

FCC RF Test Report

APPLICANT : OnePlus Technology (Shenzhen) Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : OnePlus
MODEL NAME : CPH2771
FCC ID : 2ABZ2-OP24879
STANDARD : 47 CFR Part 96
CLASSIFICATION : Citizens Band End User Devices (CBE)
EQUIPMENT TYPE : End User Equipment
TEST DATE(S) : Oct. 18, 2025 ~ Nov. 10, 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 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.



Approved by: Fly Liang



Sporton International Inc. (ShenZhen)

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People's Republic of China



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History of this test report

Report No.	Version	Description	Issued Date
FG5O1021G	01	Initial issue of report	Nov. 24, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.3	§2.1046	Conducted Output Power	Reporting only	-
3.4	§96.41	Peak-to-Average Ratio	Not Applicable	Not applicable for End User Devices
3.5	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Not Applicable	Not applicable for End User Devices
3.6	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.7	§2.1051 §96.41	Conducted Band Edge Measurement Adjacent Channel Leakage Ratio	Pass	-
3.8	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.9	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 10.04 dB at 14464.000 MHz

Conformity Assessment Condition:

1. 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.
2. 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

OnePlus Technology (Shenzhen) Co., Ltd.

18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.

1.2 Manufacturer

OnePlus Technology (Shenzhen) Co., Ltd.

18C02, 18C03, 18C04, and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, Guangdong, P.R. China.

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	OnePlus
Model Name	CPH2771
FCC ID	2ABZ2-OP24879
Tx Frequency	LTE Band 48: 3550 MHz ~ 3700 MHz
Rx Frequency	LTE Band 48: 3550 MHz ~ 3700 MHz
Bandwidth	5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	<Ant. 4>: 19.85 dBm <Ant. 8>: 22.97 dBm <Ant. 9>: 24.11 dBm <Ant. 10>: 20.28 dBm
Antenna Gain	<Ant. 4>: -2.0 dBi <Ant. 8>: -1.0 dBi <Ant. 9>: -2.5 dBi <Ant. 10>: -1.0 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM
IMEI Code	Conducted: 863339080030917/863339080030909 for Sample 1 863339080043415 for Sample 2 Radiation: 863339080028135/863339080028127
HW Version	11
SW Version	OxygenOS 16.0
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The maximum EIRP is calculated from max output power and antenna gain, only the maximum EIRP of Ant. 8 is shown in the report.
3. For conducted test items, only the test data of the worse Ant.9 for LTEB48 are shown in the report.

1.4 Maximum EIRP Power and Emission Designator

LTE Band 48		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5	3552.5~3697.5	0.1552	4M49G7D	0.1262	4M51W7D
10	3555~3695	0.1563	9M01G7D	0.1236	9M01W7D
15	3557.5~3692.5	0.1517	13M5G7D	0.1242	13M5W7D
20	3560~3690	0.1574	17M9G7D	0.1271	18M0W7D

Note: All modulations have been tested, only the worst test results of PSK & QAM are shown in the report.

1.5 Testing Site

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

1.6 Test Software

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

1.7 Applied Standards

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

- ♦ ANSI C63.26-2015
- ♦ 47 CFR Part 96
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 940660 D01 Part 96 CBRS v03
- ♦ 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

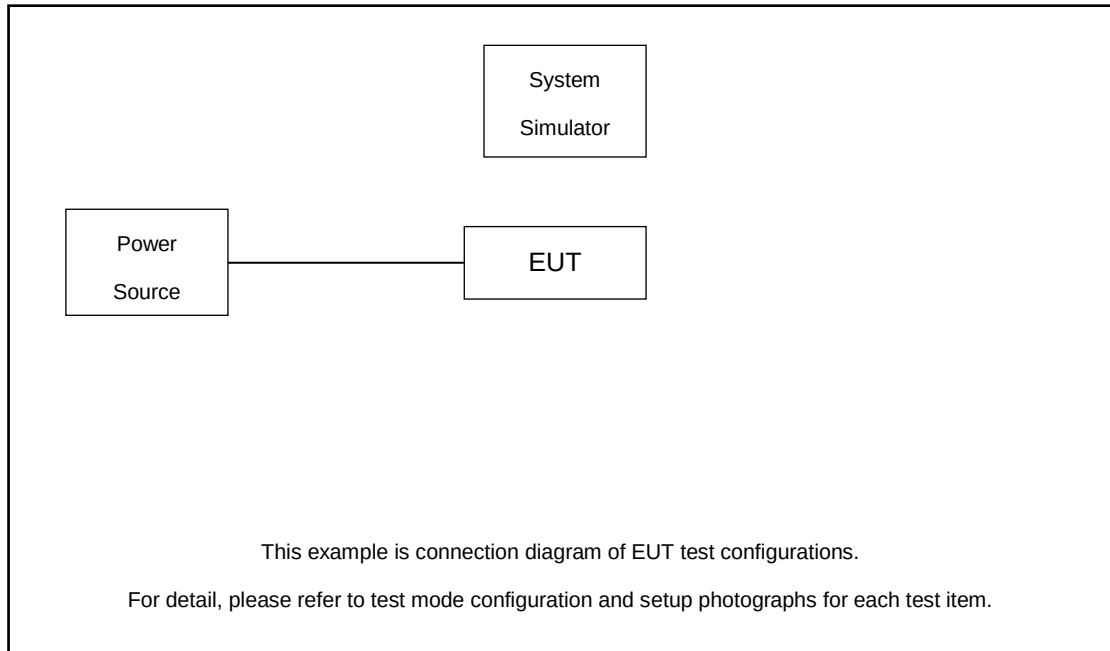
2.1 Test Mode

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.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power	48	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Adjacent Channel Leakage Ratio	48	-	-	v	v	v	v	v	v	v		v		v	v	v	v
26dB and 99% Bandwidth	48	-	-	v	v	v	v	v	v					v		v	
Conducted Band Edge	48	-	-	v	v	v	v	v	v	v		v		v	v	v	v
Conducted Spurious Emission	48	-	-	v	v	v	v	v				v			v	v	v
E.I.R.P	48	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Frequency Stability	48	-	-		v			v				v				v	
Radiated Spurious Emission	48	Worst Case														v	
Remark	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. For QAM modulation mode, the whole testing has assessed 16QAM&64QAM mode by referring to the higher conducted power.																

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

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	MT8821C	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 5.5 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 5.5 + 10 = 15.5 \text{ (dB)} \end{aligned}$$

2.5 Frequency List of Low/Middle/High Channels

LTE Band 48 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	55340	55990	56640
	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
	Frequency	3552.5	3625.0	3697.5

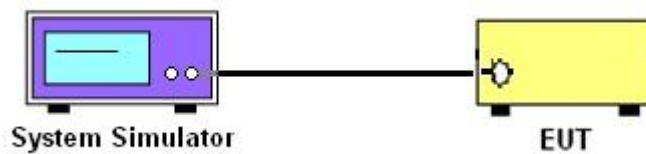
3 Conducted Test Items

3.1 Measuring Instruments

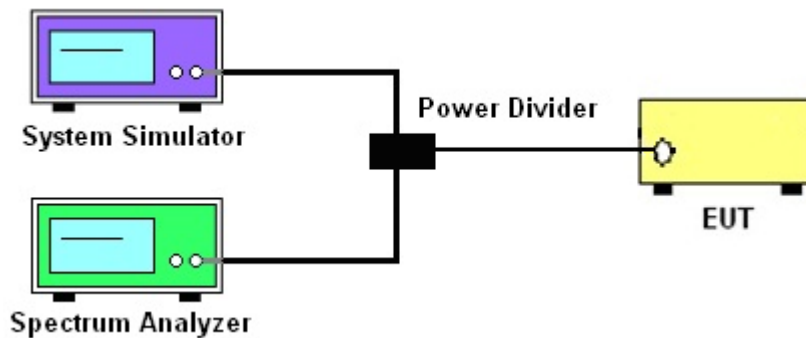
See list of measuring instruments of this test report.

3.2 Test Setup

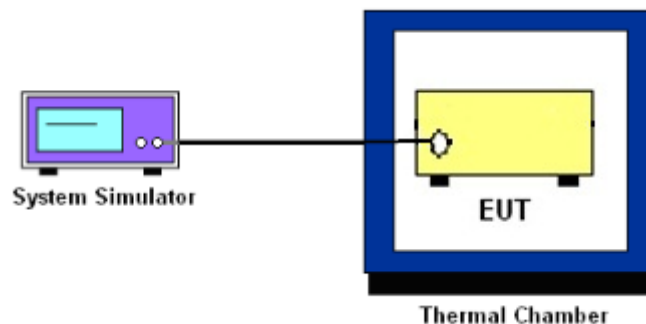
3.2.1 Conducted Output Power / ACLR



3.2.2 26dB & 99% Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.2.4 Test Result of Conducted Test

Please refer to Appendix A.

3.3 Conducted Output Power

3.3.1 Description of the Conducted Output Power 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.

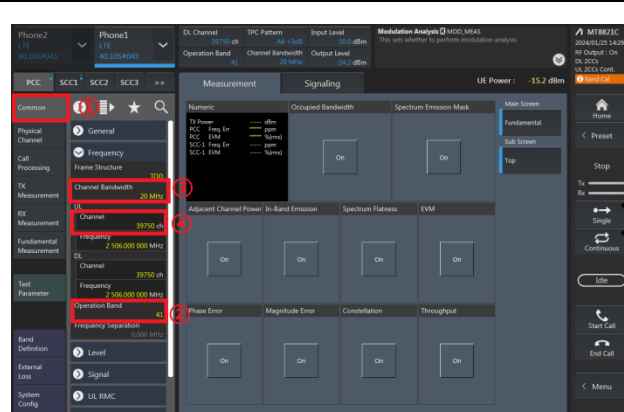
3.3.2 Test Procedures

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

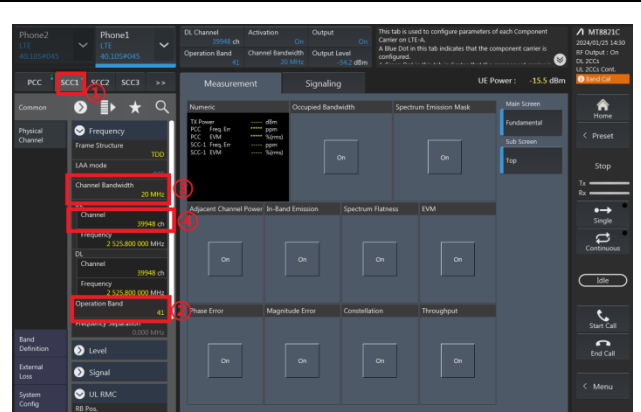
3.3.3 Test Procedures for LTE ULCA

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter PCC & SCC output ports were connected to the system simulator.
3. Set EUT at maximum power, set the PCC/SCC CA band, channel, bandwidth and RB config.

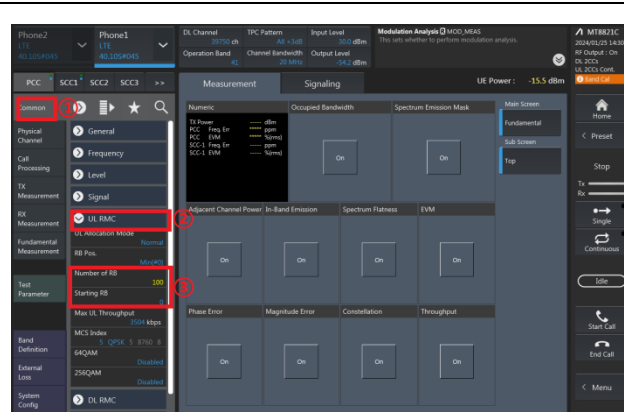
PCC config_(Channel Bandwidth / Channel / Band)



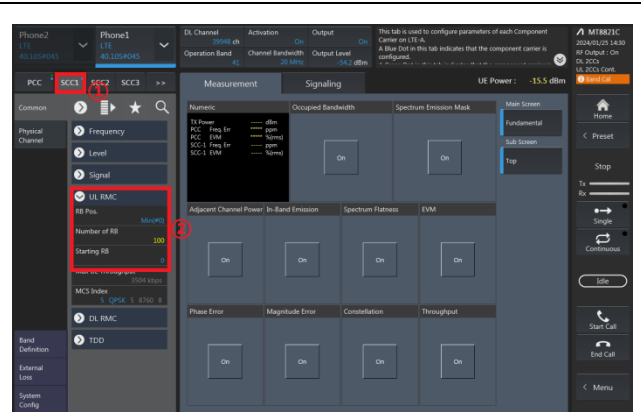
SCC config_(Channel Bandwidth / Channel / Band)



PCC config_(Number of RB / Starting RB)

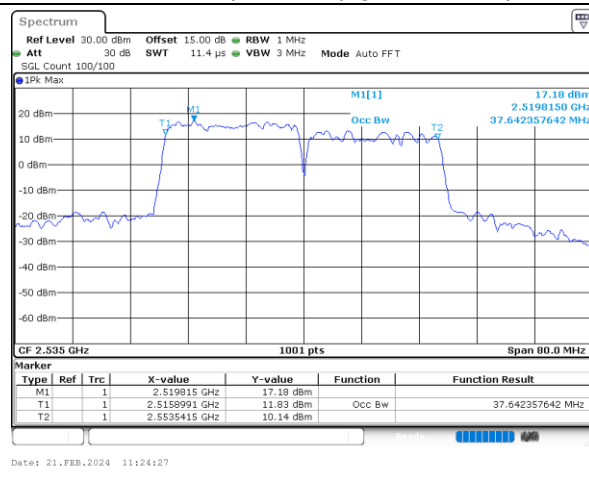


SCC config_(Number of RB / Starting RB)

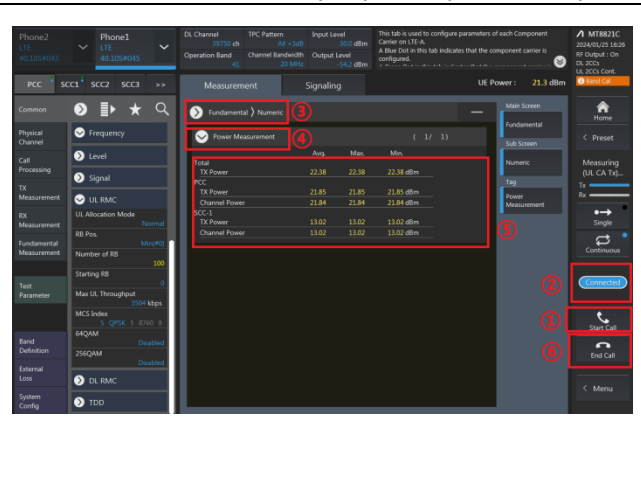


4. Select lowest, middle, and highest channels for each ULCA band and different modulation.
5. Check the ULCA spectrum and record the total power from the system simulator.

Check the ULCA spectrum (eg. 20M+20M)



Read the Total UL CA output power (PCC+SCC)



3.4 Peak-to-Average Ratio

3.4.1 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.

3.4.2 Test Procedures

The testing follows ANSI C63.26-2015 Section 5.2.6

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

3.5 EIRP

3.5.1 Description of the EIRP Measurement

EIRP limits for CBRS equipment as below table:

Device		Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
Applied	End User Device	23	n/a
☐	Category A CBSD	30	20
☐	Category B CBSD	47	37

Remark:

1. The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths for LTE Band 48 (i.e. 5, 10, 15, 20MHz)

3.5.2 Test Procedures for EIRP

1. Establishing a communications link with the call box (Base station) to measure the Maximum conducted power, the parameters were set to force the EUT transmitting at maximum output power level. Use the average power measurement function to measure total channel power of each channel bandwidth (per ANSI C63.26-2015 Section 5.2.1)
2. Determining ERP and/or EIRP from conducted RF output power measurements (Per ANSI C63.26-2015 Section 5.2.5.5)

$$EIRP = P_T + G_T - L_C, ERP = EIRP - 2.15, \text{ where}$$

$$P_T = \text{transmitter output power in dBm}$$

$$G_T = \text{gain of the transmitting antenna in dBi}$$

$$L_C = \text{signal attenuation in the connecting cable between the transmitter and antenna in dB}$$

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

The testing follows ANSI C63.26-2015 Section 5.4.3 (26dB) and Section 5.4.4 (99OB)

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. 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.
4. Set the detection mode to peak, and the trace mode to max hold.
5. 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)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. 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.
8. 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

Part 96.41 (e) (1) (i)

For CBSD the emission limits outside the fundamental are as follows:

Within 0 MHz to 10 MHz above and below the assigned channel ≤ -13 dBm/MHz

Greater than 10 MHz above and below the assigned channel ≤ -25 dBm/MHz

Part 96.41 (e) (1) (ii)

For End User Devices the emission limits outside the fundamental are as follows:

Within 0 MHz to B MHz above and below the assigned channel ≤ -13 dBm/MHz

Greater than B MHz above and below the assigned channel ≤ -25 dBm/MHz

where B is the bandwidth in megahertz of the assigned channel or multiple contiguous channels of the End User Device.

Notwithstanding the emission limits in this paragraph, the Adjacent Channel Leakage Ratio for End User Devices shall be at least 30 dB.

Part 96.41 (e) (2)

For CBSDs and End User Devices, the conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz

3.7.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

9. The EUT was connected to spectrum analyzer and system simulator via a power divider.
10. The band edges of low and high channels for the highest RF powers were measured.
11. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
12. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
13. Offset has included the duty factor for LTE Band 48. Duty factor $=10 \log (1/x)$, where x is the measured duty cycle.
14. Set spectrum analyzer with RMS detector.
15. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

96.41 (e)(2)

The conducted power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40dBm/MHz.

3.8.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 6.1.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is -40dBm/MHz.

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

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. 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.
3. 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

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

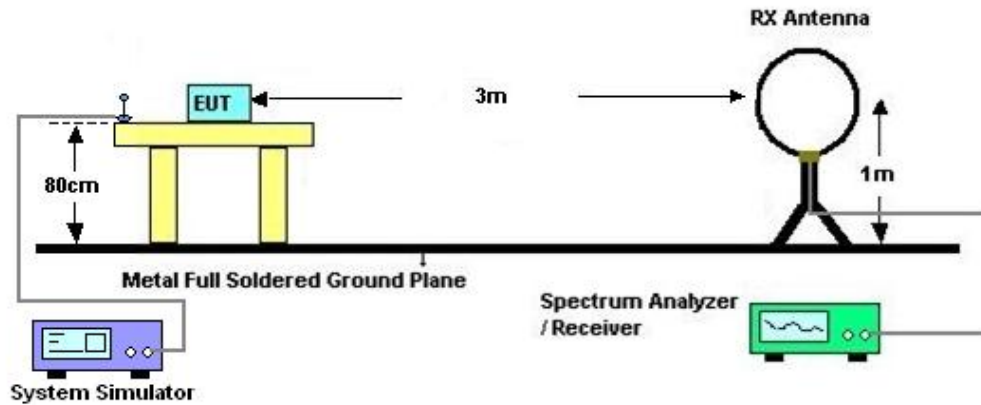
4 Radiated Test Items

4.1 Measuring Instruments

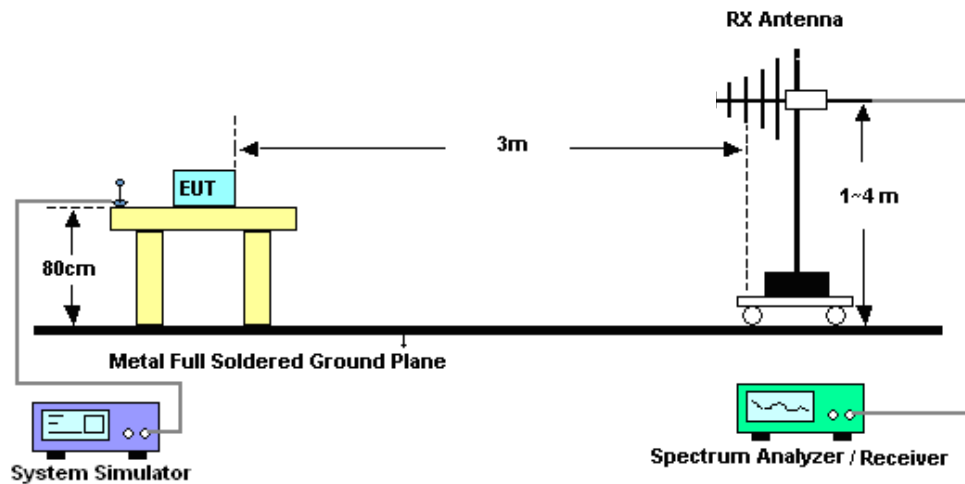
See list of measuring instruments of this test report.

4.2 Test Setup

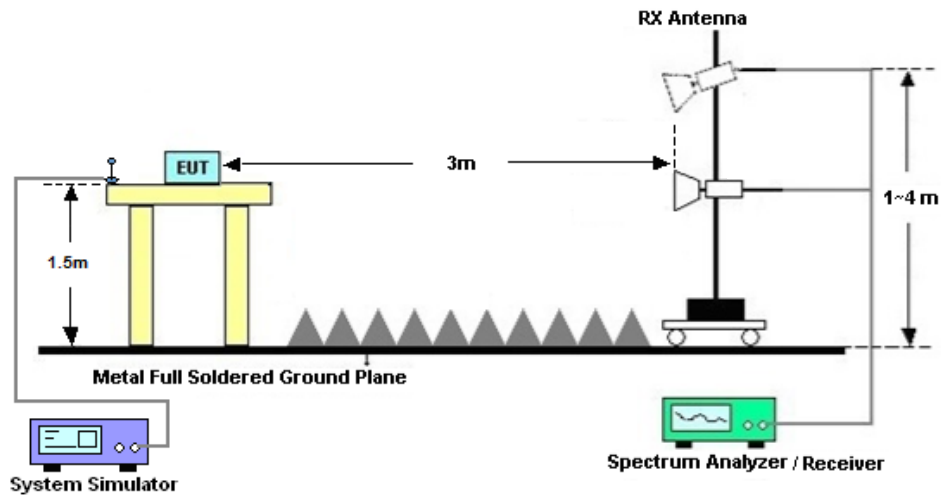
4.2.1 For radiated test below 30MHz



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 Measurement

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015.

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 -40dBm / MHz.

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

4.4.2 Test Procedures

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

The limit line is -40dBm/MHz



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2025	Nov. 10, 2025	Jul. 02, 2026	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Nov. 10, 2025	Dec. 27, 2025	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Oct. 24, 2025	Nov. 10, 2025	Oct. 23, 2027	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2025	Nov. 10, 2025	Jul. 04, 2026	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 03, 2025	Nov. 10, 2025	Jul. 03, 2026	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Apr. 03, 2025	Nov. 10, 2025	Apr. 02, 2027	Radiation (03CH02-SZ)
LF Amplifier	EM Electronics	EM330	060788	20MHz~3GHz	Dec. 25, 2024	Nov. 10, 2025	Dec. 24, 2025	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 14, 2025	Nov. 10, 2025	Oct. 13, 2026	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003043	N/A	Oct. 18, 2025	Nov. 10, 2025	Oct. 17, 2026	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Nov. 10, 2025	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Nov. 10, 2025	NCR	Radiation (03CH02-SZ)
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 02, 2025	Oct. 18, 2025~Oct. 31, 2025	Apr. 01, 2026	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct. 13, 2025	Oct. 18, 2025~Oct. 31, 2025	Oct. 12, 2026	Conducted (TH01-SZ)
Power Divider	Titan	P02N005180	923402	0.4GHz~26.5GHz	Nov. 08, 2024	Oct. 18, 2025~Oct. 31, 2025	Nov. 07, 2025	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 02, 2025	Oct. 18, 2025~Oct. 31, 2025	Jul. 01, 2026	Conducted (TH01-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

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
Conducted Power Density	± 1.32 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 :	Nina Cheng	Temperature :	24~26℃
		Relative Humidity :	50~53%

Conducted Output Power(Average power) and EIRP

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				55340	55990	56640			
Frequency (MHz)				3560	3625	3690	L	M	H
20	QPSK	1	0	18.88	18.85	18.68	0.0614	0.0610	0.0586
20	QPSK	1	49	22.97	22.86	22.81	0.1574	0.1535	0.1517
20	QPSK	1	99	18.91	18.81	18.89	0.0618	0.0604	0.0615
20	QPSK	50	0	22.06	21.98	22.02	0.1276	0.1253	0.1265
20	QPSK	50	24	22.07	21.97	22.00	0.1279	0.1250	0.1259
20	QPSK	50	50	22.09	21.99	22.03	0.1285	0.1256	0.1268
20	QPSK	100	0	17.13	17.06	17.03	0.0410	0.0404	0.0401
20	16QAM	1	0	17.99	17.97	17.96	0.0500	0.0498	0.0497
20	16QAM	1	49	22.04	21.96	21.95	0.1271	0.1247	0.1245
20	16QAM	1	99	18.04	18.02	17.95	0.0506	0.0504	0.0495
20	16QAM	50	0	21.09	21.04	21.02	0.1021	0.1009	0.1005
20	16QAM	50	24	21.12	21.04	21.11	0.1028	0.1009	0.1026
20	16QAM	50	50	21.08	21.01	20.99	0.1019	0.1002	0.0998
20	16QAM	100	0	16.15	16.05	16.06	0.0327	0.0320	0.0321
20	64QAM	1	0	17.10	17.08	17.05	0.0407	0.0406	0.0403
20	64QAM	1	49	21.08	21.03	21.04	0.1019	0.1007	0.1009
20	64QAM	1	99	17.13	17.09	17.06	0.0410	0.0406	0.0404
20	64QAM	50	0	20.06	20.03	20.05	0.0805	0.0800	0.0804
20	64QAM	50	24	20.09	20.01	20.07	0.0811	0.0796	0.0807
20	64QAM	50	50	20.12	20.09	20.11	0.0817	0.0811	0.0815
20	64QAM	100	0	15.13	15.05	15.05	0.0259	0.0254	0.0254
20	256QAM	1	0	14.02	14.00	14.00	0.0200	0.0200	0.0200
20	256QAM	1	49	18.15	18.12	18.12	0.0519	0.0515	0.0515
20	256QAM	1	99	14.08	14.00	13.98	0.0203	0.0200	0.0199
20	256QAM	50	0	18.15	18.05	18.08	0.0519	0.0507	0.0511
20	256QAM	50	24	18.19	18.12	18.13	0.0524	0.0515	0.0516
20	256QAM	50	50	18.14	18.07	18.07	0.0518	0.0509	0.0509
20	256QAM	100	0	15.16	15.15	15.10	0.0261	0.0260	0.0257
Channel				55315	55990	56665	EIRP(W)		
Frequency (MHz)				3557.5	3625	3692.5	L	M	H
15	QPSK	1	0	18.39	18.79	18.67	0.0548	0.0601	0.0585
15	QPSK	1	37	22.75	22.77	22.81	0.1496	0.1503	0.1517
15	QPSK	1	74	18.77	18.72	18.74	0.0598	0.0592	0.0594
15	QPSK	36	0	22.00	22.01	21.99	0.1259	0.1262	0.1256



15	QPSK	36	20	21.94	21.96	22.01	0.1242	0.1247	0.1262
15	QPSK	36	39	22.01	22.00	21.98	0.1262	0.1259	0.1253
15	QPSK	75	0	18.07	18.01	18.02	0.0509	0.0502	0.0504
15	16QAM	1	0	17.74	17.76	17.74	0.0472	0.0474	0.0472
15	16QAM	1	37	21.94	21.93	21.87	0.1242	0.1239	0.1222
15	16QAM	1	74	17.82	17.80	17.89	0.0481	0.0479	0.0489
15	16QAM	36	0	20.97	20.99	21.04	0.0993	0.0998	0.1009
15	16QAM	36	20	21.01	20.95	20.94	0.1002	0.0989	0.0986
15	16QAM	36	39	21.00	20.96	21.00	0.1000	0.0991	0.1000
15	16QAM	75	0	17.01	17.01	16.99	0.0399	0.0399	0.0397
15	64QAM	1	0	17.00	16.96	16.93	0.0398	0.0394	0.0392
15	64QAM	1	37	20.91	20.92	20.92	0.0979	0.0982	0.0982
15	64QAM	1	74	16.94	16.97	16.98	0.0393	0.0395	0.0396
15	64QAM	36	0	19.94	20.03	19.96	0.0783	0.0800	0.0787
15	64QAM	36	20	20.04	20.02	19.97	0.0802	0.0798	0.0789
15	64QAM	36	39	20.01	19.98	20.01	0.0796	0.0791	0.0796
15	64QAM	75	0	16.06	16.12	16.11	0.0321	0.0325	0.0324
15	256QAM	1	0	13.86	13.89	13.87	0.0193	0.0195	0.0194
15	256QAM	1	37	18.04	17.98	18.05	0.0506	0.0499	0.0507
15	256QAM	1	74	14.06	14.00	14.06	0.0202	0.0200	0.0202
15	256QAM	36	0	18.05	18.11	18.03	0.0507	0.0514	0.0505
15	256QAM	36	20	18.03	17.98	18.00	0.0505	0.0499	0.0501
15	256QAM	36	39	18.04	18.10	18.07	0.0506	0.0513	0.0509
15	256QAM	75	0	14.12	14.13	14.12	0.0205	0.0206	0.0205
Channel				55290	55990	56690	EIRP(W)		
Frequency (MHz)				3555	3625	3695	L	M	H
10	QPSK	1	0	22.94	22.91	22.74	0.1563	0.1552	0.1493
10	QPSK	1	25	22.76	22.82	22.72	0.1500	0.1521	0.1486
10	QPSK	1	49	22.83	22.89	22.85	0.1524	0.1545	0.1531
10	QPSK	25	0	21.85	21.94	21.88	0.1216	0.1242	0.1225
10	QPSK	25	12	22.01	22.05	22.01	0.1262	0.1274	0.1262
10	QPSK	25	25	21.96	22.01	21.92	0.1247	0.1262	0.1236
10	QPSK	50	0	19.87	19.95	19.87	0.0771	0.0785	0.0771
10	16QAM	1	0	21.83	21.86	21.78	0.1211	0.1219	0.1197
10	16QAM	1	25	21.89	21.92	21.90	0.1227	0.1236	0.1230
10	16QAM	1	49	21.75	21.84	21.77	0.1189	0.1213	0.1194
10	16QAM	25	0	20.93	20.98	20.92	0.0984	0.0995	0.0982
10	16QAM	25	12	21.03	21.06	21.01	0.1007	0.1014	0.1002
10	16QAM	25	25	21.00	21.03	20.95	0.1000	0.1007	0.0989
10	16QAM	50	0	18.89	18.95	18.89	0.0615	0.0624	0.0615
10	64QAM	1	0	20.98	21.03	21.00	0.0995	0.1007	0.1000
10	64QAM	1	25	21.00	21.03	21.02	0.1000	0.1007	0.1005
10	64QAM	1	49	20.91	20.96	20.94	0.0979	0.0991	0.0986
10	64QAM	25	0	19.87	19.97	19.87	0.0771	0.0789	0.0771
10	64QAM	25	12	20.05	20.07	20.01	0.0804	0.0807	0.0796
10	64QAM	25	25	19.98	20.06	20.03	0.0791	0.0805	0.0800
10	64QAM	50	0	17.92	17.97	17.90	0.0492	0.0498	0.0490
10	256QAM	1	0	17.93	17.99	17.92	0.0493	0.0500	0.0492



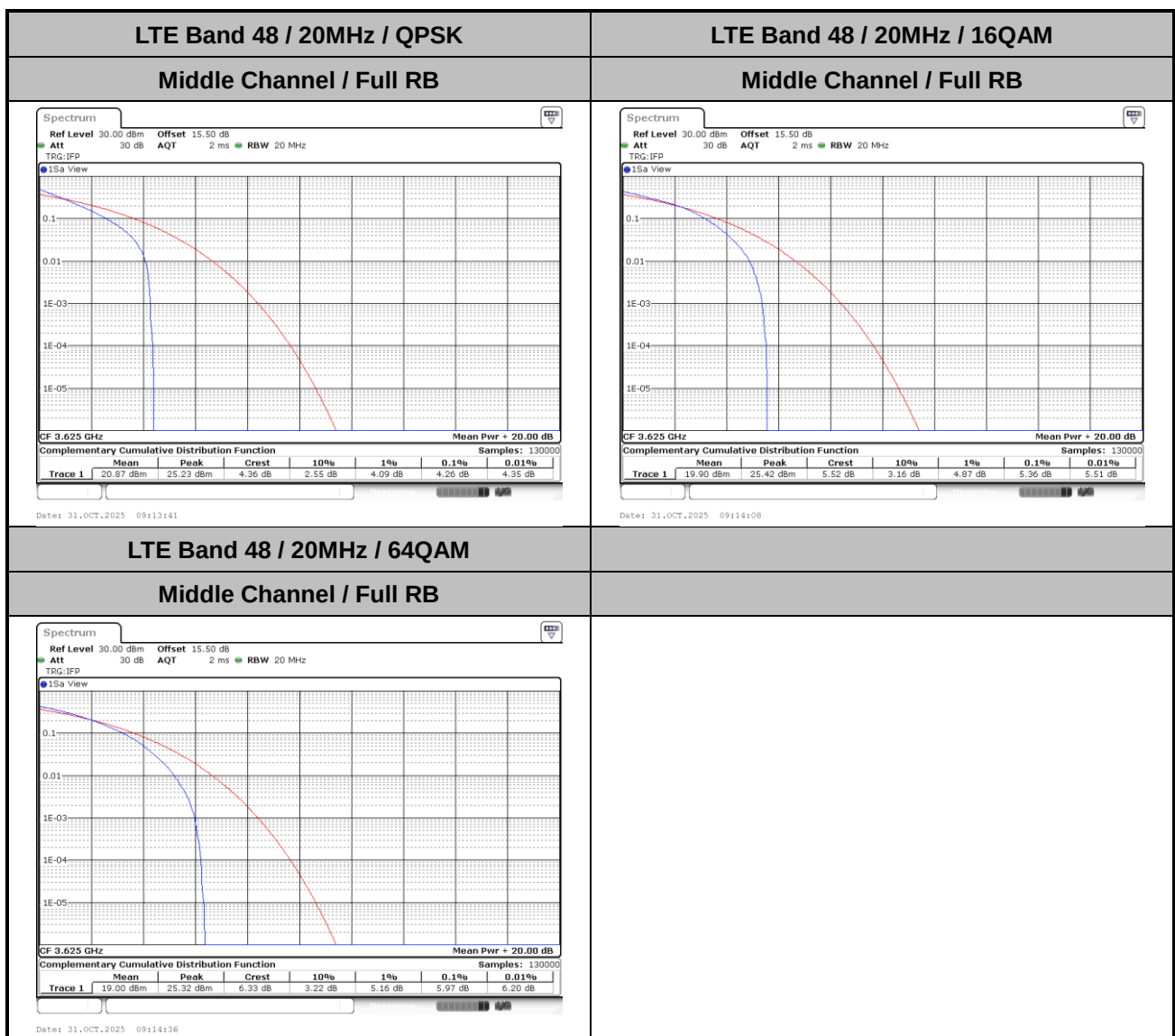
10	256QAM	1	25	18.01	18.07	17.97	0.0502	0.0509	0.0498
10	256QAM	1	49	17.82	17.91	17.84	0.0481	0.0491	0.0483
10	256QAM	25	0	17.95	18.03	18.01	0.0495	0.0505	0.0502
10	256QAM	25	12	18.14	18.18	18.14	0.0518	0.0522	0.0518
10	256QAM	25	25	18.06	18.07	18.00	0.0508	0.0509	0.0501
10	256QAM	50	0	18.01	18.02	17.93	0.0502	0.0504	0.0493
Channel				55265	55990	56715	EIRP(W)		
Frequency (MHz)				3552.5	3625	3697.5	L	M	H
5	QPSK	1	0	22.87	22.86	22.70	0.1538	0.1535	0.1479
5	QPSK	1	12	22.85	22.91	22.87	0.1531	0.1552	0.1538
5	QPSK	1	24	22.80	22.85	22.78	0.1514	0.1531	0.1507
5	QPSK	12	0	22.01	22.06	22.03	0.1262	0.1276	0.1268
5	QPSK	12	7	22.03	22.08	22.06	0.1268	0.1282	0.1276
5	QPSK	12	13	21.95	22.03	22.00	0.1245	0.1268	0.1259
5	QPSK	25	0	21.94	21.97	21.96	0.1242	0.1250	0.1247
5	16QAM	1	0	21.84	21.92	21.88	0.1213	0.1236	0.1225
5	16QAM	1	12	21.98	22.01	21.98	0.1253	0.1262	0.1253
5	16QAM	1	24	21.69	21.79	21.74	0.1172	0.1199	0.1186
5	16QAM	12	0	20.96	21.01	20.99	0.0991	0.1002	0.0998
5	16QAM	12	7	20.99	21.04	21.00	0.0998	0.1009	0.1000
5	16QAM	12	13	20.96	21.04	21.01	0.0991	0.1009	0.1002
5	16QAM	25	0	21.00	21.03	21.01	0.1000	0.1007	0.1002
5	64QAM	1	0	20.82	20.89	20.86	0.0959	0.0975	0.0968
5	64QAM	1	12	20.99	21.05	21.01	0.0998	0.1012	0.1002
5	64QAM	1	24	20.93	21.00	20.94	0.0984	0.1000	0.0986
5	64QAM	12	0	19.99	20.03	19.94	0.0793	0.0800	0.0783
5	64QAM	12	7	20.03	20.09	20.00	0.0800	0.0811	0.0794
5	64QAM	12	13	20.03	20.04	19.96	0.0800	0.0802	0.0787
5	64QAM	25	0	19.96	19.98	19.96	0.0787	0.0791	0.0787
5	256QAM	1	0	17.97	17.99	17.93	0.0498	0.0500	0.0493
5	256QAM	1	12	17.99	18.07	18.01	0.0500	0.0509	0.0502
5	256QAM	1	24	17.95	18.02	18.00	0.0495	0.0504	0.0501
5	256QAM	12	0	18.02	18.10	18.07	0.0504	0.0513	0.0509
5	256QAM	12	7	18.06	18.09	17.99	0.0508	0.0512	0.0500
5	256QAM	12	13	18.04	18.12	18.11	0.0506	0.0515	0.0514
5	256QAM	25	0	17.96	18.04	17.99	0.0497	0.0506	0.0500



LTE Band 48

Peak-to-Average Ratio

Mode	LTE Band 48 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	4.26	5.36	5.97	PASS



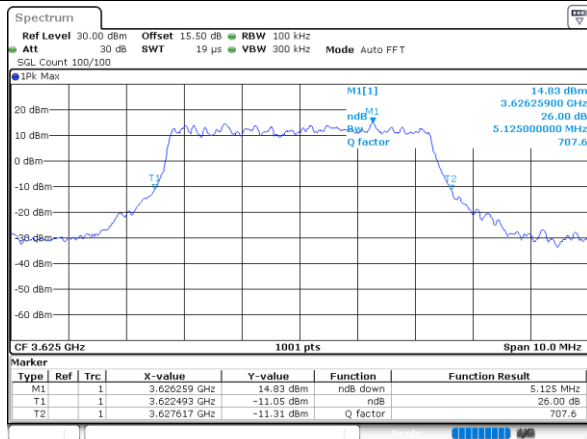


26dB Bandwidth

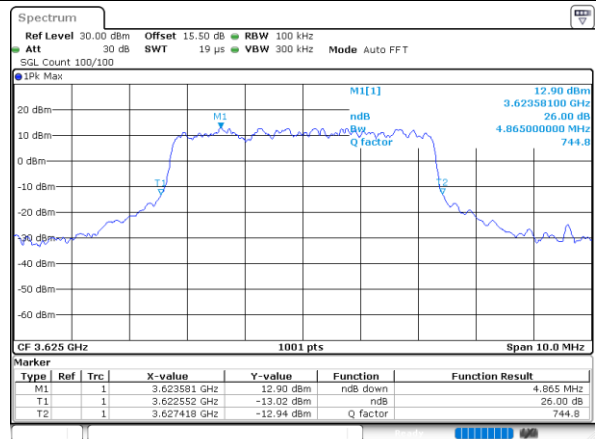
Mode	LTE Band 48 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	5.13	4.87	9.81	9.95	14.27	14.42	18.86	18.78

LTE Band 48

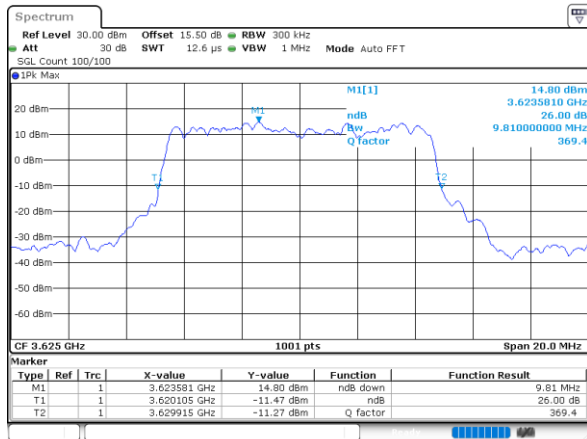
Middle Channel / 5MHz / QPSK



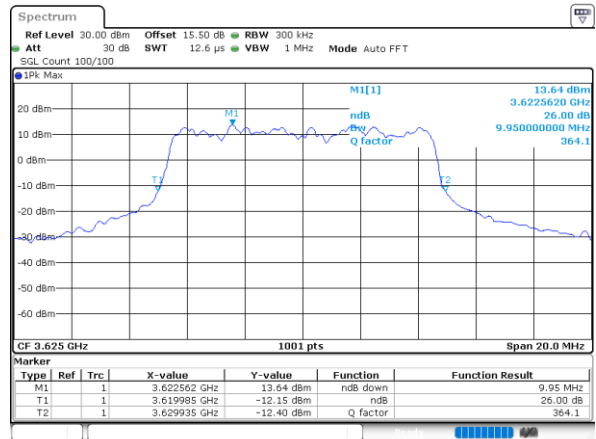
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK

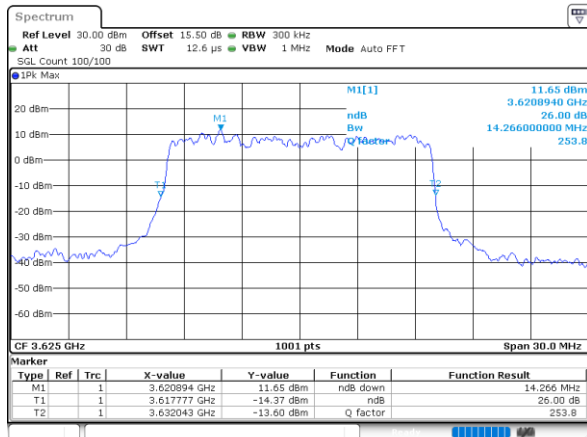


Middle Channel / 10MHz / 16QAM



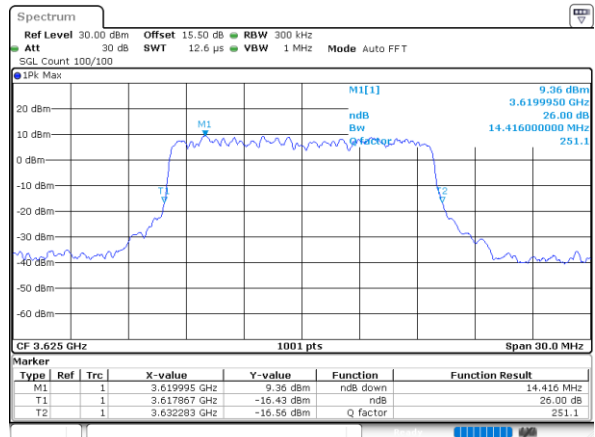


Middle Channel / 15MHz / QPSK



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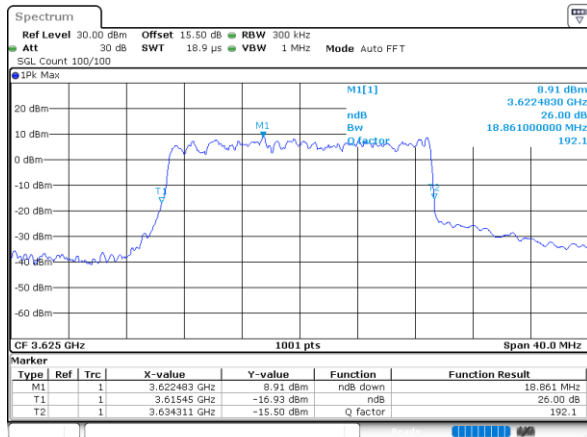
Middle Channel / 15MHz / 16QAM



Date: 28.OCT.2025 18:36:10

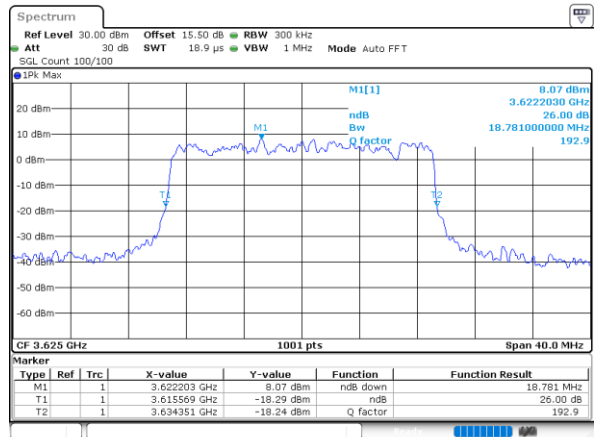
LTE Band 48

Middle Channel / 20MHz / QPSK



Date: 28.OCT.2025 19:06:14

Middle Channel / 20MHz / 16QAM

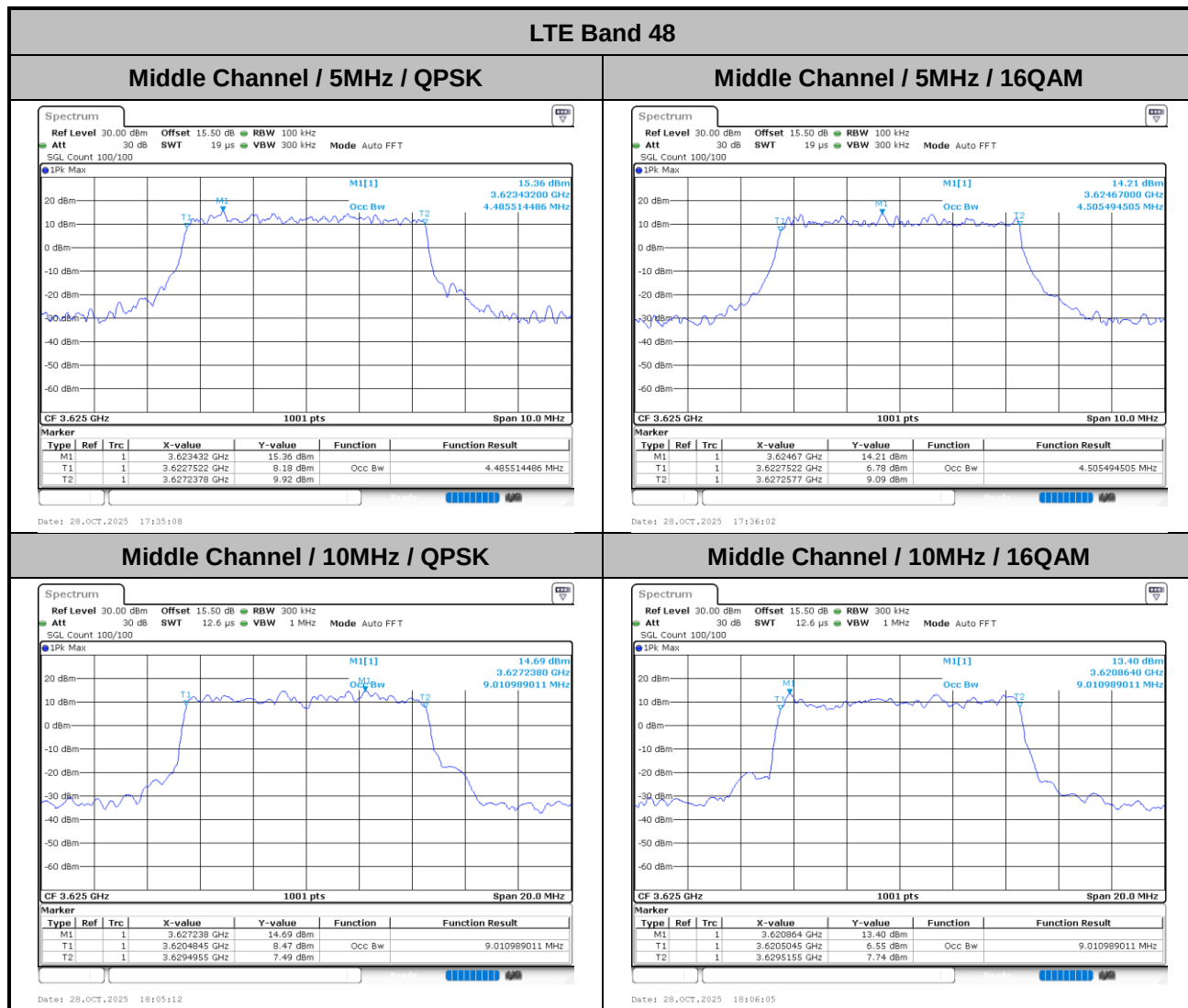


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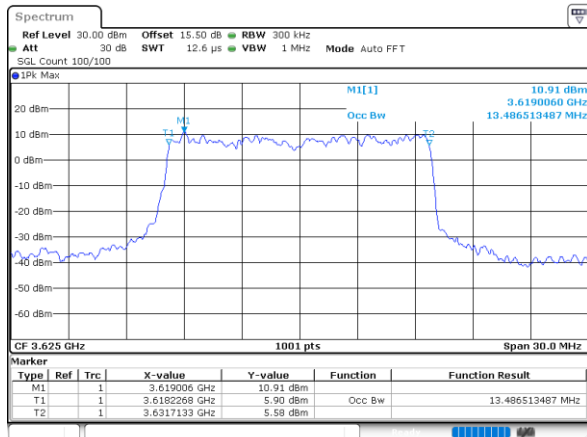
Occupied Bandwidth

Mode	LTE Band 48 : 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	-	-	-	-	4.49	4.51	9.01	9.01	13.49	13.49	17.86	17.98



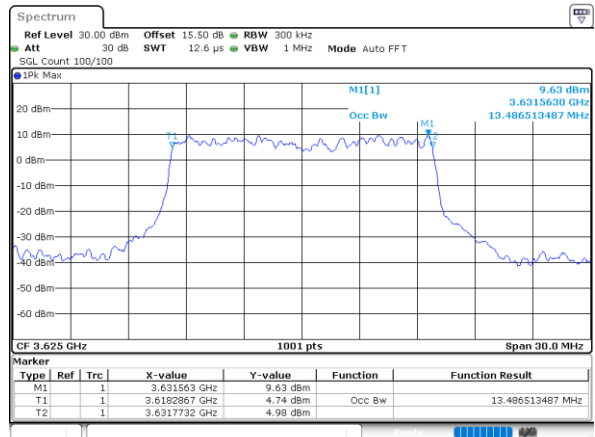


Middle Channel / 15MHz / QPSK



Date: 28.OCT.2025 18:35:31

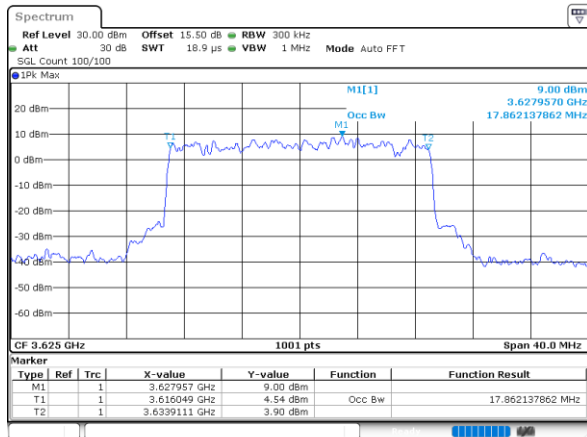
Middle Channel / 15MHz / 16QAM



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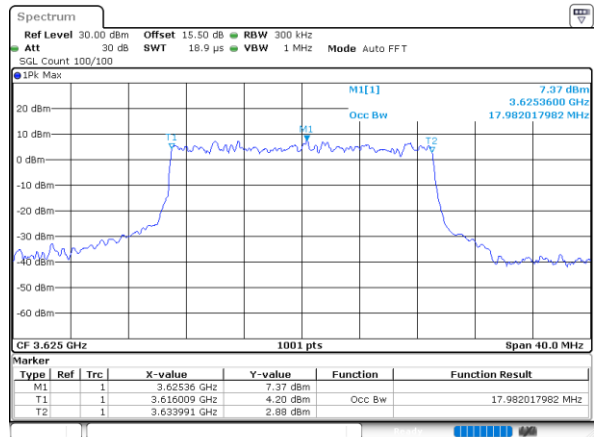
LTE Band 48

Middle Channel / 20MHz / QPSK



Date: 28.OCT.2025 19:06:28

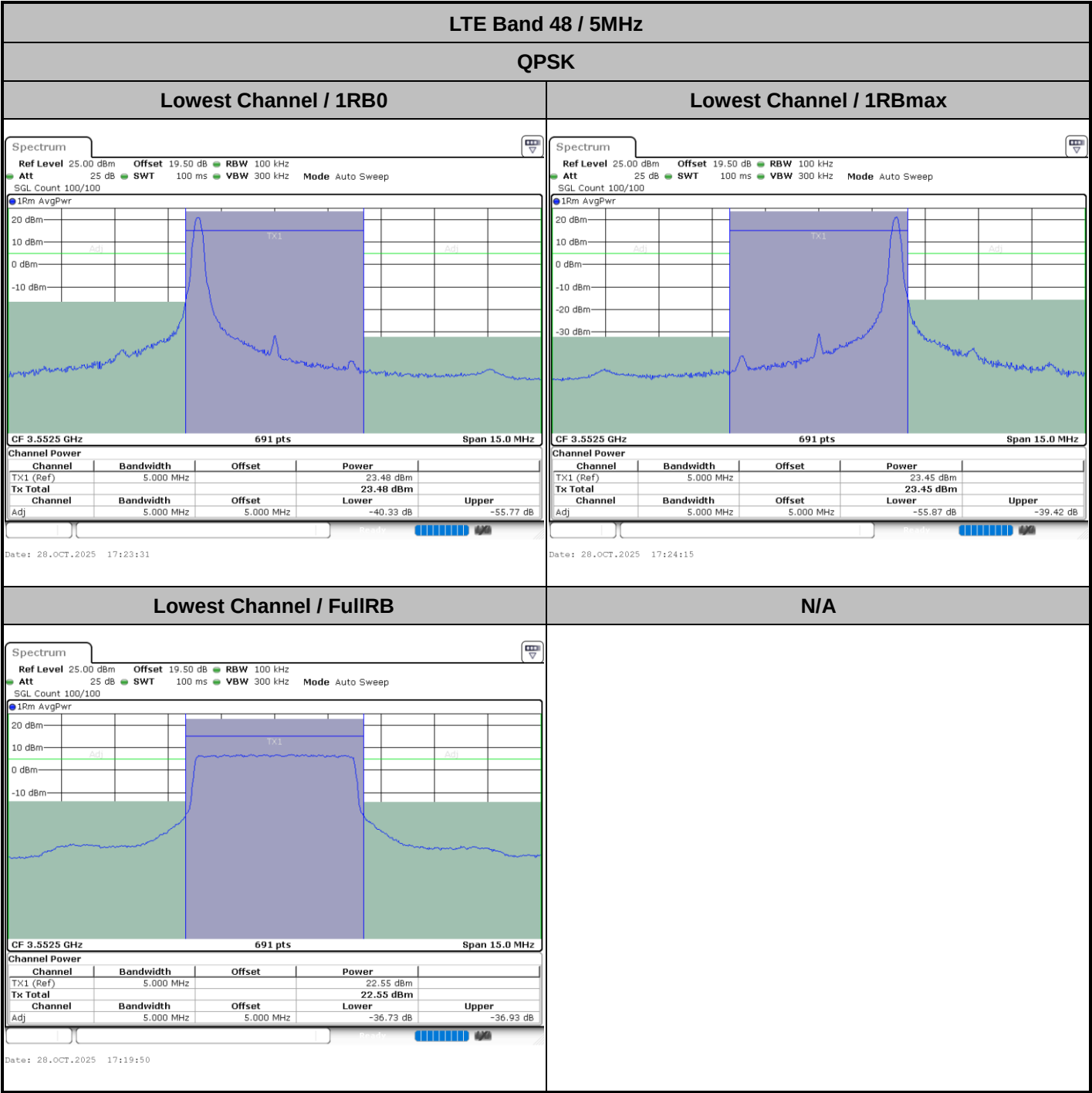
Middle Channel / 20MHz / 16QAM

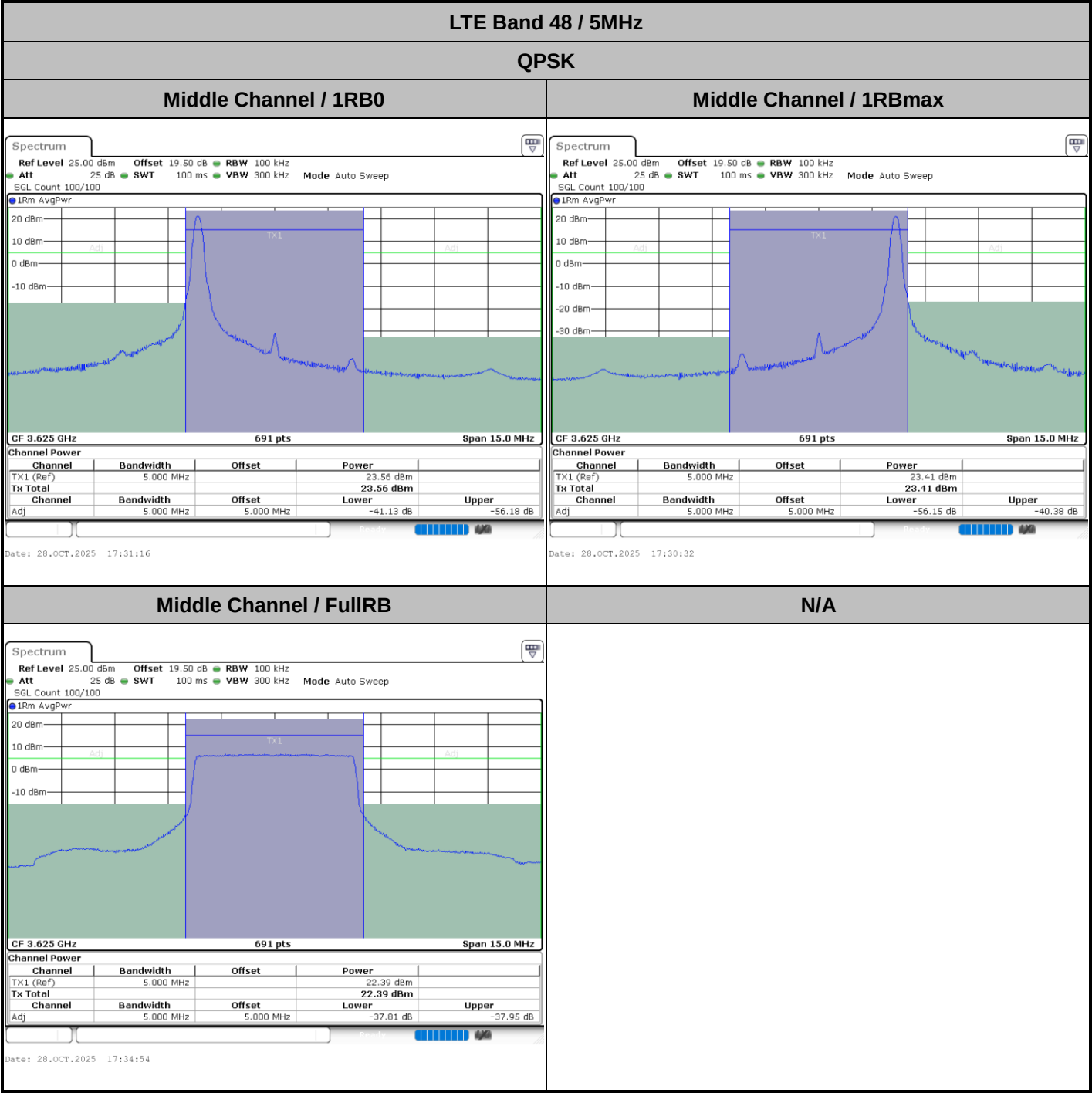


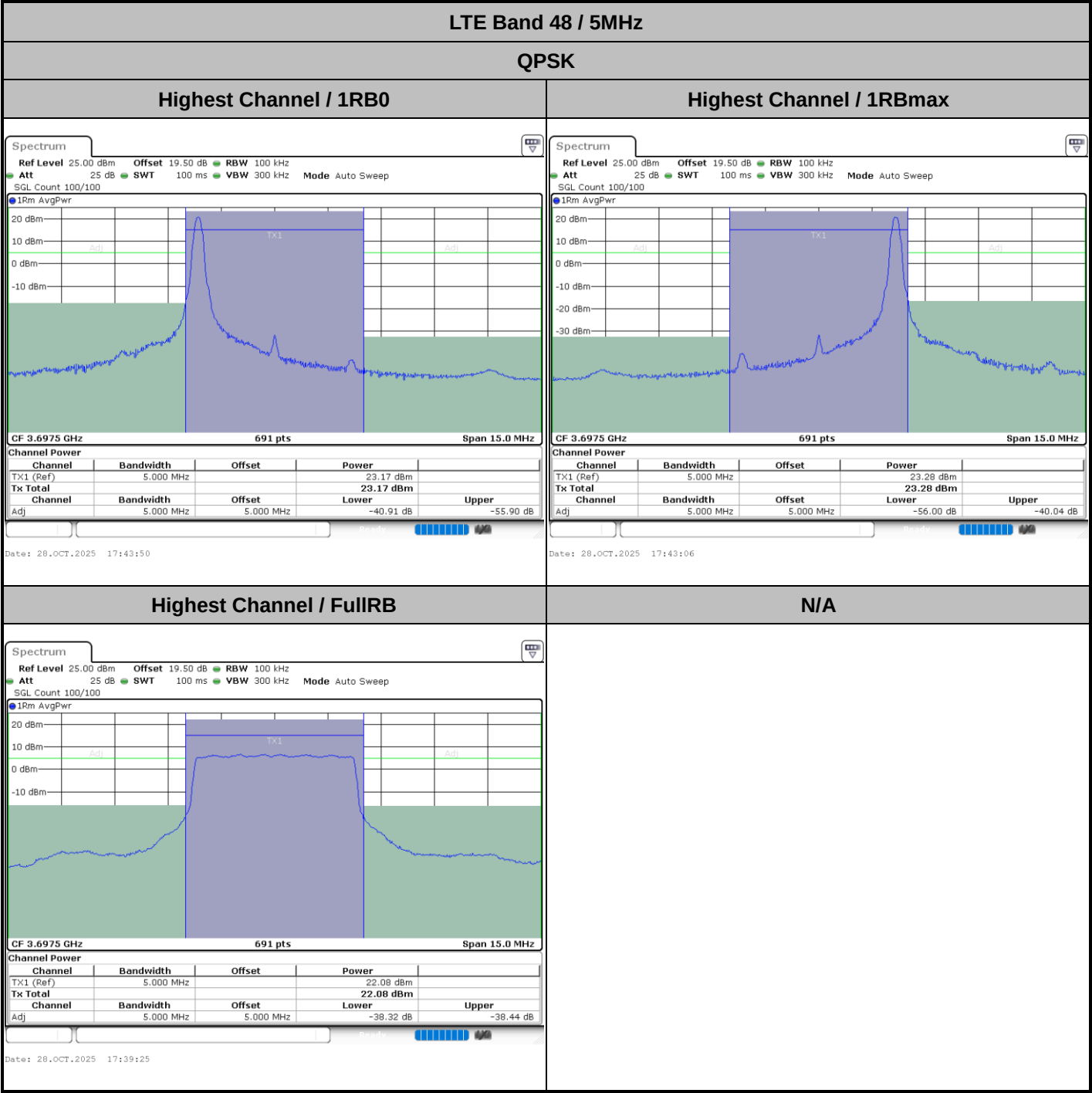
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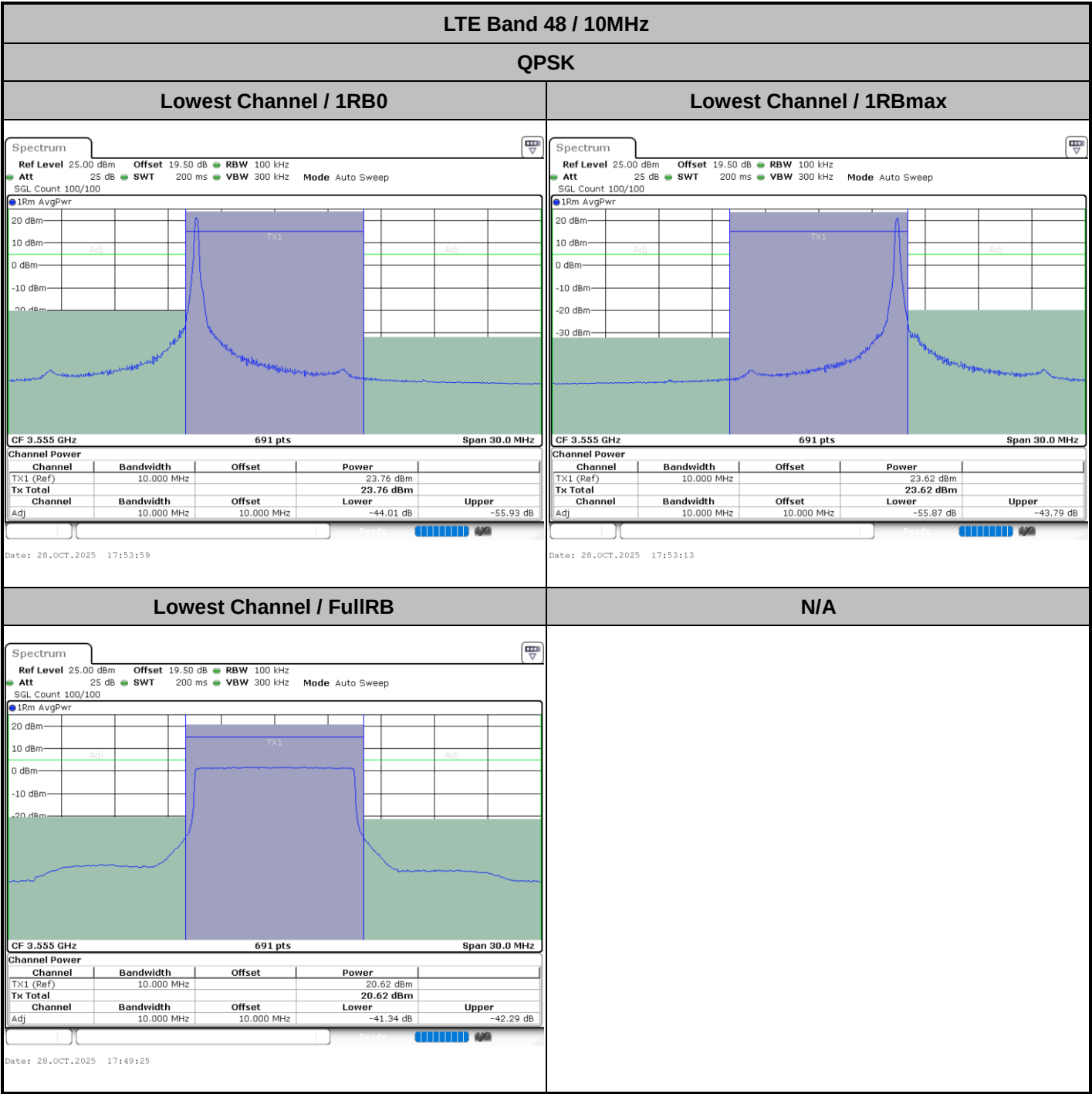


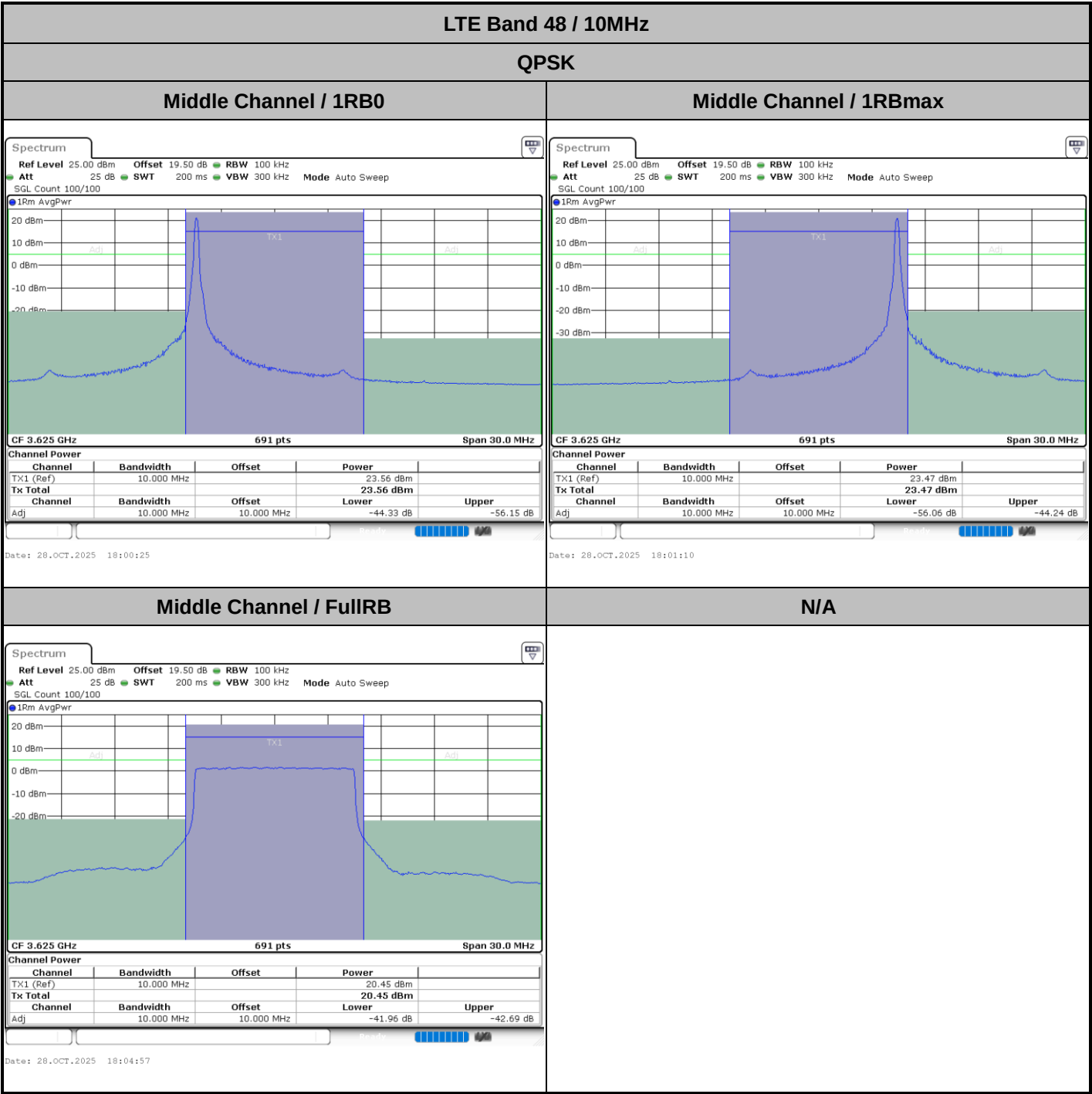
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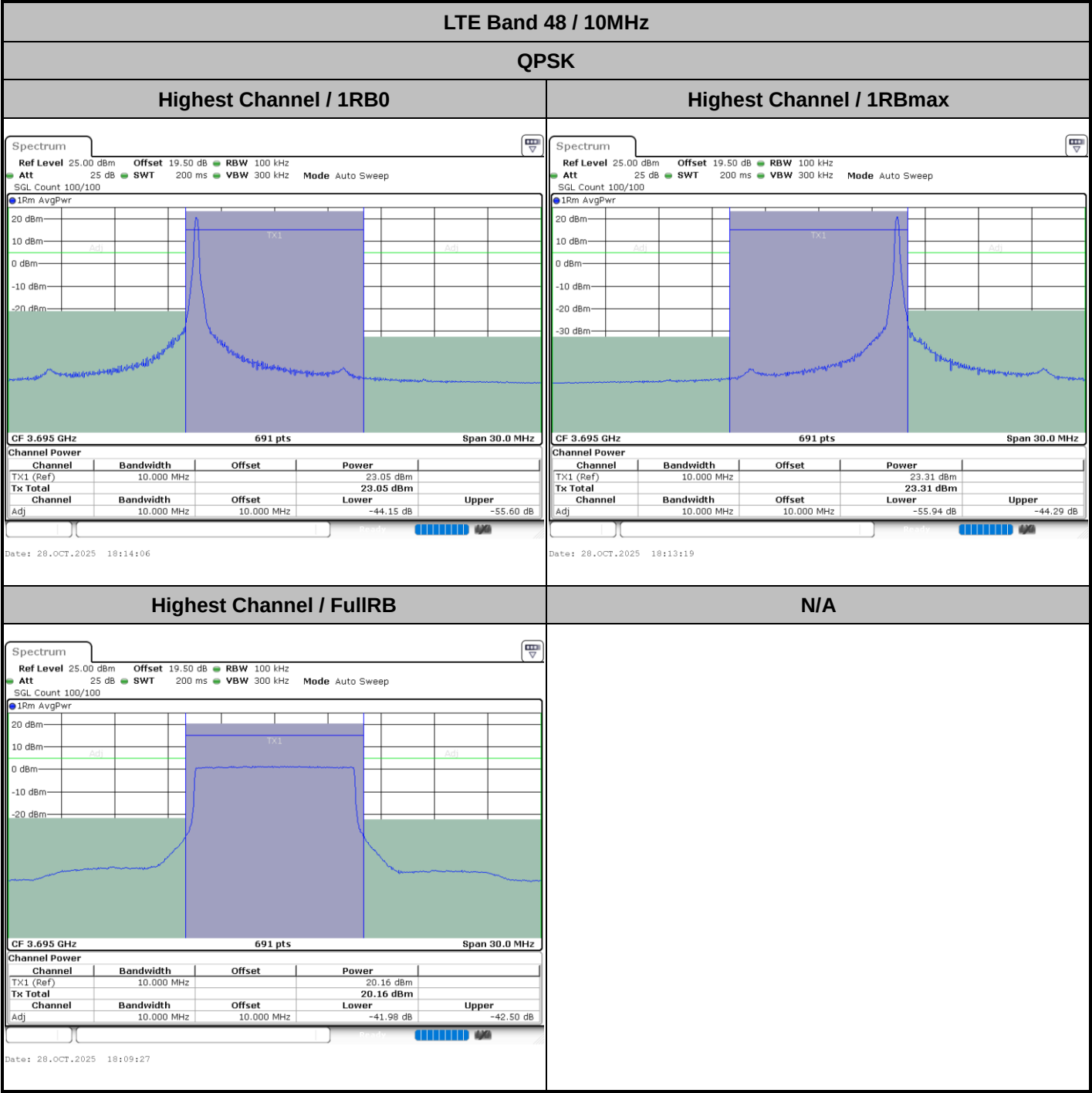


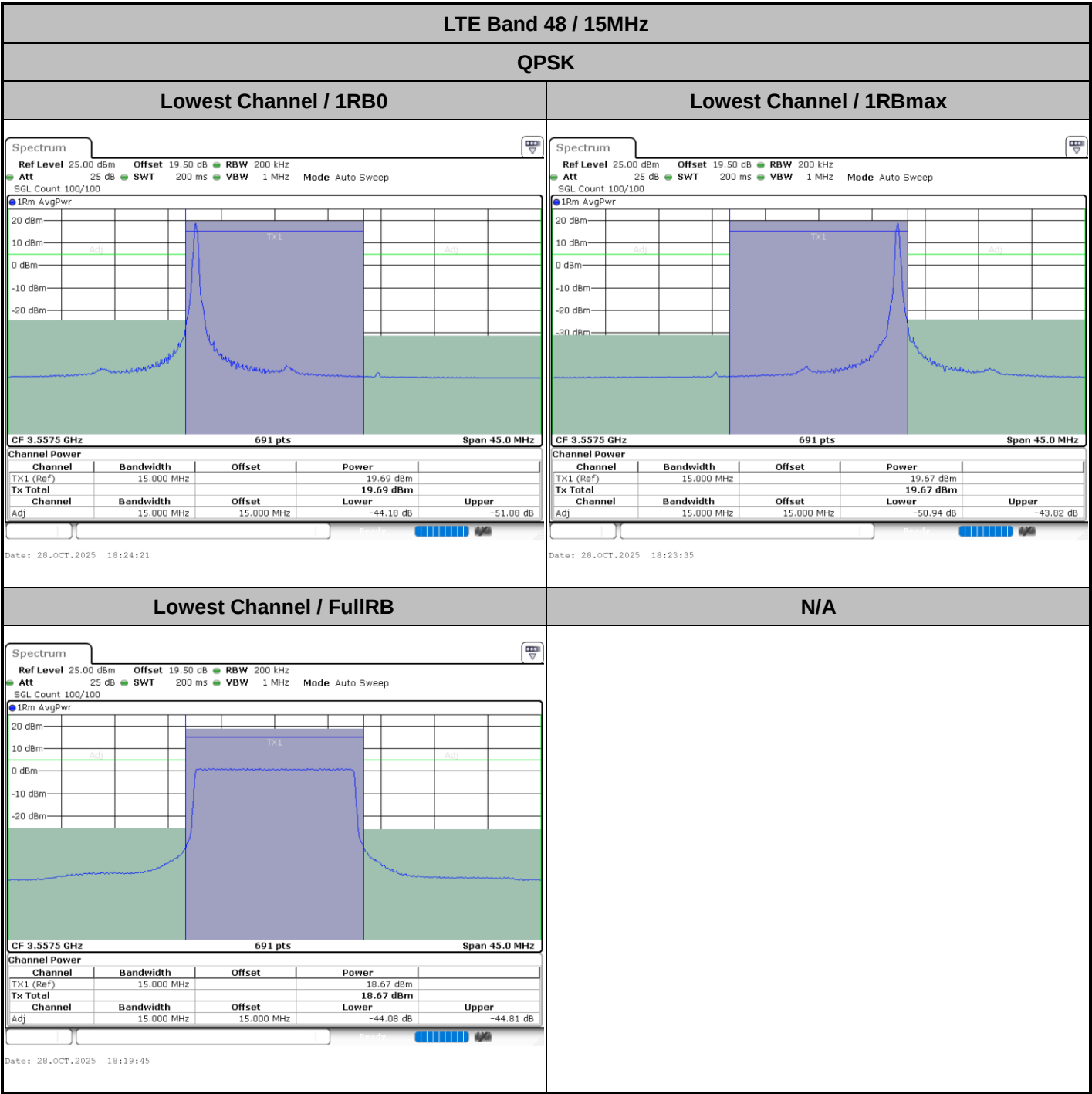


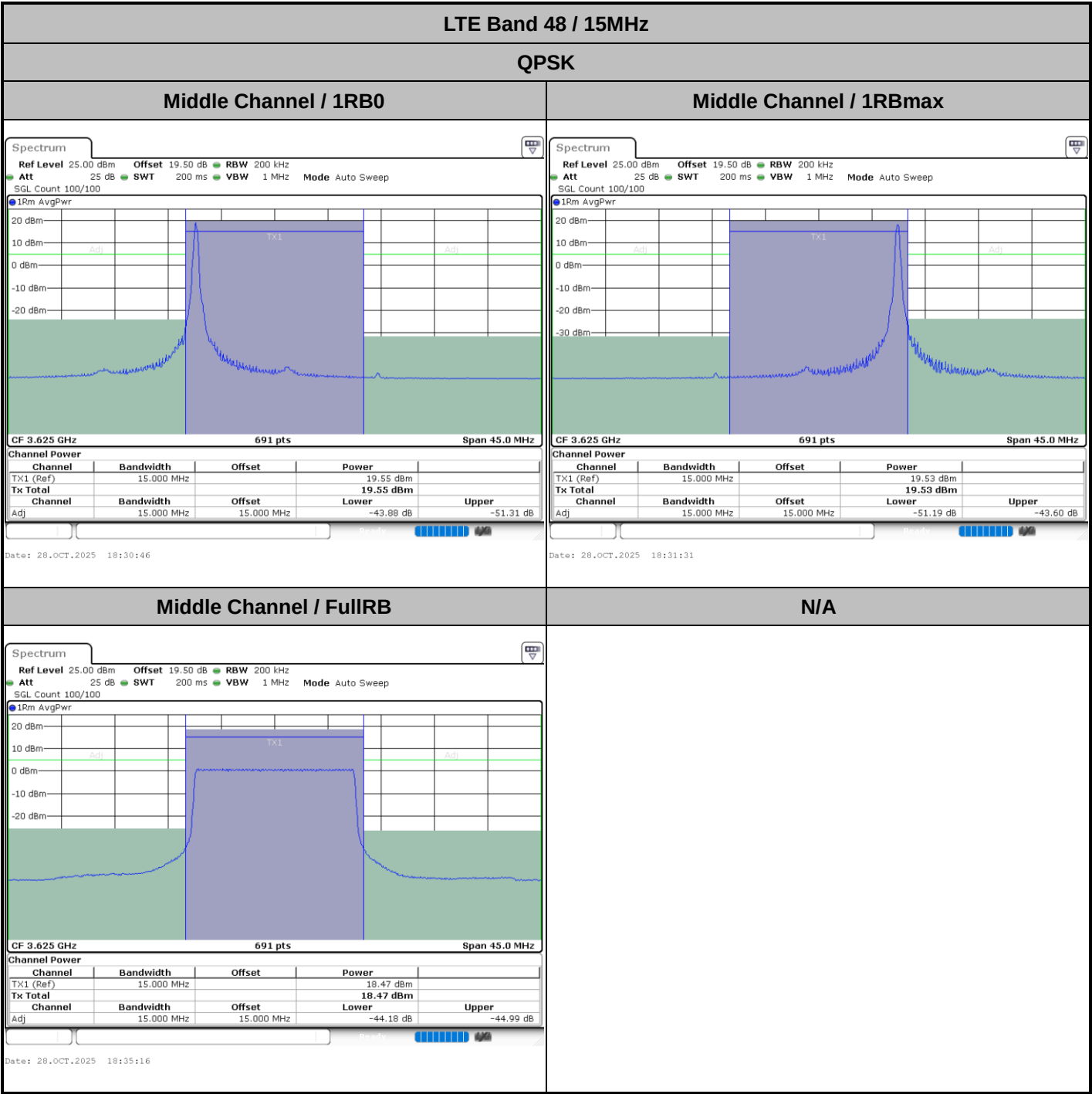


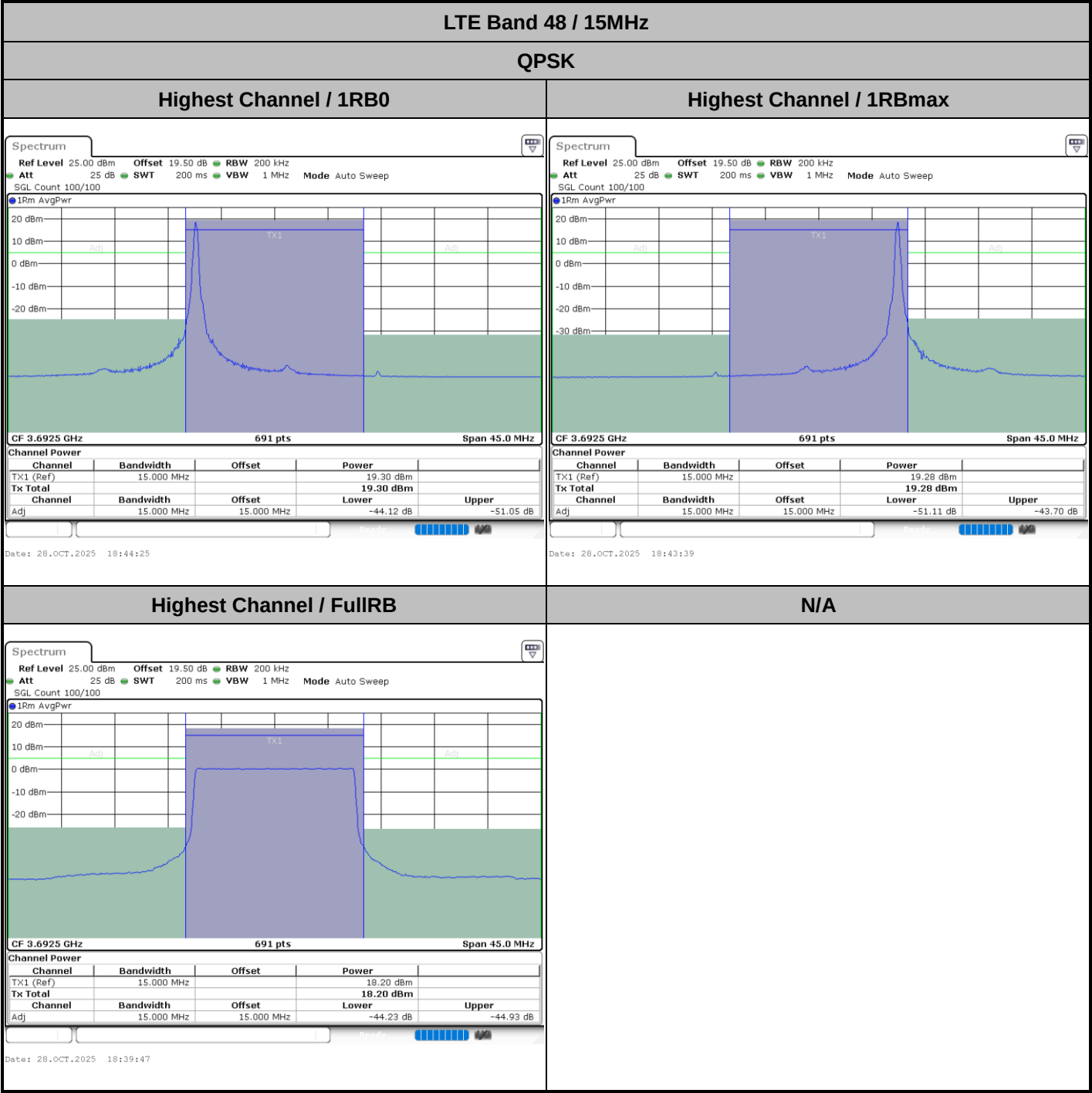










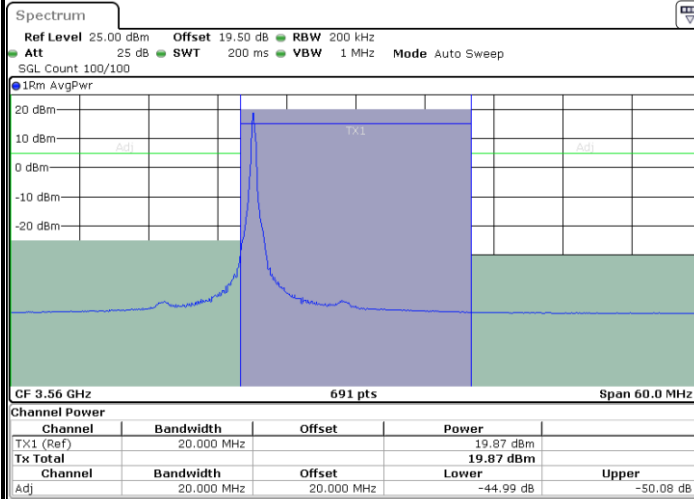




LTE Band 48 / 20MHz

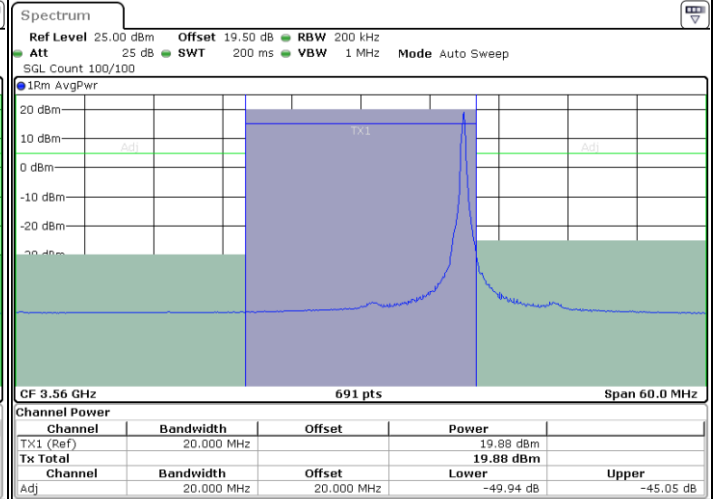
QPSK

Lowest Channel / 1RB0



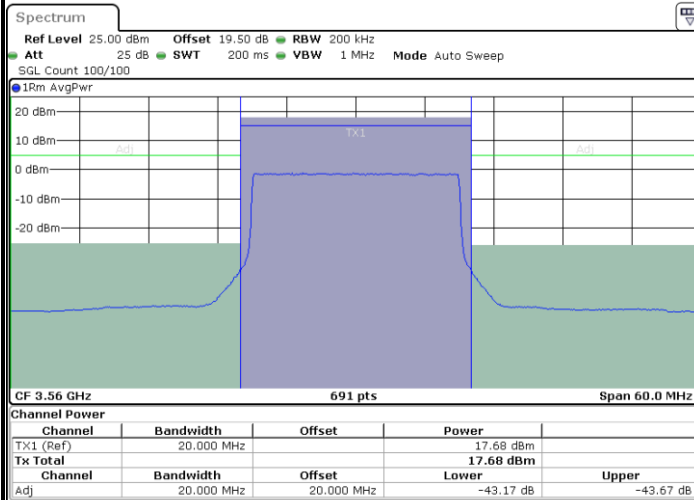
Date: 28.OCT.2025 18:56:04

Lowest Channel / 1RBmax



Date: 28.OCT.2025 18:52:19

Lowest Channel / FullIRB



Date: 28.OCT.2025 18:50:04

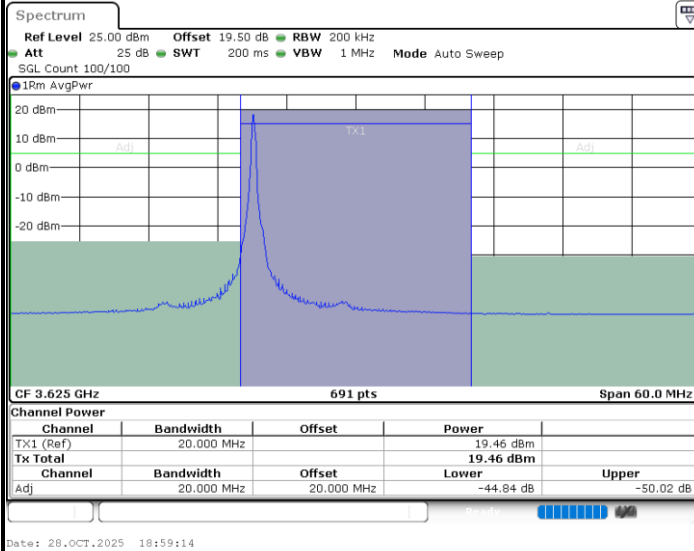
N/A



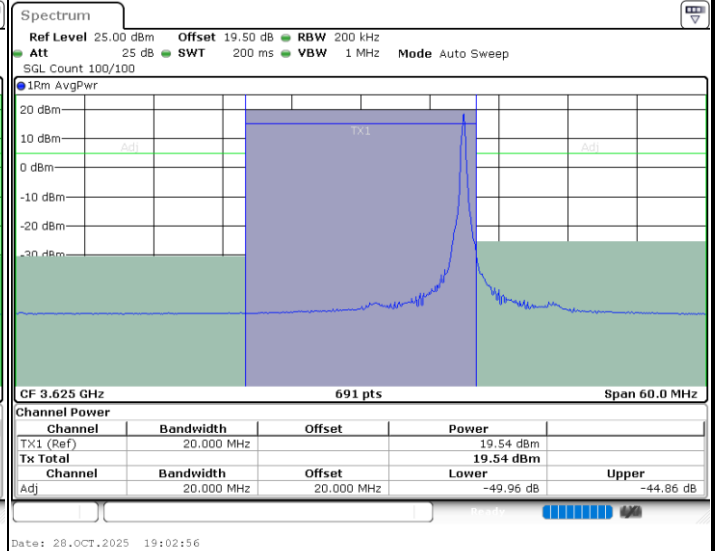
LTE Band 48 / 20MHz

QPSK

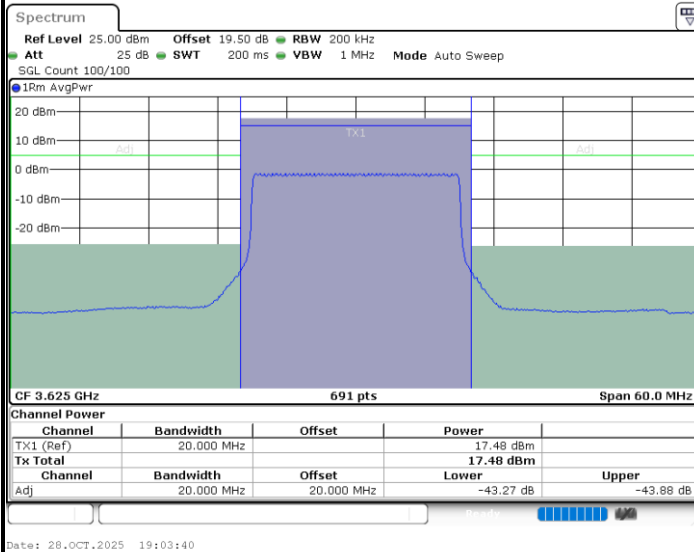
Middle Channel / 1RB0



Middle Channel / 1RBmax



Middle Channel / FullRB



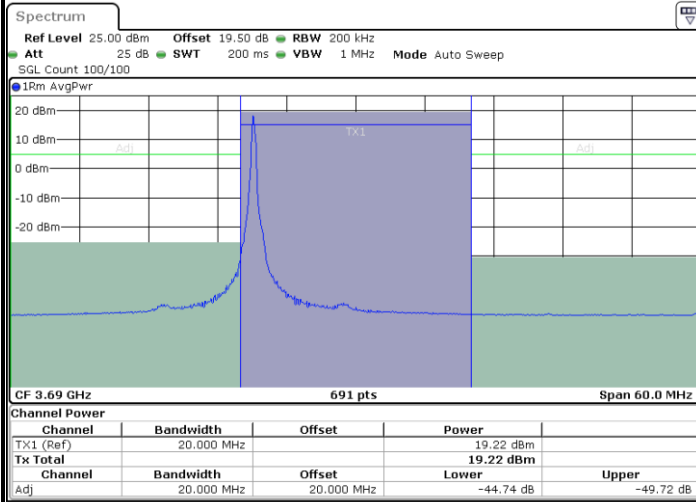
N/A



LTE Band 48 / 20MHz

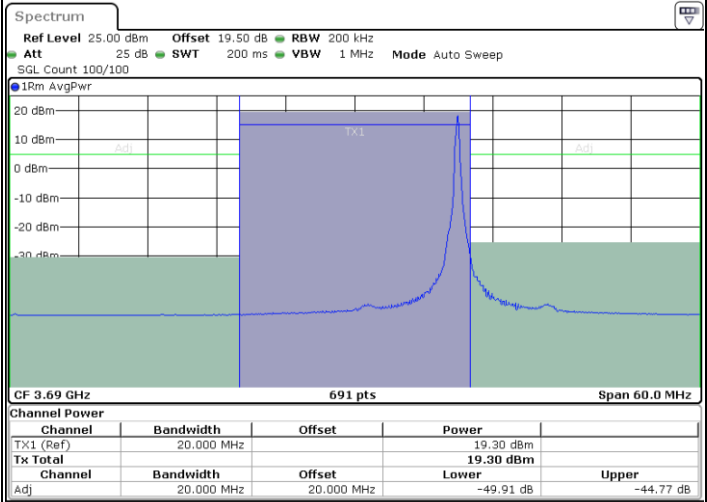
QPSK

Highest Channel / 1RB0



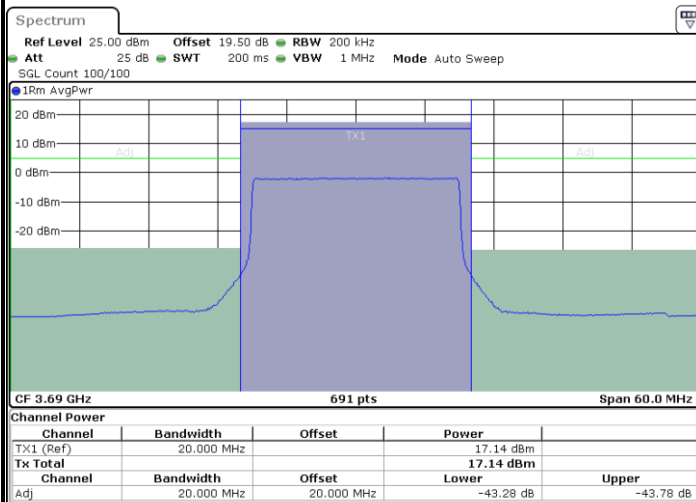
Date: 28.OCT.2025 19:17:09

Highest Channel / 1RBmax



Date: 28.OCT.2025 19:13:25

Highest Channel / FullRB



Date: 28.OCT.2025 19:12:40

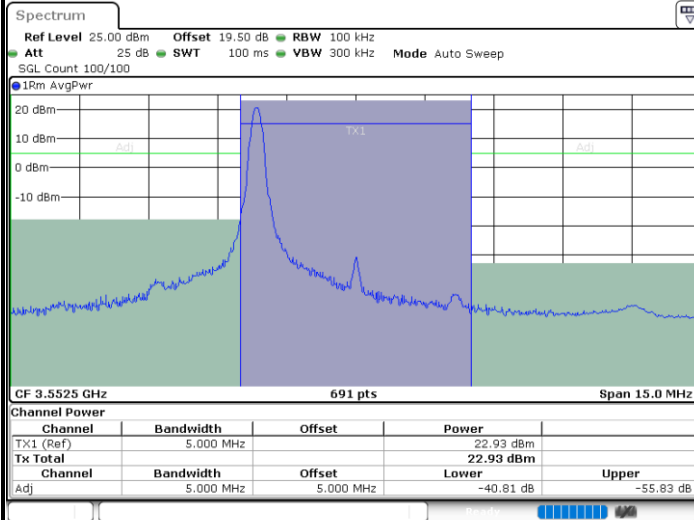
N/A



LTE Band 48 / 5MHz

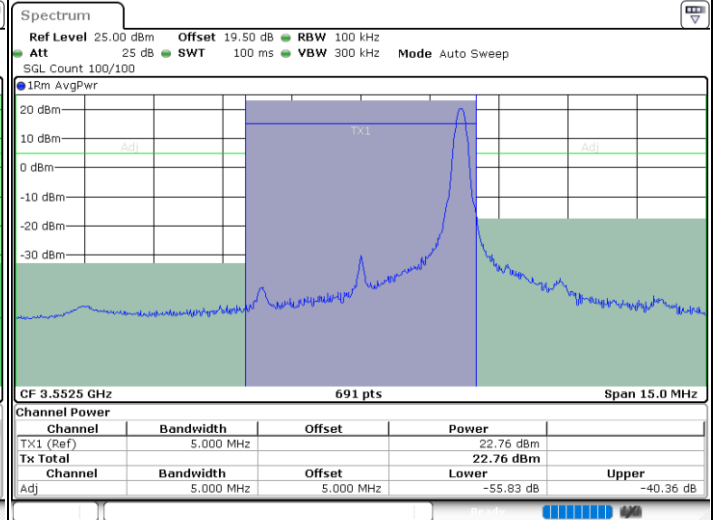
16QAM

Lowest Channel / 1RB0



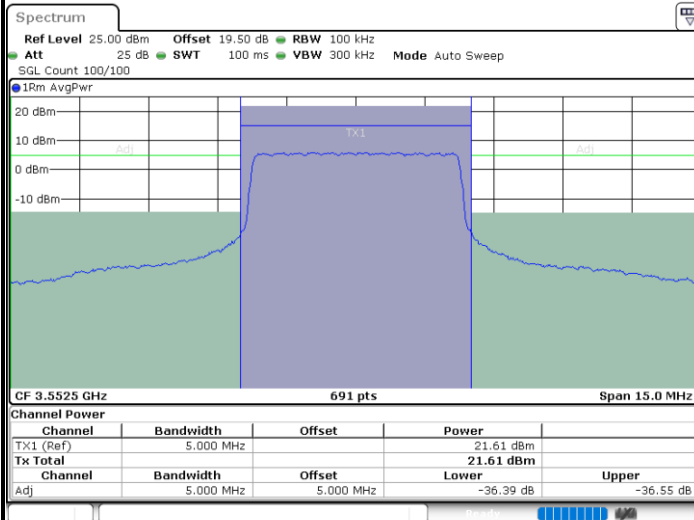
Date: 28.OCT.2025 17:22:47

Lowest Channel / 1RBmax



Date: 28.OCT.2025 17:25:00

Lowest Channel / FullIRB



Date: 28.OCT.2025 17:20:34

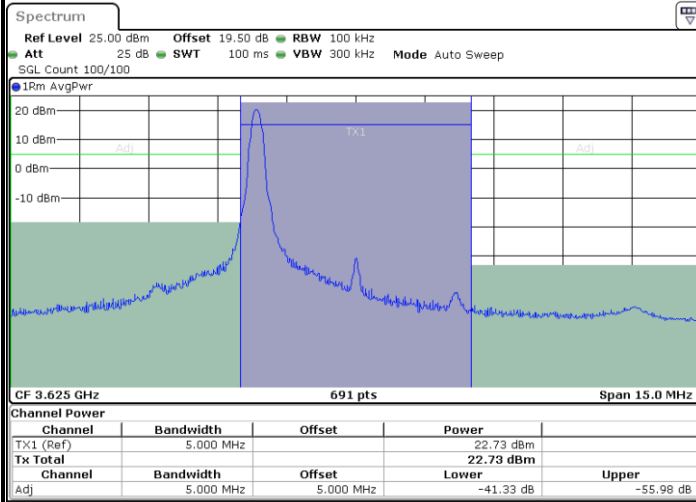
N/A



LTE Band 48 / 5MHz

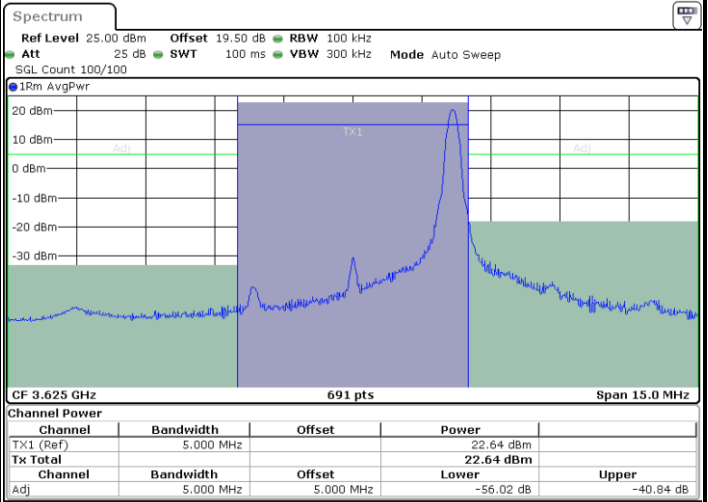
16QAM

Middle Channel / 1RB0



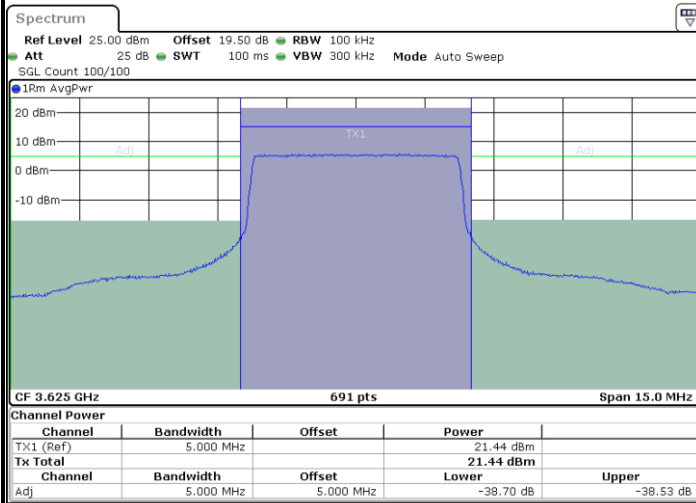
Date: 28.OCT.2025 17:31:59

Middle Channel / 1RBmax



Date: 28.OCT.2025 17:29:48

Middle Channel / FullRB



Date: 28.OCT.2025 17:34:10

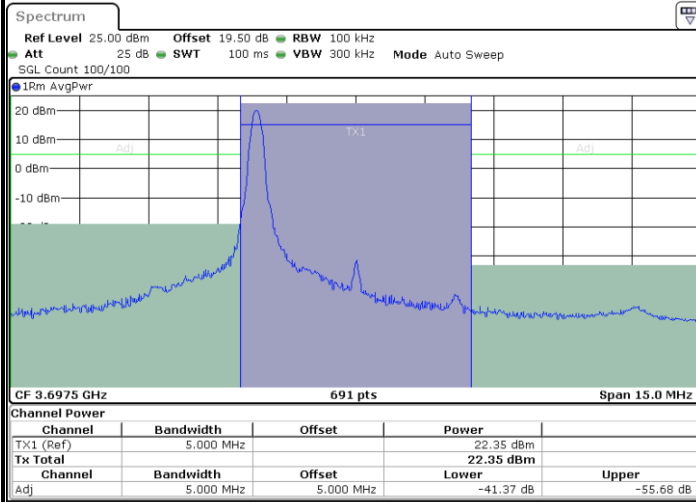
N/A



LTE Band 48 / 5MHz

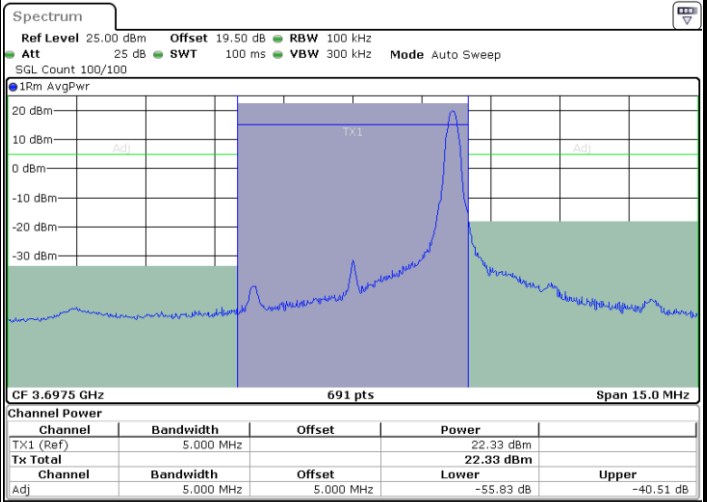
16QAM

Highest Channel / 1RB0



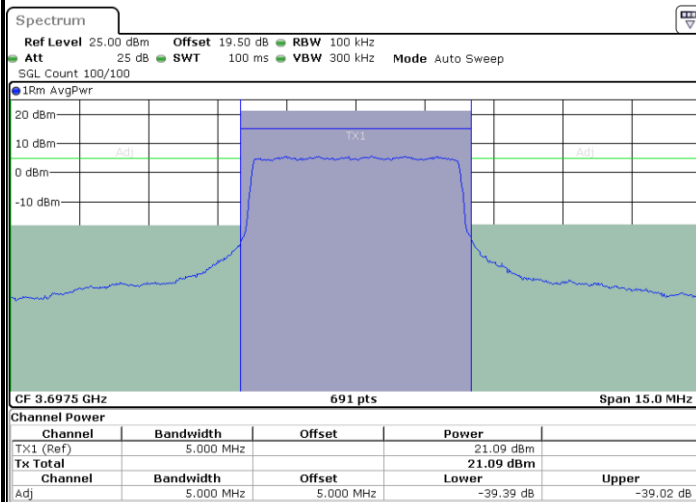
Date: 28.OCT.2025 17:44:34

Highest Channel / 1RBmax



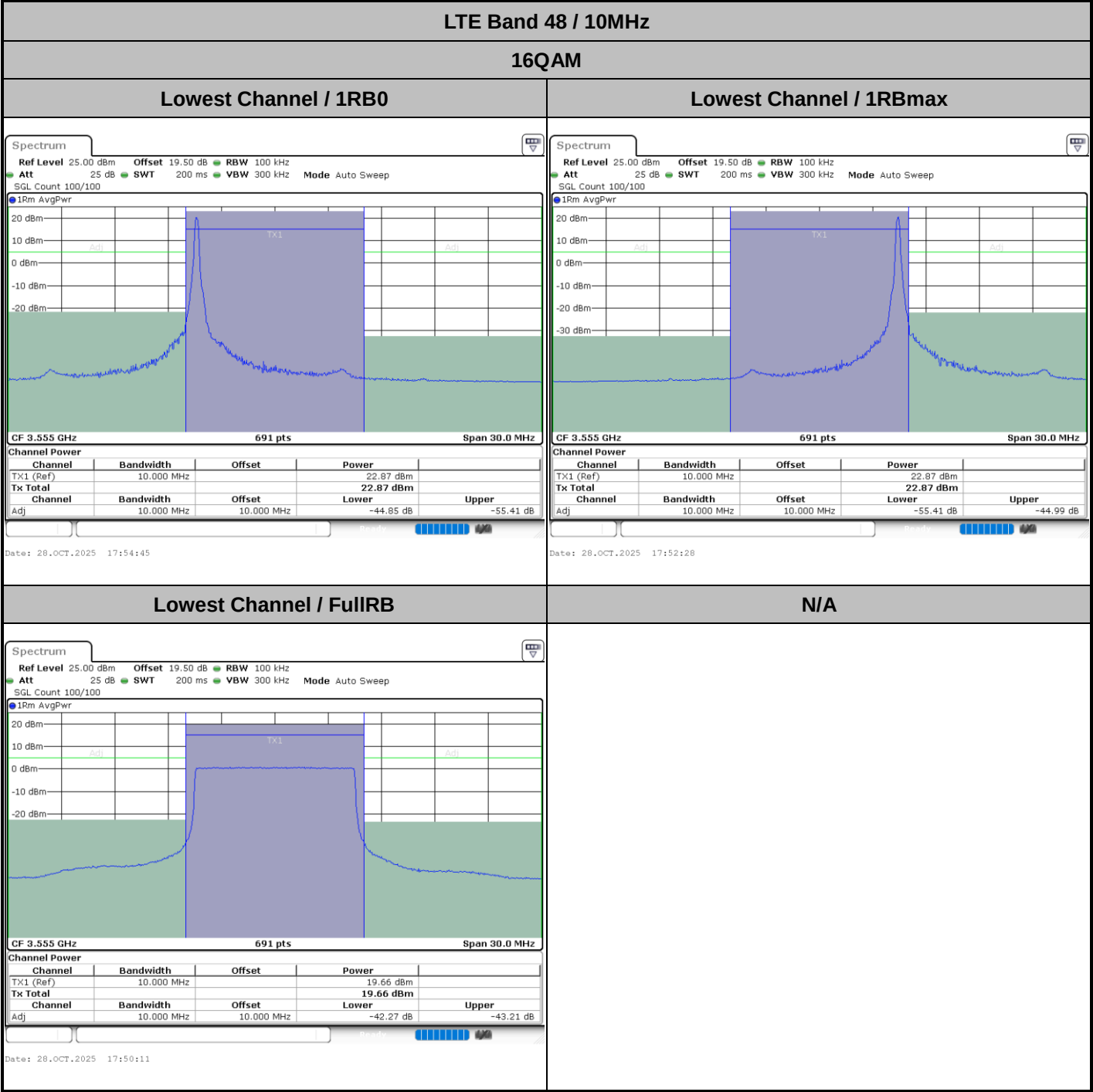
Date: 28.OCT.2025 17:42:22

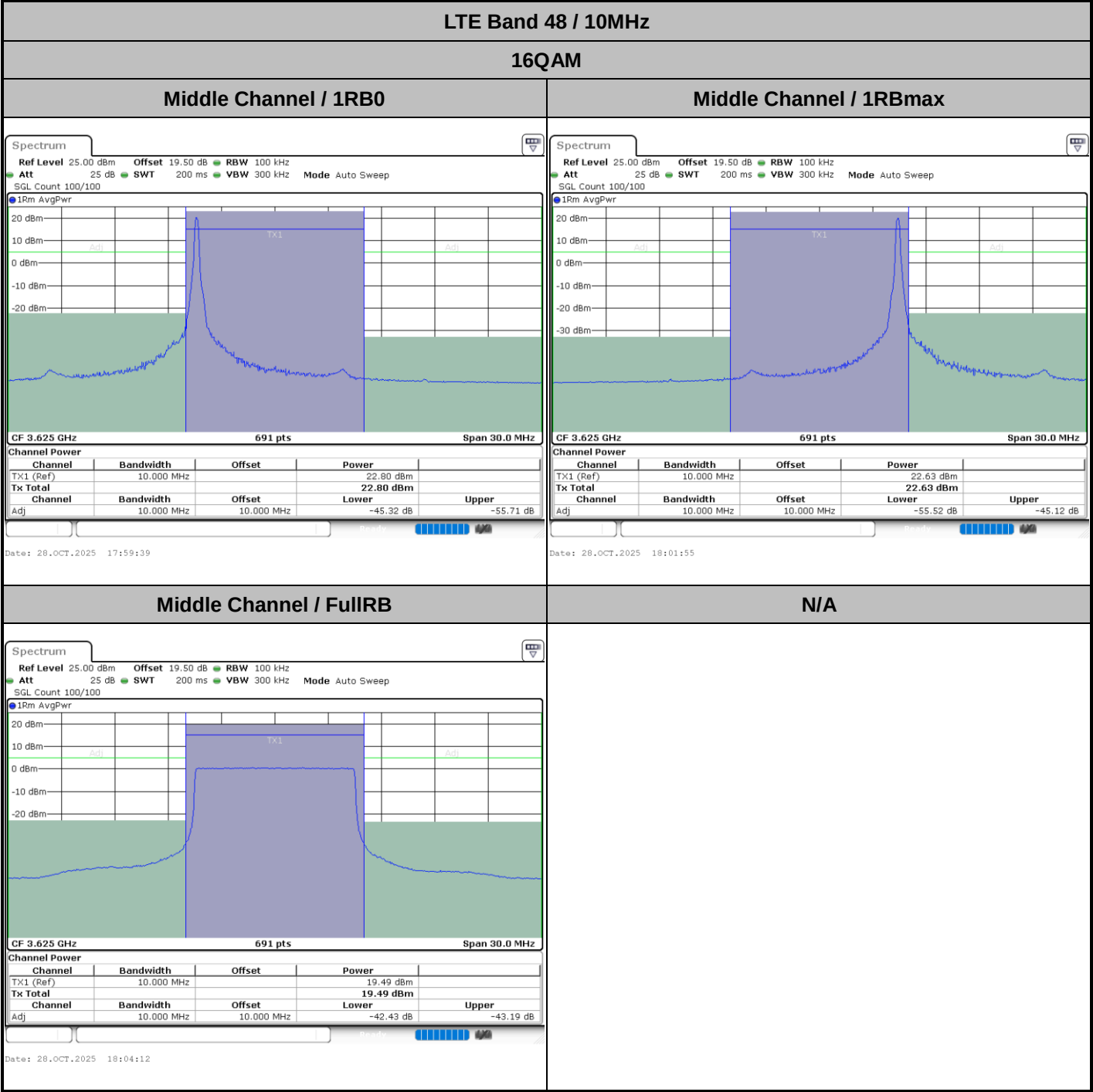
Highest Channel / FullRB

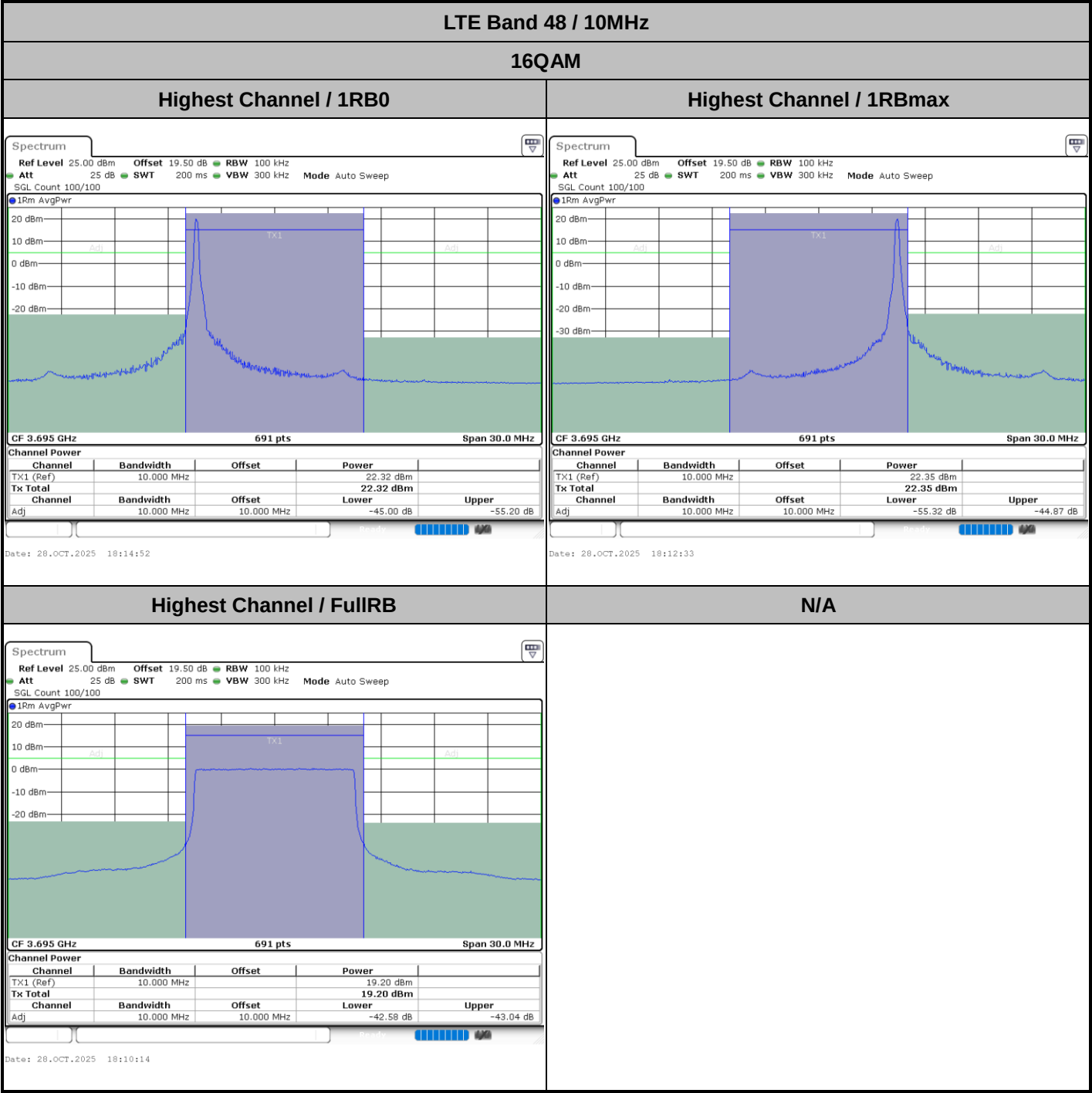


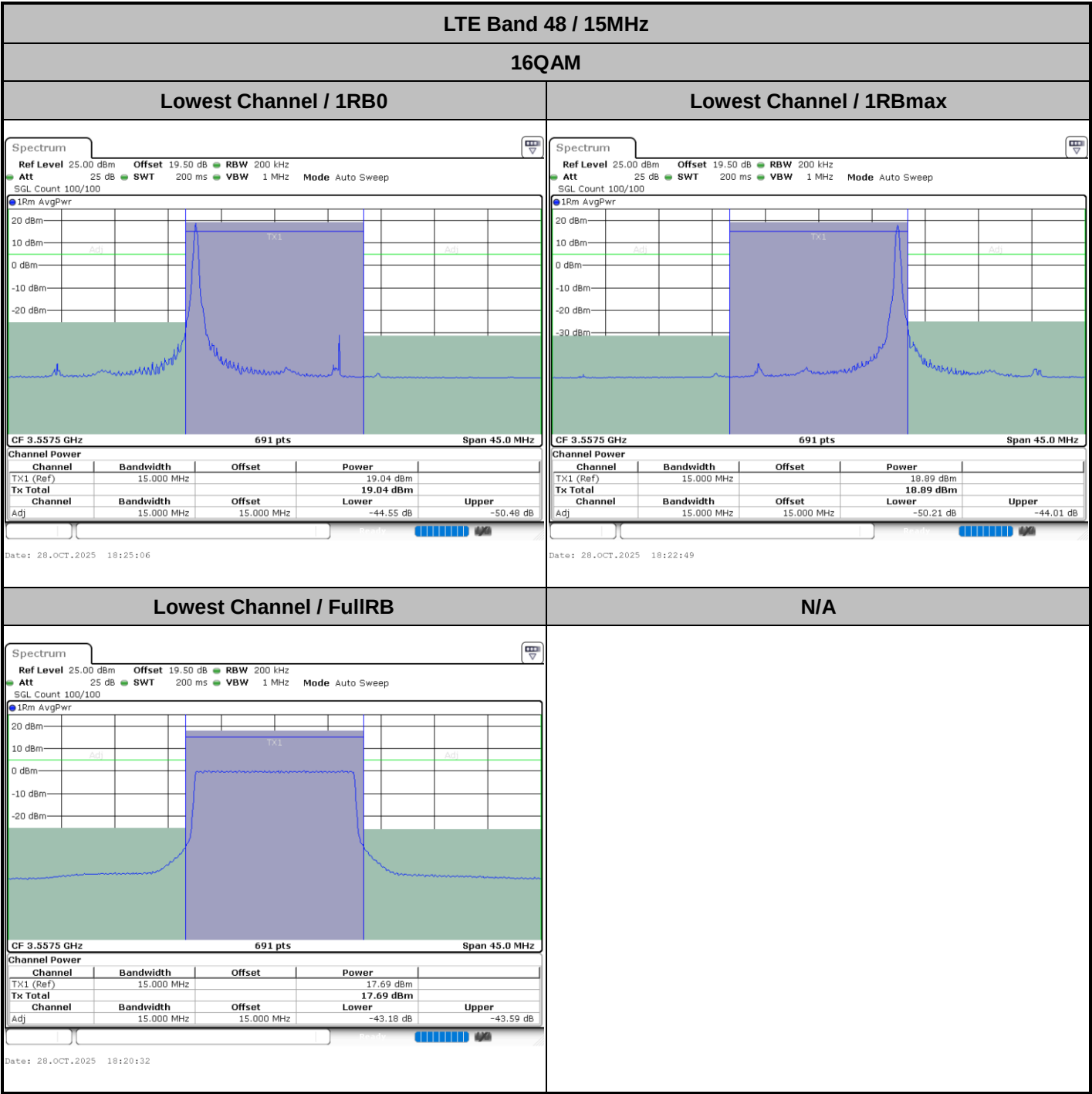
Date: 28.OCT.2025 17:40:09

N/A







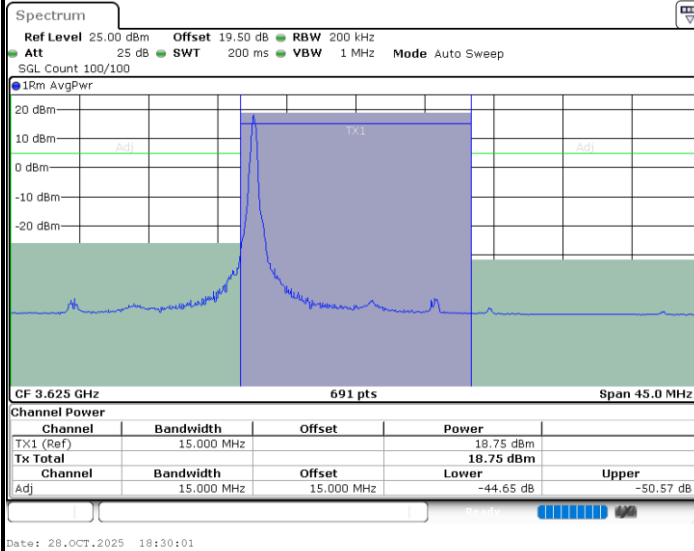




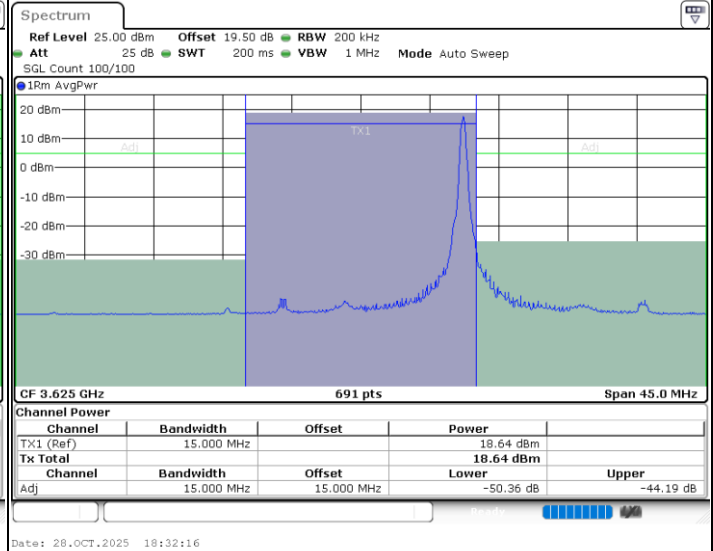
LTE Band 48 / 15MHz

16QAM

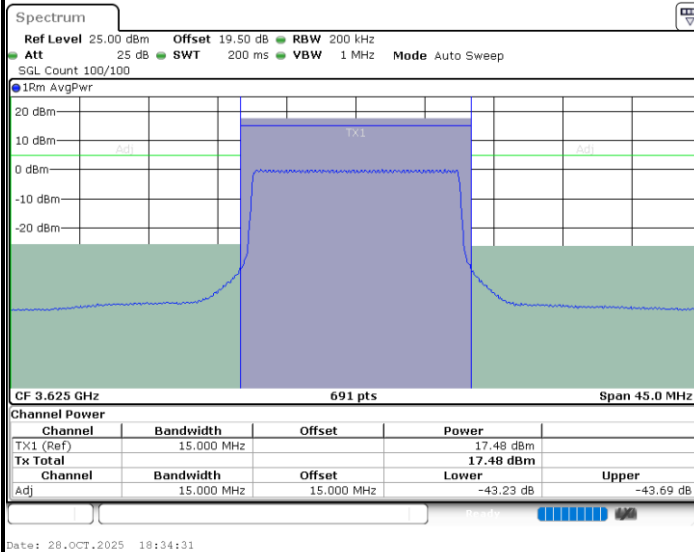
Middle Channel / 1RB0



Middle Channel / 1RBmax



Middle Channel / FullRB



N/A

