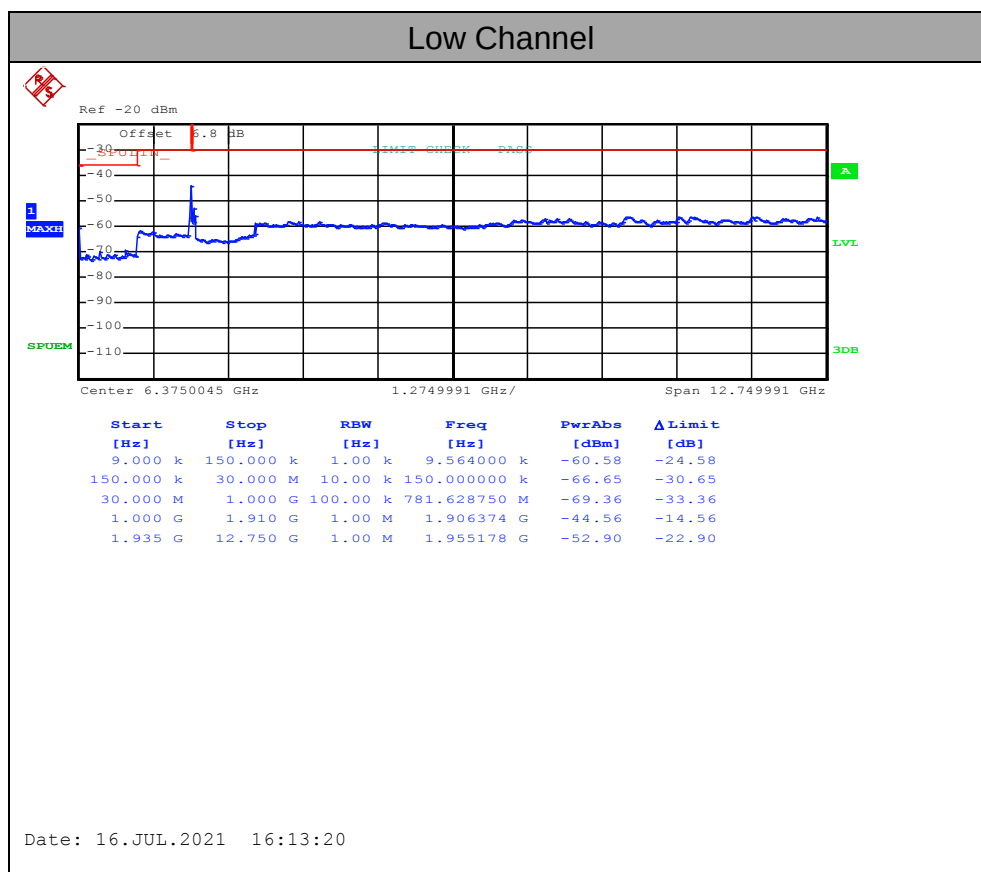




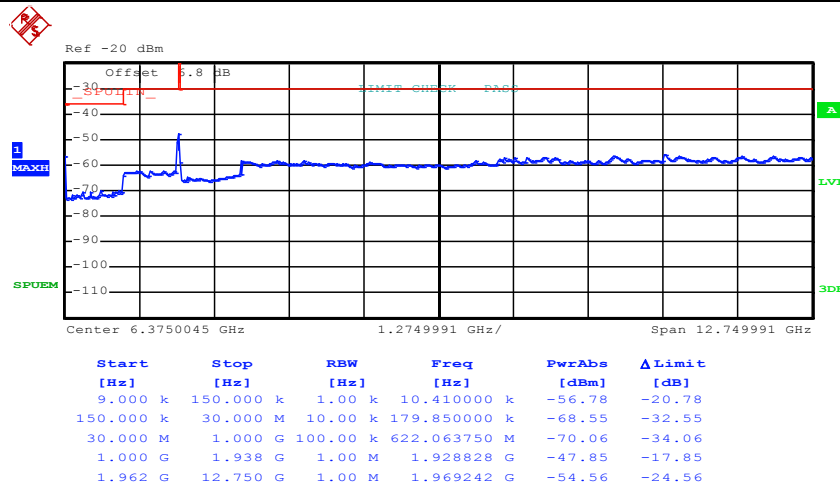
附錄 B. 混附波輻射

PLMN08 General Spurious Emissions

W-CDMA Band I

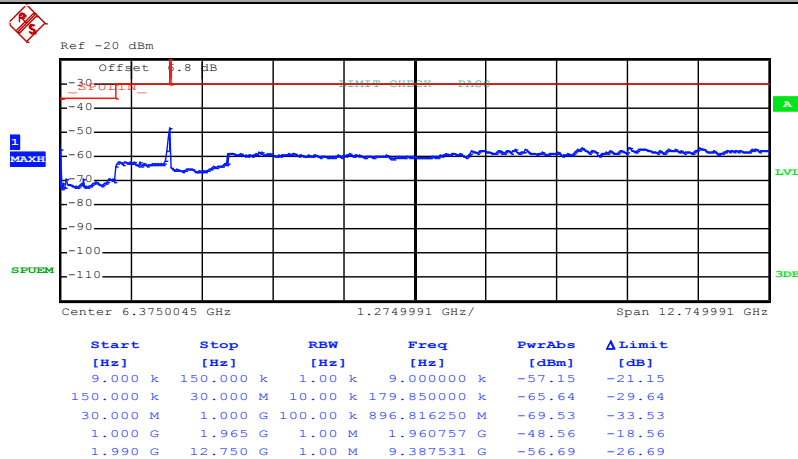


Middle Channel



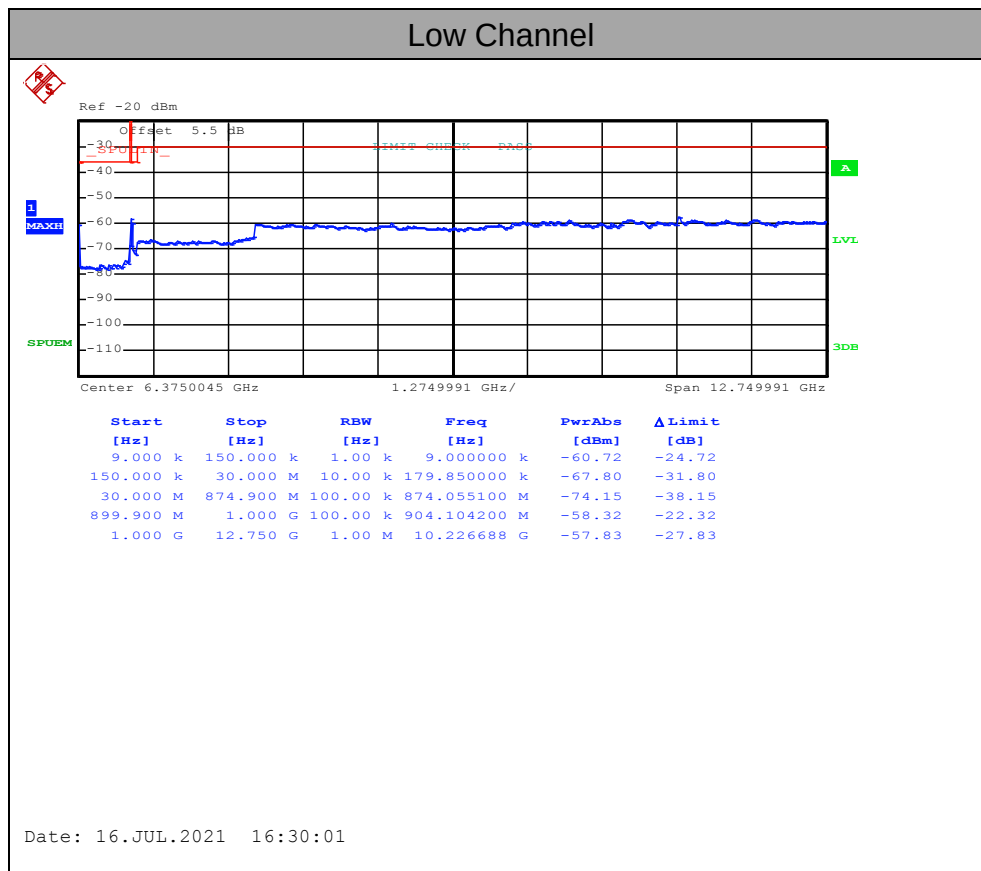
Date: 16.JUL.2021 16:08:56

High Channel

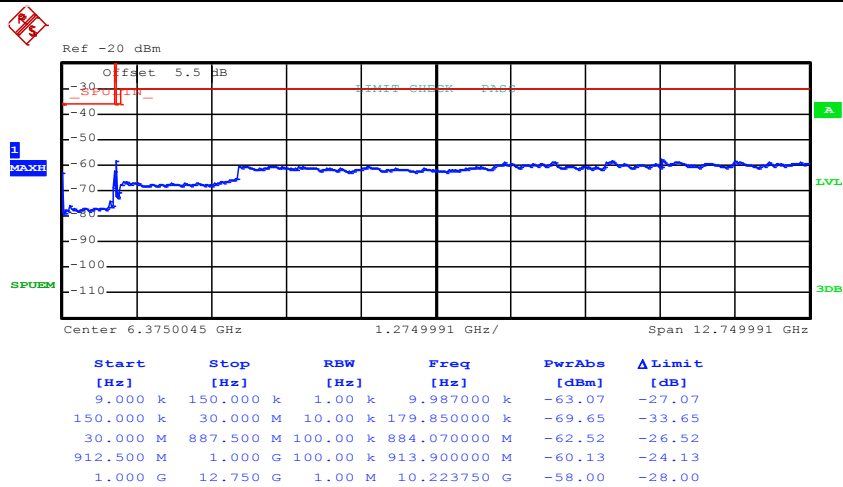


Date: 16.JUL.2021 16:04:10

W-CDMA Band VIII

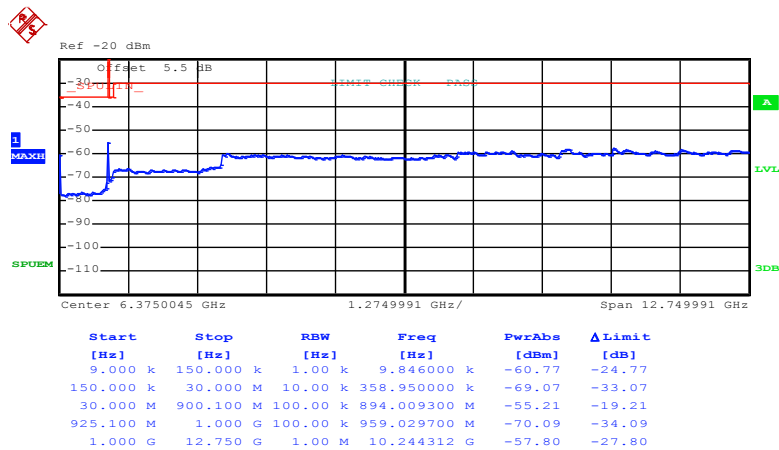


Middle Channel



Date: 16.JUL.2021 16:25:49

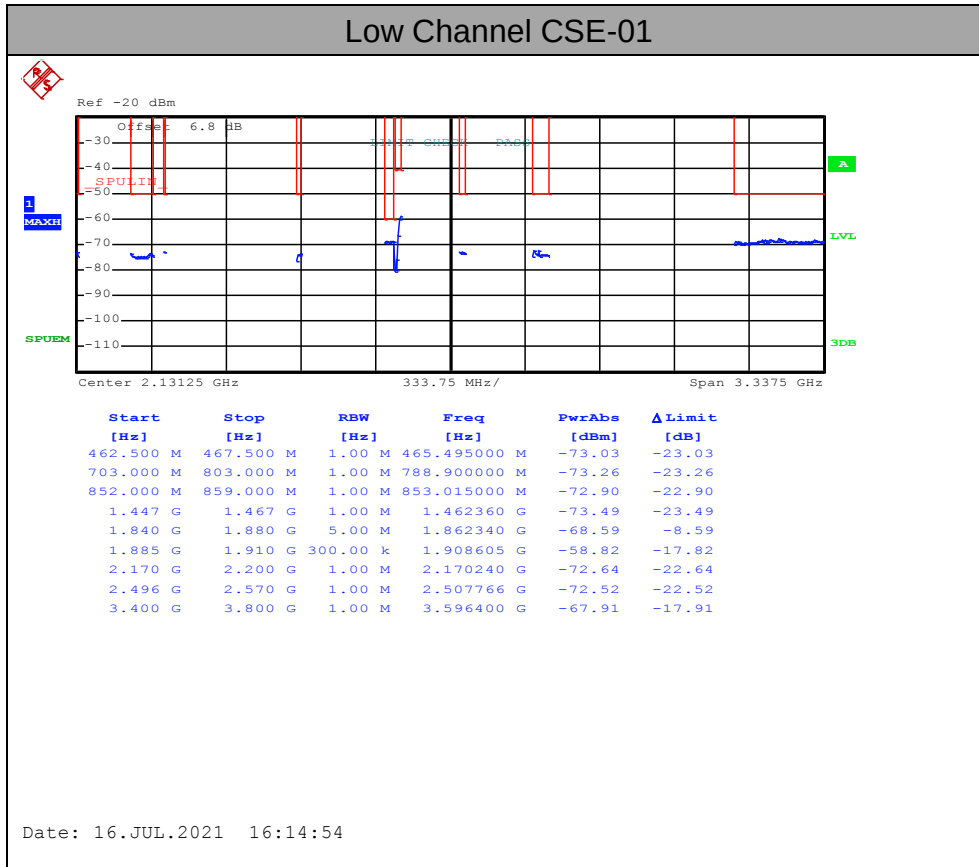
High Channel



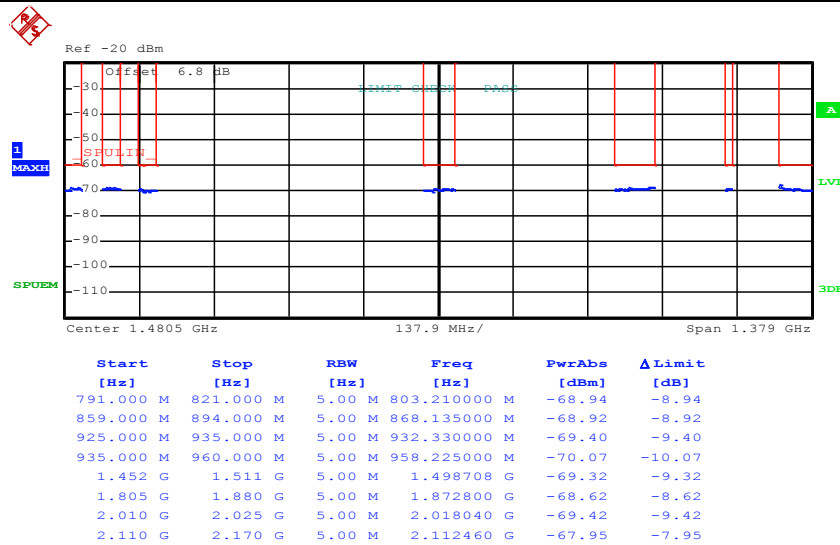
Date: 16.JUL.2021 16:20:26

PLMN08 Additional Spurious Emissions

W-CDMA Band I

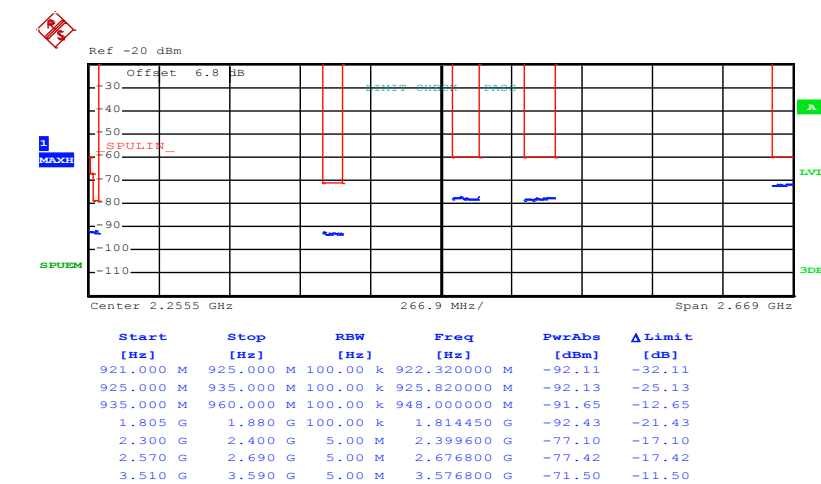


Low Channel CSE-02



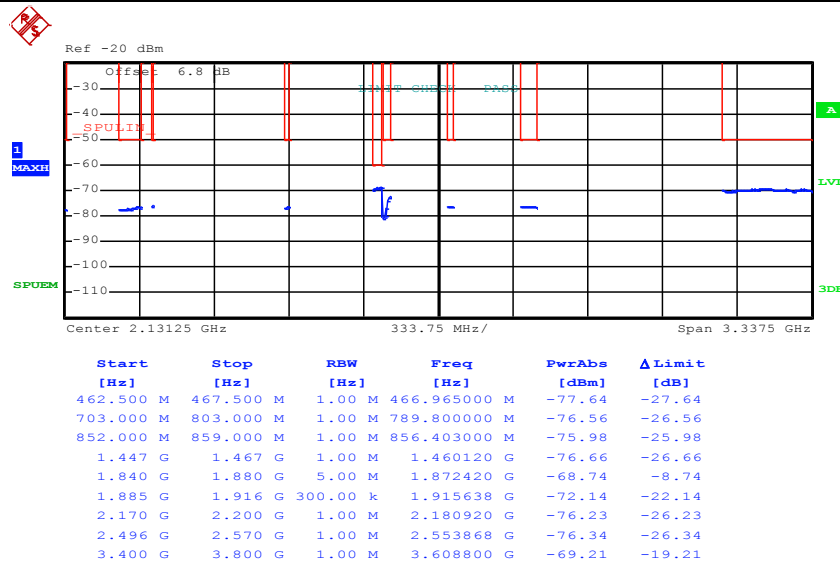
Date: 16.JUL.2021 16:14:08

Low Channel CSE-03



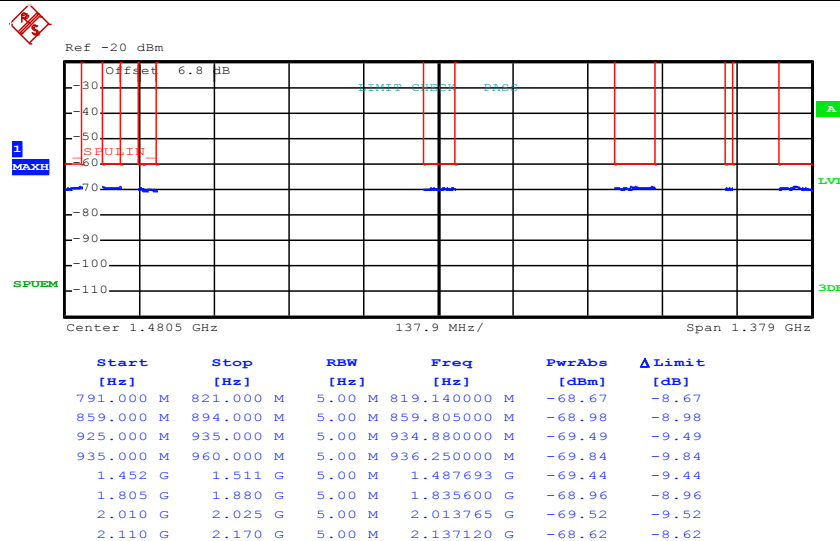
Date: 16.JUL.2021 16:14:35

Middle Channel CSE-01

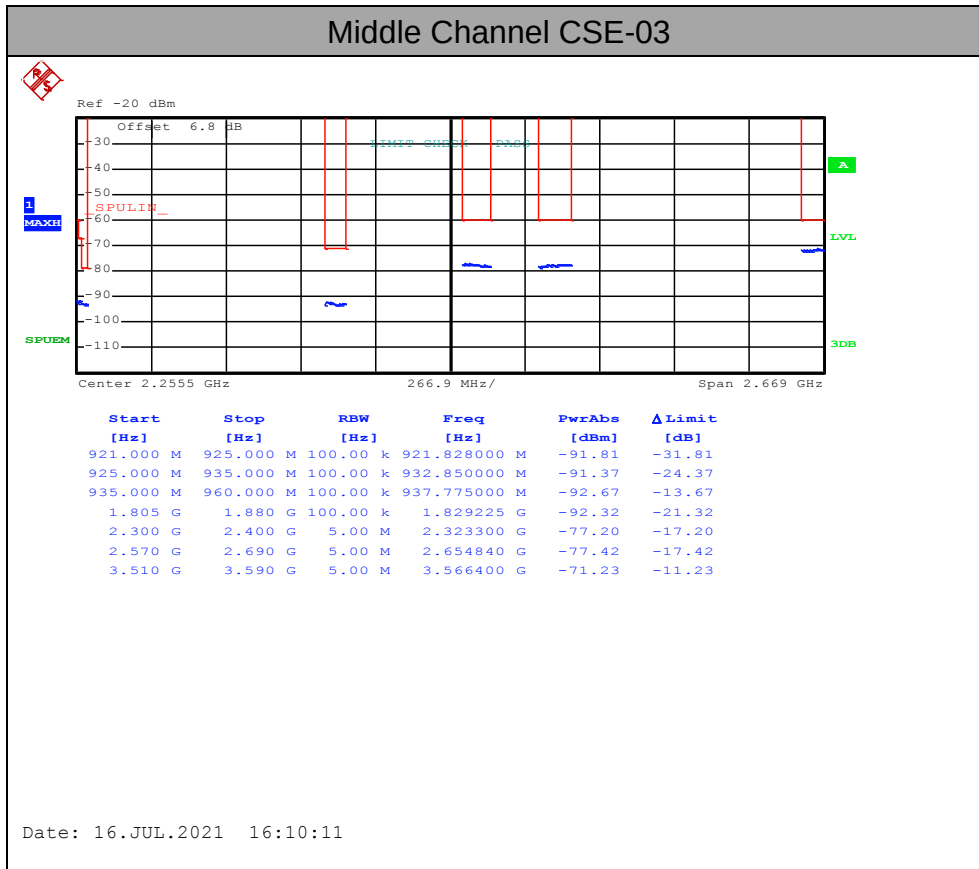


Date: 16.JUL.2021 16:09:33

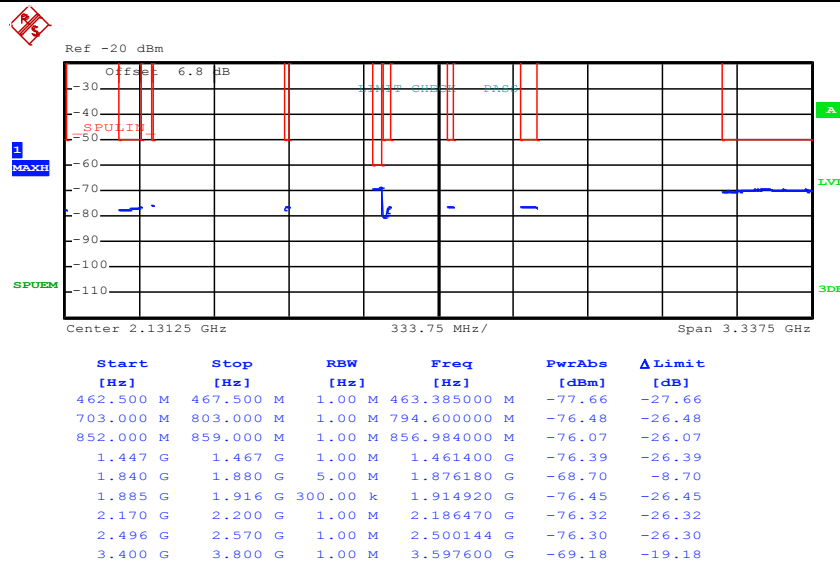
Middle Channel CSE-02



Date: 16.JUL.2021 16:09:52

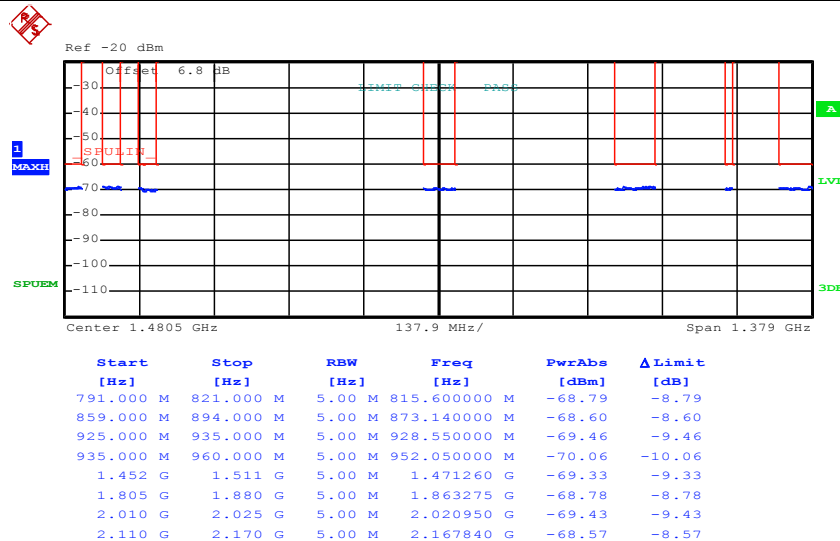


High Channel CSE-01

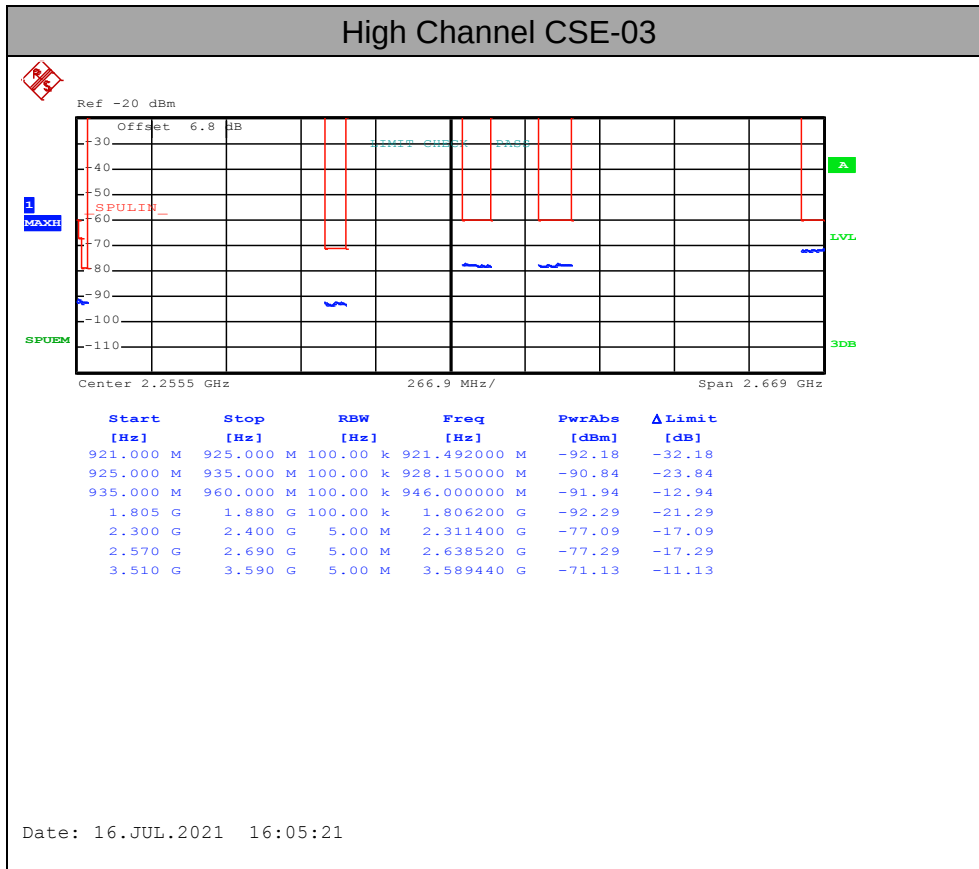


Date: 16.JUL.2021 16:04:42

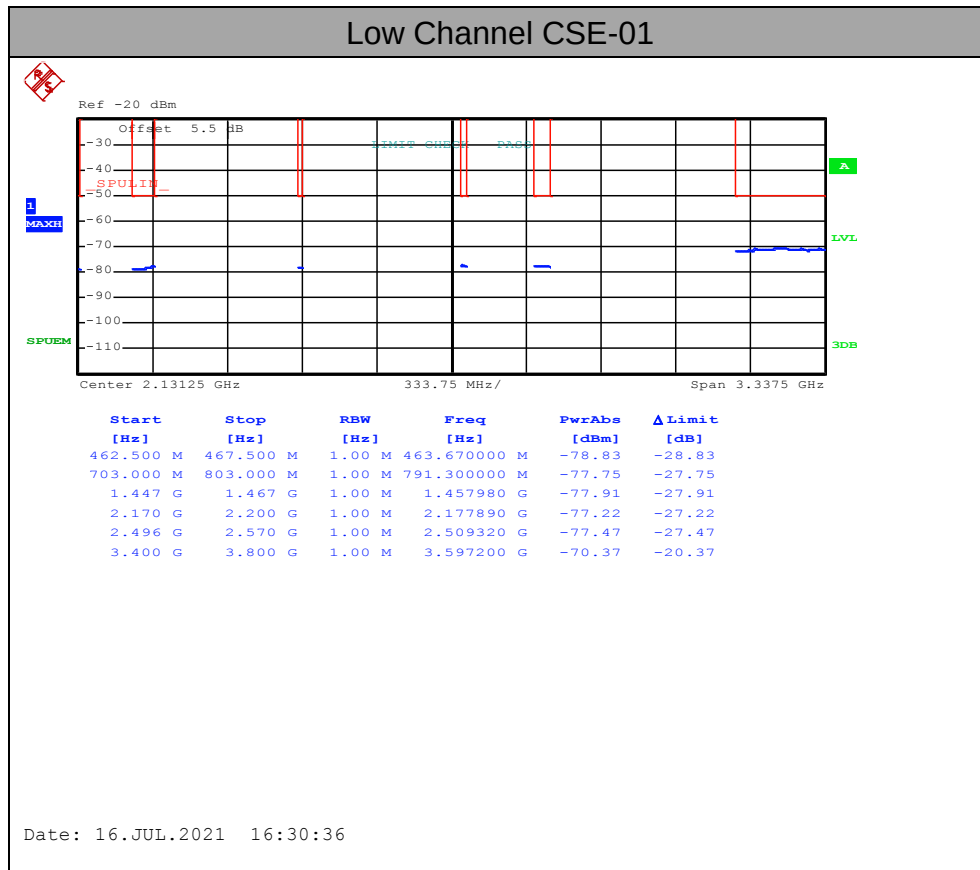
High Channel CSE-02



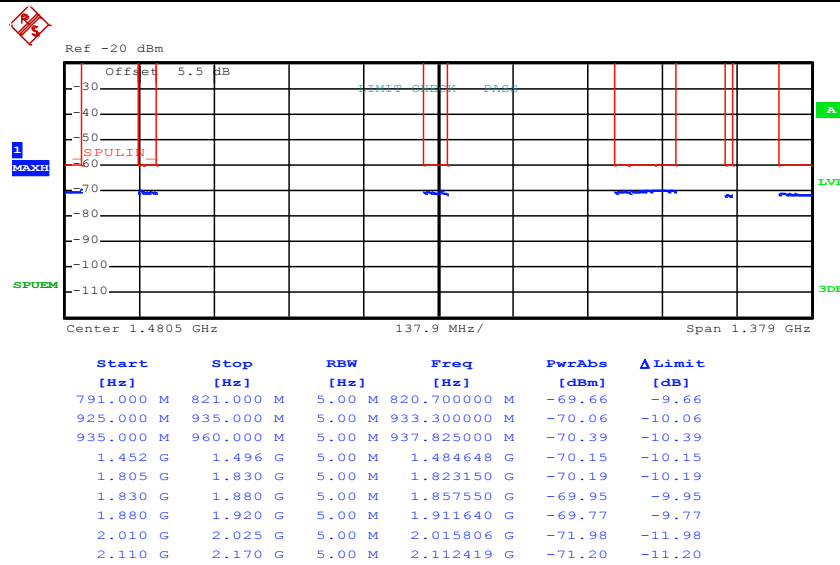
Date: 16.JUL.2021 16:05:01



W-CDMA Band VIII

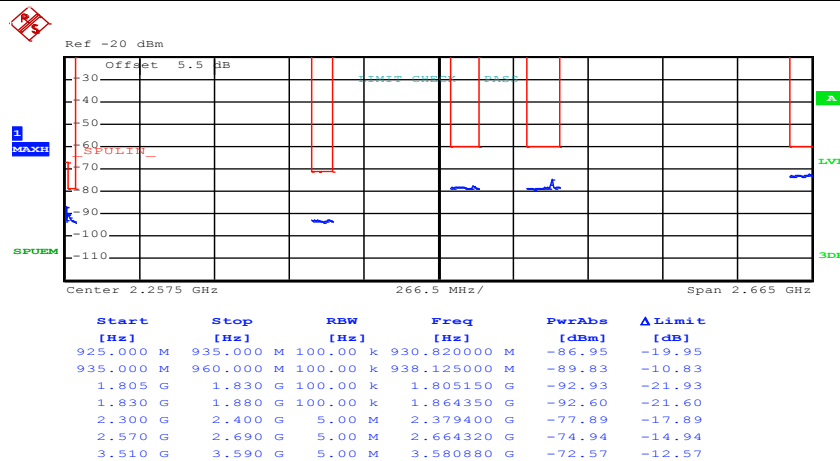


Low Channel CSE-02



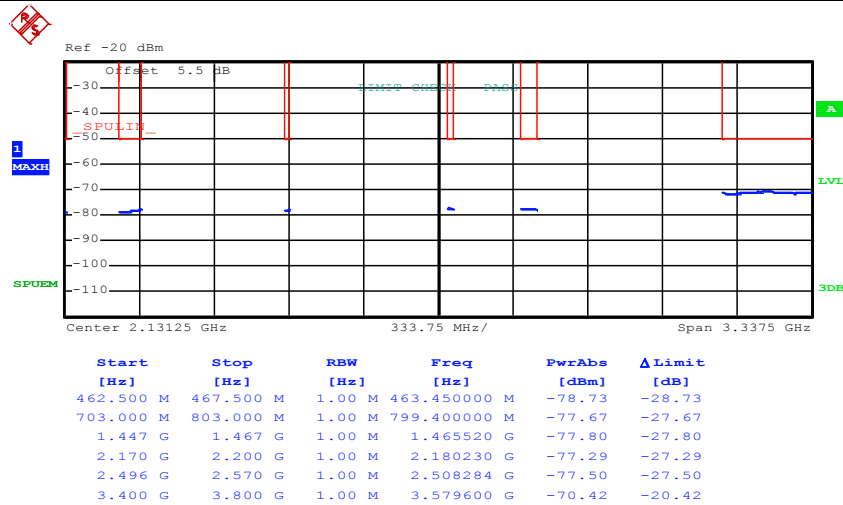
Date: 16.JUL.2021 16:30:56

Low Channel CSE-03



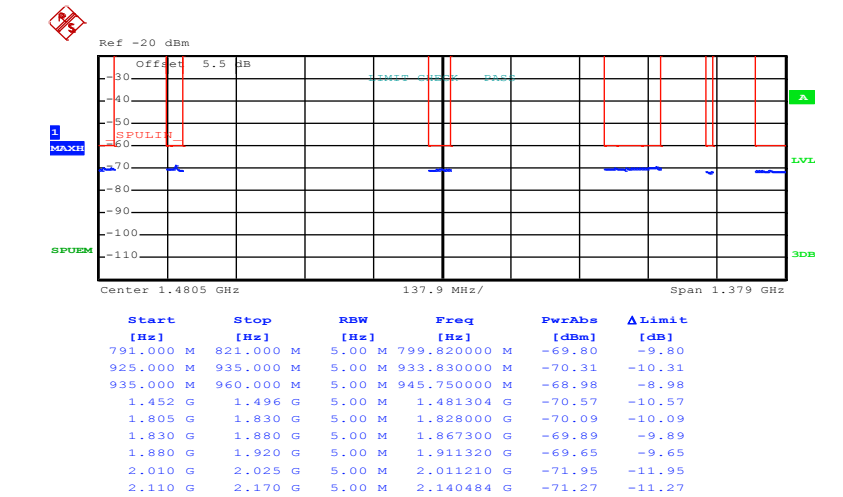
Date: 16.JUL.2021 16:31:18

Middle Channel CSE-01



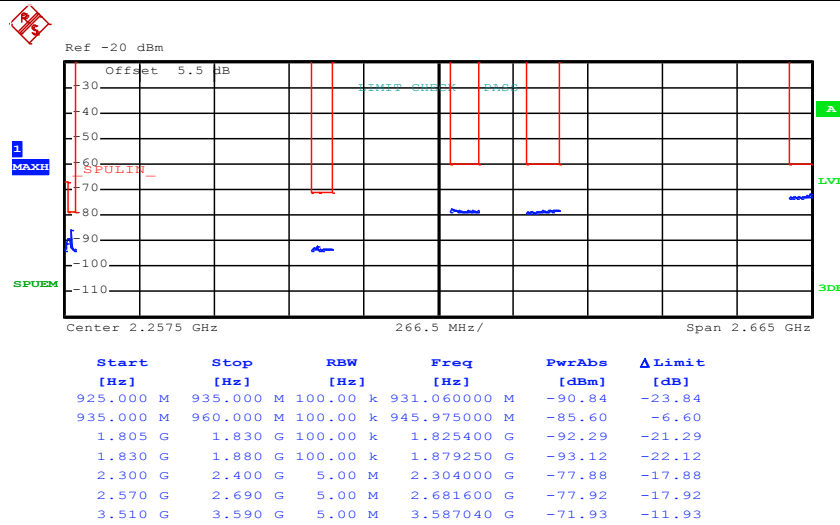
Date: 16.JUL.2021 16:26:19

Middle Channel CSE-02



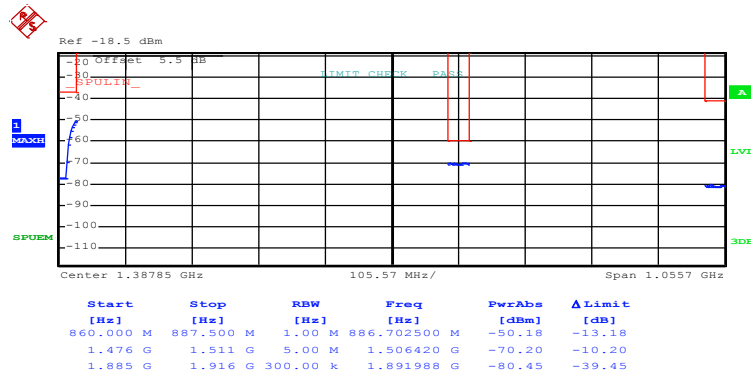
Date: 16.JUL.2021 16:26:38

Middle Channel CSE-03



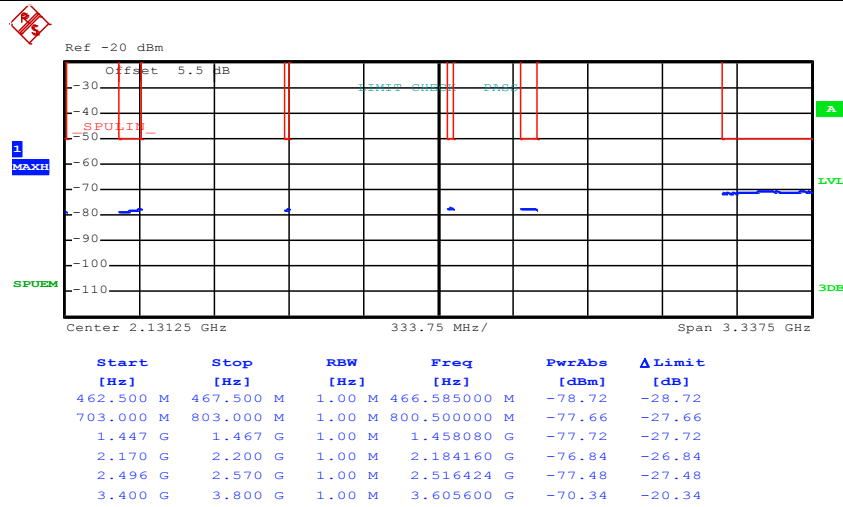
Date: 16.JUL.2021 16:26:59

Middle Channel CSE-04



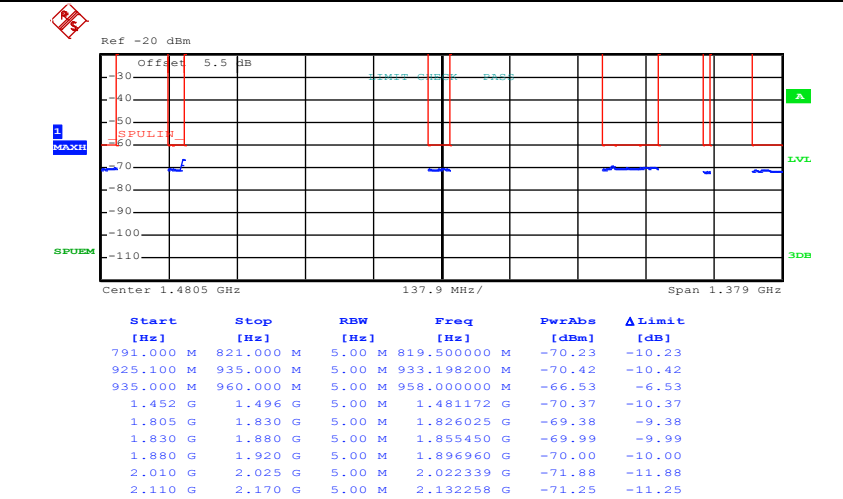
Date: 16.JUL.2021 16:27:19

High Channel CSE-01



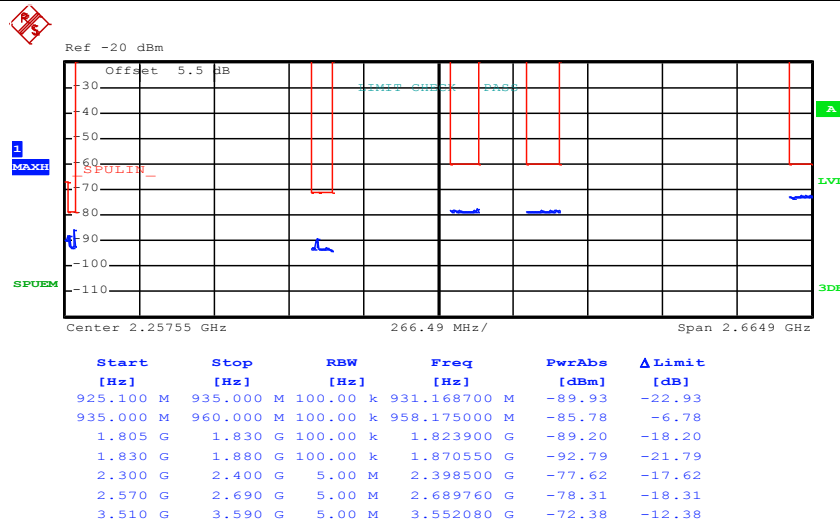
Date: 16.JUL.2021 16:21:10

High Channel CSE-02



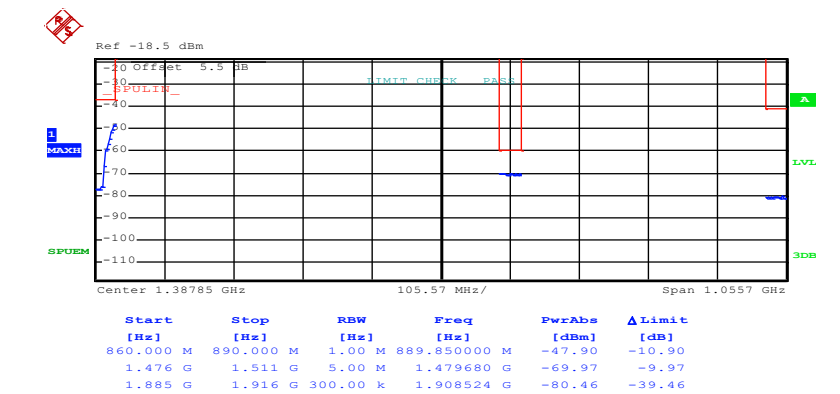
Date: 16.JUL.2021 16:21:49

High Channel CSE-03



Date: 16.JUL.2021 16:23:01

High Channel CSE-04



Date: 16.JUL.2021 16:21:30

附錄 C. 測試資料 – 災防告警細胞廣播訊息接收功能

測試工程師	Besson Lai
環境溫度	24~25°C
相對濕度	56~57%

C.1. 待測物資訊

作業系統	Android (版本 11)
版本號碼	TB-J616X_S000009_210516_ROW
軟體版本	Lenovo TB-J616X_RF01_210516
應用程式	無線緊急警報 (版本 R-initial)
SIM Slot	☒ Support SIM 1 ☐ Support SIM 2

C.2. 接收訊息碼及顯示其訊息內容之功能：

C.2.1. 訊息碼之訊息內容語言、類別名稱、預設接收或關閉、可否由使用者自行選擇開啟或關閉。

- ☒ 符合。
☐ 不符合。

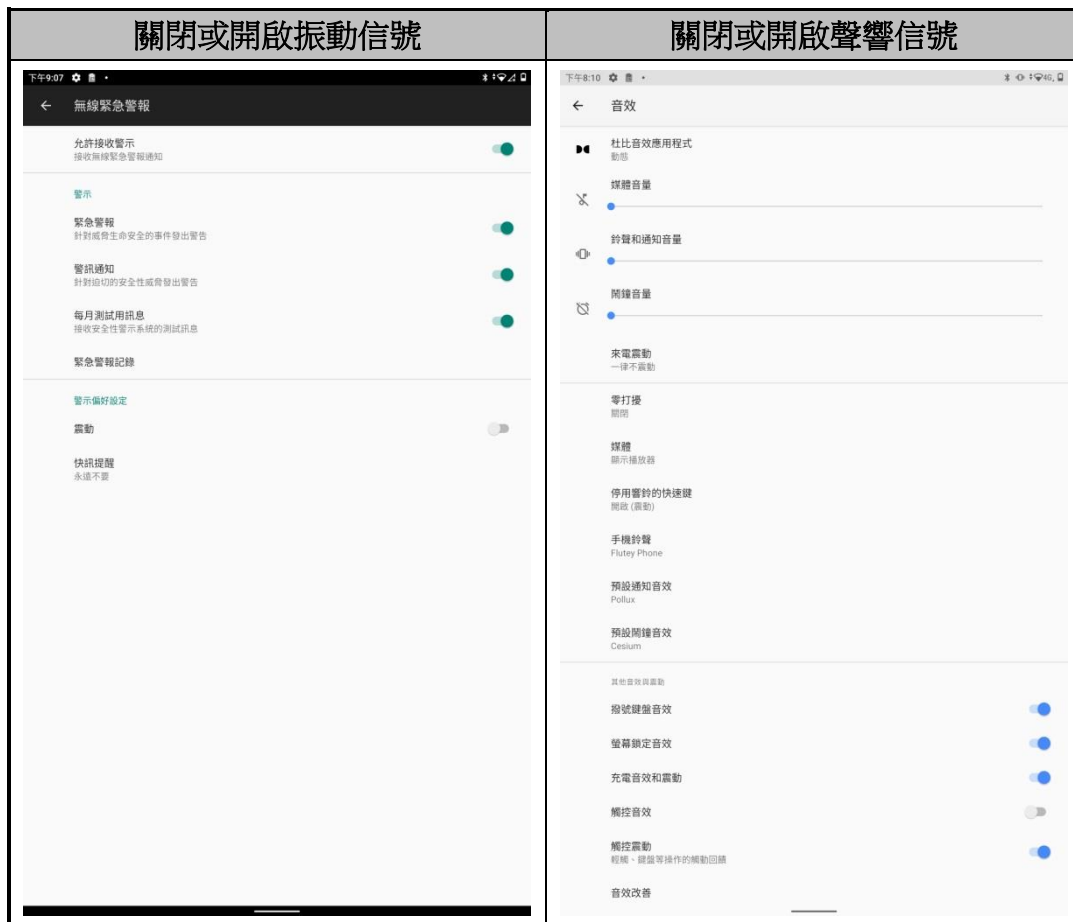
C.2.2. 設備接獲之災防告警細胞廣播訊息，不可由使用者轉發或編輯該訊息內容。

- ☒ 符合。
☐ 不符合。

C.2.3. 使用者已操作設備並得知某一則災防告警細胞廣播訊息，設備偵測到基地臺發送重複之訊息時，應自動忽略。

- ☒ 符合。
☐ 不符合。



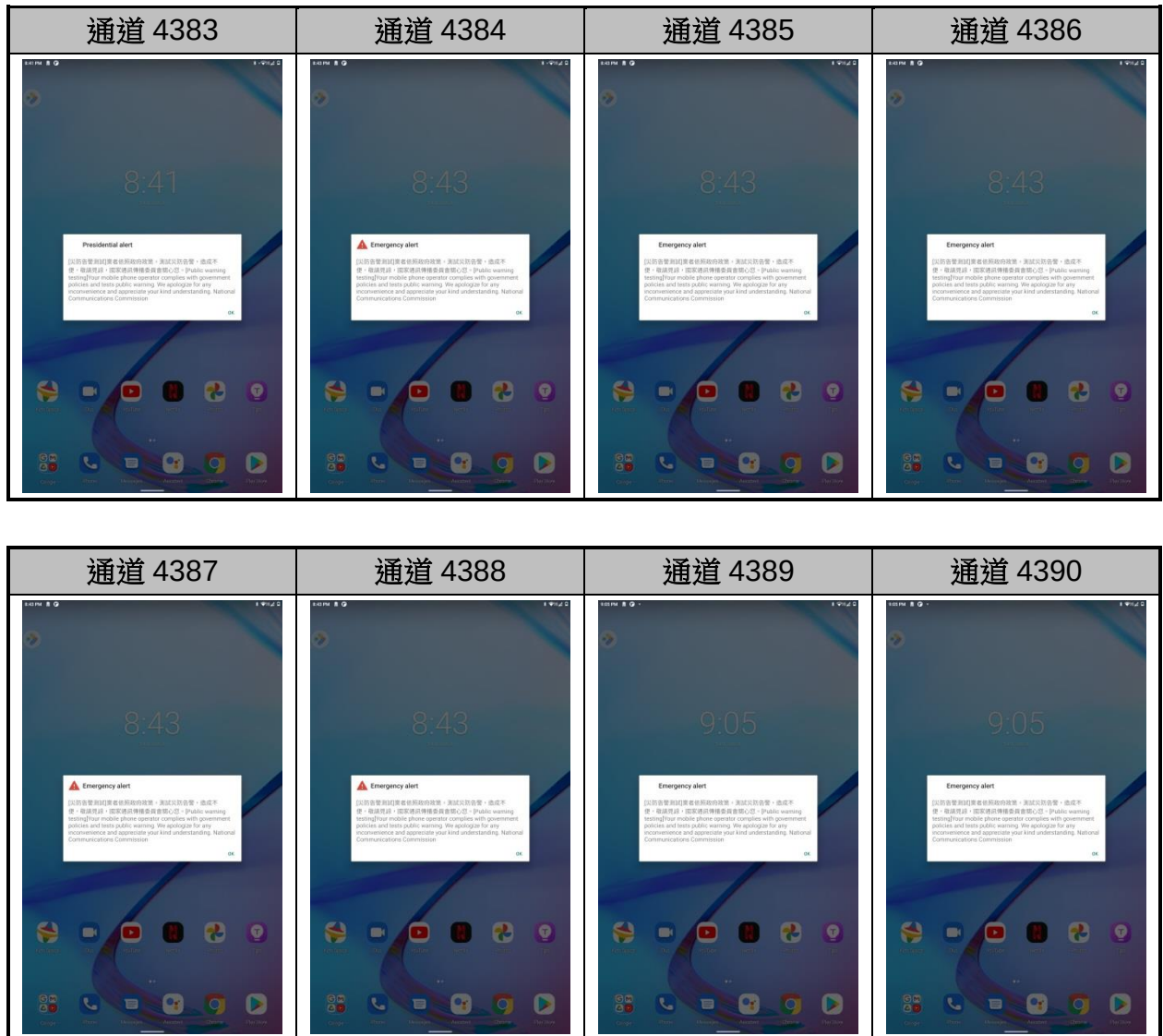


回顧已接收訊息之功能圖





通道 4378	通道 4379	通道 4380	通道 911
			





C.3. 聲響與振動信號之功能：

C.3.1. 設備經設定接收訊息碼者，接獲災防告警細胞廣播訊息時，應依訊息碼及使用者設定產生聲響與振動信號對應之。

- ☒ 符合。
- ☐ 不符合。

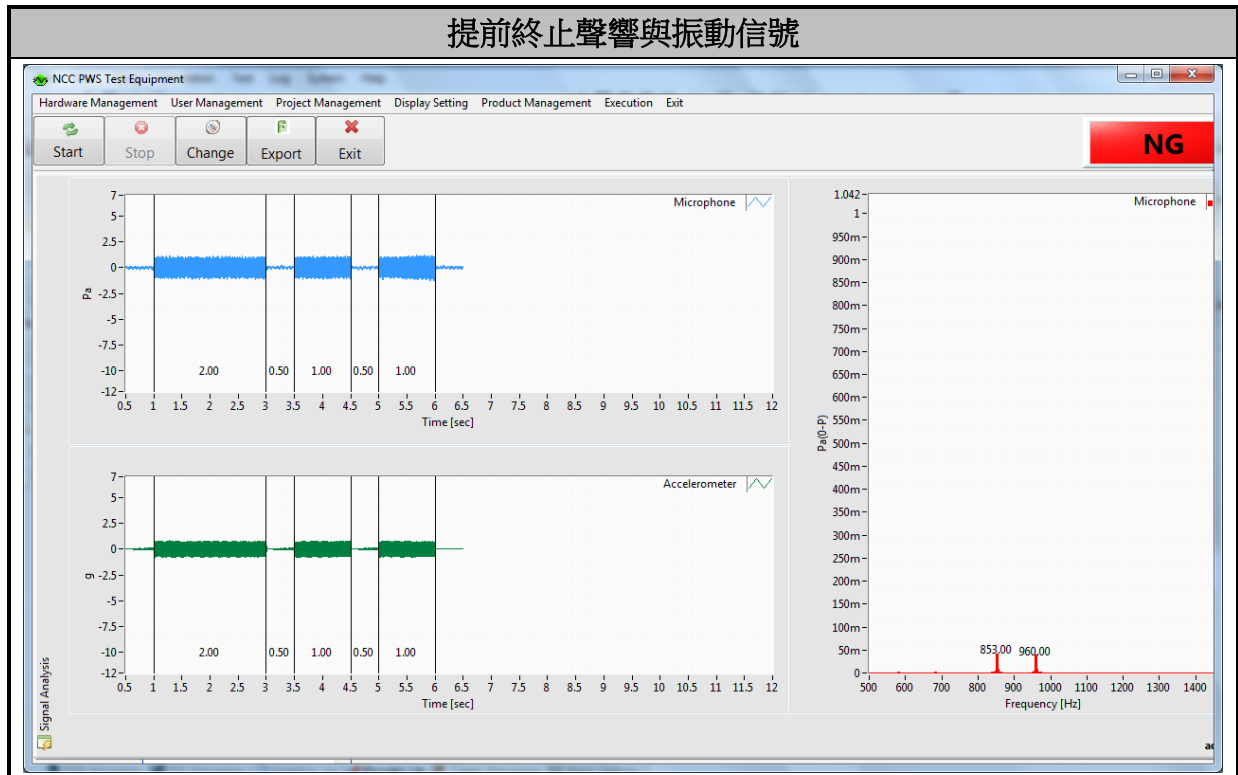
C.3.2. 聲響與振動信號應預設為啟動，且可由使用者自行選擇關閉或啟動。

- ☒ 符合。
- ☐ 不符合。

C.3.3. 當設備發出聲響與振動信號時，使用者可提前終止該聲響與振動信號。

- ☒ 符合。
- ☐ 不符合。

註：在測試過程中，當設備發出第 1 段聲響與振動信號後，測試人員提前終止設備之信號。



告警聲響信號					
混音能力	960 Hz		853 Hz		要求
	960.00		853.92		$\leq \pm 20\%$
信號型式	2 sec	1 sec	0.5 sec	要求	結果
	2.01	1.01	0.49	$\leq \pm 20\%$	符合

告警振動信號					
信號型式	2 sec	1 sec	0.5 sec	要求	結果
	2.00	1.00	0.50	$\leq \pm 20\%$	符合

