FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2323-2, XT2323-5, XT2323-6
FCC ID	:	IHDT56AL9
STANDARD	:	47 CFR Part 2, 96
CLASSIFICATION	:	Citizens Band End User Devices (CBE)
EQUIPMENT TYPE	:	End User Equipment
TEST DATE(S)	:	May 12, 2023 ~ Jun 03, 2023

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

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

Jason Jia

Approved by: Jason Jia

ACCREDITED
Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China

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History of this test report

Report No.	Version	Description	Issued Date
FG340401-01L	01	Initial issue of report	Jun. 05, 2023

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 21.23 dB at 10740.00 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

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2323-2, XT2323-5, XT2323-6
FCC ID	IHDT56AL9
Tx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Rx Frequency	5G NR n48: 3550 MHz ~ 3700 MHz
Bandwidth	10MHz / 20MHz / 30MHz / 40MHz
SCS	30kHz
Maximum Output Power to Antenna	Ant1:-6.5 dBm Ant2:-2.5 dBm Ant3:-2.4 dBm Ant5:-2.4 dBm
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted: 351606570016815 Radiation: 351606570016070/351606570016138
HW Version	DVT2
SW Version	T2TV33.23
EUT Stage	Identical Prototype

Remark:

1. 5G NR n48 supports SA mode only.
2. The maximum EIRP is calculated from max output power and max antenna gain, only the maximum EIRP are shown in the report, 5G NR n48 for Ant. 1.
3. 5G NR n48 support UL MIMO mode for Ant(3+2) or Ant(5+1), only the worst test data of Ant(3+2) is shown in the report.
4. 5G NR n48 UL_MIMO mode only supports CP-OFDM Modulation, the MIMO mode is completely uncorrelated, so the directional gain is selected the maximum gain among all antennas.
5. For n48 MIMO mode, the conducted BE/Spurious are tested at single antenna port and add 10*log(N_{ANT}) according to KDB 662911 D01.

1.4 Maximum EIRP Power and Emission Designator

5G NR n48		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	**3555~3694.98**	0.0406	8M57G7D	0.0329	8M57W7D
20	**3560.01~3690**	0.0413	18M2G7D	0.0327	18M2W7D
30	**3565.02~3684.99**	0.0428	27M9G7D	0.0343	27M8W7D
40	**3570~3679.98**	0.0441	37M8G7D	0.0360	37M8W7D

5G NR n48 UL MIMO		QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
10	**3555~3694.98**	0.1028	8M59G7D	0.0887	8M60W7D
20	**3560.01~3690**	0.1084	18M2G7D	0.0944	18M3W7D
30	**3565.02~3684.99**	0.1109	27M9G7D	0.0962	27M9W7D
40	**3570~3679.98**	0.1112	37M8G7D	0.0948	37M8W7D

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

1.5 Specification of Accessory

Accessories Information				
AC Adapter	**Brand Name**	Motorola(Salom)	**Model Name**	MC-301
Base Battery	**Brand Name**	Motorola (ATL)	**Model Name**	PM29
Flip Battery	**Brand Name**	Motorola (ATL)	**Model Name**	PV11
USB Cable 1	**Brand Name**	Motorola(Cabletech)	**Model Name**	SC18D13216
USB Cable 2	**Brand Name**	Motorola(Luxshare)	**Model Name**	SC18D13217
USB Cable 3	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D13215
USB Cable 4	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D86732

1.6 Testing Site

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

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

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24al

1.8 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

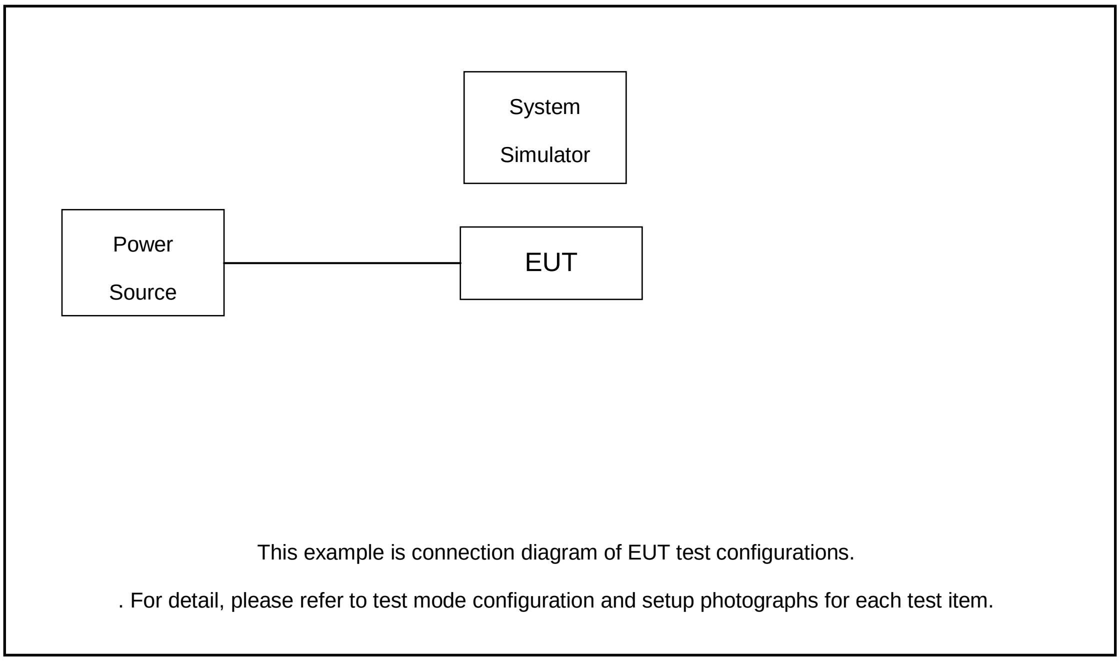
2.1 Test Mode

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 flip open and close state in three orthogonal panels X, Y, Z. The worst cases (Z plane with flip open) were recorded in this report.

Test Items	Band	Bandwidth (MHz)												Modulation					RB #		Test Channel		
		10	15	20	25	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n48	v	-	v	-	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	n48	v	-	v	-	v	v	-	-	-	-	-	-	v	v	v	v	v		v		v	
Adjacent Channel Leakage Ratio	n48	v	-	v	-		v	-	-	-	-	-	-	v	v				v	v	v	v	v
Conducted Band Edge	n48	v	-	v	-		v	-	-	-	-	-	-	v	v				v	v	v	v	v
Conducted Spurious Emission	n48	v	-	v	-		v	-	-	-	-	-	-	v	v				v		v	v	v
E.I.R.P	n48	v	-	v	-	v	v	-	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v
Frequency Stability	n48	v	-		-			-	-	-	-	-	-		v					v		v	
Radiated Spurious Emission	n48	Worst Case																			v	v	v
Remark	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. All the radiated test cases were performed with Adapter 1 and USB Cable 1. 5. Frequency Stability : Normal Voltage = 3.91V ; Low Voltage =3.40V. ; High Voltage =4.50V																						

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	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 and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 3.49 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 3.49 + 10 = 13.49 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n48 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
40	Channel	638000	641666	645332
	Frequency	3570.00	3624.99	3679.98
30	Channel	637668	641666	645666
	Frequency	3565.02	3624.99	3684.99
20	Channel	637334	641666	646000
	Frequency	3560.01	3624.99	3690
10	Channel	637000	641666	646332
	Frequency	3555.0	3624.99	3694.98

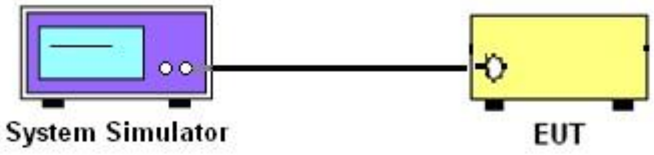
3 Conducted Test Items

3.1 Measuring Instruments

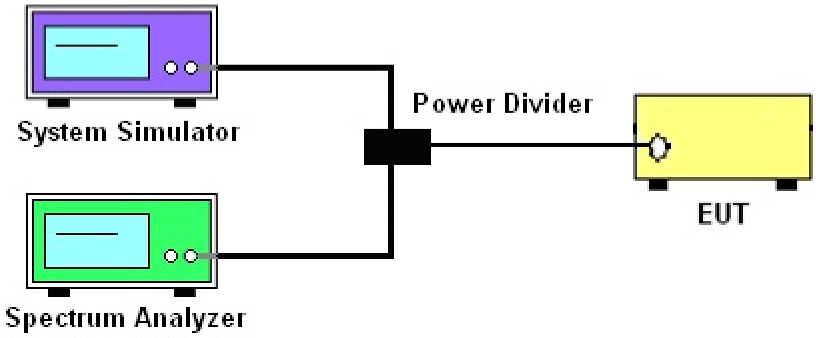
See list of measuring instruments of this test report.

3.1.1 Test Setup

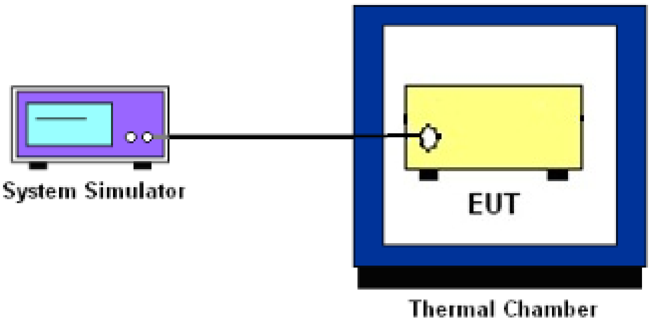
3.1.2 Conducted Output Power



3.1.3 PSD, Peak-to-Average Ratio, 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 n48 (i.e. 10, 20, 30, 40MHz)

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

3.3.3 Test Procedures for EIRP PSD

1. Set instrument center frequency to OBW center frequency.
2. Set span to at least 2 times the OBW.
3. Set the RBW to the specified reference bandwidth (often 1 MHz).
4. Set VBW ≥ 3 × RBW.
5. Detector = RMS (power averaging).
6. Ensure that the number of measurement points in the sweep ≥ 2 × span/RBW.
7. Sweep time = auto couple.
8. Employ trace averaging (RMS) mode over a minimum of 100 traces.
9. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).
10. Determine the EIRP by adding the effective antenna gain to the adjusted power level.
11. Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T - L_C$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

LC = 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 for LTE Band 48. 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.

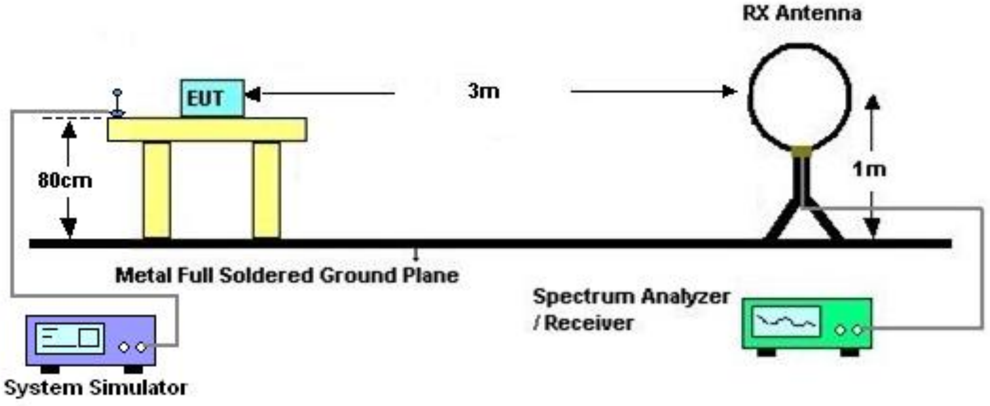
4 Radiated Test Items

4.1 Measuring Instruments

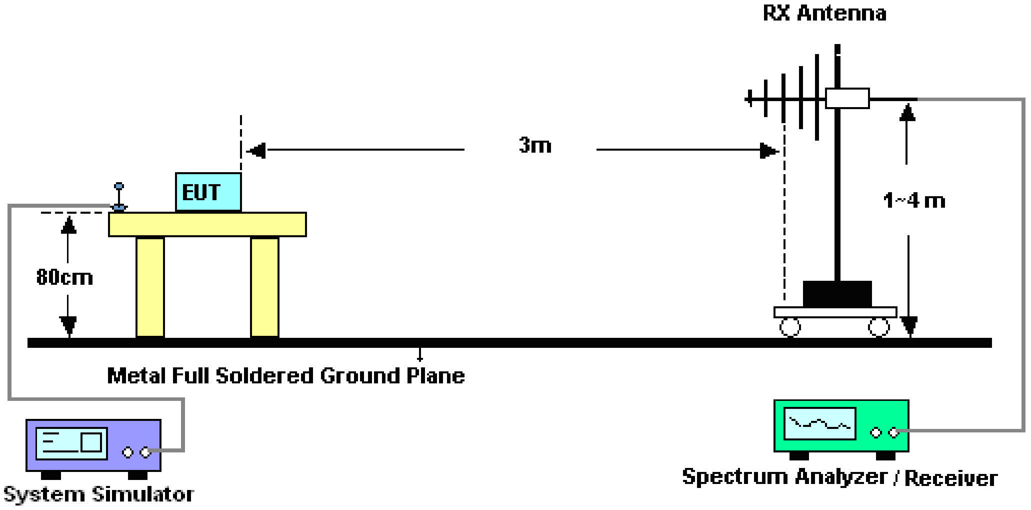
See list of measuring instruments of this test report.

4.2 Test Setup

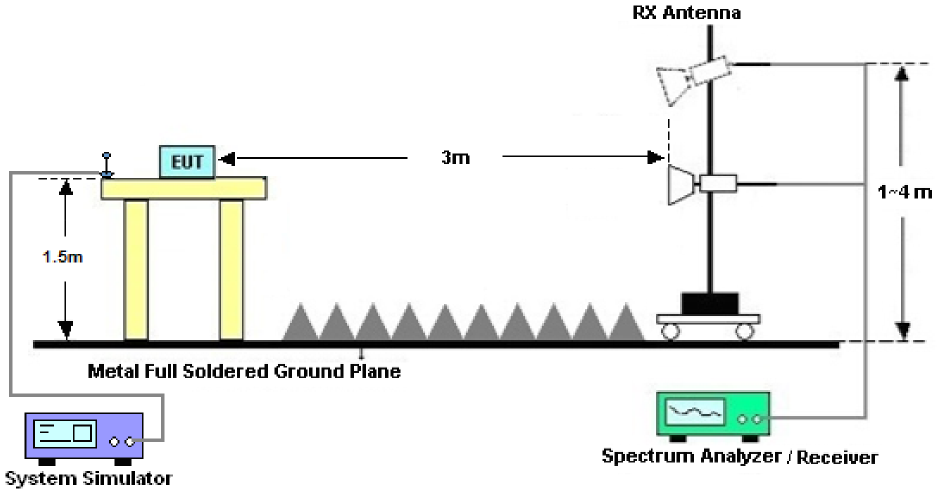
4.2.1 For radiated test below 30MHz



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
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 12, 2022	May 12, 2023~ Jun. 03, 2023	Oct. 11, 2023	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	May 12, 2023~ Jun. 03, 2023	NCR	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 15, 2022	May 12, 2023~ Jun. 03, 2023	Jul. 14, 2023	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 12, 2022	May 29, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	May 29, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 16, 2022	May 29, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 16, 2022	May 29, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	May 29, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 11, 2022	May 29, 2023	Jul. 10, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2023	May 29, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 12, 2022	May 29, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	May 29, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 29, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 29, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 29, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±0.46 dB
Conducted Emissions	±0.48 dB
Occupied Channel Bandwidth	±0.1 %

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.82dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.56dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.54dB

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

Appendix A. Test Results of Conducted Test

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

Software Version: 23.04.1201

FR1 N48(ANT1)

Transmitter Conducted Output Power And EIRP, (G_T - L_C)=-6.5dB

NR Band	SCS	BandWidth	Arfcn	Freq(MHz)	Modulation	RB	Conducted Power(dBm)	EIRP(dBm)	EIRP(W)
48	30	10	637000	3555	DFT-s-OFDM PI/2 BPSK	1@1	22.52	16.02	0.0400
48	30	10	637000	3555	DFT-s-OFDM QPSK	1@1	22.58	16.08	0.0406
48	30	10	637000	3555	DFT-s-OFDM 16 QAM	1@1	21.67	15.17	0.0329
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	22.35	15.85	0.0385
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.37	15.87	0.0386
48	30	10	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.38	14.88	0.0308
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@1	21.59	15.09	0.0323
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@1	21.58	15.08	0.0322
48	30	10	646332	3694.98	DFT-s-OFDM 16 QAM	1@1	20.81	14.31	0.0270
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@1	22.61	16.11	0.0408
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@1	22.66	16.16	0.0413
48	30	20	637334	3560.01	DFT-s-OFDM 16 QAM	1@1	21.64	15.14	0.0327
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	22.56	16.06	0.0404
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.54	16.04	0.0402
48	30	20	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.58	15.08	0.0322
48	30	20	646000	3690	DFT-s-OFDM PI/2 BPSK	1@1	22.09	15.59	0.0362
48	30	20	646000	3690	DFT-s-OFDM QPSK	1@1	22.07	15.57	0.0361
48	30	20	646000	3690	DFT-s-OFDM 16 QAM	1@1	21.12	14.62	0.0290
48	30	30	637668	3565.02	DFT-s-OFDM PI/2 BPSK	1@1	22.8	16.3	0.0427
48	30	30	637668	3565.02	DFT-s-OFDM QPSK	1@1	22.81	16.31	0.0428
48	30	30	637668	3565.02	DFT-s-OFDM 16 QAM	1@1	21.85	15.35	0.0343
48	30	30	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	22.79	16.29	0.0426
48	30	30	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.75	16.25	0.0422
48	30	30	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.78	15.28	0.0337
48	30	30	645666	3684.99	DFT-s-OFDM PI/2 BPSK	1@1	22.39	15.89	0.0388
48	30	30	645666	3684.99	DFT-s-OFDM QPSK	1@1	22.42	15.92	0.0391
48	30	30	645666	3684.99	DFT-s-OFDM 16 QAM	1@1	21.47	14.97	0.0314
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	50@25	22.92	16.42	0.0439

48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@1	22.85	16.35	0.0432
48	30	40	638000	3570	DFT-s-OFDM PI/2 BPSK	1@1 04	22.92	16.42	0.0439
48	30	40	638000	3570	DFT-s-OFDM QPSK	50@ 25	22.93	16.43	0.0440
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@1	22.88	16.38	0.0435
48	30	40	638000	3570	DFT-s-OFDM QPSK	1@1 04	22.94	16.44	0.0441
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	50@ 25	22.04	15.54	0.0358
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1	21.94	15.44	0.0350
48	30	40	638000	3570	DFT-s-OFDM 16 QAM	1@1 04	22.06	15.56	0.0360
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	50@ 25	20.54	14.04	0.0254
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@1	20.26	13.76	0.0238
48	30	40	638000	3570	DFT-s-OFDM 64 QAM	1@1 04	20.39	13.89	0.0245
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	50@ 25	18.98	12.48	0.0177
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@1	18.84	12.34	0.0171
48	30	40	638000	3570	DFT-s-OFDM 256 QAM	1@1 04	18.93	12.43	0.0175
48	30	40	638000	3570	CP-OFDM QPSK	53@ 26	22.57	16.07	0.0405
48	30	40	638000	3570	CP-OFDM QPSK	1@1	22.4	15.9	0.0389
48	30	40	638000	3570	CP-OFDM QPSK	1@1 04	22.53	16.03	0.0401
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@ 25	22.58	16.08	0.0406
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1	22.82	16.32	0.0429
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@1 04	22.48	15.98	0.0396
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	50@ 25	22.55	16.05	0.0403
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1	22.79	16.29	0.0426
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@1 04	22.5	16	0.0398
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	50@ 25	21.69	15.19	0.0330
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1	21.82	15.32	0.0340
48	30	40	641666	3624.99	DFT-s-OFDM 16 QAM	1@1 04	21.51	15.01	0.0317
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	50@ 25	20.19	13.69	0.0234
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@1	20.26	13.76	0.0238
48	30	40	641666	3624.99	DFT-s-OFDM 64 QAM	1@1 04	19.92	13.42	0.0220
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	50@ 25	18.6	12.1	0.0162
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@1	18.75	12.25	0.0168
48	30	40	641666	3624.99	DFT-s-OFDM 256 QAM	1@1 04	18.5	12	0.0158
48	30	40	641666	3624.99	CP-OFDM QPSK	53@ 26	22.18	15.68	0.0370
48	30	40	641666	3624.99	CP-OFDM QPSK	1@1	22.44	15.94	0.0393
48	30	40	641666	3624.99	CP-OFDM QPSK	1@1	22.11	15.61	0.0364

						04			
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	50@25	22.15	15.65	0.0367
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@1	22.51	16.01	0.0399
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@104	21.7	15.2	0.0331
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	50@25	22.19	15.69	0.0371
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@1	22.52	16.02	0.0400
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@104	21.67	15.17	0.0329
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	50@25	21.26	14.76	0.0299
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@1	21.53	15.03	0.0318
48	30	40	645332	3679.98	DFT-s-OFDM 16 QAM	1@104	20.71	14.21	0.0264
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	50@25	19.78	13.28	0.0213
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@1	19.98	13.48	0.0223
48	30	40	645332	3679.98	DFT-s-OFDM 64 QAM	1@104	19.07	12.57	0.0181
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	50@25	18.17	11.67	0.0147
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@1	18.47	11.97	0.0157
48	30	40	645332	3679.98	DFT-s-OFDM 256 QAM	1@104	17.66	11.16	0.0131
48	30	40	645332	3679.98	CP-OFDM QPSK	53@26	21.75	15.25	0.0335
48	30	40	645332	3679.98	CP-OFDM QPSK	1@1	22.08	15.58	0.0361
48	30	40	645332	3679.98	CP-OFDM QPSK	1@104	21.26	14.76	0.0299

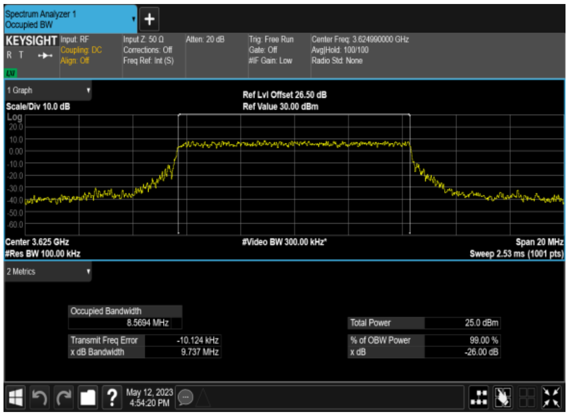
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0028	**PASS**	NV
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0019	**PASS**	LV
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-0.0013	**PASS**	HV
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0006	**PASS**	-30℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0015	**PASS**	-20℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0022	**PASS**	-10℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-0.0016	**PASS**	0℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0021	**PASS**	10℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0027	**PASS**	20℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0031	**PASS**	30℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-0.0019	**PASS**	40℃
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	0.0026	**PASS**	50℃

Occupied Bandwidth

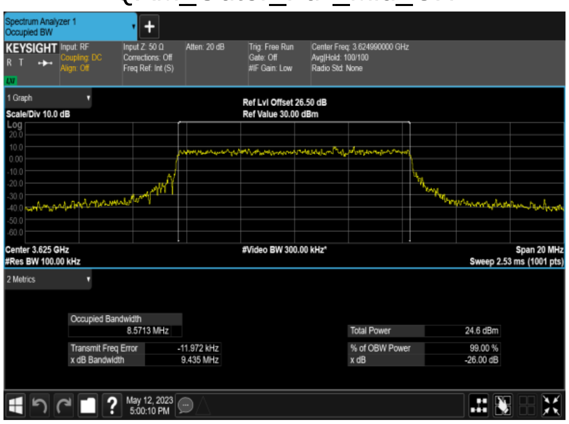
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
48	30	10	641666	3624.99	CP-OFDM QPSK	24@0	8.5694	9.737
48	30	10	641666	3624.99	CP-OFDM 16 QAM	24@0	8.5642	9.559
48	30	10	641666	3624.99	CP-OFDM 64 QAM	24@0	8.5713	9.435
48	30	10	641666	3624.99	CP-OFDM 256 QAM	24@0	8.5082	9.305
48	30	20	641666	3624.99	CP-OFDM QPSK	51@0	18.156	19.53
48	30	20	641666	3624.99	CP-OFDM 16 QAM	51@0	18.176	19.28
48	30	20	641666	3624.99	CP-OFDM 64 QAM	51@0	18.11	19.58
48	30	20	641666	3624.99	CP-OFDM 256 QAM	51@0	18.192	19.36
48	30	30	641666	3624.99	CP-OFDM QPSK	78@0	27.86	29.0
48	30	30	641666	3624.99	CP-OFDM 16 QAM	78@0	27.839	29.09
48	30	30	641666	3624.99	CP-OFDM 64 QAM	78@0	27.809	29.07
48	30	30	641666	3624.99	CP-OFDM 256 QAM	78@0	27.817	29.18
48	30	40	641666	3624.99	CP-OFDM QPSK	106@0	37.815	39.09
48	30	40	641666	3624.99	CP-OFDM 16 QAM	106@0	37.795	39.31
48	30	40	641666	3624.99	CP-OFDM 64 QAM	106@0	37.74	39.67
48	30	40	641666	3624.99	CP-OFDM 256 QAM	106@0	37.834	39.17

N48(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

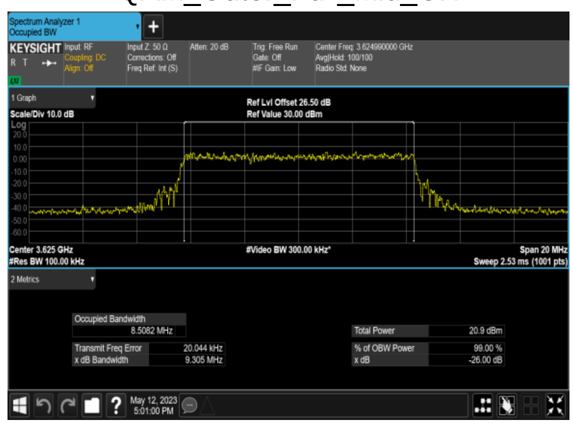


N48(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

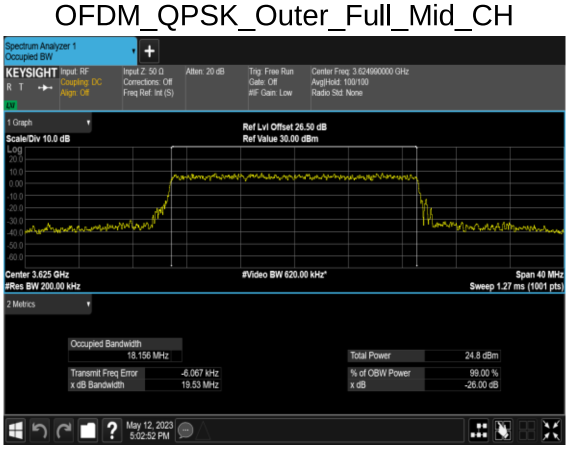
N48(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



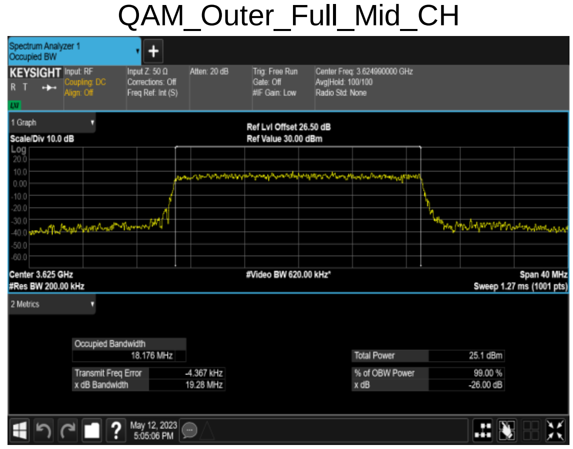
N48(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N48(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N48(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



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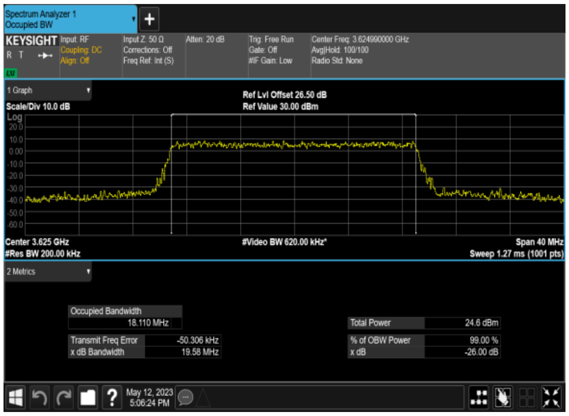
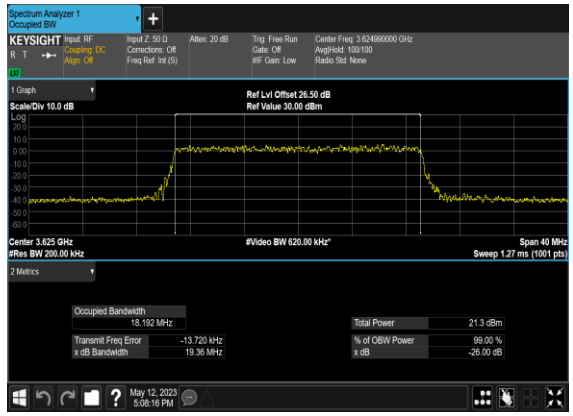
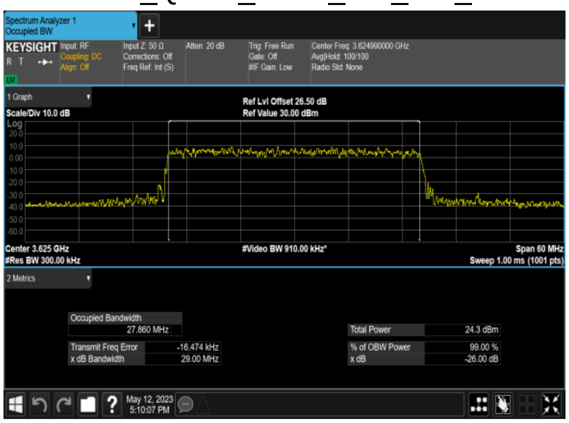


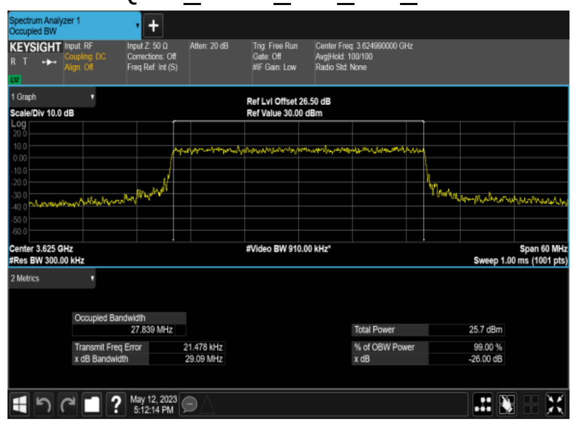
N48(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



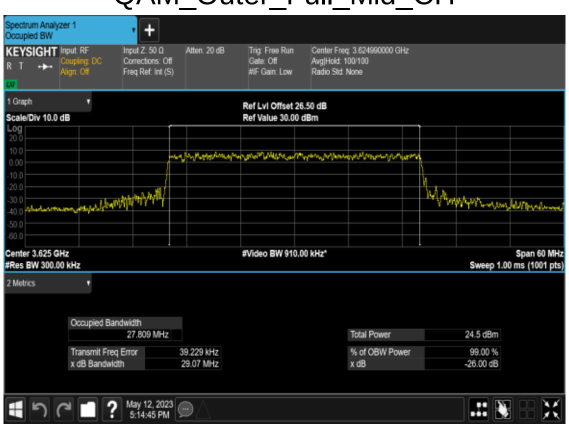
N48(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



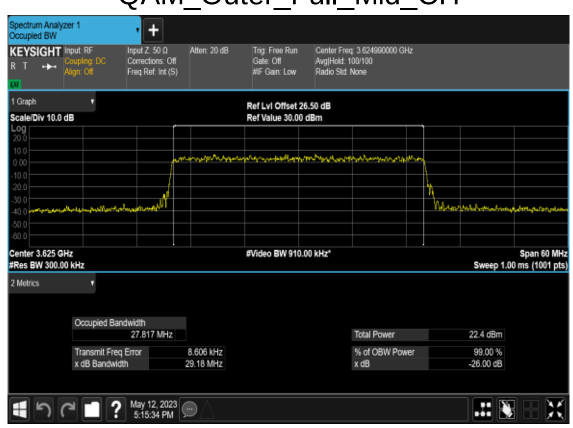
N48(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



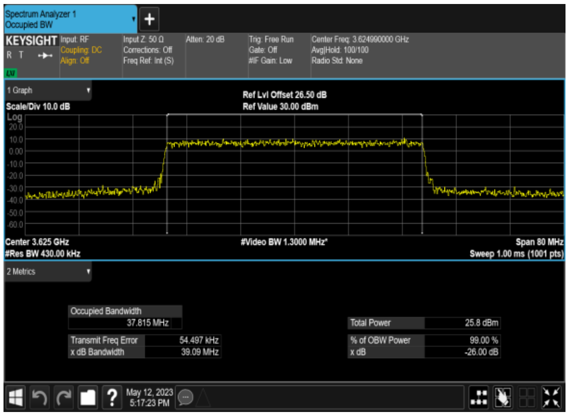
N48(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



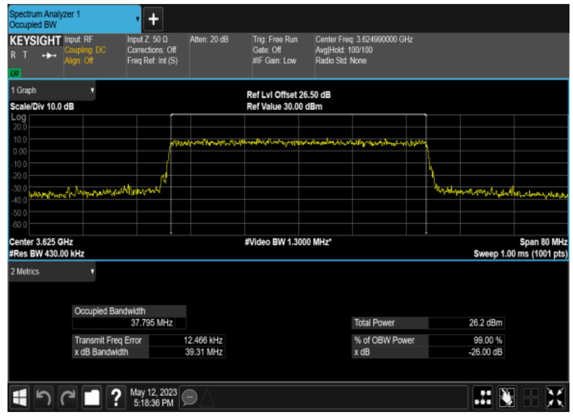
N48(30M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



N48(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



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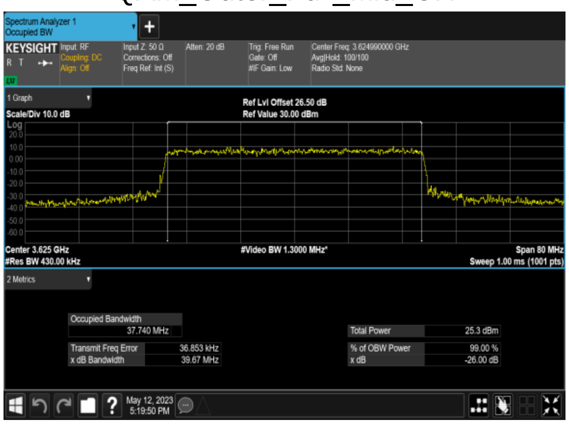
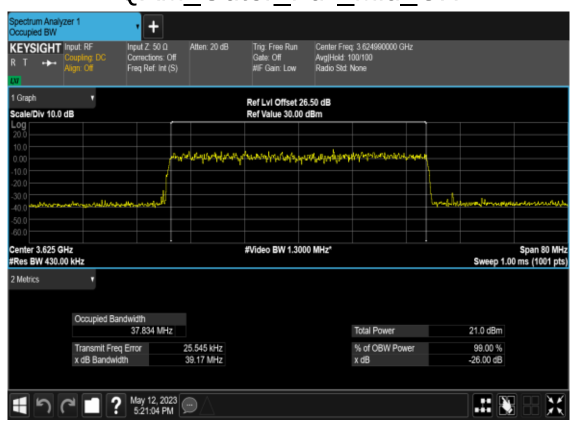


N48(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

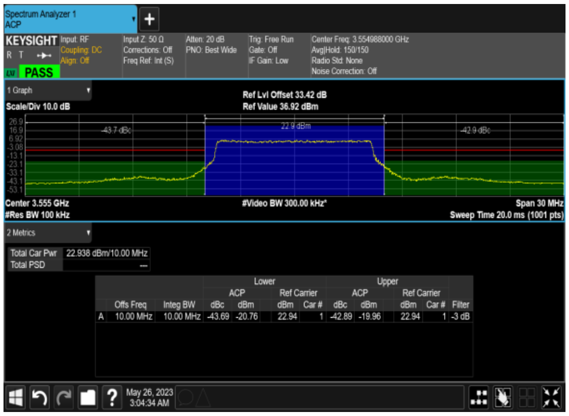


Adjacent Channel Leakage Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Lower Margin	Upper Margin	Result	Verdict
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	24@0	-13.69	-12.89	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@0	-11.19	-20.42	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM PI/2 BPSK	1@23	-20.45	-13.01	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	24@0	-12.36	-12.73	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	-11.36	-20.21	**see graph**	PASS
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@23	-19.93	-11.49	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	24@0	-12.11	-11.98	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-11.24	-16.75	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@23	-16.83	-12.19	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	24@0	-10.73	-11.24	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	-11.91	-17.14	**see graph**	PASS
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@23	-14.47	-10.74	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	24@0	-11.44	-11.02	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@0	-10.29	-15.81	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM PI/2 BPSK	1@23	-15.41	-11.19	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	24@0	-9.66	-10.19	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	-10.74	-15.48	**see graph**	PASS
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@23	-15.61	-11.2	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	50@0	-14.34	-14.29	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@0	-12.5	-17.26	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM PI/2 BPSK	1@50	-17.62	-12.55	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	50@0	-12.91	-13.07	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	-13.06	-16.61	**see graph**	PASS
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@50	-18.42	-12.78	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	50@0	-11.94	-11.84	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-10.42	-14.3	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@50	-14.45	-11.03	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	50@0	-10.92	-10.7	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	-10.7	-14.13	**see graph**	PASS
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@50	-13.29	-10.21	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	50@0	-10.86	-10.69	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@0	-10.17	-13.74	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM PI/2 BPSK	1@50	-13.54	-11.02	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	50@0	-9.53	-9.2	**see graph**	PASS
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	-9.73	-13.23	**see graph**	PASS

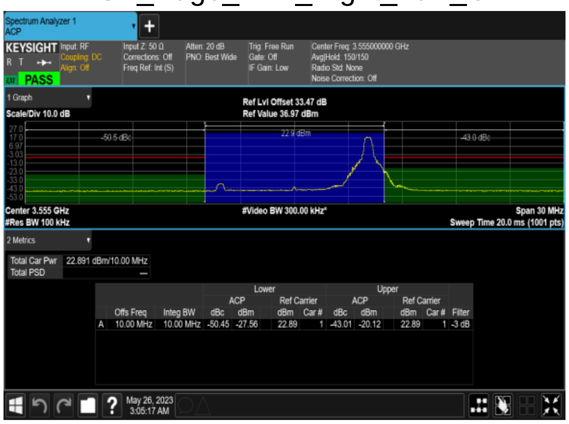
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@50	-13.82	-11.41	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	100@0	-10.54	-10.62	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@0	-9.53	-10.48	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM PI/2 BPSK	1@105	-11.78	-10.62	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	100@0	-9.67	-9.87	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	-10.17	-10.6	**see graph**	PASS
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@105	-11.06	-9.79	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	100@0	-10.25	-9.74	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@0	-10.69	-11.38	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM PI/2 BPSK	1@105	-13.0	-11.47	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	100@0	-9.51	-9.2	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	-10.36	-10.72	**see graph**	PASS
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@105	-11.41	-10.04	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	100@0	-9.61	-9.38	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@0	-10.15	-10.71	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM PI/2 BPSK	1@105	-10.53	-9.24	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	100@0	-8.73	-8.38	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	-9.02	-9.48	**see graph**	PASS
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@105	-9.86	-8.47	**see graph**	PASS

N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

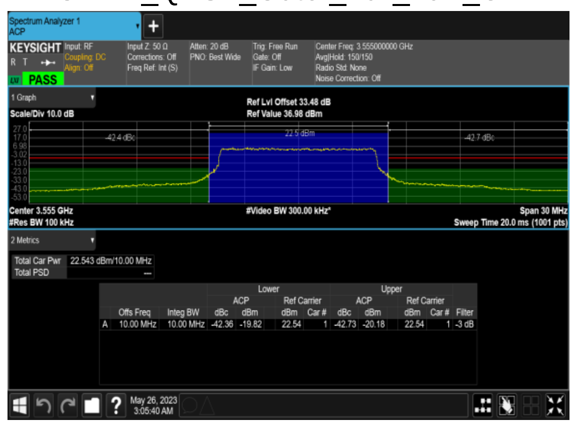


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

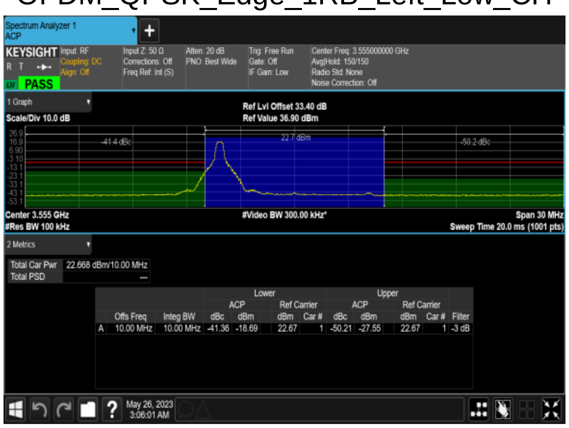
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



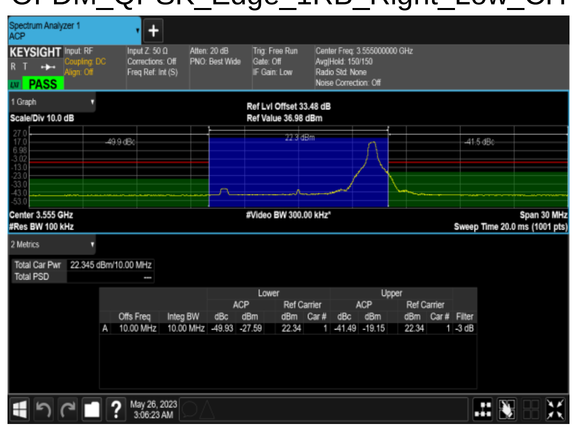
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



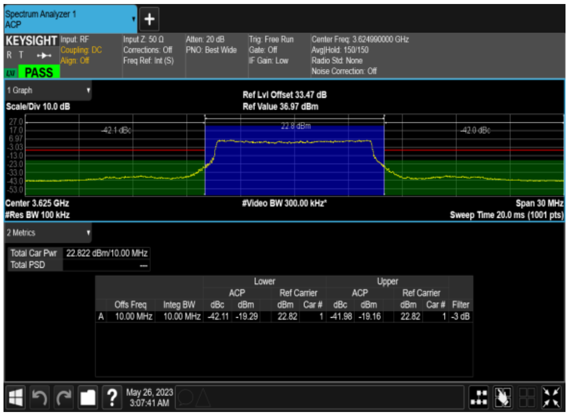
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

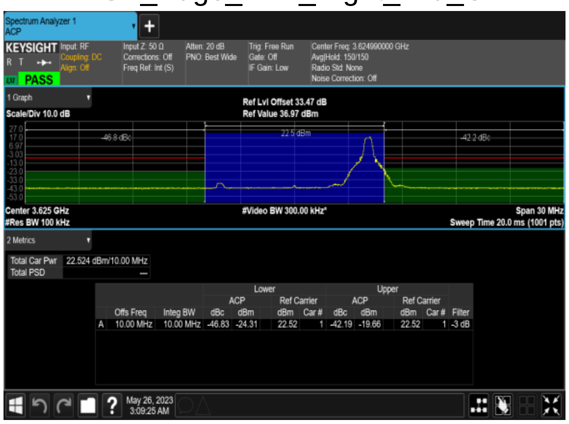


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

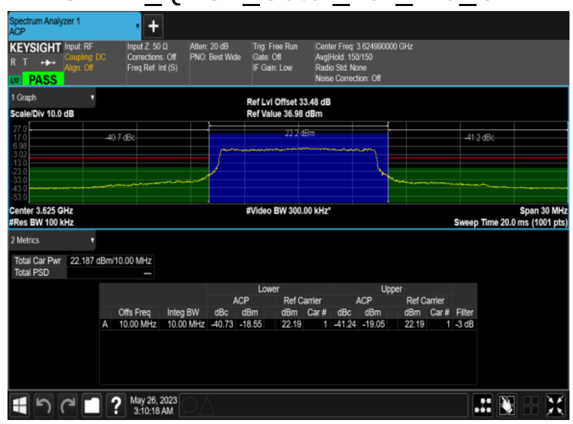


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

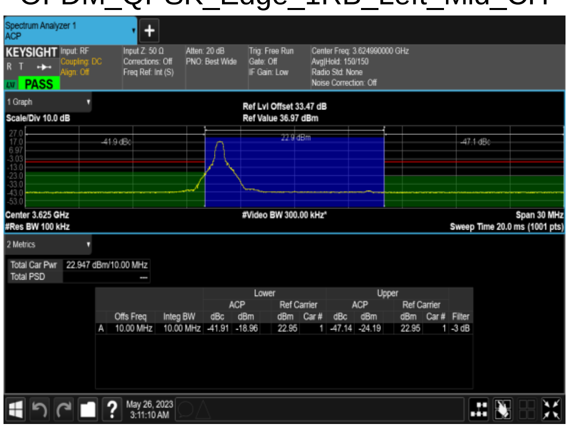
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



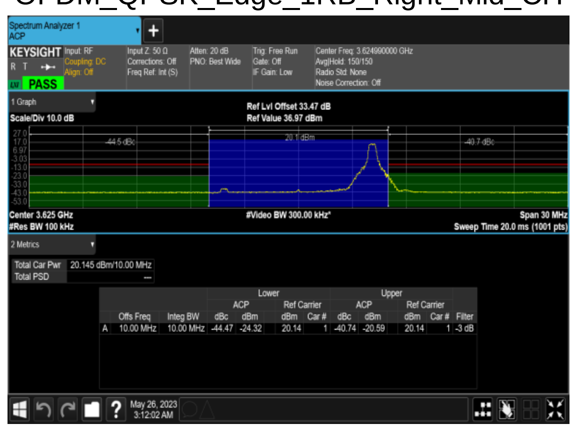
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



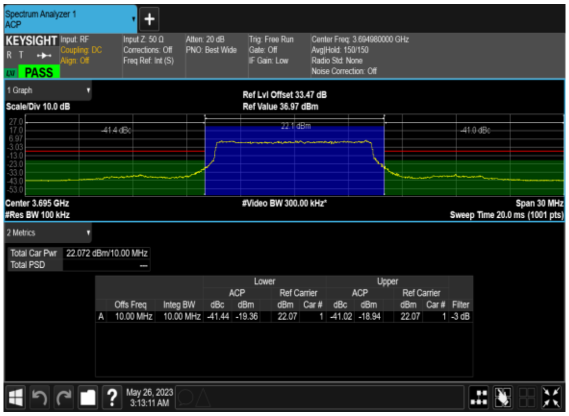
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH

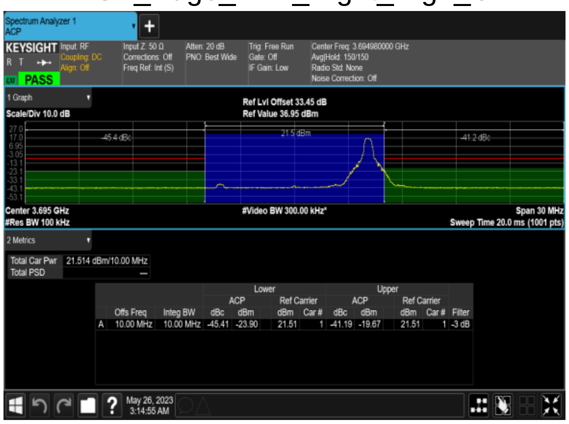


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

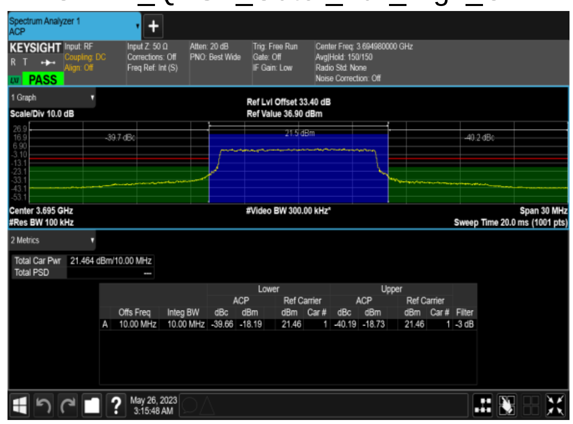


N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

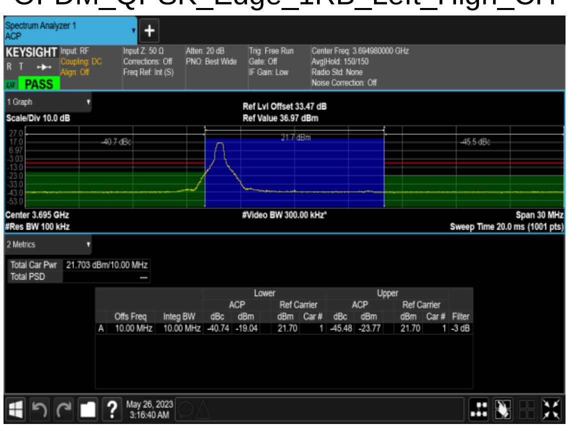
N48(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH



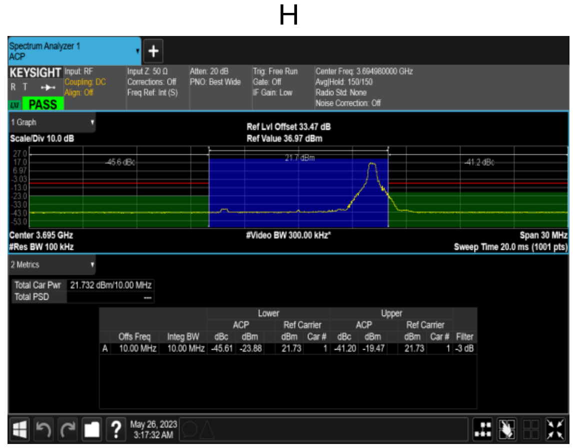
N48(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



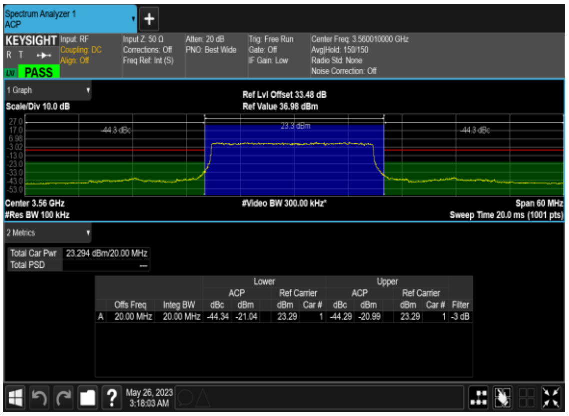
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

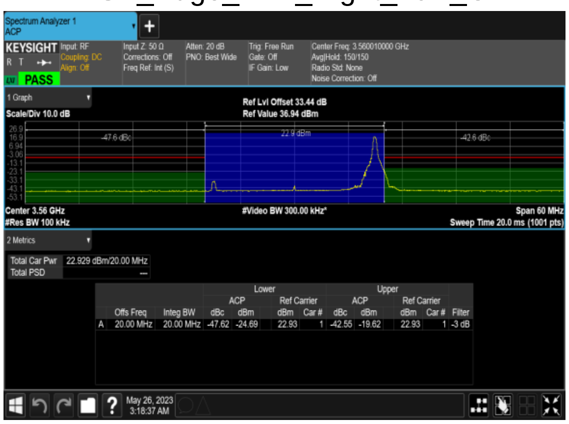


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

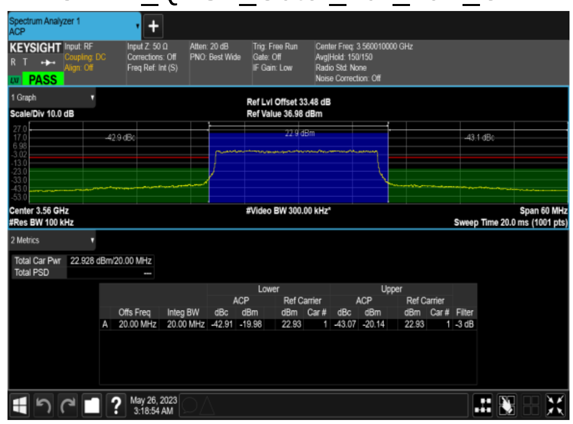


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

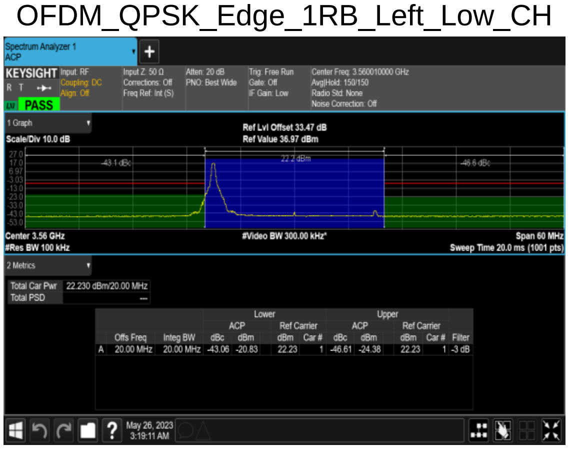
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH



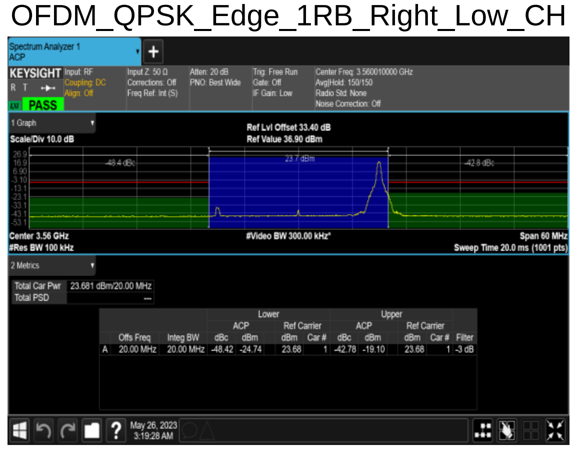
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



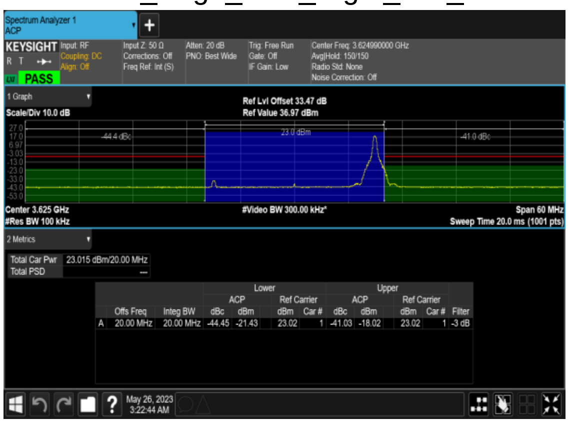
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



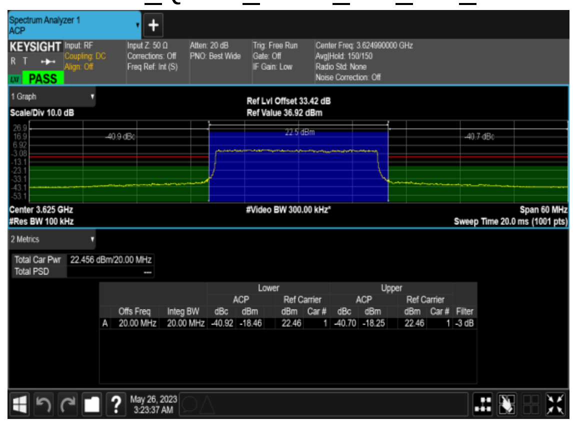
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

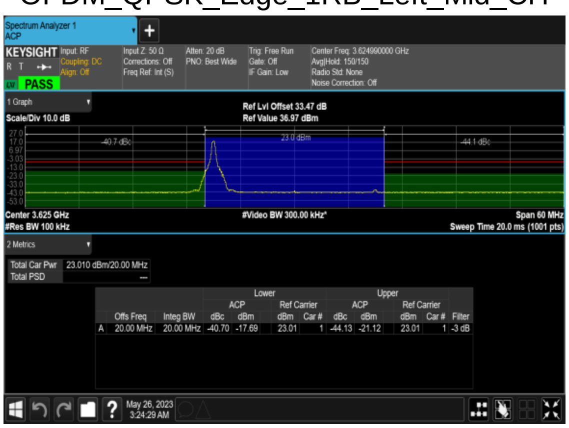
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH



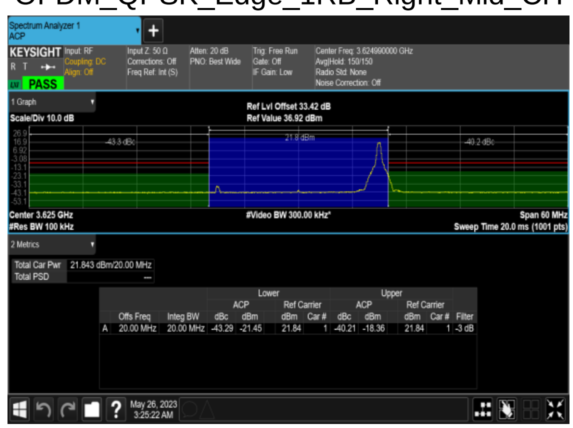
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH

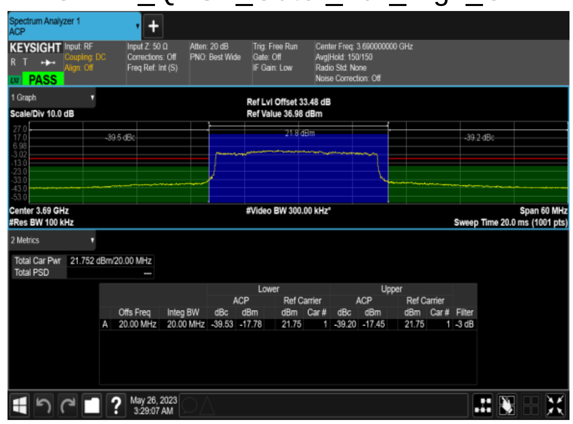


N48(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

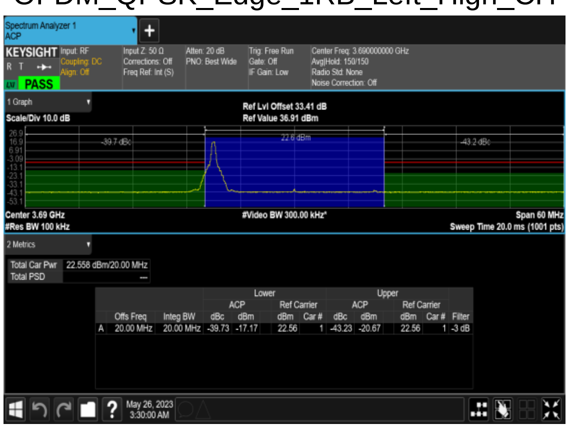
N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

N48(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH

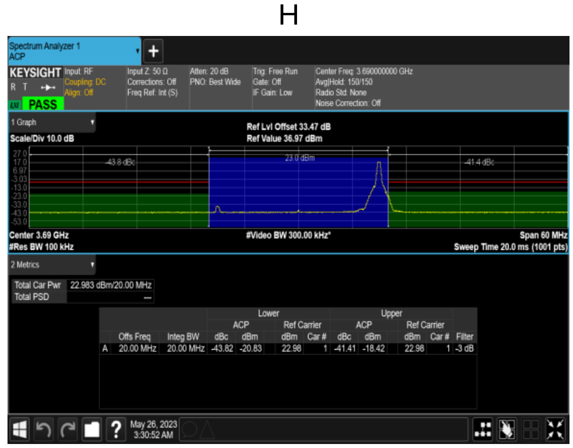
N48(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

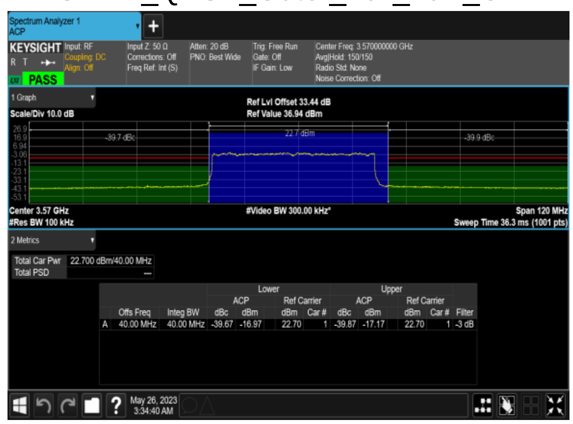


N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

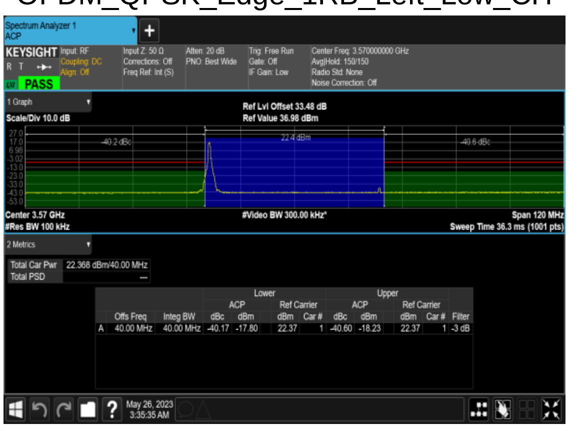
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

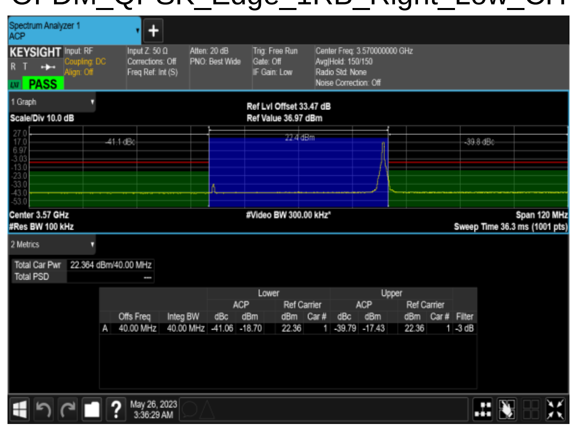
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

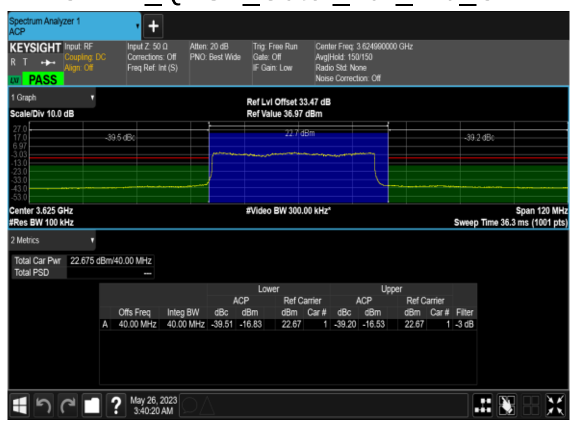


N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

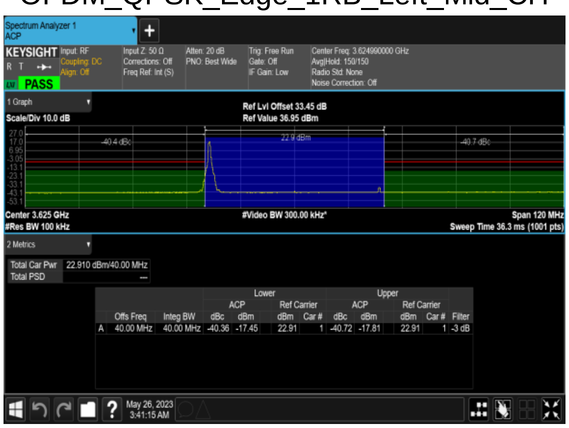
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

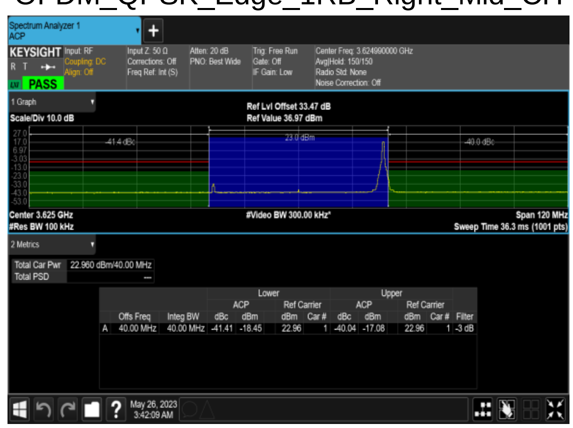
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH

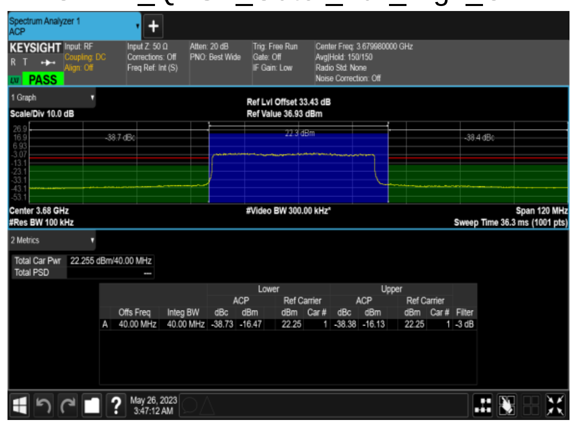


N48(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

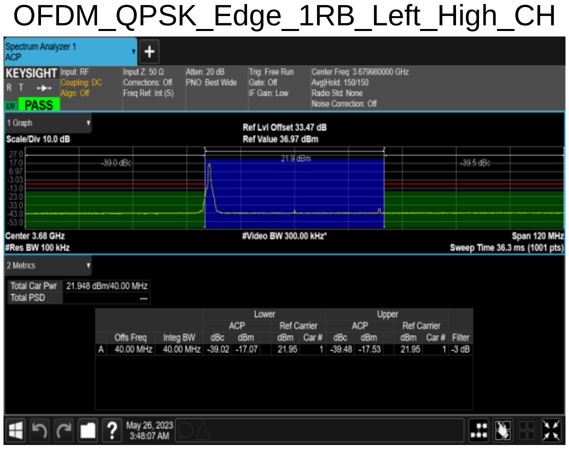
N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

N48(40M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH

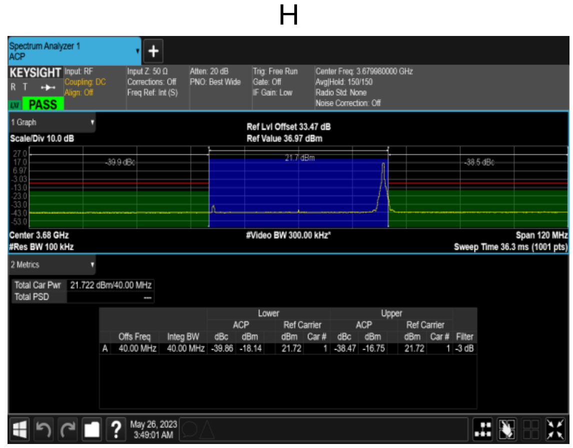
N48(40M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N48(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

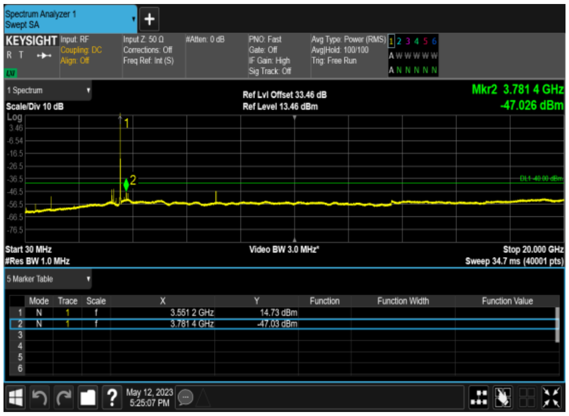


Conducted Spurious Emissions

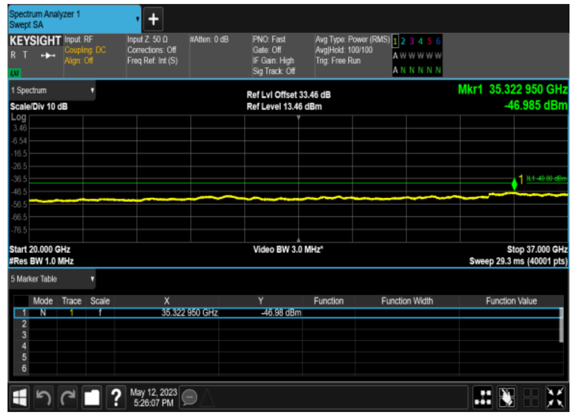
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
48	30	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	637000	3555.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	637000	3555.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	10	646332	3694.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	637334	3560.01	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

48	30	20	646000	3690.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	638000	3570.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	641666	3624.99	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**---**
48	30	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**---**
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
48	30	40	645332	3679.98	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

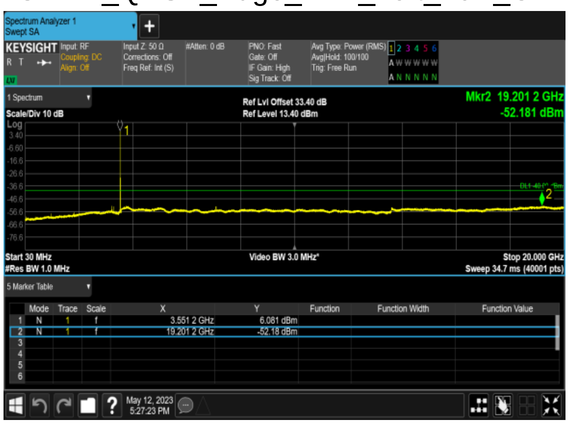
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



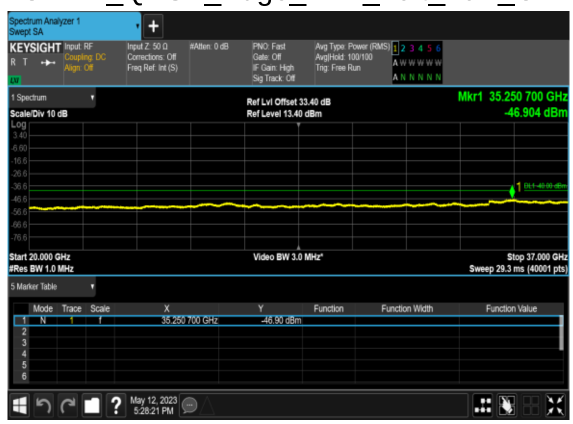
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



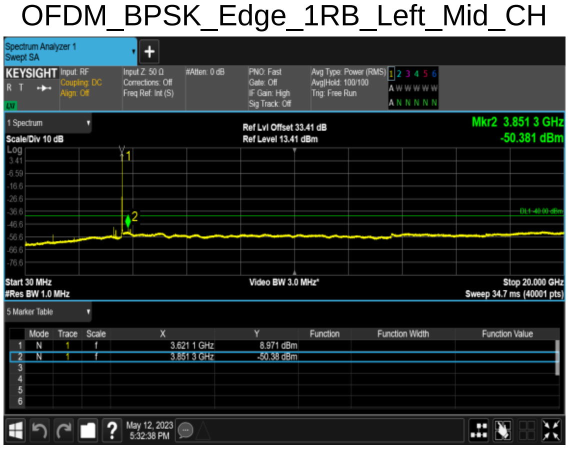
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



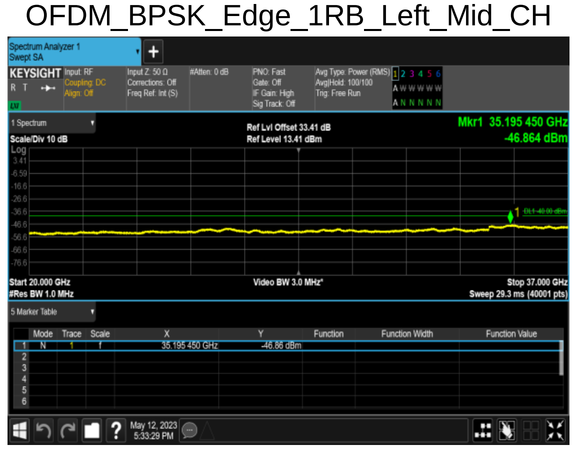
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



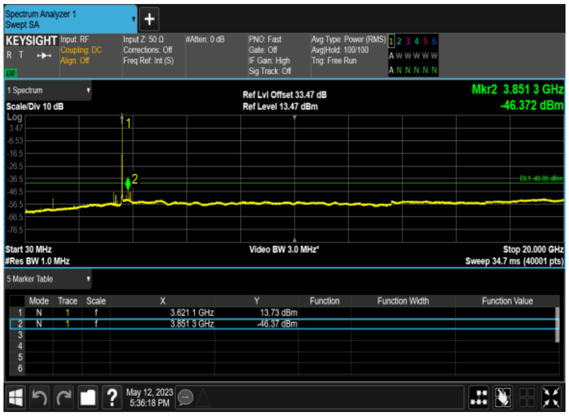
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



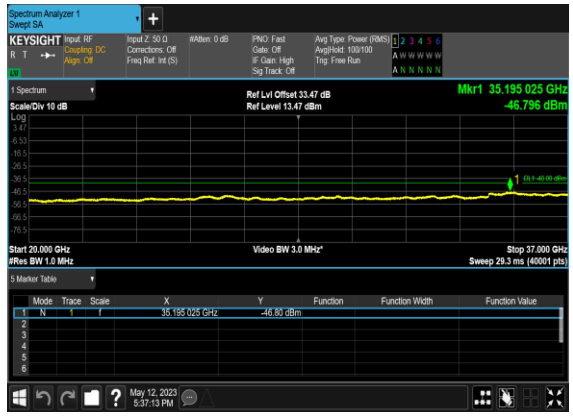
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



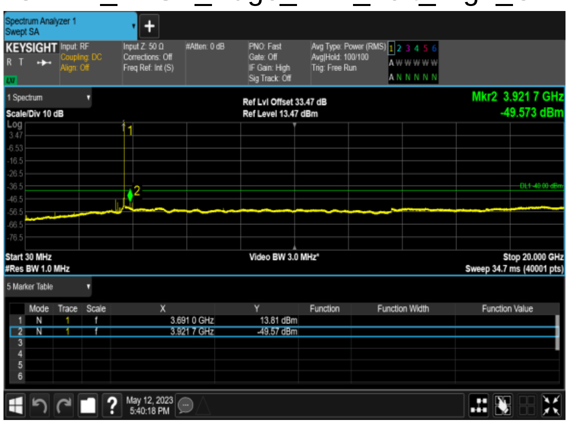
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



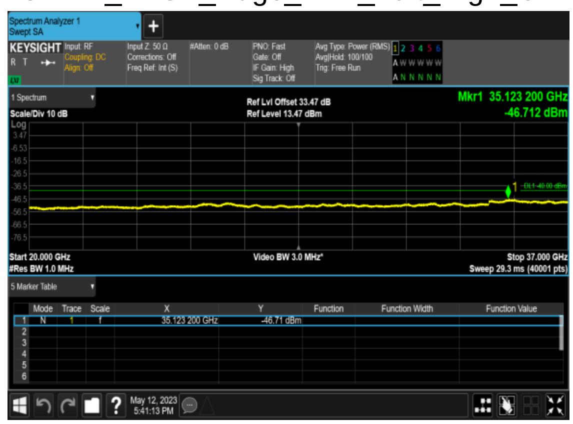
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



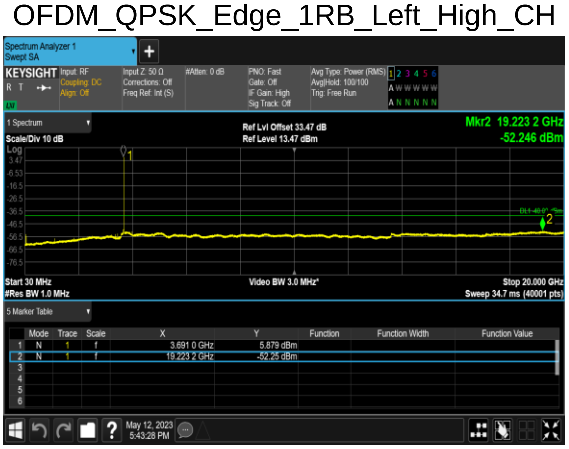
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



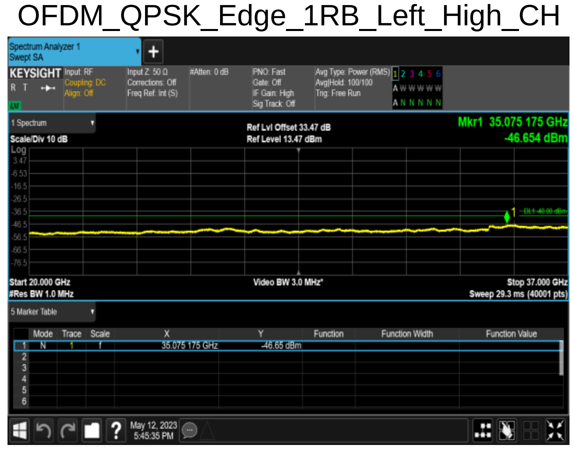
N48(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



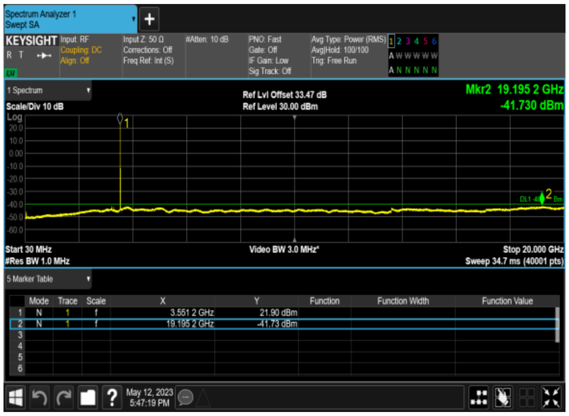
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



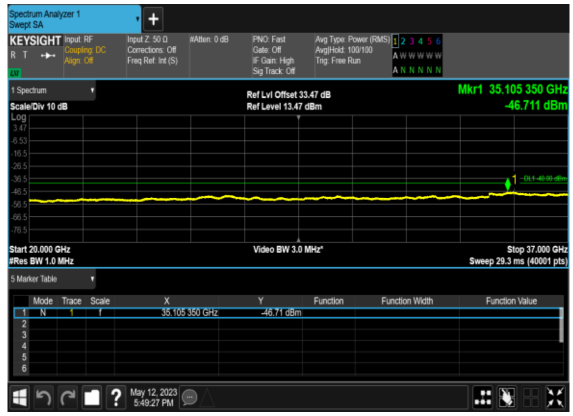
N48(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



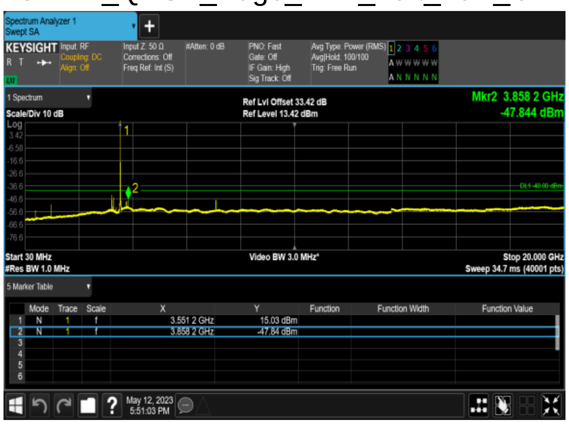
N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



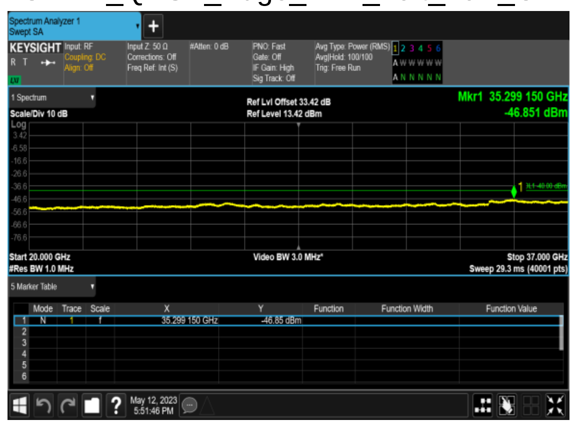
N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



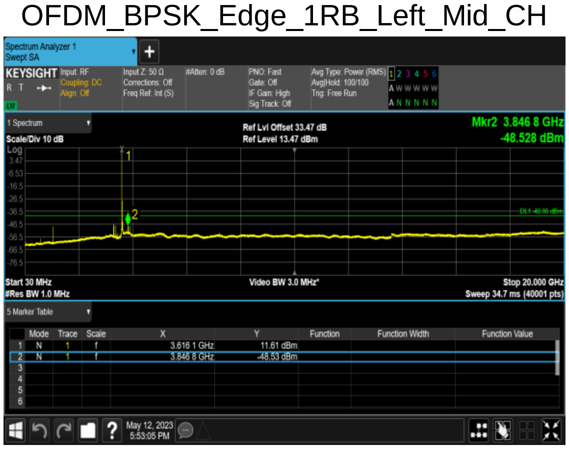
N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N48(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH