



FCC RF Test Report

APPLICANT : Barking Labs Corp.
EQUIPMENT : Fi Mini
BRAND NAME : Fi
MODEL NAME : M1
FCC ID : 2ARXN-M1
STANDARD : 47 CFR Part 27(F), 27(L)
CLASSIFICATION : Licensed Non-Broadcast Station Transmitter (TNB)
TEST DATE(S) : Jul. 30, 2025 ~ Aug. 14, 2025

We, Sporton International Inc. (Kunshan), 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. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG572104	Rev. 01	Initial issue of report	Aug. 15, 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 13)	ERP < 3 Watt	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		-
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(h)	Conducted Band Edge Measurement (Band 4) (Band 13)	< 43+10log ₁₀ (P[Watts])	PASS	-
3.8	§2.1051 §27.53(c)(2) §27.53(h)	Conducted Spurious Emission (Band 4) (Band 13)	< 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(h)	Radiated Spurious Emission (Band 4) (Band 13)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 35.03 dB at 3450.00 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

Barking Labs Corp.

419 Lafayette St., Floor 2, New York, NY 10003

1.2 Manufacturer

Barking Labs Corp.

419 Lafayette St., Floor 2, New York, NY 10003

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Fi Mini
Brand Name	Fi
Model Name	M1
FCC ID	2ARXN-M1
IMEI/SN Code	Conducted: 359404233895680 Radiation: B012578MBJ00L7
HW Version	1.0
SW Version	v4.18
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 13: 777 MHz ~ 787 MHz
Rx Frequency	LTE Band 4: 2110 MHz ~ 2155 MHz LTE Band 13: 746 MHz ~ 756 MHz
Bandwidth	LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 13: 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 4: 23.30 dBm LTE Band 13: 23.27 dBm
Antenna Gain	LTE Band 4: -3.56 dBi LTE Band 13: -6.90 dBi
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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



1.6 Maximum ERP/EIRP and Emission Designator

LTE Band 4		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
1.4	1710.7 ~ 1754.3	0.0918	1M10G7D	0.0929	937KW7D
3	1711.5 ~ 1753.5	0.0923	1M10G7D	0.0931	953KW7D
5	1712.5 ~ 1752.5	0.0912	1M12G7D	0.0942	1M05W7D
10	1715.0 ~ 1750.0	0.0912	1M12G7D	0.0920	939KW7D
15	1717.5 ~ 1747.5	0.0916	1M14G7D	0.0916	989KW7D
20	1720.0 ~ 1745.0	0.0906	1M12G7D	0.0929	1M04W7D
LTE Band 13		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	779.5 ~ 784.5	0.0263	1M11G7D	0.0264	939KW7D
10	782.0	0.0255	1M12G7D	0.0261	979KW7D

Note: 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. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-KS 03CH04-KS	CN1257	314309



1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	SPORTON	FCC LTE_Ver2.0 Auto_china_210503	2.0
2.	03CH04-KS	AUDIX	E3	210616

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(L)
- ♦ 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

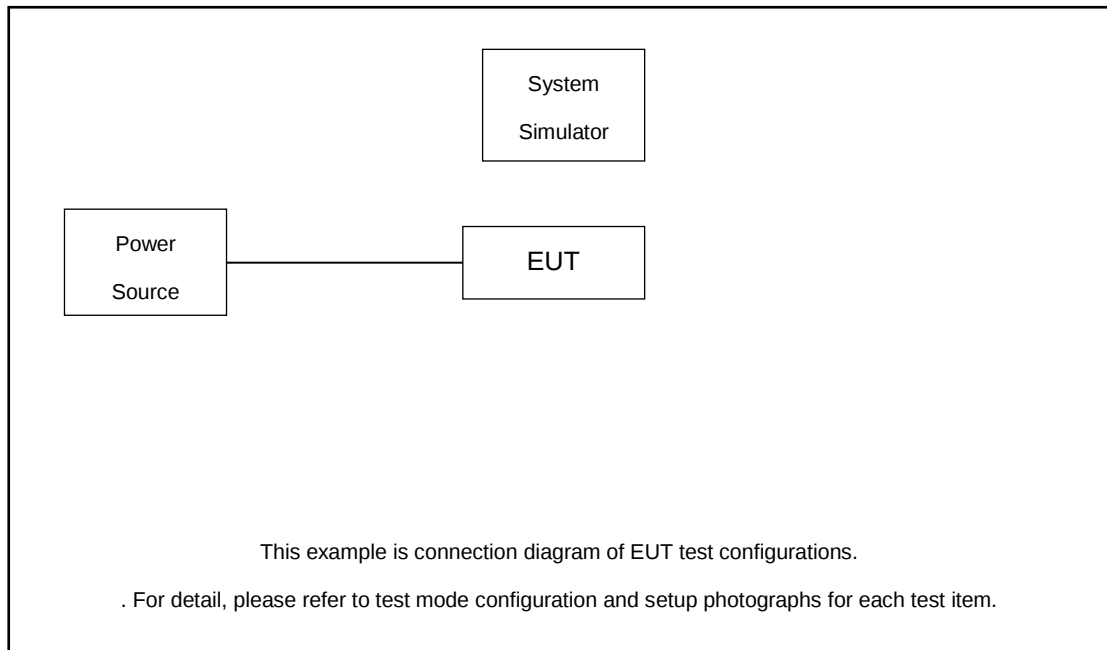
2.1 Test Mode

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	16 QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power	4	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	-	-	v	v	v	v	v	v
Peak-to-Average Ratio	4						v	v	v	-	-			v		v	
	13	-	-		v	-	-	v	v	-	-			v		v	
26dB and 99% Bandwidth	4	v	v	v	v	v	v	v	v	-	-			v		v	
	13	-	-	v	v	-	-	v	v	-	-			v		v	
Conducted Band Edge	4	v	v	v	v	v	v	v	v	-	-	v		v	v		v
	13	-	-	v	v	-	-	v	v	-	-	v		v	v		v
Conducted Spurious Emission	4	v	v	v	v	v	v	v	v	-	-	v			v	v	v
	13	-	-	v	v	-	-	v	v	-	-	v			v	v	v
Frequency Stability	4				v			v		-	-			v		v	
	13	-	-		v	-	-	v		-	-			v		v	
E.R.P / E.I.R.P	4	v	v	v	v	v	v	v	v	-	-	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	-	-	v	v	v	v	v	v
Radiated Spurious Emission	4	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.																

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 5.7 dB and 10dB attenuator.

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 5.7 + 10 = 15.7 \text{ (dB)}
 \end{aligned}$$

2.5 Frequency List of Low/Middle/High Channels

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3

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

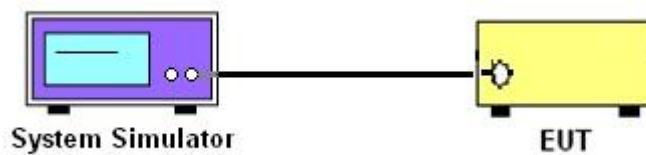
3 Conducted Test Items

3.1 Measuring Instruments

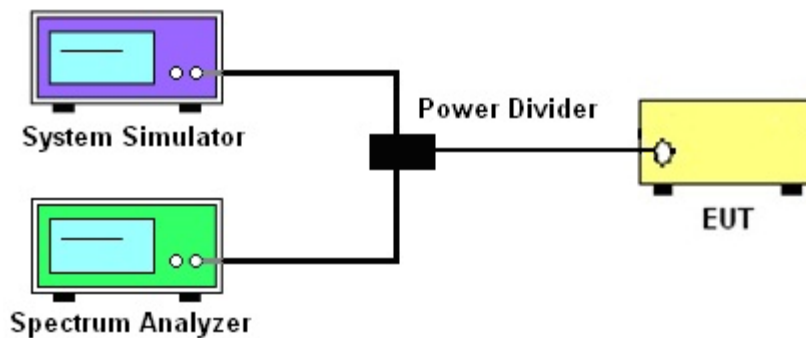
See list of measuring instruments of this test report.

3.2 Test Setup

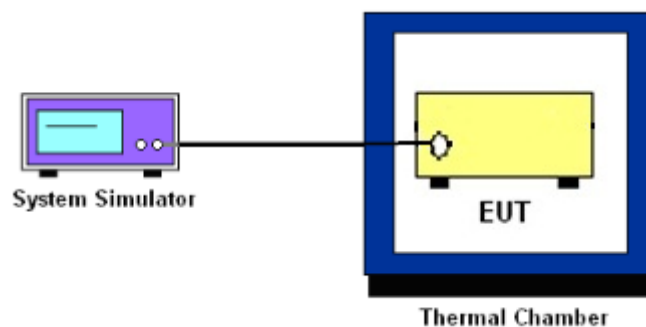
3.2.1 Conducted Output Power



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/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP 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 Band 13

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4.

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 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter 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 $P(\text{Watts})$
 $= P(\text{W}) - [43 + 10\log(P)] (\text{dB})$
 $= [30 + 10\log(P)] (\text{dBm}) - [43 + 10\log(P)] (\text{dB}) = -13\text{dBm}.$

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.

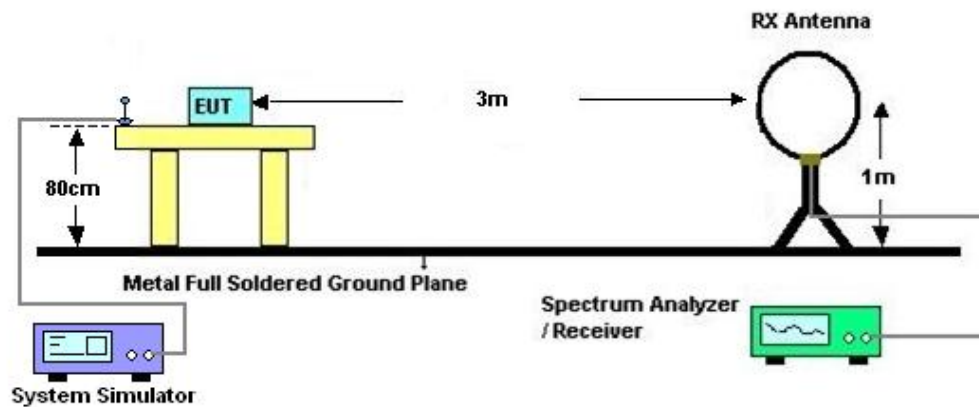
4 Radiated Test Items

4.1 Measuring Instruments

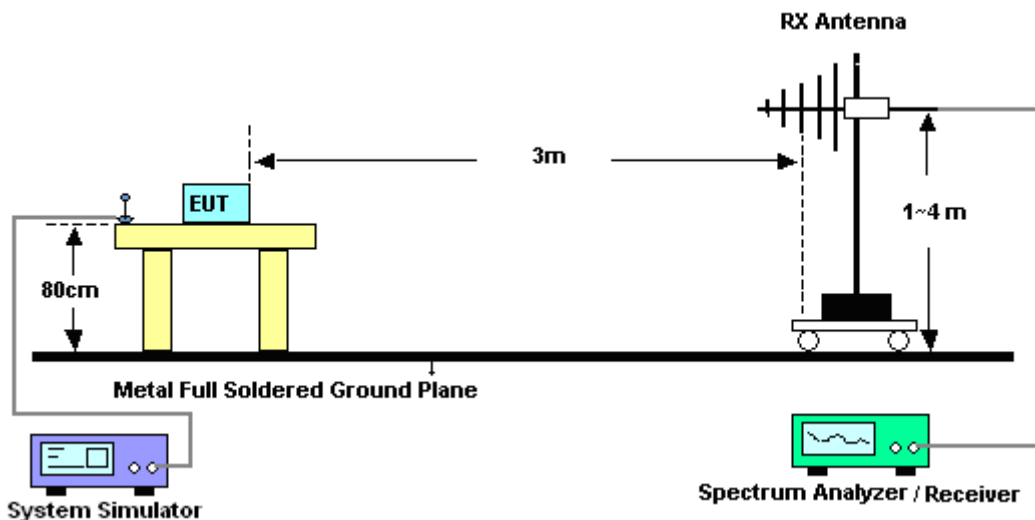
See list of measuring instruments of this test report.

4.2 Test Setup

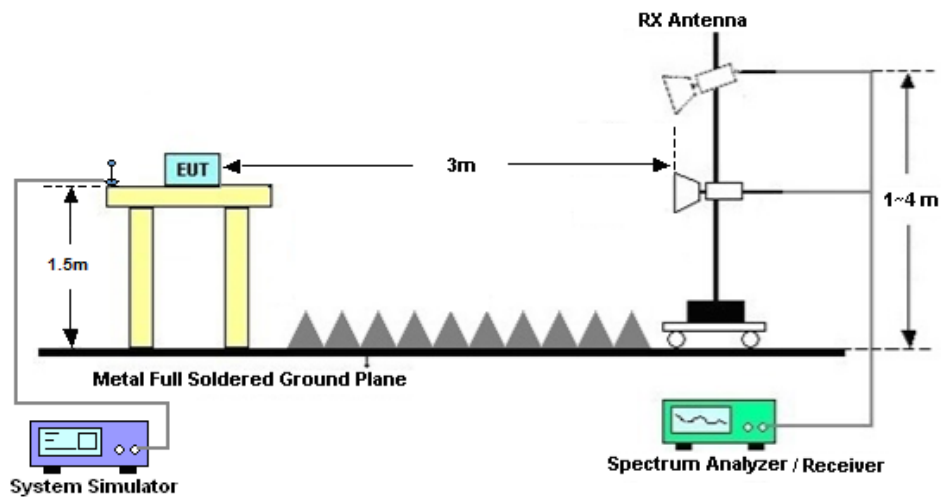
4.2.1 For radiated test below 30MHz



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	101040	10Hz~40GHz	Oct. 10, 2024	Jul. 30, 2025~ Aug. 14, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Jul. 30, 2025~ Aug. 14, 2025	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 02, 2025	Jul. 30, 2025~ Aug. 14, 2025	Jul. 01, 2026	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Dec. 03, 2024	Aug. 07, 2025	Dec. 02, 2025	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Aug. 07, 2025	Sep. 07, 2025	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Nov. 23, 2024	Aug. 07, 2025	Nov. 22, 2025	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00227860	1GHz~18GHz	Aug. 16, 2024	Aug. 07, 2025	Aug. 15, 2025	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 22, 2024	Aug. 07, 2025	Oct. 21, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380826	9KHz-1GHz	Jul. 02, 2025	Aug. 07, 2025	Jul. 01, 2026	Radiation (03CH04-KS)
Amplifier	EM	EM18G40G A	060852	18~40GHz	Jan. 03, 2025	Aug. 07, 2025	Jan. 02, 2026	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060840	1Ghz-18Ghz	Oct. 09, 2024	Aug. 07, 2025	Oct. 08, 2025	Radiation (03CH04-KS)
Amplifier	EM	EM01G18G A	060892	1Ghz-18Ghz	Oct. 09, 2024	Aug. 07, 2025	Oct. 08, 2025	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Aug. 07, 2025	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Aug. 07, 2025	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Aug. 07, 2025	NCR	Radiation (03CH04-KS)

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	±2.00 dB
Occupied Channel Bandwidth	±0.384%
Conducted Power	±0.90 dB
Peak to Average Ratio	±0.90 dB
Frequency Stability	±0.38 ppm

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.83 dB
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2.83

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.83 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.82 dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and EIRP/ERP

LTE Band 4

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20050	20175	20300	20050	20175	20300
Frequency (MHz)				1720	1732.5	1745	1720	1732.5	1745
20	QPSK	1	0	23.06	23.05	23.07	0.0891	0.0889	0.0893
20	QPSK	1	5	22.94	23.01	23.13	0.0867	0.0881	0.0906
20	QPSK	3	0	23.00	23.03	23.09	0.0879	0.0885	0.0897
20	QPSK	3	3	23.13	23.03	23.10	0.0906	0.0885	0.0899
20	QPSK	6	0	22.99	23.05	22.99	0.0877	0.0889	0.0877
20	16QAM	1	0	23.24	23.13	23.10	0.0929	0.0906	0.0899
20	16QAM	1	5	23.04	23.10	23.07	0.0887	0.0899	0.0893
20	16QAM	3	0	22.92	23.02	23.00	0.0863	0.0883	0.0879
20	16QAM	3	3	23.14	23.14	23.16	0.0908	0.0908	0.0912
20	16QAM	5	0	23.04	23.05	23.02	0.0887	0.0889	0.0883
Channel				20025	20175	20325	20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5	1717.5	1732.5	1747.5
15	QPSK	1	0	23.05	23.07	23.06	0.0889	0.0893	0.0891
15	QPSK	1	5	23.03	22.93	23.02	0.0885	0.0865	0.0883
15	QPSK	3	0	23.04	23.03	22.99	0.0887	0.0885	0.0877
15	QPSK	3	3	23.08	22.95	23.18	0.0895	0.0869	0.0916
15	QPSK	6	0	23.04	23.14	23.00	0.0887	0.0908	0.0879
15	16QAM	1	0	23.17	23.15	23.18	0.0914	0.0910	0.0916
15	16QAM	1	5	23.13	23.02	22.97	0.0906	0.0883	0.0873
15	16QAM	3	0	22.93	23.13	22.91	0.0865	0.0906	0.0861
15	16QAM	3	3	23.09	23.06	23.09	0.0897	0.0891	0.0897
15	16QAM	5	0	22.93	23.07	23.12	0.0865	0.0893	0.0904
Channel				20000	20175	20350	20000	20175	20350
Frequency (MHz)				1715	1732.5	1750	1715	1732.5	1750
10	QPSK	1	0	22.97	23.06	23.13	0.0873	0.0891	0.0906
10	QPSK	1	5	22.92	23.01	23.07	0.0863	0.0881	0.0893
10	QPSK	3	0	23.00	22.93	23.14	0.0879	0.0865	0.0908
10	QPSK	3	3	23.04	22.99	23.11	0.0887	0.0877	0.0902
10	QPSK	6	0	22.97	23.16	23.06	0.0873	0.0912	0.0891
10	16QAM	1	0	23.19	23.20	23.19	0.0918	0.0920	0.0918
10	16QAM	1	5	23.00	23.04	23.08	0.0879	0.0887	0.0895



10	16QAM	3	0	22.81	23.02	22.88	0.0841	0.0883	0.0855
10	16QAM	3	3	23.19	23.06	23.12	0.0918	0.0891	0.0904
10	16QAM	5	0	23.08	22.98	22.94	0.0895	0.0875	0.0867
Channel				19975	20175	20375	19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5	1712.5	1732.5	1752.5
5	QPSK	1	0	23.09	22.99	23.16	0.0897	0.0877	0.0912
5	QPSK	1	5	22.96	22.95	23.02	0.0871	0.0869	0.0883
5	QPSK	3	0	22.96	23.11	23.13	0.0871	0.0902	0.0906
5	QPSK	3	3	23.03	22.95	23.16	0.0885	0.0869	0.0912
5	QPSK	6	0	23.11	22.95	22.96	0.0902	0.0869	0.0871
5	16QAM	1	0	23.30	23.24	23.14	0.0942	0.0929	0.0908
5	16QAM	1	5	23.12	23.02	23.03	0.0904	0.0883	0.0885
5	16QAM	3	0	22.84	23.05	22.90	0.0847	0.0889	0.0859
5	16QAM	3	3	23.22	23.17	23.09	0.0925	0.0914	0.0897
5	16QAM	5	0	22.96	23.02	22.91	0.0871	0.0883	0.0861
Channel				19965	20175	20385	19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5	1711.5	1732.5	1753.5
3	QPSK	1	0	23.11	23.11	23.18	0.0902	0.0902	0.0916
3	QPSK	1	5	22.94	22.93	23.21	0.0867	0.0865	0.0923
3	QPSK	3	0	23.04	22.92	23.00	0.0887	0.0863	0.0879
3	QPSK	3	3	23.16	23.00	23.15	0.0912	0.0879	0.0910
3	QPSK	6	0	23.08	23.00	22.95	0.0895	0.0879	0.0869
3	16QAM	1	0	23.19	23.16	23.06	0.0918	0.0912	0.0891
3	16QAM	1	5	23.12	23.15	23.06	0.0904	0.0910	0.0891
3	16QAM	3	0	22.91	22.99	23.10	0.0861	0.0877	0.0899
3	16QAM	3	3	23.25	23.04	23.19	0.0931	0.0887	0.0918
3	16QAM	5	0	23.11	22.97	22.97	0.0902	0.0873	0.0873
Channel				19957	20175	20393	19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3	1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.06	23.10	23.15	0.0891	0.0899	0.0910
1.4	QPSK	1	5	23.01	23.02	23.13	0.0881	0.0883	0.0906
1.4	QPSK	3	0	23.08	22.96	23.19	0.0895	0.0871	0.0918
1.4	QPSK	3	3	23.02	23.03	23.13	0.0883	0.0885	0.0906
1.4	QPSK	6	0	23.08	23.04	22.87	0.0895	0.0887	0.0853
1.4	16QAM	1	0	23.22	23.16	23.01	0.0925	0.0912	0.0881
1.4	16QAM	1	5	23.02	23.19	23.03	0.0883	0.0918	0.0885
1.4	16QAM	3	0	22.96	23.07	22.95	0.0871	0.0893	0.0869
1.4	16QAM	3	3	23.24	23.12	23.14	0.0929	0.0904	0.0908
1.4	16QAM	5	0	22.99	23.10	22.90	0.0877	0.0899	0.0859



LTE Band 13

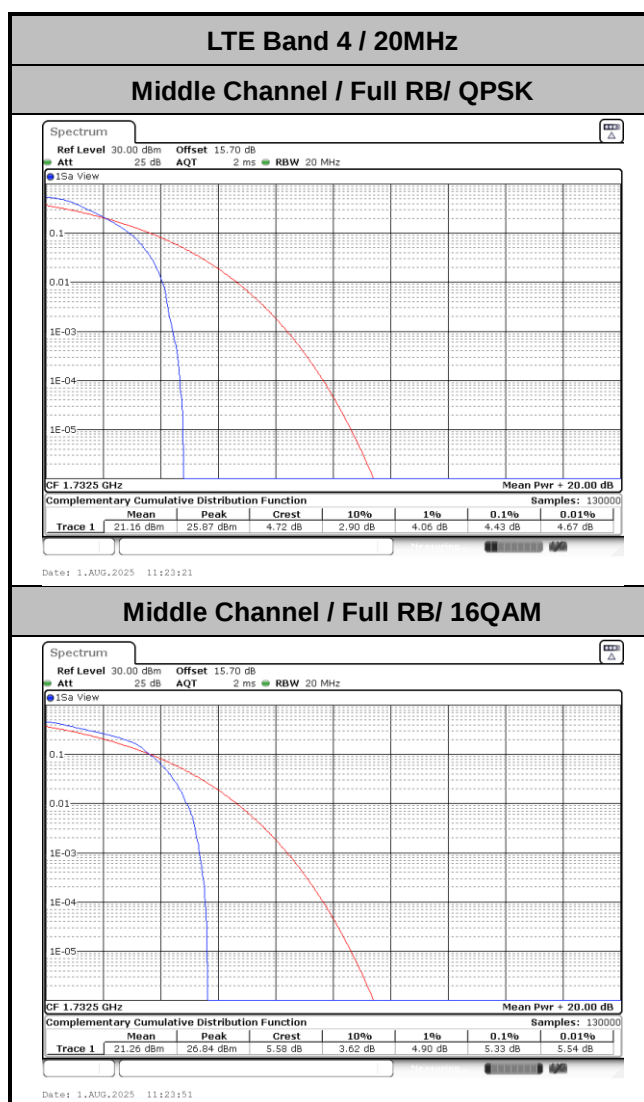
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel					23230			23230	
Frequency (MHz)					782			782	
10	QPSK	1	0		23.09			0.0254	
10	QPSK	1	5		23.05			0.0251	
10	QPSK	3	0		23.12			0.0255	
10	QPSK	3	3		22.92			0.0244	
10	QPSK	6	0		22.98			0.0247	
10	16QAM	1	0		23.04			0.0251	
10	16QAM	1	5		23.21			0.0261	
10	16QAM	3	0		23.03			0.0250	
10	16QAM	3	3		23.05			0.0251	
10	16QAM	5	0		22.94			0.0245	
Channel				23205	23230	23255	23205	23230	23255
Frequency (MHz)				779.5	782	784.5	779.5	782	784.5
5	QPSK	1	0	23.13	23.02	23.01	0.0256	0.0249	0.0249
5	QPSK	1	5	22.89	23.06	23.25	0.0242	0.0252	0.0263
5	QPSK	3	0	23.03	23.09	23.11	0.0250	0.0254	0.0255
5	QPSK	3	3	23.08	22.93	23.01	0.0253	0.0244	0.0249
5	QPSK	6	0	23.00	23.04	22.98	0.0248	0.0251	0.0247
5	16QAM	1	0	23.27	23.19	23.22	0.0264	0.0259	0.0261
5	16QAM	1	5	22.98	23.06	22.99	0.0247	0.0252	0.0248
5	16QAM	3	0	22.80	23.07	23.03	0.0237	0.0252	0.0250
5	16QAM	3	3	23.07	23.24	23.25	0.0252	0.0262	0.0263
5	16QAM	5	0	23.02	23.16	23.05	0.0249	0.0258	0.0251



LTE Band 4

Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	4.43	5.33	PASS



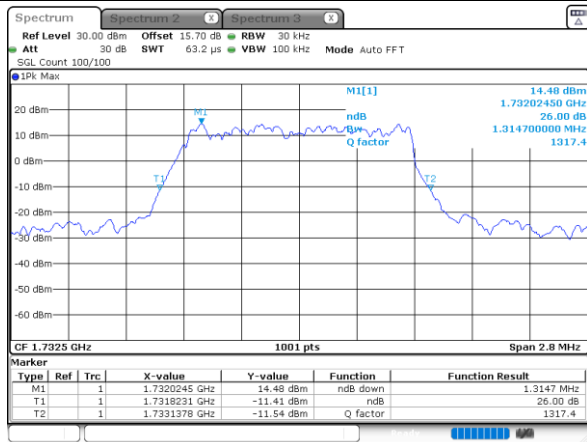
**26dB Bandwidth**

Mode	LTE Band 4 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.31	1.18
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.31	1.32
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.33	1.27
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.36	1.34
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	1.38	1.32
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	1.40	1.32



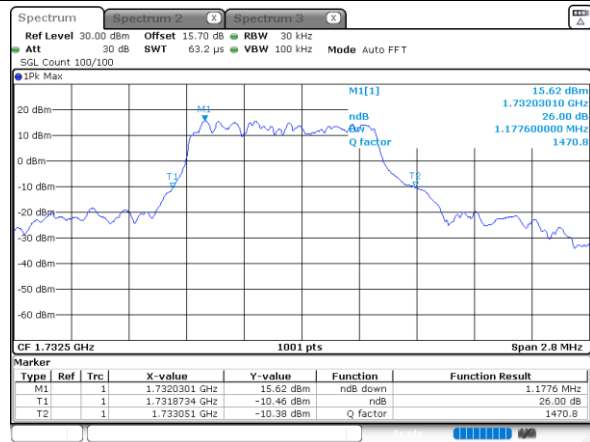
LTE Band 4

Middle Channel / 1.4MHz / QPSK



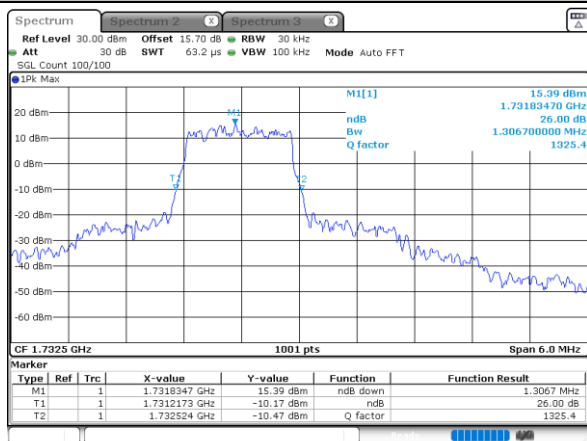
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Middle Channel / 1.4MHz / 16QAM



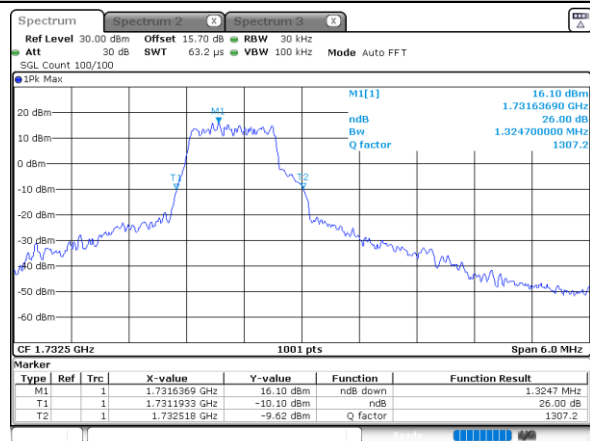
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Middle Channel / 3MHz / QPSK



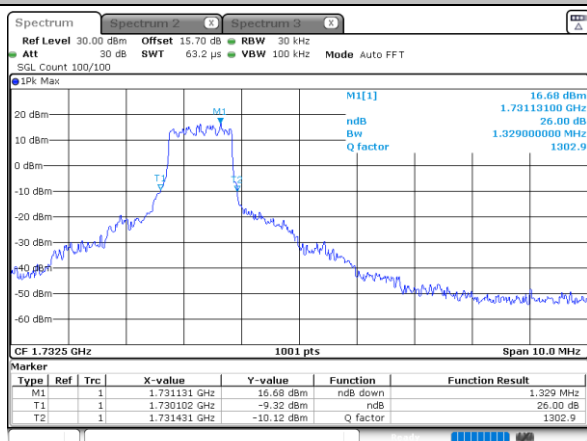
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Middle Channel / 3MHz / 16QAM



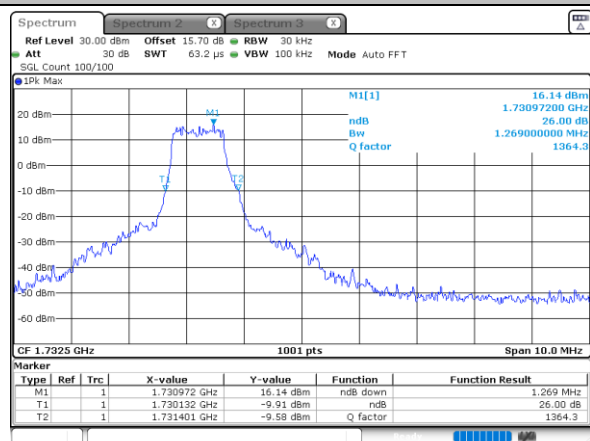
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Middle Channel / 5MHz / QPSK



Date: 14.AUG.2025 15:47:22

Middle Channel / 5MHz / 16QAM

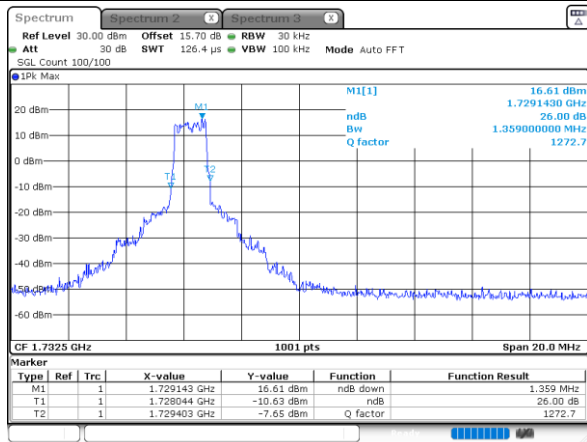


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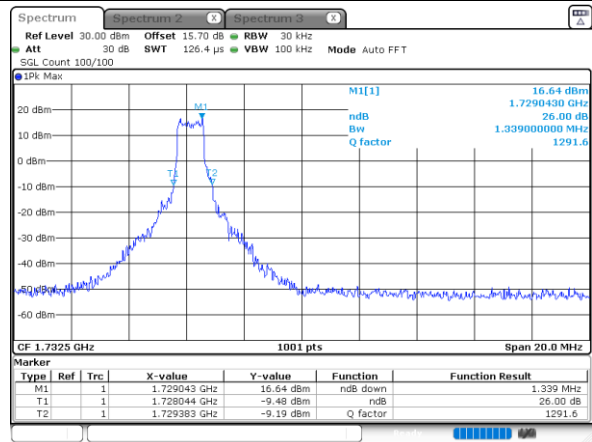
LTE Band 4

Middle Channel / 10MHz / QPSK



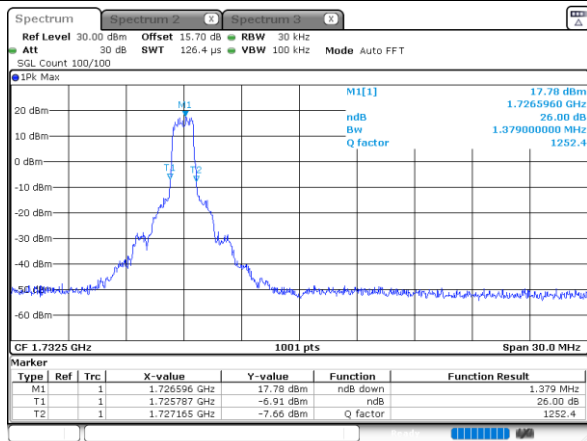
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Middle Channel / 10MHz / 16QAM



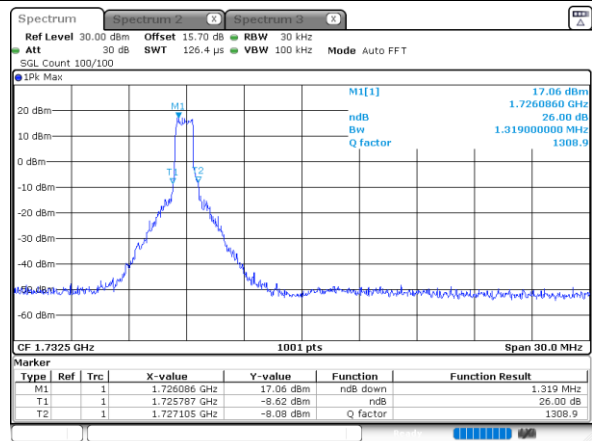
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Middle Channel / 15MHz / QPSK



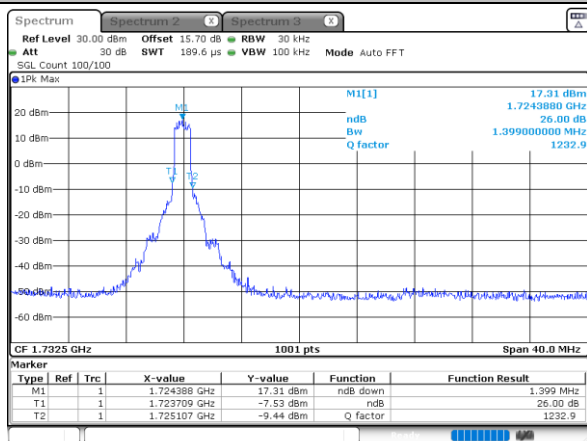
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Middle Channel / 15MHz / 16QAM



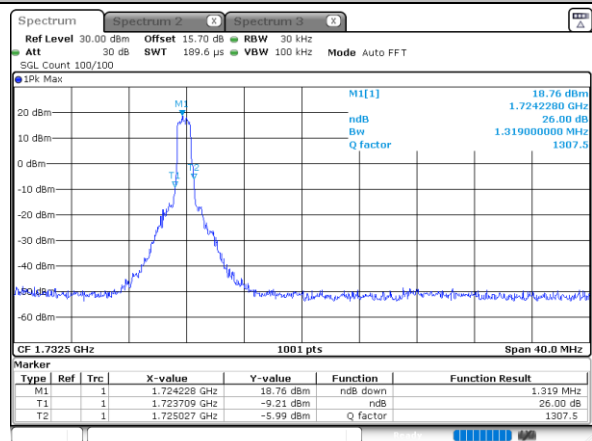
Date: 14.AUG.2025 15:45:20

Middle Channel / 20MHz / QPSK



Date: 14.AUG.2025 15:39:51

Middle Channel / 20MHz / 16QAM



Date: 14.AUG.2025 15:41:49

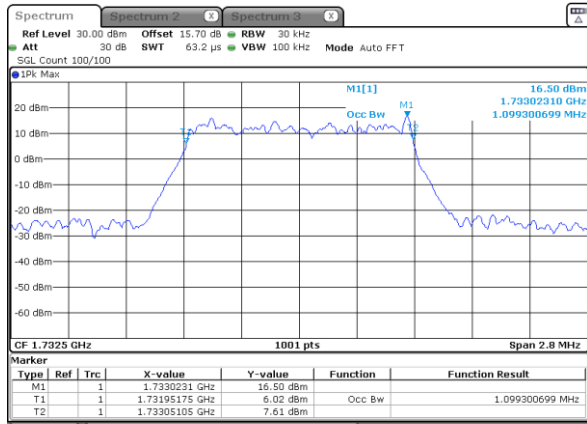
**Occupied Bandwidth**

Mode	LTE Band 4 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.099	0.937
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.103	0.953
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.119	1.049
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.119	0.939
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	1.139	0.989
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	1.119	1.039

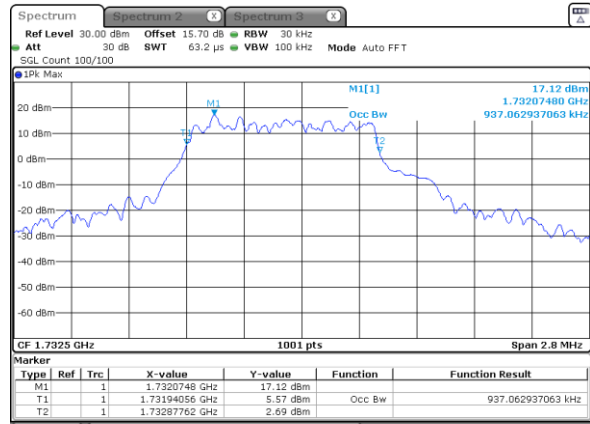


LTE Band 4

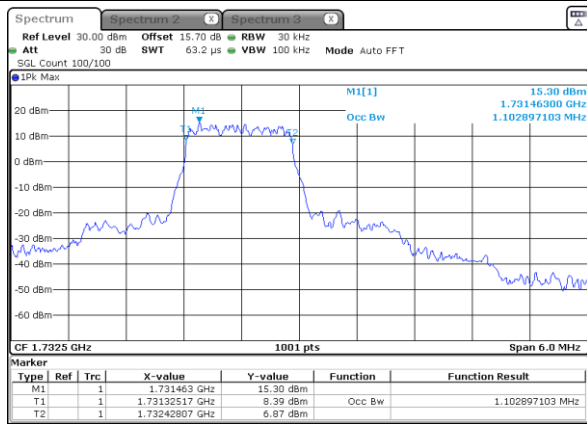
Middle Channel / 1.4MHz / QPSK



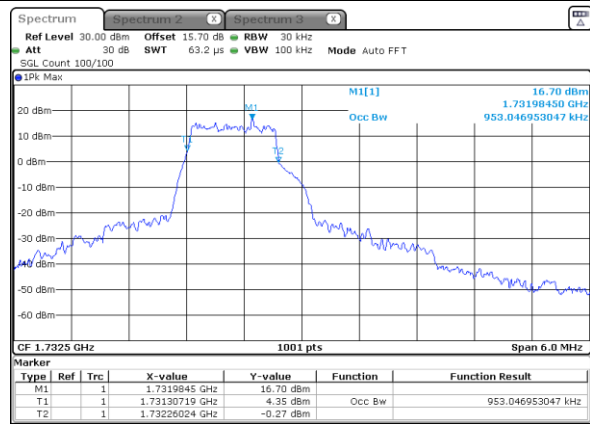
Middle Channel / 1.4MHz / 16QAM



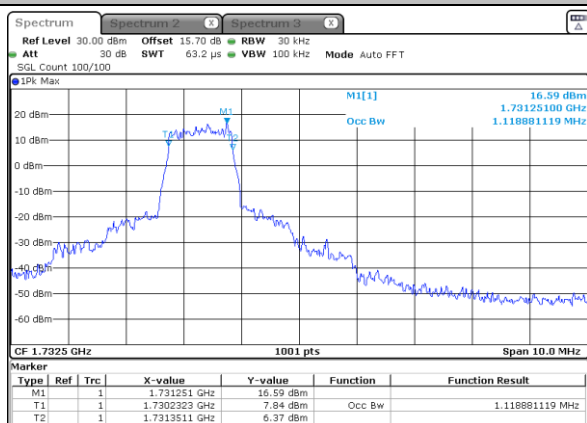
Middle Channel / 3MHz / QPSK



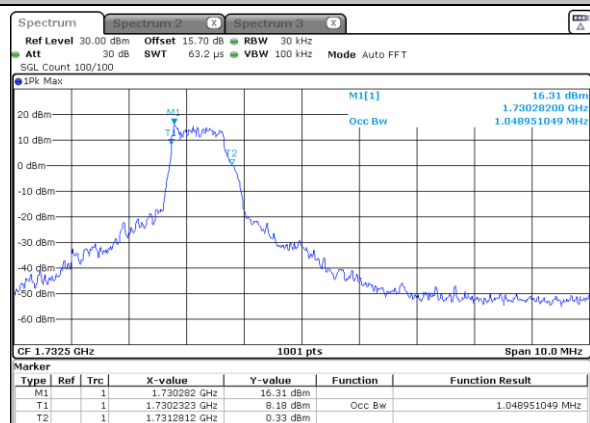
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK



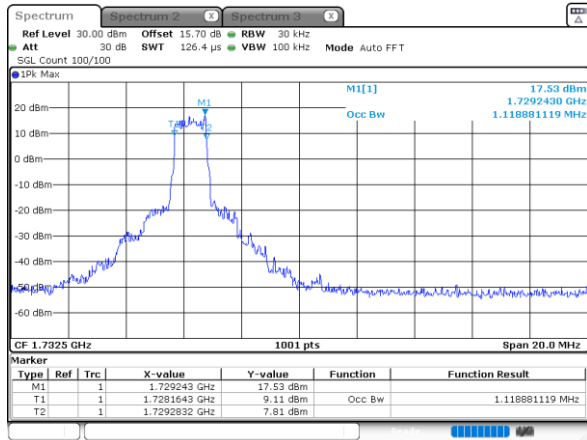
Middle Channel / 5MHz / 16QAM



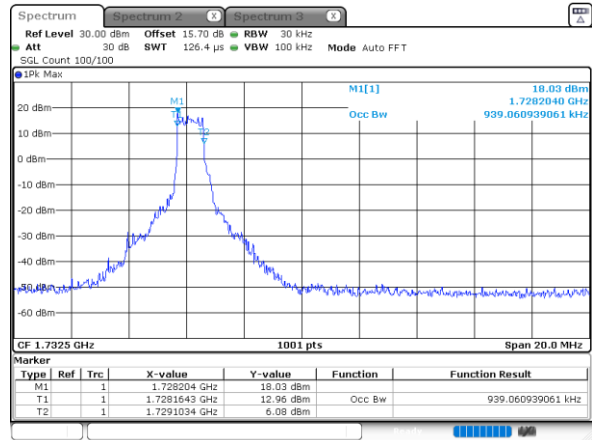


LTE Band 4

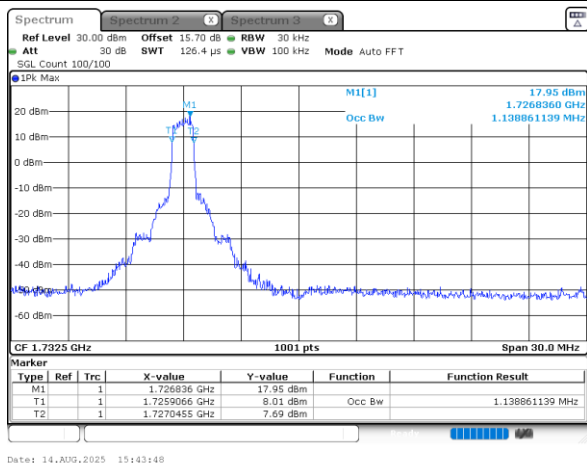
Middle Channel / 10MHz / QPSK



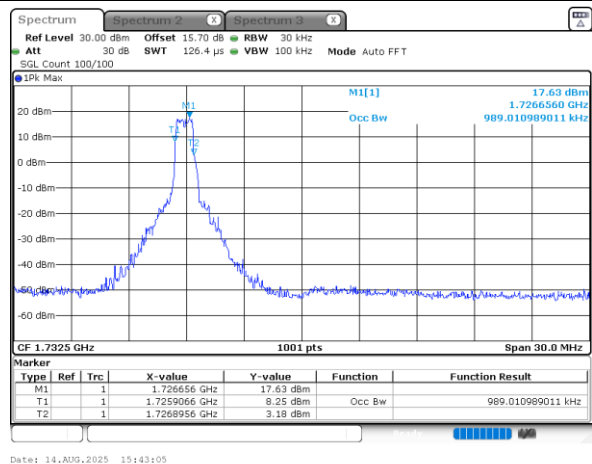
Middle Channel / 10MHz / 16QAM



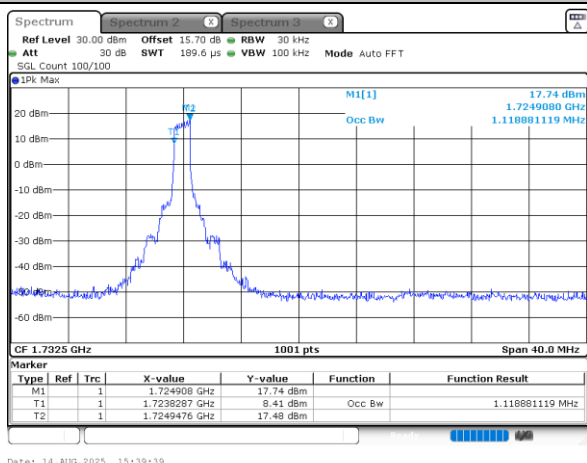
Middle Channel / 15MHz / QPSK



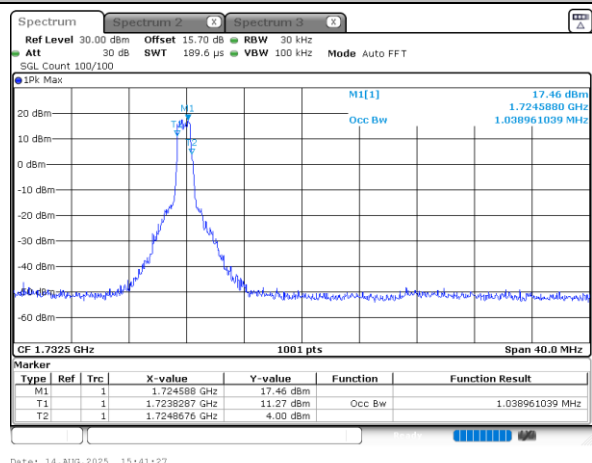
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM

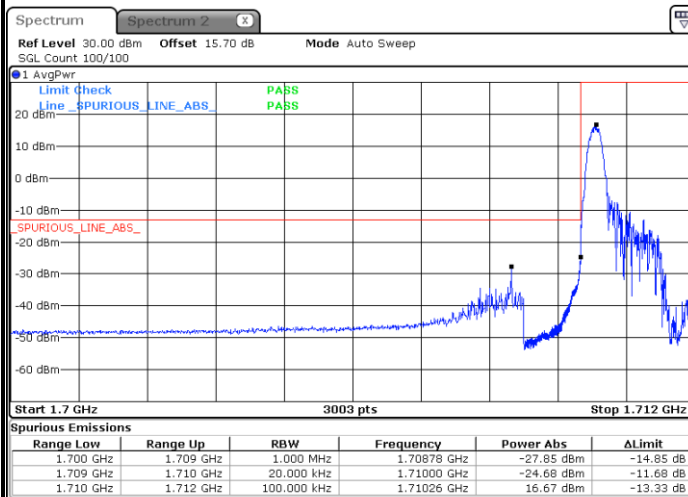




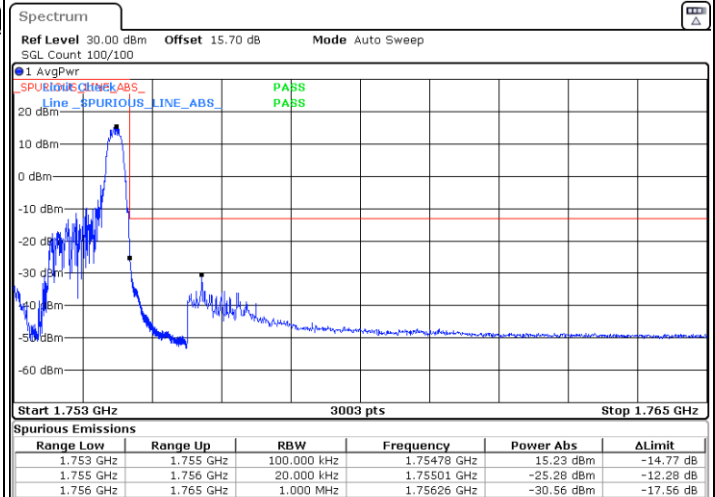
Conducted Band Edge

LTE Band 4 / 1.4MHz / QPSK

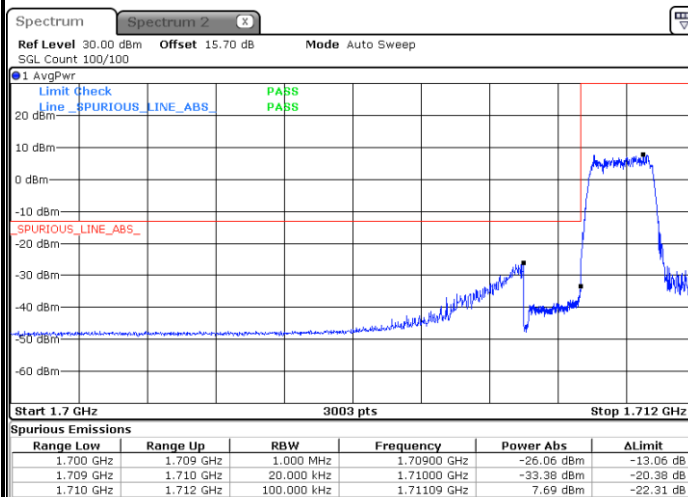
Lowest Band Edge / 1RB



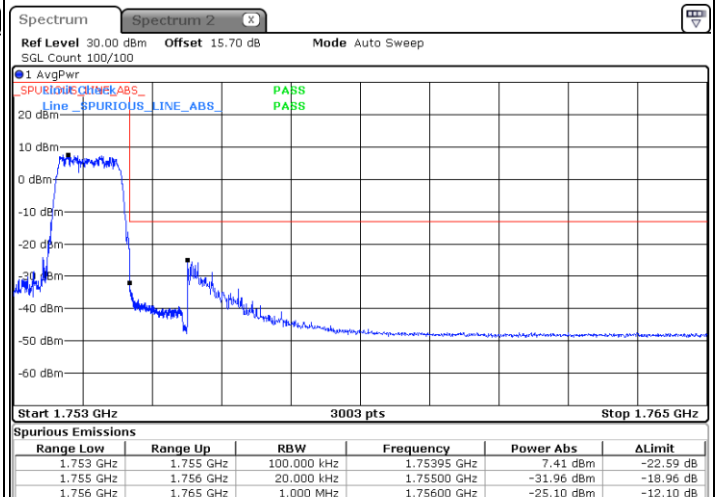
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



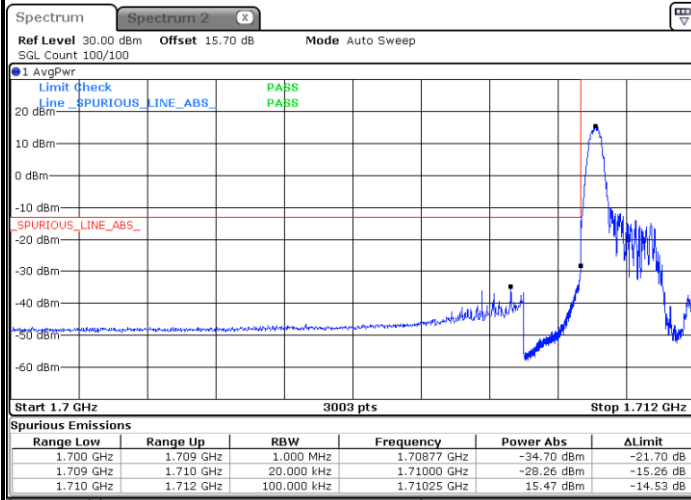
Highest Band Edge / Full RB



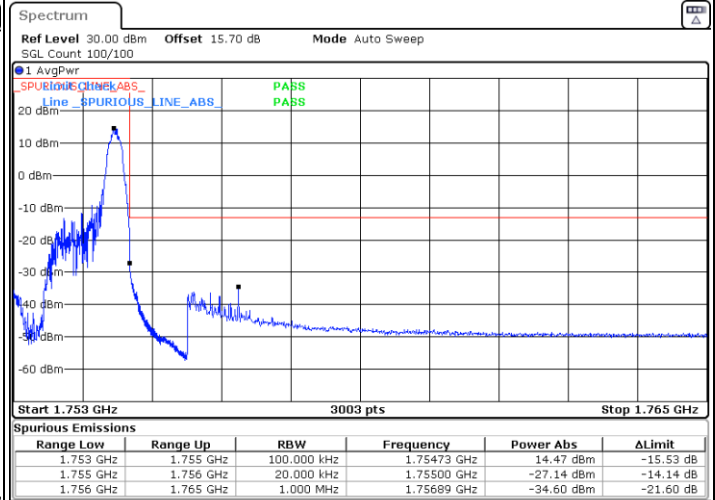


LTE Band 4 / 1.4MHz / 16QAM

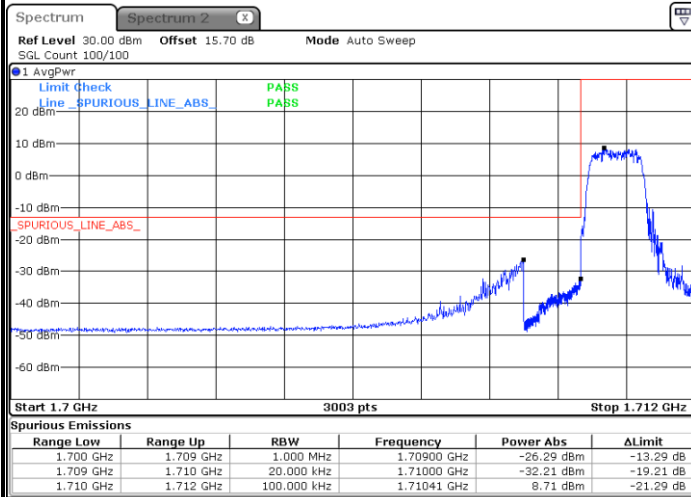
Lowest Band Edge / 1 RB



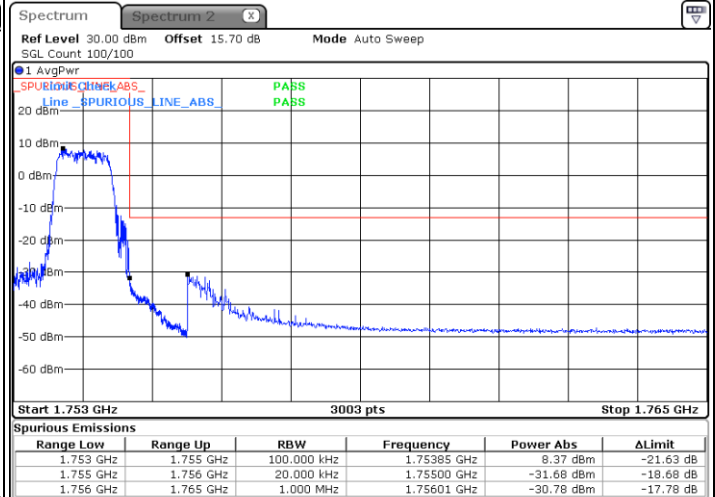
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



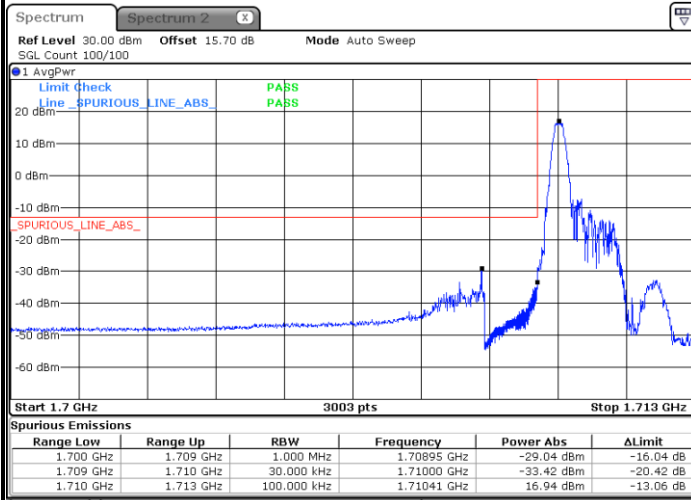
Highest Band Edge / Full RB



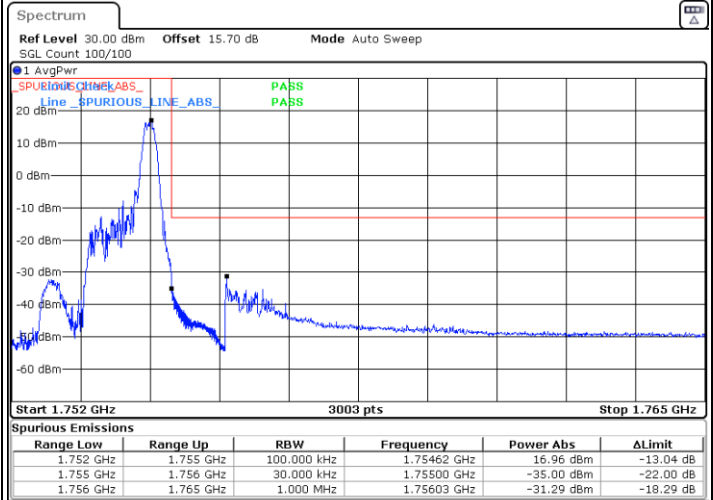


LTE Band 4 / 3MHz / QPSK

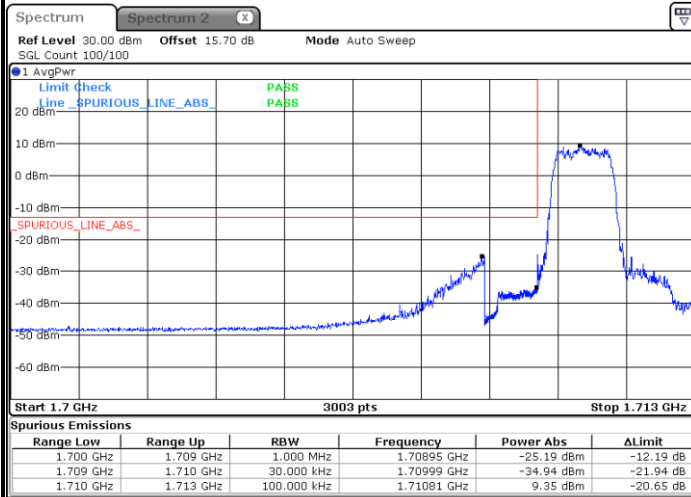
Lowest Band Edge / 1RB



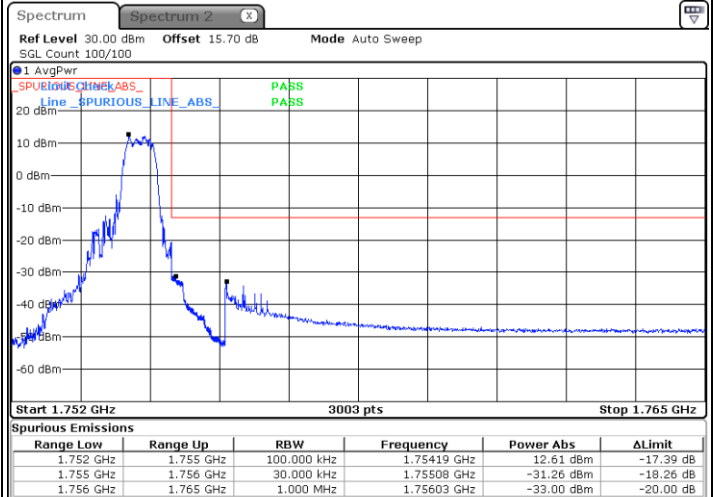
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



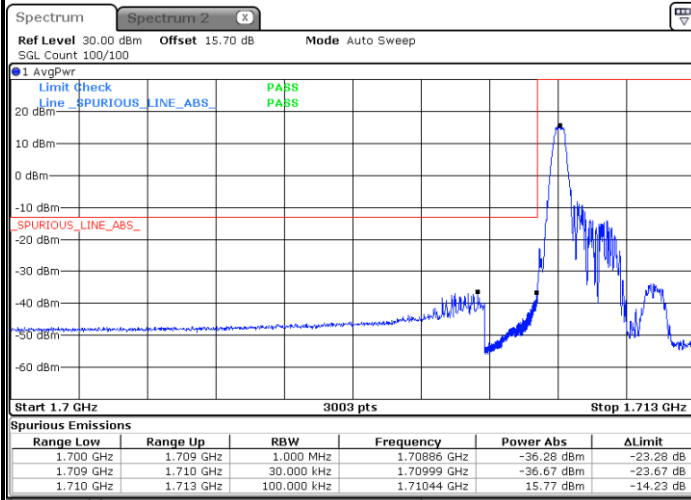
Highest Band Edge / Full RB



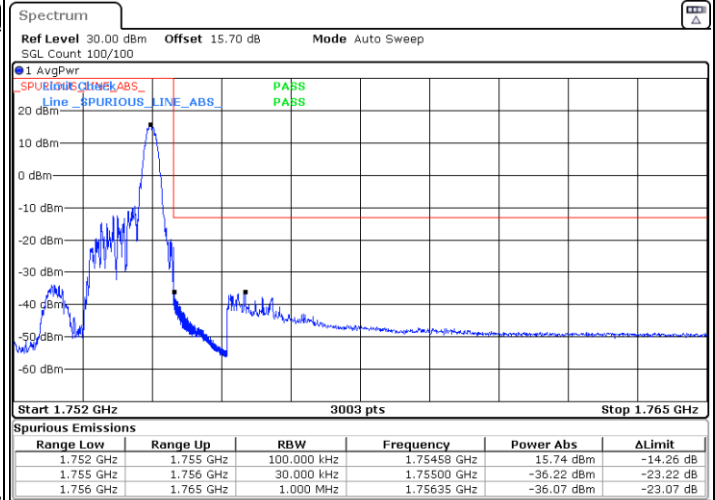


LTE Band 4 / 3MHz / 16QAM

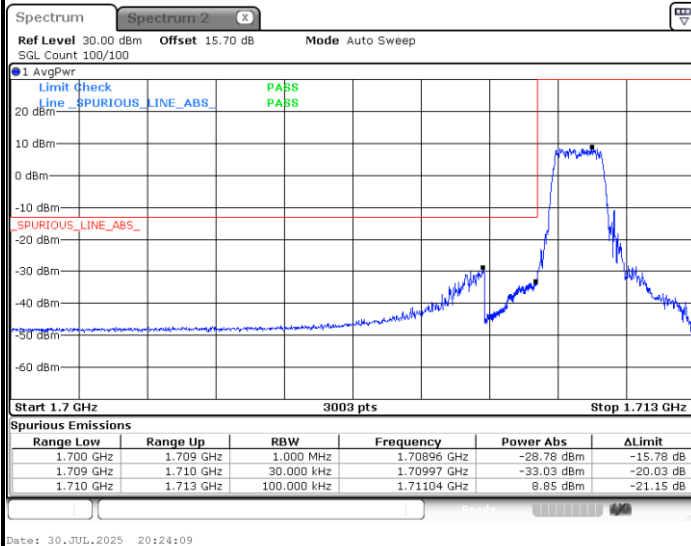
Lowest Band Edge / 1 RB



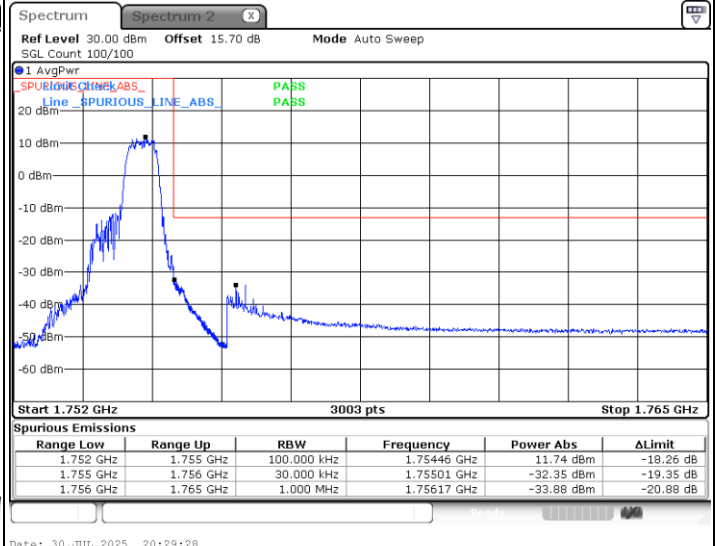
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



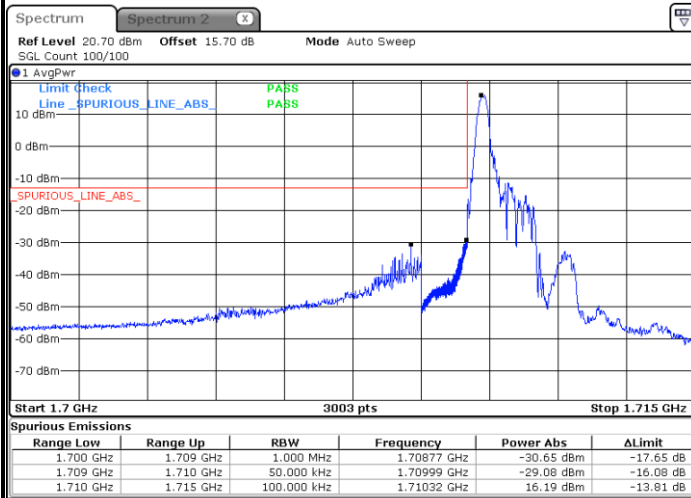
Highest Band Edge / Full RB





LTE Band 4 / 5MHz / QPSK

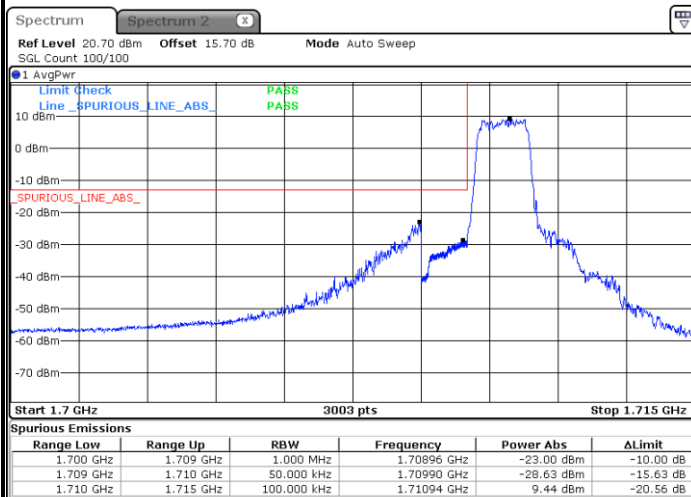
Lowest Band Edge / 1 RB



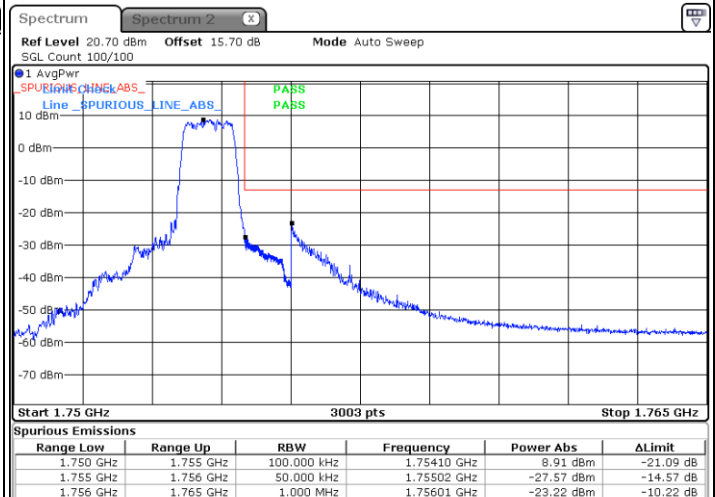
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



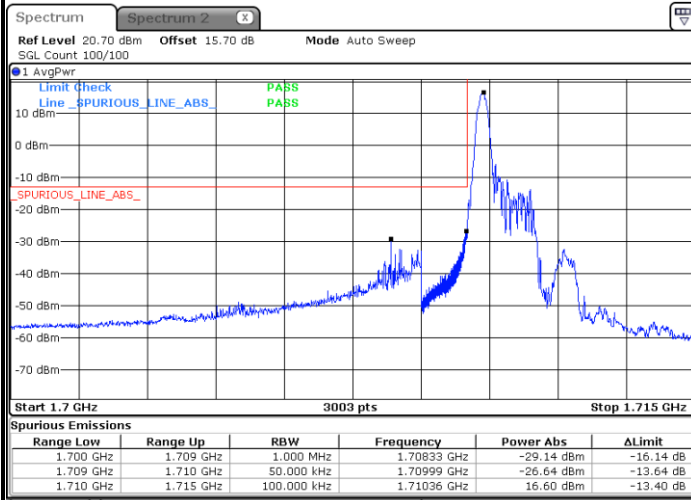
Highest Band Edge / Full RB



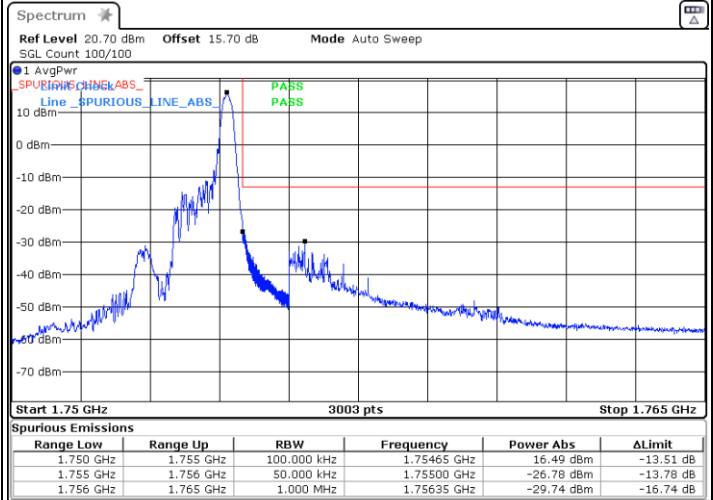


LTE Band 4 / 5MHz / 16QAM

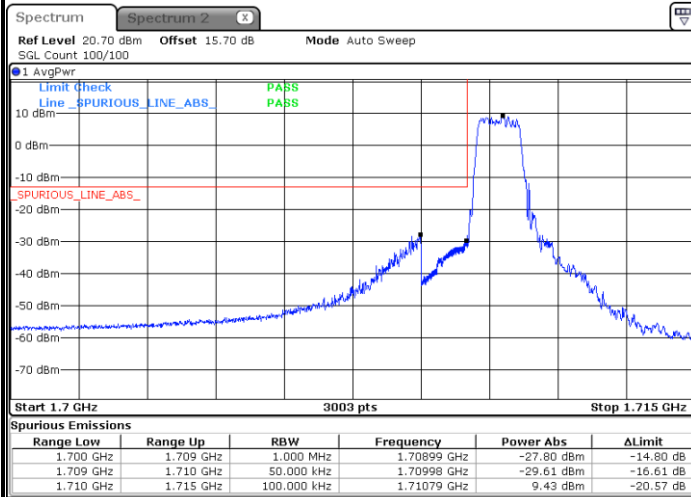
Lowest Band Edge / 1RB



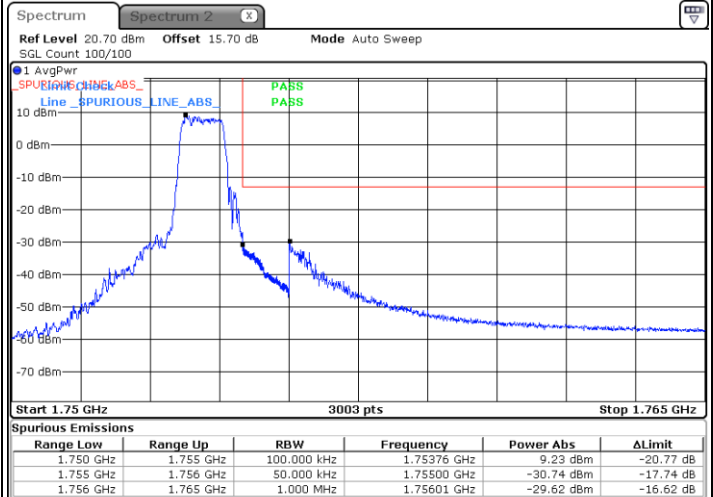
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



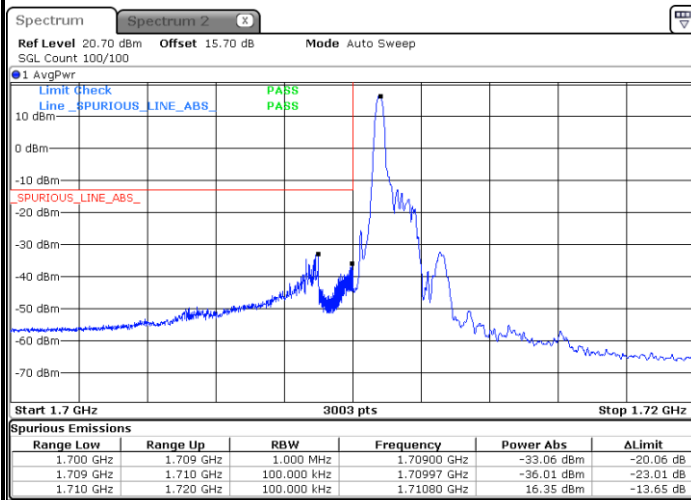
Highest Band Edge / Full RB



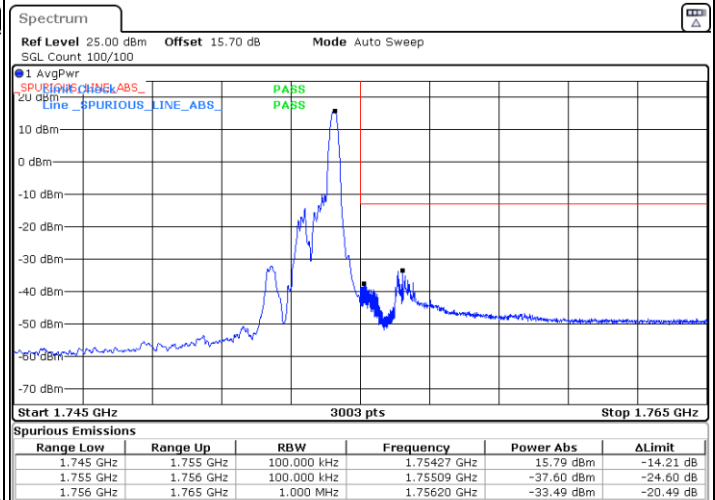


LTE Band 4 / 10MHz / QPSK

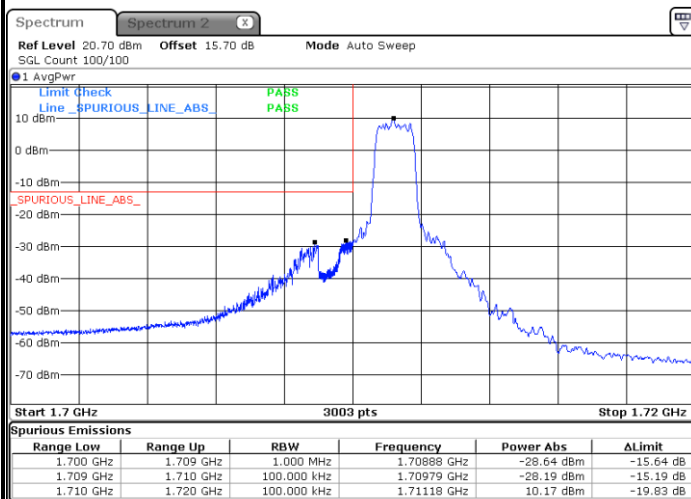
Lowest Band Edge / 1 RB



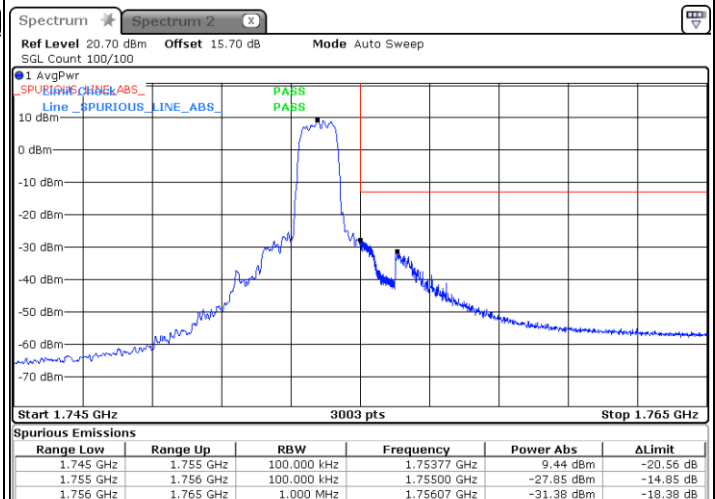
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



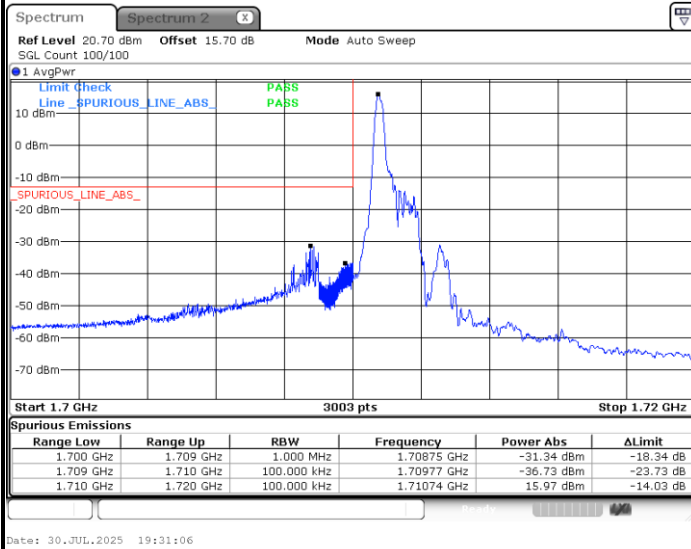
Highest Band Edge / Full RB



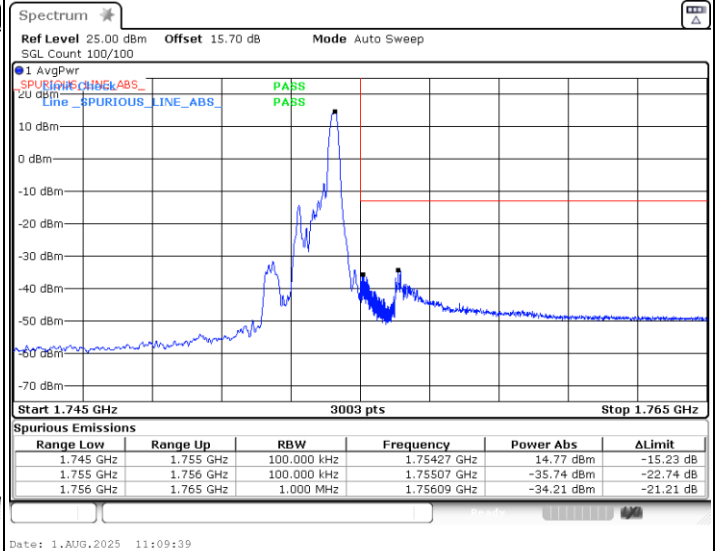


LTE Band 4 / 10MHz / 16QAM

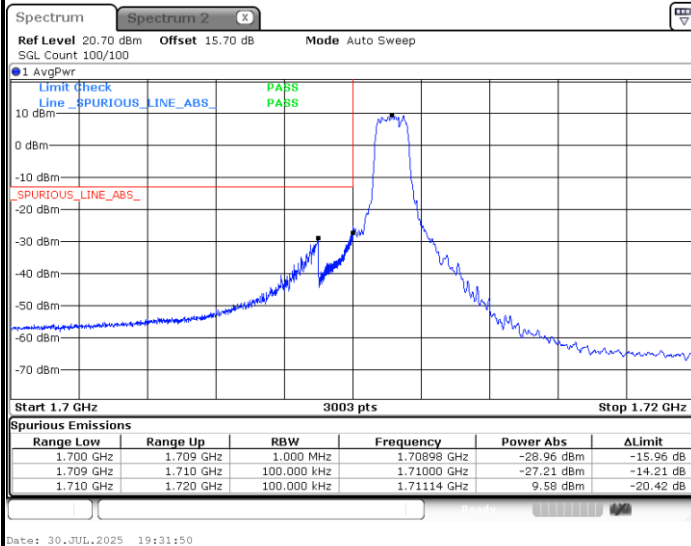
Lowest Band Edge / 1 RB



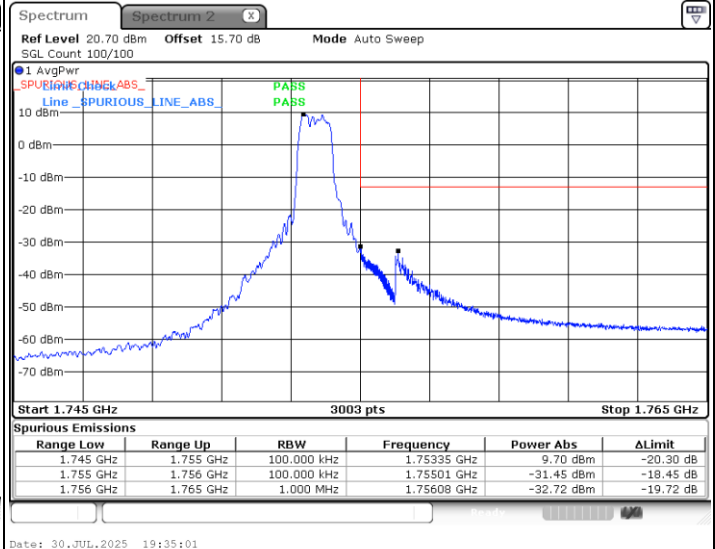
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



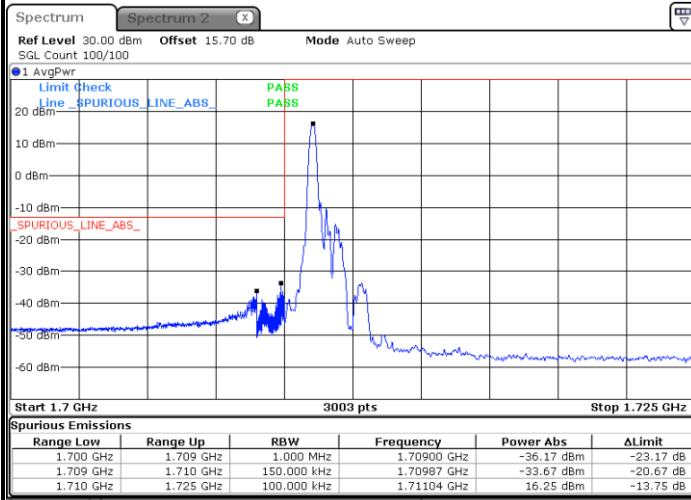
Highest Band Edge / Full RB



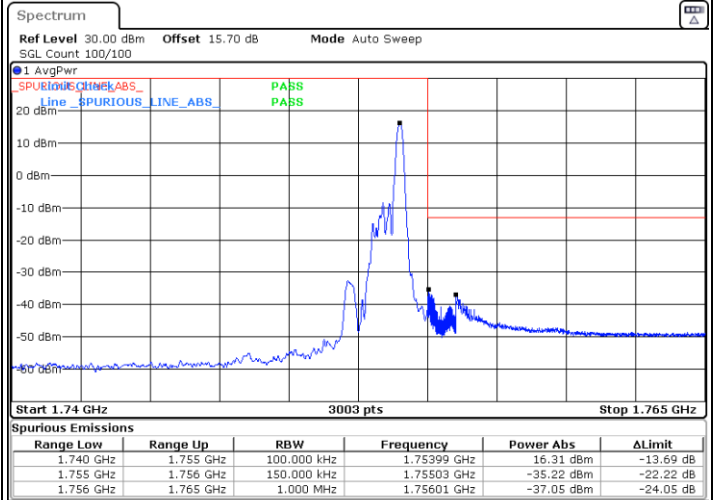


LTE Band 4 / 15MHz / QPSK

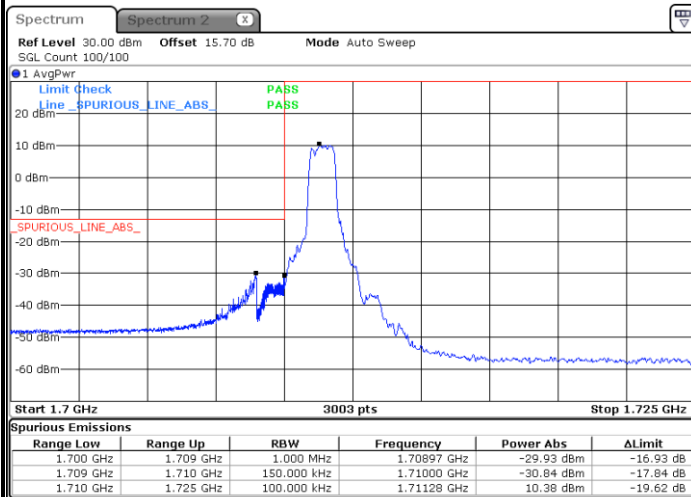
Lowest Band Edge / 1 RB



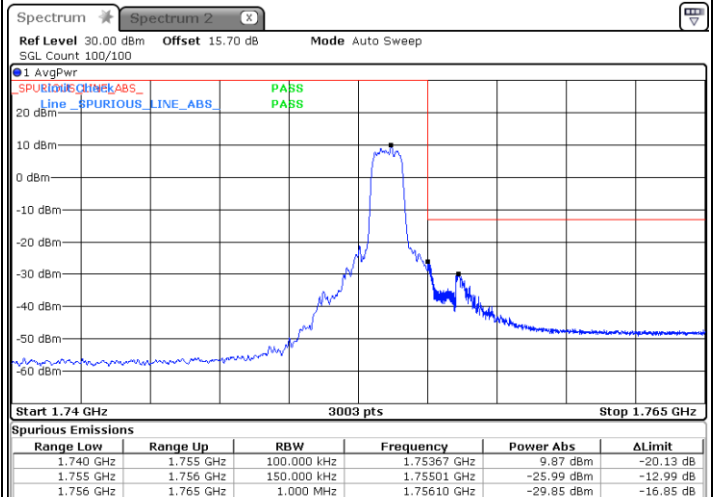
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



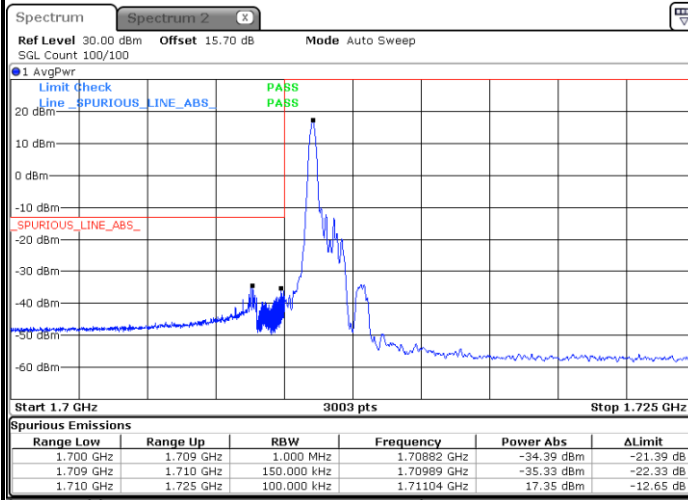
Highest Band Edge / Full RB



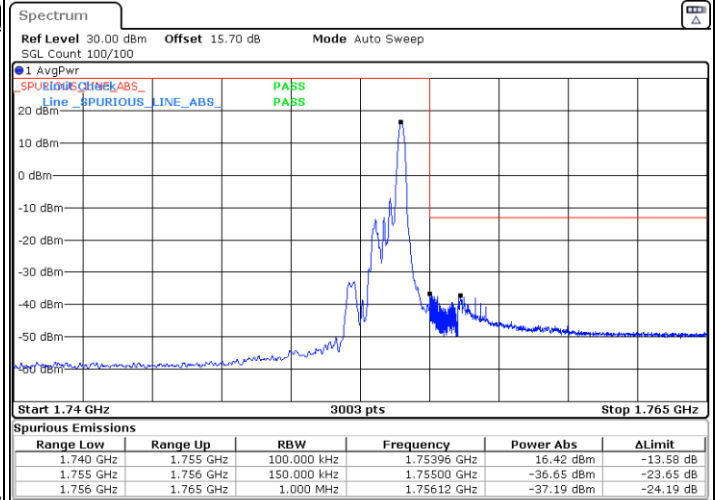


LTE Band 4 / 15MHz / 16QAM

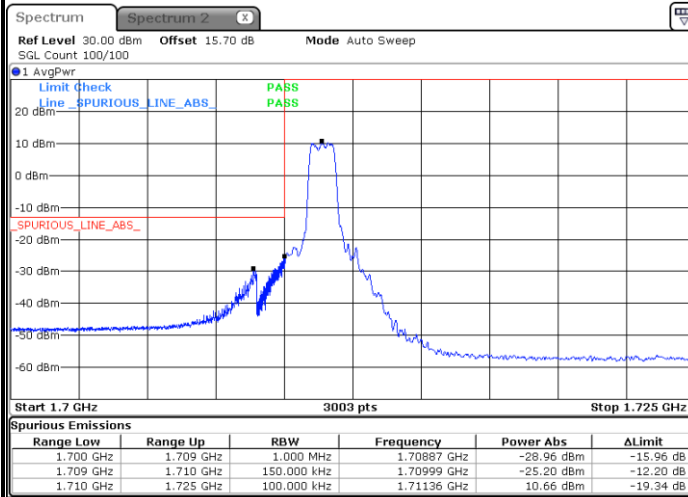
Lowest Band Edge / 1 RB



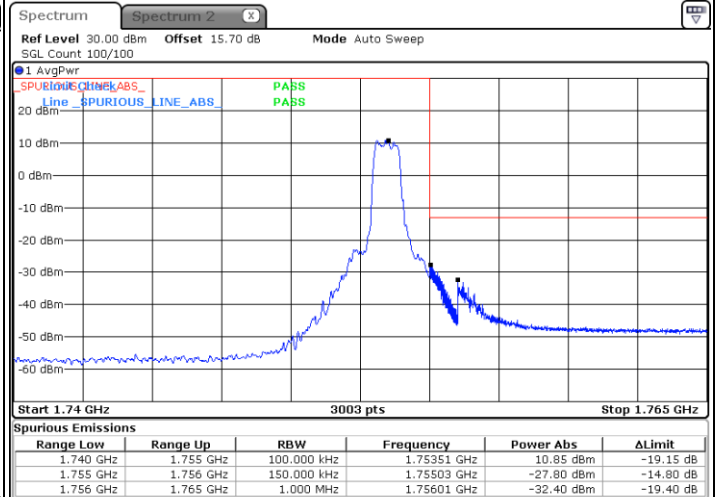
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



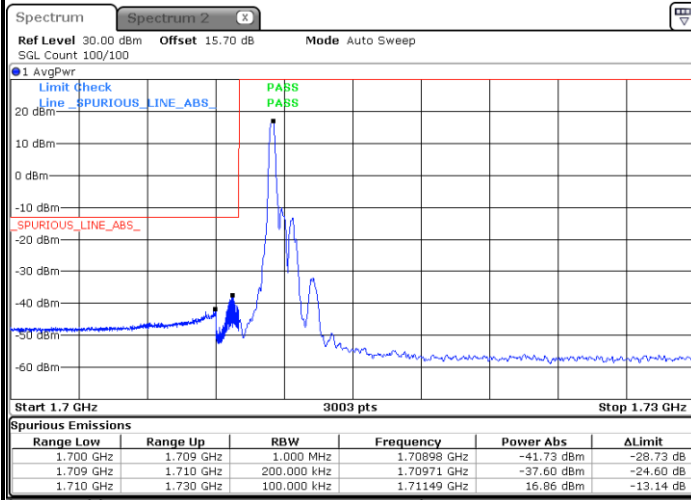
Highest Band Edge / Full RB



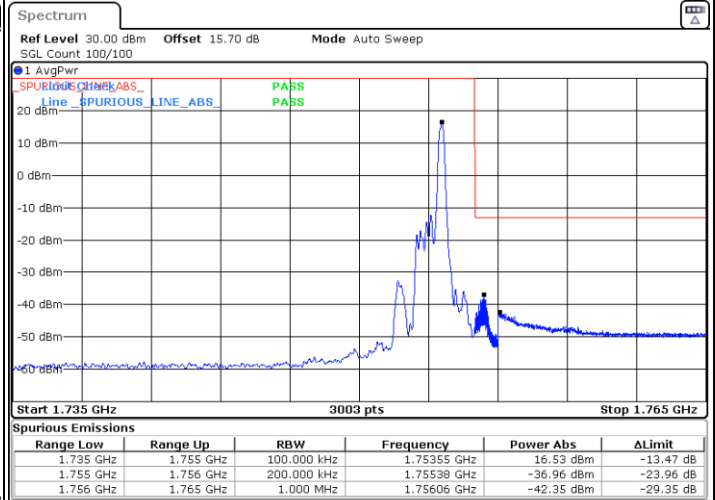


LTE Band 4 / 20MHz / QPSK

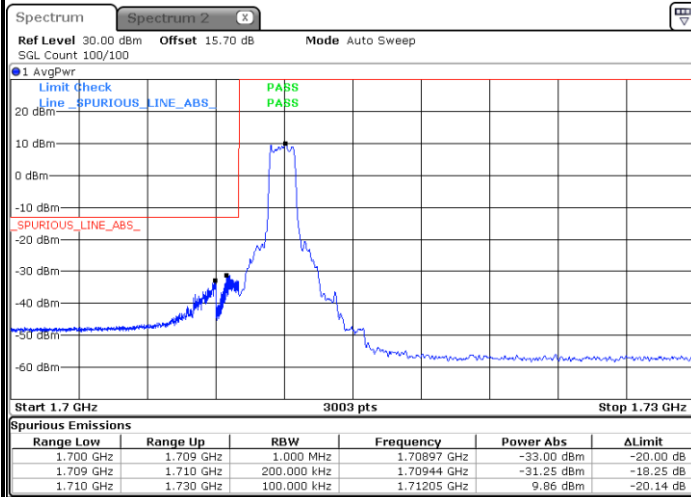
Lowest Band Edge / 1 RB



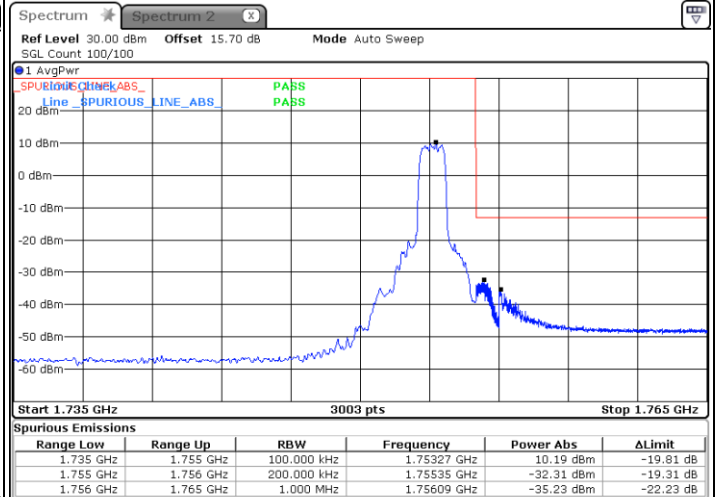
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



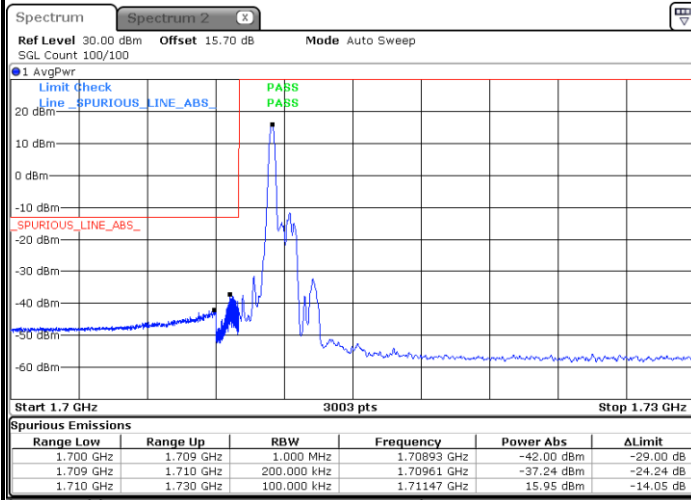
Highest Band Edge / Full RB



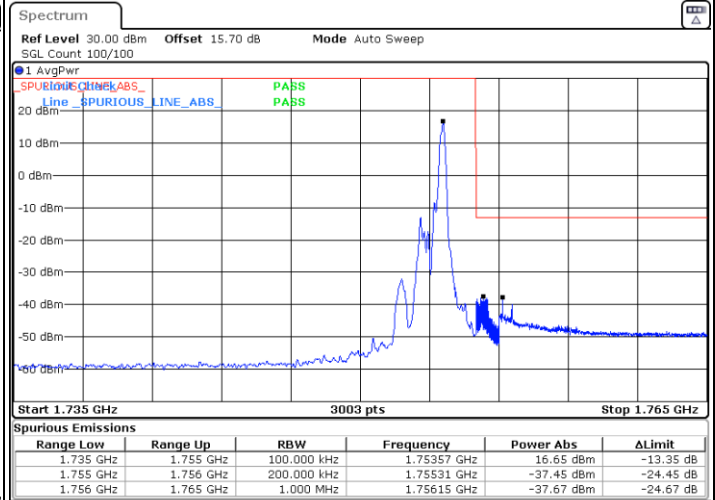


LTE Band 4 / 20MHz / 16QAM

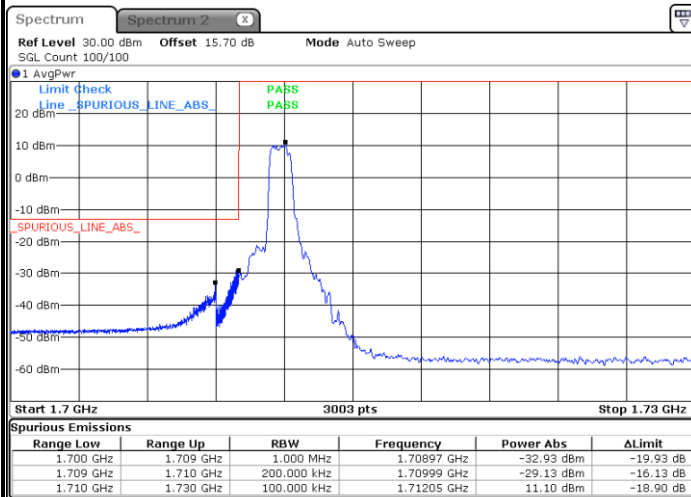
Lowest Band Edge / 1 RB



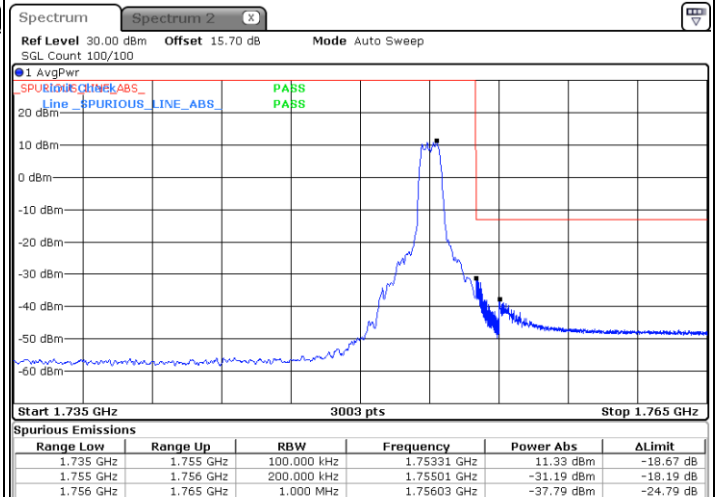
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

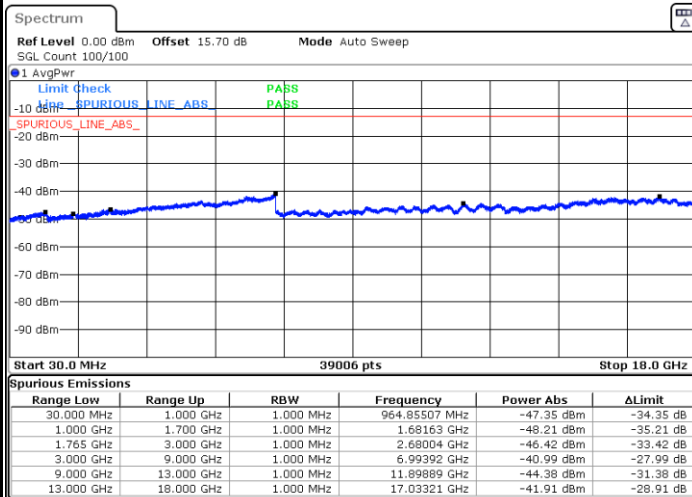




Conducted Spurious Emission

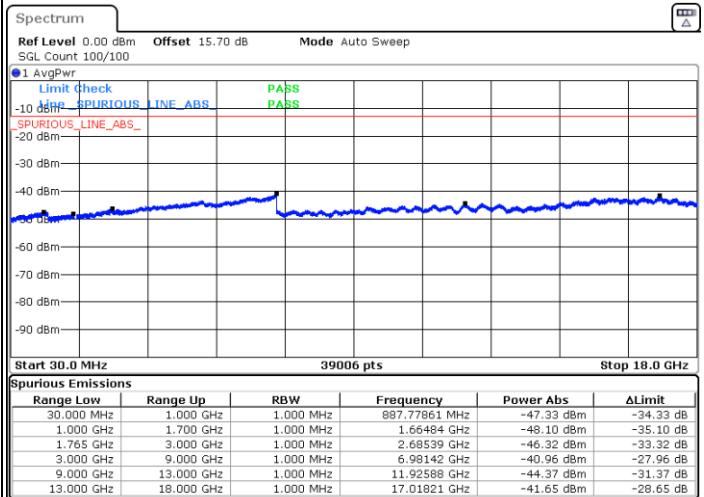
LTE Band 4 / 1.4MHz

Lowest Channel / QPSK



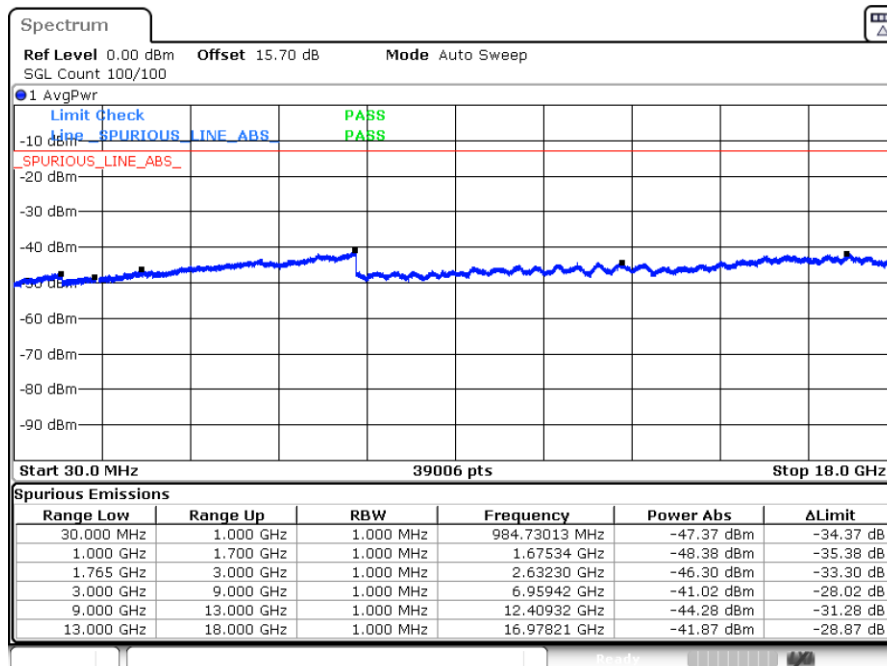
Date: 31.JUL.2025 16:18:12

Middle Channel / QPSK



Date: 31.JUL.2025 16:20:09

Highest Channel / QPSK

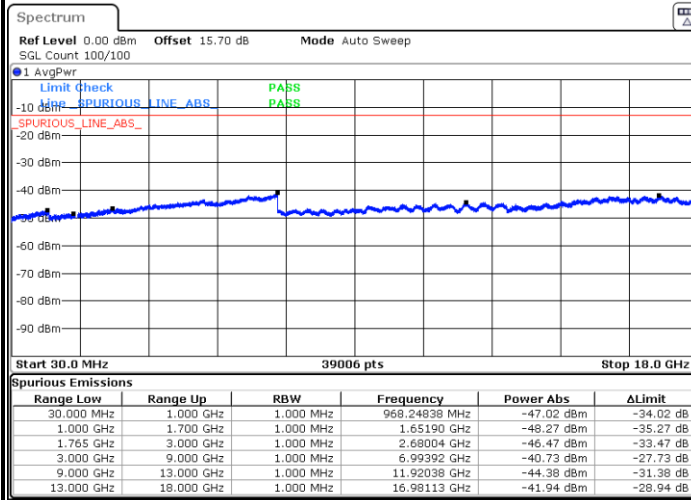


Date: 31.JUL.2025 16:21:56



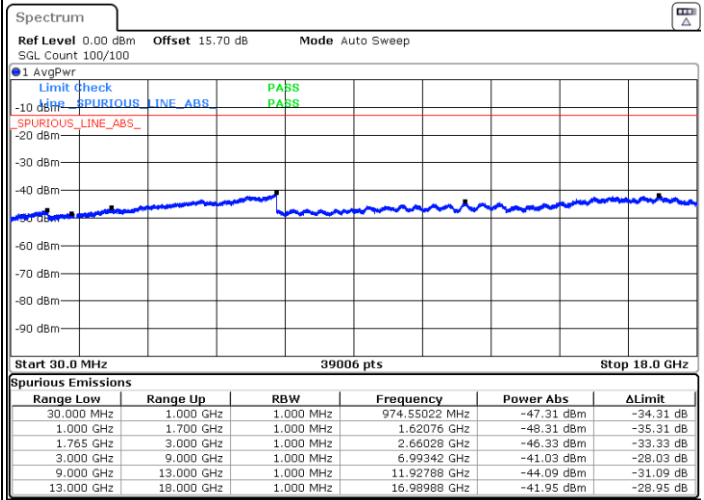
LTE Band 4 / 3MHz

Lowest Channel / QPSK



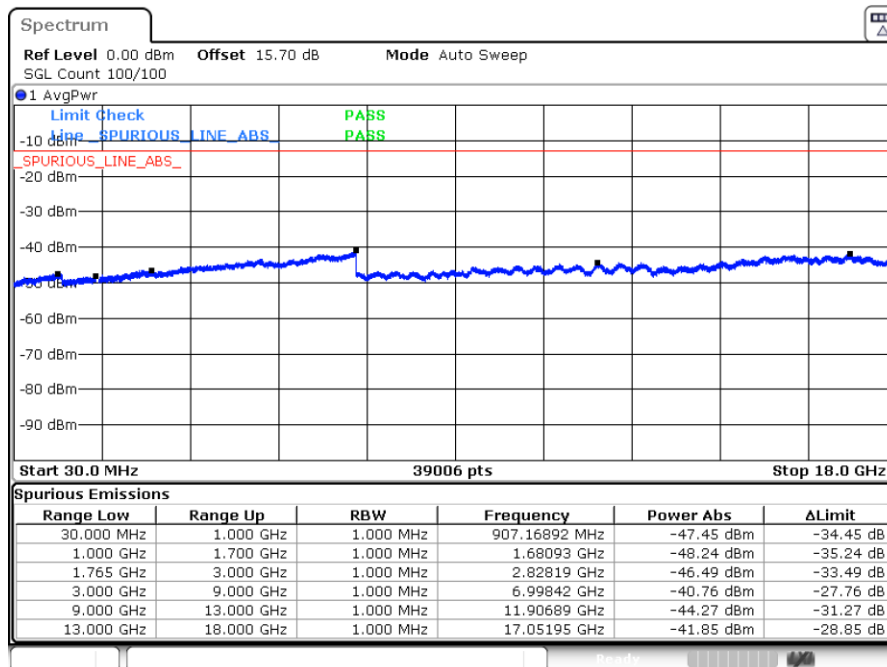
Date: 31.JUL.2025 16:49:44

Middle Channel / QPSK



Date: 31.JUL.2025 16:50:46

Highest Channel / QPSK

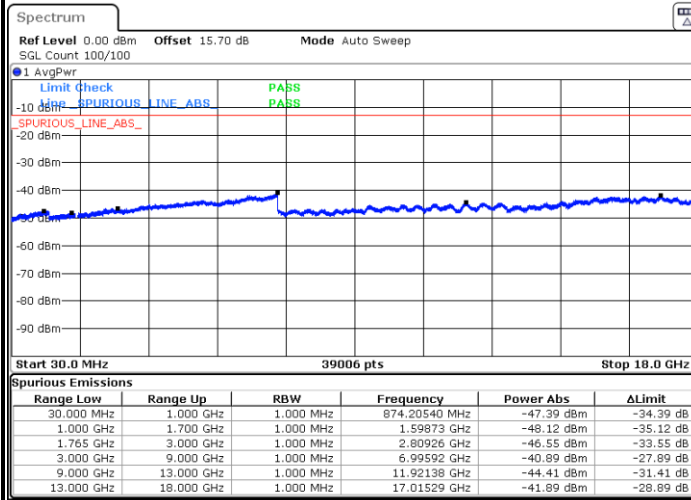


Date: 31.JUL.2025 16:55:56



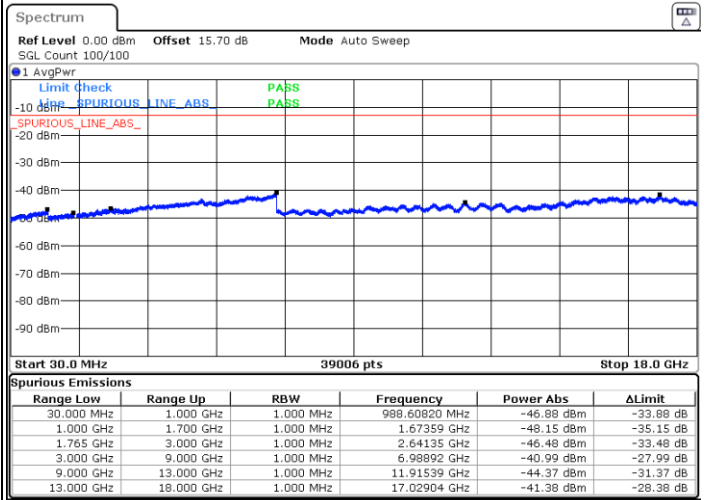
LTE Band 4 / 5MHz

Lowest Channel / QPSK



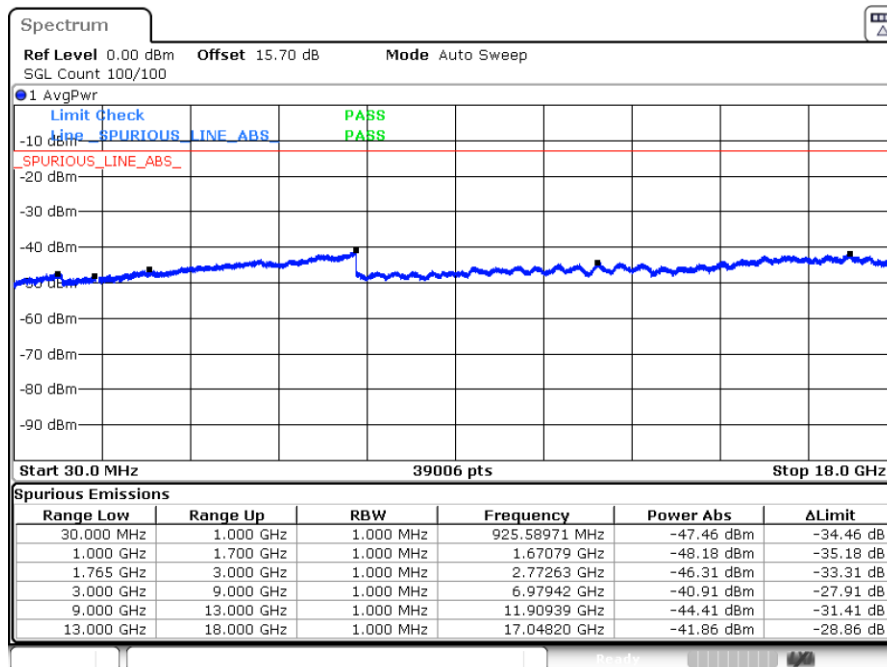
Date: 31.JUL.2025 16:57:37

Middle Channel / QPSK



Date: 31.JUL.2025 16:58:43

Highest Channel / QPSK

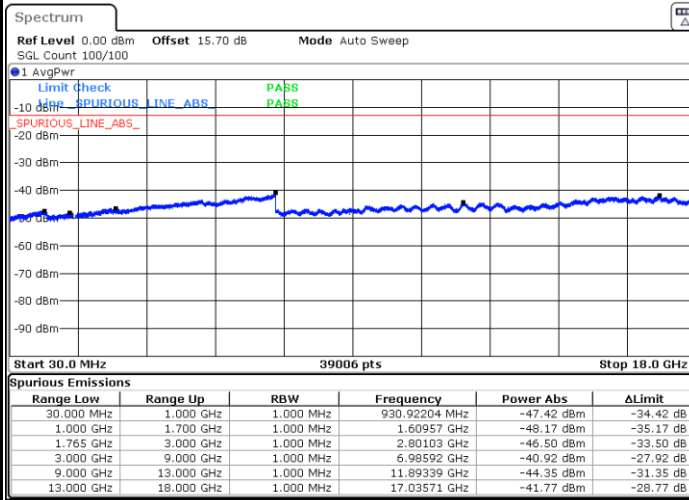


Date: 31.JUL.2025 17:04:19



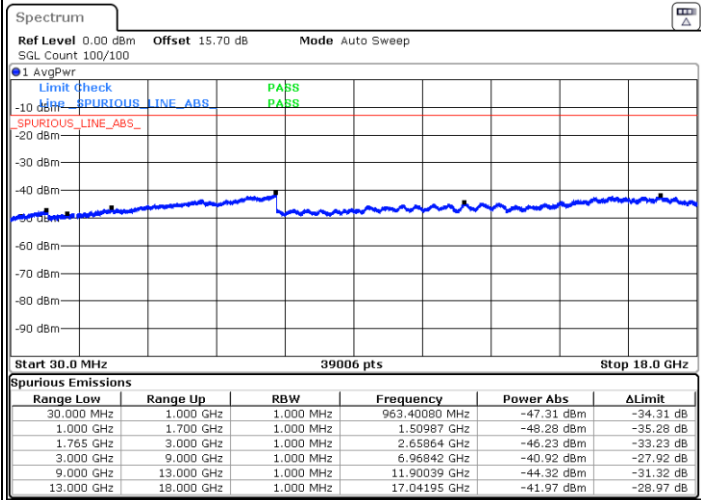
LTE Band 4 / 10MHz

Lowest Channel / QPSK



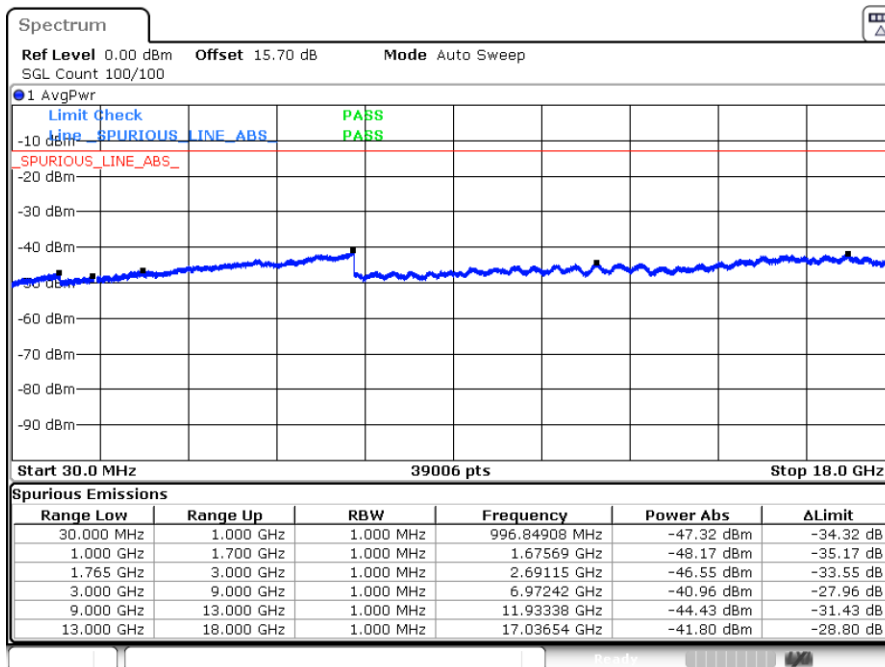
Date: 31.JUL.2025 17:07:03

Middle Channel / QPSK



Date: 31.JUL.2025 17:08:05

Highest Channel / QPSK

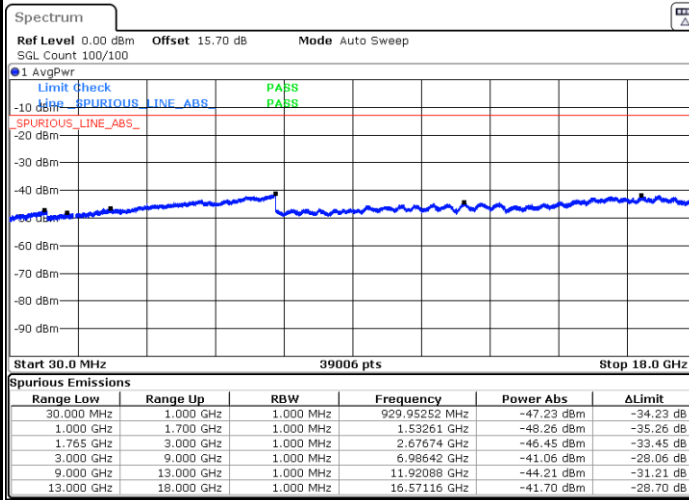


Date: 31.JUL.2025 17:15:22



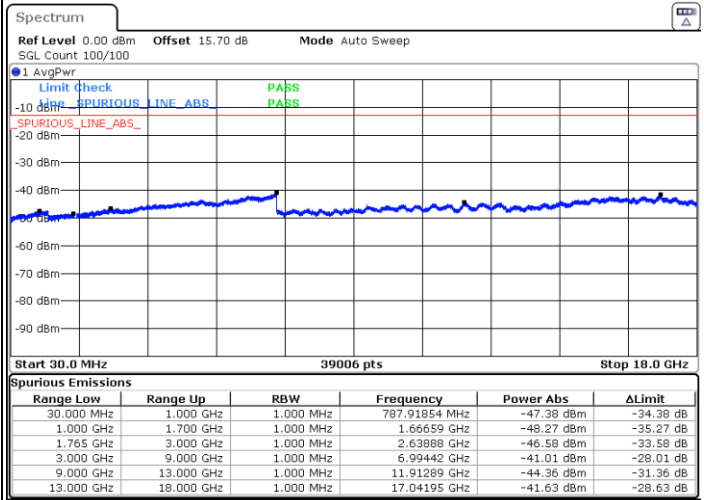
LTE Band 4 / 15MHz

Lowest Channel / QPSK



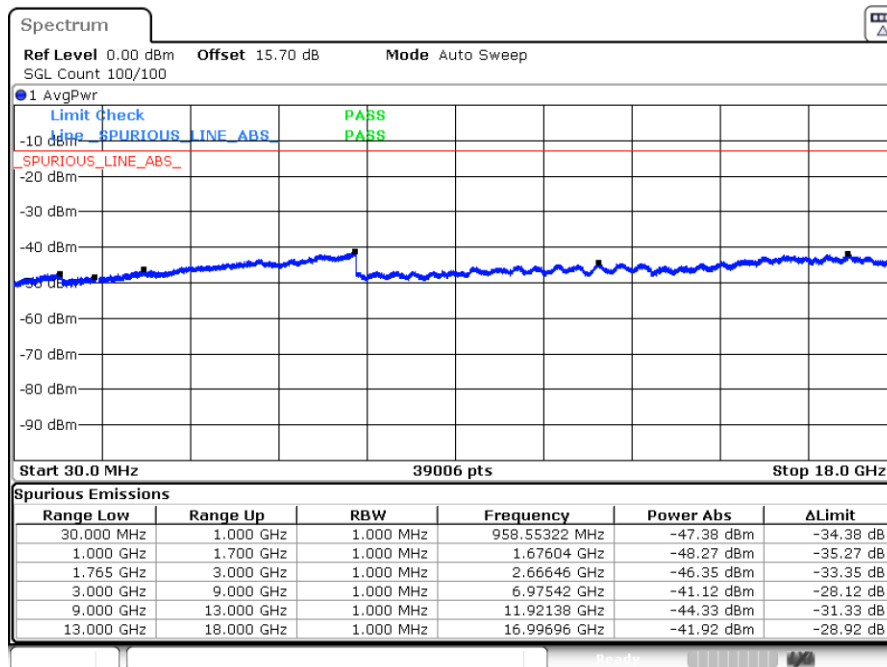
Date: 31.JUL.2025 17:17:19

Middle Channel / QPSK



Date: 31.JUL.2025 17:18:28

Highest Channel / QPSK



Date: 31.JUL.2025 17:23:15