FCC RF Test Report

APPLICANT	:	TCL Communication Ltd.
EQUIPMENT	:	GSM/UMTS/LTE/NR Mobile phone
BRAND NAME	:	TCL
MODEL NAME	:	T803E
FCC ID	:	2ACCJH183
STANDARD	:	47 CFR Part 2, 96
CLASSIFICATION	:	Citizens Band End User Devices (CBE)
EQUIPMENT TYPE	:	End User Equipment
TEST DATE(S)	:	Mar. 20, 2024 ~ Mar. 27, 2024

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.

Jason Jia

Approved by: Jason Jia

ACCREDITED Cert #5145.01

Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FG422702K	01	Initial issue of report	Apr. 07, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
-	§96.41	Peak-to-Average Ratio	Not Applicable	Not applicable for End User Devices
3.3	§96.41	Maximum E.I.R.P	Pass	-
		Maximum Power Spectral Density	Not Applicable	Not applicable for End User Devices
3.4	§2.1049 §96.41	Occupied Bandwidth	Reporting only	-
3.5	§2.1051 §96.41	Conducted Band Edge Measurement Adjacent Channel Leakage Ratio	Pass	-
3.6	§2.1051 §96.41	Conducted Spurious Emission	Pass	
3.7	§2.1055	Frequency Stability for Temperature & Voltage	Pass	-
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 11.98 dB at 10728.50 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

TCL Communication Ltd.

5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

1.2 Manufacturer

TCL Communication Ltd.

5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	GSM/UMTS/LTE/NR Mobile phone
Brand Name	TCL
Model Name	T803E
FCC ID	2ACCJH183
Tx/Rx Frequency	5G NR n77/n78: 3550 MHz ~ 3700 MHz
SCS	30kHz
Bandwidth	n77/n78(30kHz): 10 / 15 / 20 / 25 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100MHz
Antenna Type/Gain	<Ant.2> FPC Antenna 5G NR n77: -1.0 dBi 5G NR n78: -1.0 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted : 353318350121991/353318350122007 Radiation : 353318350121876/353318350121884
HW Version	05
SW Version	AGS7
EUT Stage	Identical Prototype

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. 5G NR n77 support SA mode and n78 support NSA mode only. The whole testing has assessed SA mode by referring to the higher conducted power for conducted test items.
3. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
4. The EN-DC mode combination could be referred to the product spec.

1.4 Maximum EIRP Power 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)
10	3555.00 ~ 3694.98	0.0927	8M58G7D	0.0757	8M57W7D
15	3557.52 ~ 3692.49	0.0923	13M5G7D	0.0752	13M6W7D
20	3560.01 ~ 3690.00	0.0933	18M1G7D	0.0759	18M2W7D
25	3562.50 ~ 3687.50	0.0935	23M2G7D	0.0745	23M2W7D
30	3565.02 ~ 3684.99	0.0899	27M8G7D	0.0731	27M8W7D
40	3570.00 ~ 3679.98	0.0931	37M8G7D	0.0750	37M9W7D
50	3575.01 ~ 3675.00	0.0908	47M4G7D	0.0724	47M6W7D
60	3580.02 ~ 3669.99	0.0839	57M9G7D	0.0659	57M9W7D
70	3585.00 ~ 3664.98	0.0899	67M7G7D	0.0733	67M6W7D
80	3590.01 ~ 3660.00	0.0899	77M5G7D	0.0755	77M7W7D
90	3595.02 ~ 3654.99	0.0923	87M6G7D	0.0752	87M6W7D
100	3600.00 ~ 3649.98	0.0966	97M4G7D	0.0755	97M6W7D

5G NR n78 NSA 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)
10	3555.00 ~ 3694.98	0.0916	8M58G7D	0.0735	8M57W7D
15	3557.52 ~ 3692.49	0.0920	13M5G7D	0.0748	13M6W7D
20	3560.01 ~ 3690.00	0.0918	18M1G7D	0.0746	18M2W7D
25	3562.50 ~ 3687.50	0.0865	23M2G7D	0.0719	23M2W7D
30	3565.02 ~ 3684.99	0.0877	27M8G7D	0.0723	27M8W7D
40	3570.00 ~ 3679.98	0.0902	37M8G7D	0.0733	37M9W7D
50	3575.01 ~ 3675.00	0.0847	47M4G7D	0.0678	47M6W7D
60	3580.02 ~ 3669.99	0.0824	57M9G7D	0.0656	57M9W7D
70	3585.00 ~ 3664.98	0.0865	67M7G7D	0.0690	67M6W7D
80	3590.01 ~ 3660.00	0.0847	77M5G7D	0.0682	77M7W7D
90	3595.02 ~ 3654.99	0.0885	87M6G7D	0.0714	87M6W7D
100	3600.00 ~ 3649.98	0.0959	97M4G7D	0.0794	97M6W7D

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.
2. All modulations have been tested, and 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	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

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.**
	03CH01-SZ	CN1256	421272

1.6 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24

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 2, 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.

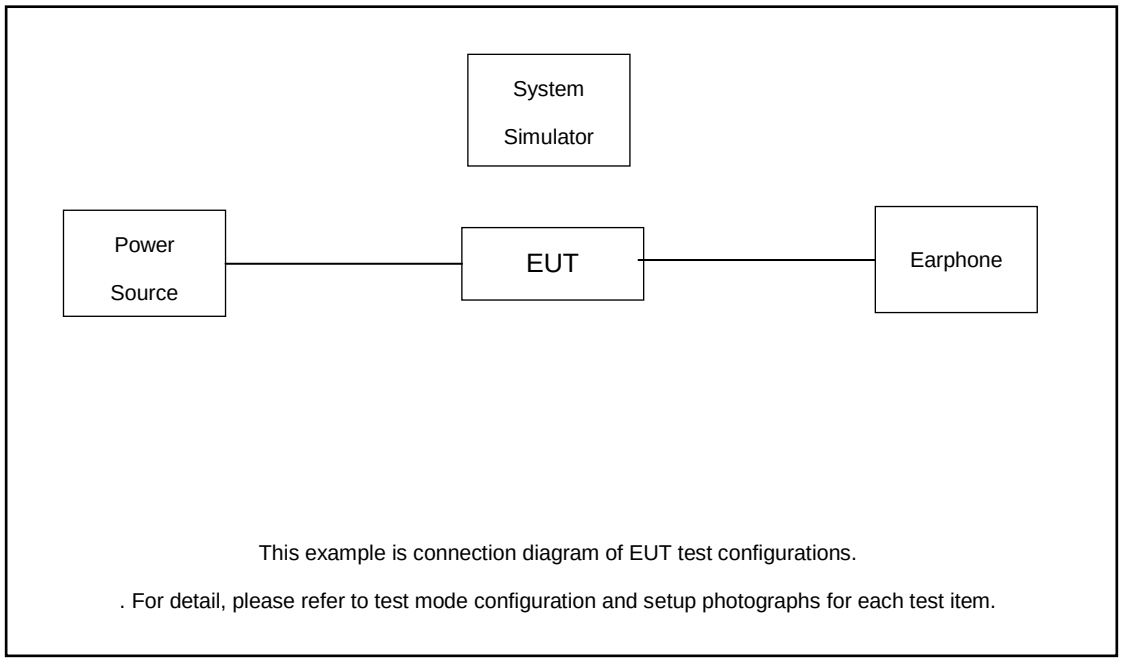
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

Test Items	5G NR	Bandwidth (MHz)												Modulation					RB #		Test Channel		
		10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16 QAM	64 QAM	256 QAM	1	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	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	v	v	v
Adjacent Channel Leakage Ratio	n77	v						v		-			v	v	v				v	v	v	v	v
26dB and 99% Bandwidth	n77	v	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v		v		v	
Conducted Band Edge	n77	v						v					v	v	v				v	v	v		v
Conducted Spurious Emission	n77	v						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	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	v	v	v
Radiated Spurious Emission	n77	Worst Case																				v	
	n78	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. Based on engineering evaluation, only the worst modulations test results are shown in the report.
5. Frequency Stability：Normal Voltage = 3.85V ；Low Voltage =3.6V.；High Voltage =4.4V

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

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	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	Earphone	N/A	N/A	N/A	N/A	N/A

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/n78 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel	640000	641666	643332
	Frequency	3600	3624.99	3649.98
90	Channel	639668	641666	643666
	Frequency	3595.02	3624.99	3654.99
80	Channel	639334	641666	644000
	Frequency	3590.01	3624.99	3660
60	Channel	638668	641666	644666
	Frequency	3580.02	3624.99	3669.99
50	Channel	638334	641666	645000
	Frequency	3575.01	3624.99	3675
40	Channel	638000	641666	645332
	Frequency	3570	3624.99	3679.98
30	Channel	637668	641666	645666
	Frequency	3565.02	3624.99	3684.99
25	Channel	637500	641666	645832
	Frequency	3562.5	3624.99	3687.48
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
15	Channel	637168	641666	646166
	Frequency	3557.52	3624.99	3692.49
10	Channel	637000	641666	646332
	Frequency	3555	3624.99	3694.98

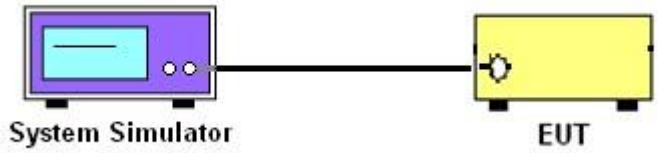
3 Conducted Test Items

3.1 Measuring Instruments

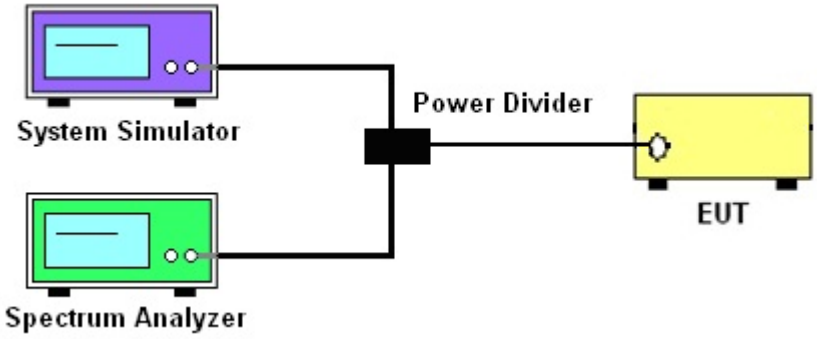
See list of measuring instruments of this test report.

3.1.1 Test Setup

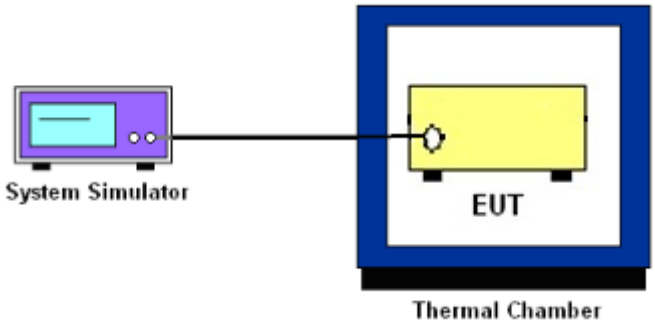
3.1.2 Conducted Output Power / ACLR



3.1.3 Occupied Bandwidth, Conducted Band-Edge and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power

3.2.1 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.

3.2.2 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 EIRP

3.3.1 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 NR 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 5G NR (i.e. 10, 15, 20, 25MHz)

3.3.2 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)

   $EIRP = P_T + G_T – L_C$, $ERP = EIRP - 2.15$, 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 Occupied Bandwidth

3.4.1 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.

3.4.2 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.

3.5 Conducted Band Edge

3.5.1 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 −40dBm/MHz

3.5.2 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 band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used
5. Offset has included the duty factor. Duty factor =10 log (1/x), where x is the measured duty cycle.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.6 Conducted Spurious Emission

3.6.1 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.

3.6.2 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.

3.7 Frequency Stability

3.7.1 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. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency

3.7.2 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.

3.7.3 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.

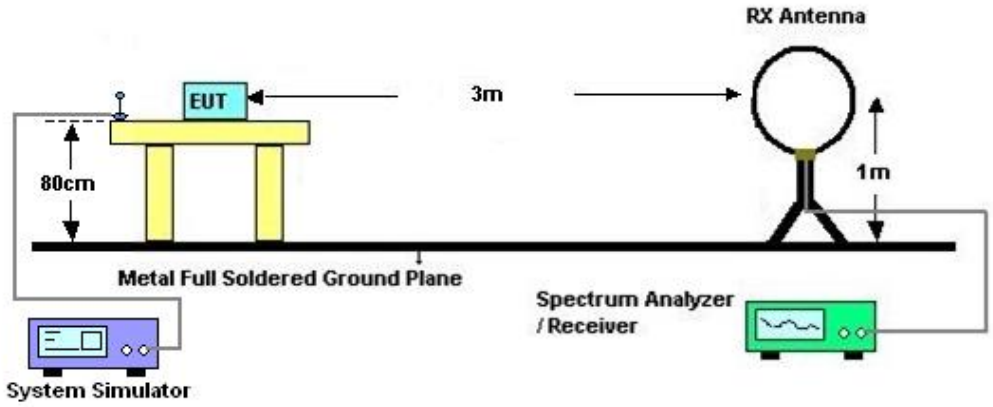
4 Radiated Test Items

4.1 Measuring Instruments

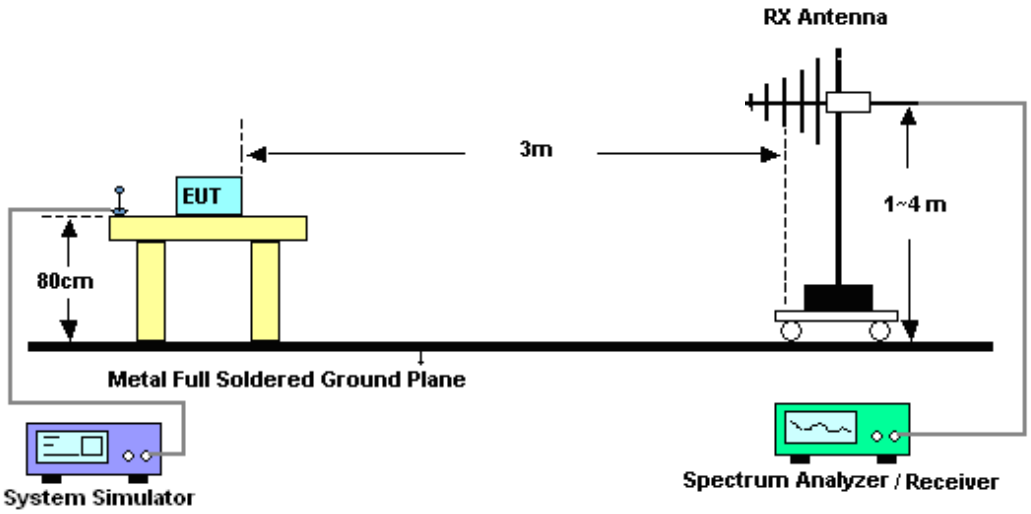
See list of measuring instruments of this test report.

4.2 Test Setup

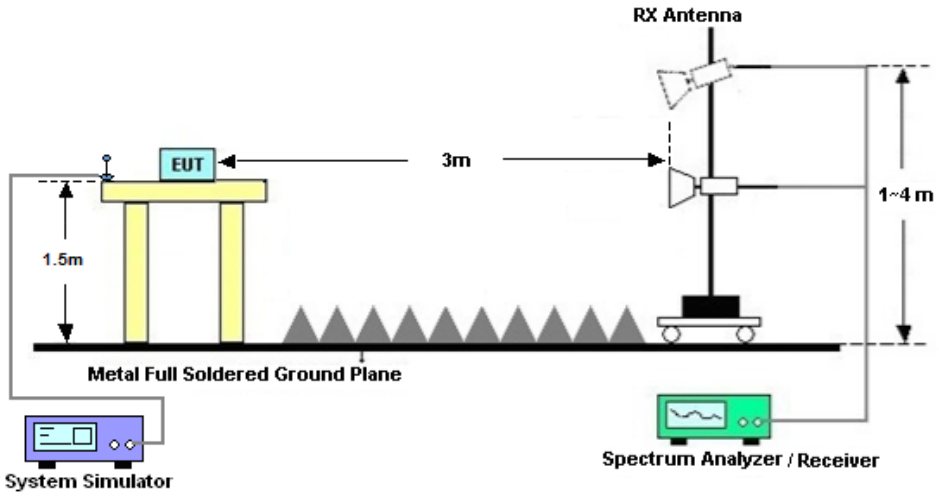
4.2.1 For radiated test below 30MHz



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. 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.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = 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
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Mar. 20, 2024~ Mar. 22, 2024	Dec. 26, 2024	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 16, 2023	Mar. 20, 2024~ Mar. 22, 2024	Oct. 15, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2023	Mar. 20, 2024~ Mar. 22, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 05, 2023	Mar. 20, 2024~ Mar. 22, 2024	Jul. 04, 2024	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2023	Mar. 27, 2024	Dec. 26, 2024	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Mar. 27, 2024	Jul. 27, 2024	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 18, 2023	Mar. 27, 2024	Oct. 17,2024	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Oct. 24, 2023	Mar. 27, 2024	Oct. 23, 2025	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 08, 2023	Mar. 27, 2024	Jul. 07, 2024	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 08, 2023	Mar. 27, 2024	Apr. 07, 2024	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 04, 2023	Mar. 27, 2024	Apr. 03, 2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 18, 2023	Mar. 27, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 07, 2023	Mar. 27, 2024	Jul. 06, 2024	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	61601000198 5	N/A	Oct. 18, 2023	Mar. 27, 2024	Oct. 17, 2024	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Mar. 27, 2024	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Mar. 27, 2024	NCR	Radiation (03CH01-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
Peak to Average Ratio	±1.34 dB
Frequency Stability	±1.3 ppm

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.48 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.53dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.02dB

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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 (ANT2)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-1.0dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	10	637000	3555	DFT-s-OFDM QPSK	1@1	20.67	19.67	0.0927
77	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	19.79	18.79	0.0757
77	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.48	19.48	0.0887
77	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.58	18.58	0.0721
77	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	20.57	19.57	0.0906
77	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	19.64	18.64	0.0731
77	30	15	637168	3557.52	DFT-s-OFDM QPSK	1@1	20.65	19.65	0.0923
77	30	15	637168	3557.52	DFT-s-OFDM 16 QAM	1@1	19.76	18.76	0.0752
77	30	15	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.52	19.52	0.0895
77	30	15	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.52	18.52	0.0711
77	30	15	646166	3692.49	DFT-s-OFDM QPSK	1@1	20.22	19.22	0.0836
77	30	15	646166	3692.49	DFT-s-OFDM 16 QAM	1@1	19.35	18.35	0.0684
77	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	20.7	19.7	0.0933
77	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	19.8	18.8	0.0759
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.48	19.48	0.0887
77	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.61	18.61	0.0726
77	30	20	646000	3690	DFT-s-OFDM QPSK	1@1	20.23	19.23	0.0838
77	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	19.31	18.31	0.0678
77	30	25	647500	3562.5	DFT-s-OFDM QPSK	1@1	20.71	19.71	0.0935
77	30	25	647500	3562.5	DFT-s-OFDM 16 QAM	1@1	19.72	18.72	0.0745
77	30	25	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.37	19.37	0.0865
77	30	25	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.58	18.58	0.0721
77	30	25	645833	3687.495	DFT-s-OFDM QPSK	1@1	20.46	19.46	0.0883
77	30	25	645833	3687.495	DFT-s-OFDM 16 QAM	1@1	19.46	18.46	0.0701
77	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@1	20.54	19.54	0.0899
77	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@1	19.64	18.64	0.0731
77	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.44	19.44	0.0879
77	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.49	18.49	0.0706
77	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	20.15	19.15	0.0822
77	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	19.29	18.29	0.0675
77	30	40	638000	3570	DFT-s-OFDM QPSK	1@1	20.69	19.69	0.0931
77	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	19.75	18.75	0.0750
77	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.36	19.36	0.0863
77	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.46	18.46	0.0701
77	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	20.36	19.36	0.0863
77	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	19.36	18.36	0.0685

77	30	50	638334	3575.01	DFT-s-OFDM QPSK	1@1	20.58	19.58	0.0908
77	30	50	638334	3575.01	DFT-s-OFDM 16 QAM	1@1	19.6	18.6	0.0724
77	30	50	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.13	19.13	0.0818
77	30	50	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.1	18.1	0.0646
77	30	50	645000	3675	DFT-s-OFDM QPSK	1@1	20.19	19.19	0.0830
77	30	50	645000	3675	DFT-s-OFDM 16 QAM	1@1	19.17	18.17	0.0656
77	30	60	638668	3580.02	DFT-s-OFDM QPSK	1@1	20.07	19.07	0.0807
77	30	60	638668	3580.02	DFT-s-OFDM 16 QAM	1@1	19.05	18.05	0.0638
77	30	60	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.06	19.06	0.0805
77	30	60	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.06	18.06	0.0640
77	30	60	644666	3669.99	DFT-s-OFDM QPSK	1@1	20.24	19.24	0.0839
77	30	60	644666	3669.99	DFT-s-OFDM 16 QAM	1@1	19.19	18.19	0.0659
77	30	70	639000	3585	DFT-s-OFDM QPSK	1@1	20.54	19.54	0.0899
77	30	70	639000	3585	DFT-s-OFDM 16 QAM	1@1	19.65	18.65	0.0733
77	30	70	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.33	19.33	0.0857
77	30	70	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.35	18.35	0.0684
77	30	70	644332	3664.98	DFT-s-OFDM QPSK	1@1	20.43	19.43	0.0877
77	30	70	644332	3664.98	DFT-s-OFDM 16 QAM	1@1	19.33	18.33	0.0681
77	30	80	639334	3590.01	DFT-s-OFDM QPSK	1@1	20.54	19.54	0.0899
77	30	80	639334	3590.01	DFT-s-OFDM 16 QAM	1@1	19.78	18.78	0.0755
77	30	80	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.34	19.34	0.0859
77	30	80	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.39	18.39	0.0690
77	30	80	644000	3660	DFT-s-OFDM QPSK	1@1	20.42	19.42	0.0875
77	30	80	644000	3660	DFT-s-OFDM 16 QAM	1@1	19.32	18.32	0.0679
77	30	90	639668	3595.02	DFT-s-OFDM QPSK	1@1	20.65	19.65	0.0923
77	30	90	639668	3595.02	DFT-s-OFDM 16 QAM	1@1	19.76	18.76	0.0752
77	30	90	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.28	19.28	0.0847
77	30	90	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.39	18.39	0.0690
77	30	90	643666	3654.99	DFT-s-OFDM QPSK	1@1	20.42	19.42	0.0875
77	30	90	643666	3654.99	DFT-s-OFDM 16 QAM	1@1	19.34	18.34	0.0682
77	30	100	640000	3600	DFT-s-OFDM PI/2 BPSK	135@67	20.49	19.49	0.0889
77	30	100	640000	3600	DFT-s-OFDM PI/2 BPSK	1@1	20.58	19.58	0.0908
77	30	100	640000	3600	DFT-s-OFDM PI/2 BPSK	1@271	20.17	19.17	0.0826
77	30	100	640000	3600	DFT-s-OFDM QPSK	135@67	20.52	19.52	0.0895
77	30	100	640000	3600	DFT-s-OFDM QPSK	1@1	20.59	19.59	0.0910
77	30	100	640000	3600	DFT-s-OFDM QPSK	1@271	20.21	19.21	0.0834
77	30	100	640000	3600	DFT-s-OFDM 16 QAM	135@67	19.54	18.54	0.0714
77	30	100	640000	3600	DFT-s-OFDM 16 QAM	1@1	19.78	18.78	0.0755
77	30	100	640000	3600	DFT-s-OFDM 16 QAM	1@271	19.14	18.14	0.0652
77	30	100	640000	3600	DFT-s-OFDM 64 QAM	135@67	18.06	17.06	0.0508
77	30	100	640000	3600	DFT-s-OFDM 64 QAM	1@1	18.25	17.25	0.0531
77	30	100	640000	3600	DFT-s-OFDM 64 QAM	1@271	18.11	17.11	0.0514
77	30	100	640000	3600	DFT-s-OFDM 256 QAM	135@67	16.09	15.09	0.0323
77	30	100	640000	3600	DFT-s-OFDM 256 QAM	1@1	16.14	15.14	0.0327

77	30	100	640000	3600	DFT-s-OFDM 256 QAM	1@271	16.03	15.03	0.0318
77	30	100	640000	3600	CP-OFDM QPSK	137@68	19.02	18.02	0.0634
77	30	100	640000	3600	CP-OFDM QPSK	1@1	19.09	18.09	0.0644
77	30	100	640000	3600	CP-OFDM QPSK	1@271	19.01	18.01	0.0632
77	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	135@67	20.52	19.52	0.0895
77	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	20.39	19.39	0.0869
77	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@271	20.22	19.22	0.0836
77	30	100	641666	3624.99	DFT-s-OFDM QPSK	135@67	20.54	19.54	0.0899
77	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@1	20.29	19.29	0.0849
77	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@271	20.07	19.07	0.0807
77	30	100	641666	3624.99	DFT-s-OFDM 16 QAM	135@67	19.49	18.49	0.0706
77	30	100	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	19.44	18.44	0.0698
77	30	100	641666	3624.99	DFT-s-OFDM 16 QAM	1@271	19.22	18.22	0.0664
77	30	100	641666	3624.99	DFT-s-OFDM 64 QAM	135@67	18.04	17.04	0.0506
77	30	100	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	17.92	16.92	0.0492
77	30	100	641666	3624.99	DFT-s-OFDM 64 QAM	1@271	18.02	17.02	0.0504
77	30	100	641666	3624.99	DFT-s-OFDM 256 QAM	135@67	16.03	15.03	0.0318
77	30	100	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	15.75	14.75	0.0299
77	30	100	641666	3624.99	DFT-s-OFDM 256 QAM	1@271	15.82	14.82	0.0303
77	30	100	641666	3624.99	CP-OFDM QPSK	137@68	18.96	17.96	0.0625
77	30	100	641666	3624.99	CP-OFDM QPSK	1@1	18.72	17.72	0.0592
77	30	100	641666	3624.99	CP-OFDM QPSK	1@271	18.49	17.49	0.0561
77	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	135@67	20.27	19.27	0.0845
77	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@1	20.51	19.51	0.0893
77	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@271	20.83	19.83	0.0962
77	30	100	643332	3649.98	DFT-s-OFDM QPSK	135@67	20.3	19.3	0.0851
77	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@1	20.4	19.4	0.0871
77	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@271	20.85	19.85	0.0966
77	30	100	643332	3649.98	DFT-s-OFDM 16 QAM	135@67	19.22	18.22	0.0664
77	30	100	643332	3649.98	DFT-s-OFDM 16 QAM	1@1	19.26	18.26	0.0670
77	30	100	643332	3649.98	DFT-s-OFDM 16 QAM	1@271	19.53	18.53	0.0713
77	30	100	643332	3649.98	DFT-s-OFDM 64 QAM	135@67	17.78	16.78	0.0476
77	30	100	643332	3649.98	DFT-s-OFDM 64 QAM	1@1	17.78	16.78	0.0476
77	30	100	643332	3649.98	DFT-s-OFDM 64 QAM	1@271	18.06	17.06	0.0508
77	30	100	643332	3649.98	DFT-s-OFDM 256 QAM	135@67	15.8	14.8	0.0302
77	30	100	643332	3649.98	DFT-s-OFDM 256 QAM	1@1	15.64	14.64	0.0291
77	30	100	643332	3649.98	DFT-s-OFDM 256 QAM	1@271	15.93	14.93	0.0311
77	30	100	643332	3649.98	CP-OFDM QPSK	137@68	18.71	17.71	0.0590
77	30	100	643332	3649.98	CP-OFDM QPSK	1@1	18.85	17.85	0.0610
77	30	100	643332	3649.98	CP-OFDM QPSK	1@271	19.13	18.13	0.0650

Frequency Stability

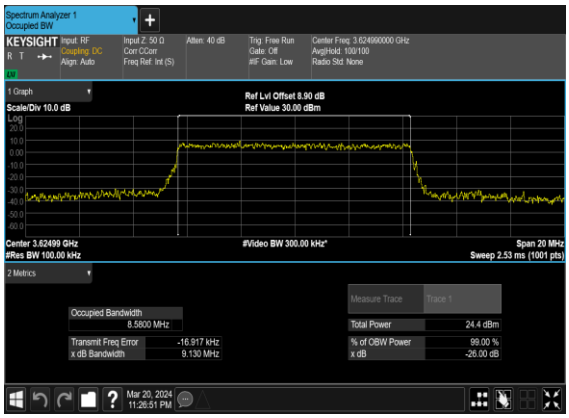
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0064	**PASS**	NV
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0052	**PASS**	LV
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0024	**PASS**	HV
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0028	**PASS**	-30℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0065	**PASS**	-20℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0022	**PASS**	-10℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0068	**PASS**	0℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0039	**PASS**	10℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0064	**PASS**	20℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0042	**PASS**	30℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0064	**PASS**	40℃
77	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	0.0038	**PASS**	50℃

Occupied Bandwidth

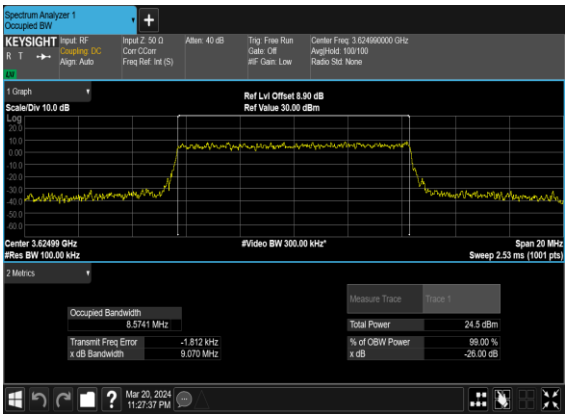
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	10	641666	3624.99	CP-OFDM QPSK	24@0	8.58	9.13
77	30	10	641666	3624.99	CP-OFDM 16 QAM	24@0	8.5741	9.07
77	30	10	641666	3624.99	CP-OFDM 64 QAM	24@0	8.5693	9.25
77	30	10	641666	3624.99	CP-OFDM 256 QAM	24@0	8.5532	9.143
77	30	15	641666	3624.99	CP-OFDM QPSK	38@0	13.528	14.23
77	30	15	641666	3624.99	CP-OFDM 16 QAM	38@0	13.557	14.26
77	30	15	641666	3624.99	CP-OFDM 64 QAM	38@0	13.596	14.16
77	30	15	641666	3624.99	CP-OFDM 256 QAM	38@0	13.568	14.35
77	30	20	641666	3624.99	CP-OFDM QPSK	51@0	18.18	18.93
77	30	20	641666	3624.99	CP-OFDM 16 QAM	51@0	18.191	18.89
77	30	20	641666	3624.99	CP-OFDM 64 QAM	51@0	18.155	18.9
77	30	20	641666	3624.99	CP-OFDM 256 QAM	51@0	18.19	18.83
77	30	25	641666	3624.99	CP-OFDM QPSK	65@0	23.168	24.05
77	30	25	641666	3624.99	CP-OFDM 16 QAM	65@0	23.206	24.16
77	30	25	641666	3624.99	CP-OFDM 64 QAM	65@0	23.132	24.1
77	30	25	641666	3624.99	CP-OFDM 256 QAM	65@0	23.233	24.13
77	30	30	641666	3624.99	CP-OFDM QPSK	78@0	27.763	28.71
77	30	30	641666	3624.99	CP-OFDM 16 QAM	78@0	27.772	29.14
77	30	30	641666	3624.99	CP-OFDM 64 QAM	78@0	27.791	28.87
77	30	30	641666	3624.99	CP-OFDM 256 QAM	78@0	27.777	28.94
77	30	40	641666	3624.99	CP-OFDM QPSK	106@0	37.811	39.18
77	30	40	641666	3624.99	CP-OFDM 16 QAM	106@0	37.892	39.24
77	30	40	641666	3624.99	CP-OFDM 64 QAM	106@0	37.735	39.3
77	30	40	641666	3624.99	CP-OFDM 256 QAM	106@0	37.787	39.08
77	30	50	641666	3624.99	CP-OFDM QPSK	133@0	47.424	49.01
77	30	50	641666	3624.99	CP-OFDM 16 QAM	133@0	47.513	49.24
77	30	50	641666	3624.99	CP-OFDM 64 QAM	133@0	47.428	49.21
77	30	50	641666	3624.99	CP-OFDM 256 QAM	133@0	47.554	48.94
77	30	60	641666	3624.99	CP-OFDM QPSK	162@0	57.86	59.81
77	30	60	641666	3624.99	CP-OFDM 16 QAM	162@0	57.864	59.72
77	30	60	641666	3624.99	CP-OFDM 64 QAM	162@0	57.85	59.74
77	30	60	641666	3624.99	CP-OFDM 256 QAM	162@0	57.783	59.73
77	30	70	641666	3624.99	CP-OFDM QPSK	189@0	67.686	69.62

77	30	70	641666	3624.99	CP-OFDM 16 QAM	189@0	67.401	69.7
77	30	70	641666	3624.99	CP-OFDM 64 QAM	189@0	67.56	69.7
77	30	70	641666	3624.99	CP-OFDM 256 QAM	189@0	67.581	69.7
77	30	80	641666	3624.99	CP-OFDM QPSK	217@0	77.526	79.92
77	30	80	641666	3624.99	CP-OFDM 16 QAM	217@0	77.453	79.87
77	30	80	641666	3624.99	CP-OFDM 64 QAM	217@0	77.672	79.89
77	30	80	641666	3624.99	CP-OFDM 256 QAM	217@0	77.526	79.98
77	30	90	641666	3624.99	CP-OFDM QPSK	245@0	87.588	90.25
77	30	90	641666	3624.99	CP-OFDM 16 QAM	245@0	87.38	90.28
77	30	90	641666	3624.99	CP-OFDM 64 QAM	245@0	87.619	90.23
77	30	90	641666	3624.99	CP-OFDM 256 QAM	245@0	87.287	90.17
77	30	100	641666	3624.99	CP-OFDM QPSK	273@0	97.406	100.6
77	30	100	641666	3624.99	CP-OFDM 16 QAM	273@0	97.558	100.5
77	30	100	641666	3624.99	CP-OFDM 64 QAM	273@0	97.521	100.5
77	30	100	641666	3624.99	CP-OFDM 256 QAM	273@0	97.56	100.5

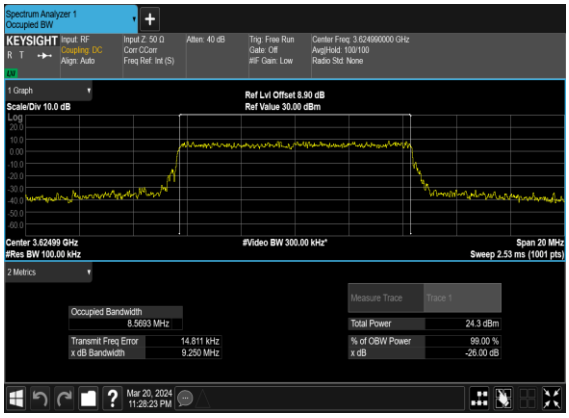
N77(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



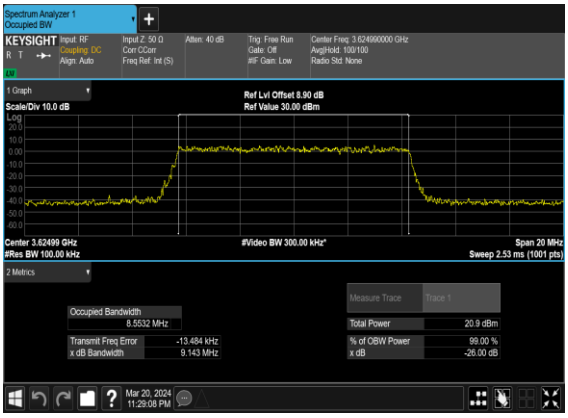
N77(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



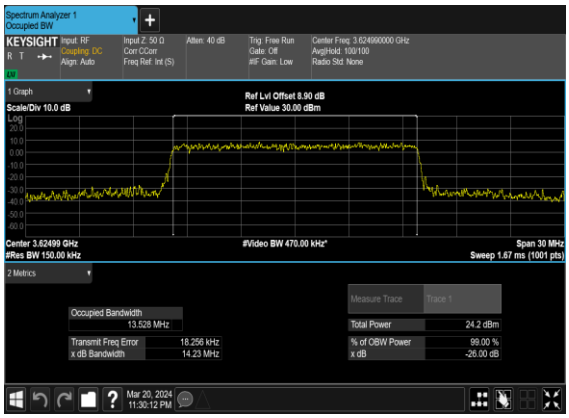
N77(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



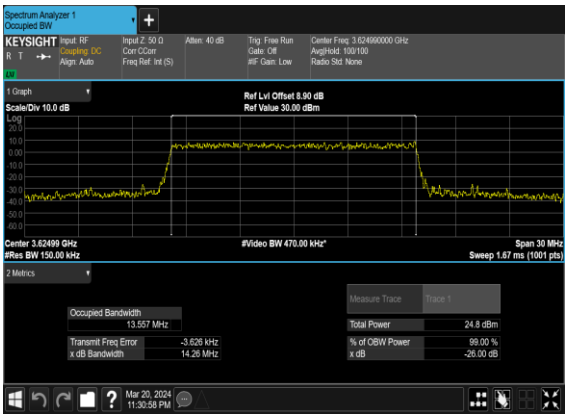
N77(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



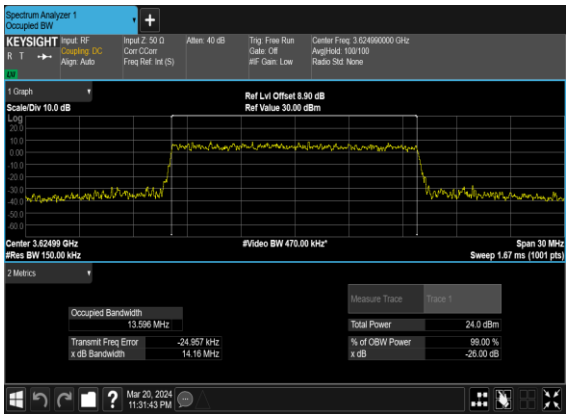
N77(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



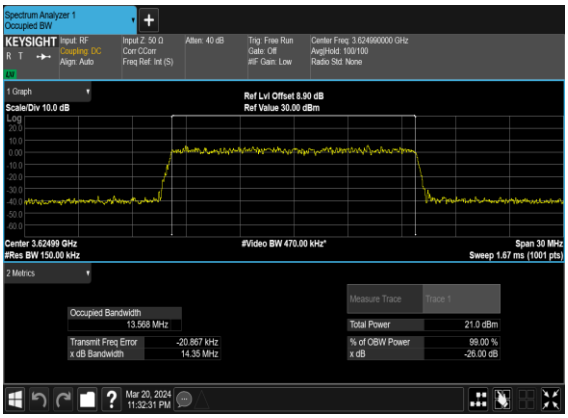
N77(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



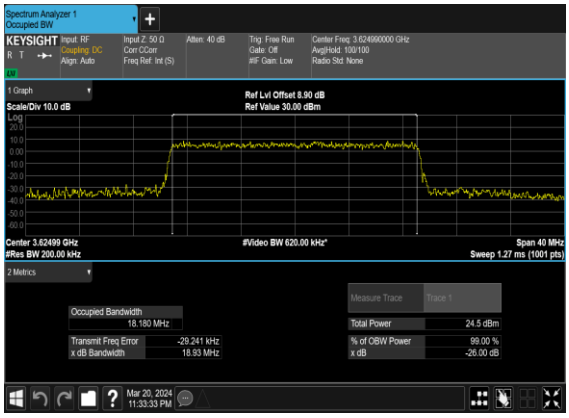
N77(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



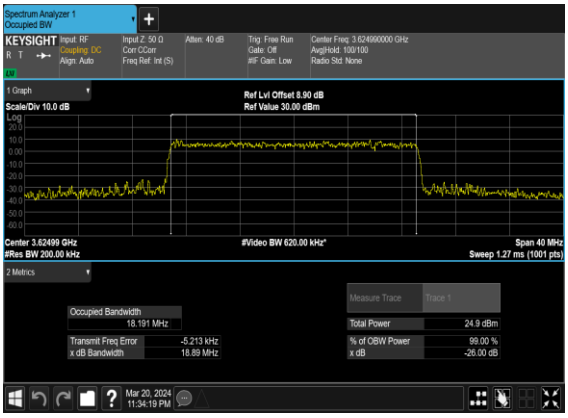
N77(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

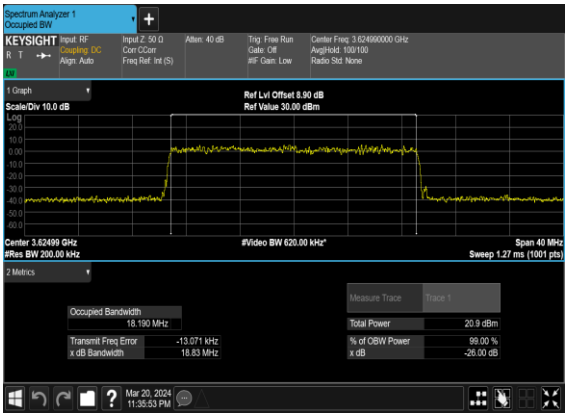


N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

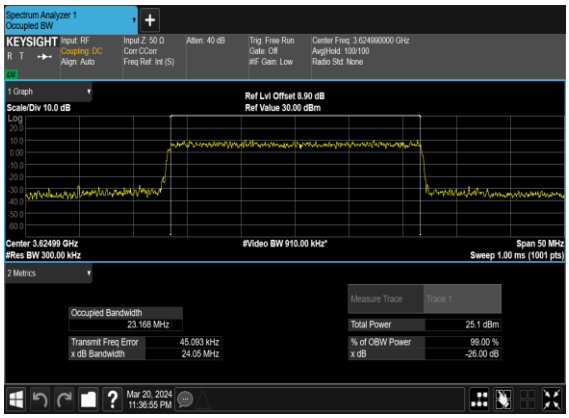


N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

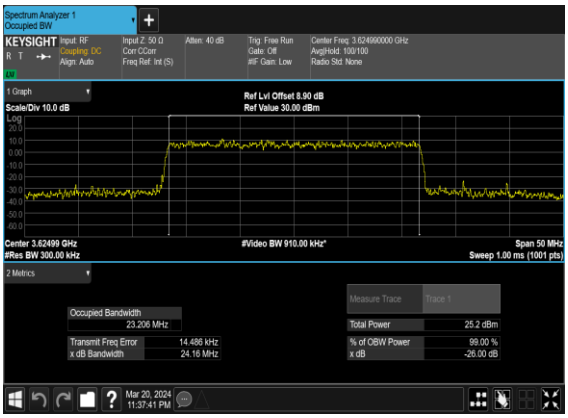
N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



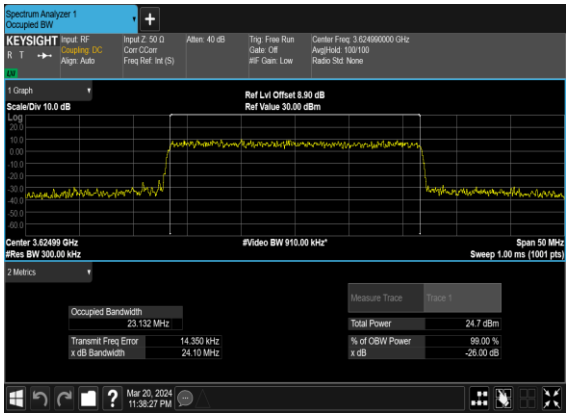
N77(25M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



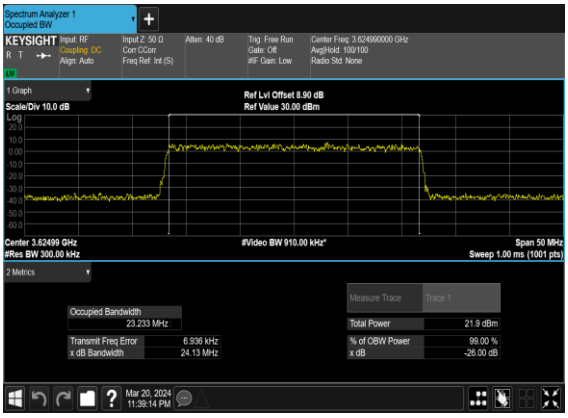
N77(25M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



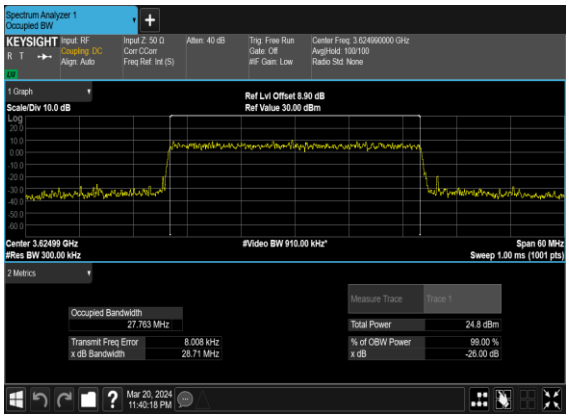
N77(25M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



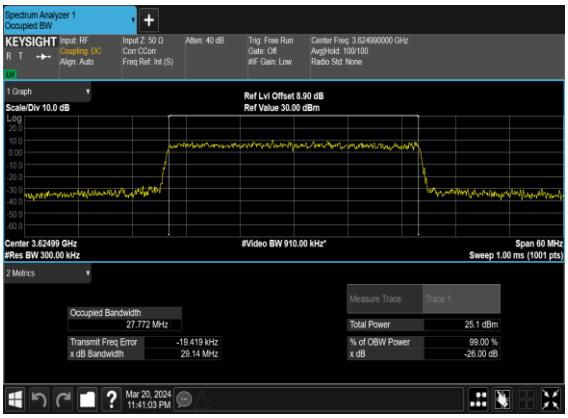
N77(25M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



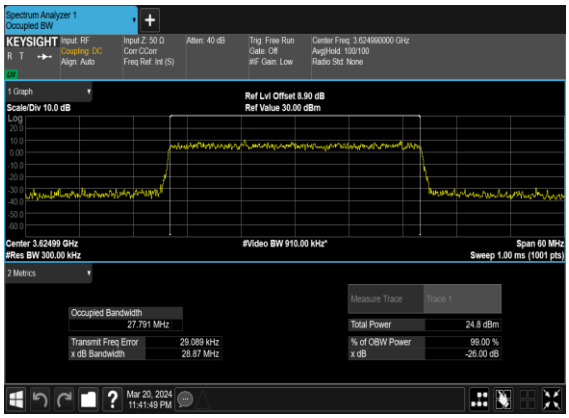
N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



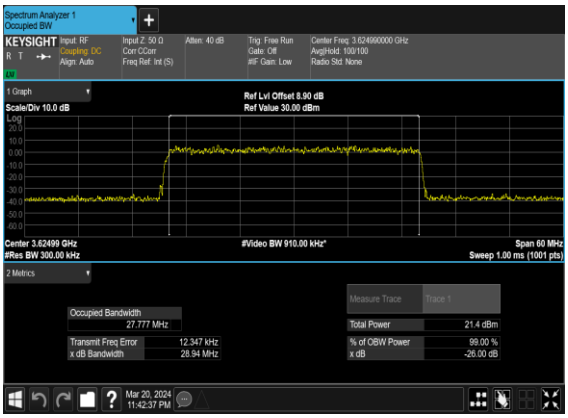
N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



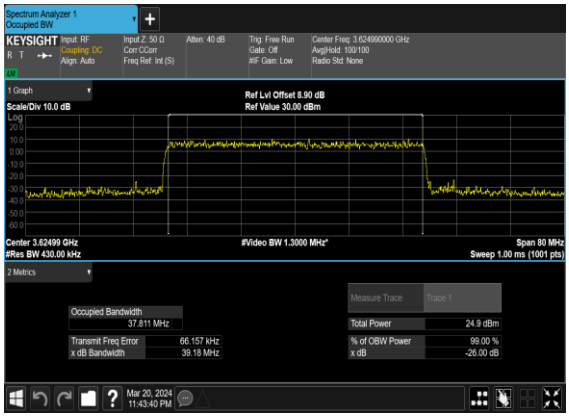
N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



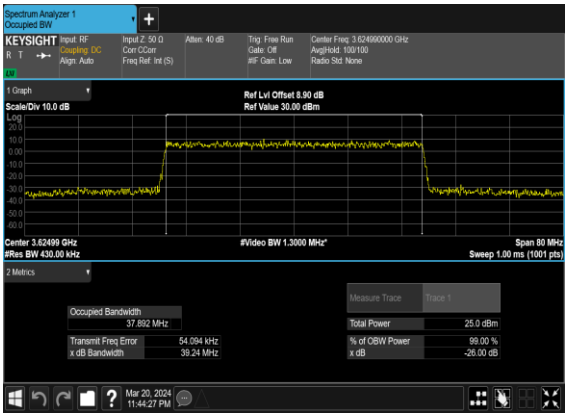
N77(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



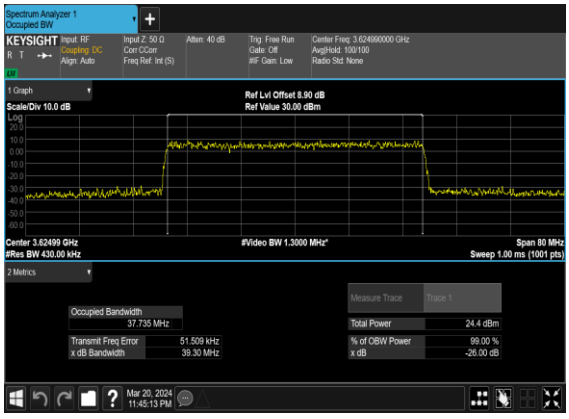
N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



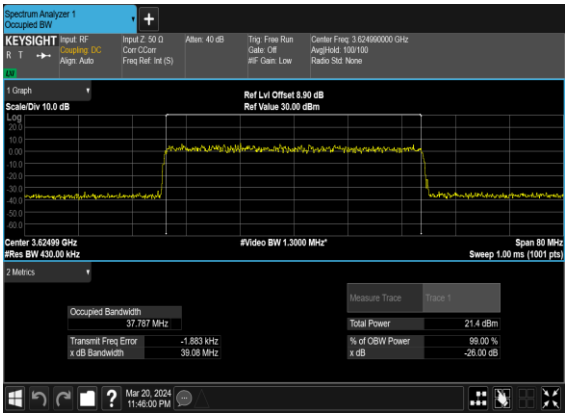
N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



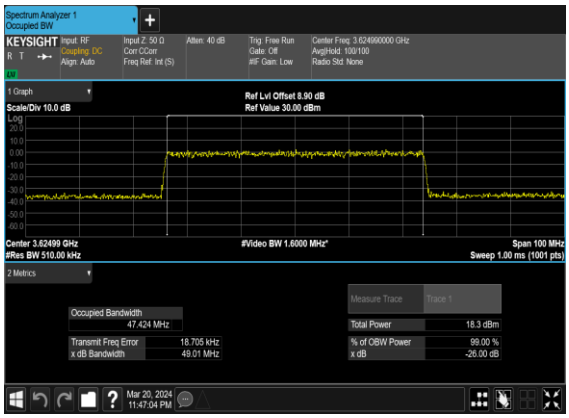
N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



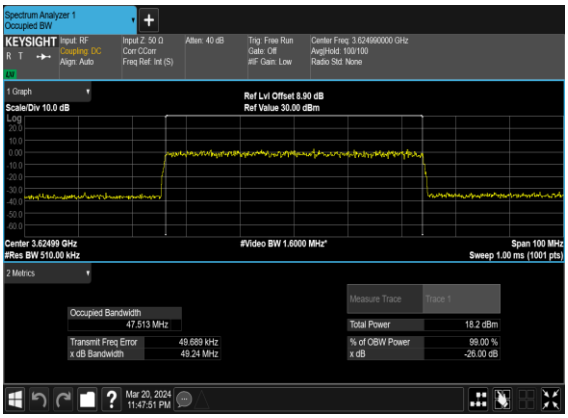
N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



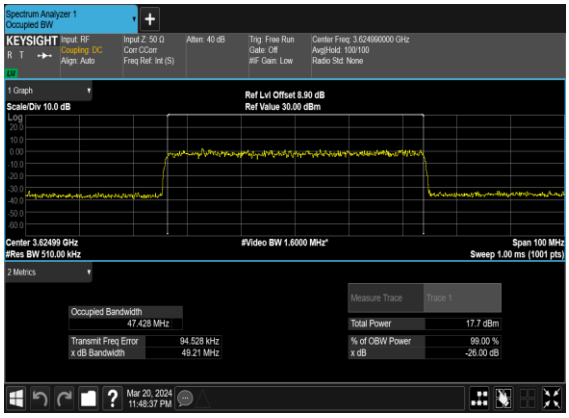
N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



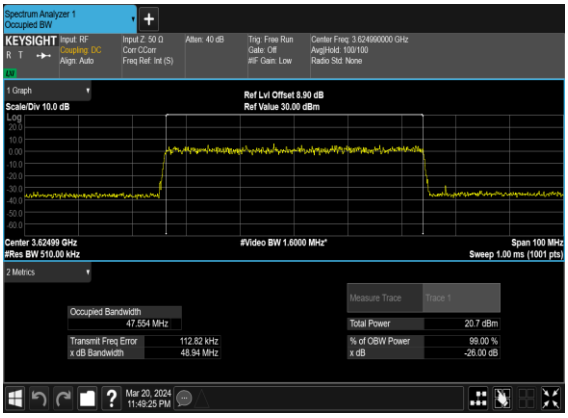
N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



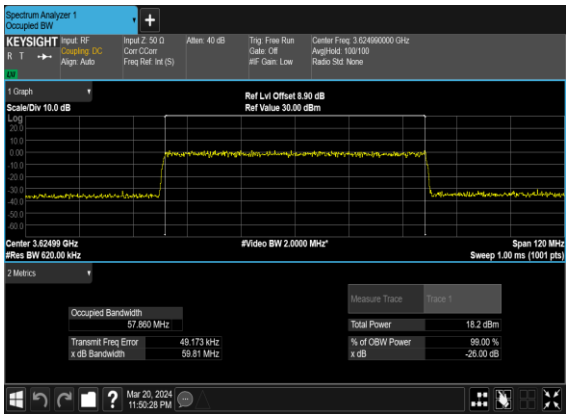
N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



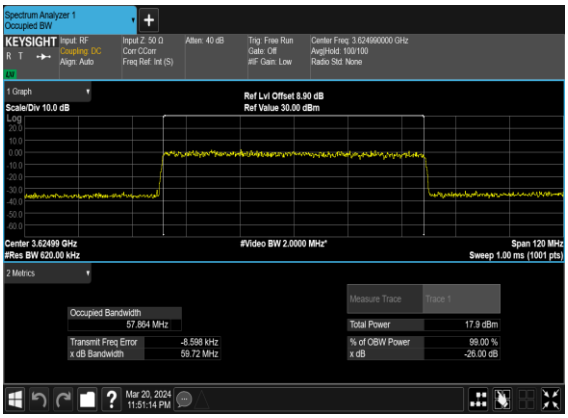
N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



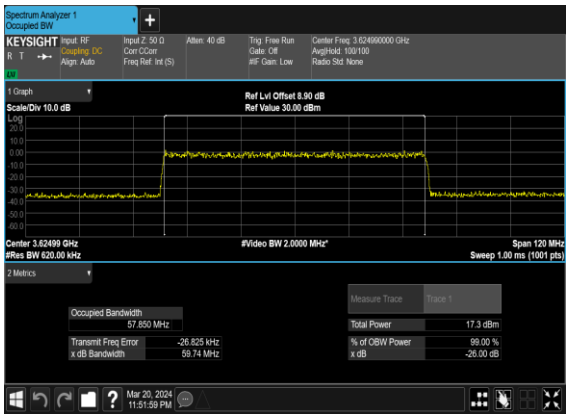
N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



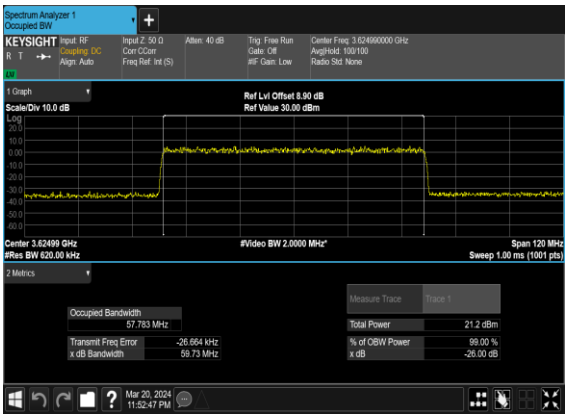
N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



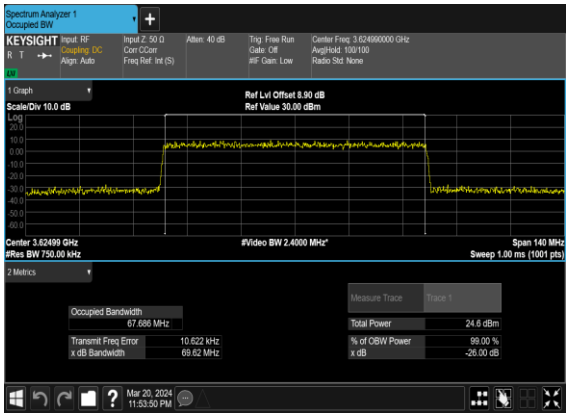
N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



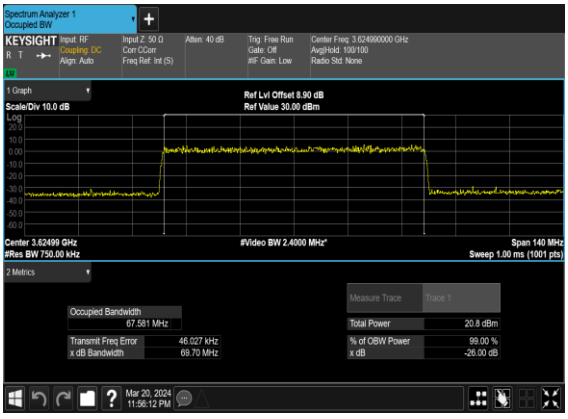
N77(70M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N77(70M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

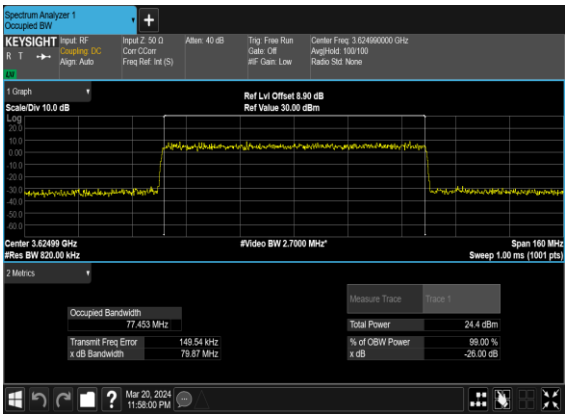
N77(70M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(70M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



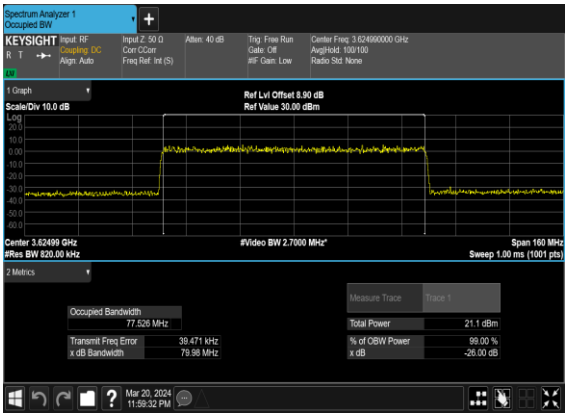
N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

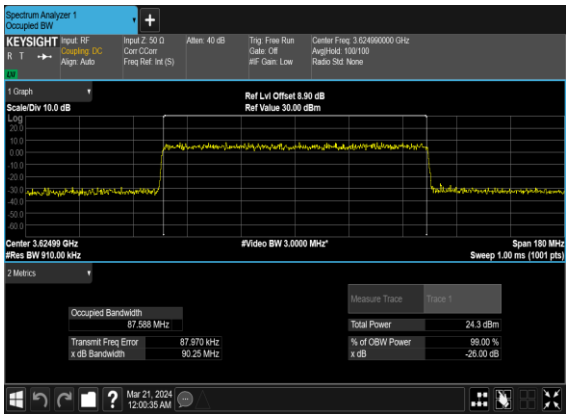


N77(80M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

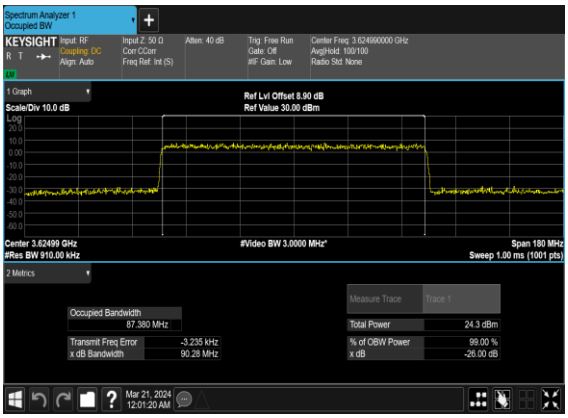
N77(80M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



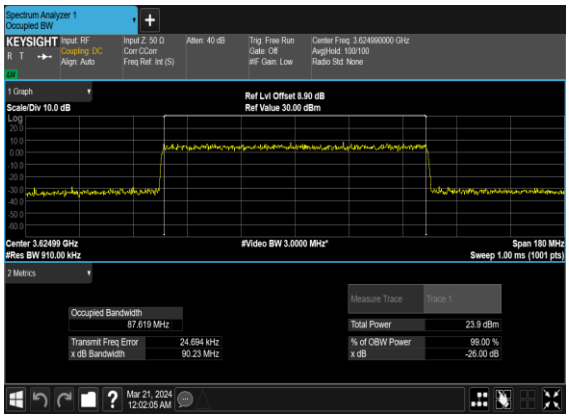
N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



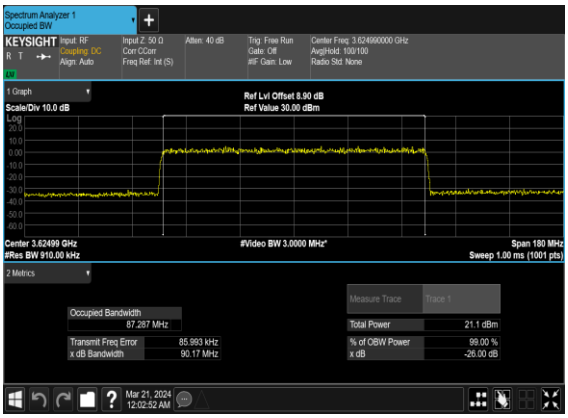
N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



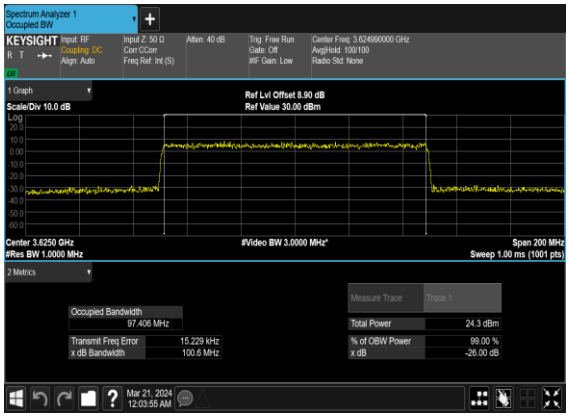
N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



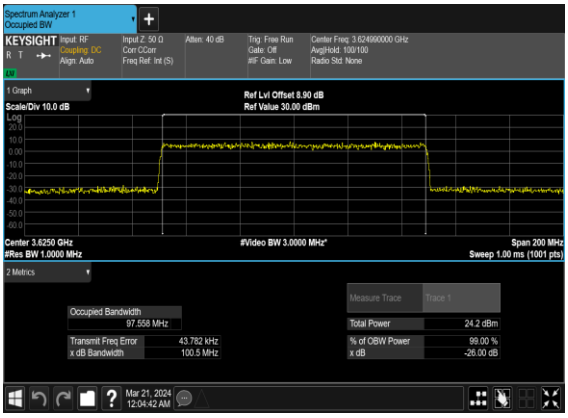
N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



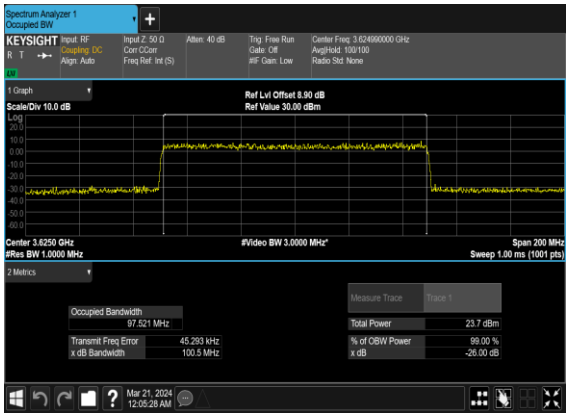
N77(100M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



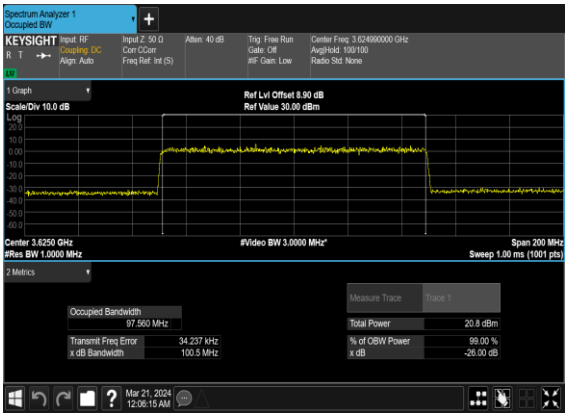
N77(100M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

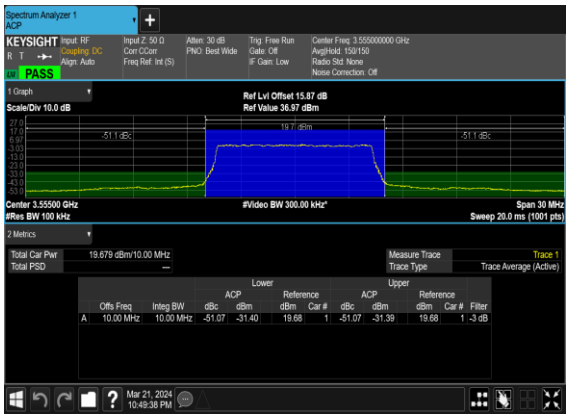


Adjacent Channel Leakage Ratio

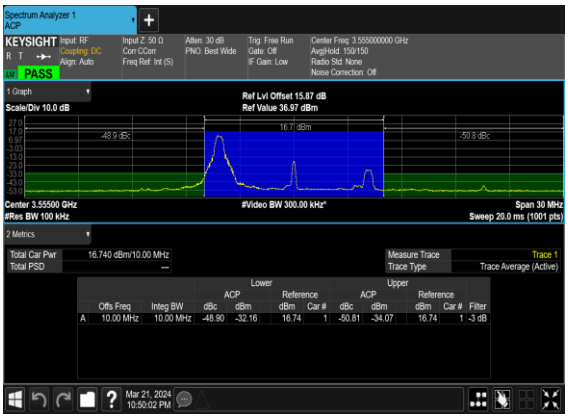
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
77	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	24@0	-16.87	-16.69	**see graph**	PASS
77	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-18.9	-20.81	**see graph**	PASS
77	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@23	-20.73	-18.6	**see graph**	PASS
77	30	10	637000	3555.0	DFT-s-OFDM QPSK	24@0	-19.03	-19.19	**see graph**	PASS
77	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-18.32	-20.52	**see graph**	PASS
77	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@23	-20.88	-18.98	**see graph**	PASS
77	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	-17.44	-17.38	**see graph**	PASS
77	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-17.77	-18.87	**see graph**	PASS
77	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	-18.87	-17.3	**see graph**	PASS
77	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-16.75	-17.28	**see graph**	PASS
77	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-17.26	-19.08	**see graph**	PASS
77	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	-19.28	-17.7	**see graph**	PASS
77	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	24@0	-17.5	-17.68	**see graph**	PASS
77	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-16.23	-17.37	**see graph**	PASS
77	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	-18.31	-16.94	**see graph**	PASS
77	30	10	646332	3694.98	DFT-s-OFDM QPSK	24@0	-16.12	-16.13	**see graph**	PASS
77	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-17.07	-18.69	**see graph**	PASS
77	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	-18.69	-17.37	**see graph**	PASS
77	30	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	128@0	-14.58	-14.16	**see graph**	PASS
77	30	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@0	-12.14	-11.77	**see graph**	PASS
77	30	50	638334	3575.01	DFT-s-OFDM PI/2 BPSK	1@132	-12.64	-11.63	**see graph**	PASS
77	30	50	638334	3575.01	DFT-s-OFDM QPSK	128@0	-13.35	-13.18	**see graph**	PASS
77	30	50	638334	3575.01	DFT-s-OFDM QPSK	1@0	-12.09	-11.75	**see graph**	PASS
77	30	50	638334	3575.01	DFT-s-OFDM QPSK	1@132	-13.16	-12.15	**see graph**	PASS
77	30	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	128@0	-13.61	-13.02	**see graph**	PASS
77	30	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-12.28	-11.62	**see graph**	PASS
77	30	50	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@132	-12.67	-11.33	**see graph**	PASS
77	30	50	641666	3624.99	DFT-s-OFDM QPSK	128@0	-12.79	-12.24	**see graph**	PASS
77	30	50	641666	3624.99	DFT-s-OFDM QPSK	1@0	-12.28	-11.56	**see graph**	PASS
77	30	50	641666	3624.99	DFT-s-OFDM QPSK	1@132	-12.61	-11.29	**see graph**	PASS
77	30	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	128@0	-13.52	-12.81	**see graph**	PASS
77	30	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@0	-10.87	-9.96	**see graph**	PASS
77	30	50	645000	3675.0	DFT-s-OFDM PI/2 BPSK	1@132	-11.75	-10.45	**see graph**	PASS

77	30	50	645000	3675.0	DFT-s-OFDM QPSK	128@0	-12.46	-12.1	**see graph**	PASS
77	30	50	645000	3675.0	DFT-s-OFDM QPSK	1@0	-14.62	-13.87	**see graph**	PASS
77	30	50	645000	3675.0	DFT-s-OFDM QPSK	1@132	-14.52	-13.17	**see graph**	PASS
77	30	100	640000	3600.0	DFT-s-OFDM PI/2 BPSK	270@0	-12.38	-10.58	**see graph**	PASS
77	30	100	640000	3600.0	DFT-s-OFDM PI/2 BPSK	1@0	-11.23	-8.63	**see graph**	PASS
77	30	100	640000	3600.0	DFT-s-OFDM PI/2 BPSK	1@272	-12.17	-8.59	**see graph**	PASS
77	30	100	640000	3600.0	DFT-s-OFDM QPSK	270@0	-11.56	-9.89	**see graph**	PASS
77	30	100	640000	3600.0	DFT-s-OFDM QPSK	1@0	-10.88	-8.47	**see graph**	PASS
77	30	100	640000	3600.0	DFT-s-OFDM QPSK	1@272	-11.61	-8.12	**see graph**	PASS
77	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	270@0	-12.18	-10.12	**see graph**	PASS
77	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-9.96	-7.26	**see graph**	PASS
77	30	100	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@272	-11.85	-8.21	**see graph**	PASS
77	30	100	641666	3624.99	DFT-s-OFDM QPSK	270@0	-11.33	-9.52	**see graph**	PASS
77	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@0	-11.39	-9.06	**see graph**	PASS
77	30	100	641666	3624.99	DFT-s-OFDM QPSK	1@272	-11.7	-8.02	**see graph**	PASS
77	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	270@0	-12.02	-9.95	**see graph**	PASS
77	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@0	-10.59	-7.88	**see graph**	PASS
77	30	100	643332	3649.98	DFT-s-OFDM PI/2 BPSK	1@272	-11.45	-7.69	**see graph**	PASS
77	30	100	643332	3649.98	DFT-s-OFDM QPSK	270@0	-11.15	-9.31	**see graph**	PASS
77	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@0	-10.1	-7.38	**see graph**	PASS
77	30	100	643332	3649.98	DFT-s-OFDM QPSK	1@272	-11.46	-7.75	**see graph**	PASS

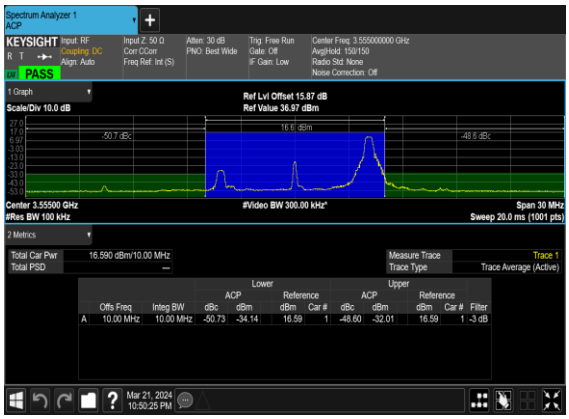
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



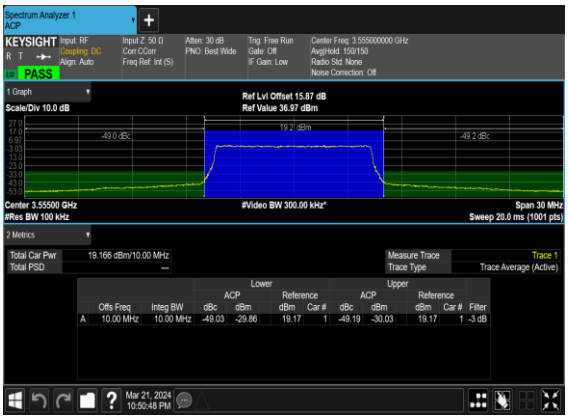
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



N77(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

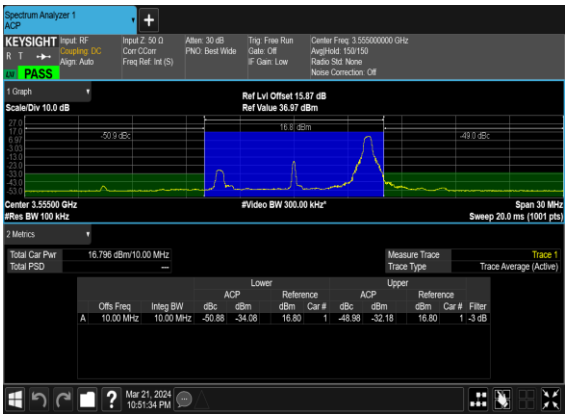


N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

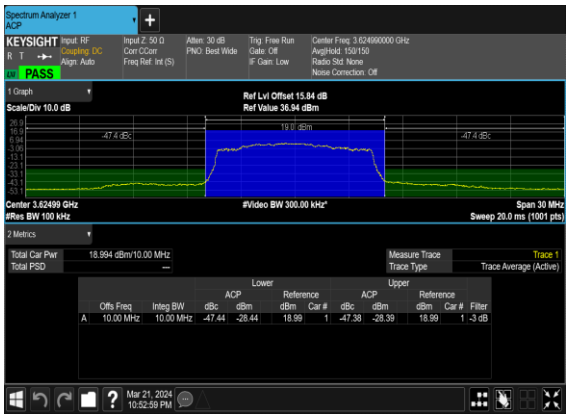


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

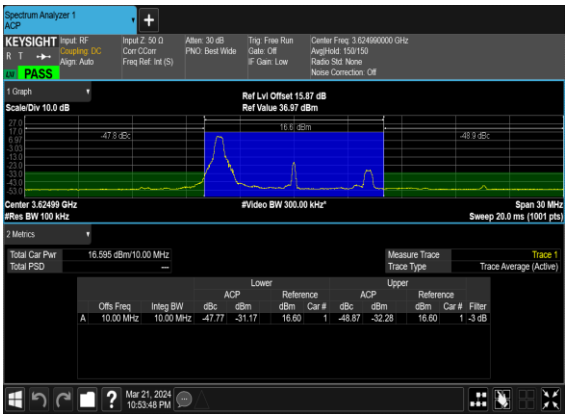
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



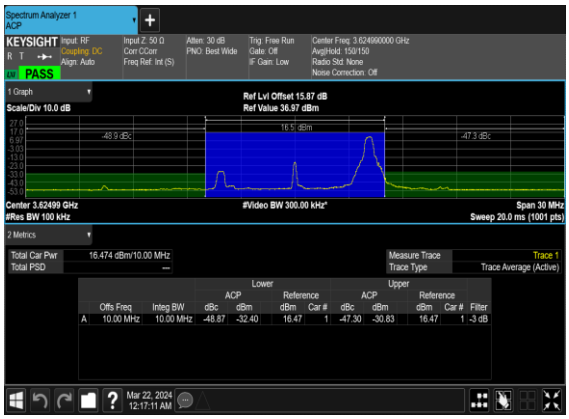
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



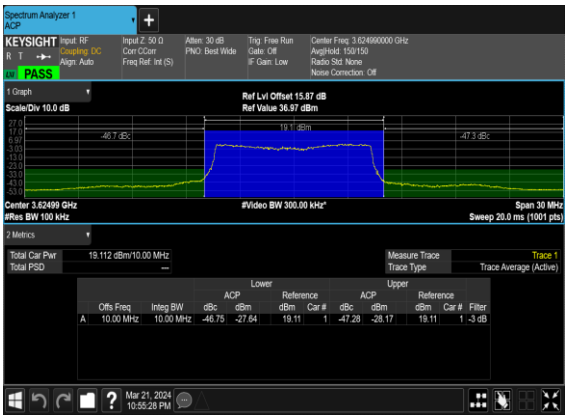
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



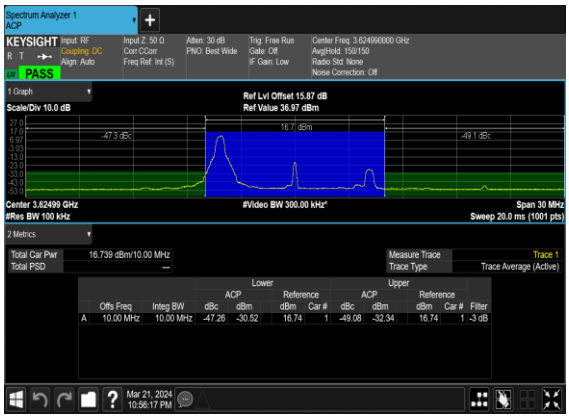
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



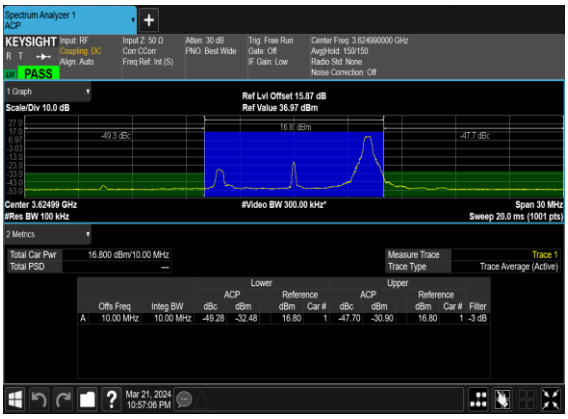
N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



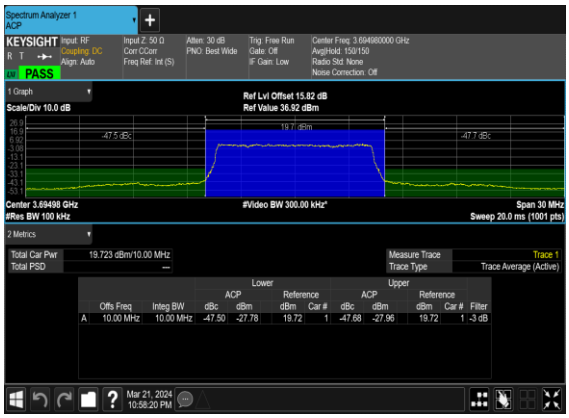
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



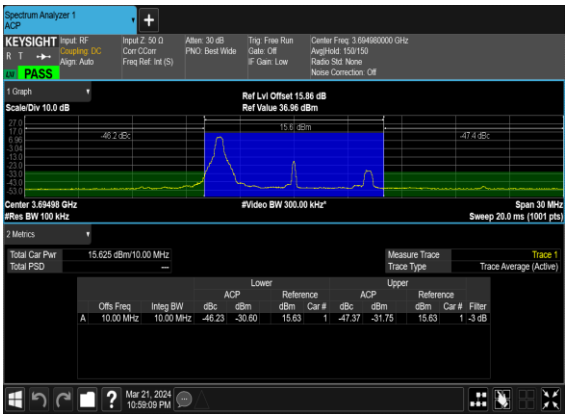
N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



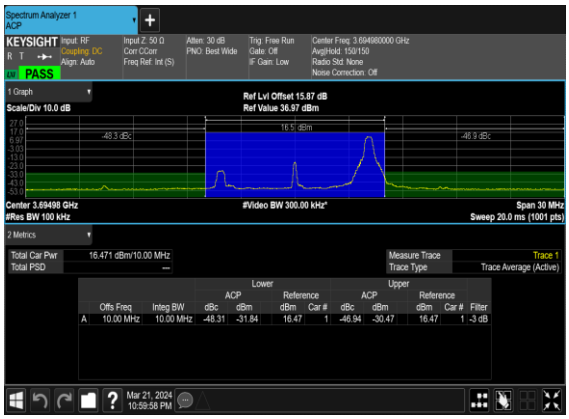
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



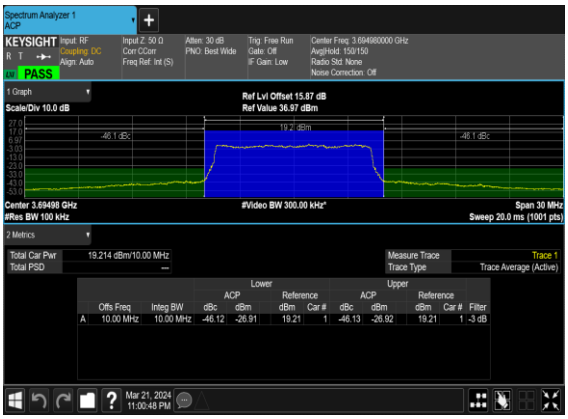
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



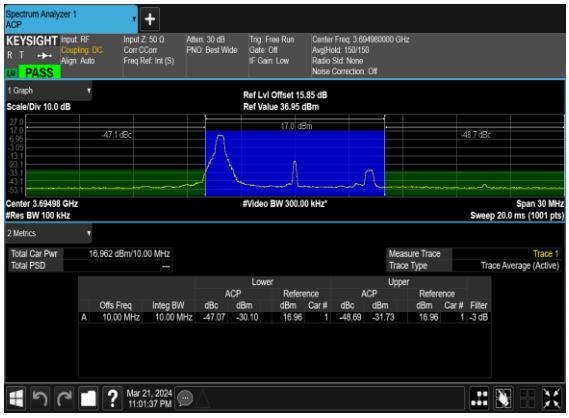
N77(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



N77(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

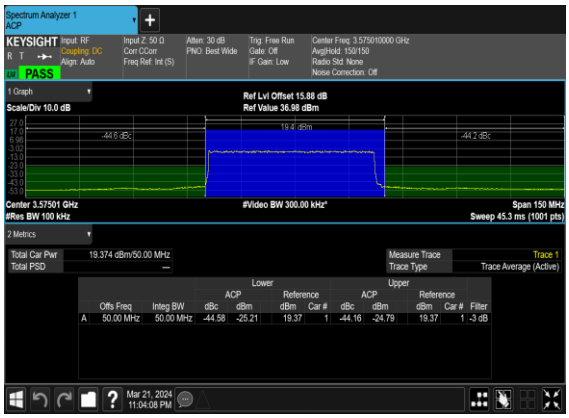


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

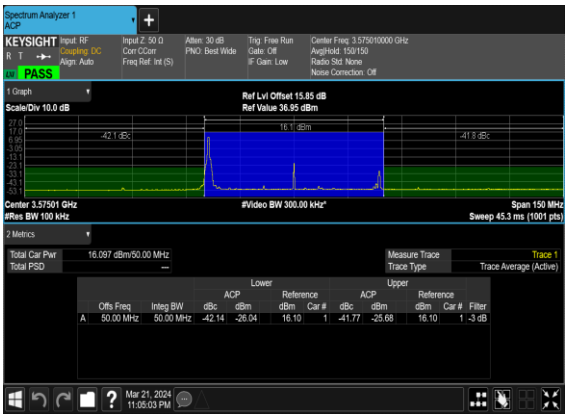


N77(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

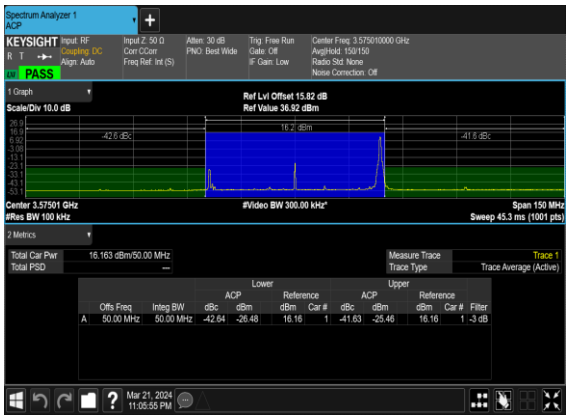
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



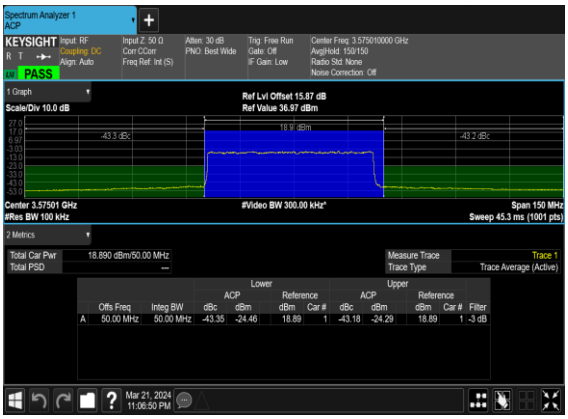
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



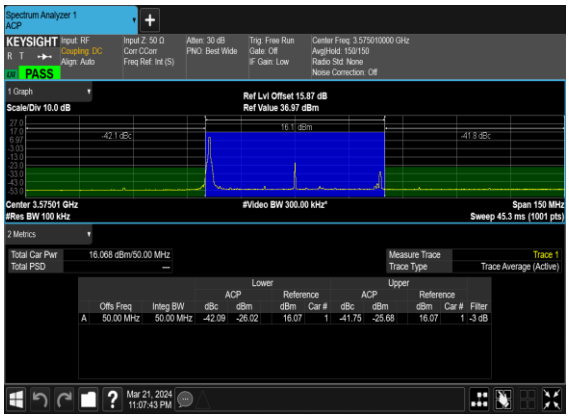
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



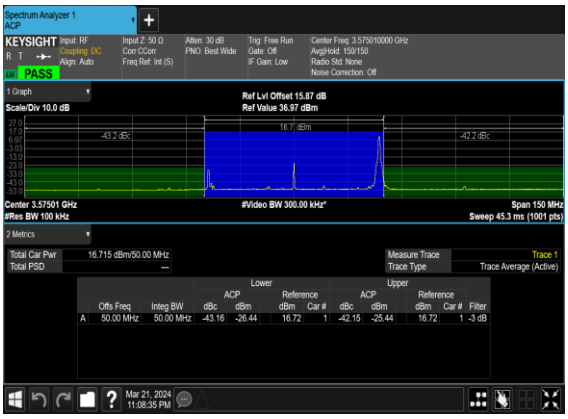
N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



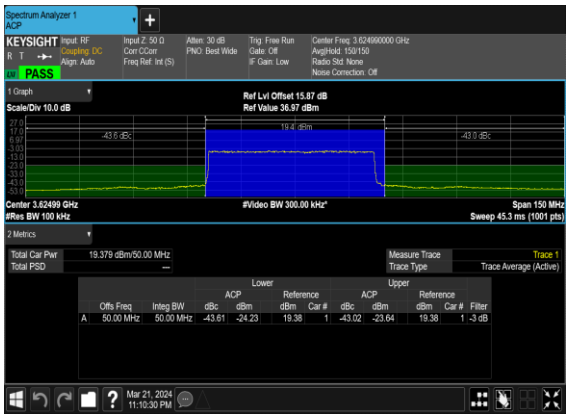
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



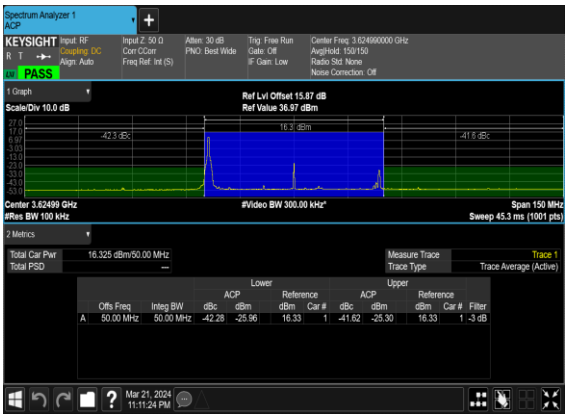
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



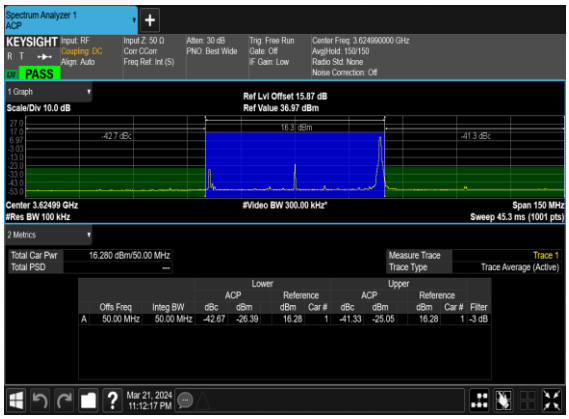
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



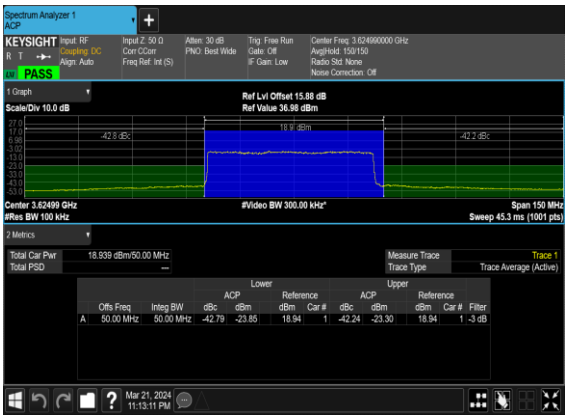
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



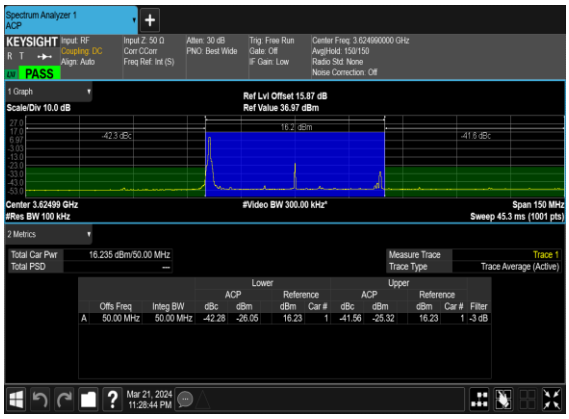
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



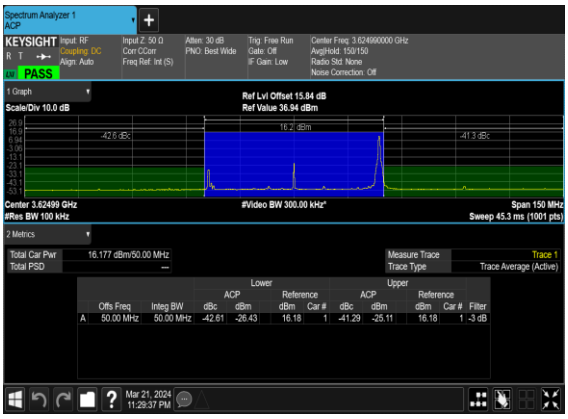
N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



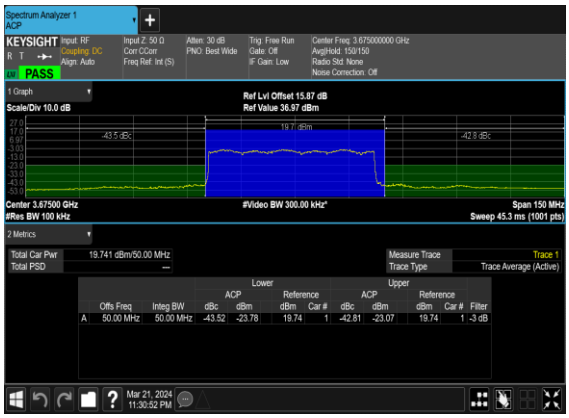
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



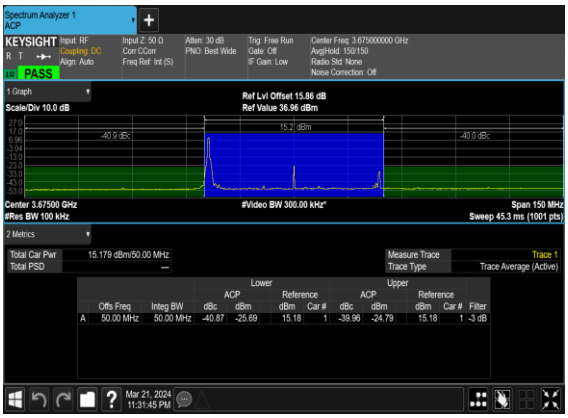
N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



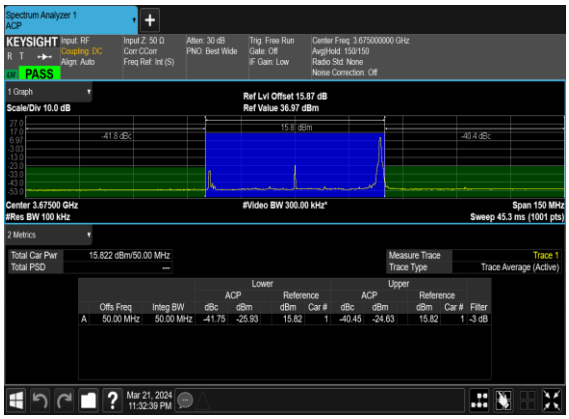
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH



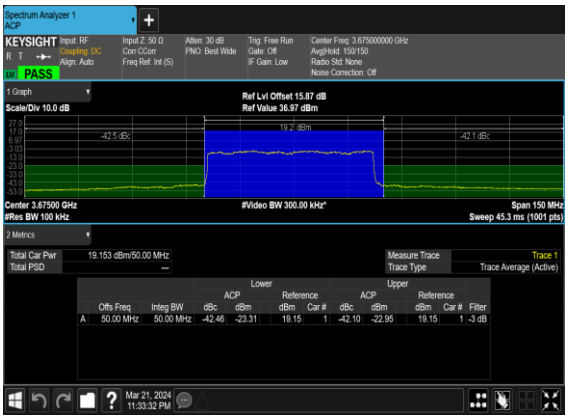
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH



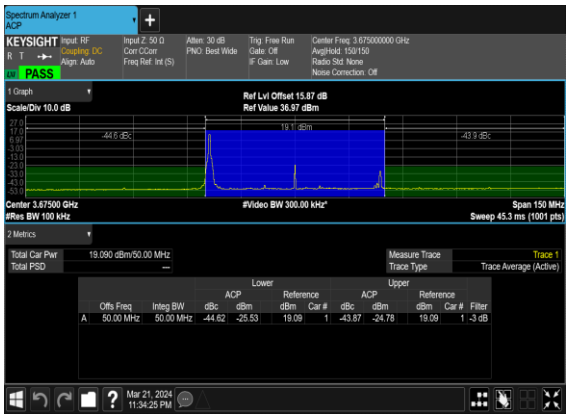
N77(50M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

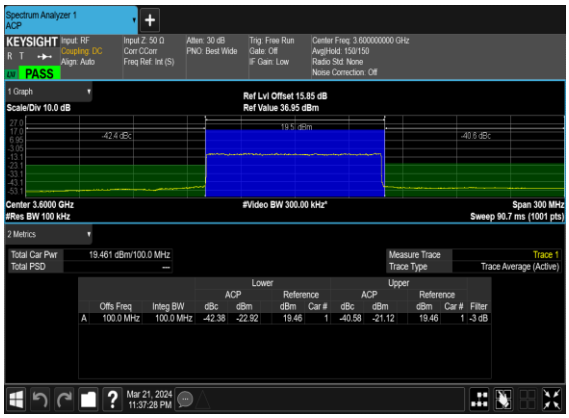


N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

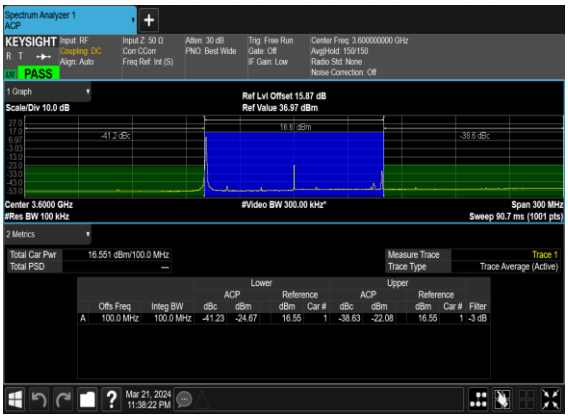


N77(50M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

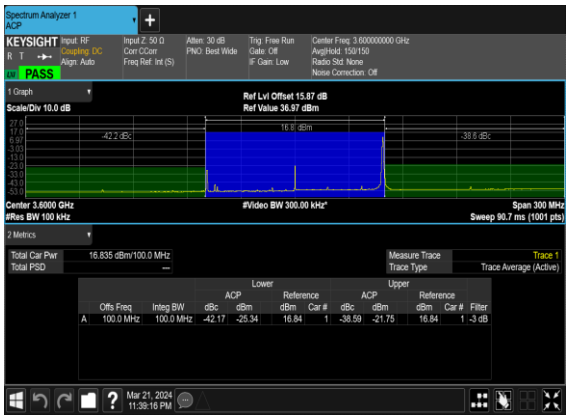
N77(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH



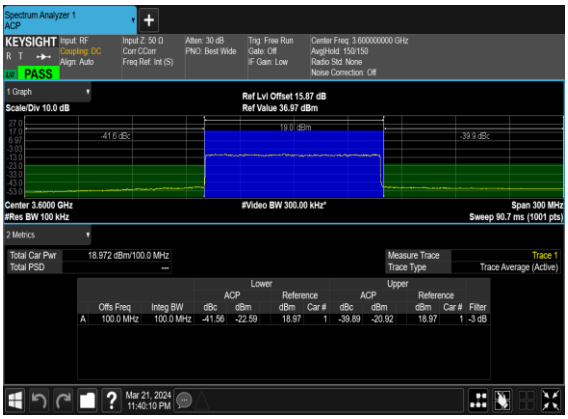
N77(100M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH



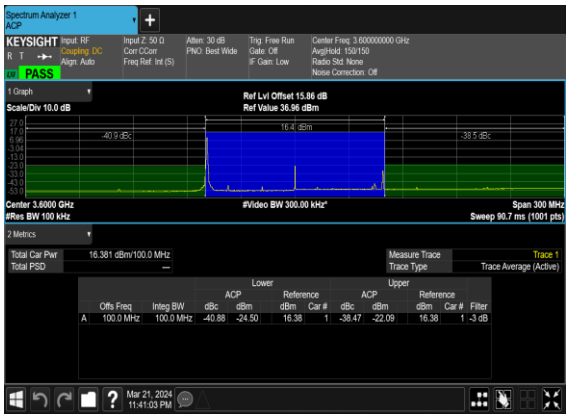
N77(100M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



N77(100M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH