



FCC RF Test Report

APPLICANT : Guangdong OPPO Mobile Telecommunications Corp., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : OPPO
MODEL NAME : CPH2781
FCC ID : R9C-OP24091
STANDARD : 47 CFR Part 27(H), 27(F)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S) : May 29, 2025 ~ Jun. 05, 2025

We, Sporton International Inc. (ShenZhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (ShenZhen), the test report shall not be reproduced except in full.

Fly Liang



Approved by: Fly Liang

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG551405D	Rev. 01	Initial issue of report	Jun. 30, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17)	ERP < 3 Watt	PASS	-
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	-	Report Only	-
3.7	§2.1051 §27.53(c)(2)(4) §27.53(g)	Conducted Band Edge Measurement (Band 12) (Band 13) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	-
3.8	§2.1051 §27.53(c)(2) §27.53(g)	Conducted Spurious Emission (Band 12) (Band 13) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	-
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(c)(2) §27.53(f) §27.53(g)	Radiated Spurious Emission (Band 12) (Band 13) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 22.47 dB at 1559.50 MHz

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City, Guangdong Province, P.R. China

1.2 Manufacturer

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City, Guangdong Province, P.R. China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	OPPO
Model Name	CPH2781
FCC ID	R9C-OP24091
IMEI Code	Conducted: 860206080118237 Radiation: 860206080119177/860206080119169
HW Version	11
SW Version	ColorOS 15.0
EUT Stage	Production Unit



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 17 : 704 MHz ~ 716 MHz
Rx Frequency	LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 17 : 734 MHz ~ 746 MHz
Bandwidth	LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz
Maximum Output Power to Antenna	<Ant.0> LTE Band 12 : 23.19 dBm LTE Band 13 : 21.89 dBm LTE Band 17 : 23.07 dBm <Ant.1> LTE Band 12 : 23.93 dBm LTE Band 13 : 22.66 dBm LTE Band 17 : 23.86 dBm
Antenna Gain	<Ant.0> LTE Band 12 : -3.90 dBi LTE Band 13 : -3.90 dBi LTE Band 17 : -3.90 dBi <Ant.1> LTE Band 12 : -3.50 dBi LTE Band 13 : -3.50 dBi LTE Band 17 : -3.50 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

Note: The maximum ERP is calculated from max output power and max antenna gain, so only the maximum ERP of Antenna 1 for LTE Band 12/13/17 are shown in the report.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.



1.6 Maximum ERP and Emission Designator

LTE Band 12		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
1.4	699.7 ~ 715.3	0.0665	1M09G7D	0.0578	1M09W7D
3	700.5 ~ 714.5	0.0659	2M73G7D	0.0569	2M72W7D
5	701.5 ~ 713.5	0.0668	4M48G7D	0.0566	4M50W7D
10	704.0 ~ 711.0	0.0673	8M99G7D	0.0581	9M03W7D
LTE Band 13		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	779.5 ~ 784.5	0.0501	4M47G7D	0.0425	4M51W7D
10	782.0	0.0502	9M03G7D	0.0427	9M01W7D
LTE Band 17		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	706.5 ~ 713.5	0.0650	4M48G7D	0.0578	4M50W7D
10	709.0 ~ 711.0	0.0662	8M99G7D	0.0581	9M03W7D

Note:

1. LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.
2. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.7 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ; 03CH02-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a

1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 27(F), 27(H)
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

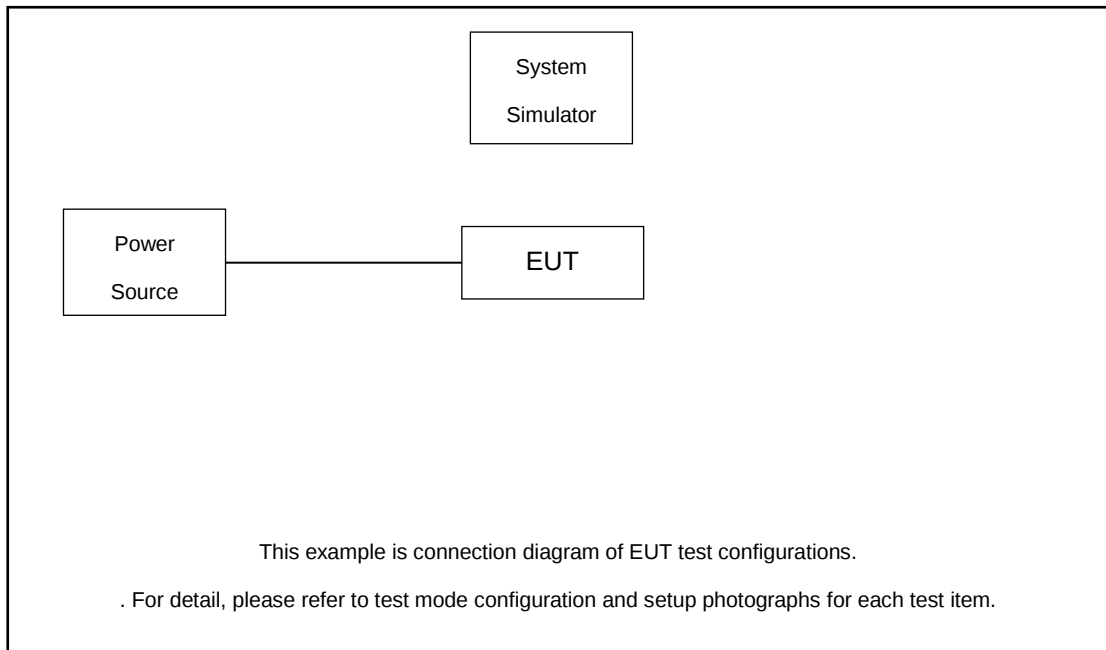
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	12				v	-	-	v	v	v			v		v	
	13	-	-		v	-	-	v	v	v			v		v	
26dB and 99% Bandwidth	12	v	v	v	v	-	-	v	v				v		v	
	13	-	-	v	v	-	-	v	v				v		v	
Conducted Band Edge	12	v	v	v	v	-	-	v	v	v	v		v	v		v
	13	-	-	v	v	-	-	v	v	v	v		v	v		v
Conducted Spurious Emission	12	v	v	v	v	-	-	v			v			v	v	v
	13	-	-	v	v	-	-	v			v			v	v	v
Frequency Stability	12				v	-	-	v					v		v	
	13	-	-		v	-	-	v					v		v	
E.R.P	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	12	Worst Case													v	
	13	Worst Case													v	
Note	1. The mark “v “ means that this configuration is chosen for testing 2. The mark “-“ means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. All test items are based on engineering evaluation.															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.0 dB and 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.0 + 10 = 14.0 \text{ (dB)}
 \end{aligned}$$

2.5 Frequency List of Low/Middle/High Channels

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5

3 Conducted Test Items

3.1 Measuring Instruments

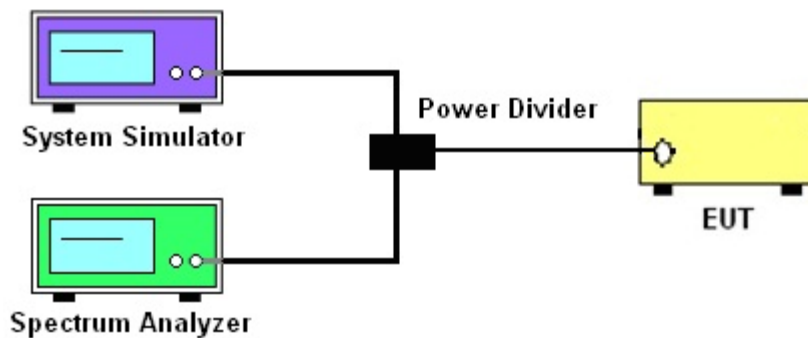
See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP

3.4.1 Description of the Conducted Output Power Measurement and ERP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13 and Band 17.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.
(this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least $65 + 10 \log_{10} p(\text{watts})$, dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Checked that all the results comply with the emission limit line.

Example:

The limit line is derived from $43 + 10\log(P)\text{dB}$ below the transmitter power $P(\text{Watts})$

$= P(\text{W}) - [43 + 10\log(P)] (\text{dB})$

$= [30 + 10\log(P)] (\text{dBm}) - [43 + 10\log(P)] (\text{dB}) = -13\text{dBm}.$

8. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13\text{dBm}$.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

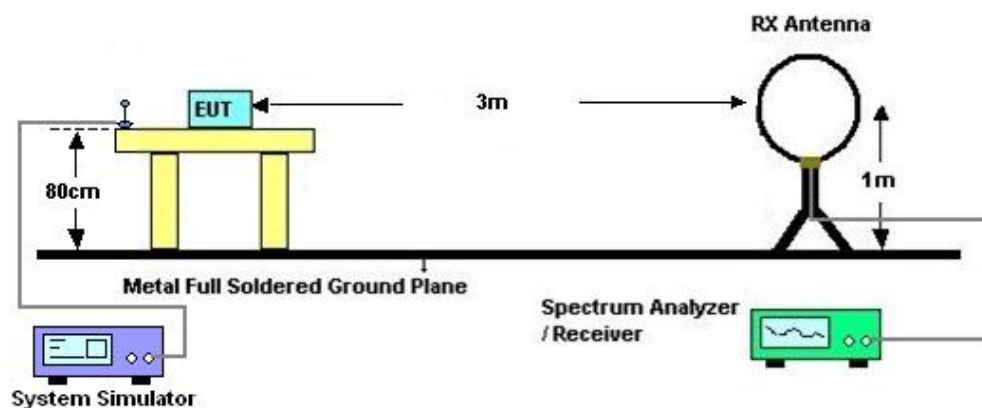
4 Radiated Test Items

4.1 Measuring Instruments

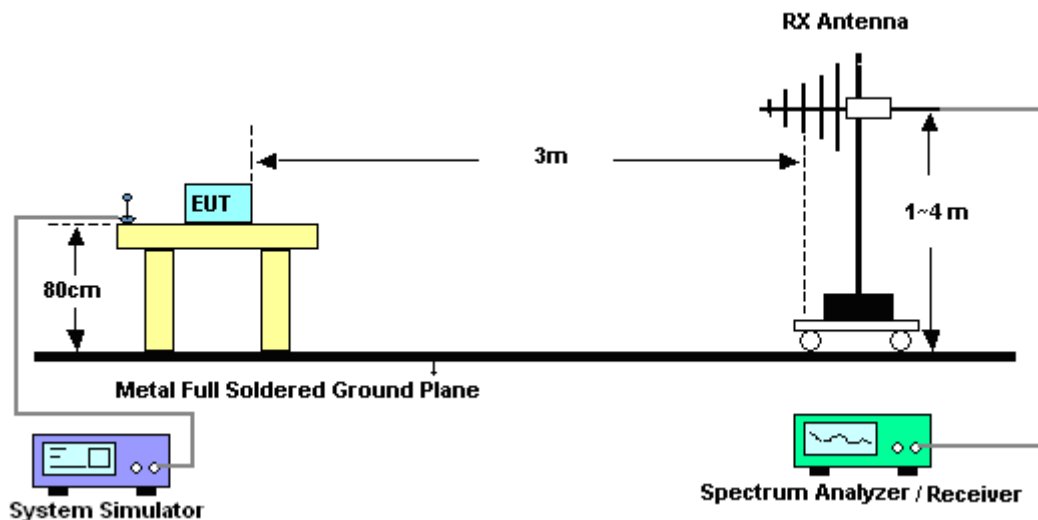
See list of measuring instruments of this test report.

4.2 Test Setup

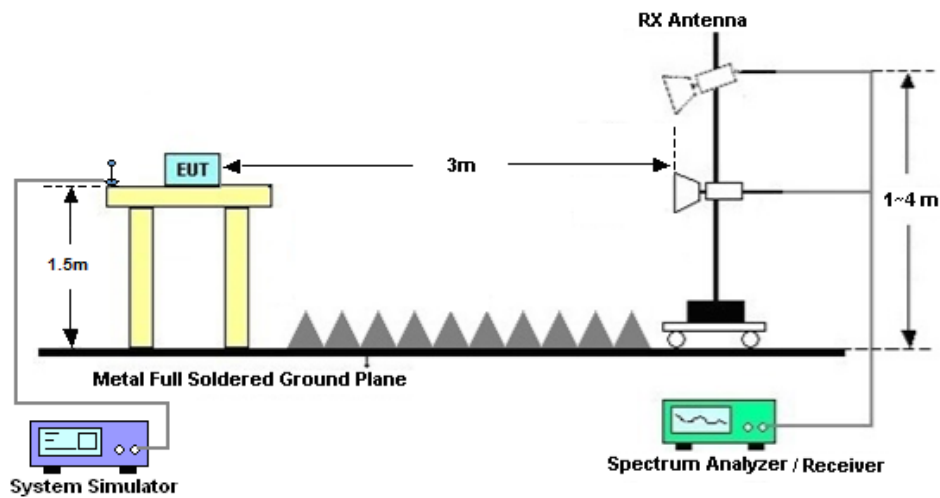
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.



4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11. $\text{ERP (dBm)} = \text{EIRP} - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm}.$$



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 02, 2025	May 29, 2025~May 30, 2025	Apr. 01, 2026	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct.14, 2024	May 29, 2025~May 30, 2025	Oct. 13, 2025	Conducted (TH01-SZ)
Power Divider	Titan	P02N005180	923402	0.4GHz~26.5GHz	Nov. 08, 2024	May 29, 2025~May 30, 2025	Nov. 07, 2025	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	May 29, 2025~May 30, 2025	Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Jun. 05, 2025	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Jun. 05, 2025	Dec. 27, 2025	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Jun. 05, 2025	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Jun. 05, 2025	Jul. 04, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2024	Jun. 05, 2025	Jul. 03, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 03, 2025	Jun. 05, 2025	Apr. 02, 2027	Radiation (03CH02-SZ)
LF Amplifier	EM Electronics	EM330	060788	20MHz-3GHz	Dec. 25, 2024	Jun. 05, 2025	Dec. 24, 2025	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 14, 2024	Jun. 05, 2025	Oct. 13, 2025	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2024	Jun. 05, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Jun. 05, 2025	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Jun. 05, 2025	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	± 1.34 dB
Occupied Channel Bandwidth	± 0.012 MHz
Conducted Power	± 1.34 dB
Peak to Average Ratio	± 1.34 dB
Frequency Stability	± 1.3 Hz

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.47 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.31 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.72 dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Lorenzo Liu	Temperature :	24~26°C
		Relative Humidity :	50~53%

Conducted Output Power(Average power) and ERP

LTE Band 12_Ant.1

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23060	23095	23130			
Frequency (MHz)				704	707.5	711	L	M	H
10	QPSK	1	0	23.82	23.93	23.87	0.0656	0.0673	0.0664
10	QPSK	1	25	23.70	23.81	23.63	0.0638	0.0655	0.0628
10	QPSK	1	49	23.73	23.85	23.67	0.0643	0.0661	0.0634
10	QPSK	25	0	22.92	22.99	22.96	0.0533	0.0542	0.0538
10	QPSK	25	12	22.83	22.96	22.93	0.0522	0.0538	0.0535
10	QPSK	25	25	22.88	22.97	22.83	0.0528	0.0540	0.0522
10	QPSK	50	0	22.92	22.96	22.88	0.0533	0.0538	0.0528
10	16QAM	1	0	23.08	23.19	23.07	0.0553	0.0568	0.0552
10	16QAM	1	25	23.18	23.22	23.16	0.0566	0.0571	0.0564
10	16QAM	1	49	23.26	23.29	23.14	0.0577	0.0581	0.0561
10	16QAM	25	0	21.83	21.93	21.90	0.0415	0.0425	0.0422
10	16QAM	25	12	21.96	21.98	21.89	0.0428	0.0430	0.0421
10	16QAM	25	25	21.84	21.92	21.86	0.0416	0.0424	0.0418
10	16QAM	50	0	21.83	21.96	21.85	0.0415	0.0428	0.0417
10	64QAM	1	0	21.98	22.08	22.01	0.0430	0.0440	0.0433
10	64QAM	1	25	21.96	22.09	22.01	0.0428	0.0441	0.0433
10	64QAM	1	49	21.92	22.03	21.90	0.0424	0.0435	0.0422
10	64QAM	25	0	20.83	20.92	20.78	0.0330	0.0337	0.0326
10	64QAM	25	12	20.82	20.94	20.82	0.0329	0.0338	0.0329
10	64QAM	25	25	20.80	20.93	20.85	0.0327	0.0337	0.0331
10	64QAM	50	0	20.79	20.94	20.79	0.0327	0.0338	0.0327
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	23.70	23.90	23.86	0.0638	0.0668	0.0662
5	QPSK	1	12	23.63	23.69	23.52	0.0628	0.0637	0.0612
5	QPSK	1	24	23.58	23.84	23.60	0.0621	0.0659	0.0624
5	QPSK	12	0	22.88	22.94	22.92	0.0528	0.0536	0.0533
5	QPSK	12	7	22.76	22.81	22.80	0.0514	0.0520	0.0519
5	QPSK	12	13	22.86	22.87	22.69	0.0526	0.0527	0.0506
5	QPSK	25	0	22.90	22.84	22.86	0.0531	0.0524	0.0526
5	16QAM	1	0	22.99	23.08	22.96	0.0542	0.0553	0.0538
5	16QAM	1	12	23.08	23.11	23.15	0.0553	0.0557	0.0562
5	16QAM	1	24	23.18	23.14	23.08	0.0566	0.0561	0.0553
5	16QAM	12	0	21.74	21.80	21.87	0.0406	0.0412	0.0419



5	16QAM	12	7	21.93	21.83	21.88	0.0425	0.0415	0.0420
5	16QAM	12	13	21.80	21.91	21.81	0.0412	0.0423	0.0413
5	16QAM	25	0	21.70	21.86	21.72	0.0403	0.0418	0.0405
5	64QAM	1	0	21.87	22.03	21.93	0.0419	0.0435	0.0425
5	64QAM	1	12	21.83	21.94	21.88	0.0415	0.0426	0.0420
5	64QAM	1	24	21.85	21.92	21.86	0.0417	0.0424	0.0418
5	64QAM	12	0	20.79	20.80	20.69	0.0327	0.0327	0.0319
5	64QAM	12	7	20.80	20.88	20.77	0.0327	0.0333	0.0325
5	64QAM	12	13	20.70	20.91	20.78	0.0320	0.0336	0.0326
5	64QAM	25	0	20.78	20.82	20.70	0.0326	0.0329	0.0320
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	23.70	23.84	23.82	0.0638	0.0659	0.0656
3	QPSK	1	8	23.55	23.78	23.56	0.0617	0.0650	0.0618
3	QPSK	1	14	23.69	23.83	23.66	0.0637	0.0658	0.0632
3	QPSK	8	0	22.87	22.98	22.90	0.0527	0.0541	0.0531
3	QPSK	8	4	22.79	22.86	22.91	0.0518	0.0526	0.0532
3	QPSK	8	7	22.87	22.96	22.81	0.0527	0.0538	0.0520
3	QPSK	15	0	22.83	22.92	22.75	0.0522	0.0533	0.0513
3	16QAM	1	0	22.94	23.10	23.04	0.0536	0.0556	0.0548
3	16QAM	1	8	23.13	23.15	23.06	0.0560	0.0562	0.0551
3	16QAM	1	14	23.18	23.20	23.11	0.0566	0.0569	0.0557
3	16QAM	8	0	21.74	21.88	21.80	0.0406	0.0420	0.0412
3	16QAM	8	4	21.91	21.93	21.83	0.0423	0.0425	0.0415
3	16QAM	8	7	21.74	21.78	21.72	0.0406	0.0410	0.0405
3	16QAM	15	0	21.82	21.83	21.74	0.0414	0.0415	0.0406
3	64QAM	1	0	21.97	22.06	21.97	0.0429	0.0438	0.0429
3	64QAM	1	8	21.86	22.00	21.89	0.0418	0.0432	0.0421
3	64QAM	1	14	21.82	21.92	21.80	0.0414	0.0424	0.0412
3	64QAM	8	0	20.80	20.89	20.66	0.0327	0.0334	0.0317
3	64QAM	8	4	20.68	20.88	20.77	0.0318	0.0333	0.0325
3	64QAM	8	7	20.71	20.92	20.80	0.0321	0.0337	0.0327
3	64QAM	15	0	20.69	20.81	20.78	0.0319	0.0328	0.0326
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	23.77	23.88	23.75	0.0649	0.0665	0.0646
1.4	QPSK	1	3	23.62	23.72	23.54	0.0627	0.0641	0.0615
1.4	QPSK	1	5	23.68	23.82	23.55	0.0635	0.0656	0.0617
1.4	QPSK	3	0	23.77	23.78	23.79	0.0649	0.0650	0.0652
1.4	QPSK	3	1	23.66	23.71	23.50	0.0632	0.0640	0.0610
1.4	QPSK	3	3	23.67	23.74	23.66	0.0634	0.0644	0.0632
1.4	QPSK	6	0	22.77	22.81	22.81	0.0515	0.0520	0.0520
1.4	16QAM	1	0	22.97	23.04	23.05	0.0540	0.0548	0.0550
1.4	16QAM	1	3	23.13	23.18	23.15	0.0560	0.0566	0.0562
1.4	16QAM	1	5	23.20	23.27	23.12	0.0569	0.0578	0.0558
1.4	16QAM	3	0	22.86	23.02	22.92	0.0526	0.0546	0.0533
1.4	16QAM	3	1	23.07	23.15	23.14	0.0552	0.0562	0.0561
1.4	16QAM	3	3	23.16	23.13	22.97	0.0564	0.0560	0.0540
1.4	16QAM	6	0	21.81	21.89	21.78	0.0413	0.0421	0.0410
1.4	64QAM	1	0	21.87	21.99	21.97	0.0419	0.0431	0.0429



1.4	64QAM	1	3	21.91	22.07	21.99	0.0423	0.0439	0.0431
1.4	64QAM	1	5	21.88	21.93	21.79	0.0420	0.0425	0.0411
1.4	64QAM	3	0	21.78	21.97	21.85	0.0410	0.0429	0.0417
1.4	64QAM	3	1	21.84	21.97	21.85	0.0416	0.0429	0.0417
1.4	64QAM	3	3	21.77	21.81	21.66	0.0409	0.0413	0.0399
1.4	64QAM	6	0	20.66	20.82	20.68	0.0317	0.0329	0.0318

LTE Band 13_Ant.1

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23230					
Frequency (MHz)				782				M	
10	QPSK	1	0		22.66			0.0502	
10	QPSK	1	25		22.65			0.0501	
10	QPSK	1	49		22.64			0.0500	
10	QPSK	25	0		21.65			0.0398	
10	QPSK	25	12		21.64			0.0397	
10	QPSK	25	25		21.65			0.0398	
10	QPSK	50	0		21.64			0.0397	
10	16QAM	1	0		21.95			0.0427	
10	16QAM	1	25		21.95			0.0427	
10	16QAM	1	49		21.92			0.0424	
10	16QAM	25	0		20.62			0.0314	
10	16QAM	25	12		20.63			0.0315	
10	16QAM	25	25		20.63			0.0315	
10	16QAM	50	0		20.63			0.0315	
10	64QAM	1	0		20.88			0.0333	
10	64QAM	1	25		20.82			0.0329	
10	64QAM	1	49		20.79			0.0327	
10	64QAM	25	0		19.62			0.0249	
10	64QAM	25	12		19.62			0.0249	
10	64QAM	25	25		19.67			0.0252	
10	64QAM	50	0		19.61			0.0249	
Channel				23205	23230	23255	ERP(W)		
Frequency (MHz)				779.5	782	784.5	L	M	H
5	QPSK	1	0	22.54	22.65	22.52	0.0489	0.0501	0.0486
5	QPSK	1	12	22.55	22.54	22.63	0.0490	0.0489	0.0499
5	QPSK	1	24	22.53	22.61	22.53	0.0488	0.0497	0.0488
5	QPSK	12	0	21.62	21.57	21.51	0.0395	0.0391	0.0385
5	QPSK	12	7	21.51	21.52	21.54	0.0385	0.0386	0.0388
5	QPSK	12	13	21.56	21.57	21.61	0.0390	0.0391	0.0394
5	QPSK	25	0	21.59	21.61	21.50	0.0393	0.0394	0.0385
5	16QAM	1	0	21.93	21.85	21.92	0.0425	0.0417	0.0424
5	16QAM	1	12	21.84	21.92	21.82	0.0416	0.0424	0.0414
5	16QAM	1	24	21.87	21.90	21.77	0.0419	0.0422	0.0409
5	16QAM	12	0	20.56	20.51	20.54	0.0310	0.0306	0.0308
5	16QAM	12	7	20.61	20.54	20.48	0.0313	0.0308	0.0304
5	16QAM	12	13	20.62	20.57	20.61	0.0314	0.0310	0.0313
5	16QAM	25	0	20.54	20.54	20.54	0.0308	0.0308	0.0308



5	64QAM	1	0	20.77	20.77	20.85	0.0325	0.0325	0.0331
5	64QAM	1	12	20.68	20.67	20.75	0.0318	0.0318	0.0324
5	64QAM	1	24	20.68	20.65	20.65	0.0318	0.0316	0.0316
5	64QAM	12	0	19.61	19.56	19.49	0.0249	0.0246	0.0242
5	64QAM	12	7	19.61	19.53	19.50	0.0249	0.0244	0.0243
5	64QAM	12	13	19.63	19.54	19.61	0.0250	0.0245	0.0249
5	64QAM	25	0	19.57	19.51	19.53	0.0247	0.0243	0.0244

LTE Band 17_Ant.1

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23780	23790	23800			
Frequency (MHz)				709	710	711	L	M	H
10	QPSK	1	0	23.76	23.86	23.78	0.0647	0.0662	0.0650
10	QPSK	1	25	23.65	23.81	23.74	0.0631	0.0655	0.0644
10	QPSK	1	49	23.75	23.85	23.74	0.0646	0.0661	0.0644
10	QPSK	25	0	22.91	22.99	22.89	0.0532	0.0542	0.0530
10	QPSK	25	12	22.80	22.95	22.88	0.0519	0.0537	0.0528
10	QPSK	25	25	22.78	22.97	22.87	0.0516	0.0540	0.0527
10	QPSK	50	0	22.86	22.98	22.80	0.0526	0.0541	0.0519
10	16QAM	1	0	23.13	23.28	23.20	0.0560	0.0579	0.0569
10	16QAM	1	25	23.18	23.28	23.19	0.0566	0.0579	0.0568
10	16QAM	1	49	23.28	23.29	23.25	0.0579	0.0581	0.0575
10	16QAM	25	0	21.86	21.98	21.89	0.0418	0.0430	0.0421
10	16QAM	25	12	21.84	21.93	21.79	0.0416	0.0425	0.0411
10	16QAM	25	25	21.90	21.97	21.94	0.0422	0.0429	0.0426
10	16QAM	50	0	21.90	21.98	21.89	0.0422	0.0430	0.0421
10	64QAM	1	0	22.06	22.12	22.06	0.0438	0.0444	0.0438
10	64QAM	1	25	21.98	22.09	22.08	0.0430	0.0441	0.0440
10	64QAM	1	49	21.99	22.12	22.00	0.0431	0.0444	0.0432
10	64QAM	25	0	20.91	20.97	20.83	0.0336	0.0340	0.0330
10	64QAM	25	12	20.86	20.91	20.80	0.0332	0.0336	0.0327
10	64QAM	25	25	20.87	20.97	20.96	0.0333	0.0340	0.0340
10	64QAM	50	0	20.90	20.94	20.88	0.0335	0.0338	0.0333
Channel				23755	23790	23825	ERP(W)		
Frequency (MHz)				706.5	710	713.5	L	M	H
5	QPSK	1	0	23.74	23.78	23.68	0.0644	0.0650	0.0635
5	QPSK	1	12	23.61	23.68	23.60	0.0625	0.0635	0.0624
5	QPSK	1	24	23.60	23.74	23.73	0.0624	0.0644	0.0643
5	QPSK	12	0	22.83	22.94	22.80	0.0522	0.0536	0.0519
5	QPSK	12	7	22.77	22.88	22.84	0.0515	0.0528	0.0524
5	QPSK	12	13	22.65	22.84	22.83	0.0501	0.0524	0.0522
5	QPSK	25	0	22.78	22.85	22.71	0.0516	0.0525	0.0508
5	16QAM	1	0	23.09	23.27	23.17	0.0555	0.0578	0.0565
5	16QAM	1	12	23.15	23.14	23.04	0.0562	0.0561	0.0548
5	16QAM	1	24	23.18	23.23	23.13	0.0566	0.0573	0.0560
5	16QAM	12	0	21.78	21.89	21.77	0.0410	0.0421	0.0409
5	16QAM	12	7	21.78	21.80	21.66	0.0410	0.0412	0.0399
5	16QAM	12	13	21.84	21.86	21.86	0.0416	0.0418	0.0418



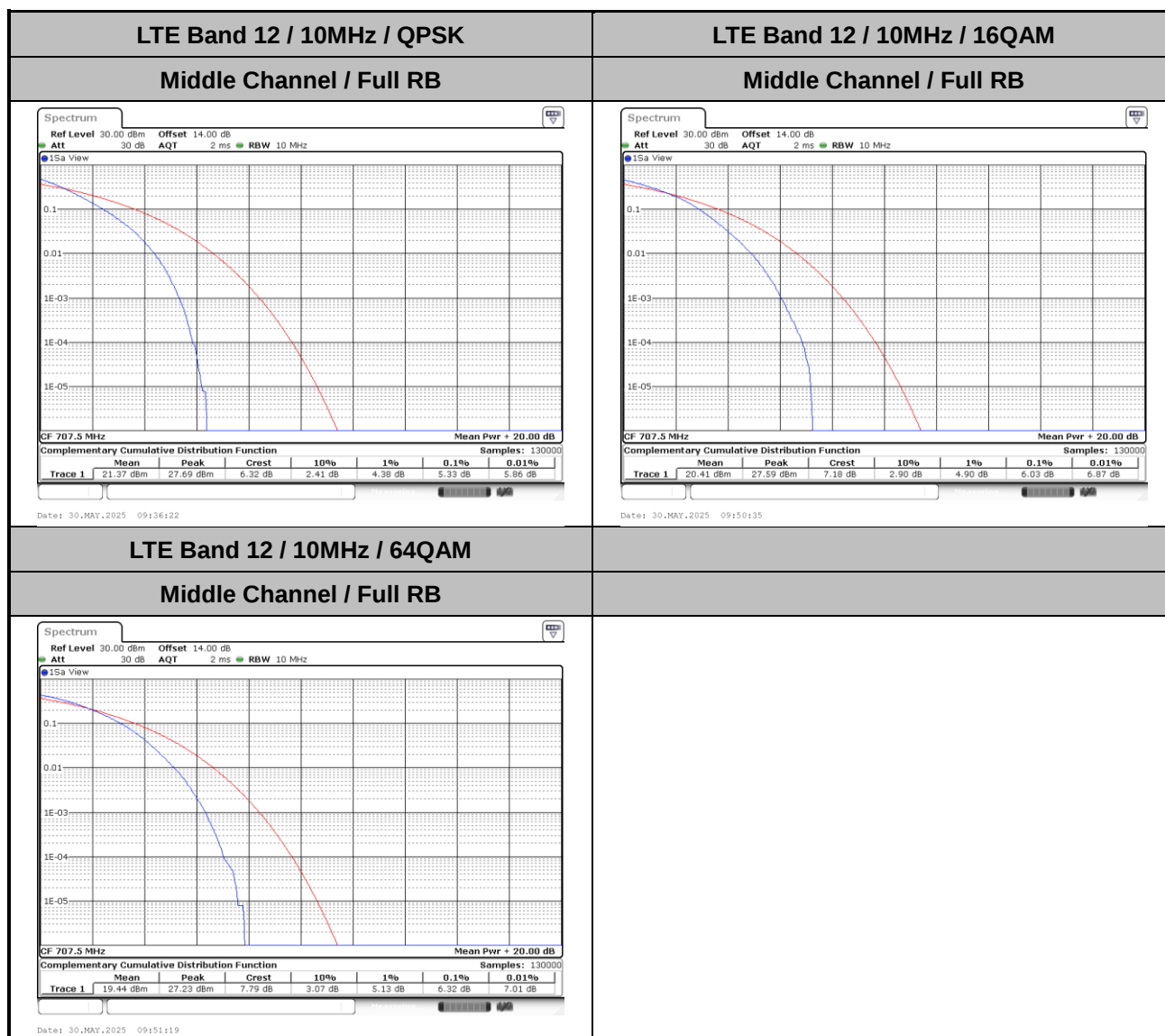
5	16QAM	25	0	21.76	21.94	21.78	0.0408	0.0426	0.0410
5	64QAM	1	0	21.92	22.04	21.95	0.0424	0.0436	0.0427
5	64QAM	1	12	21.88	22.04	21.94	0.0420	0.0436	0.0426
5	64QAM	1	24	21.97	21.99	21.86	0.0429	0.0431	0.0418
5	64QAM	12	0	20.87	20.96	20.74	0.0333	0.0340	0.0323
5	64QAM	12	7	20.83	20.87	20.79	0.0330	0.0333	0.0327
5	64QAM	12	13	20.72	20.92	20.83	0.0321	0.0337	0.0330
5	64QAM	25	0	20.79	20.88	20.81	0.0327	0.0333	0.0328



LTE Band 12

Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.33	6.03	6.32	PASS



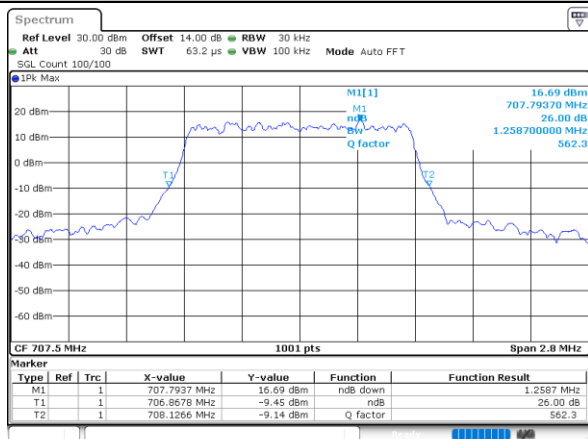


26dB Bandwidth

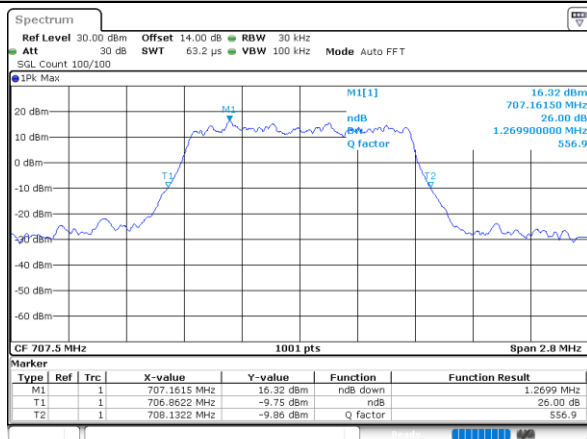
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.26	1.27	2.99	3.01	4.87	4.95	9.91	9.73	-	-	-	-

LTE Band 12

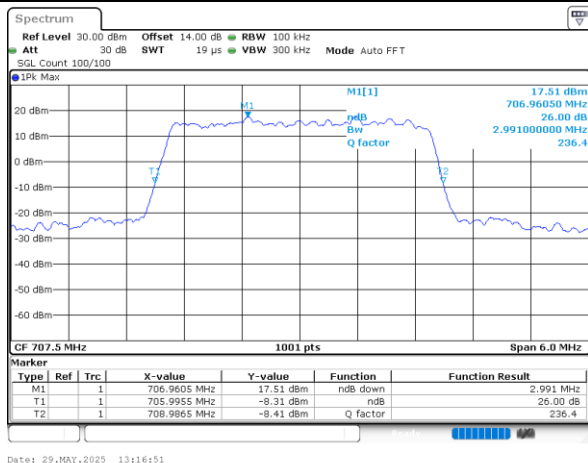
Middle Channel / 1.4MHz / QPSK



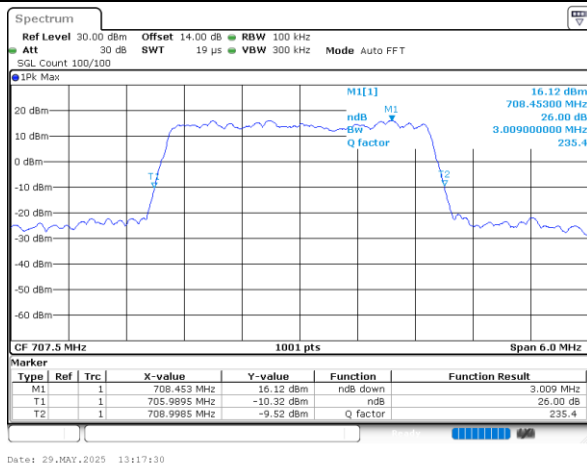
Middle Channel / 1.4MHz / 16QAM



Middle Channel / 3MHz / QPSK

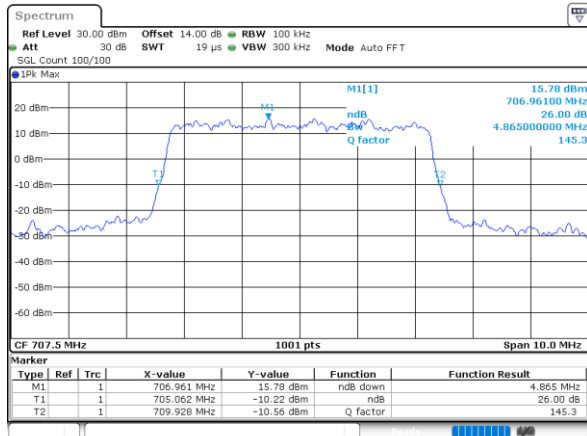


Middle Channel / 3MHz / 16QAM



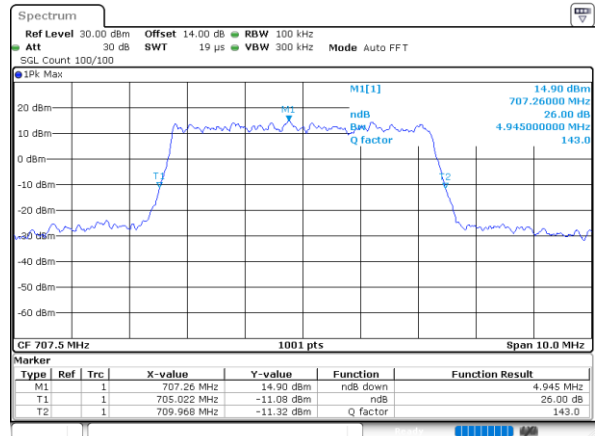


Middle Channel / 5MHz / QPSK



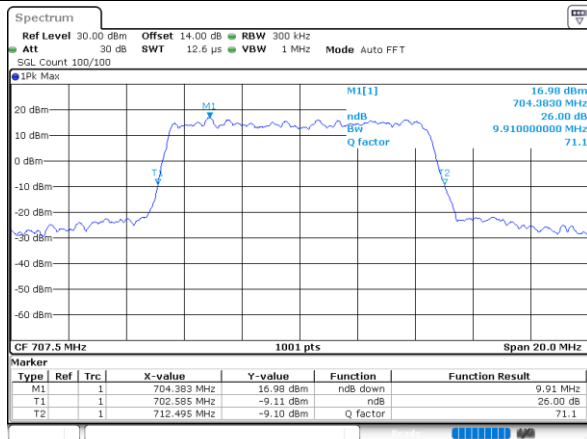
Date: 29.MAY.2025 13:32:09

Middle Channel / 5MHz / 16QAM



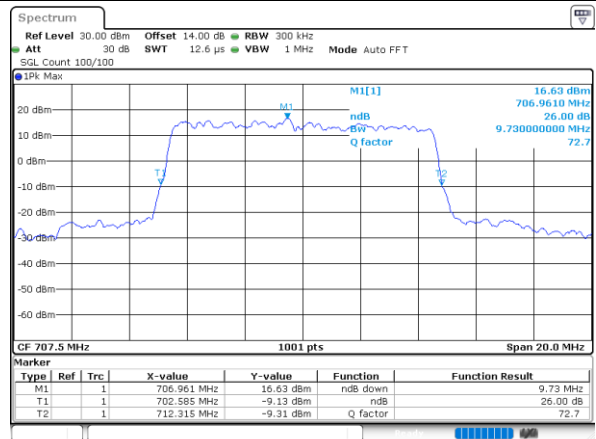
Date: 29.MAY.2025 13:32:48

Middle Channel / 10MHz / QPSK



Date: 29.MAY.2025 13:46:24

Middle Channel / 10MHz / 16QAM



Date: 29.MAY.2025 13:47:04

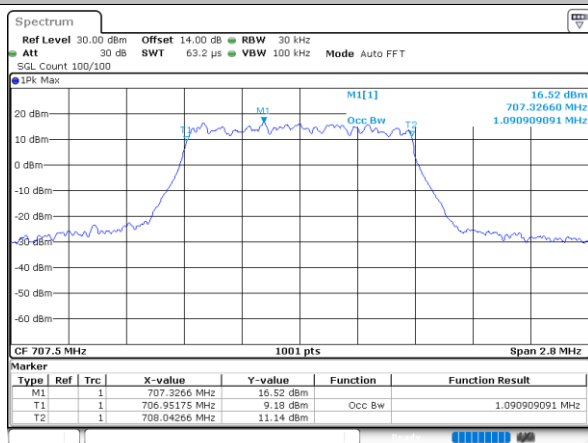


Occupied Bandwidth

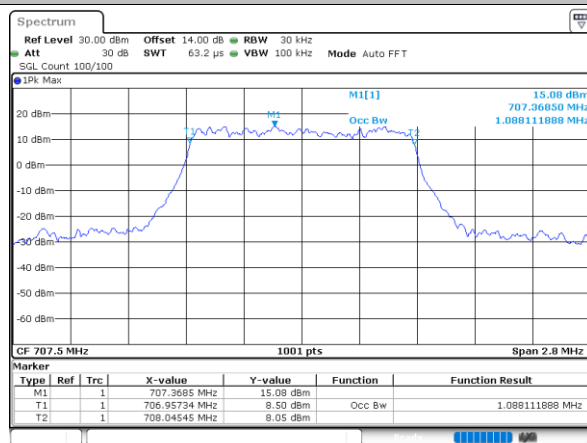
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.09	1.09	2.73	2.72	4.48	4.50	8.99	9.03	-	-	-	-

LTE Band 12

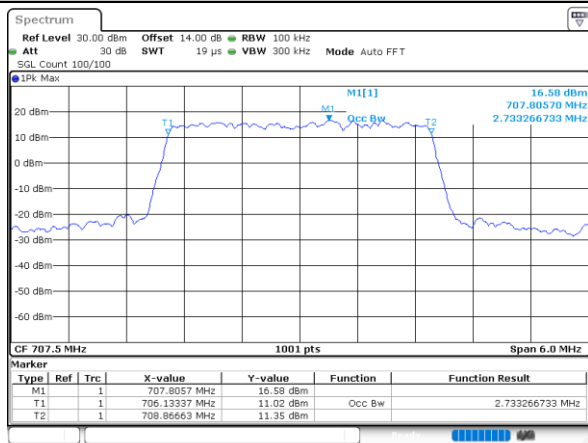
Middle Channel / 1.4MHz / QPSK



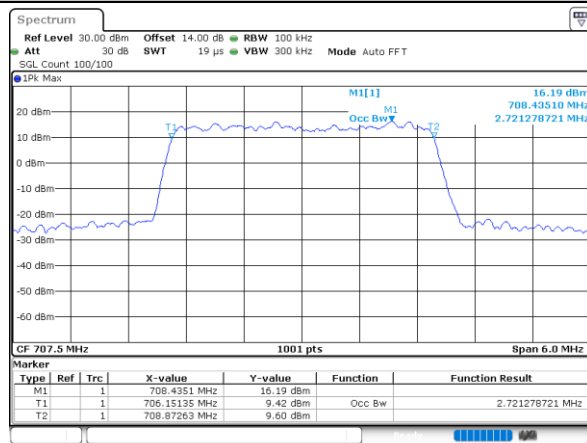
Middle Channel / 1.4MHz / 16QAM



Middle Channel / 3MHz / QPSK

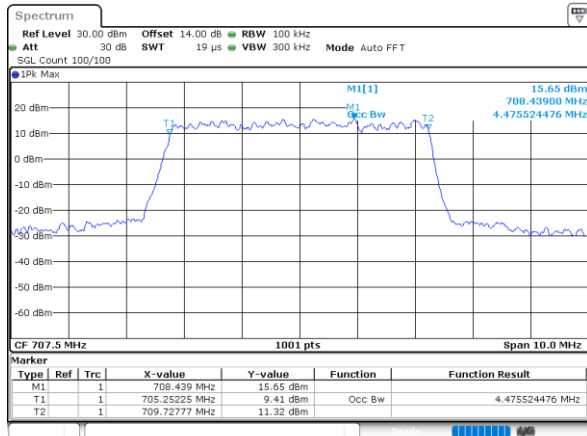


Middle Channel / 3MHz / 16QAM



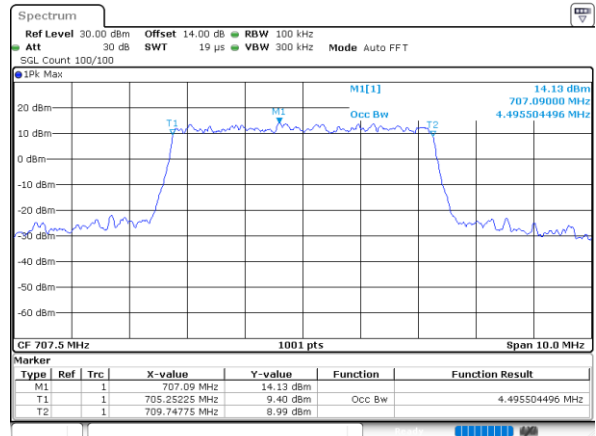


Middle Channel / 5MHz / QPSK



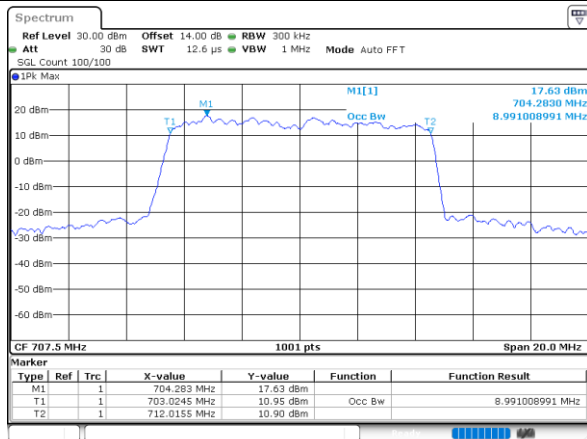
Date: 29.MAY.2025 13:31:55

Middle Channel / 5MHz / 16QAM



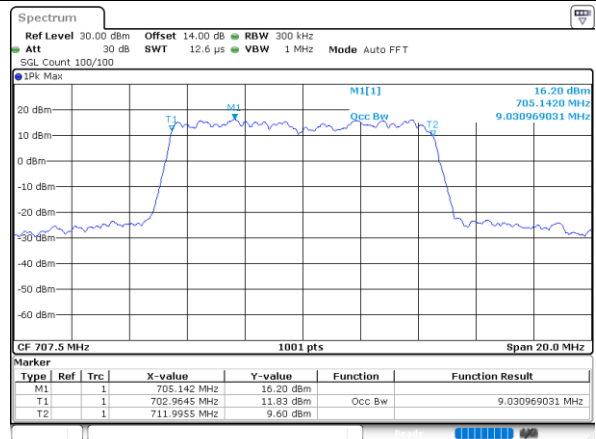
Date: 29.MAY.2025 13:32:34

Middle Channel / 10MHz / QPSK



Date: 29.MAY.2025 13:46:10

Middle Channel / 10MHz / 16QAM



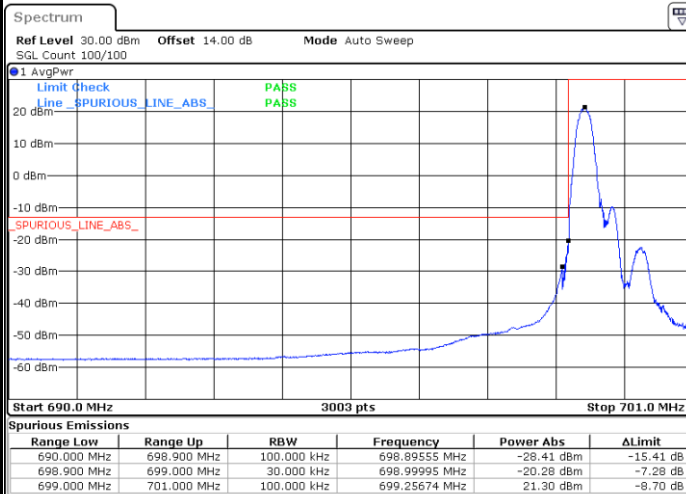
Date: 29.MAY.2025 13:46:50



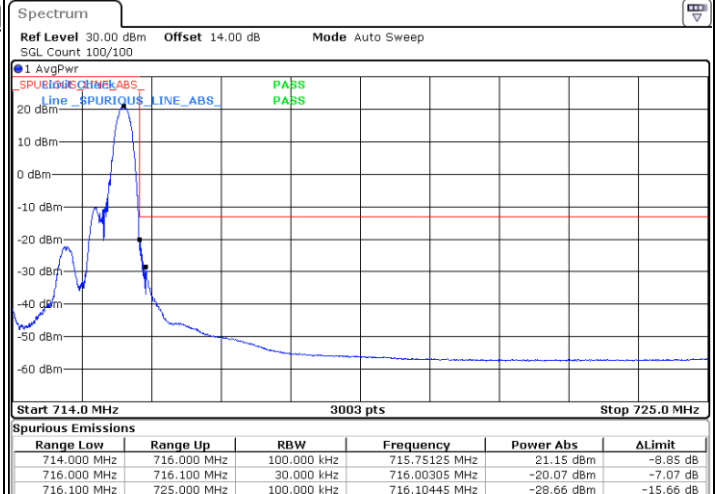
Conducted Band Edge

LTE Band 12 / 1.4MHz / QPSK

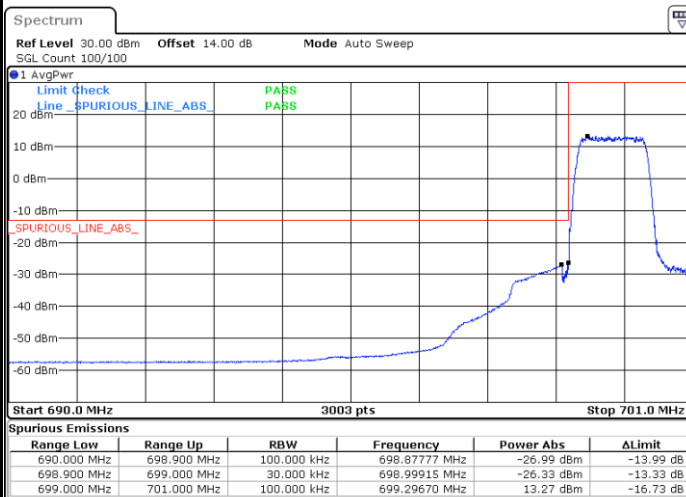
Lowest Band Edge / 1RB



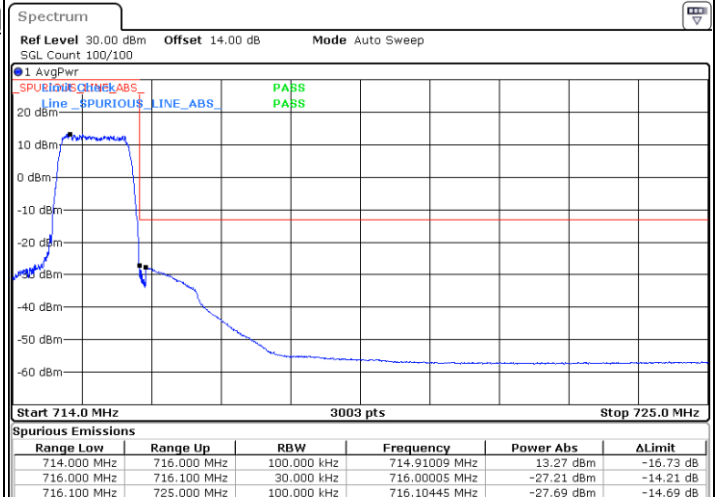
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



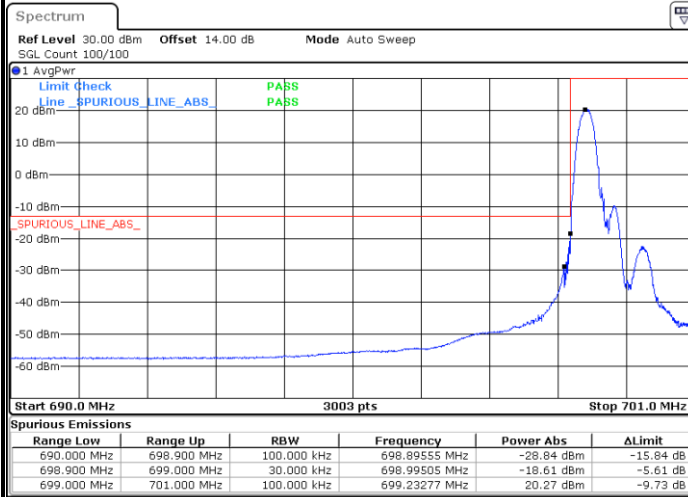
Highest Band Edge / Full RB



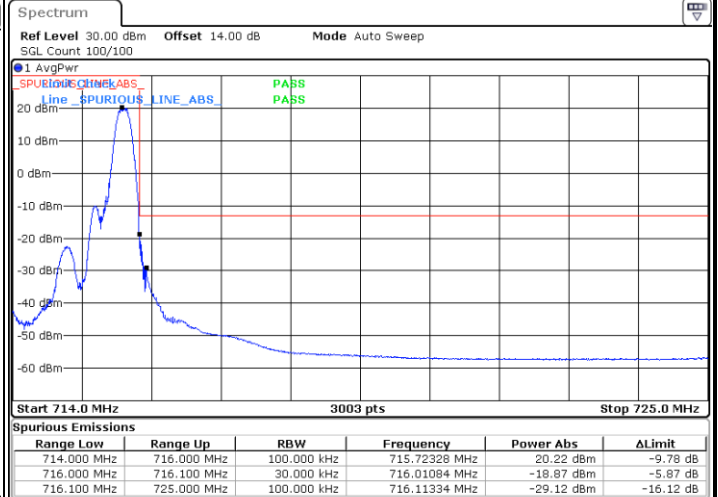


LTE Band 12 / 1.4MHz / 16QAM

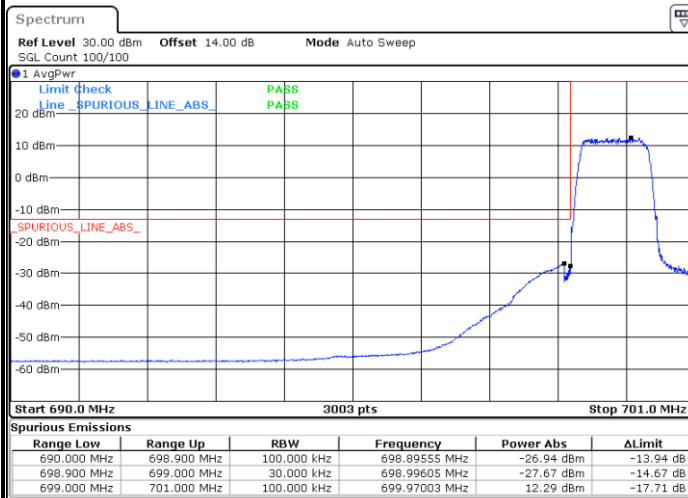
Lowest Band Edge / 1 RB



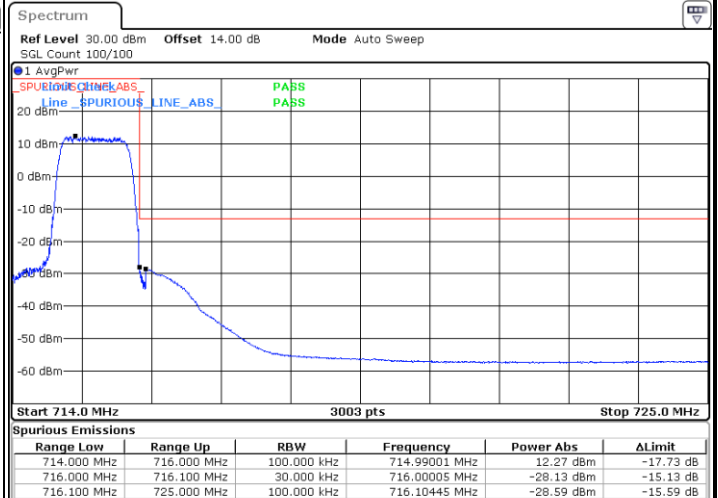
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



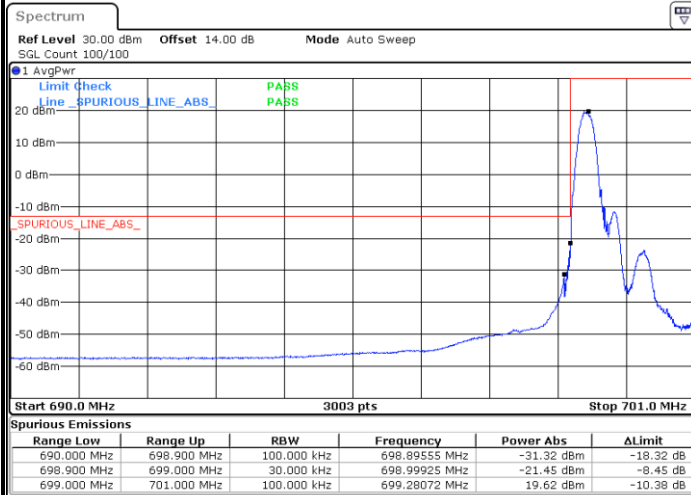
Highest Band Edge / Full RB



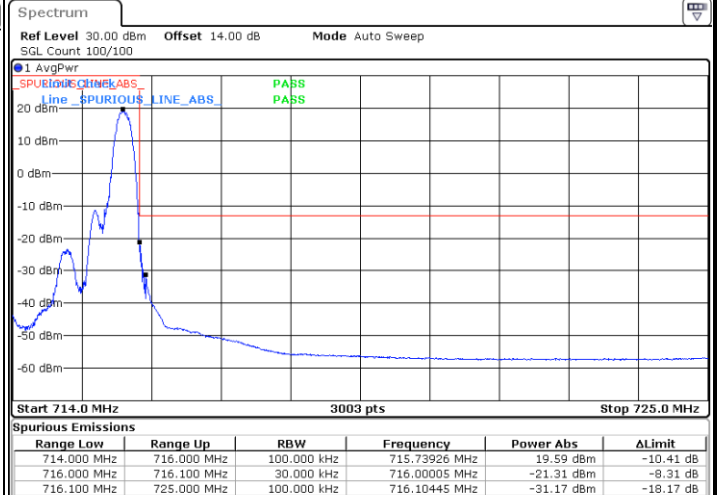


LTE Band 12 / 1.4MHz / 64QAM

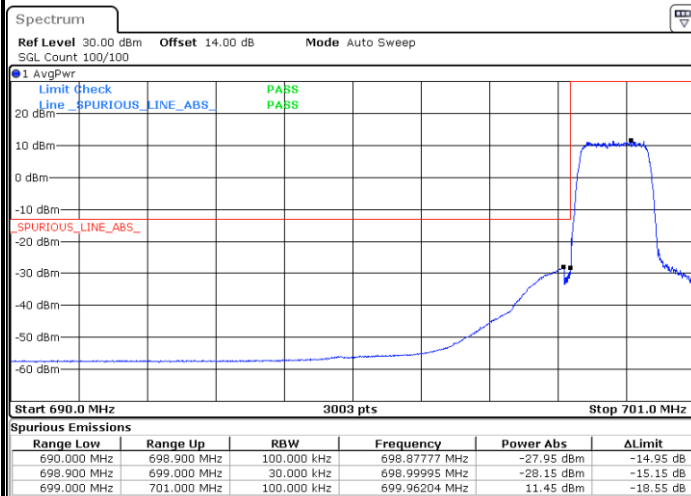
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



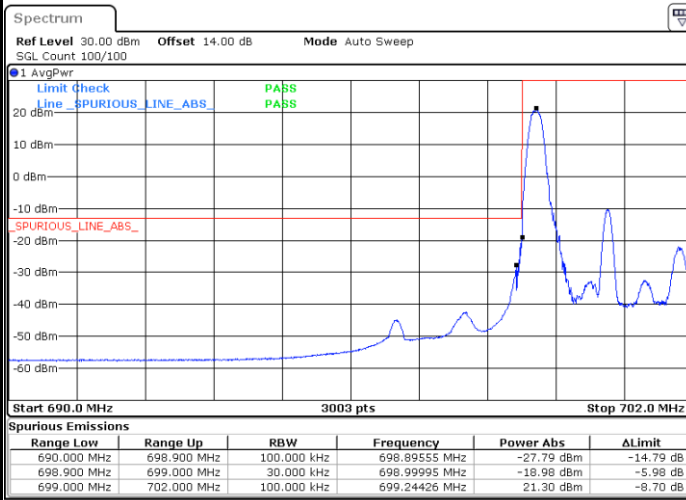
Highest Band Edge / Full RB



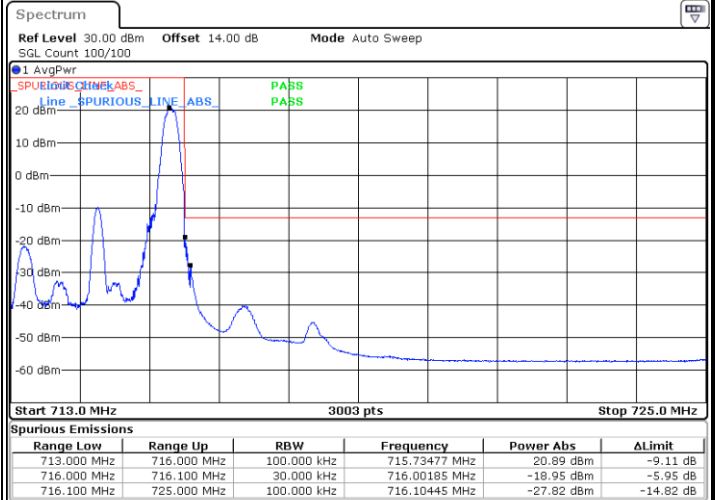


LTE Band 12 / 3MHz / QPSK

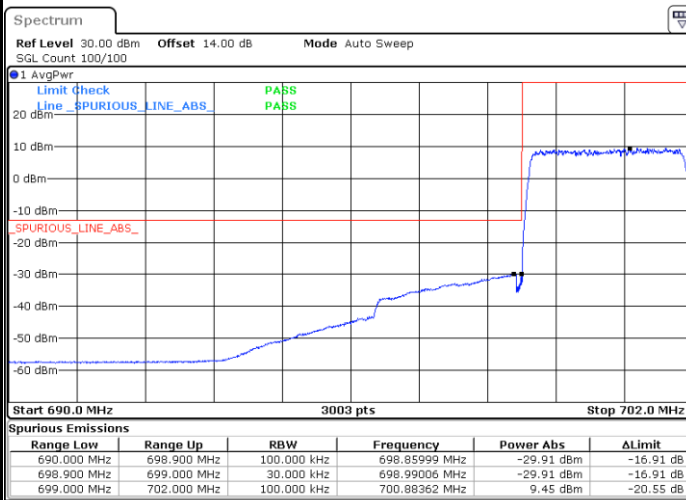
Lowest Band Edge / 1RB



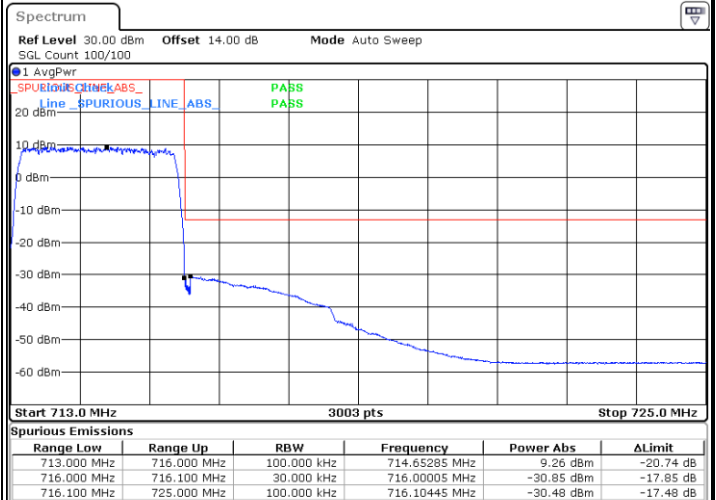
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



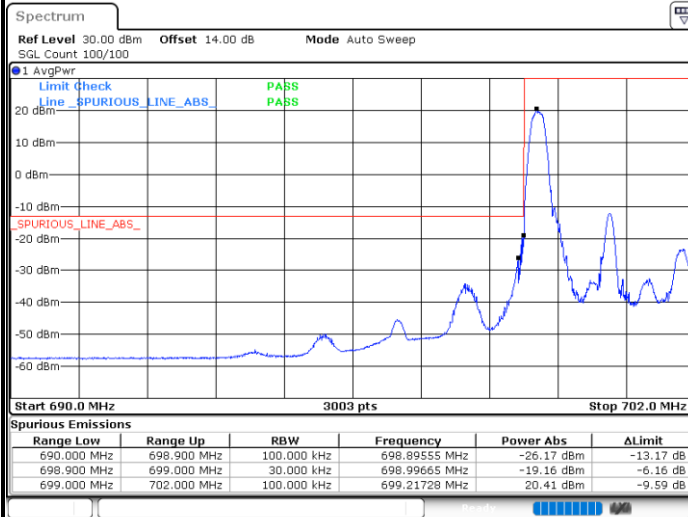
Highest Band Edge / Full RB



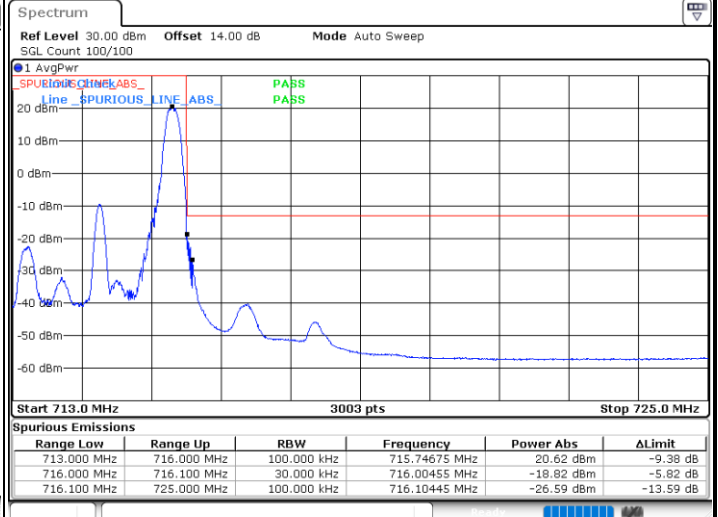


LTE Band 12 / 3MHz / 16QAM

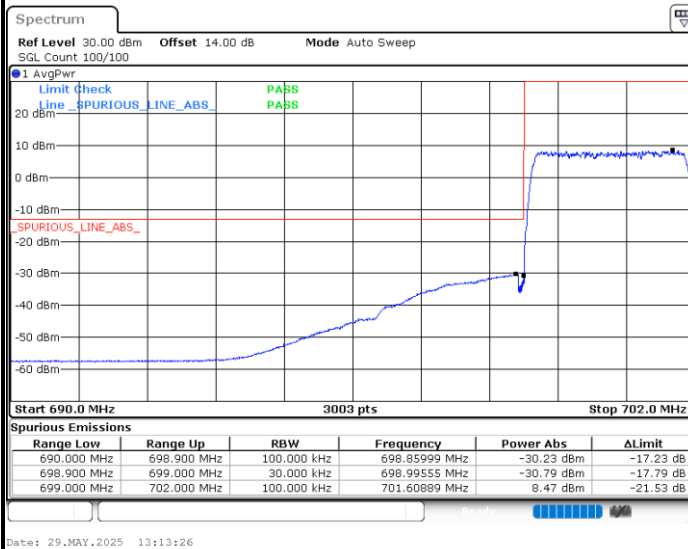
Lowest Band Edge / 1 RB



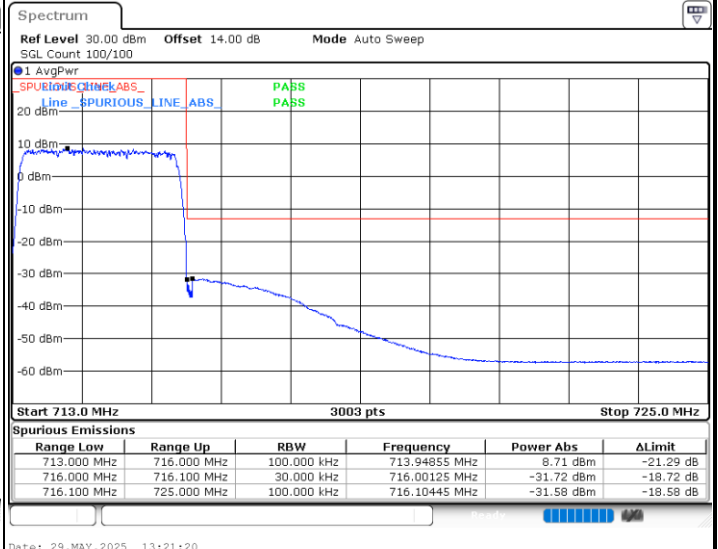
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



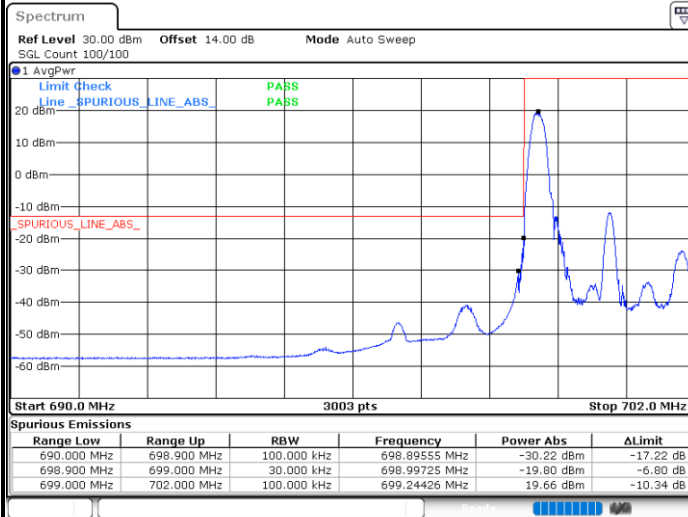
Highest Band Edge / Full RB



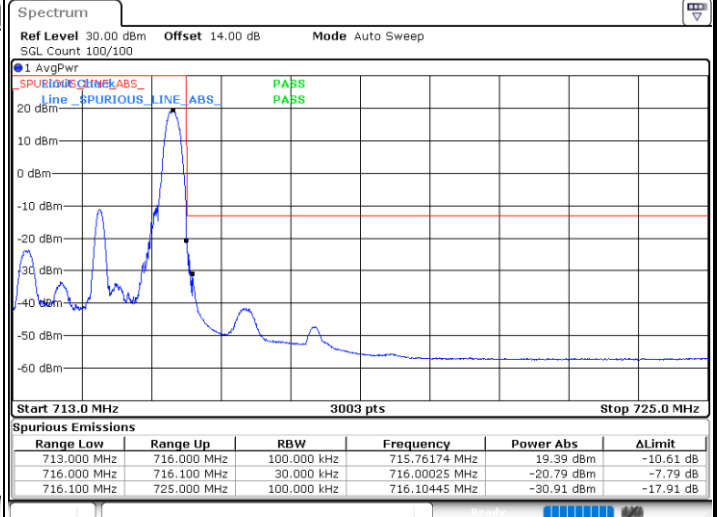


LTE Band 12 / 3MHz / 64QAM

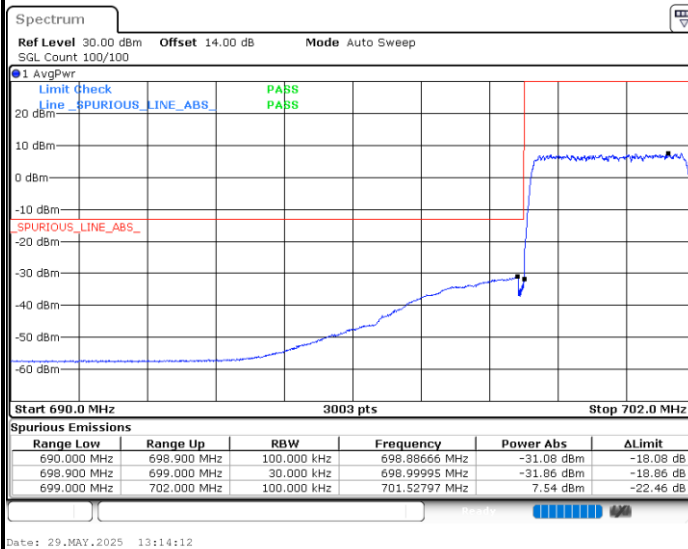
Lowest Band Edge / 1 RB



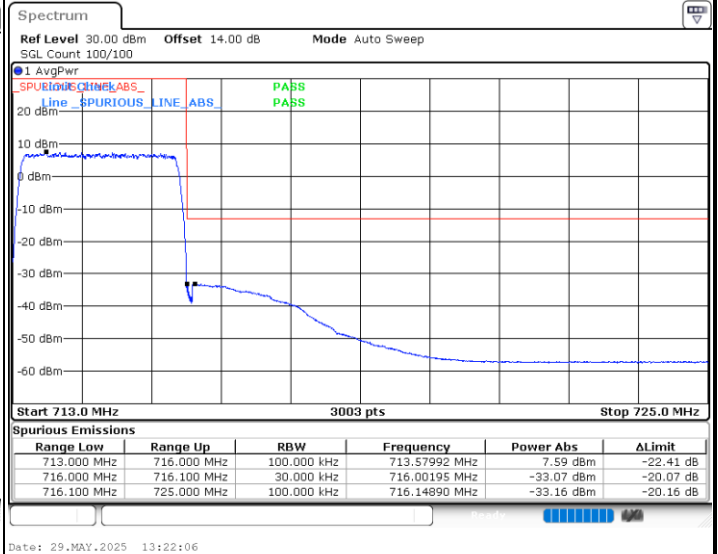
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



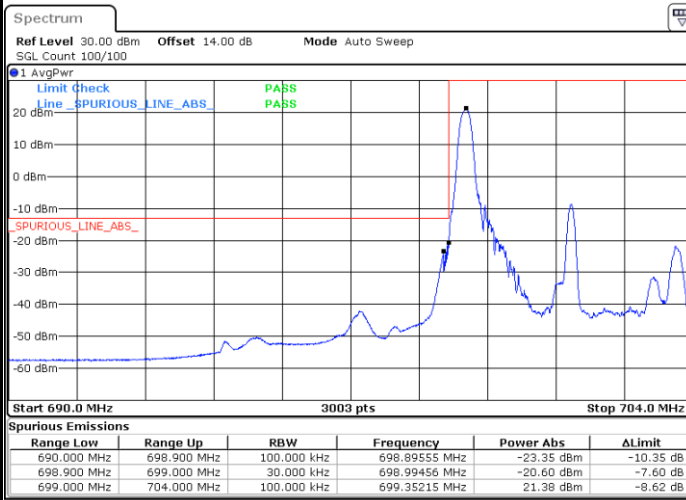
Highest Band Edge / Full RB





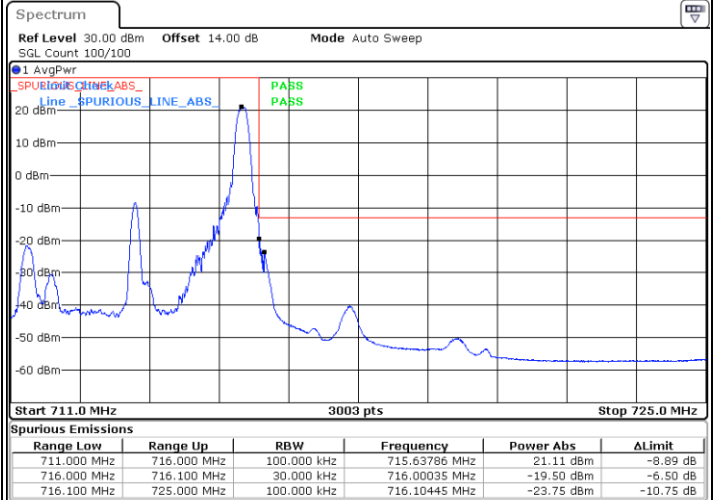
LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1RB



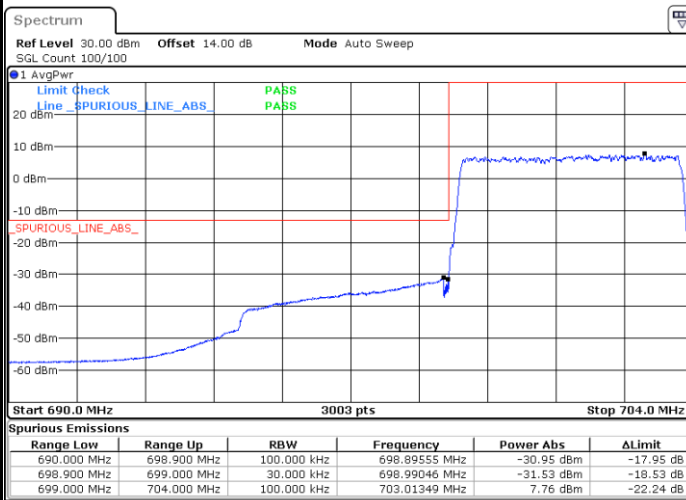
Date: 29.MAY.2025 13:25:39

Highest Band Edge / 1RB



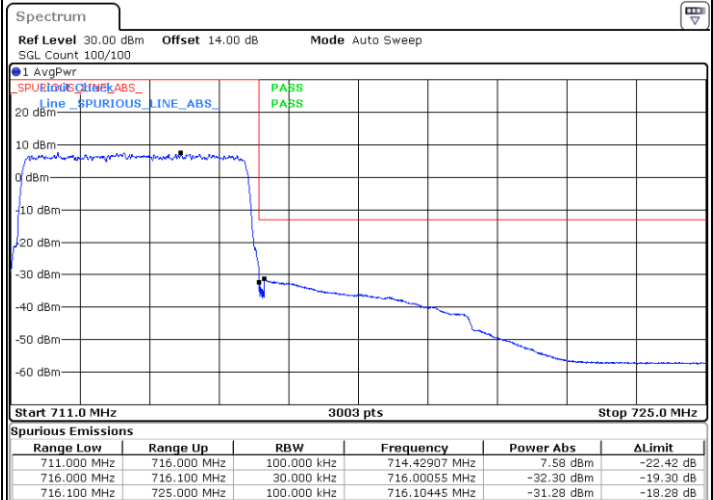
Date: 29.MAY.2025 13:33:34

Lowest Band Edge / Full RB



Date: 29.MAY.2025 13:27:57

Highest Band Edge / Full RB

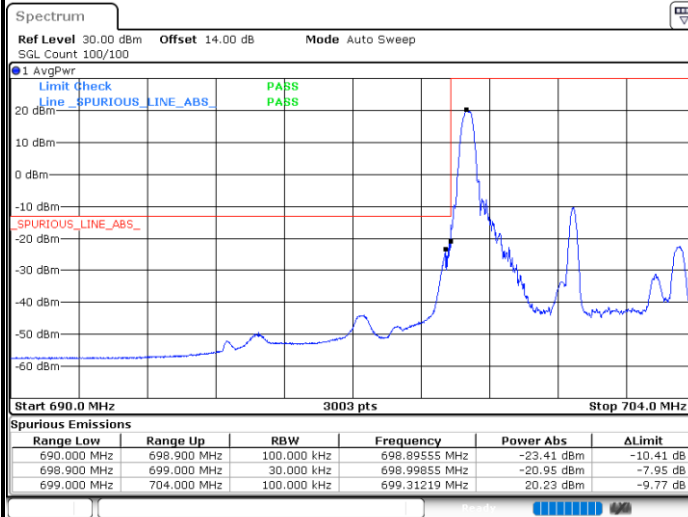


Date: 29.MAY.2025 13:35:51

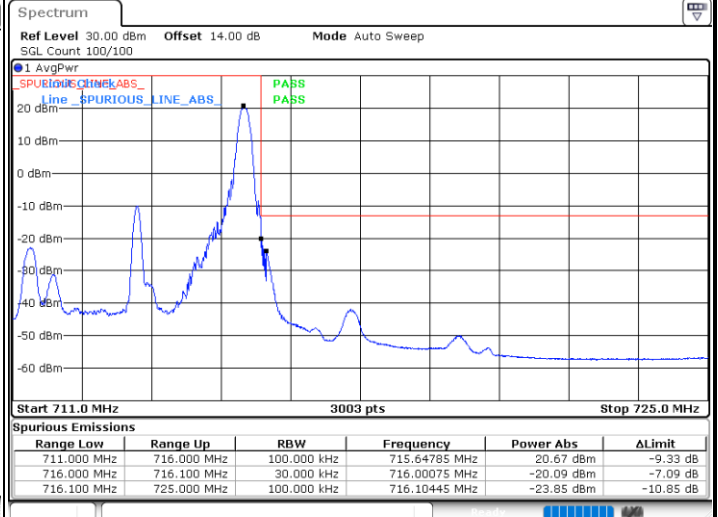


LTE Band 12 / 5MHz / 16QAM

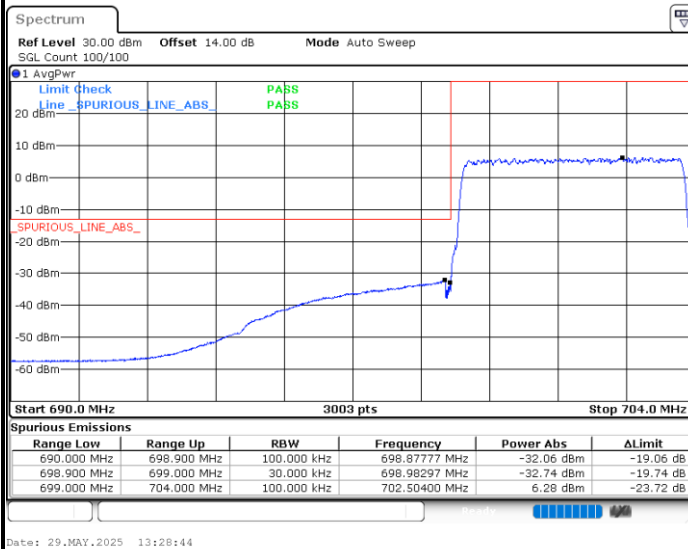
Lowest Band Edge / 1 RB



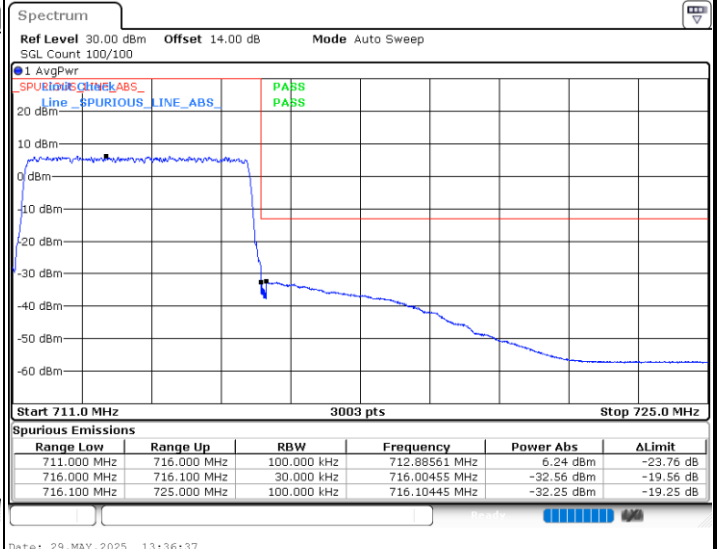
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



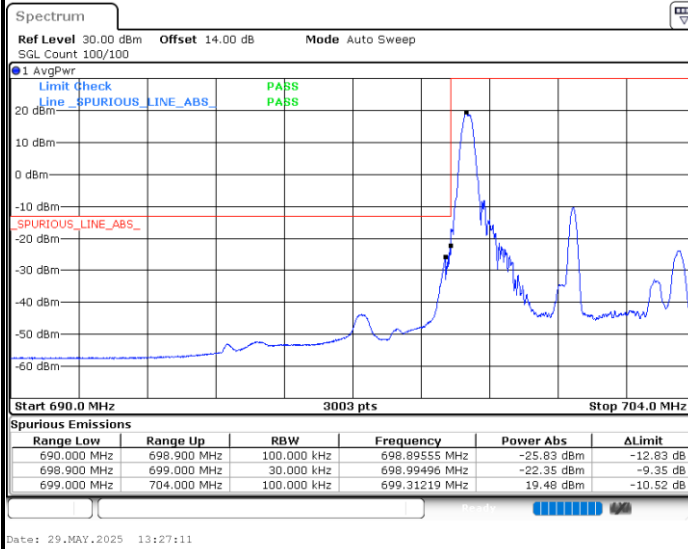
Highest Band Edge / Full RB



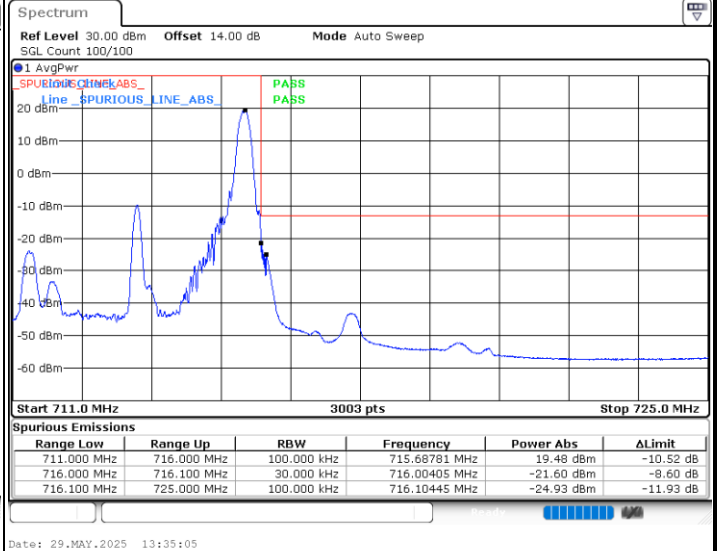


LTE Band 12 / 5MHz / 64QAM

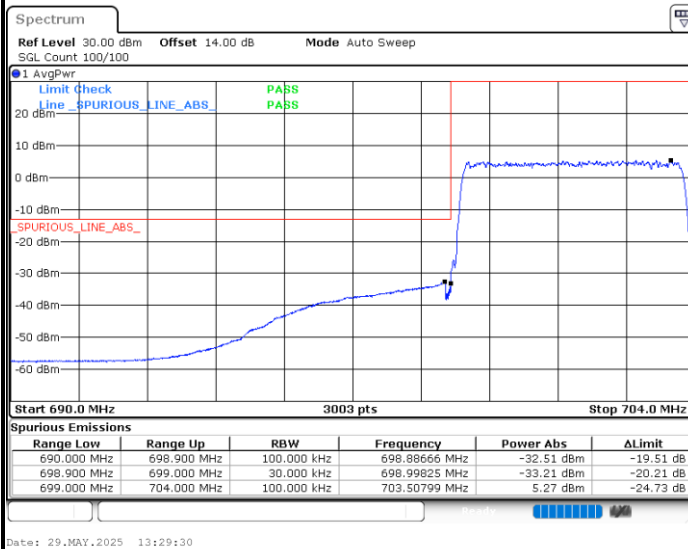
Lowest Band Edge / 1 RB



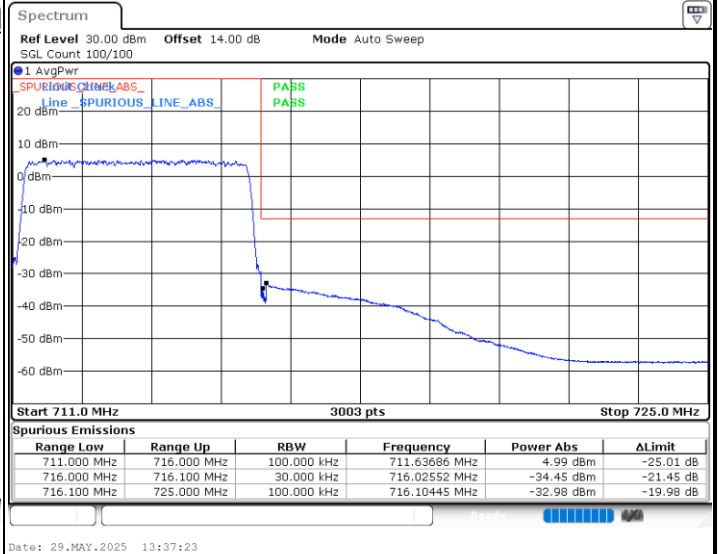
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



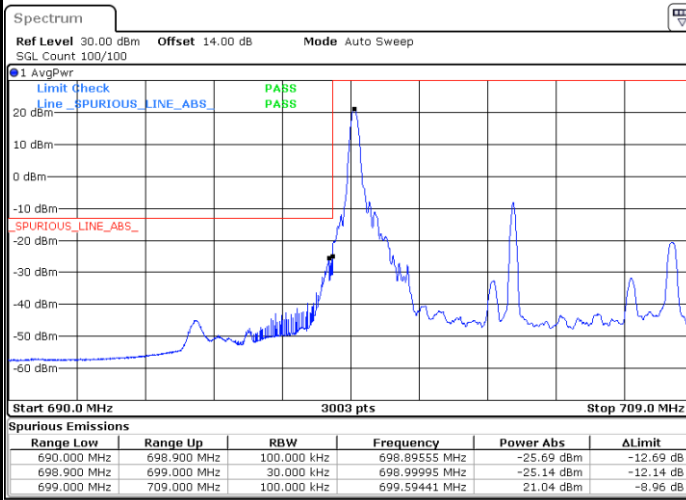
Highest Band Edge / Full RB



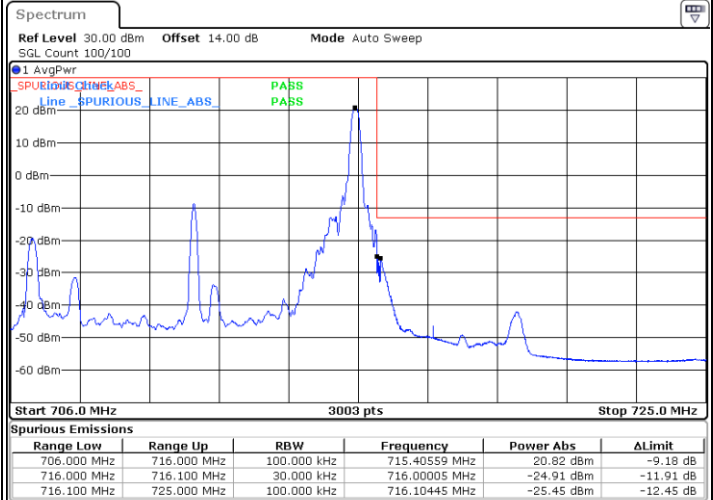


LTE Band 12 / 10MHz / QPSK

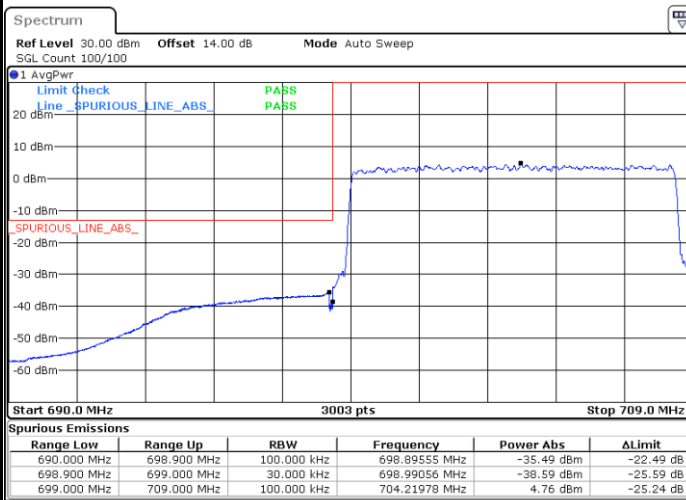
Lowest Band Edge / 1RB



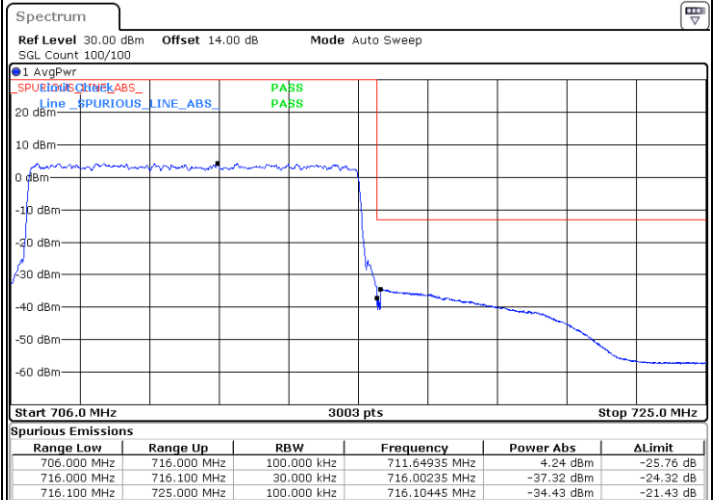
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



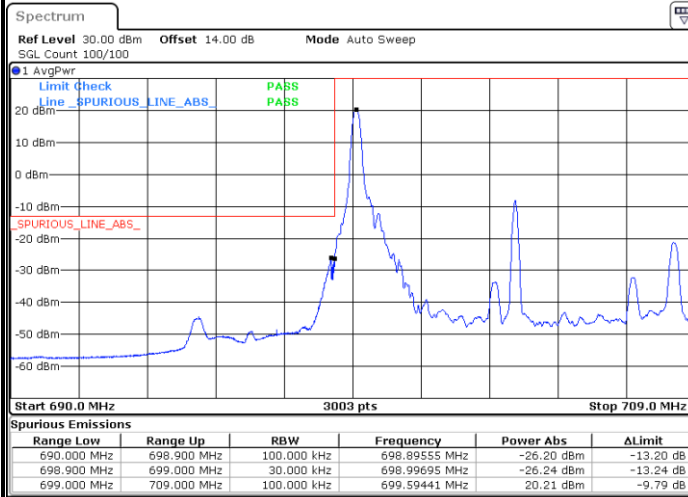
Highest Band Edge / Full RB



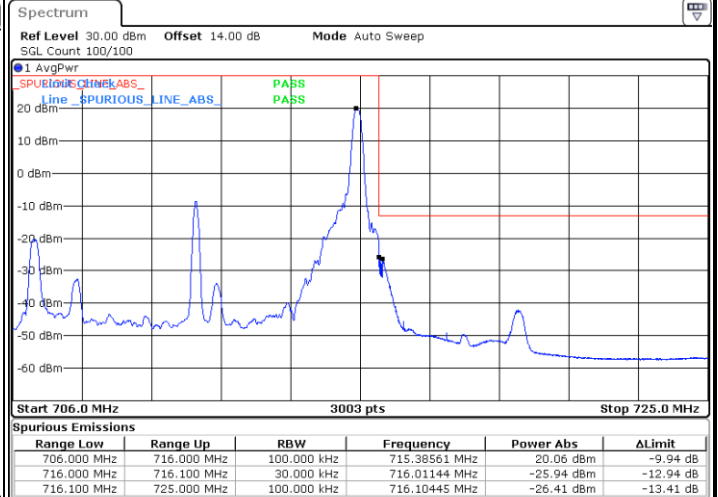


LTE Band 12 / 10MHz / 16QAM

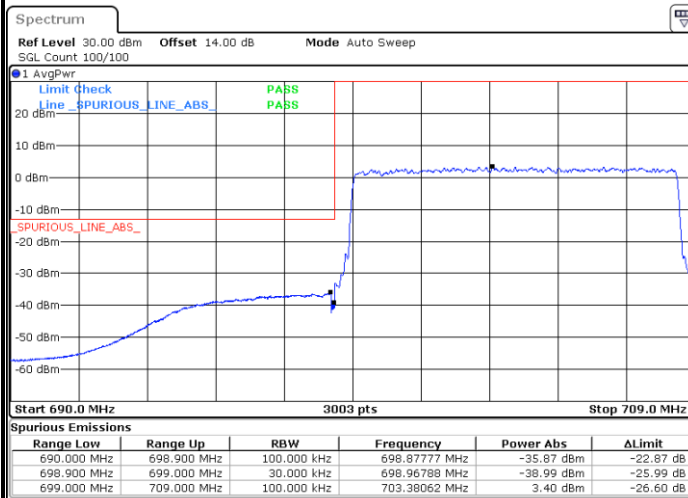
Lowest Band Edge / 1 RB



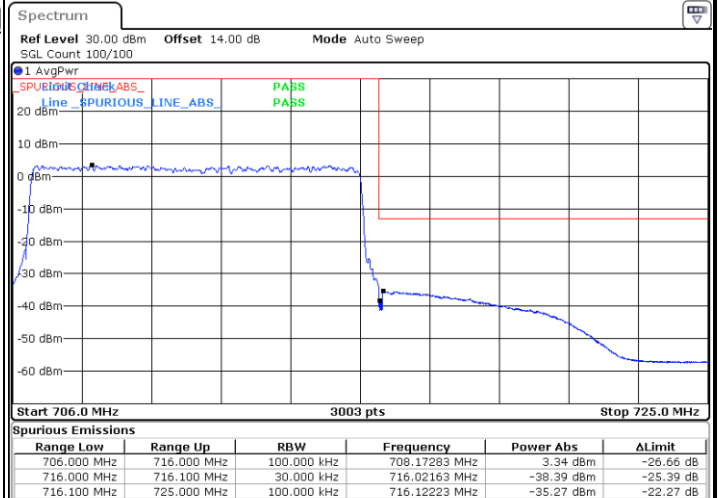
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



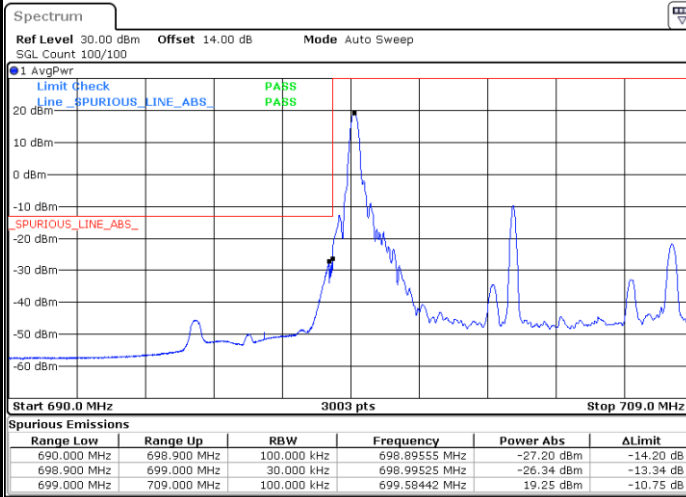
Highest Band Edge / Full RB



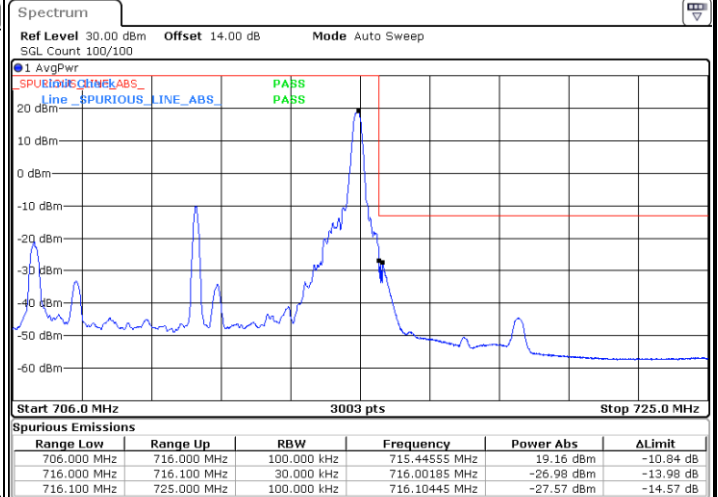


LTE Band 12 / 10MHz / 64QAM

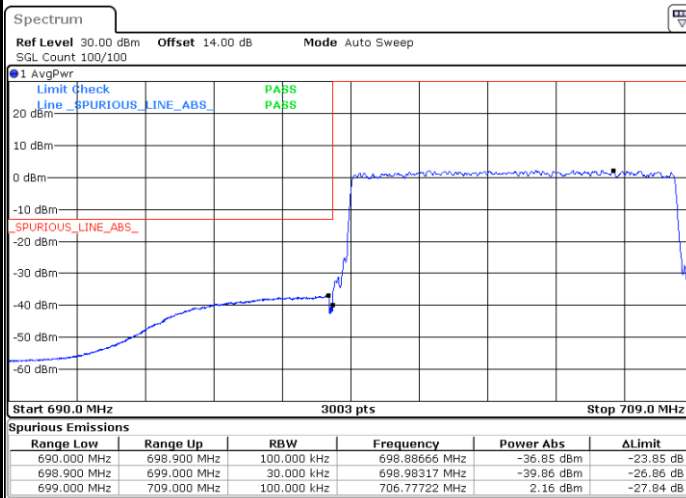
Lowest Band Edge / 1 RB



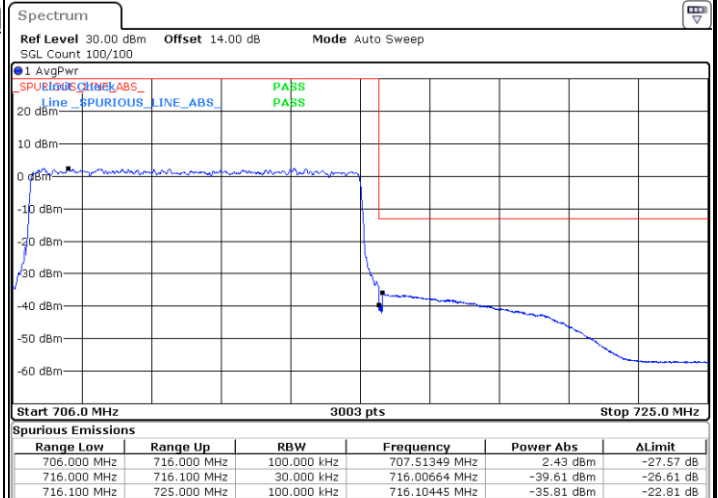
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

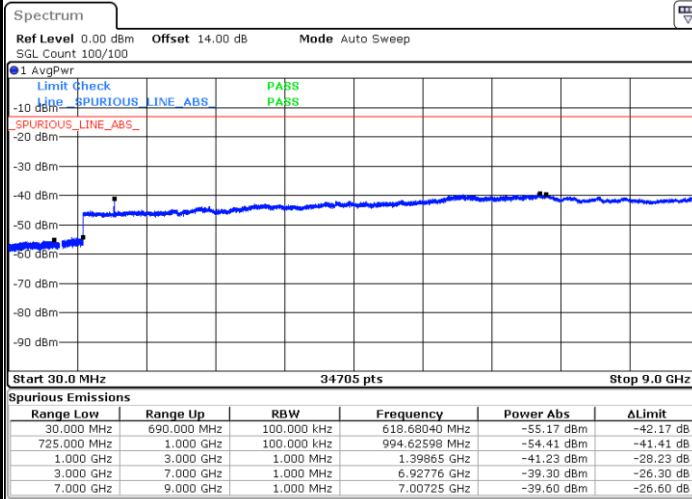




Conducted Spurious Emission

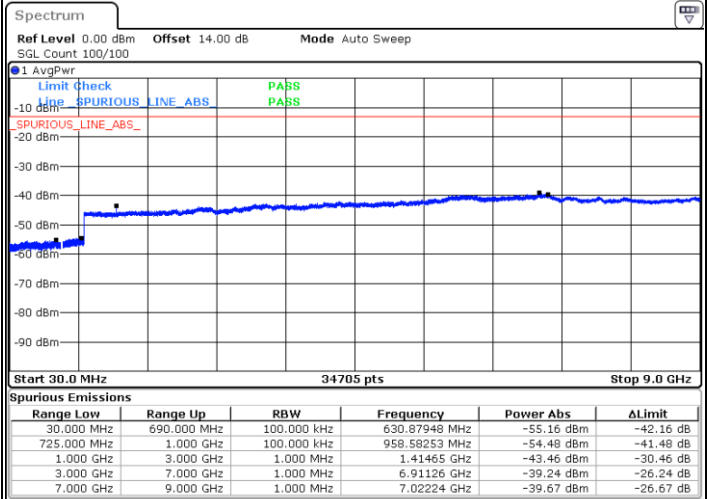
LTE Band 12 / 1.4MHz

Lowest Channel / QPSK



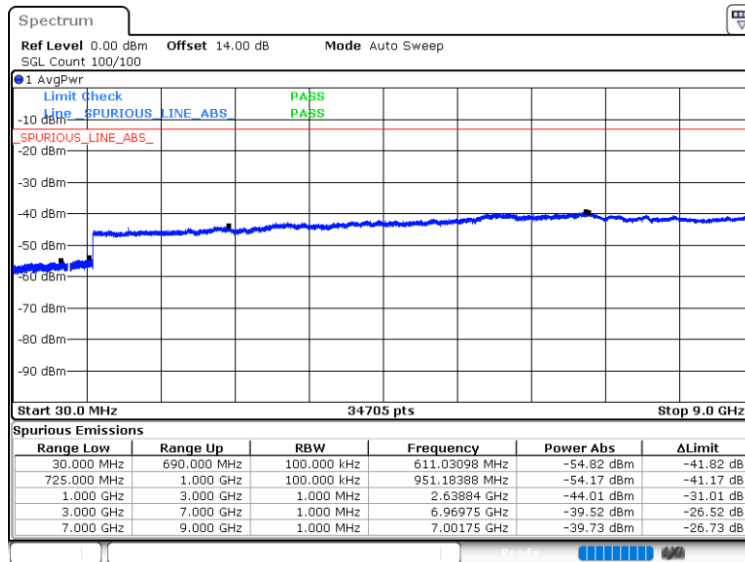
Date: 29.MAY.2025 11:57:39

Middle Channel / QPSK



Date: 29.MAY.2025 11:58:38

Highest Channel / QPSK

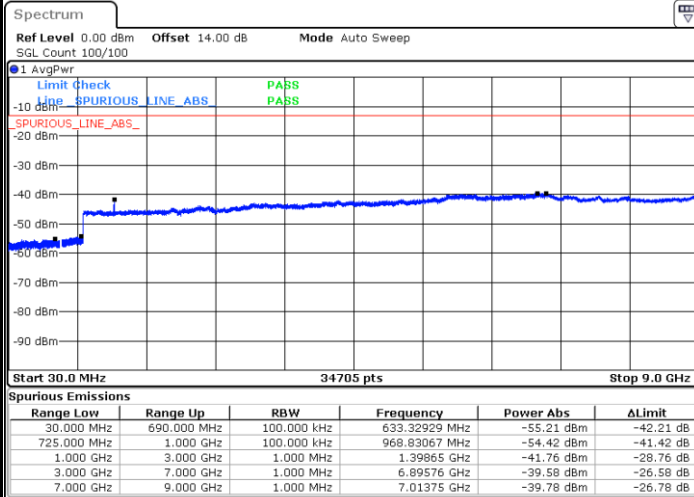


Date: 29.MAY.2025 13:08:20



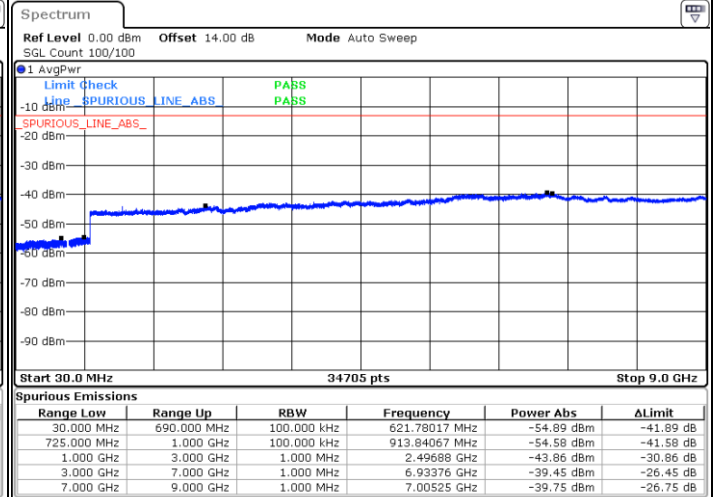
LTE Band 12 / 3MHz

Lowest Channel / QPSK



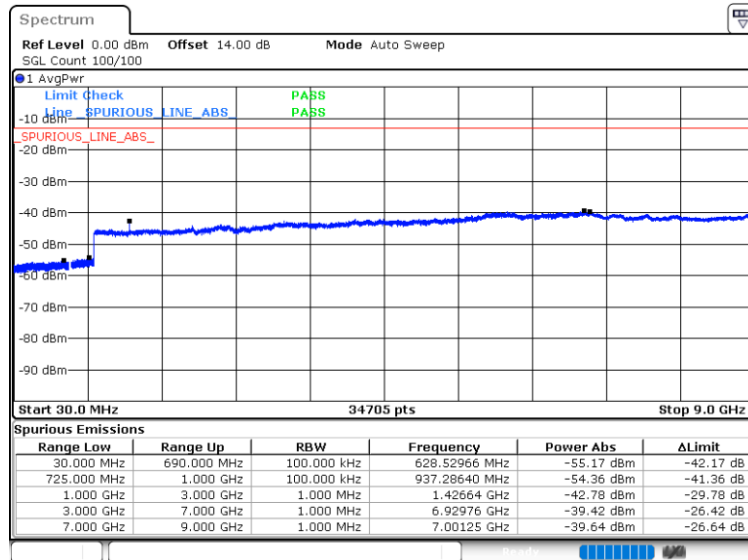
Date: 29.MAY.2025 13:15:12

Middle Channel / QPSK



Date: 29.MAY.2025 13:16:11

Highest Channel / QPSK

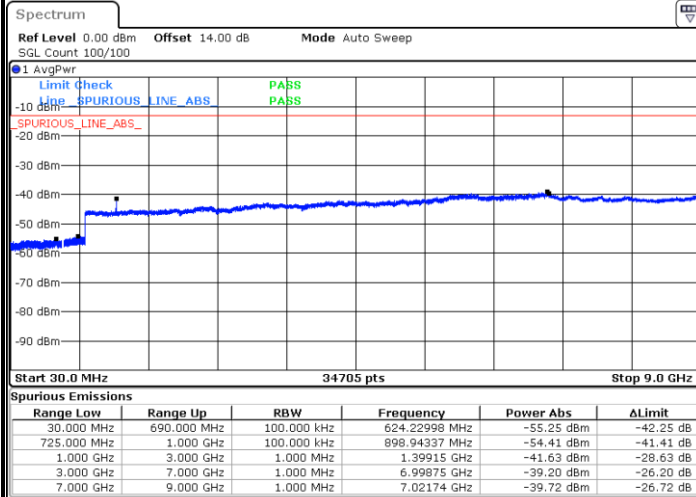


Date: 29.MAY.2025 13:23:06



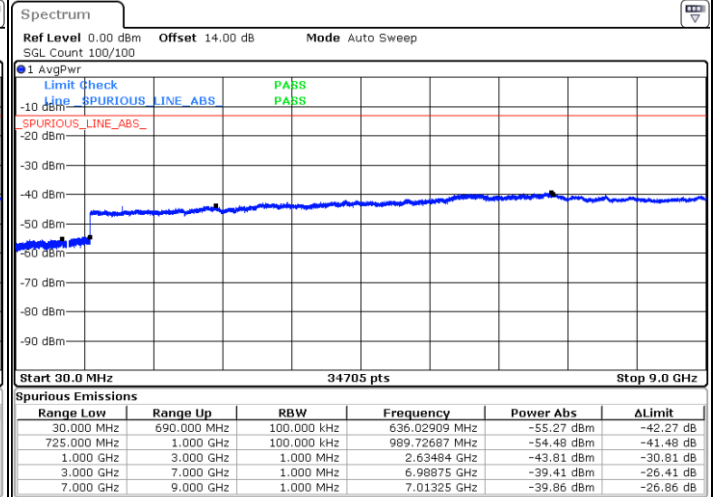
LTE Band 12 / 5MHz

Lowest Channel / QPSK



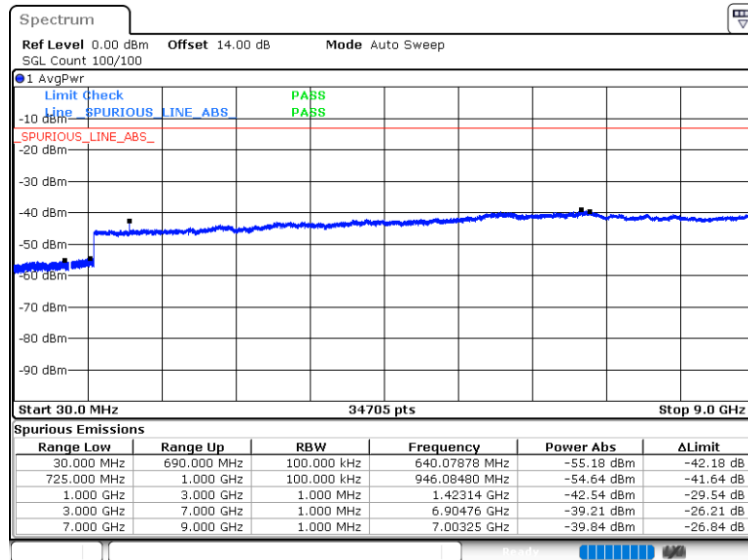
Date: 29.MAY.2025 13:30:30

Middle Channel / QPSK



Date: 29.MAY.2025 13:31:29

Highest Channel / QPSK

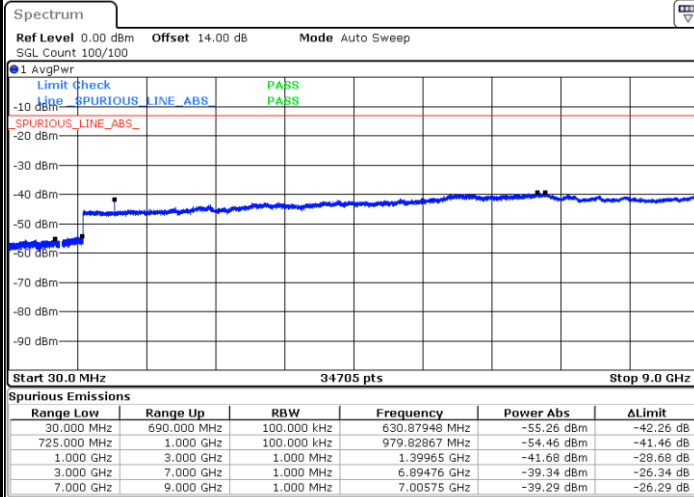


Date: 29.MAY.2025 13:38:23



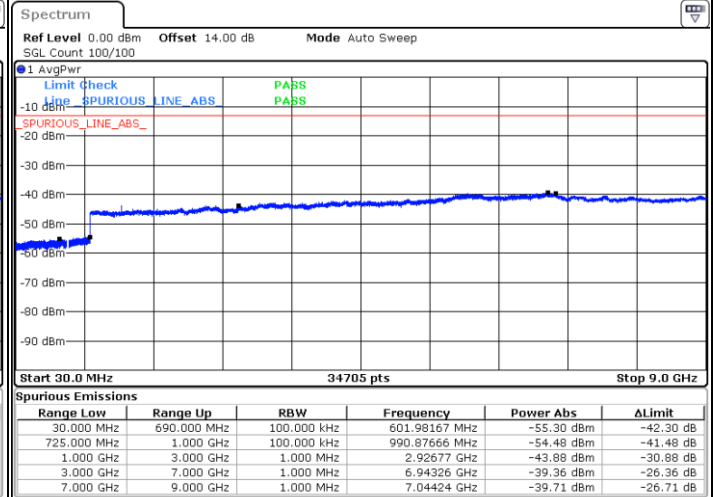
LTE Band 12 / 10MHz

Lowest Channel / QPSK



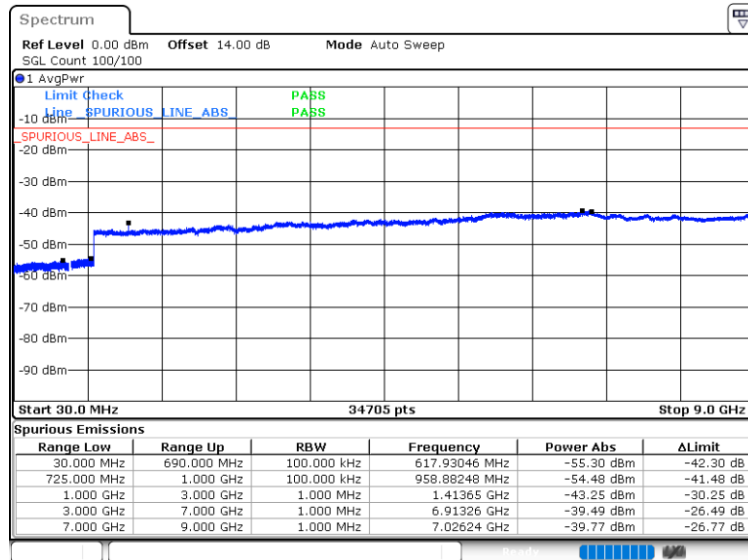
Date: 29.MAY.2025 13:44:45

Middle Channel / QPSK



Date: 29.MAY.2025 13:45:44

Highest Channel / QPSK



Date: 29.MAY.2025 13:52:40

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0011	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0010	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0007	
0	Normal Voltage	0.0016	
-10	Normal Voltage	0.0004	
-20	Normal Voltage	0.0006	
-30	Normal Voltage	0.0003	
20	Maximum Voltage	0.0003	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

Note:

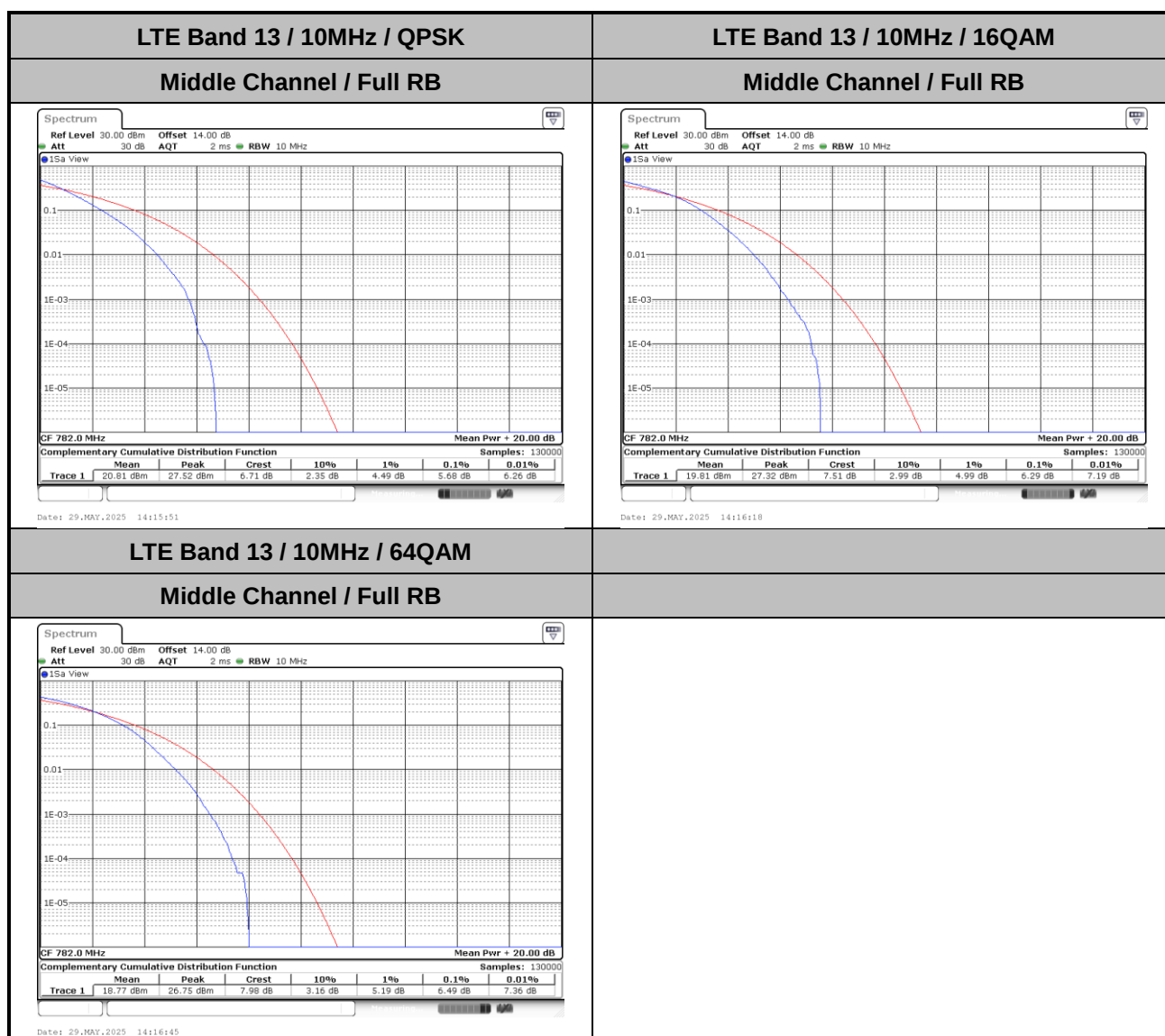
1. Normal Voltage = 3.92 V. ; Battery End Point (BEP) = 3.4 V. ; Maximum Voltage = 4.53 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 13

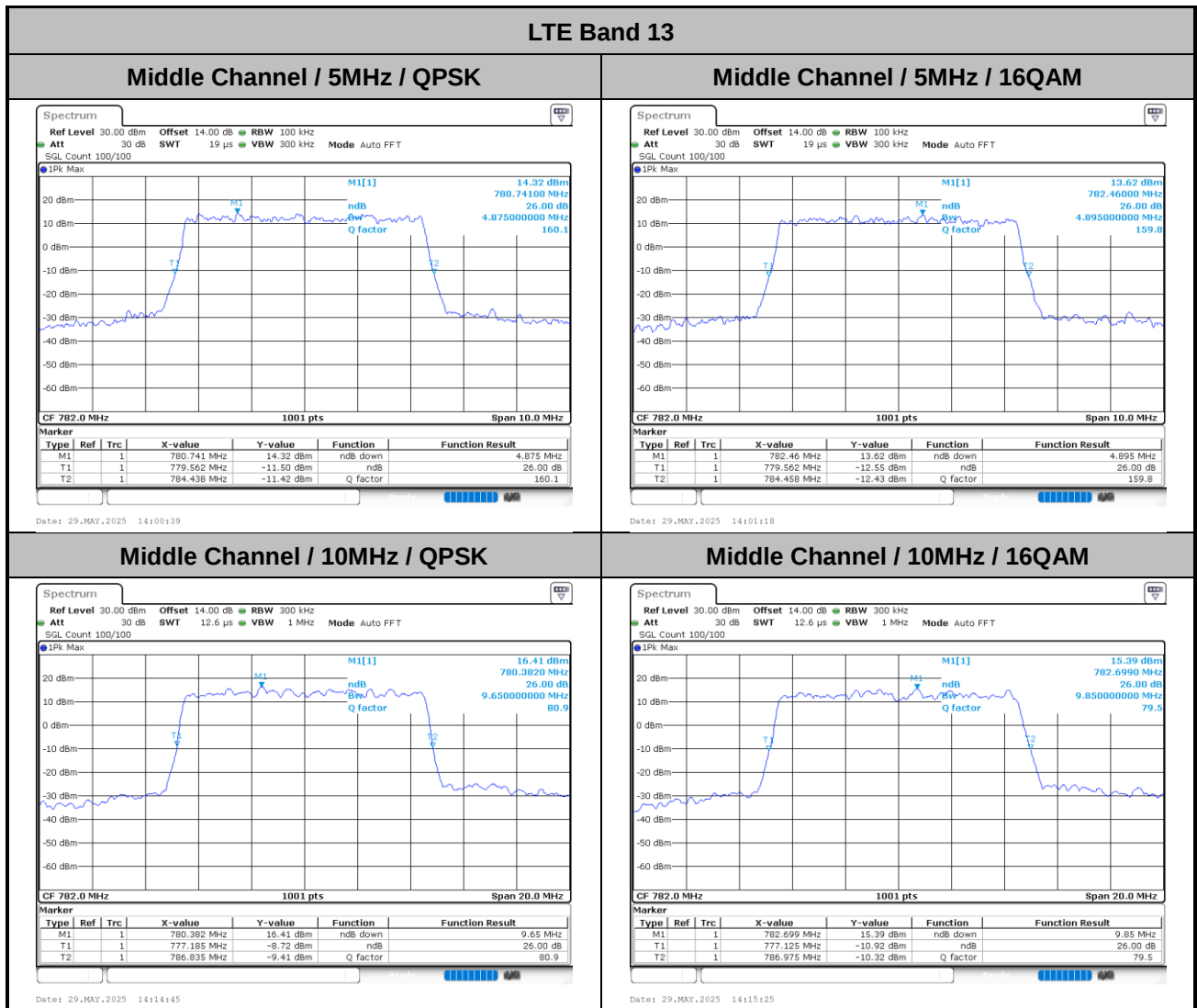
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	5.68	6.29	6.49	PASS



**26dB Bandwidth**

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.88	4.90	9.65	9.85	-	-	-	-



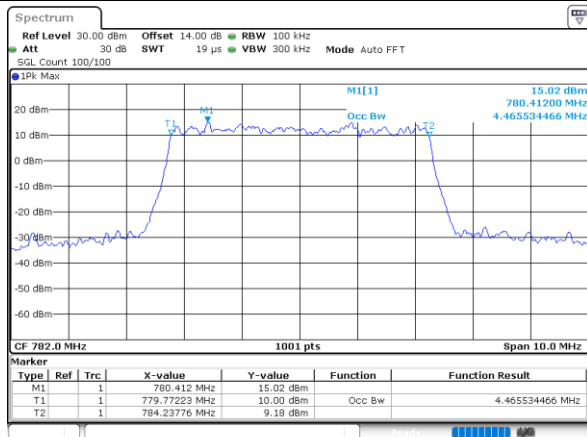


Occupied Bandwidth

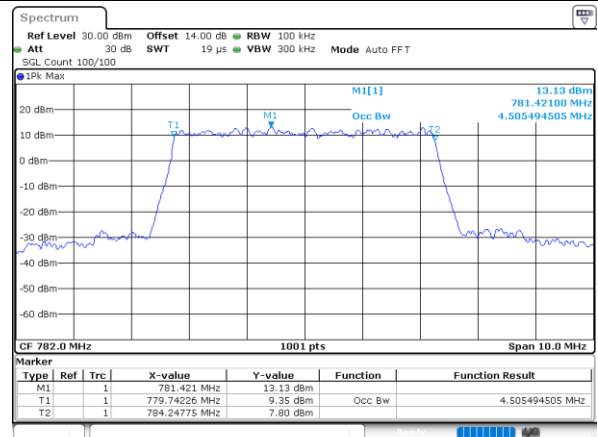
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	4.47	4.51	9.03	9.01	-	-	-	-

LTE Band 13

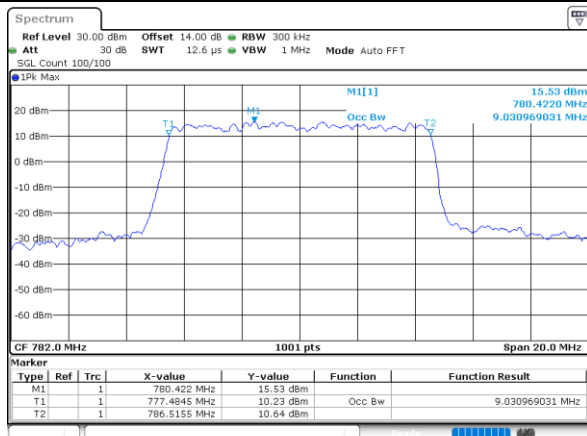
Middle Channel / 5MHz / QPSK



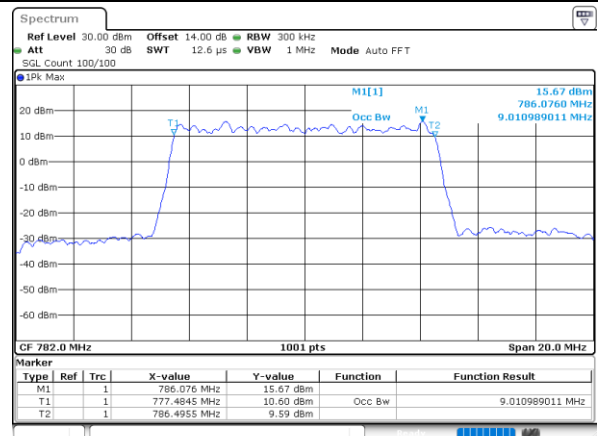
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM

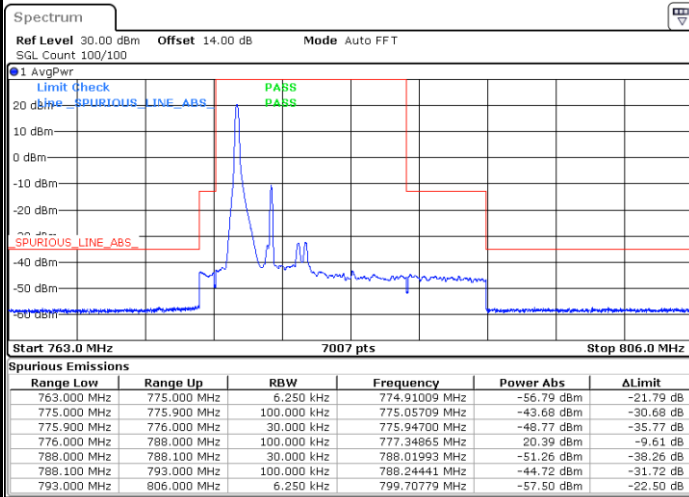




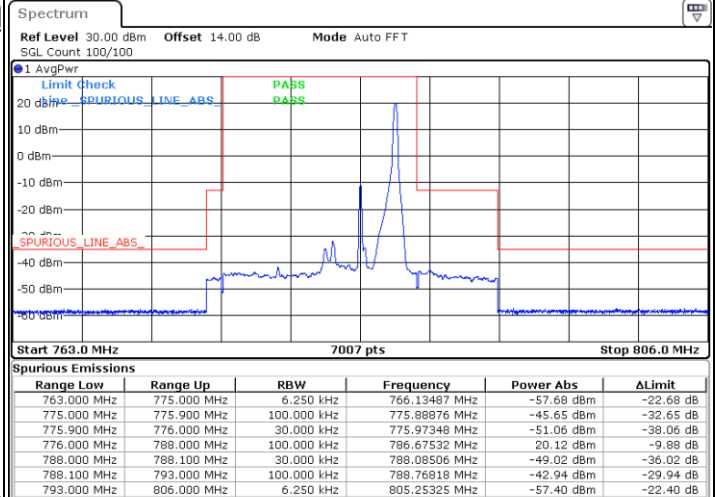
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

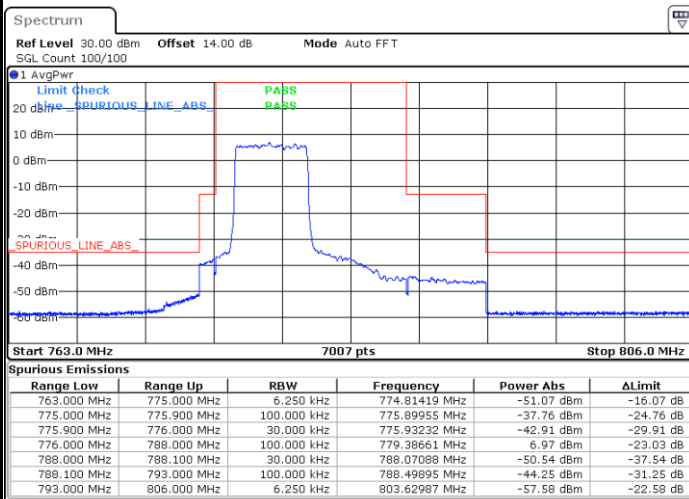
Lowest Band Edge / 1 RB



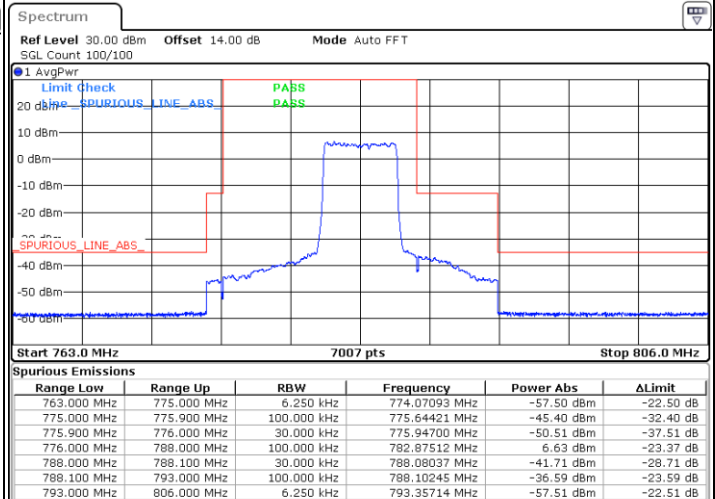
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



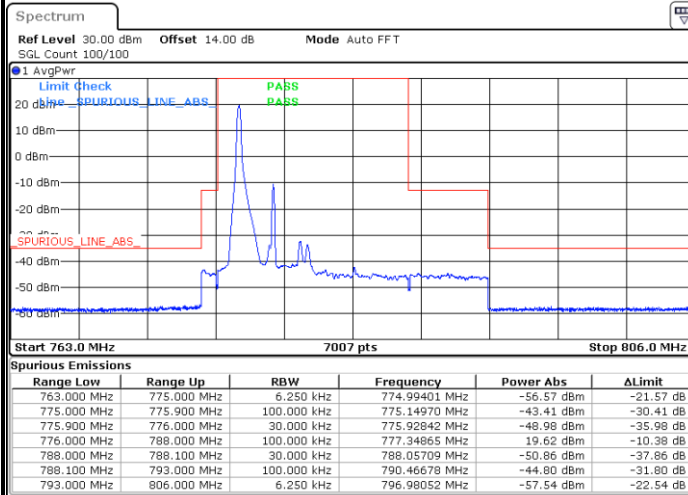
Highest Band Edge / Full RB





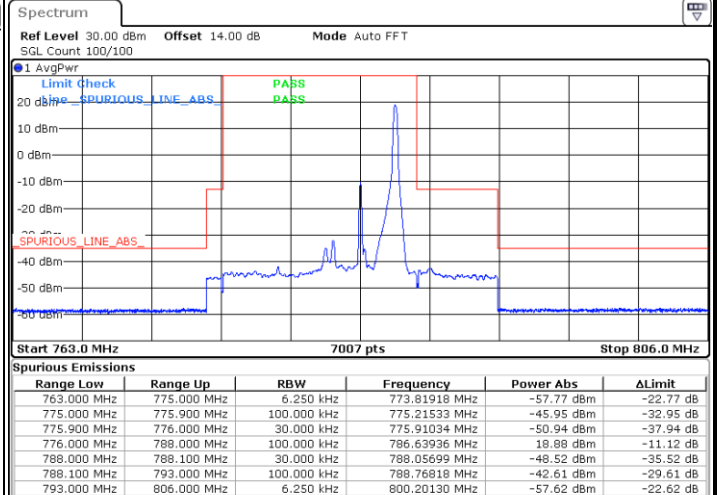
LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



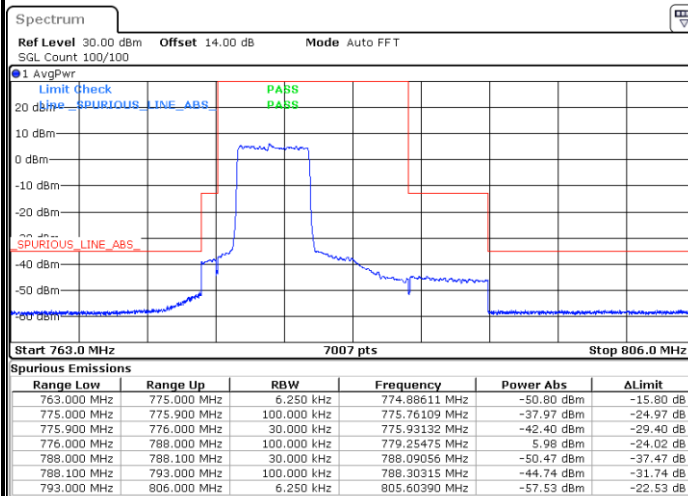
Date: 29.MAY.2025 13:55:17

Highest Band Edge / 1 RB



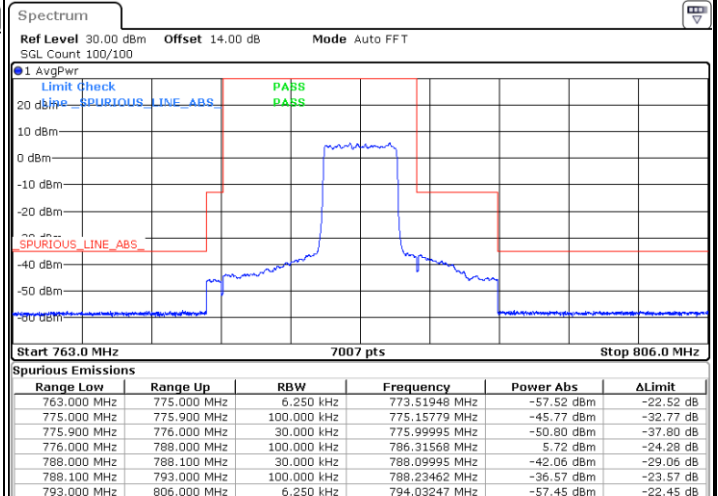
Date: 29.MAY.2025 14:02:39

Lowest Band Edge / Full RB



Date: 29.MAY.2025 13:57:19

Highest Band Edge / Full RB



Date: 29.MAY.2025 14:04:41