FCC RF Test Report

APPLICANT	:	**Lenovo(Shanghai) Electronics Technology Co., Ltd.**
EQUIPMENT	:	**Portable Tablet Computer**
BRAND NAME	:	**Lenovo**
MODEL NAME	:	**TB336ZU**
FCC ID	:	**O57TB336ZU**
STANDARD	:	**47 CFR Part 27 Subpart O (3700-3980MHz)**
CLASSIFICATION	:	**PCS Licensed Transmitter (PCB)**
TEST DATE(S)	:	**Mar. 04, 2025 ~ Mar. 19, 2025**

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

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

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.01

Sporton International Inc. (ShenZhen)

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People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG512510J	Rev. 01	Initial issue of report	Mar. 28, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77, n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
3.9	§27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission (5G NR n77, n78)	$< 43+10\log_{10}(P[Watts])$	PASS	Under limit 30.98 dB at 10372.00 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/manufacturer 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

Lenovo(Shanghai) Electronics Technology Co., Ltd.
Section 304-305, Building No. 4, # 222, Meiyue Road, China (Shanghai) Pilot Free Trade Zone

1.2 Manufacturer

Lenovo PC HK Limited
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Portable Tablet Computer
Brand Name	Lenovo
Model Name	TB336ZU
FCC ID	O57TB336ZU
IMEI Code	Conducted : 865246070008472 Radiation : 865246070008456/865246070008464
HW Version	TB336ZU
SW Version	Lenovo ZUI 17.0
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	30kHz
Bandwidth	n77(30kHz): 20 / 30 / 40 / 50 / 60 / 80 / 100MHz n78(30kHz): 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Gain	**<Ant. 3>** 5G NR n77: -2.6 dBi 5G NR n78: -3.3 dBi **<Ant. 6>** 5G NR n77: -5.5 dBi 5G NR n78: -6 dBi **<Ant. 7>** 5G NR n77: -3 dBi 5G NR n78: -3.5 dBi **<Ant. 8>** 5G NR n77: -6.2 dBi 5G NR n78: -6.4 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP is shown in the report, 5G NR n77/n78 for Antenna 3.
2. 5G NR n77/n78 support SA and NSA mode. The whole testing has assessed SA mode by referring to the higher conducted power for conducted test items.
3. The device supports HPUE mode for 5G NR n77/n78.
4. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
5. The EN-DC mode combination could be referred to the product spec.
6. For RSE testing, n78 covered by n77.

1.5 Modification of EUT

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

1.6 Maximum EIRP and Emission Designator

5G NR n77 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	3710.01 ~ 3969.99	0.1862	18M2G7D	0.1500	18M2W7D
30	3715.02 ~ 3964.98	0.1945	27M8G7D	0.1545	27M8W7D
40	3720.00 ~ 3960.00	0.1950	37M8G7D	0.1542	37M9W7D
50	3725.01 ~ 3954.99	0.1954	47M3G7D	0.1542	47M4W7D
60	3730.02 ~ 3949.98	0.1910	57M8G7D	0.1538	57M8W7D
80	3740.01 ~ 3939.99	0.1803	77M6G7D	0.1439	77M6W7D
100	3750.00 ~ 3930.00	0.1982	97M4G7D	0.1567	97M4W7D

5G NR n78 SA for SCS 30kHz		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
20	3710.01 ~ 3789.99	0.1493	18M2G7D	0.1194	18M2W7D
30	3715.02 ~ 3784.98	0.1560	27M8G7D	0.1233	27M8W7D
40	3720.00 ~ 3780.00	0.1542	37M8G7D	0.1247	37M9W7D
50	3725.01 ~ 3774.99	0.1528	47M3G7D	0.1216	47M4W7D
60	3730.02 ~ 3769.98	0.1517	57M8G7D	0.1236	57M8W7D
70	3735.00 ~ 3765.00	0.1552	67M4G7D	0.1233	67M5W7D
80	3740.01 ~ 3759.99	0.1517	77M6G7D	0.1213	77M6W7D
90	3745.02 ~ 3754.98	0.1517	87M4G7D	0.1213	87M6W7D
100	3750.00 ~ 3750.00	0.1563	97M4G7D	0.1230	97M4W7D

Note:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78, except the bandwidth 70M/90M.
2. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.7 Testing Location

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

<table>
<tr><td>Test Firm</td><td colspan="3">Sporton International Inc. (ShenZhen)</td></tr>
<tr><td>Test Site Location</td><td colspan="3">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</td></tr>
<tr><td rowspan="2">Test Site No.</td><td>Sporton Site No.</td><td>FCC Designation No.</td><td>FCC Test Firm Registration No.</td></tr>
<tr><td>TH01-SZ
03CH02-SZ</td><td>CN1256</td><td>421272</td></tr>
</table>

1.8 Test Software

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

1.9 Applicable Standards

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

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

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items 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 (X plane) were recorded in this report.

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.

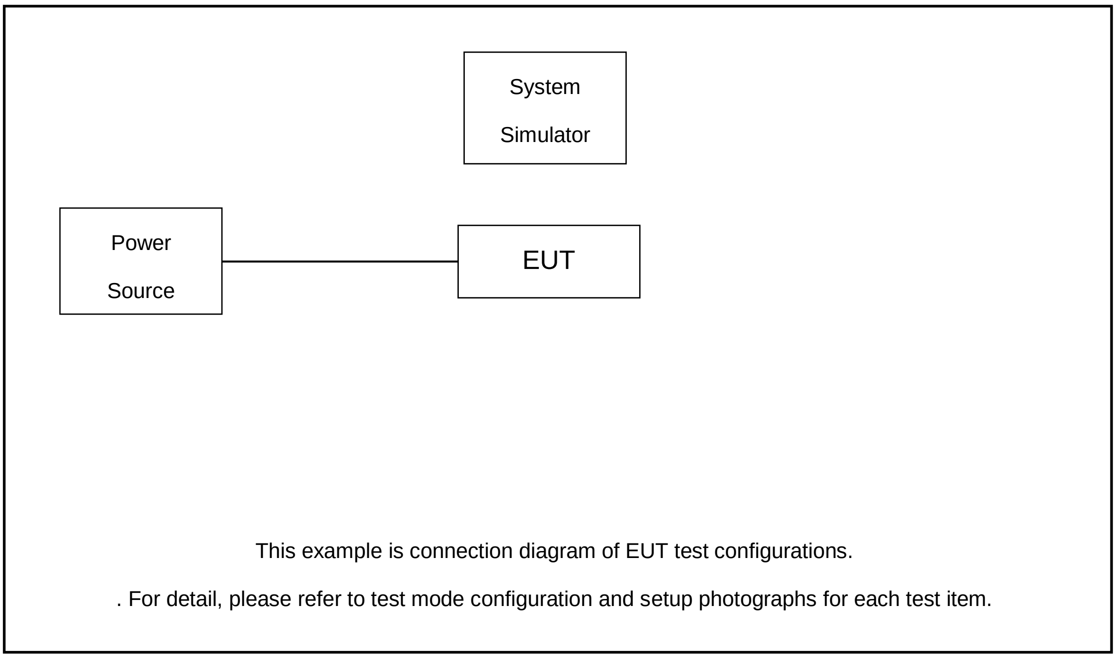
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			

Test Items	5G NR	Bandwidth (MHz)									Modulation					RB #			Test Channel		
		20	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	Partial	Full	L	M	H
Max. Output Power	n77	v	v	v	v	v	-	v	-	v	v	v	v	v	v	v		v	v	v	v
	n78	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
Peak-to-Average Ratio	n77	v					-		-		v	v						v		v	
26dB and 99% Bandwidth	n77	v	v	v	v	v	-	v	-	v		v	v	v	v			v		v	
	n78						v		v			v	v	v	v			v		v	
Conducted Band Edge	n77	v			v		-		-	v	v	v				v		v	v		v
	n78						v		v		v	v				v		v	v		v
Conducted Spurious Emission	n77	v			v		-		-	v	v	v				v			v	v	v
	n78						v		v		v	v				v			v	v	v
Frequency Stability	n77	v					-		-			v						v		v	
E.I.R.P	n77	v	v	v	v	v	-	v	-	v	v	v	v	v	v	v		v	v	v	v
	n78	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
Radiated Spurious Emission	n77	Worst Case																		v	

Note

1. The mark "**v**" means that this configuration is chosen for testing
2. The mark "-" means that this bandwidth is not supported.
3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
4. Frequency Stability：Normal Voltage = 3.91V ；Low Voltage =3.60V.；High Voltage =4.50V

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.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	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 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.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 8.9 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 8.9 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G n77 (30kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99

5G n78(30kHz) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel		650000	
	Frequency		3750	
90	Channel	649668	650000	650332
	Frequency	3745.02	3750	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750	3759.99
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651332
	Frequency	3730.02	3750	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652332
	Frequency	3715.02	3750	3784.98
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99

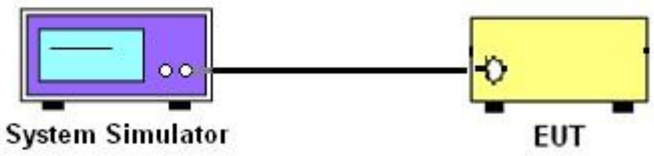
3 Conducted Test Items

3.1 Measuring Instruments

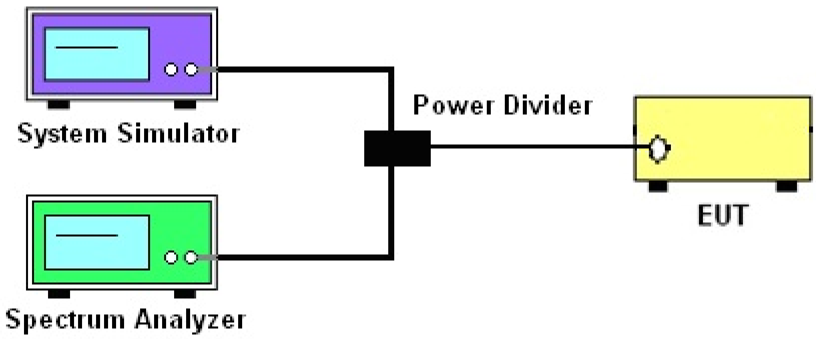
See list of measuring instruments of this test report.

3.2 Test Setup

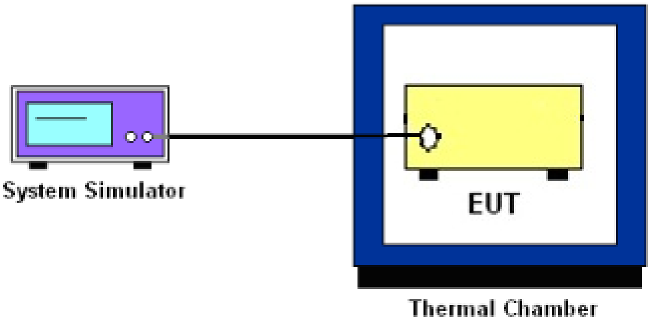
3.2.1 Conducted Output Power



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 EIRP

3.4.1 Description of the Conducted Output Power Measurement and 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 EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n77, n78.

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(l)(2)

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed −13 dBm/MHz. Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.7.2 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 band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

   Example:

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

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

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

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10^{th} 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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

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.

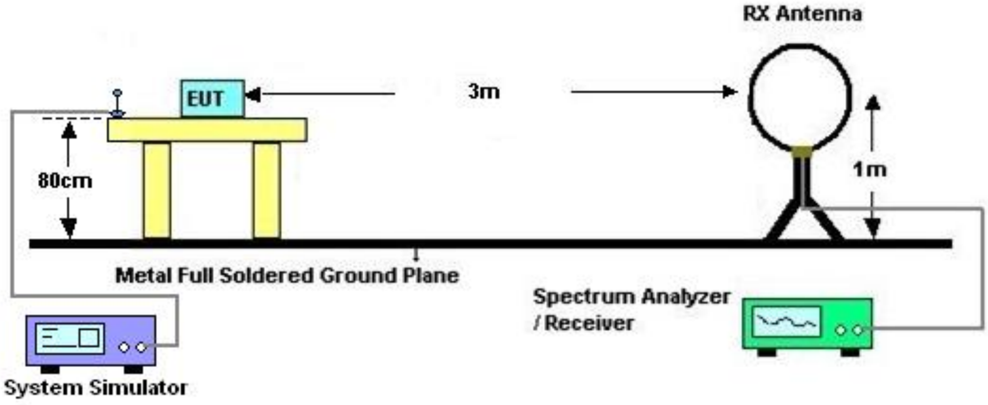
4 Radiated Test Items

4.1 Measuring Instruments

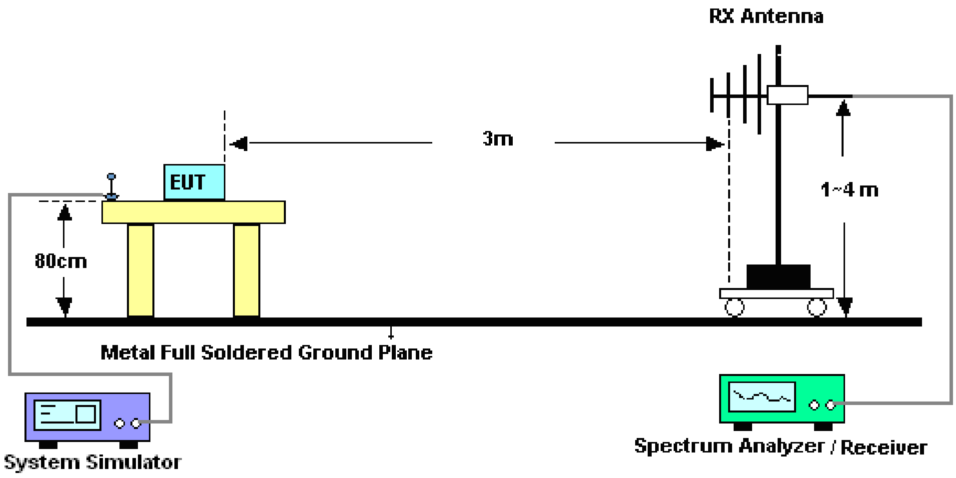
See list of measuring instruments of this test report.

4.2 Test Setup

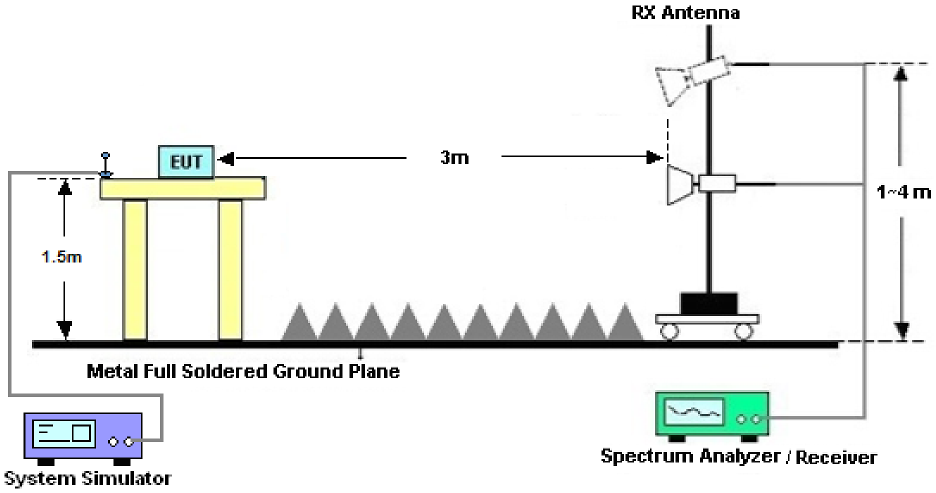
4.2.1 For radiated test below 30MHz



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.

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. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = 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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Mar. 04, 2025	Apr. 08, 2025	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 24, 2024	Mar. 04, 2025	Dec. 23, 2025	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	Mar. 04, 2025	Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Mar. 19, 2025	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Mar. 19, 2025	Dec. 27, 2025	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Mar. 19, 2025	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Mar. 19, 2025	Jul. 04, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 03, 2024	Mar. 19, 2025	Jul. 03, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 09, 2024	Mar. 19, 2025	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2024	Mar. 19, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 14, 2024	Mar. 19, 2025	Oct. 13, 2025	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	61601000304 3	N/A	Oct. 18, 2024	Mar. 19, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Mar. 19, 2025	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Mar. 19, 2025	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

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

Uncertainty of Conducted Measurement

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.47dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.31dB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

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

----------- THE END -----------

Appendix A. Test Results of Conducted Test

Test Engineer :	Khan Zhen	**Temperature :**	22~23℃
		Relative Humidity :	40~42%

Software Version: 23.06.1602

FR1 N77_ANT3

Transmitter Conducted Output Power And EIRP, $(G_T - L_C)$=-2.6dB

NR Band	SCS	BandWidth	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	EIRP(dBm)	EIRP(W)
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	25@12	24.89	22.29	0.1694
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	24.87	22.27	0.1687
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@49	24.86	22.26	0.1683
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	25@12	23.92	21.32	0.1355
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	23.91	21.31	0.1352
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@49	23.86	21.26	0.1337
77	30	20	656000	3840	DFT-s-OFDM QPSK	25@12	24.75	22.15	0.1641
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@1	24.77	22.17	0.1648
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@49	24.4	21.8	0.1514
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	25@12	23.75	21.15	0.1303
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.85	21.25	0.1334
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@49	23.43	20.83	0.1211
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	25@12	25.13	22.53	0.1791
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	25.3	22.7	0.1862
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@49	25.02	22.42	0.1746
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	25@12	24.19	21.59	0.1442
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	24.36	21.76	0.1500
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@49	24.03	21.43	0.1390
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	36@18	25.04	22.44	0.1754
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@1	25.09	22.49	0.1774
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@76	25.28	22.68	0.1854
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	36@18	24.02	21.42	0.1387
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@1	24.09	21.49	0.1409
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@76	24.25	21.65	0.1462
77	30	30	656000	3840	DFT-s-OFDM QPSK	36@18	24.86	22.26	0.1683
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@1	24.87	22.27	0.1687
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@76	24.35	21.75	0.1496
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	36@18	23.84	21.24	0.1330
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.88	21.28	0.1343
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@76	23.4	20.8	0.1202
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	36@18	25.33	22.73	0.1875
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	25.49	22.89	0.1945
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@76	25.03	22.43	0.1750
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	36@18	24.32	21.72	0.1486
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	24.49	21.89	0.1545

77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@76	24.03	21.43	0.1390
77	30	40	648000	3720	DFT-s-OFDM QPSK	50@25	25.09	22.49	0.1774
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@1	25.03	22.43	0.1750
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@104	25.33	22.73	0.1875
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	50@25	24.1	21.5	0.1413
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	24.07	21.47	0.1403
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@104	24.34	21.74	0.1493
77	30	40	656000	3840	DFT-s-OFDM QPSK	50@25	24.79	22.19	0.1656
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@1	24.86	22.26	0.1683
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@104	24.29	21.69	0.1476
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	50@25	23.8	21.2	0.1318
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.88	21.28	0.1343
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@104	23.26	20.66	0.1164
77	30	40	664000	3960	DFT-s-OFDM QPSK	50@25	25.5	22.9	0.1950
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@1	25.44	22.84	0.1923
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@104	25.05	22.45	0.1758
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	50@25	24.48	21.88	0.1542
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	24.39	21.79	0.1510
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@104	24.12	21.52	0.1419
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	64@32	25.22	22.62	0.1828
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	25.03	22.43	0.1750
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@131	25.2	22.6	0.1820
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	64@32	24.24	21.64	0.1459
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	24.08	21.48	0.1406
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@131	24.25	21.65	0.1462
77	30	50	656000	3840	DFT-s-OFDM QPSK	64@32	24.81	22.21	0.1663
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@1	24.87	22.27	0.1687
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@131	24.22	21.62	0.1452
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	64@32	23.79	21.19	0.1315
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.84	21.24	0.1330
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@131	23.32	20.72	0.1180
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	64@32	25.51	22.91	0.1954
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	24.89	22.29	0.1694
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@131	25	22.4	0.1738
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	64@32	24.48	21.88	0.1542
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	23.96	21.36	0.1368
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@131	24.02	21.42	0.1387
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	81@40	25.12	22.52	0.1786
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@1	24.98	22.38	0.1730
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@160	24.87	22.27	0.1687
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	81@40	24.13	21.53	0.1422
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@1	24	21.4	0.1380
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@160	23.91	21.31	0.1352

77	30	60	656000	3840	DFT-s-OFDM QPSK	81@40	24.68	22.08	0.1614
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@1	24.91	22.31	0.1702
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@160	24.38	21.78	0.1507
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	81@40	23.7	21.1	0.1288
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.94	21.34	0.1361
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@160	23.31	20.71	0.1178
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	81@40	25.41	22.81	0.1910
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@1	24.57	21.97	0.1574
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@160	25.11	22.51	0.1782
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	81@40	24.47	21.87	0.1538
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@1	23.52	20.92	0.1236
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@160	24.11	21.51	0.1416
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	108@54	25.11	22.51	0.1782
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@1	25.01	22.41	0.1742
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@215	24.94	22.34	0.1714
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	108@54	24.11	21.51	0.1416
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@1	24.02	21.42	0.1387
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@215	23.97	21.37	0.1371
77	30	80	656000	3840	DFT-s-OFDM QPSK	108@54	24.65	22.05	0.1603
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@1	25.09	22.49	0.1774
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@215	24.49	21.89	0.1545
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	108@54	23.66	21.06	0.1276
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.1	21.5	0.1413
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@215	23.52	20.92	0.1236
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	108@54	25.16	22.56	0.1803
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@1	24.96	22.36	0.1722
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@215	24.97	22.37	0.1726
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	108@54	24.18	21.58	0.1439
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@1	24.01	21.41	0.1384
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@215	24	21.4	0.1380
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	25.35	22.75	0.1884
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	25.42	22.82	0.1914
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	25.28	22.68	0.1854
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	25.29	22.69	0.1858
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	25.37	22.77	0.1892
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	25.28	22.68	0.1854
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	24.34	21.74	0.1493
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	24.41	21.81	0.1517
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	24.32	21.72	0.1486
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	22.9	20.3	0.1072
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	23.02	20.42	0.1102
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	22.85	20.25	0.1059
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	20.91	18.31	0.0678

77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	20.87	18.27	0.0671
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	20.73	18.13	0.0650
77	30	100	650000	3750	CP-OFDM QPSK	137@68	23.81	21.21	0.1321
77	30	100	650000	3750	CP-OFDM QPSK	1@1	23.85	21.25	0.1334
77	30	100	650000	3750	CP-OFDM QPSK	1@271	23.7	21.1	0.1288
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	24.98	22.38	0.1730
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.36	22.76	0.1888
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	24.74	22.14	0.1637
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	24.93	22.33	0.1710
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	25.34	22.74	0.1879
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	24.81	22.21	0.1663
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	23.98	21.38	0.1374
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.36	21.76	0.1500
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	23.78	21.18	0.1312
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	22.5	19.9	0.0977
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.88	20.28	0.1067
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	22.29	19.69	0.0931
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	20.51	17.91	0.0618
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.77	18.17	0.0656
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	20.16	17.56	0.0570
77	30	100	656000	3840	CP-OFDM QPSK	137@68	23.41	20.81	0.1205
77	30	100	656000	3840	CP-OFDM QPSK	1@1	23.76	21.16	0.1306
77	30	100	656000	3840	CP-OFDM QPSK	1@271	23.16	20.56	0.1138
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	25.3	22.7	0.1862
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	25.03	22.43	0.1750
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	25.53	22.93	0.1963
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	25.3	22.7	0.1862
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	24.95	22.35	0.1718
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	25.57	22.97	0.1982
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	24.33	21.73	0.1489
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	24.02	21.42	0.1387
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	24.55	21.95	0.1567
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	22.88	20.28	0.1067
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	22.55	19.95	0.0989
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	23.03	20.43	0.1104
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	20.9	18.3	0.0676
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	20.47	17.87	0.0612
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	20.99	18.39	0.0690
77	30	100	662000	3930	CP-OFDM QPSK	137@68	23.78	21.18	0.1312
77	30	100	662000	3930	CP-OFDM QPSK	1@1	23.45	20.85	0.1216
77	30	100	662000	3930	CP-OFDM QPSK	1@271	23.96	21.36	0.1368

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (Hz)	Verdict	Environment
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	12.4	**PASS**	NV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	10.6	**PASS**	LV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	15.1	**PASS**	HV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	13.7	**PASS**	-30℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	13.6	**PASS**	-20℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	10.7	**PASS**	-10℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	17.9	**PASS**	0℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	19.5	**PASS**	10℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	12.4	**PASS**	20℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	12.3	**PASS**	30℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	12.1	**PASS**	40℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	16.1	**PASS**	50℃

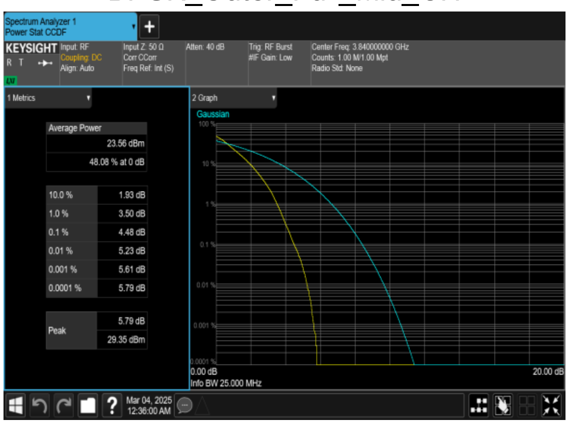
|MAX(△f)| = 19.5 Hz

Frequency Stability	Frequency (MHz)	Limit Line	Result
fL – |MAX(△ f)|	3700.859181	≧ 3700 MHz	PASS
fH + |MAX(△ f)|	3978.74122	≦ 3980 MHz	

Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	4.48	13	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	5.73	13	**PASS**

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

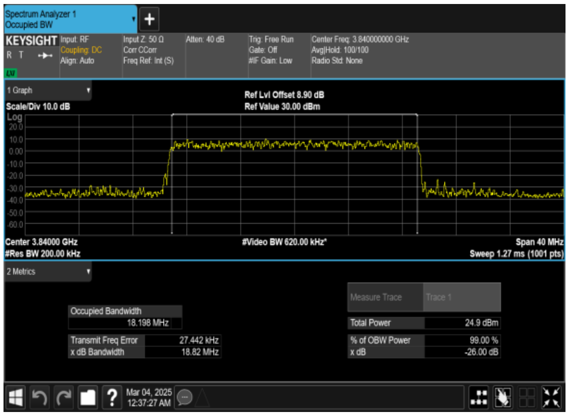


N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

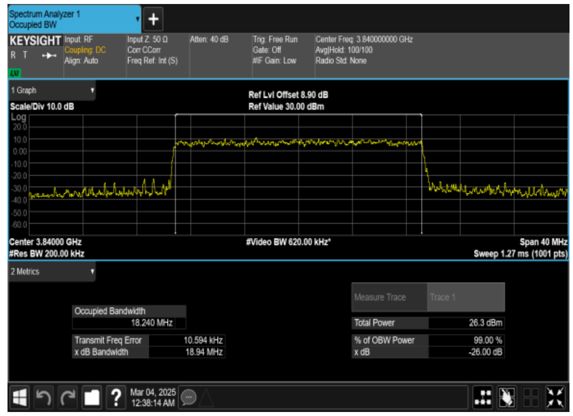
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	656000	3840.0	CP-OFDM QPSK	51@0	18.198	18.82
77	30	20	656000	3840.0	CP-OFDM 16 QAM	51@0	18.24	18.94
77	30	20	656000	3840.0	CP-OFDM 64 QAM	51@0	18.21	18.8
77	30	20	656000	3840.0	CP-OFDM 256 QAM	51@0	18.19	18.86
77	30	30	656000	3840.0	CP-OFDM QPSK	78@0	27.772	28.79
77	30	30	656000	3840.0	CP-OFDM 16 QAM	78@0	27.744	28.83
77	30	30	656000	3840.0	CP-OFDM 64 QAM	78@0	27.761	28.95
77	30	30	656000	3840.0	CP-OFDM 256 QAM	78@0	27.806	28.83
77	30	40	656000	3840.0	CP-OFDM QPSK	106@0	37.771	39.62
77	30	40	656000	3840.0	CP-OFDM 16 QAM	106@0	37.881	39.2
77	30	40	656000	3840.0	CP-OFDM 64 QAM	106@0	37.861	39.21
77	30	40	656000	3840.0	CP-OFDM 256 QAM	106@0	37.836	39.12
77	30	50	656000	3840.0	CP-OFDM QPSK	133@0	47.3	49.08
77	30	50	656000	3840.0	CP-OFDM 16 QAM	133@0	47.378	49.24
77	30	50	656000	3840.0	CP-OFDM 64 QAM	133@0	47.398	49.1
77	30	50	656000	3840.0	CP-OFDM 256 QAM	133@0	47.366	48.98
77	30	60	656000	3840.0	CP-OFDM QPSK	162@0	57.787	59.75
77	30	60	656000	3840.0	CP-OFDM 16 QAM	162@0	57.719	59.63
77	30	60	656000	3840.0	CP-OFDM 64 QAM	162@0	57.798	59.64
77	30	60	656000	3840.0	CP-OFDM 256 QAM	162@0	57.712	59.65
77	30	80	656000	3840.0	CP-OFDM QPSK	217@0	77.598	79.98
77	30	80	656000	3840.0	CP-OFDM 16 QAM	217@0	77.583	80.07
77	30	80	656000	3840.0	CP-OFDM 64 QAM	217@0	77.568	79.86
77	30	80	656000	3840.0	CP-OFDM 256 QAM	217@0	77.59	79.97
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	97.361	100.4
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	97.377	100.4
77	30	100	656000	3840.0	CP-OFDM 64 QAM	273@0	97.351	100.4
77	30	100	656000	3840.0	CP-OFDM 256 QAM	273@0	97.324	100.4

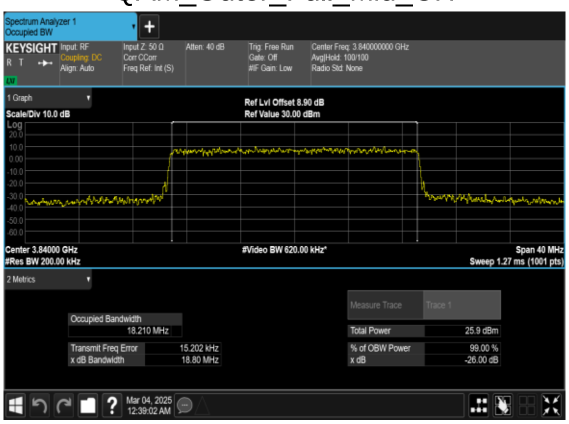
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



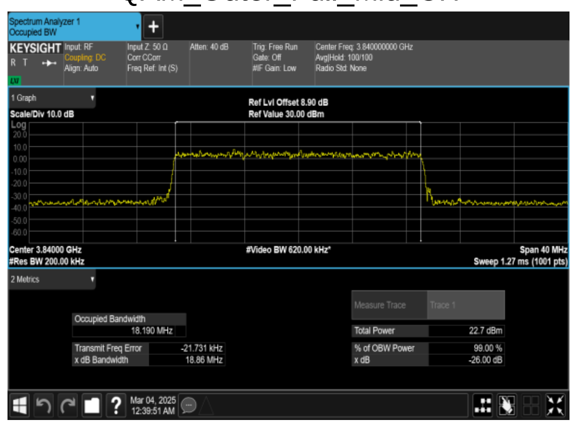
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

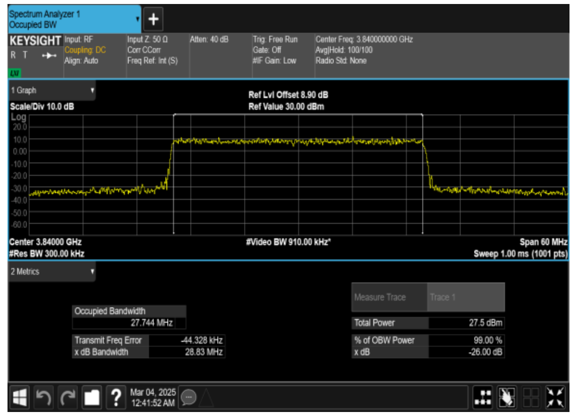


N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

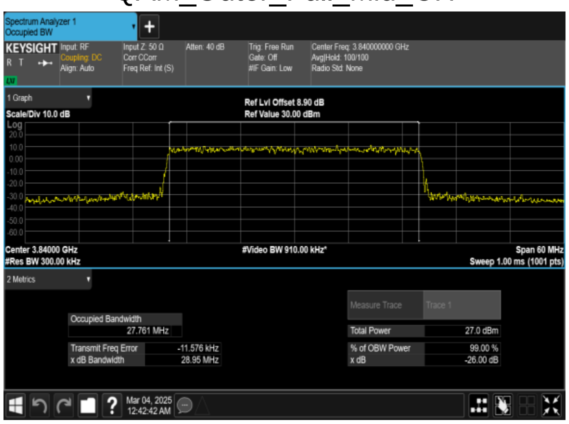


N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

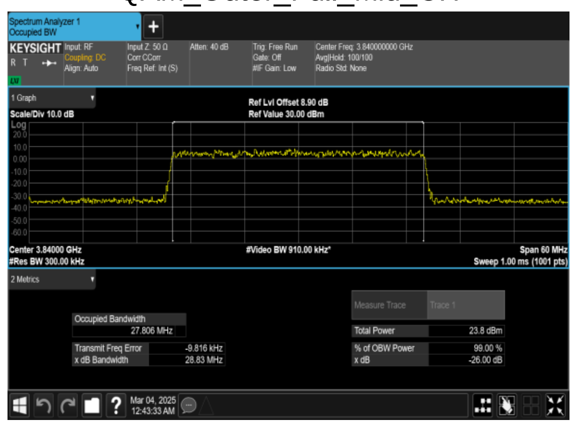
N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



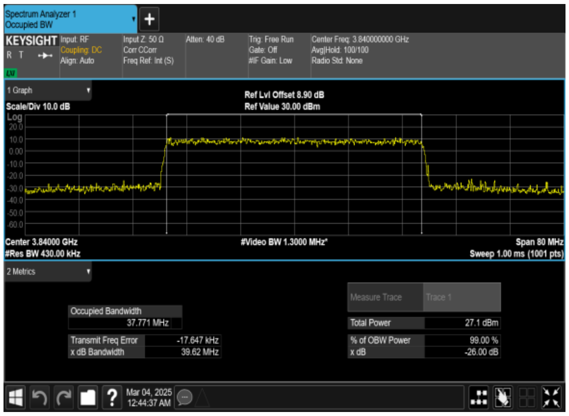
N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



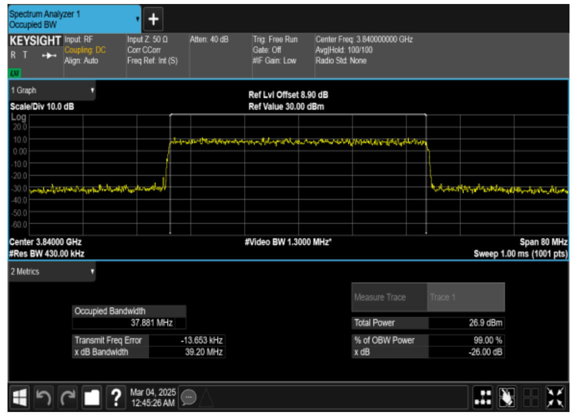
N77(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



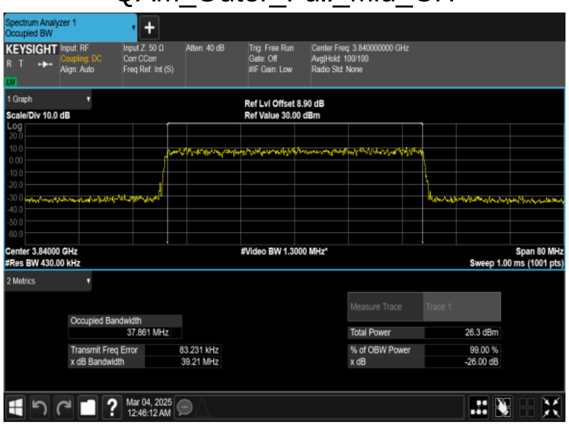
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



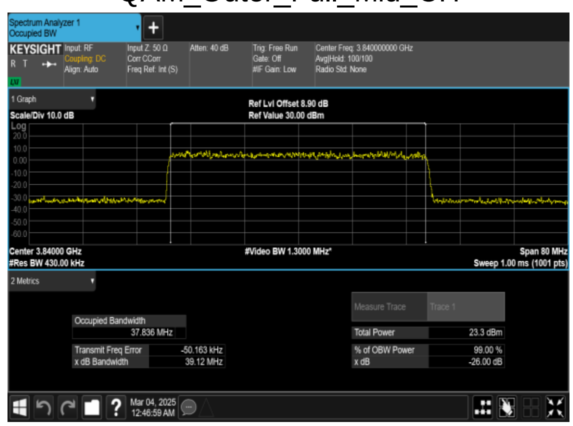
N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

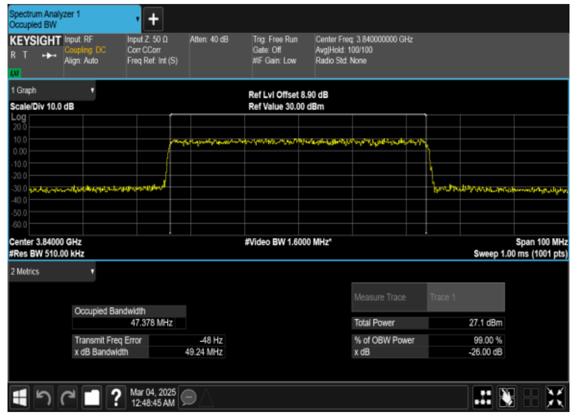


N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

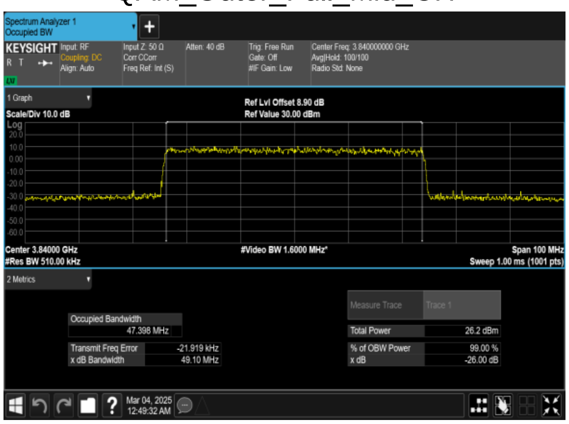


N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

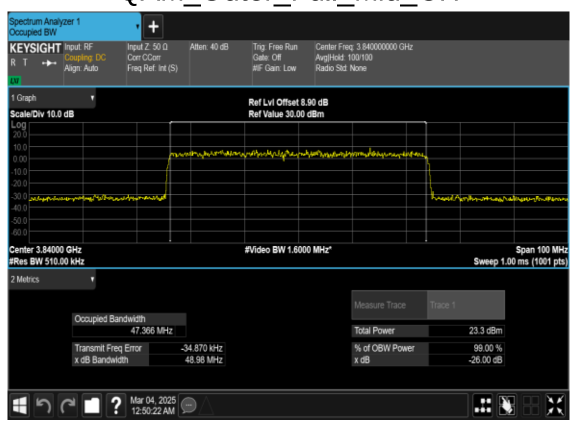
N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

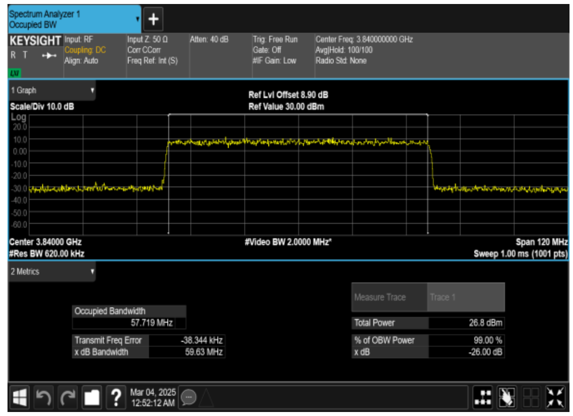


N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

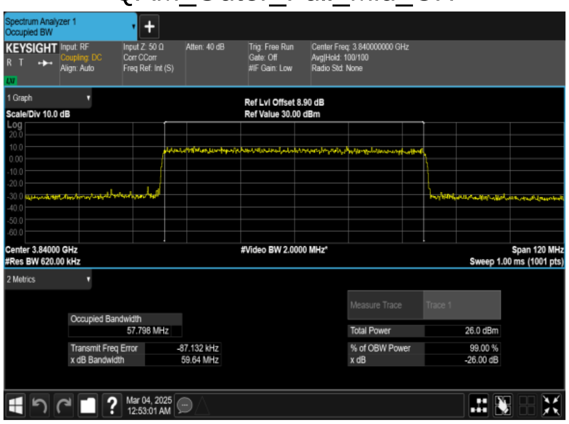


N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

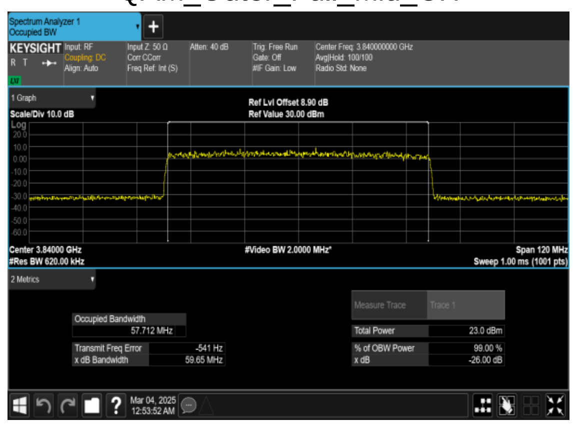
N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

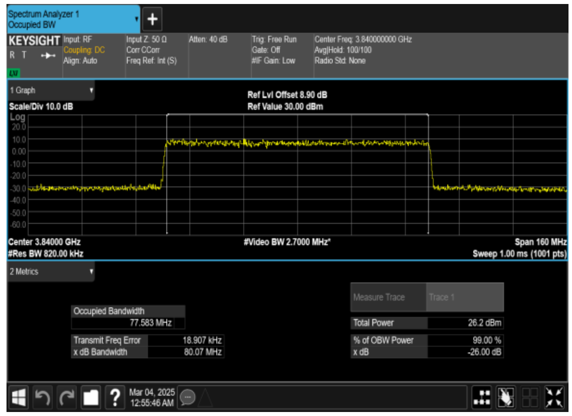


N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



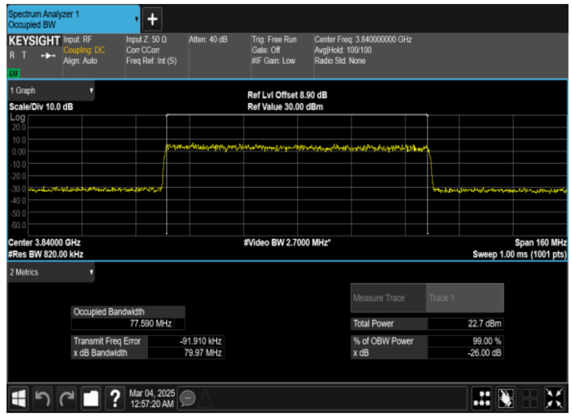
N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

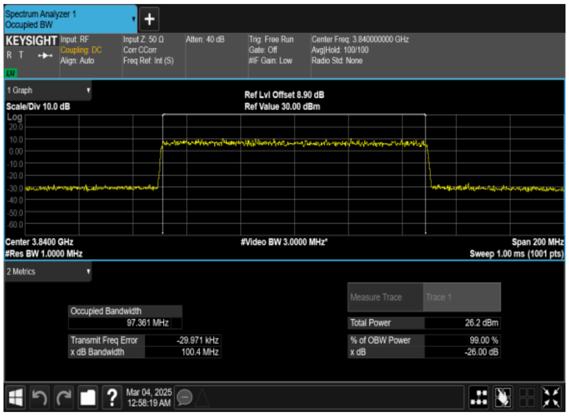


N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

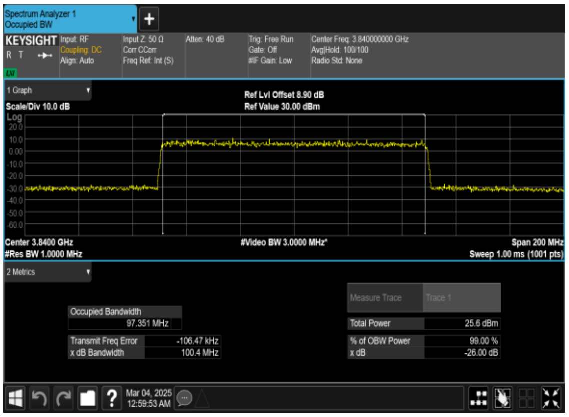


N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

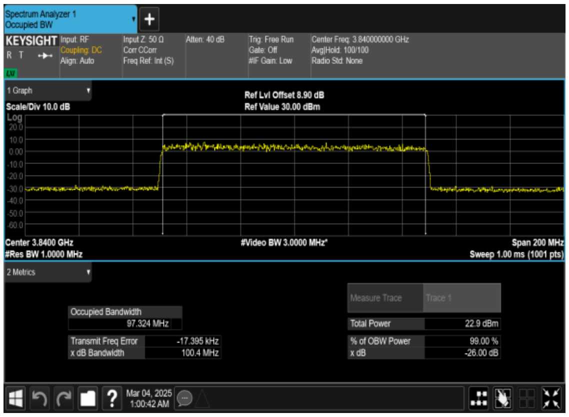


N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

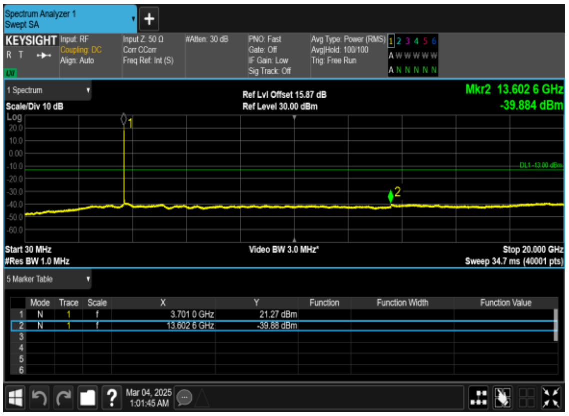


Conducted Spurious Emissions

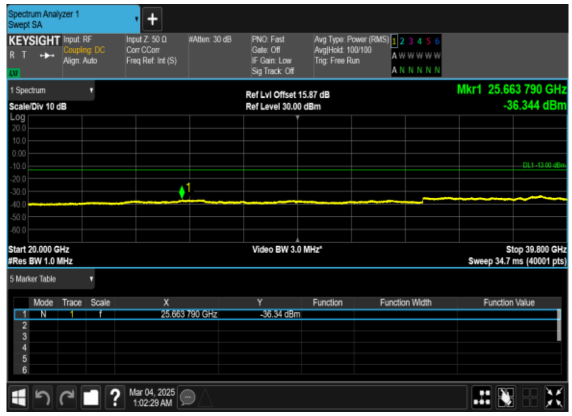
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

77	30	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	656000	3840.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

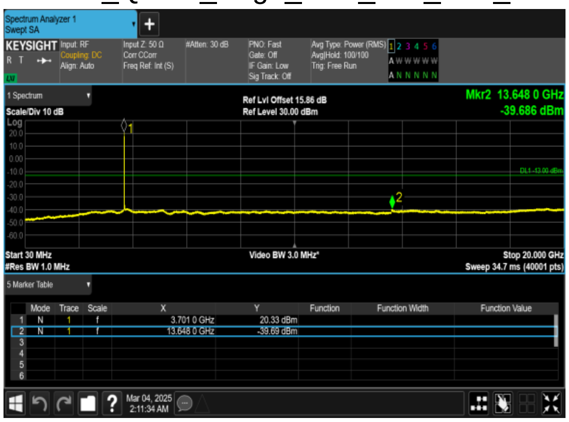
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



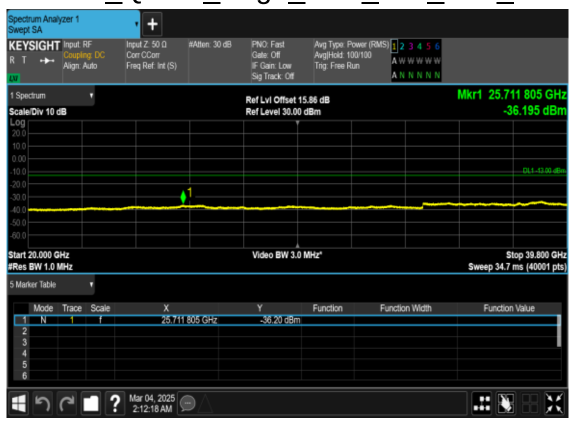
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



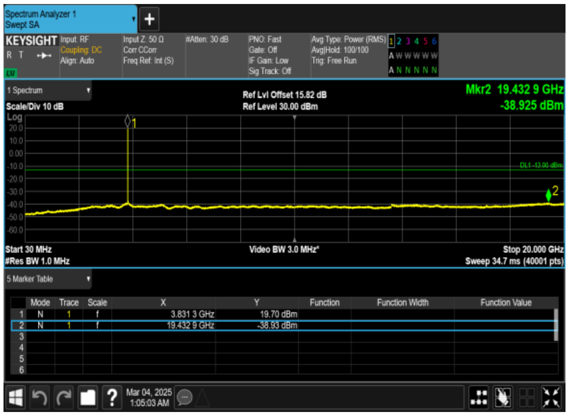
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



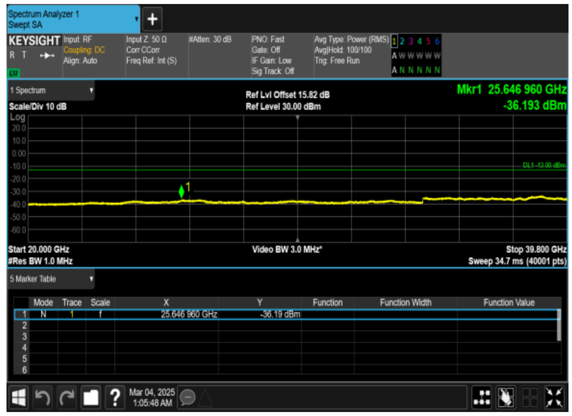
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



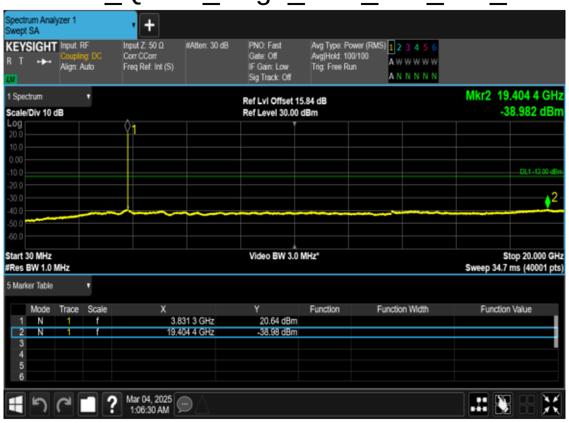
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



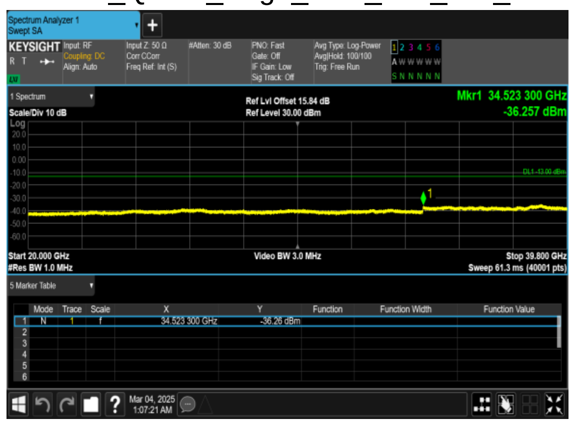
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



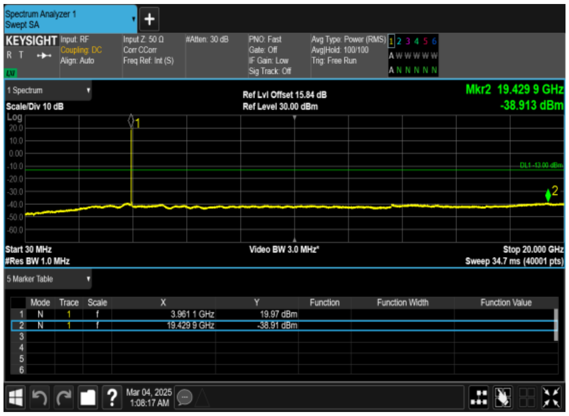
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



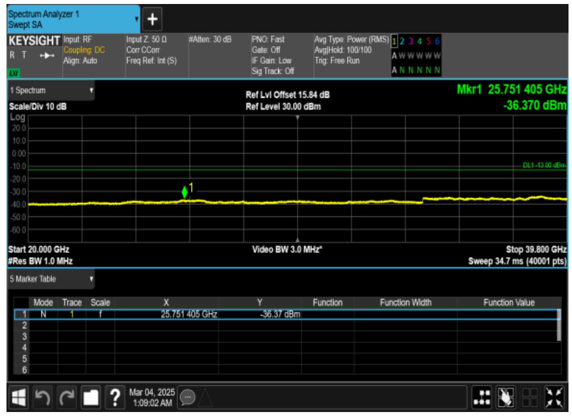
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



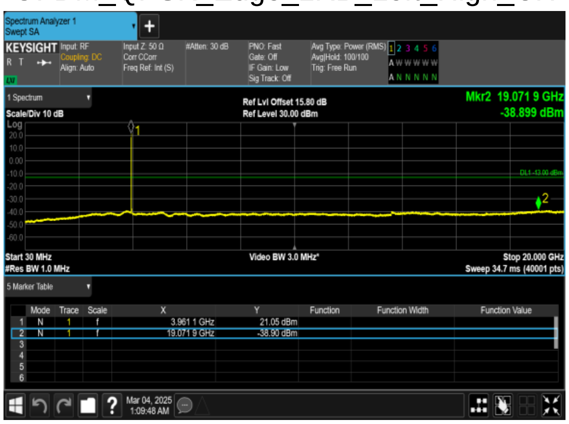
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



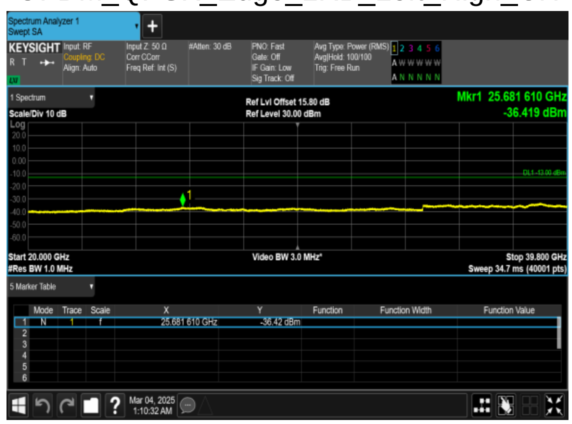
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



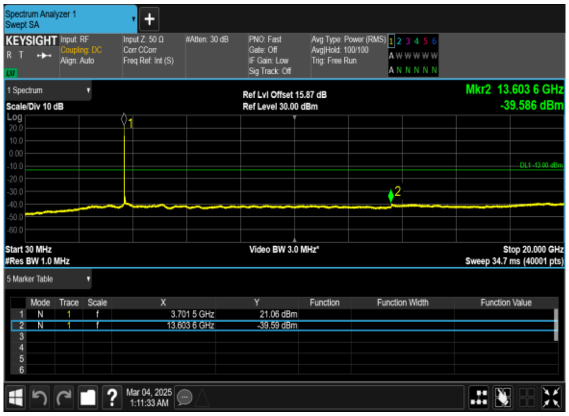
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



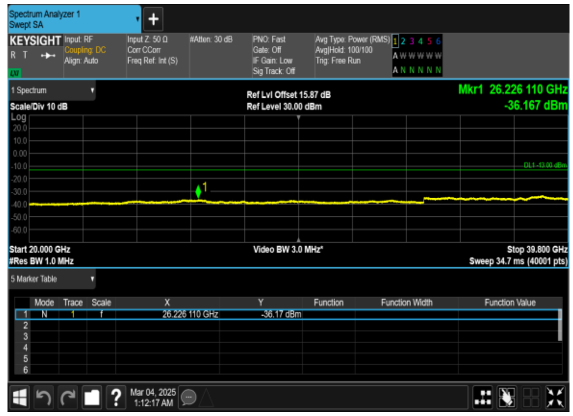
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



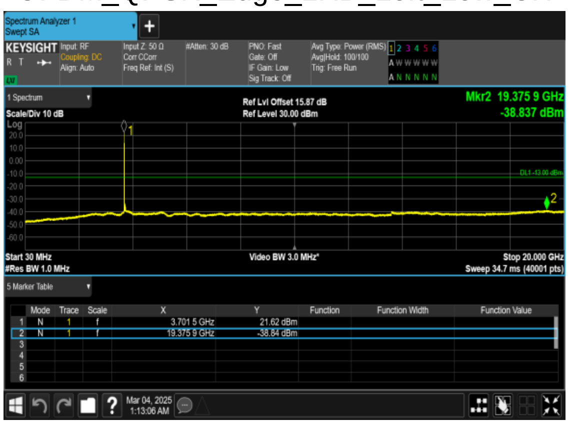
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



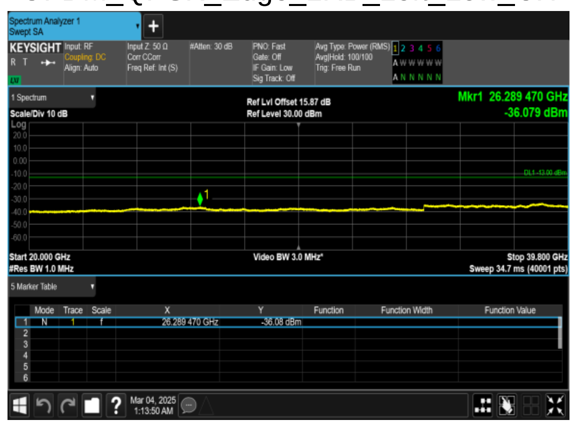
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



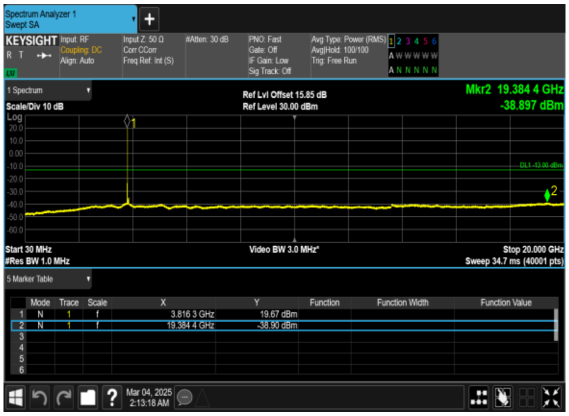
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



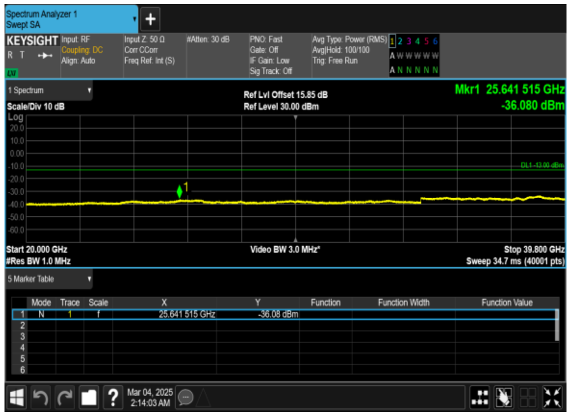
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



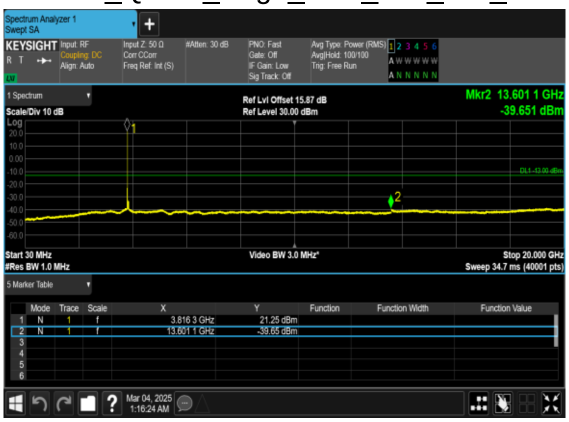
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



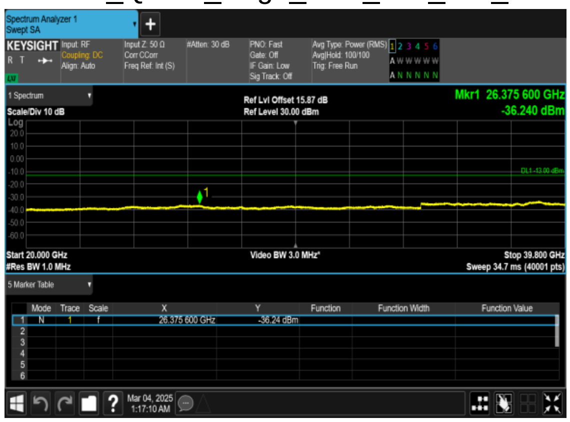
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



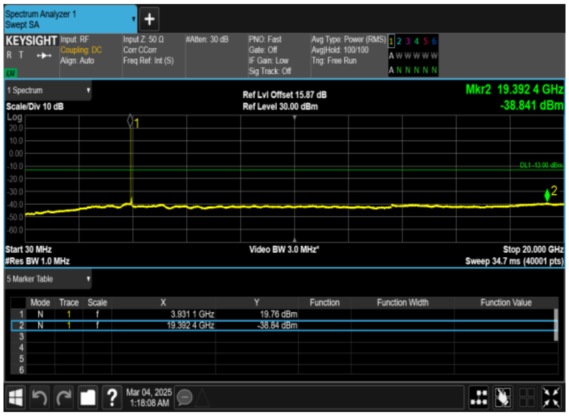
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



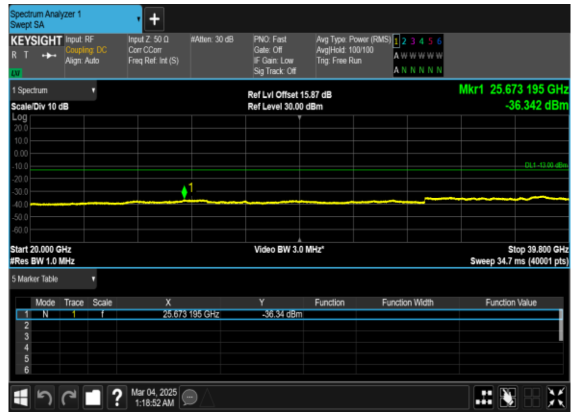
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



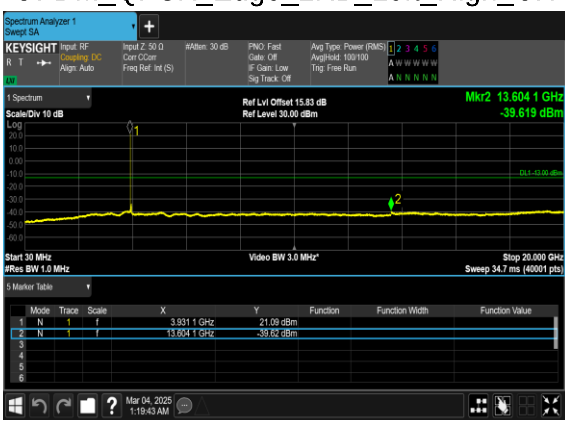
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



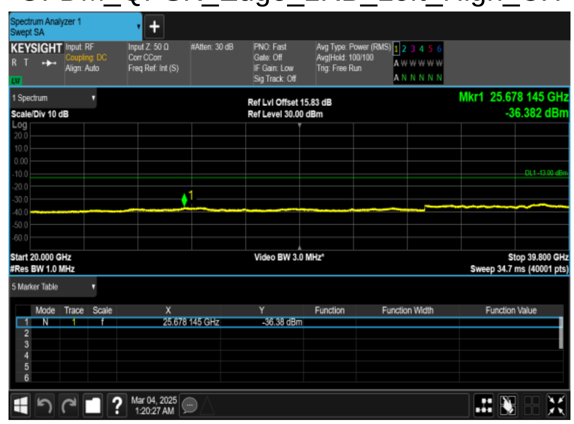
N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



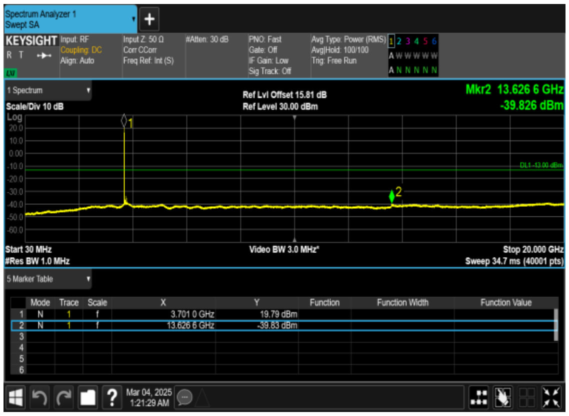
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



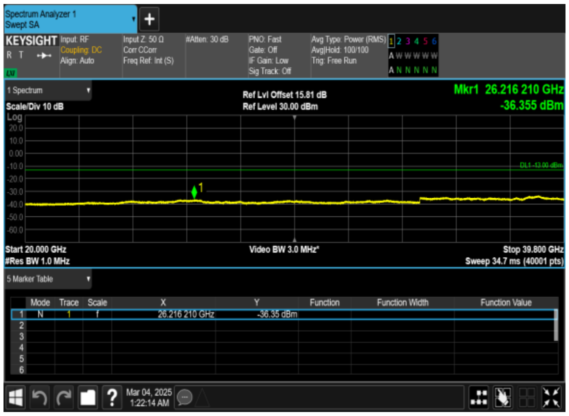
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



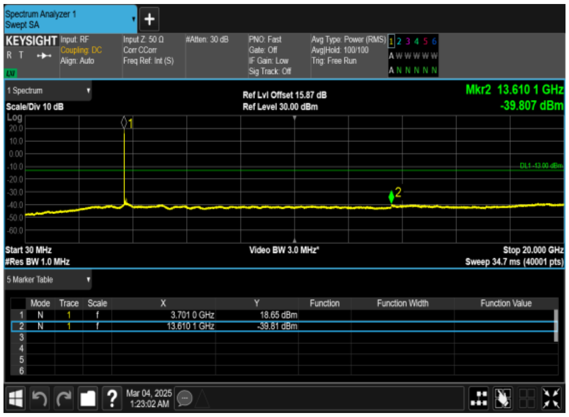
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



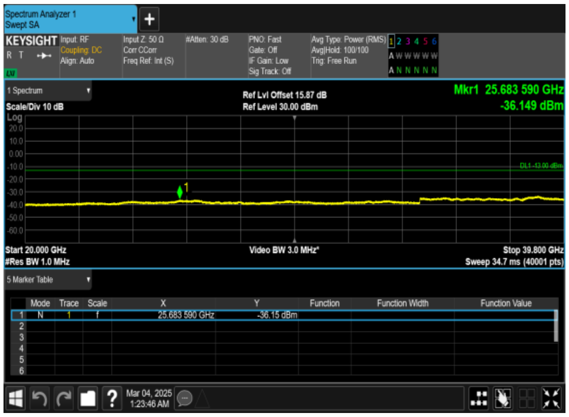
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



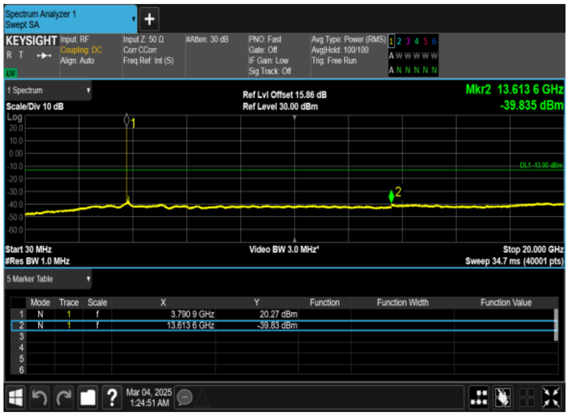
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



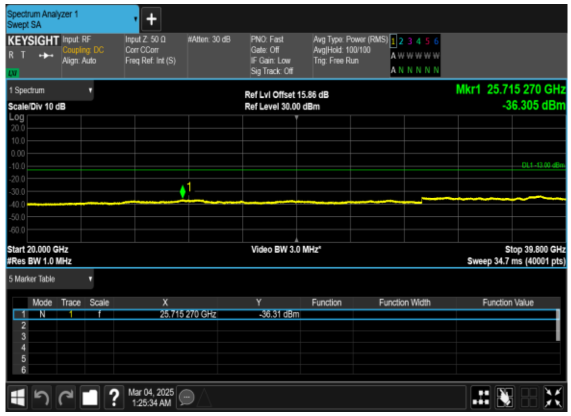
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



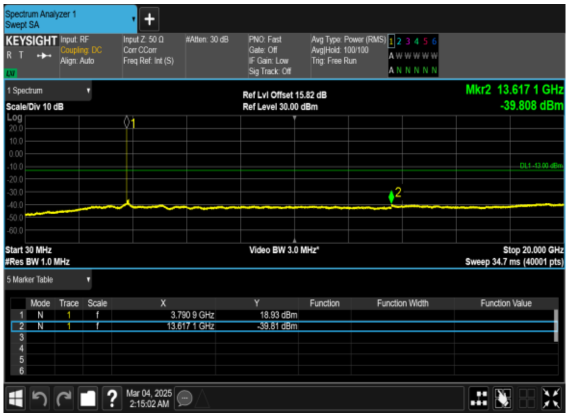
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



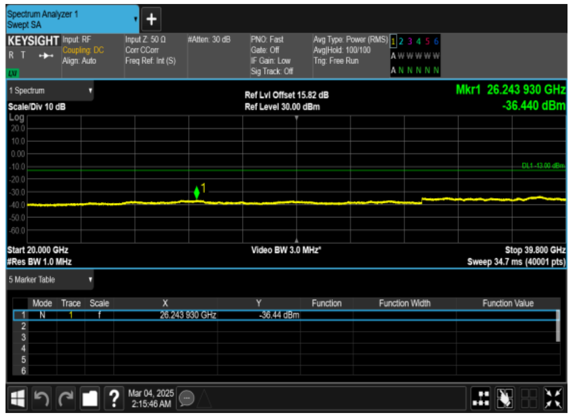
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



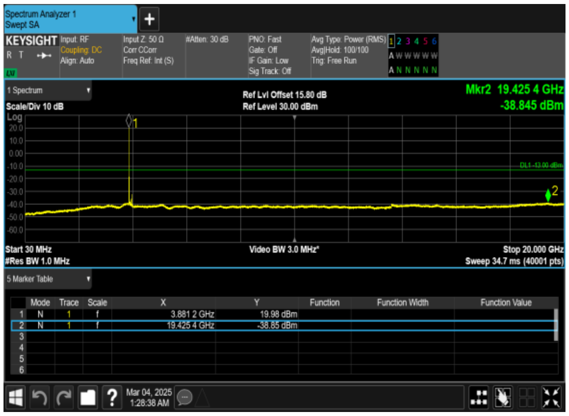
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



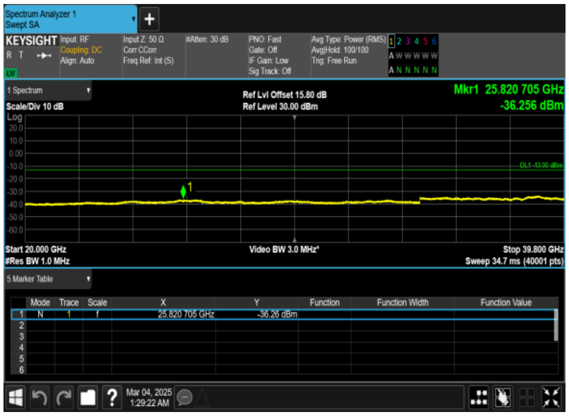
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



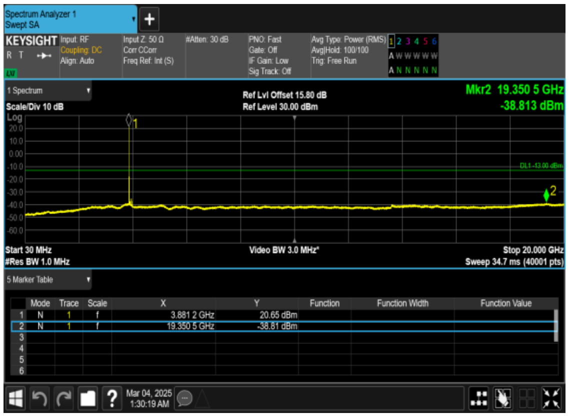
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



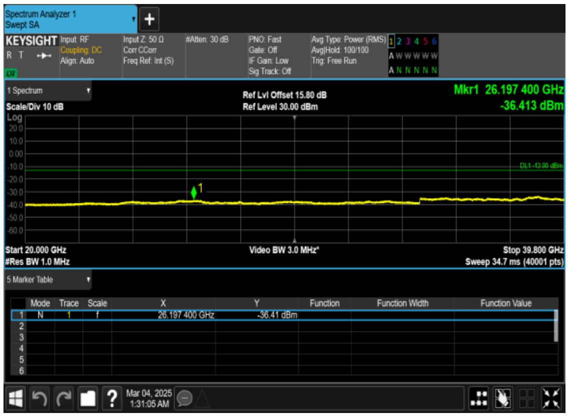
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



Conducted Band Edge

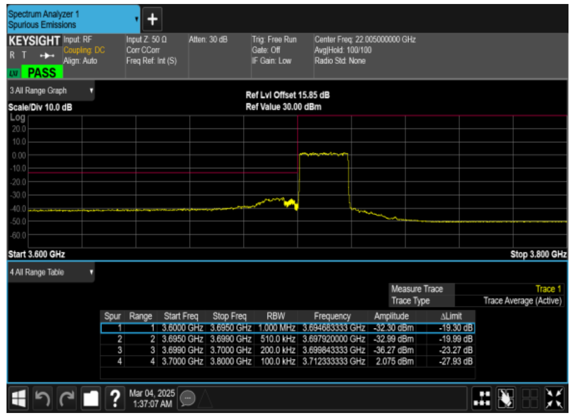
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	1@50	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@50	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM BPSK	128@0	see graph	**PASS**
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	128@0	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM BPSK	1@132	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@132	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM BPSK	128@0	see graph	**PASS**
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	128@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	30	100	650000	3750.0	DFT-s-OFDM QPSK	270@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	1@272	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	1@272	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM BPSK	270@0	see graph	**PASS**
77	30	100	662000	3930.0	DFT-s-OFDM QPSK	270@0	see graph	**PASS**

N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH

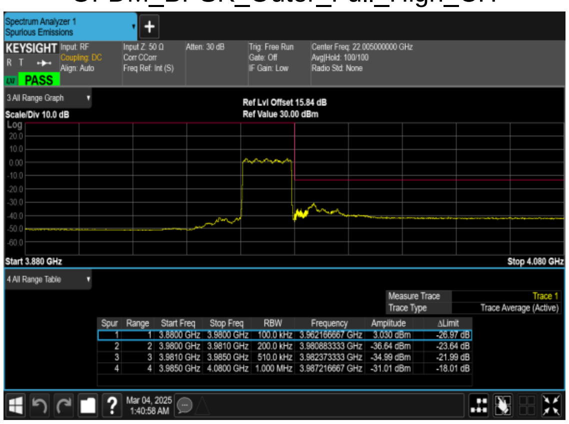
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



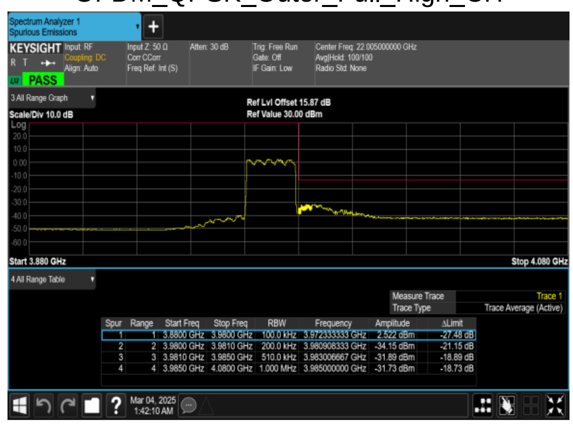
N77(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

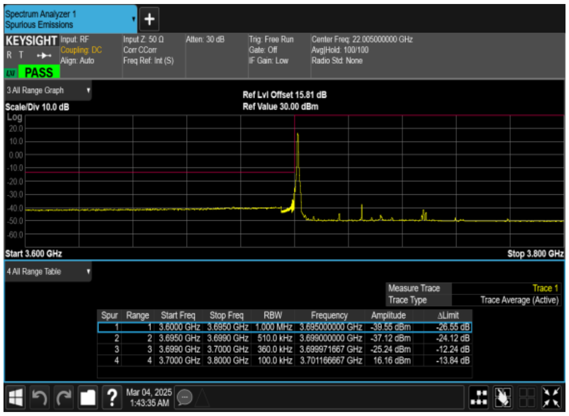
N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

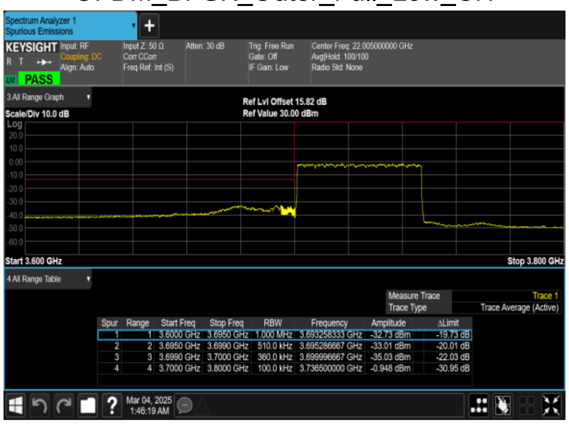


N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

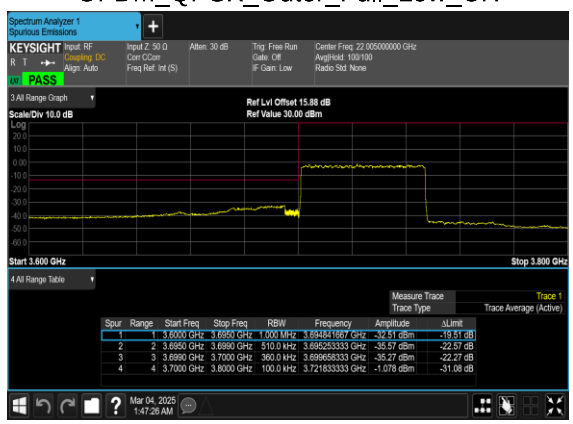


N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

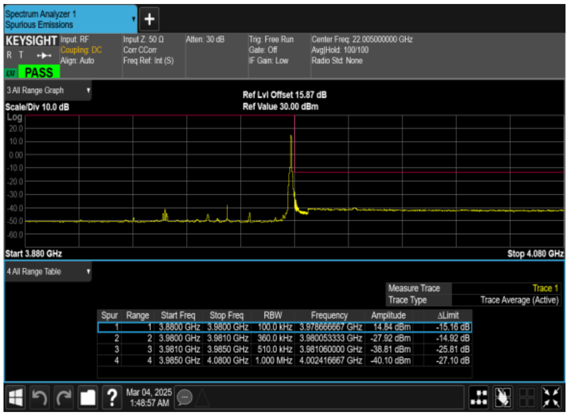
N77(50M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

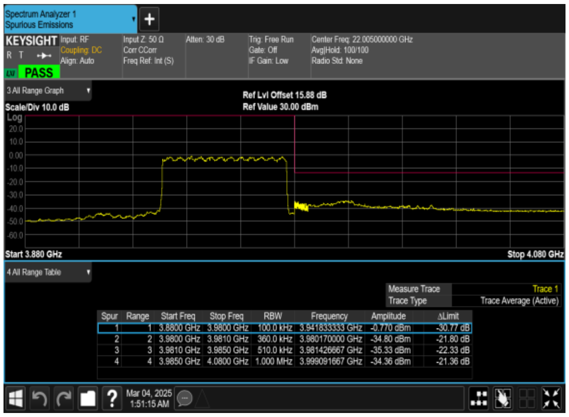


N77(50M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

N77(50M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH