

TEST REPORT

FCC Sub6 n7 Test for TFGMEIBBCD4
Class II Permissive Change

APPLICANT
LG Electronics Inc.

REPORT NO.
HCT-RF-2505-FC100

DATE OF ISSUE
May 26, 2025

Tested by
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TEST REPORT

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Additional Model
TFGMEIBBCD5, TFGMEIBBCD6, TFGMEIBBCD7, TFGMEIBBCD8,
TFGMEIBBCD9, TFGMEIBBCDA, TFGMEIBBCDB, TFGMEIBBCDC
TFGMEIBBCD4_MY27, TFGMEIBBCD5_MY27, TFGMEIBBCD6_MY27
TFGMEIBBCD7_MY27, TFGMEIBBCD8_MY27, TFGMEIBBCD9_MY27
TFGMEIBBCDA_MY27, TFGMEIBBCDB_MY27, TFGMEIBBCDC_MY27

Applicant

LG Electronics Inc.
128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea

Product Name
Model Name

GM Onstar Gen12 ROW
TFGMEIBBCD4

Date of Test

May 22, 2025 ~ May 26, 2025

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing
(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

FCC ID

BEJTFGMEIBBCD4

FCC Classification

PCS Licensed Transmitter (PCB)

Test Standard Used

FCC Rule Part(s) : § 27

Test Results

PASS

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	May 26, 2025	Initial Release

Notice

Content

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S.C. 853(a)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

CONTENTS

1. GENERAL INFORMATION	5
1.1 Antenna Gain	6
1.2 MAXIMUM OUTPUT POWER.....	6
2. INTRODUCTION	7
2.1. DESCRIPTION OF EUT	7
2.2. MEASURING INSTRUMENT CALIBRATION	7
2.3. TEST FACILITY	7
3. DESCRIPTION OF TESTS	8
3.1 TEST PROCEDURE.....	8
3.2 CONDUCTED OUTPUT POWER.....	9
3.3 RADIATED TEST	10
3.3.1 RADIATED POWER.....	11
3.3.2 RADIATED SPURIOUS EMISSIONS.....	12
3.4 PEAK- TO- AVERAGE RATIO	14
3.5 OCCUPIED BANDWIDTH.....	15
3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL	16
3.7 CHANNEL EDGE.....	17
3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE	19
3.9 WORST CASE(RADIATED TEST)	20
3.10 WORST CASE(CONDUCTED TEST).....	21
4. LIST OF TEST	22
5. MEASUREMENT UNCERTAINTY	23
6. SUMMARY OF TEST RESULTS	24
7. EMISSION DESIGNATOR	25
8. TEST DATA	26
8.1 Conducted Output Power.....	26
8.2 EQUIVALENT ISOTROPIC RADIATED POWER.....	29
8.3 RADIATED SPURIOUS EMISSIONS.....	32
8.4 PEAK-TO-AVERAGE RATIO.....	35
8.5 OCCUPIED BANDWIDTH	36
8.6 CONDUCTED SPURIOUS EMISSIONS	37
8.7 CHANNEL EDGE.....	38
8.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE	39
9. TEST PLOTS.....	42
10. ANNEX A_ TEST SETUP PHOTO	112

MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	LG Electronics Inc.
Address:	10, MagokJungang-ro, Gangseo-gu, Seoul 07796, Republic of Korea
FCC ID:	BEJTFGMEIBBCD4
Application Type:	Class II Permissive Change
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part(s):	§ 27
EUT Type:	GM Onstar Gen12 ROW
Model(s):	TFGMEIBBCD4
Additional Model(s)	TFGMEIBBCD5, TFGMEIBBCD6, TFGMEIBBCD7, TFGMEIBBCD8, TFGMEIBBCD9, TFGMEIBBCDA, TFGMEIBBCDB, TFGMEIBBCDC TFGMEIBBCD4_MY27, TFGMEIBBCD5_MY27, TFGMEIBBCD6_MY27 TFGMEIBBCD7_MY27, TFGMEIBBCD8_MY27, TFGMEIBBCD9_MY27 TFGMEIBBCDA_MY27, TFGMEIBBCDB_MY27, TFGMEIBBCDC_MY27
SCS(kHz):	15
Bandwidth(MHz):	25, 30, 40
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	- DFT-S-OFDM: PI/2 BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM - CP-OFDM: QPSK, 16 QAM, 64 QAM, 256 QAM
Tx Frequency:	2512.5 MHz – 2557.5 MHz (Sub6 n7(25 MHz)) 2515.0 MHz – 2555.0 MHz (Sub6 n7(30 MHz)) 2520.0 MHz – 2550.0 MHz (Sub6 n7(40 MHz))
Operation Mode:	NSA, SA
Serial number:	Conducted: EBR25077202 #037 Radiated: EBR25077202 #039
External Antenna Information	- External Antenna (DUT4): 85608774 - External Antenna (Ant4): 86575530 - External Antenna (Ant5): 86531607 - External Antenna (Y2XX-Primary): 86784729 - External Antenna (Y2XX-Secondary): 85647584 - External Antenna (BT1UG/BT1FG): 85846855/85846854

1.1 Antenna Gain

Operating Frequency (MHz)	DUT4 (dBi)	Ant4 (dBi)	Ant5 (dBi)	Y2XX (Primary/Secondary) (dBi)	BT1UG/BT1FG (dBi)
824 - 849	4.00	5.01	5.77	4.81	1.30
1710 - 1755	2.60	3.40	2.29	4.55	1.50
1850 - 1910	3.50	5.63	5.84	4.89	1.10
2500 - 2570	6.10	5.00	6.69	6.73	1.20
3300 - 4200	6.20	6.48	6.40	2.48	1.20
699 - 716	1.30	2.96	4.01	5.21	-0.70
777 - 787	1.9~3.5	0.59~3.89	2.21~4.12	6.16	-2.70
2496 - 2690	6.10	5.00	6.69	6.73	1.40
663 - 698	1.70	1.27	1.64	4.67	0.50

1.2 MAXIMUM OUTPUT POWER

Tx Frequency (MHz)	Bandwidth (MHz)	Emission Designator	Max. Power (W)	Max. Power (dBm)
2512.5 – 2557.5	25	22M9G7D	0.249	23.97
		23M0W7D	0.193	22.85
2515.0 – 2555.0	30	28M7G7D	0.247	23.93
		28M7W7D	0.229	23.59
2520.0 – 2550.0	40	38M6G7D	0.248	23.94
		38M6W7D	0.210	23.23

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a GM Onstar Gen12 ROW with GSM/GPRS/EGPRS/UMTS and LTE, Sub6

2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.3. TEST FACILITY

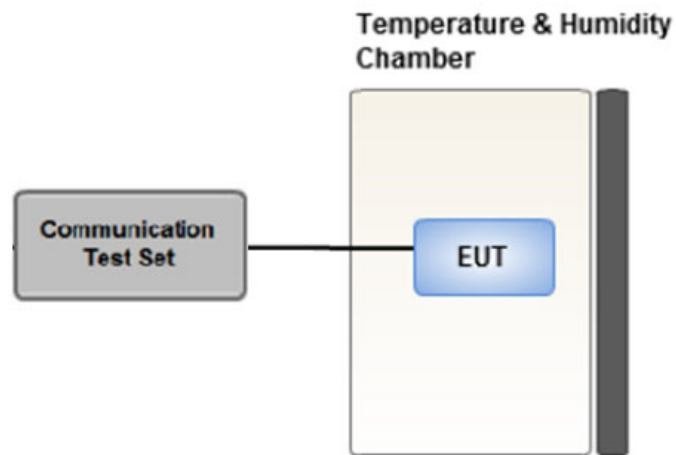
The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

Test Description	Test Procedure Used
Occupied Bandwidth	- KDB 971168 D01 v03r01 – Section 4.3 - ANSI C63.26-2015 – Section 5.4.4
Band Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- KDB 971168 D01 v03r01 – Section 5.2
Peak- to- Average Ratio	- KDB 971168 D01 v03r01 – Section 5.7 - ANSI C63.26-2015 – Section 5.2.3.4
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Radiated Power	- ANSI C63.26-2015 – Section 5.2.4.4 - KDB 971168 D01 v03r01 – Section 5.8
Radiated Spurious and Harmonic Emissions	- KDB 971168 D01 v03r01 – Section 6.2 - ANSI/TIA-603-E-2016 – Section 2.2.12

3.2 CONDUCTED OUTPUT POWER



Test setup

Test Overview

When an average power meter is used to perform RF output power measurements, the fundamental condition that measurements be performed only over durations of active transmissions at maximum output power level applies.

Conducted Output Power was tested in accordance with KDB971168 D01 Power Meas License Digital Systems v03r01, Section 5.2.

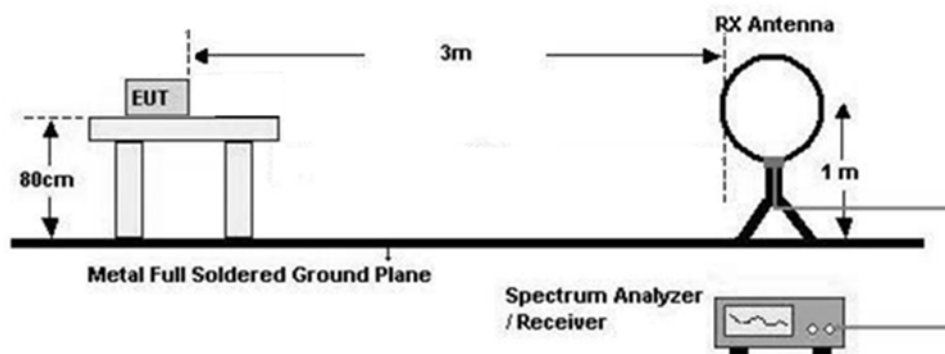
3.3 RADIATED TEST

Test Overview

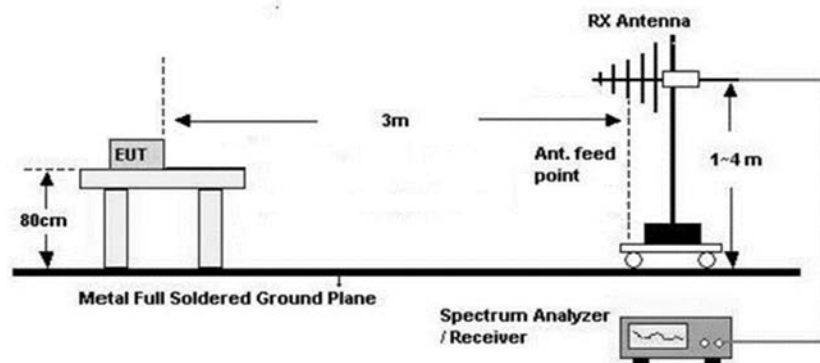
Radiated tests are performed in the semi-anechoic chamber. The equipment under test is placed on a non-conductive table on semi-anechoic chamber.

Test Configuration

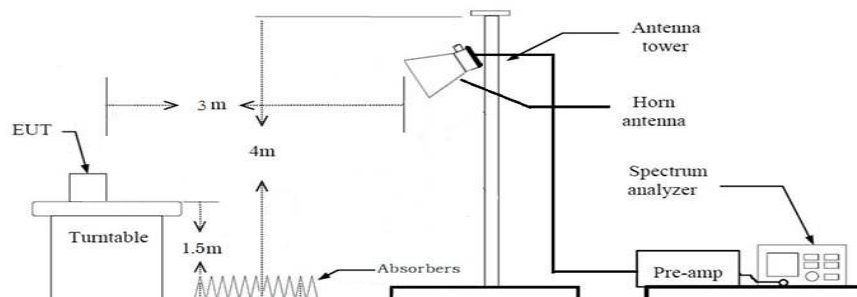
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



3.3.1 RADIATED POWER

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW $\geq$ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $>$ 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Note

1. The EUT is placed on a turntable, which is 0.8 m above ground plane. (Below 1 GHz)
2. The EUT is placed on a turntable, which is 1.5 m above ground plane. (Above 1 GHz)
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
6. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.
7. $\text{Total(dB}\mu\text{V/m)} = \text{Measured Value(dB}\mu\text{V)} + \text{Cable Loss(dB)} + \text{Antenna Factor(dB/m)} + \text{Distance Factor(D.F)}$
8. EIRP (dBm)
 $= \text{Total (dB}\mu\text{V/m)} + 20 \log D - 104.8$ (where D is the measurement distance in meters. D=3)
 $= \text{Total (dB}\mu\text{V/m)} - 95.2(\text{dB})$
9. $\text{EIRP(dBm)} = \text{EIRP(dBm)} - 2.15(\text{dB})$

3.3.2 RADIATED SPURIOUS EMISSIONS

Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $> 2 \times$ span / RBW
5. Detector = Peak
6. Trace mode = Max Hold
7. The trace was allowed to stabilize
8. Test channel : Low/ Middle/ High
9. Frequency range : We are performed all frequency to 10th harmonics from 9 kHz.

Test Note

1. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data
2. Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

Below 30 MHz

1. The loop antenna was placed at a location 3 m from the EUT
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. Distance Correction Factor(0.009 MHz – 0.490 MHz) = $40\log(3 \text{ m}/300 \text{ m}) = - 80 \text{ dB}$
Measurement Distance : 3 m
6. Distance Correction Factor(0.490 MHz – 30 MHz) = $40\log(3 \text{ m}/30 \text{ m}) = - 40 \text{ dB}$
Measurement Distance : 3 m
7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
8. EIRP (dBm) = Total (dB μ V/m) + $20 \log D - 104.8 = \text{Total (dB}\mu\text{V/m)} - 95.2(\text{dB})$
9. EIRP(dBm) = EIRP(dBm) - 2.15(dB)

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

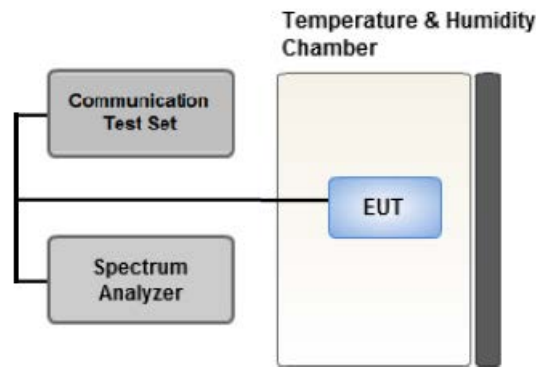
Below 1 GHz

1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
2. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
5. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
7. Total(dBμV/m) = Measured Value(dBμV) + Cable Loss(dB) + Antenna Factor(dB/m) + Distance Factor(D.F)
8. EIRP (dBm)
= Total (dBμV/m) + 20 log D - 104.8 (where D is the measurement distance in meters. D=3)
= Total (dBμV/m) - 95.2(dB)
9. EIRP(dBm) = EIRP(dBm) - 2.15(dB)

Above 1 GHz

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Total(dBμV/m) = Measured Value(dBμV) + Cable Loss(dB) + Antenna Factor(dB/m) + Distance Factor(D.F) + H.P.F(dB) - Amp Gain(dB)
8. EIRP (dBm)
= Total (dBμV/m) + 20 log D - 104.8 (where D is the measurement distance in meters. D=3)
= Total (dBμV/m) - 95.2(dB)

3.4 PEAK- TO- AVERAGE RATIO



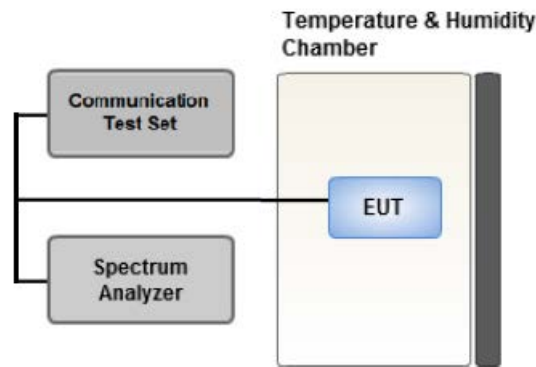
Test setup

CCDF Procedure for PAPR

Test Settings

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
 - .- for continuous transmissions, set to 1 ms,
 - .- or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

3.5 OCCUPIED BANDWIDTH.



Test setup

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 power of a given emission.

The EUT makes a call to the communication simulator.

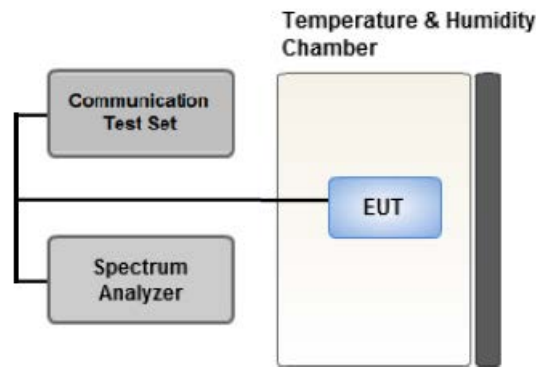
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5 % of the expected OBW
3. VBW $\geq$ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

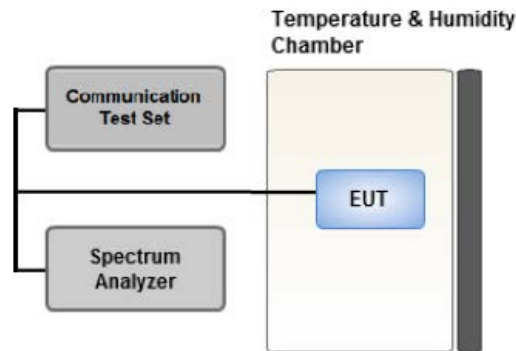
Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. RBW = 1 MHz
2. VBW $\geq$ 3 MHz
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep time = auto
6. Number of points in sweep $\geq$ 2 x Span / RBW

3.7 CHANNEL EDGE



Test setup

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum power and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration.

All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

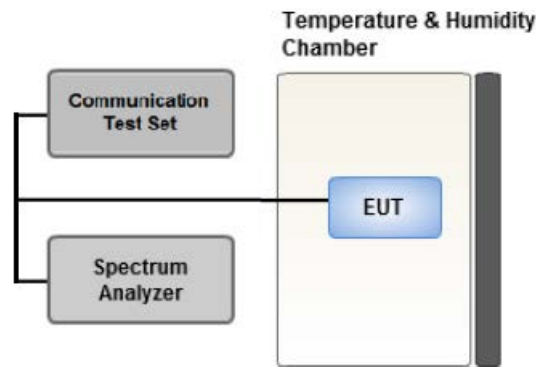
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1MHz of the channel edge the RBW should be 2% of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times \text{Span}/\text{RBW}$
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Notes

1. The attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge,
2. $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge.
3. $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge.
4. The attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz.
5. $55 + 10 \log (P)$ dB at or below 2490.5 MHz.
6. X is the greater of 6MHz or the actual emission bandwidth
7. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer

Where Margin < 1 dB the emission level is either corrected by $10 \log(1 \text{ MHz} / \text{RB})$ or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge.

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.

The frequency stability of the transmitter is measured by:

1. Temperature: The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.
2. Primary Supply Voltage:
 - .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
 - .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20 °C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter.

Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.9 WORST CASE(RADIATED TEST)

1. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
2. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : NSA, SA
 - Worst case : SA
3. All antennas of operation were investigated and the worst case configuration results are reported.
 - Worst case antenna : Y2XX
4. TFGMEIBBCD4 & additional models were tested and the worst case results are reported.
 - Worst case : TFGMEIBBCD4
5. Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
All EN-DC mode of operation (=anchor) were investigated and the test results were measured No Peak Found. The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.
6. The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data. Please refer to the table below.

[Worst case]				
Test Description	Modulation	RB size	RB offset	Axis
Equivalent Isotropic Radiated Power	PI/2 BPSK, QPSK, 16 QAM, 64 QAM, 256 QAM	See Section 8.2		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.3		X

3.10 WORST CASE(CONDUCTED TEST)

1. Waveform :

All Waveform of operation were investigated and the worst case configuration results are reported.

- Worst case: DFT-S-OFDM

2. Modulation :

All Modulation of operation were investigated and the worst case configuration results are reported.

- Worst case: PI/2 BPSK

3. All modes of operation were investigated and the worst case configuration results are reported.

- Mode : NSA, SA

- Worst case : SA

4. TFGMEIBBCD4 & additional models were tested and the worst case results are reported.

- Worst case : TFGMEIBBCD4

5. All RB sizes, offsets of operation were investigated and the worst case configuration results are reported. Please refer to the table below.

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth Peak- to- Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	25, 30, 40	Mid	Full RB	0
Channel Edge	PI/2 BPSK	25	Low	1	0
			High	1	132
		30	Low	1	0
			High	1	159
		40	Low	1	0
			High	1	215
			High	1	215
		25, 30, 40	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	25, 30, 40	Low, Mid, High	1	1

4. LIST OF TEST

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Antenna Position Tower	MA4640	Innco systems	S4AM	08/07/2025	Annual
Turn Table	DS2000-S	Innco systems	N/A	N/A	N/A
Turn Table	Turn Table	Ets	N/A	N/A	N/A
Controller (Antenna mast & Turn Table)	CO3000	Innco systems	CO3000/1251/48 920320/P	N/A	N/A
Amp & Filter Bank Switch Controller	FBSM-01B	TNM system	TM20090002	N/A	N/A
RF Switch System	FBSR-04C (3G HPF+LNA)	TNM System	S4L1	03/12/2026	Annual
RF Switch System	FBSR-04C (7G HPF+LNA)	TNM System	S4L5	03/12/2026	Annual
RF Switch System	FBSR-04C(LNA)	TNM System	S4L4	03/12/2026	Annual
RF Switch System	FBSR-04C(Thru)	TNM System	S4L6	03/12/2026	Annual
Loop Antenna (9 kHz ~ 30 MHz)	FMZB1513	Schwarzbeck	1513-333	03/07/2026	Biennial
Horn Antenna (1 ~ 18 GHz)	BBHA 9120	Schwarzbeck	937	02/07/2027	Biennial
Horn Antenna (15 ~ 40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck	9168-0895	08/28/2026	Biennial
Spectrum Analyzer (10 Hz ~ 40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/04/2026	Annual
SIGNAL GENERATOR (100 kHz ~ 40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/26/2025	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/22/2025	Annual
Power Splitter (DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/04/2026	Annual
Chamber	SU-642	ESPEC	93008124	02/11/2026	Annual
ATTENUATOR (20 dB)	8493C	Hewlett Packard	17280	04/10/2026	Annual
UXM 5G Wireless Test Platform	E7515B	KEYSIGHT	MY60101126	02/10/2026	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6272613402	08/28/2025	Annual
Signal Analyzer (2 Hz~50.0 GHz)	N9030B	KEYSIGHT	MY56320554	02/03/2026	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
- Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ($\pm$ kHz)
Occupied Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

Parameter	Expanded Uncertainty ($\pm$ dB)
Block Edge	0.70 (Confidence level about 95 %, $k=2$)
Conducted Spurious Emissions	1.18 (Confidence level about 95 %, $k=2$)
Peak-to- Average Ratio	0.68 (Confidence level about 95 %, $k=2$)
Radiated Power	4.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.68 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, $k=2$)

6. SUMMARY OF TEST RESULTS

-. The decision rule applies 'simple acceptance'

6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§ 2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§ 2.1051, § 27.53(m)(4)	■ $< 40 + 10\log_{10} (P[\text{Watts}])$ at Channel edges ■ $< 43 + 10\log_{10} (P[\text{Watts}])$ between 5 and X MHz from Channel edges ■ $< 55 + 10\log_{10} (P[\text{Watts}])$ beyond X MHz beyond from Channel edges ■ $< 43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz	PASS
Conducted Output Power	§ 2.1046	N/A	PASS
Frequency stability / variation of ambient temperature	§ 2.1055, § 27.54	Emission must remain in band	PASS

Note:

1. All tests were tested using 5G Wireless Tester.

6.2 Test Condition : Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Equivalent Isotropic Radiated Power	§ 27.50(h)(2)	< 2 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 27.53(m)(4)	$< 55 + 10\log_{10} (P[\text{Watts}])$	PASS

Note:

1. All tests were tested using 5G Wireless Tester.

7. EMISSION DESIGNATOR

GSM Emission Designator

Emission Designator = 249KGXW

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W

GSM BW = 249 kHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

QPSK Modulation

Emission Designator = 4M48G7D

LTE BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D

LTE BW = 4.48 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 Conducted Output Power

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						502500	507000	511500
						2512.5 MHz	2535 MHz	2557.5 MHz
25 MHz	15	DFT-s	pi/2 BPSK	1	1	23.97	23.70	23.81
				1	66	23.89	23.38	22.79
				1	131	23.59	23.66	22.69
				64	0	23.71	23.14	23.20
				64	35	23.92	23.46	22.88
				64	69	23.58	23.49	22.48
				128	0	23.74	23.35	22.90
			QPSK	1	1	23.35	23.28	22.92
				1	66	23.71	23.28	23.22
				1	131	23.18	23.69	22.19
				64	0	23.23	22.82	22.89
				64	35	23.92	23.35	23.20
				64	69	23.23	23.15	22.15
				128	0	23.19	23.06	22.69
			16QAM	1	1	22.82	22.85	22.68
			64QAM	1	1	21.58	21.87	21.36
			256QAM	1	1	19.51	19.83	19.49
		CP	QPSK	1	1	22.34	22.38	22.52

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						503000	507000	511000
						2515 MHz	2535 MHz	2555 MHz
30 MHz	15	DFT-s	pi/2 BPSK	1	1	23.93	23.72	23.84
				1	80	23.88	23.37	23.03
				1	158	23.08	23.60	22.66
				80	0	23.76	23.24	23.43
				80	40	23.85	23.55	23.15
				80	80	23.47	23.56	22.54
				160	0	23.59	23.44	23.13
			QPSK	1	1	23.58	22.98	23.04
				1	80	23.90	23.71	23.60
				1	158	23.05	23.34	23.17
				80	0	23.70	23.33	23.23
				80	40	23.92	23.65	23.80
				80	80	23.42	23.16	23.32
				160	0	23.58	23.15	23.34
			16QAM	1	1	23.59	22.53	22.52
			64QAM	1	1	21.33	21.76	21.29
			256QAM	1	1	19.75	19.75	19.54
		CP	QPSK	1	1	22.51	22.56	22.52

Bandwidth	SCS(kHz)	OFDM	Modulation	RB Size	RB Offset	Max.Average Power (dBm)		
						504000	507000	510000
						2520 MHz	2535 MHz	2550 MHz
40 MHz	15	DFT-s	pi/2 BPSK	1	1	23.92	23.94	23.76
				1	108	23.90	23.37	23.59
				1	214	23.67	23.12	22.68
				108	0	23.70	23.39	23.51
				108	54	23.80	23.59	23.52
				108	108	23.27	23.51	22.73
				216	0	23.61	23.52	23.23
			QPSK	1	1	23.58	23.30	23.42
				1	108	23.83	23.70	23.71
				1	214	23.67	23.63	23.54
				108	0	23.25	23.24	23.24
				108	54	23.67	23.47	23.63
				108	108	23.11	23.19	23.15
				216	0	23.27	23.14	23.27
			16QAM	1	1	22.76	22.69	23.23
			64QAM	1	1	21.50	21.87	21.34
			256QAM	1	1	19.99	20.10	19.49
		CP	QPSK	1	1	22.55	22.95	22.41

8.2 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBμV/m)	Ant. Factor + Dis. Factor (dB)	Cable loss (dB)	Total (dBμV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2512.5	Sub6 n7/ 25 MHz [15 kHz]	PI/2 BPSK	81.88	29.90	4.62	116.40	V	< 2.00	0.132	21.20	1	66
		QPSK	81.74	29.90	4.62	116.25	V		0.127	21.05		
		16-QAM	81.38	29.90	4.62	115.90	V		0.117	20.70		
		64-QAM	80.38	29.90	4.62	114.90	V		0.093	19.70		
		256-QAM	78.40	29.90	4.62	112.92	V		0.059	17.72		
2535.0		PI/2 BPSK	83.01	30.20	4.63	117.84	V		0.184	22.64	1	131
		QPSK	82.90	30.20	4.63	117.73	V		0.179	22.53		
		16-QAM	82.10	30.20	4.63	116.93	V		0.149	21.73		
		64-QAM	80.61	30.20	4.63	115.44	V		0.106	20.24		
		256-QAM	78.89	30.20	4.63	113.72	V		0.071	18.52		
2557.5		PI/2 BPSK	82.58	29.90	4.70	117.18	V	0.158	21.98	1	1	
		QPSK	82.22	29.90	4.70	116.82	V	0.145	21.62			
		16-QAM	81.77	29.90	4.70	116.37	V	0.131	21.17			
		64-QAM	80.77	29.90	4.70	115.37	V	0.104	20.17			
		256-QAM	79.02	29.90	4.70	113.62	V	0.069	18.42			

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBμV/m)	Ant. Factor + Dis. Factor (dB)	Cable loss (dB)	Total (dBμV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2515.0		PI/2 BPSK	82.24	29.90	4.62	116.76	V	< 2.00	0.143	21.56	1	80
		QPSK	82.08	29.90	4.62	116.60	V		0.138	21.40		
		16-QAM	81.25	29.90	4.62	115.77	V		0.114	20.57		
		64-QAM	80.18	29.90	4.62	114.70	V		0.089	19.50		
		256-QAM	78.35	29.90	4.62	112.86	V		0.058	17.66		
2535.0	Sub6 n7/ 30 MHz [15 kHz]	PI/2 BPSK	83.38	30.20	4.63	118.20	V	< 2.00	0.200	23.00	1	158
		QPSK	83.18	30.20	4.63	118.01	V		0.191	22.81		
		16-QAM	82.22	30.20	4.63	117.05	V		0.153	21.85		
		64-QAM	80.69	30.20	4.63	115.51	V		0.108	20.31		
		256-QAM	78.71	30.20	4.63	113.54	V		0.068	18.34		
2555.0		PI/2 BPSK	83.11	29.90	4.70	117.71	V	< 2.00	0.178	22.51	1	1
		QPSK	82.76	29.90	4.70	117.36	V		0.164	22.16		
		16-QAM	82.27	29.90	4.70	116.87	V		0.147	21.67		
		64-QAM	81.11	29.90	4.70	115.71	V		0.112	20.51		
		256-QAM	79.25	29.90	4.70	113.85	V		0.073	18.65		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBμV/m)	Ant. Factor + Dis. Factor (dB)	Cable loss (dB)	Total (dBμV/m)	Pol.	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2520.0		PI/2 BPSK	82.72	29.90	4.62	117.24	V	< 2.00	0.160	22.04	1	108
		QPSK	82.67	29.90	4.62	117.19	V		0.158	21.99		
		16-QAM	81.79	29.90	4.62	116.31	V		0.129	21.11		
		64-QAM	80.65	29.90	4.62	115.17	V		0.099	19.97		
		256-QAM	78.68	29.90	4.62	113.20	V		0.063	18.00		
2535.0	Sub6 n7/ 40 MHz [15 kHz]	PI/2 BPSK	82.67	30.20	4.63	117.50	V		0.170	22.30	1	108
		QPSK	82.46	30.20	4.63	117.29	V		0.162	22.09		
		16-QAM	81.90	30.20	4.63	116.72	V		0.142	21.52		
		64-QAM	81.31	30.20	4.63	116.14	V		0.124	20.94		
		256-QAM	79.23	30.20	4.63	114.06	V		0.077	18.86		
2550.0		PI/2 BPSK	82.47	29.90	4.70	117.07	V		0.154	21.87	1	108
		QPSK	82.13	29.90	4.70	116.73	V		0.142	21.53		
		16-QAM	81.65	29.90	4.70	116.25	V		0.127	21.05		
		64-QAM	80.53	29.90	4.70	115.13	V		0.098	19.93		
		256-QAM	78.55	29.90	4.70	113.15	V		0.062	17.95		

8.3 RADIATED SPURIOUS EMISSIONS

☒ NR Band: N7
☒ Bandwidth: 25 MHz
☒ Modulation: PI/2 BPSK

Ch	Freq (MHz)	Measured Level (dBμV/m)	Ant. Factor + Dis. Factor(dB)	H.P.F - Amp. Gain + C.L (dB)	Total (dBμV/m)	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
502500 (2512.5)	5 025.00	49.02	34.10	34.39	48.73	V	-46.47	-25.00	1	66
	7 537.50	47.80	38.80	34.07	52.53	V	-42.67			
	10 050.00	44.44	41.70	31.65	54.49	V	-40.71			
	12 562.50	40.93	41.10	29.35	52.68	V	-42.52			
	15 075.00	40.55	42.90	28.39	55.06	H	-40.14			
507000 (2535.0)	5 070.00	47.50	34.20	33.95	47.75	V	-47.45		1	131
	7 605.00	47.44	38.70	33.56	52.58	V	-42.62			
	10 140.00	41.86	41.70	31.64	51.92	V	-43.28			
	12 675.00	40.73	41.30	28.61	53.42	V	-41.78			
	15 210.00	41.56	42.10	28.63	55.03	V	-40.17			
511500 (2557.5)	5 115.00	48.92	34.30	34.03	49.19	V	-46.01		1	1
	7 672.50	48.11	38.60	33.90	52.81	V	-42.39			
	10 230.00	41.92	41.90	30.65	53.17	V	-42.03			
	12 787.50	40.44	41.60	28.92	53.12	V	-42.08			
	15 345.00	40.56	41.10	28.60	53.06	V	-42.14			

☐ NR Band: N7
☐ Bandwidth: 30 MHz
☐ Modulation: PI/2 BPSK

Ch	Freq (MHz)	Measured Level (dBμV/m)	Ant. Factor + Dis. Factor(dB)	H.P.F - Amp. Gain + C.L (dB)	Total (dBμV/m)	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
503000 (2515.0)	5 030.00	50.97	34.10	34.39	50.68	V	-44.52	-25.00	1	80
	7 545.00	51.56	38.80	34.07	56.29	V	-38.91			
	10 060.00	43.28	41.70	31.65	53.33	V	-41.87			
	12 575.00	41.41	41.10	29.35	53.16	V	-42.04			
	15 090.00	40.47	42.90	28.39	54.98	V	-40.22			
507000 (2535.0)	5 070.00	52.08	34.20	33.95	52.33	V	-42.87		1	158
	7 605.00	53.70	38.70	33.56	58.84	V	-36.36			
	10 140.00	43.98	41.70	31.64	54.04	V	-41.16			
	12 675.00	41.12	41.30	28.61	53.81	V	-41.39			
	15 210.00	41.17	42.10	28.63	54.64	V	-40.56			
511000 (2555.0)	5 110.00	50.60	34.30	34.03	50.87	V	-44.33		1	1
	7 665.00	48.38	38.60	33.90	53.08	V	-42.12			
	10 220.00	43.80	41.90	30.65	55.05	V	-40.15			
	12 775.00	41.64	41.60	28.92	54.32	V	-40.88			
	15 330.00	41.61	41.10	28.60	54.11	V	-41.09			

☐ NR Band: N7
☐ Bandwidth: 40 MHz
☐ Modulation: PI/2 BPSK

Ch	Freq (MHz)	Measured Level (dBμV/m)	Ant. Factor + Dis. Factor(dB)	H.P.F - Amp. Gain + C.L (dB)	Total (dBμV/m)	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
504000 (2520.0)	5 040.00	48.88	34.10	34.39	48.59	V	-46.61	-25.00	1	108
	7 560.00	48.10	38.80	34.07	52.83	V	-42.37			
	10 080.00	44.03	41.70	31.65	54.08	V	-41.12			
	12 600.00	41.71	41.10	29.35	53.46	V	-41.74			
	15 120.00	41.19	42.90	28.39	55.70	V	-39.50			
507000 (2535.0)	5 070.00	49.51	34.20	33.95	49.76	V	-45.44		1	108
	7 605.00	48.39	38.70	33.56	53.53	V	-41.67			
	10 140.00	43.52	41.70	31.64	53.58	V	-41.62			
	12 675.00	41.41	41.30	28.61	54.10	V	-41.10			
	15 210.00	41.70	42.10	28.63	55.17	V	-40.03			
510000 (2550.0)	5 100.00	46.58	34.30	34.03	46.85	V	-48.35		1	108
	7 650.00	48.34	38.60	33.90	53.04	V	-42.16			
	10 200.00	43.31	41.90	30.65	54.56	V	-40.64			
	12 750.00	40.69	41.60	28.92	53.37	V	-41.83			
	15 300.00	41.49	41.10	28.60	53.99	V	-41.21			

8.4 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n7	25 MHz	2535.0	BPSK	128	0	3.90
			QPSK			4.61
			16-QAM			5.53
			64-QAM			6.09
			256-QAM			6.66
	30 MHz		BPSK	160		3.88
			QPSK			4.60
			16-QAM			5.57
			64-QAM			6.11
			256-QAM			6.66
	40 MHz		BPSK	216		3.77
			QPSK			4.61
			16-QAM			5.60
			64-QAM			6.02
			256-QAM			6.64

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 44 ~ 58.

8.5 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n7	25 MHz	2535.0	BPSK	128	0	22.896
			QPSK			22.936
			16-QAM			22.901
			64-QAM			22.982
			256-QAM			22.954
	30 MHz		BPSK	160		28.621
			QPSK			28.711
			16-QAM			28.699
			64-QAM			28.604
			256-QAM			28.654
	40 MHz		BPSK	216		38.585
			QPSK			38.604
			16-QAM			38.574
			64-QAM			38.583
			256-QAM			38.617

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 59 ~ 73.

8.6 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n7	25	2512.500	9.6909	29.815	-62.278	-32.463	-25.00
		2535.000	4.0778	29.200	-62.132	-32.932	
		2557.500	3.7787	29.200	-61.679	-32.479	
	30	2515.000	3.9781	29.200	-61.655	-32.455	
		2535.000	9.7208	29.815	-61.202	-31.387	
		2555.000	3.7588	29.200	-61.520	-32.320	
	40	2520.000	4.8754	29.200	-61.693	-32.493	
		2535.000	3.7887	29.200	-61.699	-32.499	
		2550.000	3.7688	29.200	-61.432	-32.232	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 95 ~ 112.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	26.494
1 – 5	29.200
5 – 10	29.815
10 – 15	30.340
15 – 20	30.713
Above 20	31.355

8.7 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	2 500 MHz ~ 2 496 MHz	C.E ~ (C.E +1 MHz)	2 490.5 MHz ~ 2 496 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	(C.E + 5 MHz) ~ (C.E + X MHz)	Above (C.E + X MHz)
				Lower	Upper	Lower	Upper	Lower	Upper	Upper
25 MHz	2512.500	BPSK	Full RB	-27.17	-29.42	-28.38	-28.81	-28.08	-27.92	-30.41
30 MHz	2515.000	BPSK	Full RB	-27.05	-27.86	-28.94	-26.36	-28.56	-27.74	-32.10
40 MHz	2520.000	BPSK	Full RB	-15.75	-17.37	-26.54	-24.58	-26.29	-27.04	-35.34
Limit(dBm)				-10.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	C.E ~ (C.E ± 1 MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
				Lower	Upper	Lower	Upper
25 MHz	2535.000	BPSK	Full RB	-26.28	-30.50	-27.10	-25.87
	2557.500	BPSK	Full RB	-26.28	-31.58	-26.47	-29.57
30 MHz	2535.000	BPSK	Full RB	-26.02	-28.13	-27.08	-27.08
	2555.000	BPSK	Full RB	-27.05	-30.03	-27.11	-29.69
40 MHz	2535.000	BPSK	Full RB	-14.99	-17.66	-27.84	-27.78
	2550.000	BPSK	Full RB	-15.78	-18.12	-25.18	-26.66
Limit(dBm)				-10.0		-10.0	

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
				Lower	Upper	Lower	Upper
25 MHz	2535.000	BPSK	Full RB	-28.11	-26.27	-32.34	-32.73
	2557.500	BPSK	Full RB	-28.22	-30.09	-34.28	-51.99
30 MHz	2535.000	BPSK	Full RB	-28.13	-27.04	-33.05	-34.61
	2555.000	BPSK	Full RB	-27.67	-31.65	-32.85	-55.16
40 MHz	2535.000	BPSK	Full RB	-28.09	-27.25	-44.60	-48.74
	2550.000	BPSK	Full RB	-28.42	-28.38	-32.57	-61.74
Limit(dBm)				-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6 MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
 - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
 - Result(dBm) = Reading + Factor
4. Plots of the EUT's Channel Edge are shown Page 74 ~ 94.

8.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ☐ BandWidth: 25 MHz
☐ Voltage(100 %): 13.500 VDC
☐ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2512.500	100 %	+20(Ref)	2512 500 001	0.0	0.000 000	0.000
	100 %	-30	2512 500 001	0.8	0.000 000	0.000
	100 %	-20	2512 500 002	1.1	0.000 000	0.000
	100 %	-10	2512 500 001	0.1	0.000 000	0.000
	100 %	0	2512 500 000	-0.3	0.000 000	0.000
	100 %	+10	2512 500 000	-0.6	0.000 000	0.000
	100 %	+30	2512 500 000	-0.5	0.000 000	0.000
	100 %	+40	2512 500 000	-0.4	0.000 000	0.000
	100 %	+50	2512 500 001	0.5	0.000 000	0.000
	Batt. Endpoint	+20	2512 500 001	0.6	0.000 000	0.000
2557.500	100 %	+20(Ref)	2557 500 001	0.0	0.000 000	0.000
	100 %	-30	2557 500 001	0.1	0.000 000	0.000
	100 %	-20	2557 500 000	-1.3	0.000 000	-0.001
	100 %	-10	2557 499 998	-3.9	0.000 000	-0.002
	100 %	0	2557 499 997	-4.3	0.000 000	-0.002
	100 %	+10	2557 499 996	-5.9	0.000 000	-0.002
	100 %	+30	2557 499 998	-3.5	0.000 000	-0.001
	100 %	+40	2557 500 014	12.5	0.000 000	0.005
	100 %	+50	2557 500 013	11.4	0.000 000	0.004
	Batt. Endpoint	+20	2557 499 990	-11.7	0.000 000	-0.005

☐ BandWidth: 30 MHz
☐ Voltage(100 %): 13.500 VDC
☐ LIMIT: Emission must remain in band

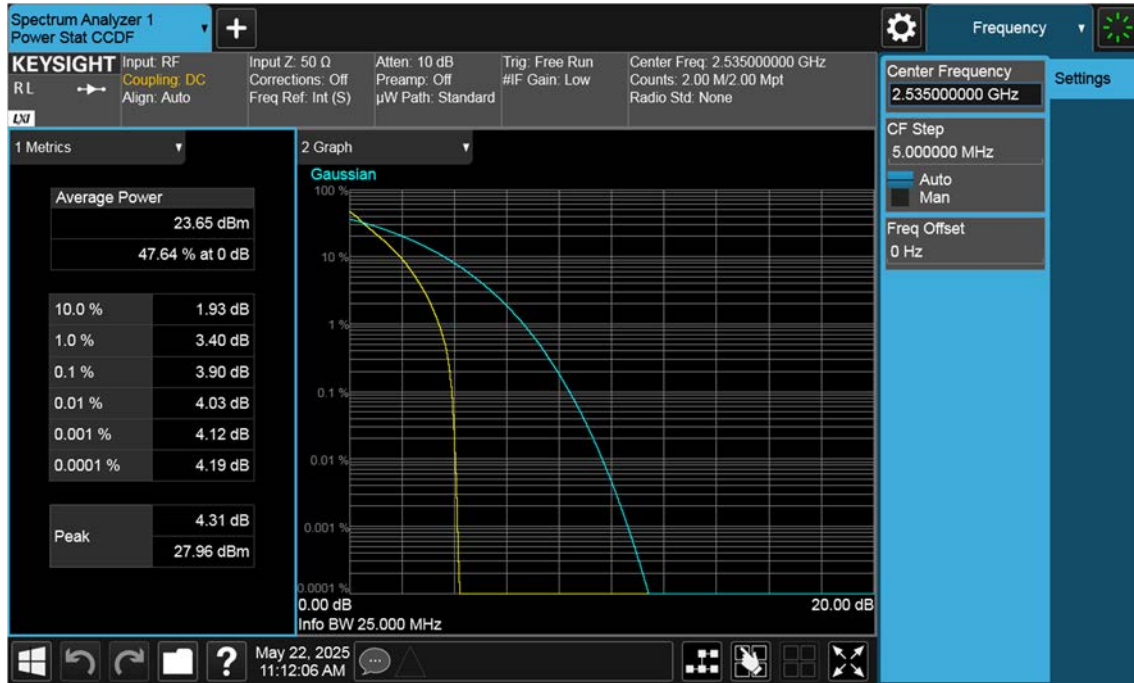
Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2515.000	100 %	+20(Ref)	2515 000 014	0.0	0.000 000	0.000
	100 %	-30	2515 000 027	12.6	0.000 001	0.005
	100 %	-20	2515 000 027	12.6	0.000 001	0.005
	100 %	-10	2515 000 025	10.6	0.000 000	0.004
	100 %	0	2515 000 023	9.1	0.000 000	0.004
	100 %	+10	2515 000 024	9.4	0.000 000	0.004
	100 %	+30	2515 000 021	7.1	0.000 000	0.003
	100 %	+40	2515 000 020	5.8	0.000 000	0.002
	100 %	+50	2515 000 020	5.8	0.000 000	0.002
	Batt. Endpoint	+20	2515 000 018	3.6	0.000 000	0.001
2555.000	100 %	+20(Ref)	2554 999 984	0.0	0.000 000	0.000
	100 %	-30	2554 999 968	-16.5	-0.000 001	-0.006
	100 %	-20	2554 999 967	-17.7	-0.000 001	-0.007
	100 %	-10	2554 999 987	2.6	0.000 000	0.001
	100 %	0	2554 999 987	2.7	0.000 000	0.001
	100 %	+10	2554 999 968	-16.6	-0.000 001	-0.007
	100 %	+30	2554 999 986	1.6	0.000 000	0.001
	100 %	+40	2554 999 985	0.2	0.000 000	0.000
	100 %	+50	2554 999 984	0.0	0.000 000	0.000
	Batt. Endpoint	+20	2554 999 984	-0.2	0.000 000	0.000

☐ BandWidth: 40 MHz
☐ Voltage(100 %): 13.500 VDC
☐ LIMIT: Emission must remain in band

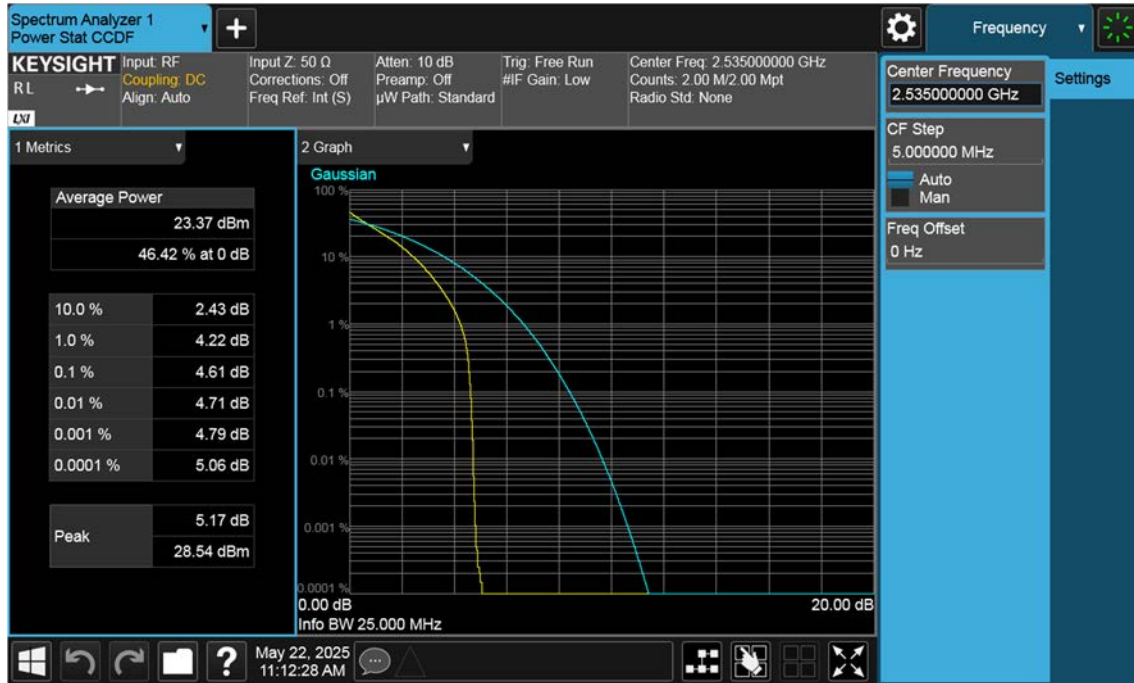
Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
2520.000	100 %	+20(Ref)	2519 999 995	0.0	0.000 000	0.000
	100 %	-30	2520 000 003	8.5	0.000 000	0.003
	100 %	-20	2519 999 987	-7.9	0.000 000	-0.003
	100 %	-10	2519 999 985	-10.4	0.000 000	-0.004
	100 %	0	2519 999 984	-11.4	0.000 000	-0.005
	100 %	+10	2520 000 001	6.4	0.000 000	0.003
	100 %	+30	2519 999 984	-10.6	0.000 000	-0.004
	100 %	+40	2519 999 998	3.2	0.000 000	0.001
	100 %	+50	2519 999 998	2.6	0.000 000	0.001
	Batt. Endpoint	+20	2519 999 995	-0.1	0.000 000	0.000
2550.000	100 %	+20(Ref)	2549 999 993	0.0	0.000 000	0.000
	100 %	-30	2549 999 985	-7.5	0.000 000	-0.003
	100 %	-20	2549 999 985	-7.7	0.000 000	-0.003
	100 %	-10	2550 000 004	11.0	0.000 000	0.004
	100 %	0	2549 999 984	-9.2	0.000 000	-0.004
	100 %	+10	2549 999 982	-10.5	0.000 000	-0.004
	100 %	+30	2549 999 983	-10.0	0.000 000	-0.004
	100 %	+40	2550 000 002	9.5	0.000 000	0.004
	100 %	+50	2549 999 985	-7.4	0.000 000	-0.003
	Batt. Endpoint	+20	2549 999 981	-11.6	0.000 000	-0.005

9. TEST PLOTS

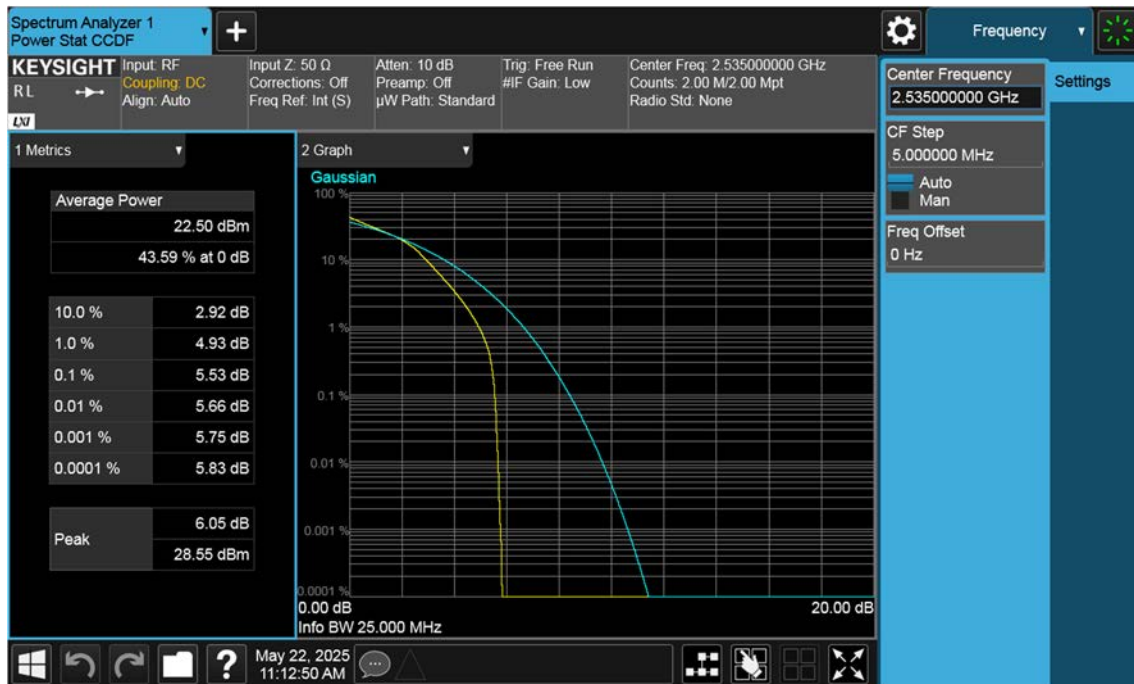
NR7_25 M_PAR_Mid_BPSK_FullIRB



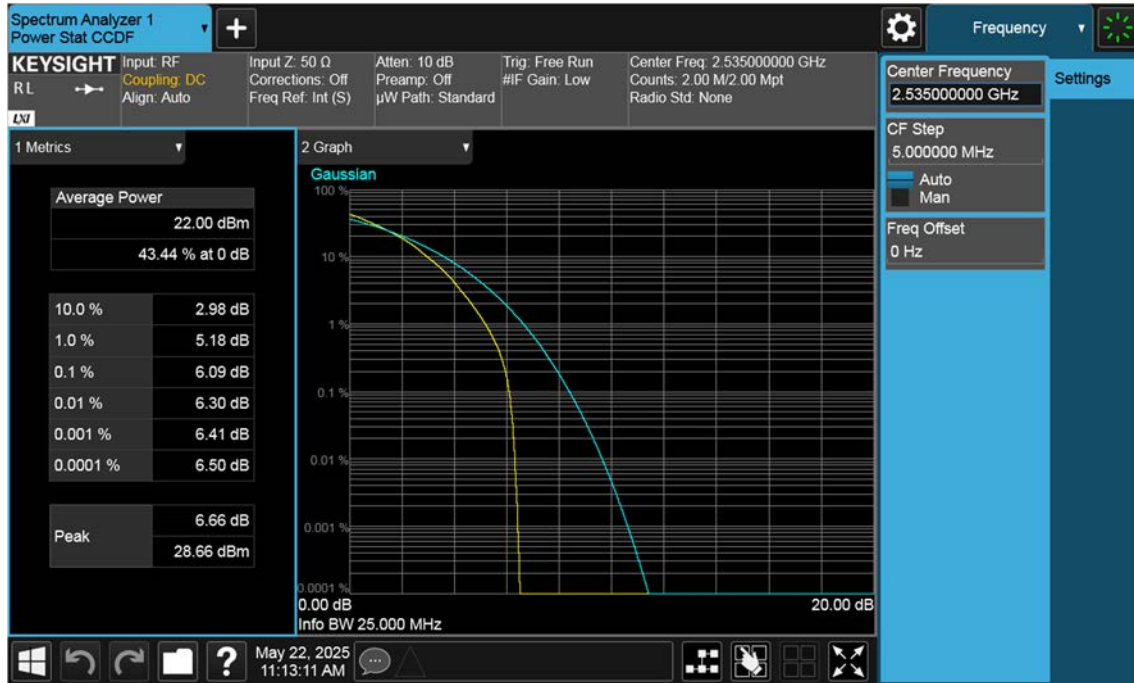
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NR7_25 M_PAR_Mid_16QAM_FullRB



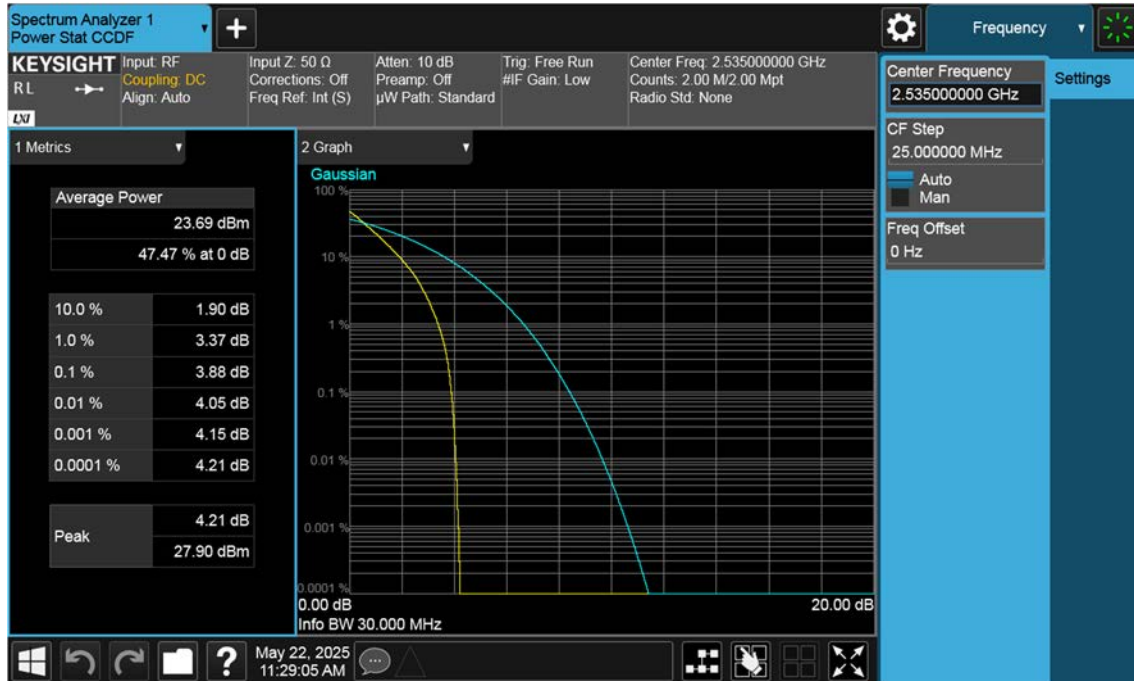
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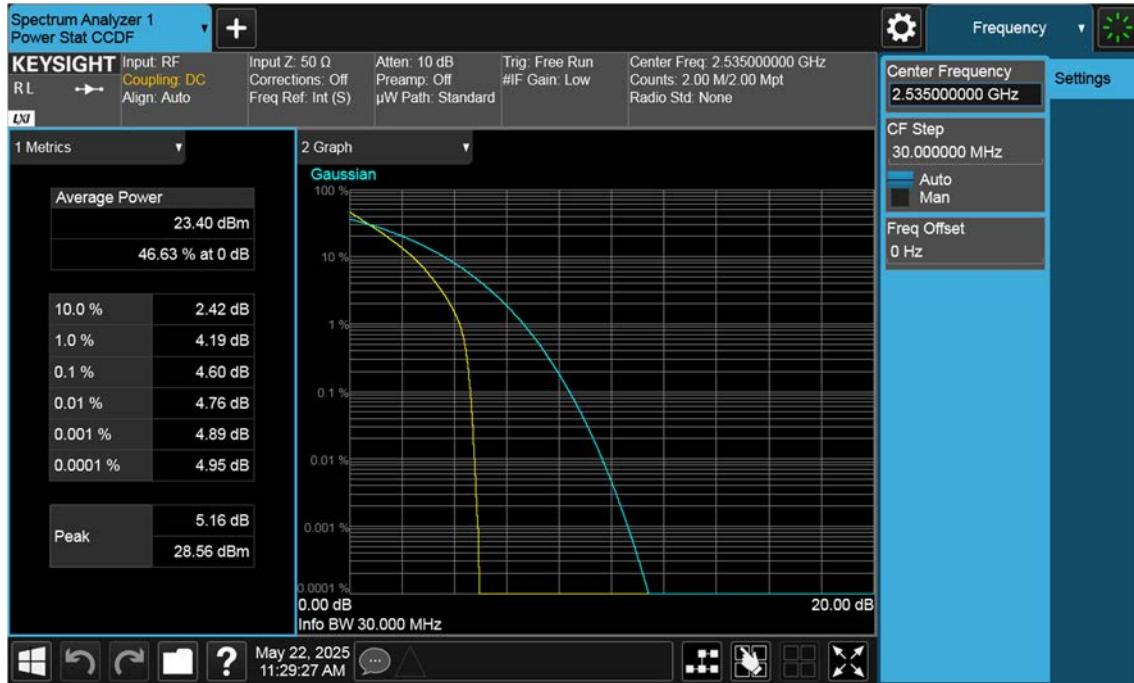
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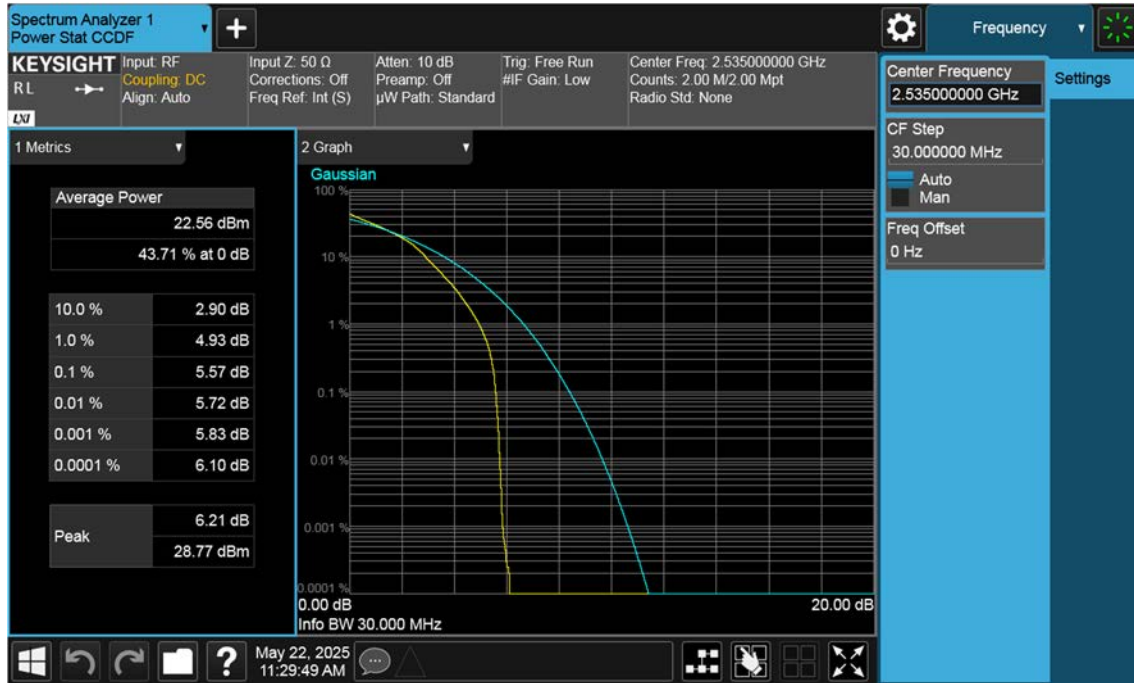
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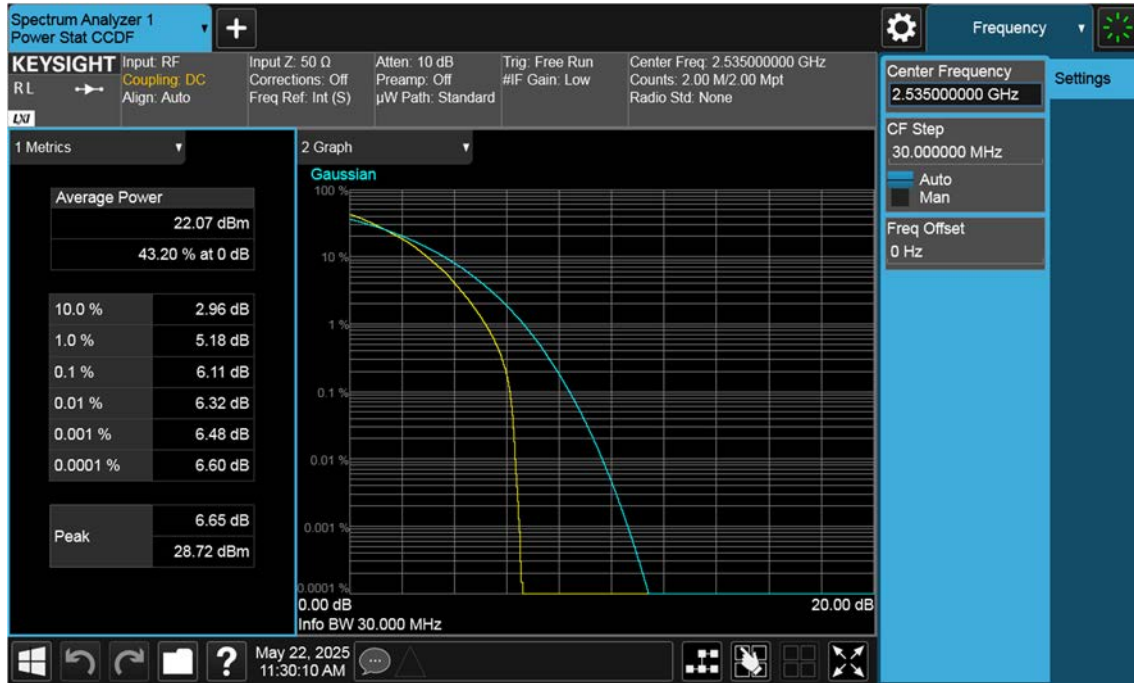
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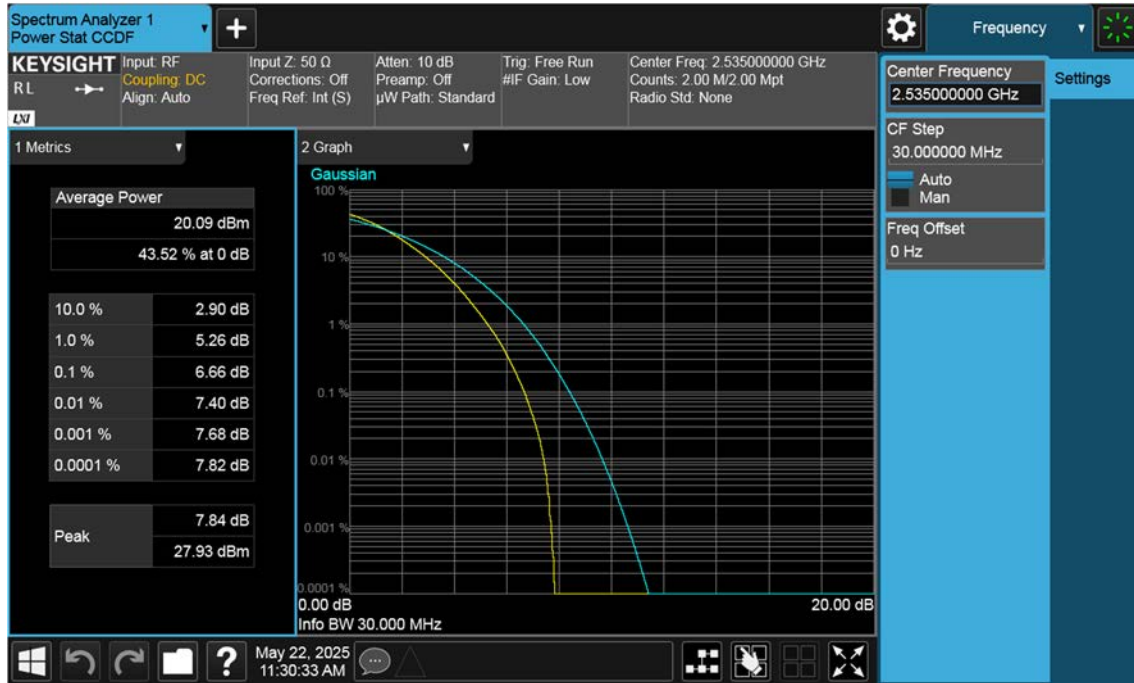
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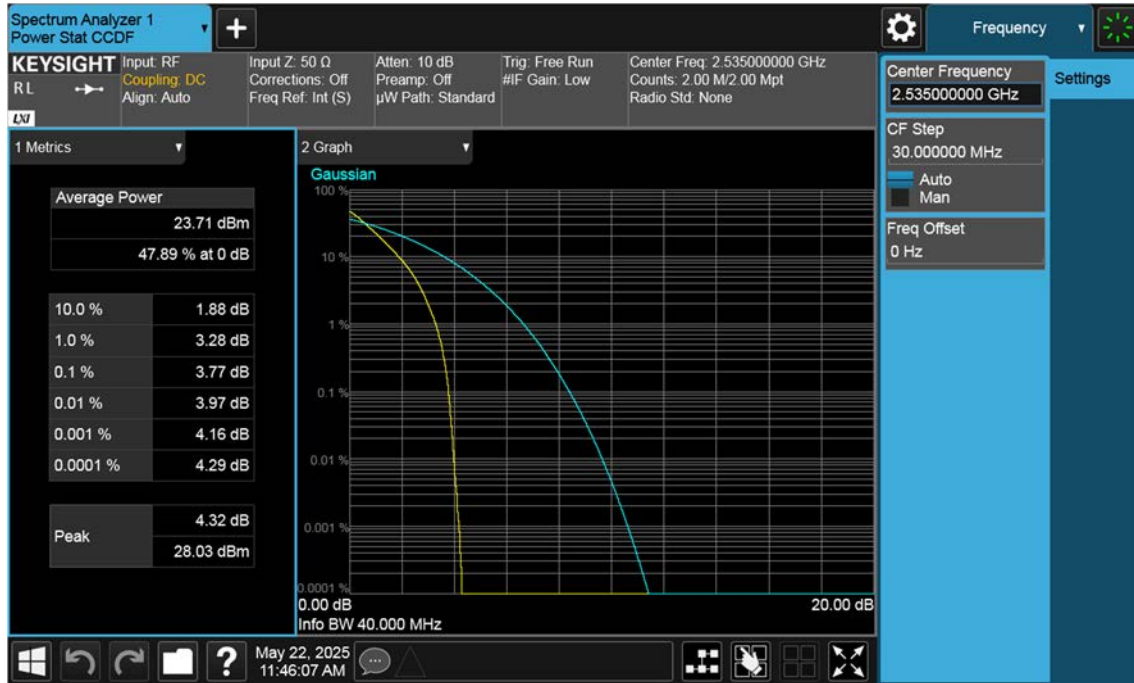
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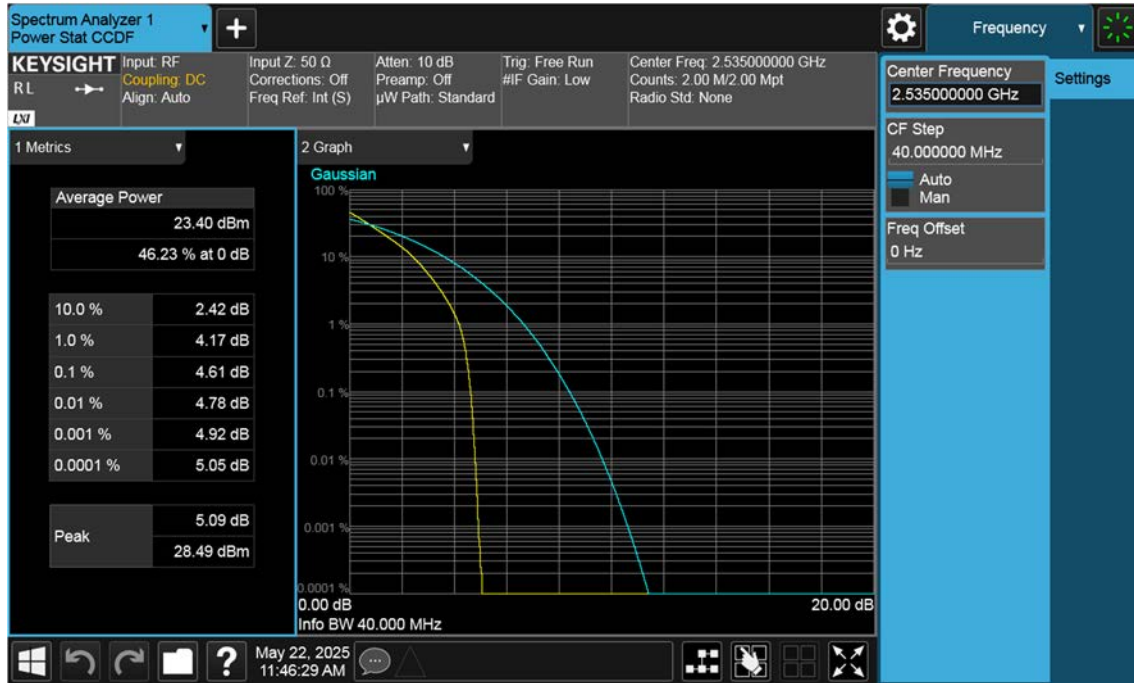
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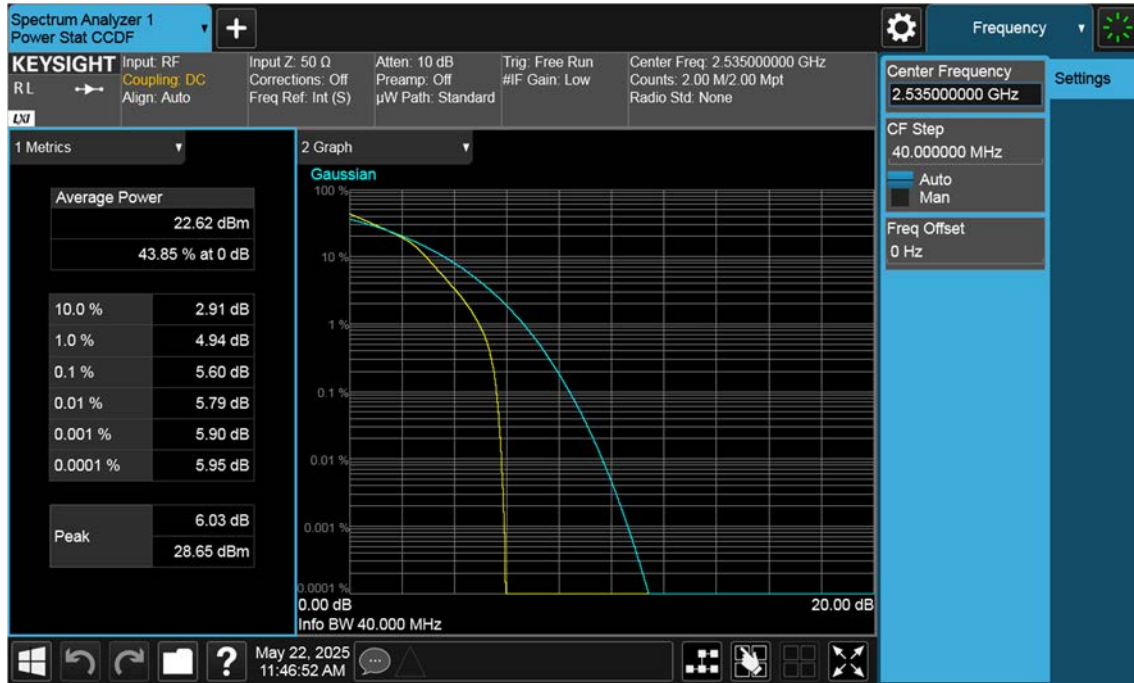
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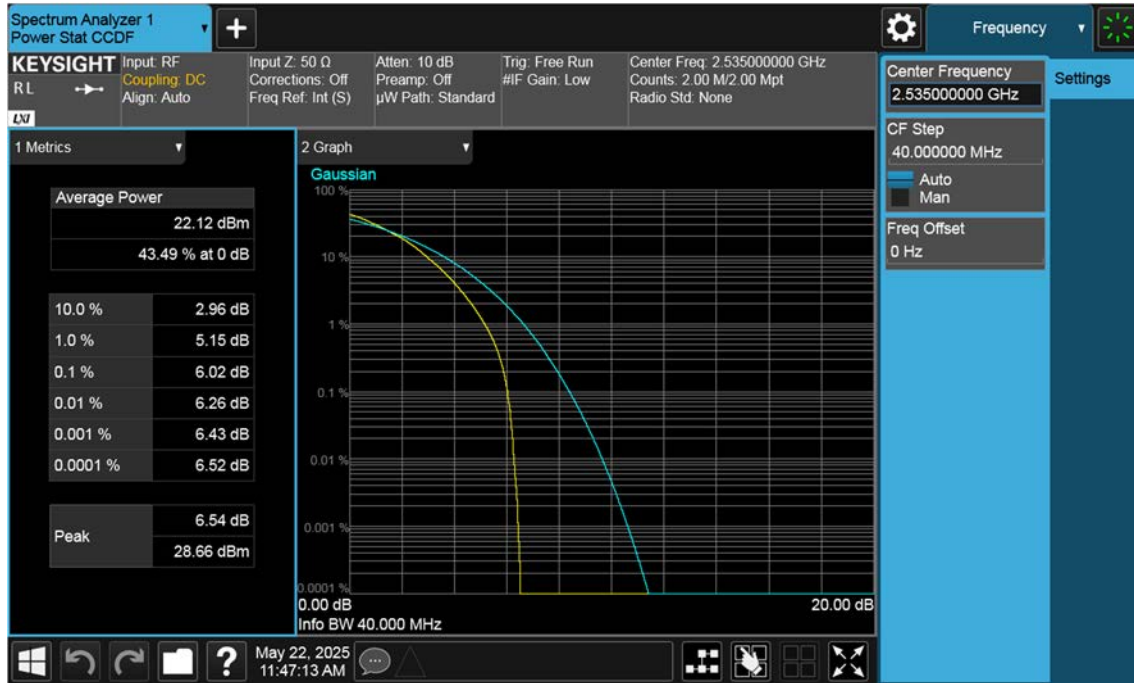
NR7_40 M_PAR_Mid_QPSK_FullIRB



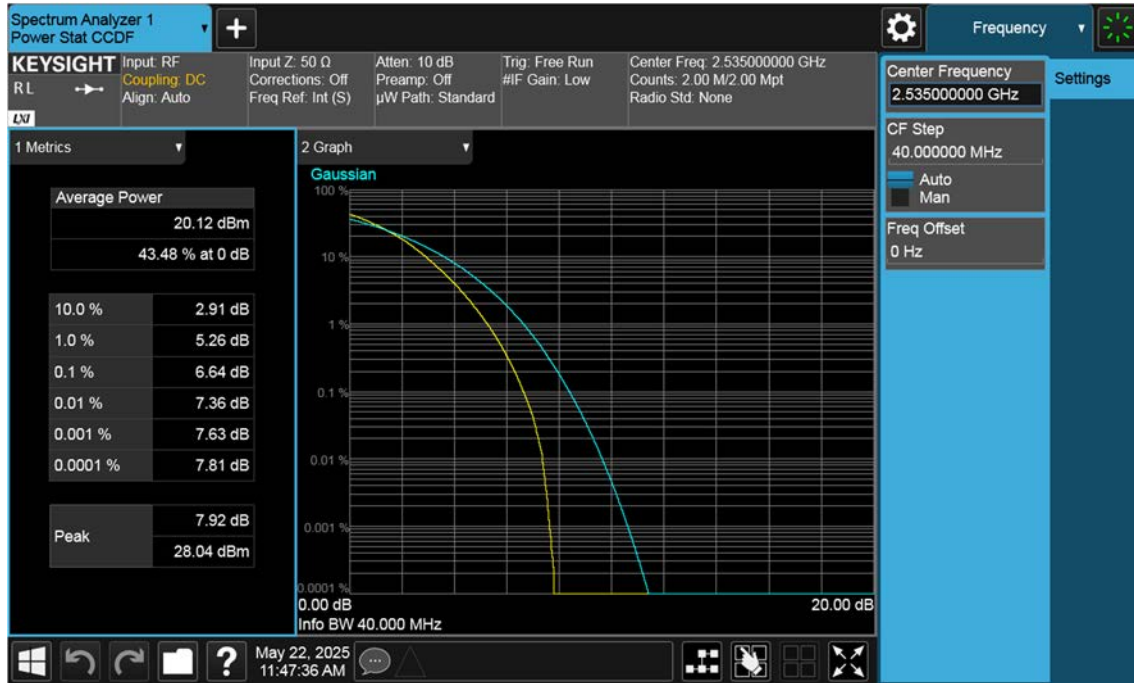
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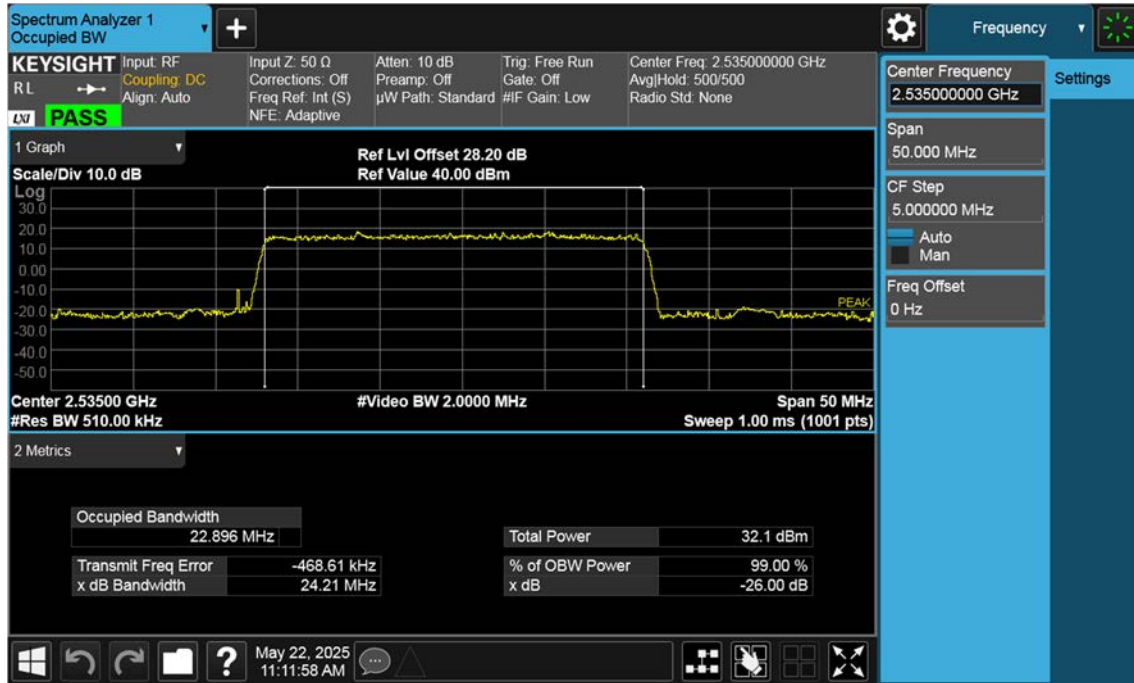
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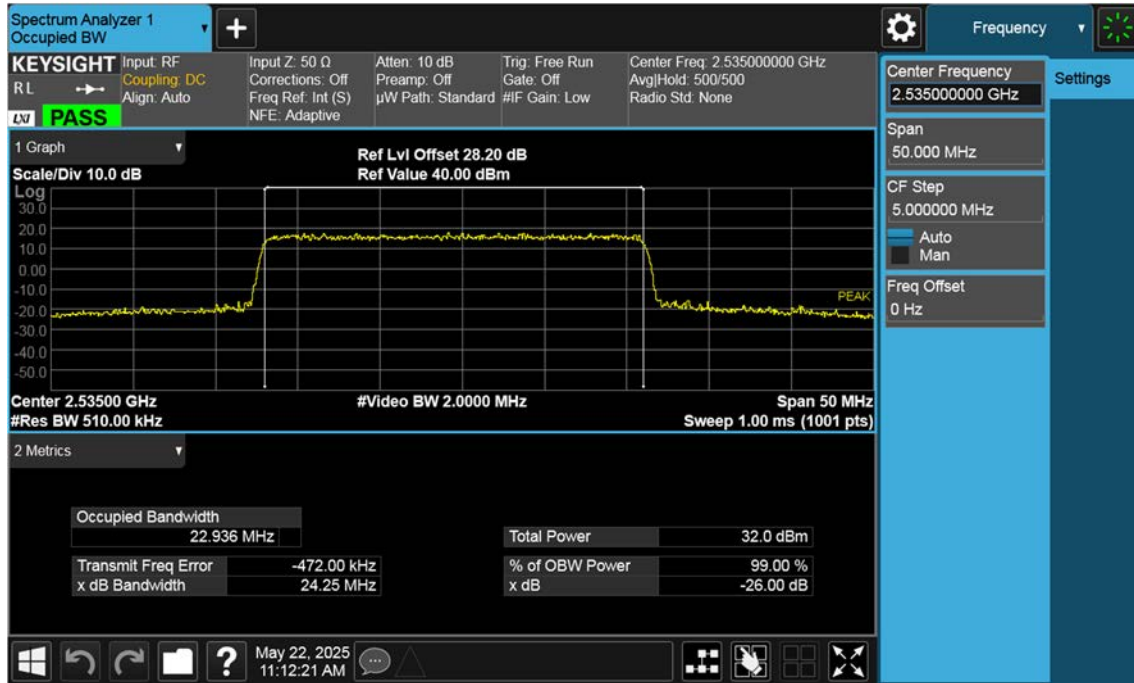
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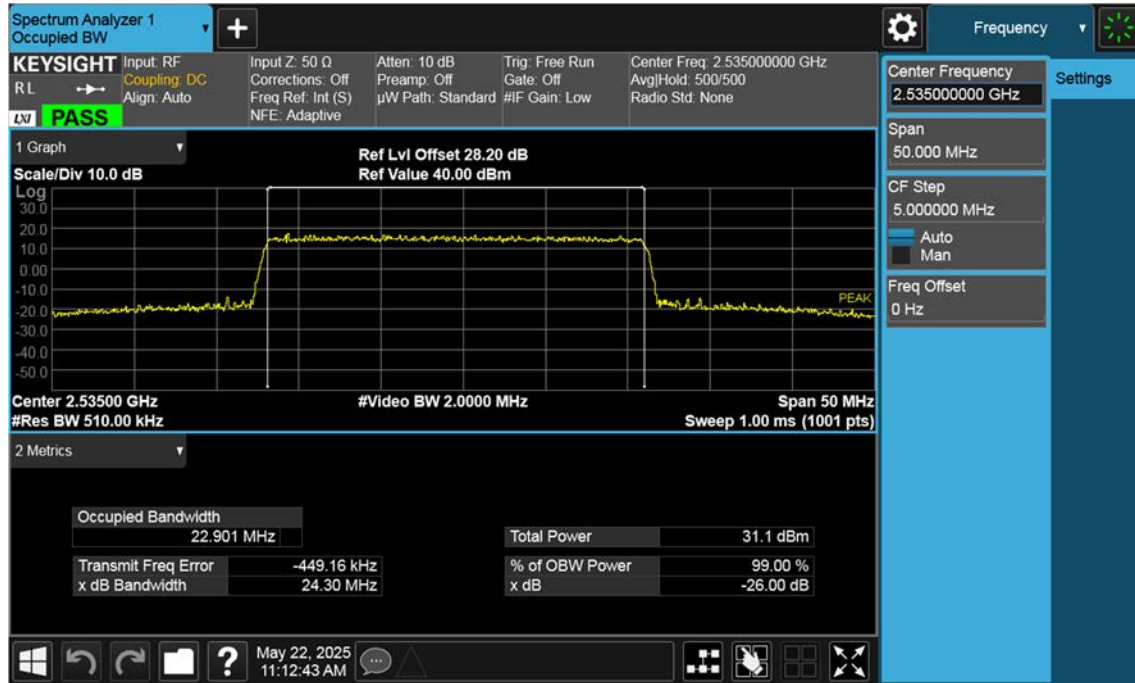
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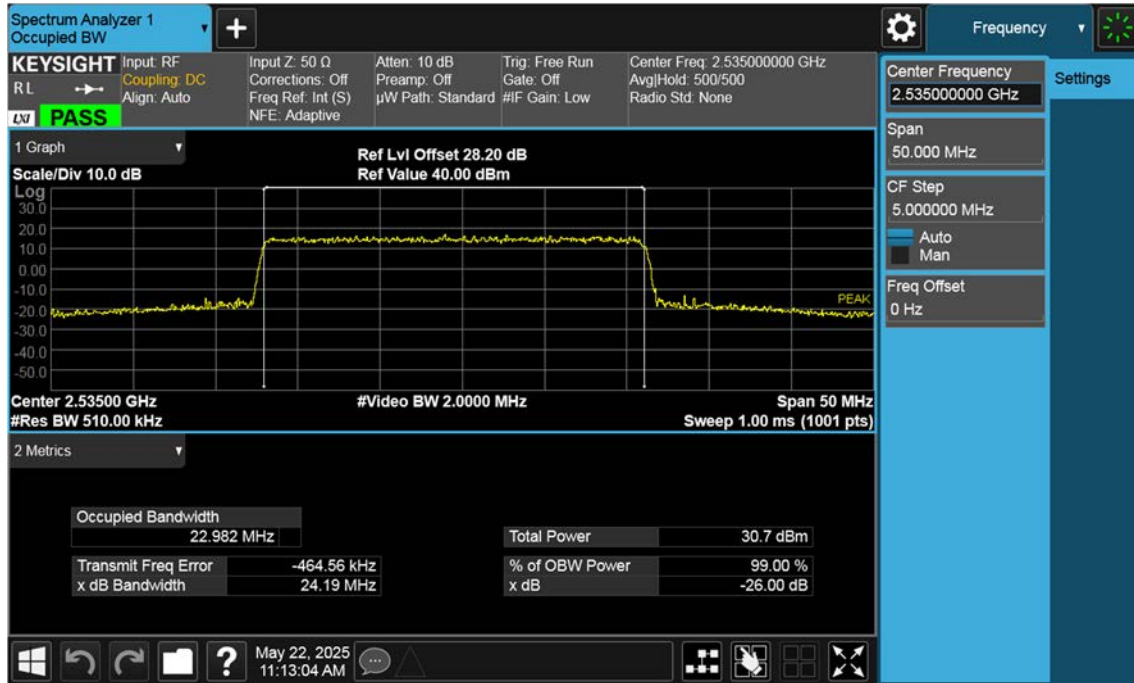
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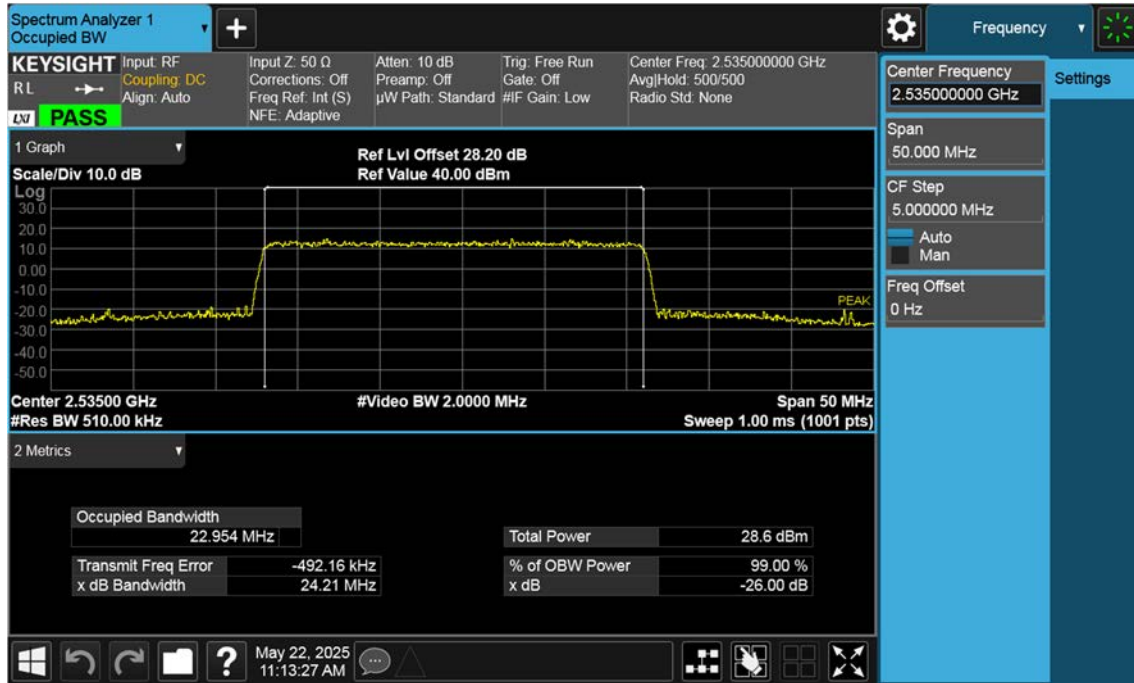
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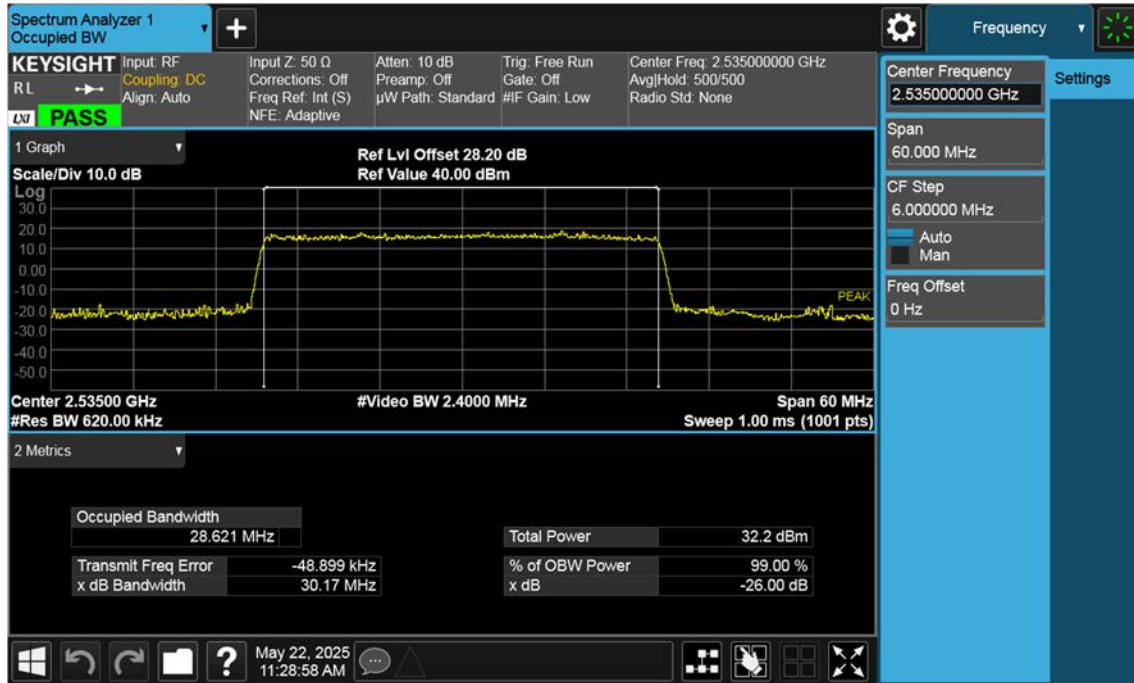
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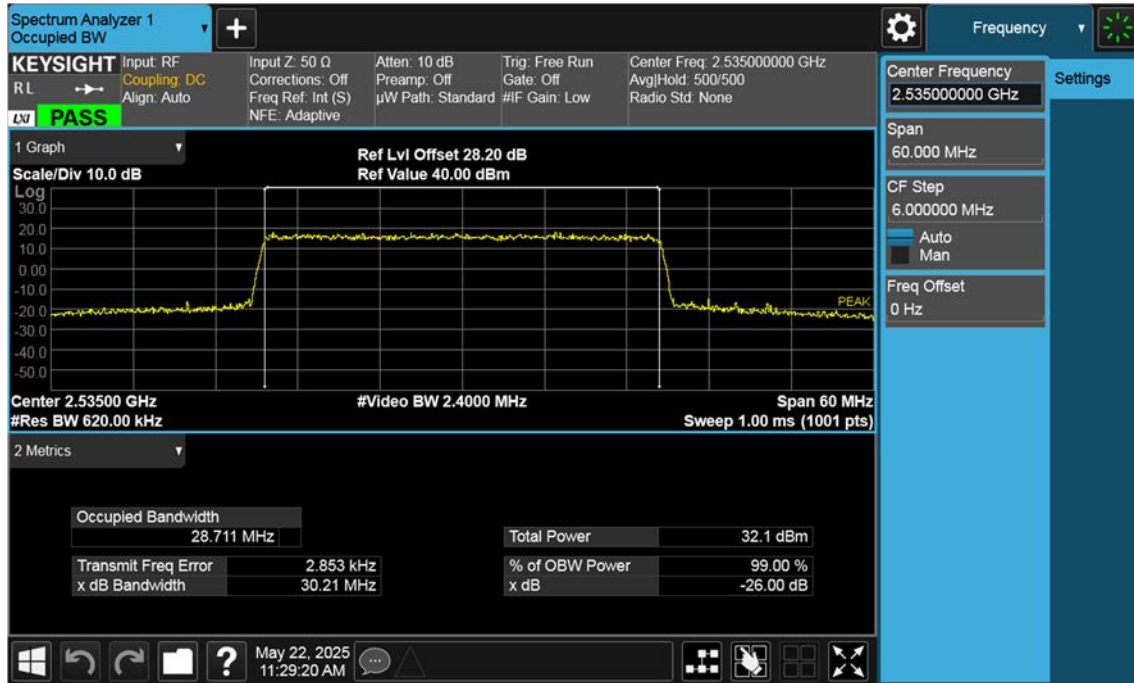
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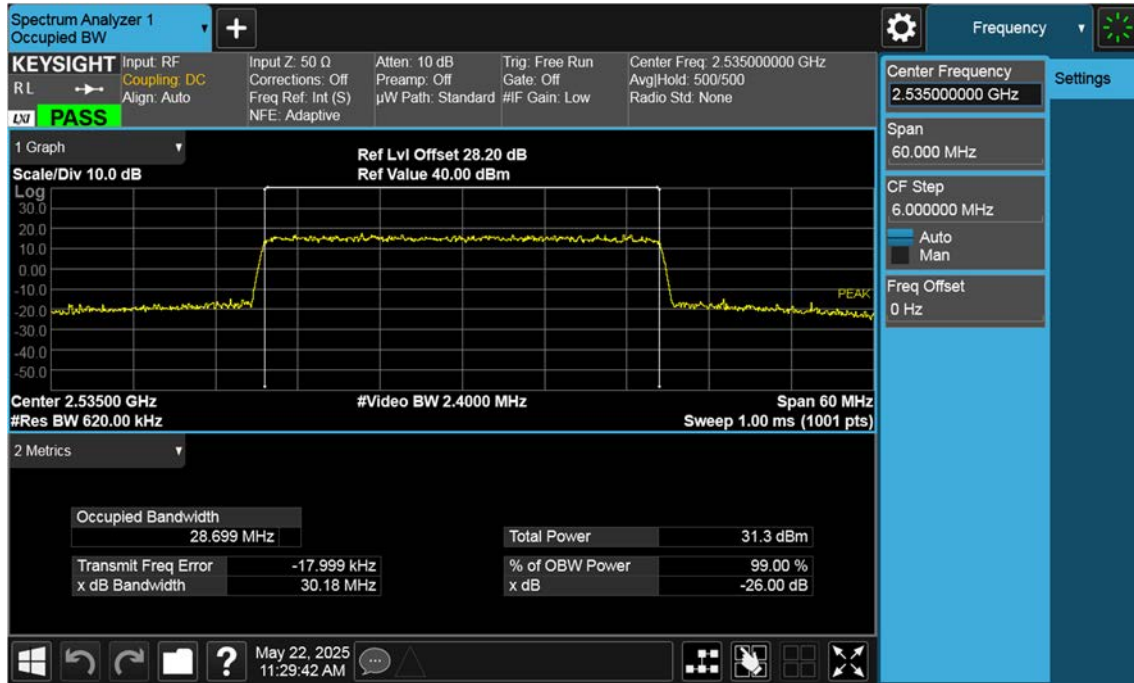
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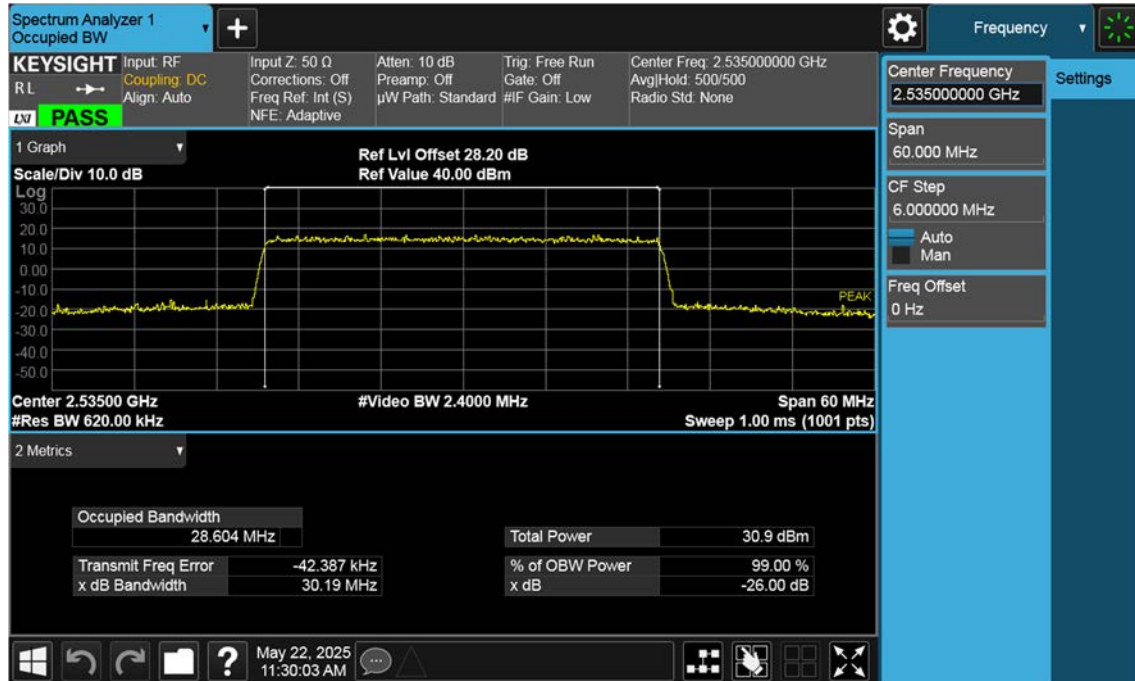
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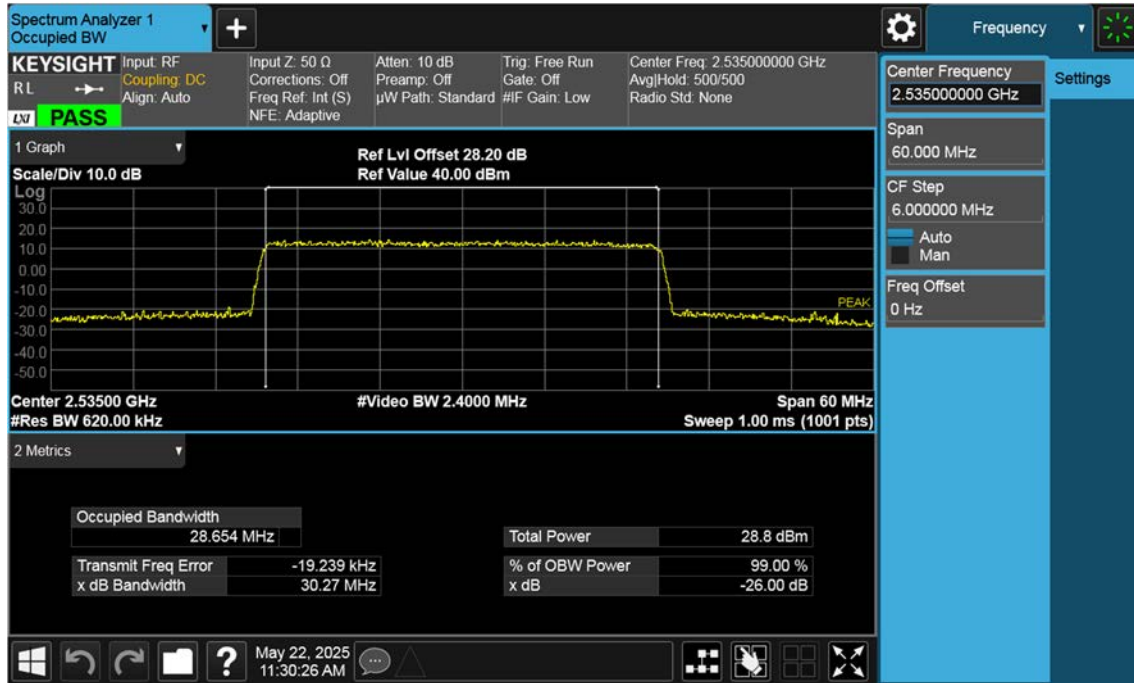
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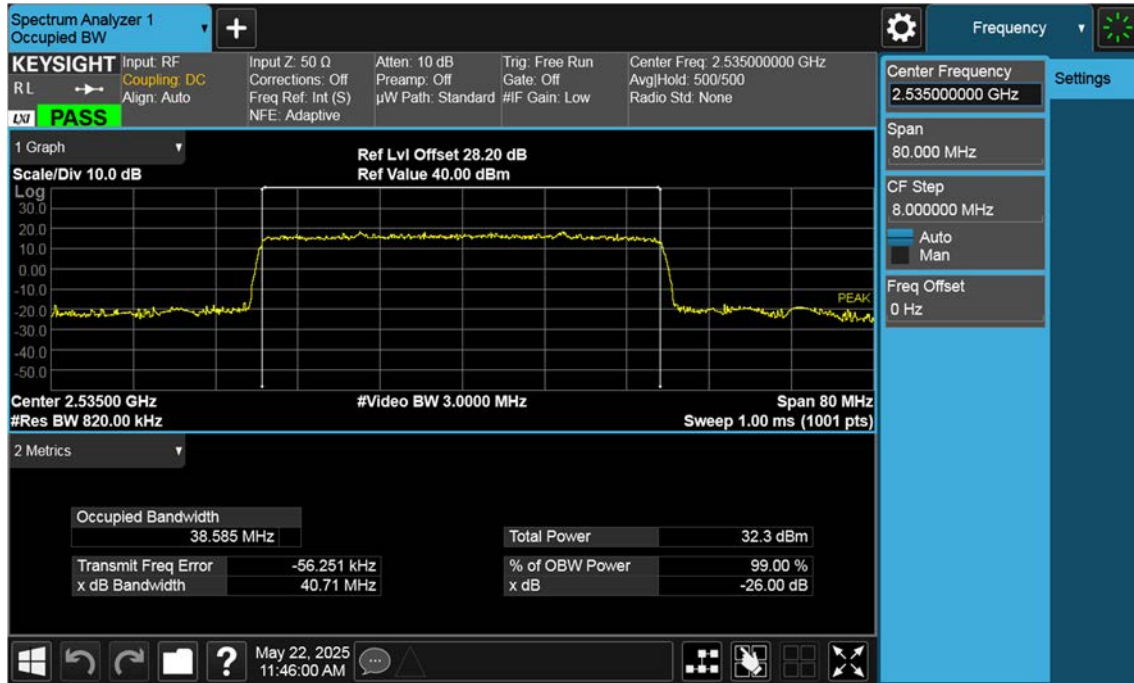
NR7_30 M_OBW_Mid_64QAM_FullRB



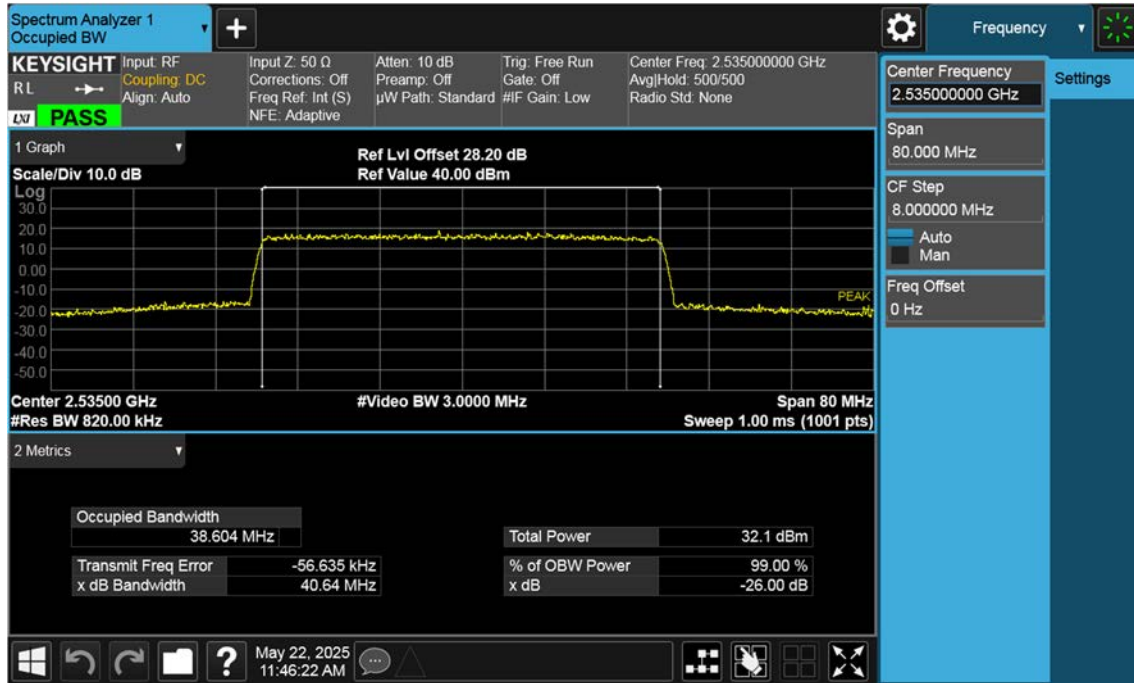
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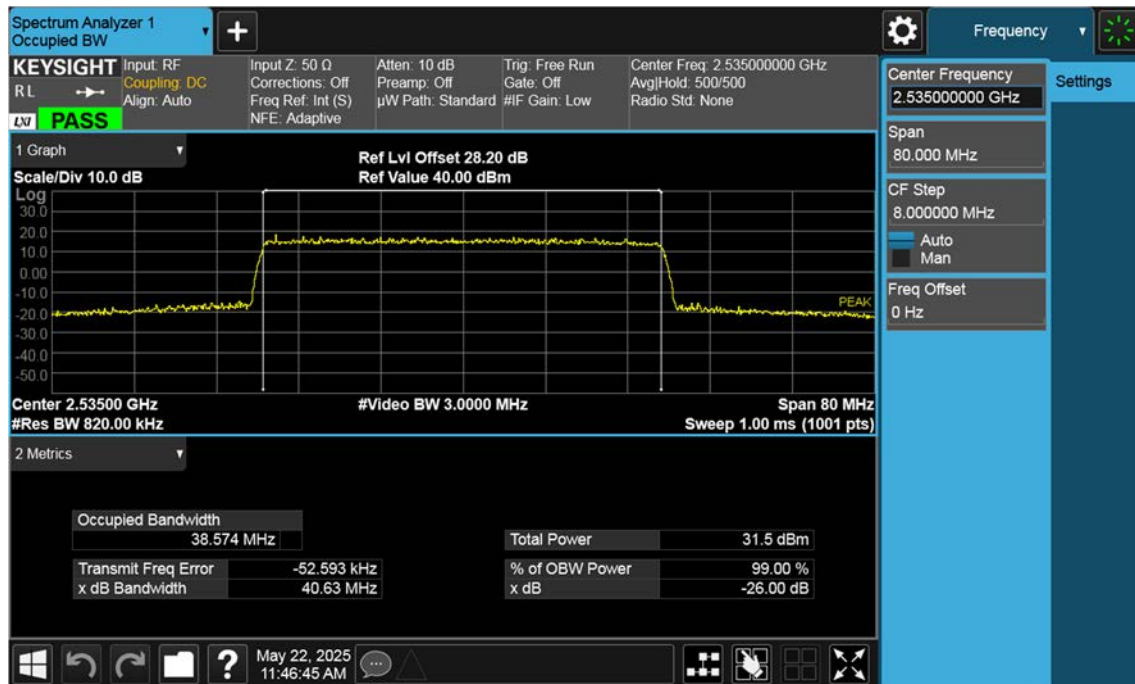
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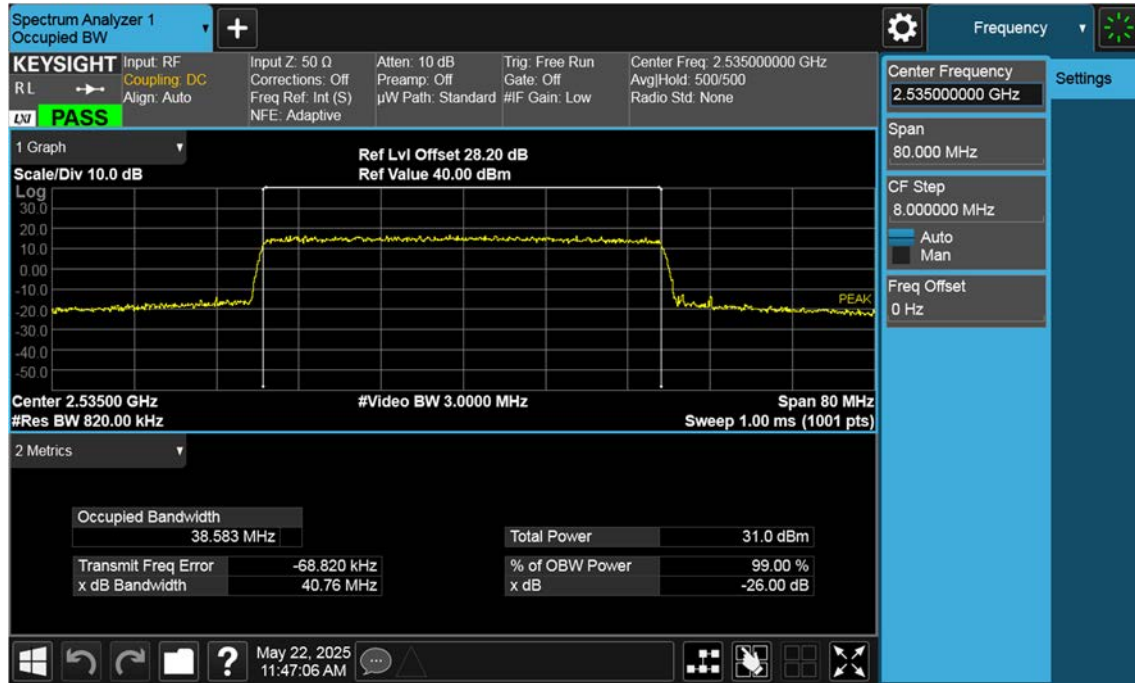
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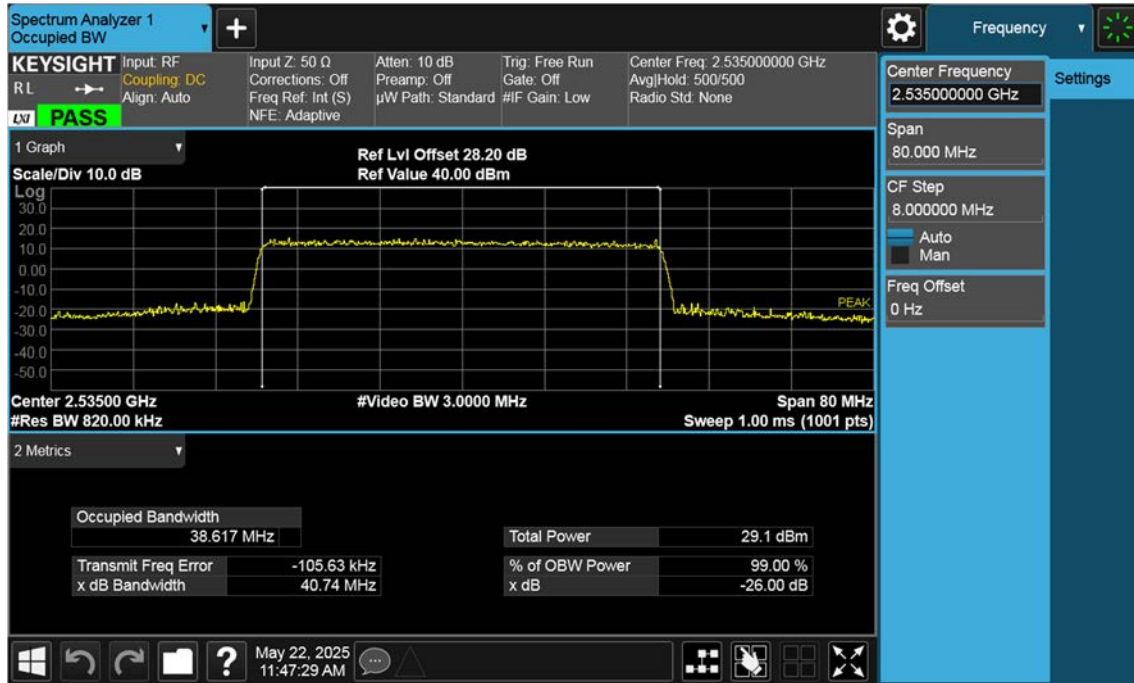
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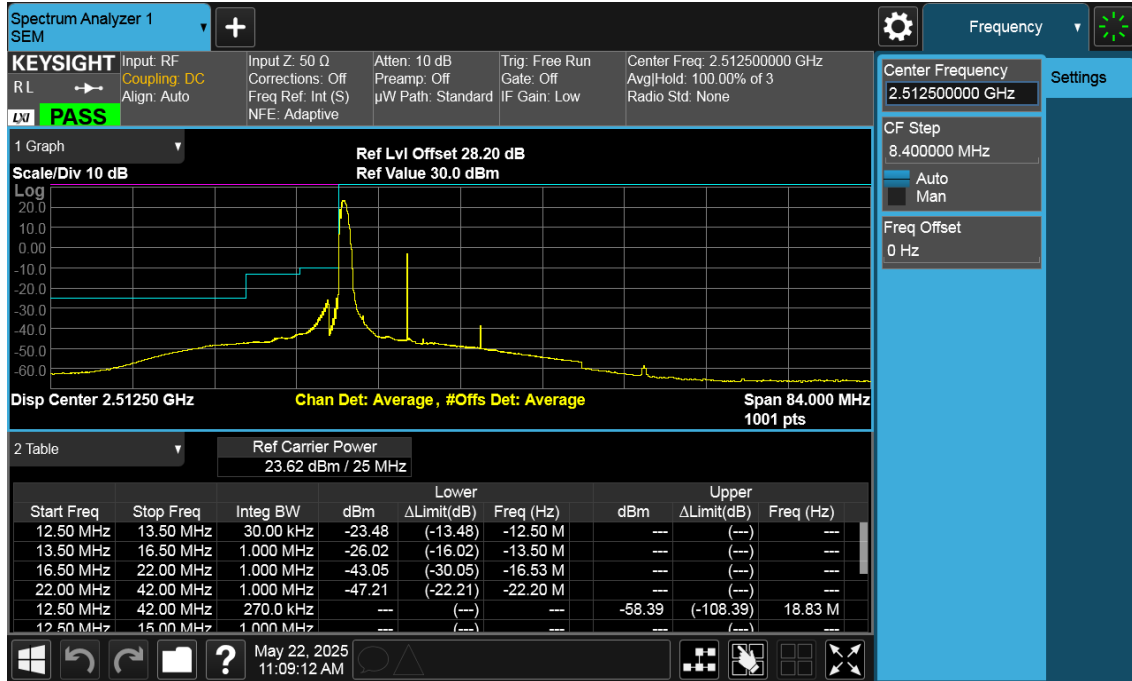
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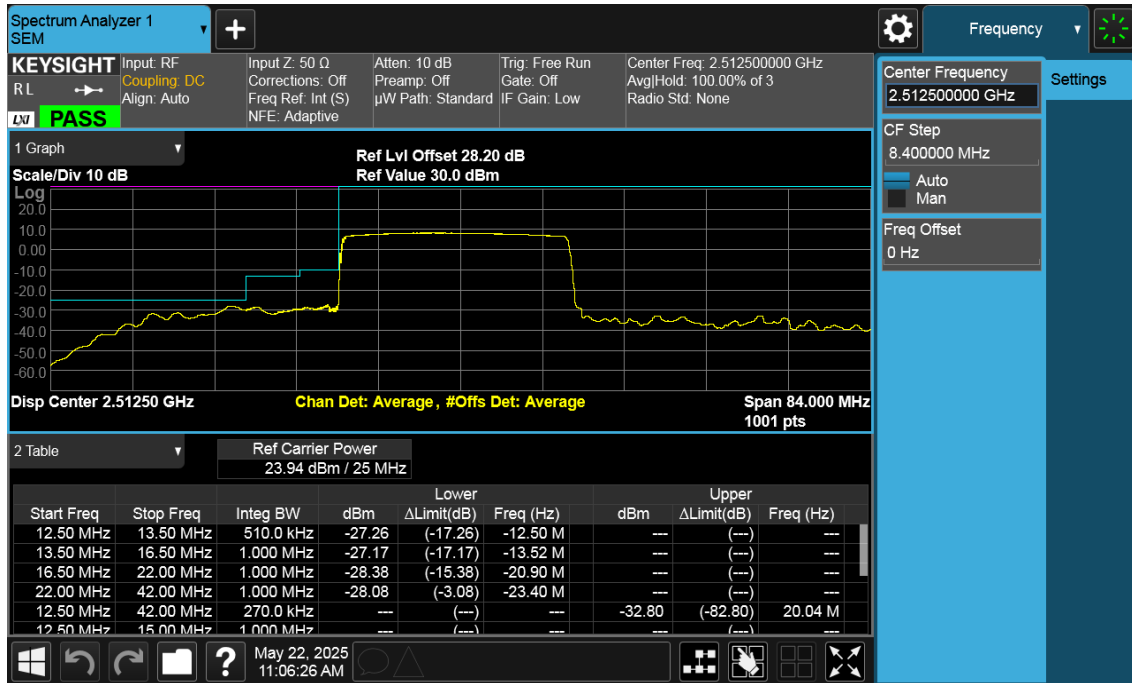
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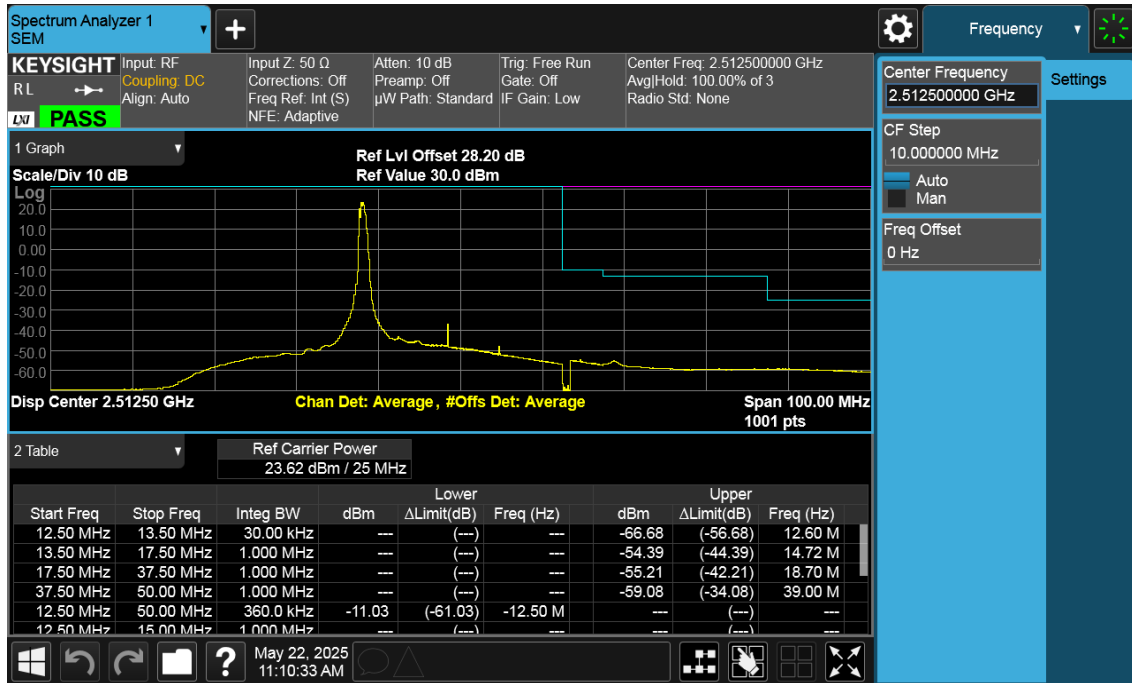
Low Channel Edge Plot (25 MHz BPSK RB 1)-1



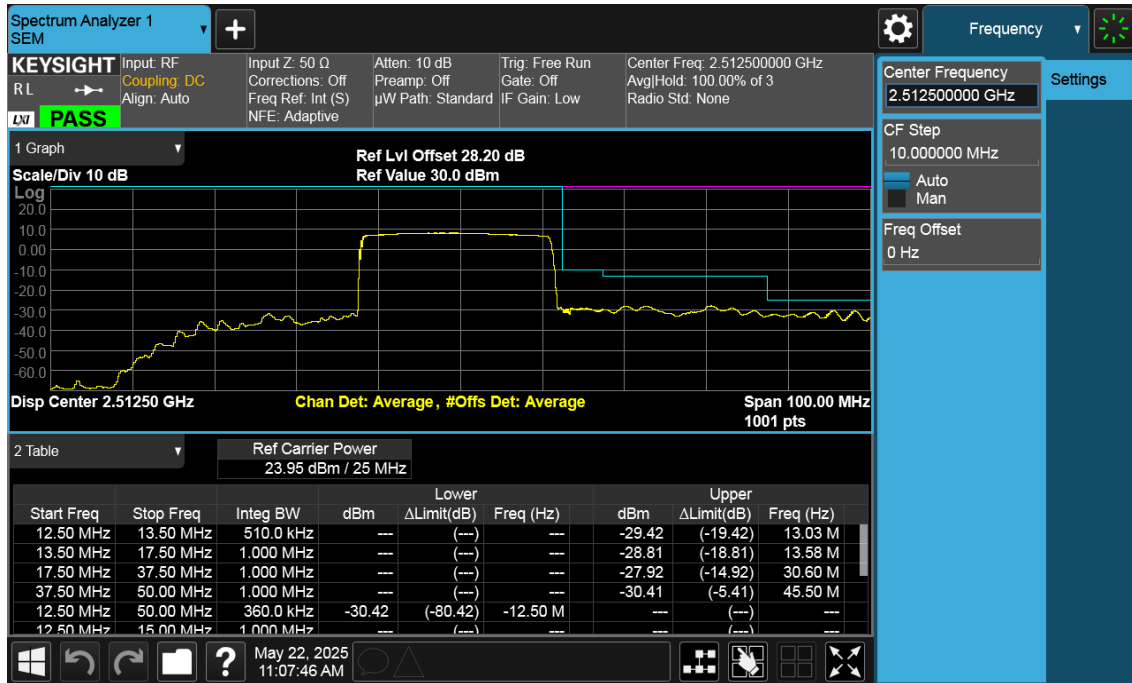
Low Channel Edge Plot (25 MHz BPSK)-1



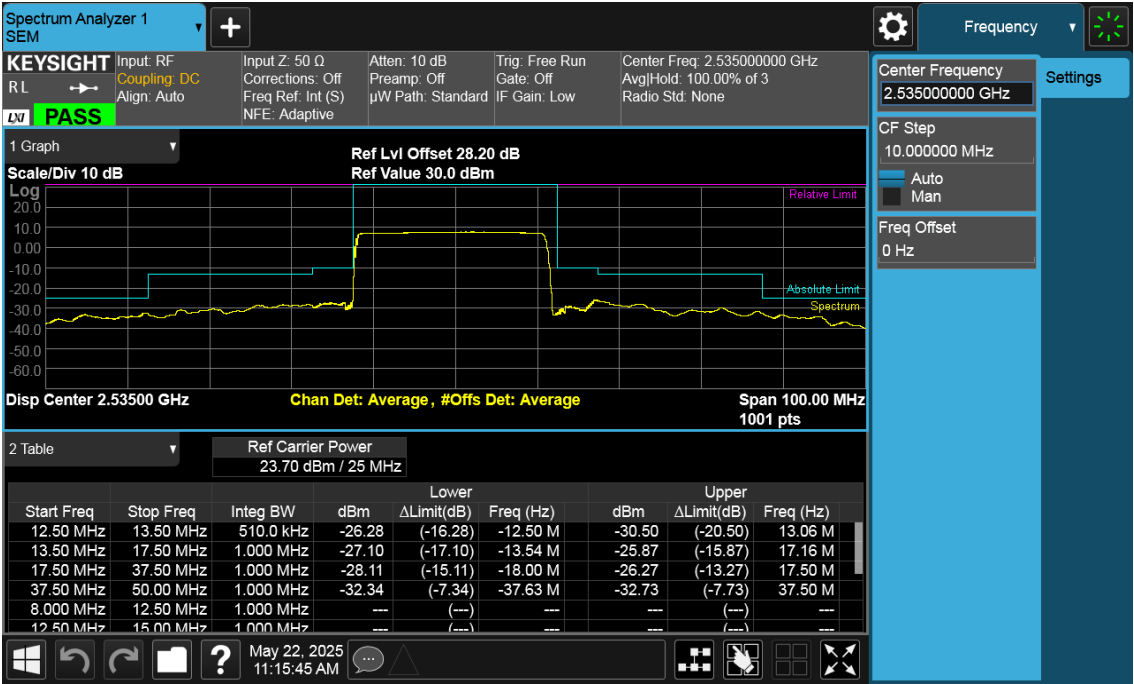
Low Channel Edge Plot (25 MHz BPSK_RB1)-2



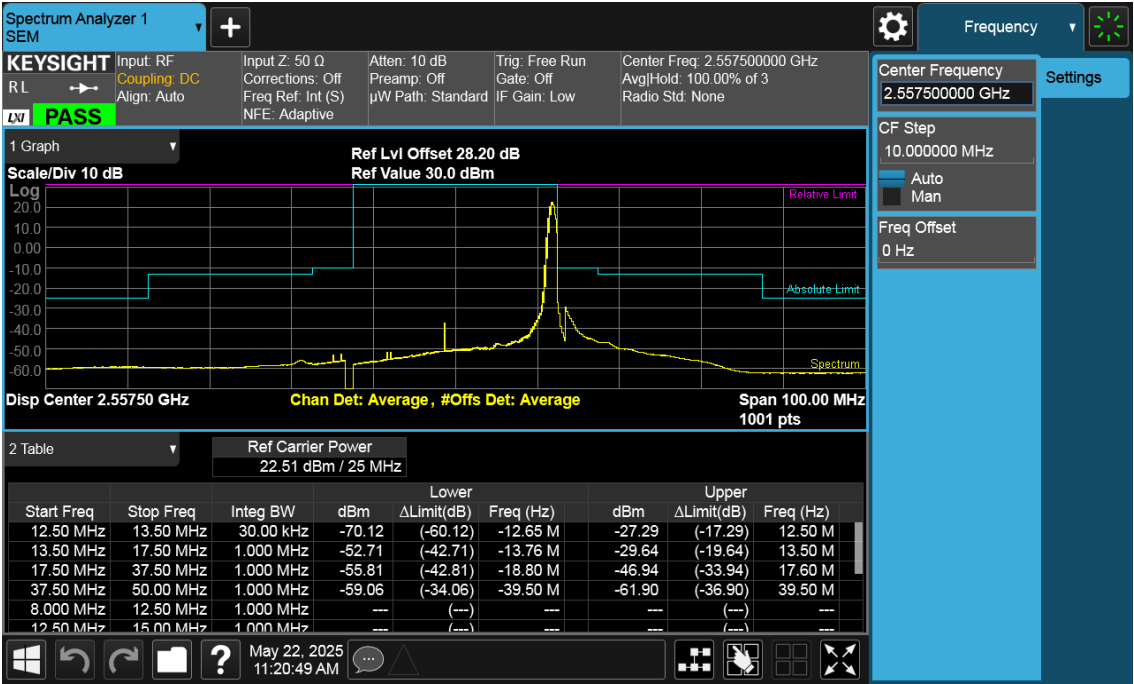
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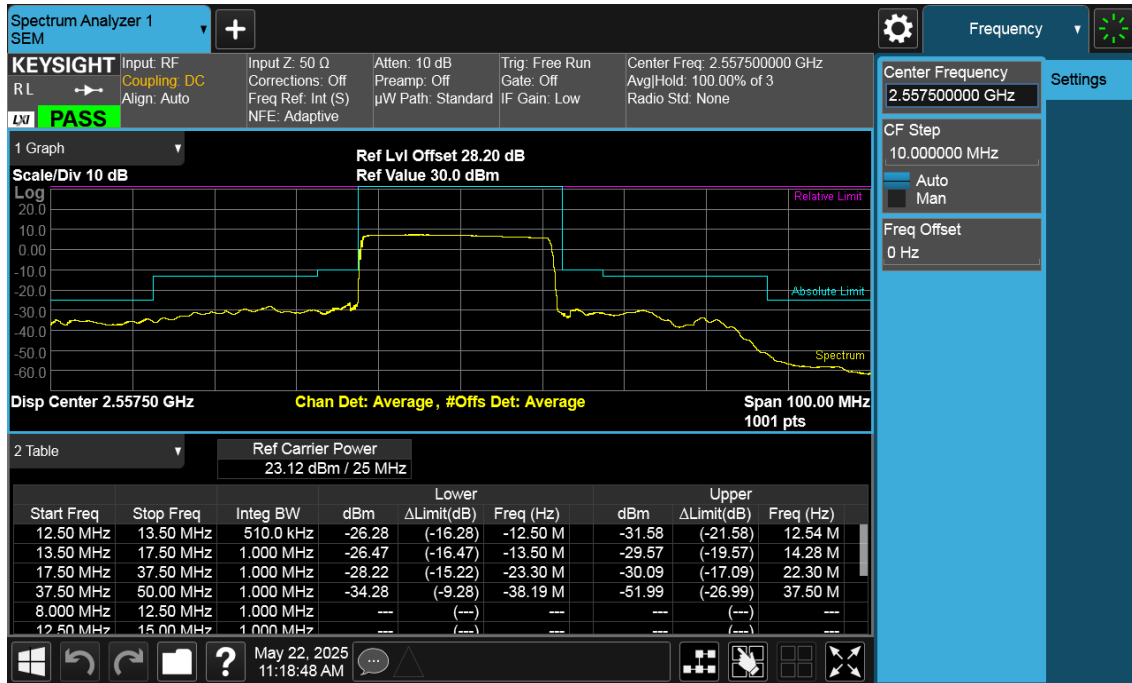
Mid Channel Edge Plot (25 MHz BPSK)



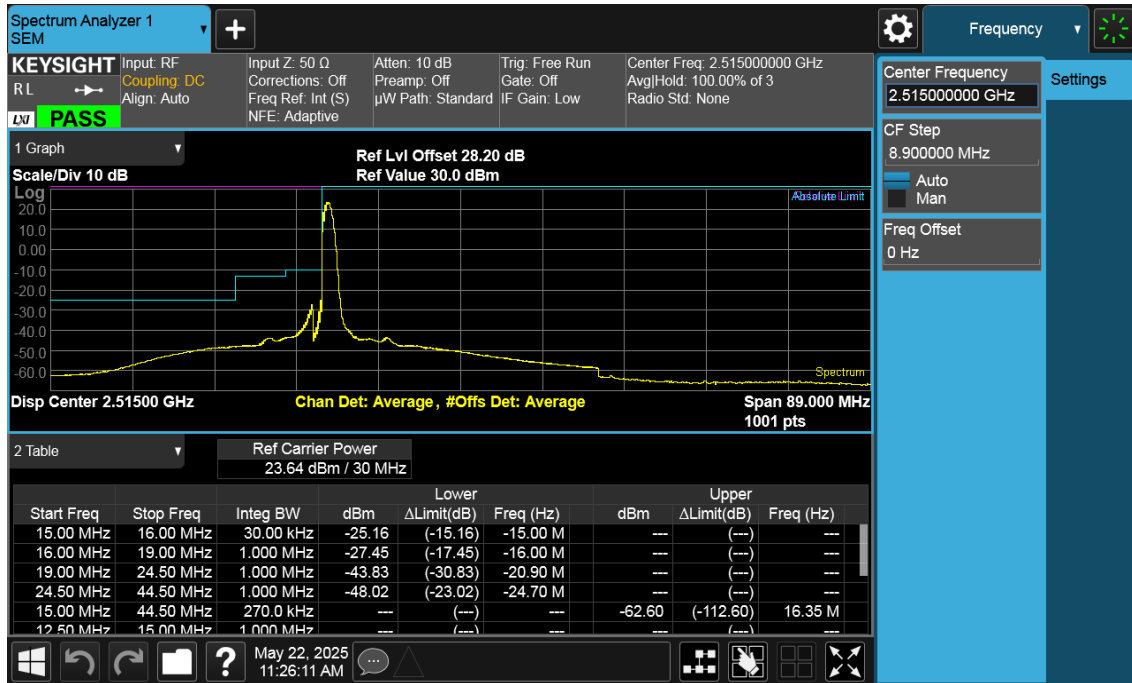
High Channel Edge Plot (25 MHz BPSK RB 1)



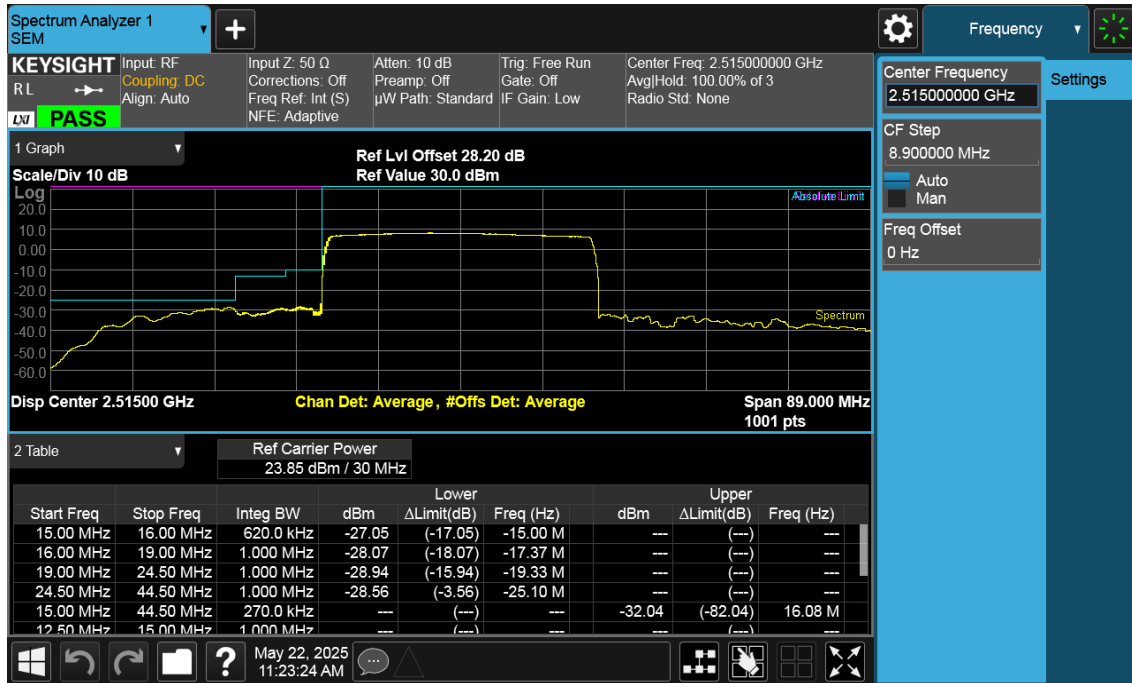
High Channel Edge Plot (25 MHz BPSK)



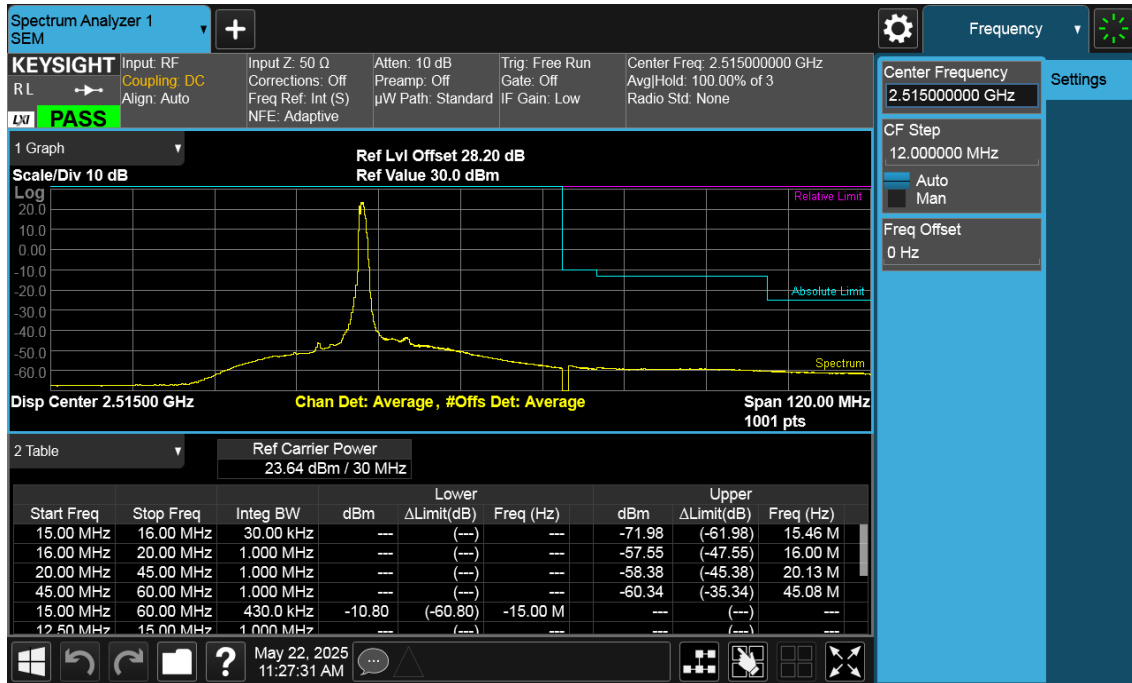
Low Channel Edge Plot (30 MHz BPSK RB 1)-1



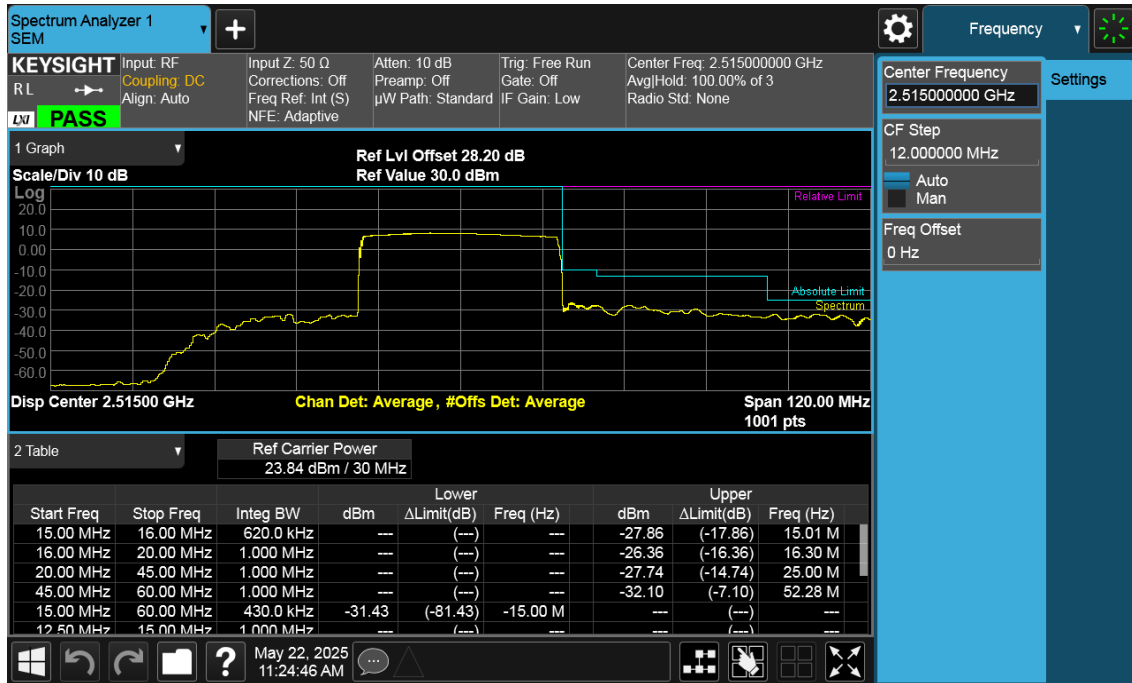
Low Channel Edge Plot (30 MHz BPSK)-1



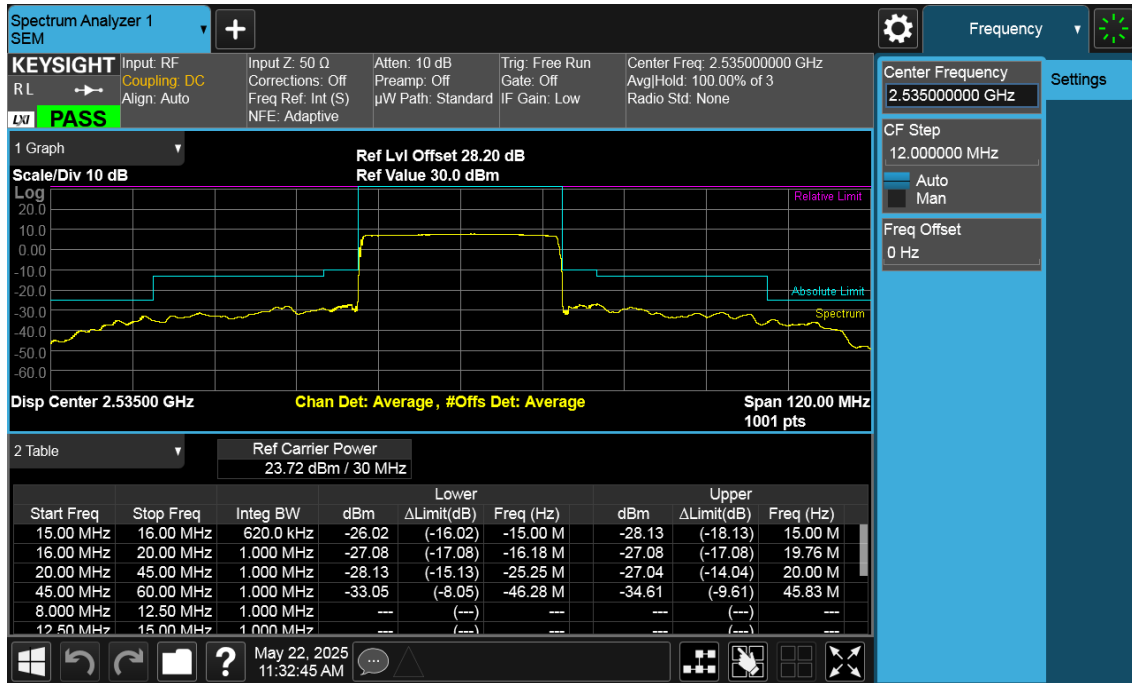
Low Channel Edge Plot (30 MHz BPSK_RB1)-2



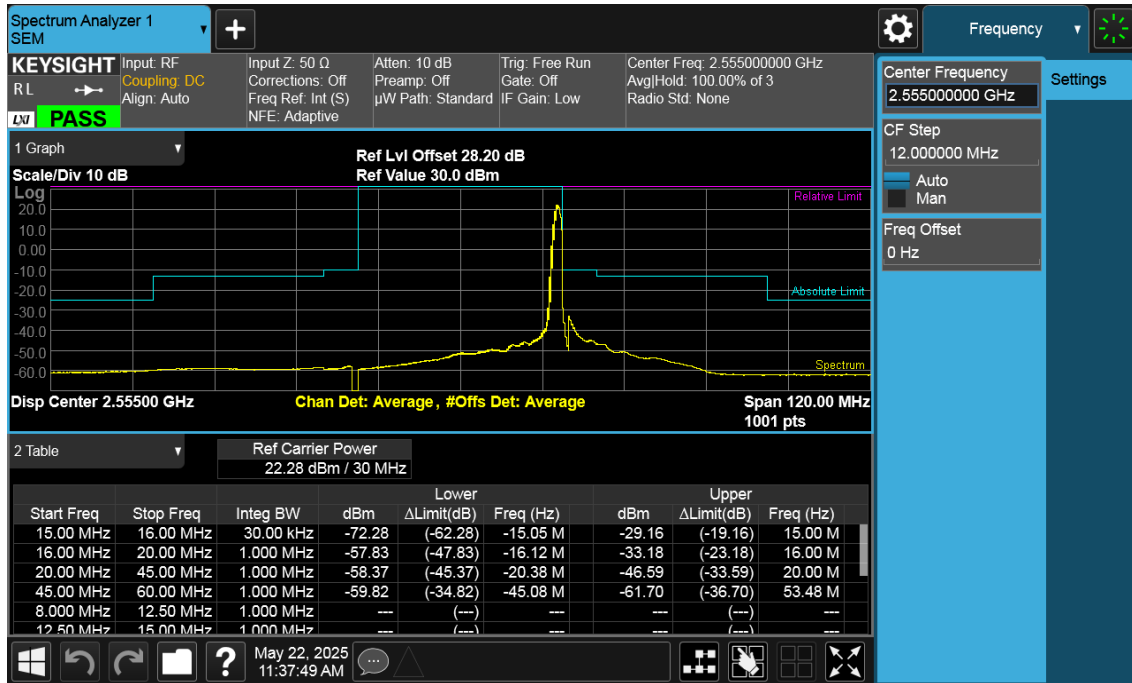
Low Channel Edge Plot (30 MHz BPSK)-2



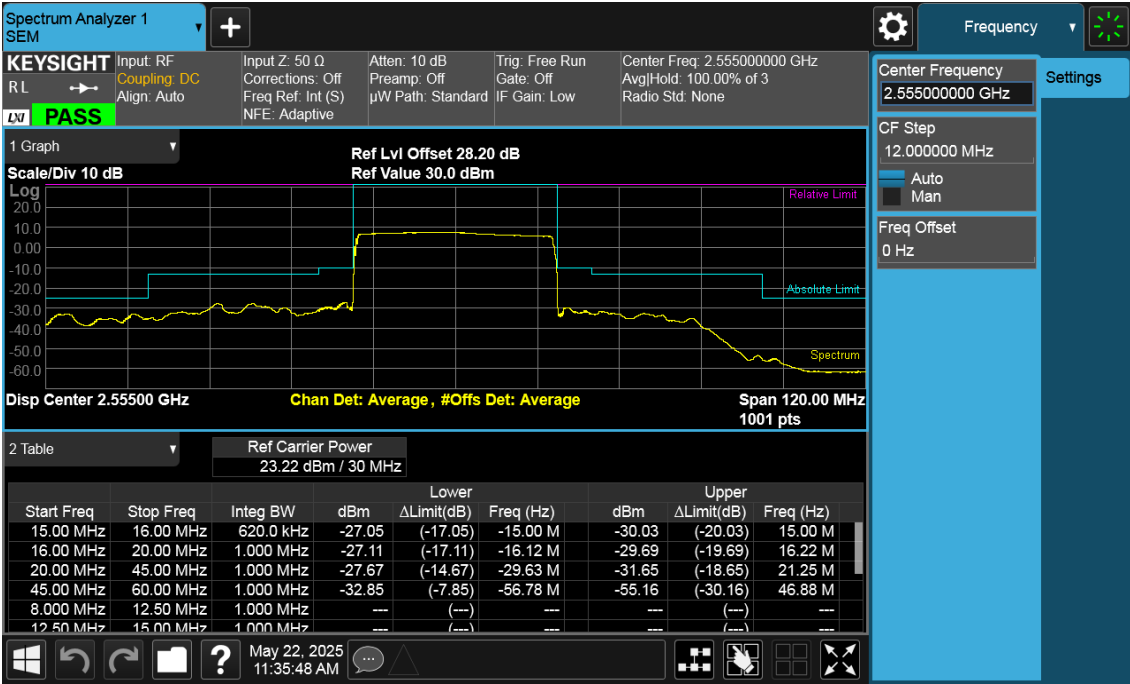
Mid Channel Edge Plot (30 MHz BPSK)



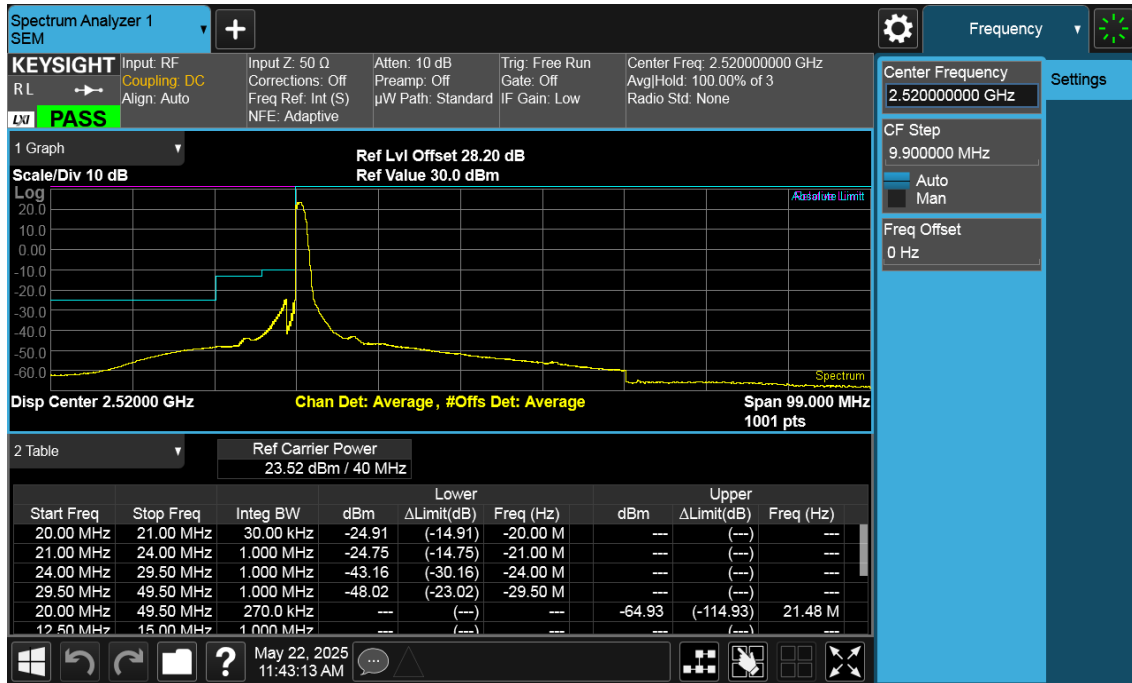
High Channel Edge Plot (30 MHz BPSK RB 1)



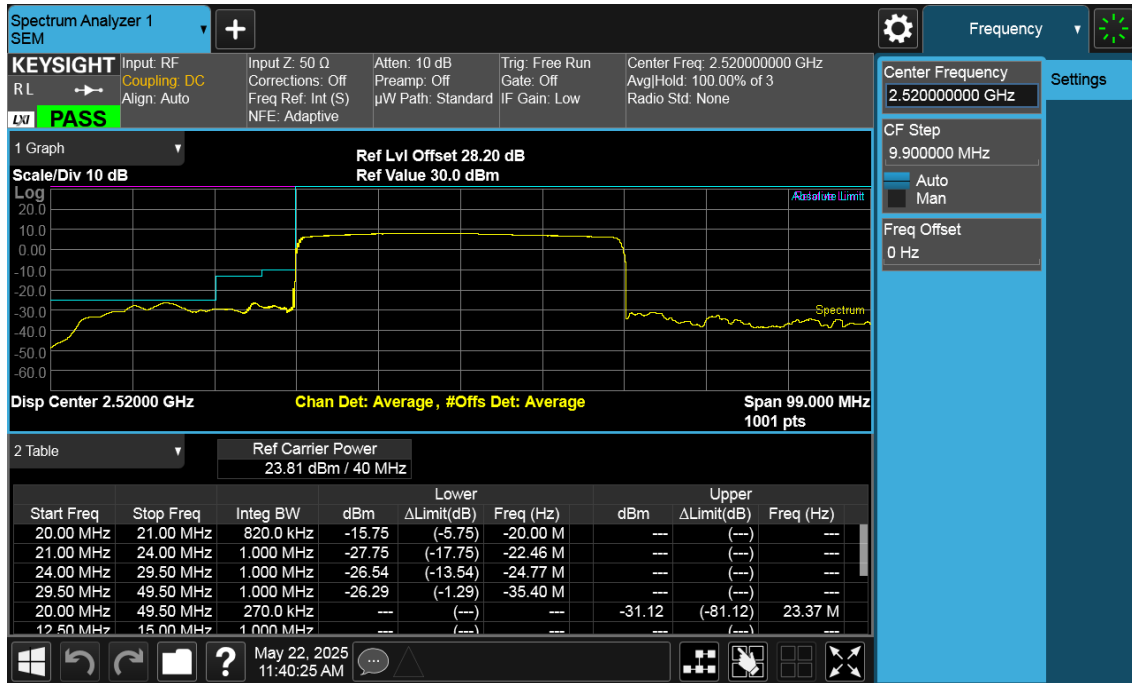
High Channel Edge Plot (30 MHz BPSK)



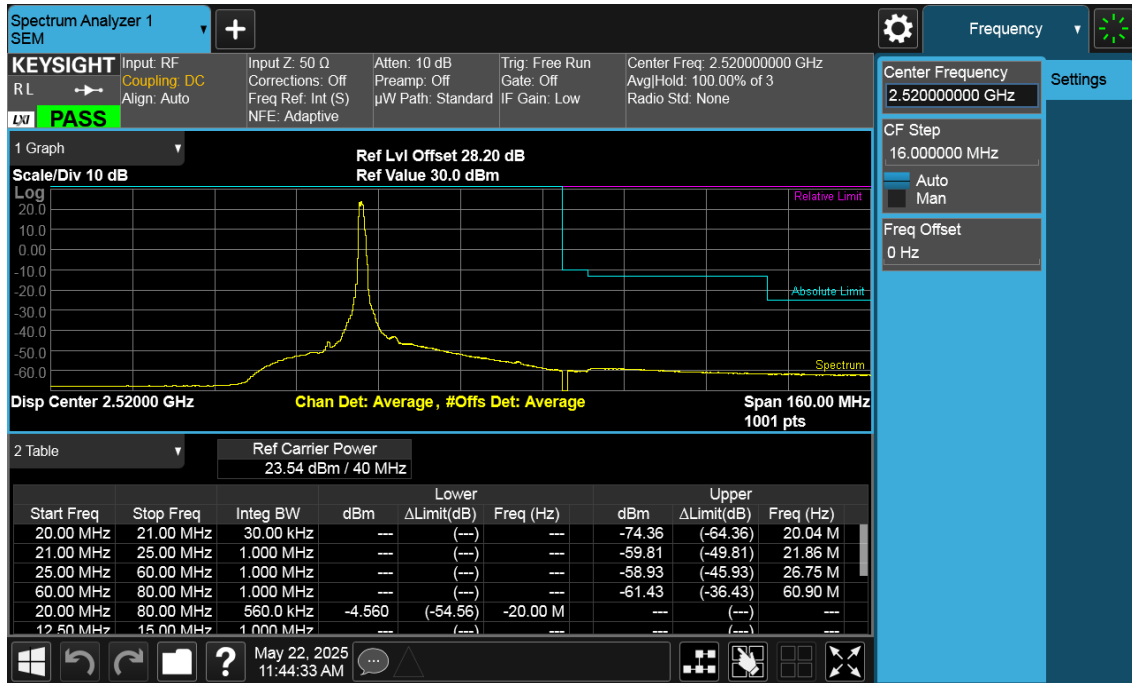
Low Channel Edge Plot (40 MHz BPSK RB 1)-1



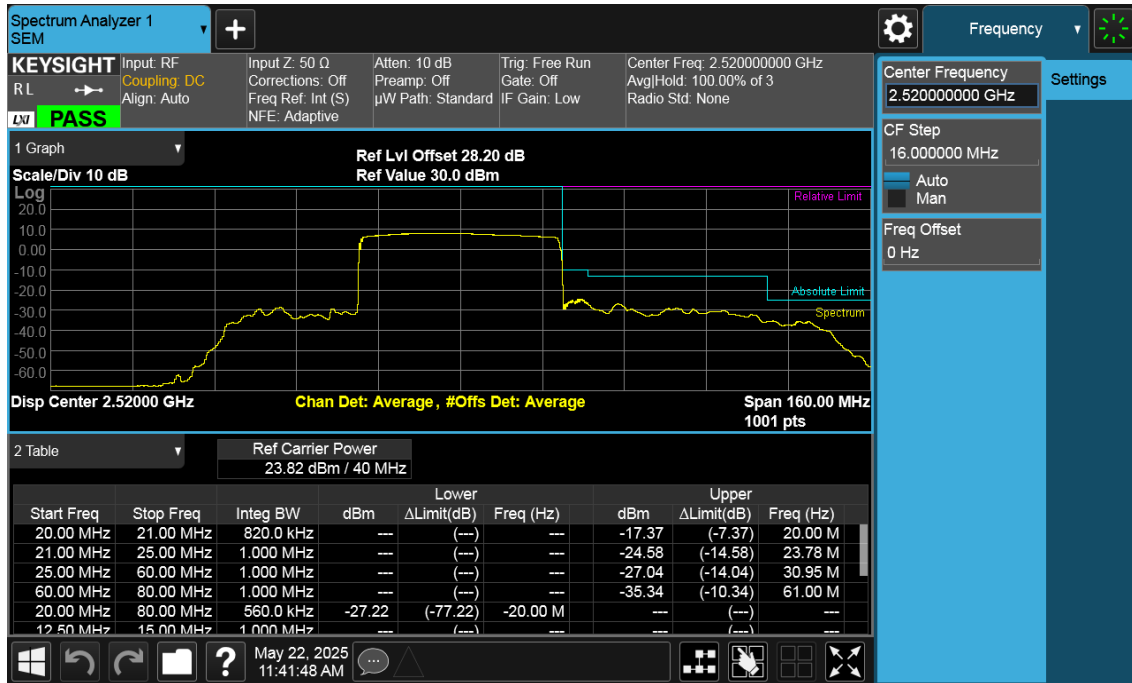
Low Channel Edge Plot (40 MHz BPSK)-1



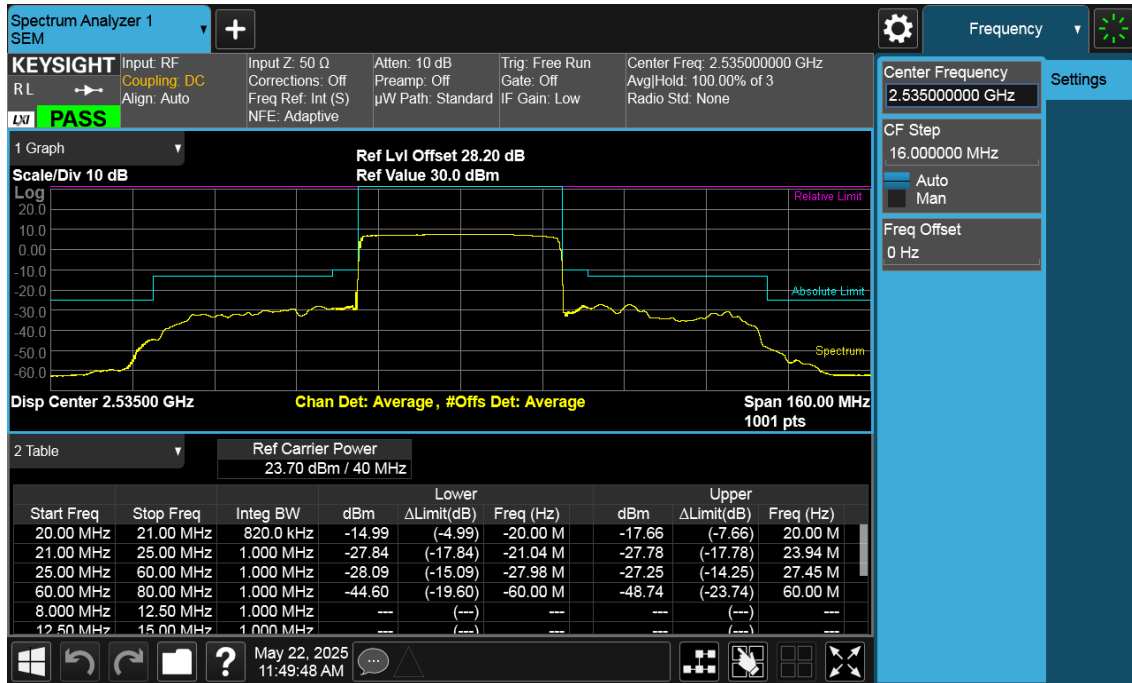
Low Channel Edge Plot (40 MHz BPSK_RB1)-2



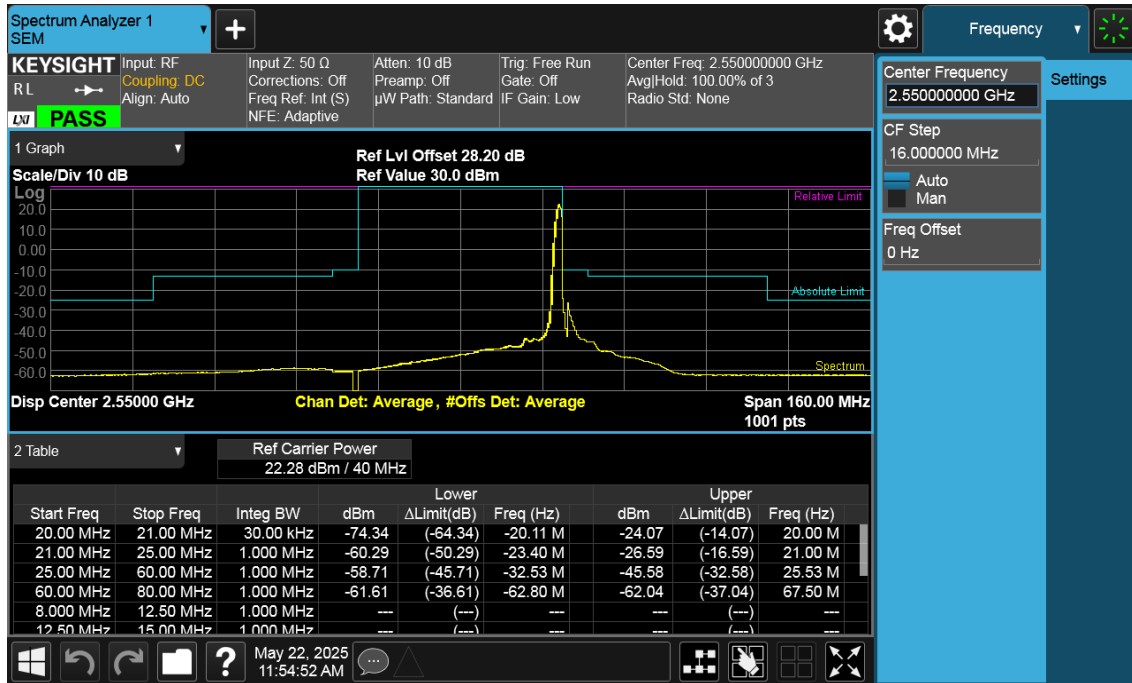
Low Channel Edge Plot (40 MHz BPSK)-2



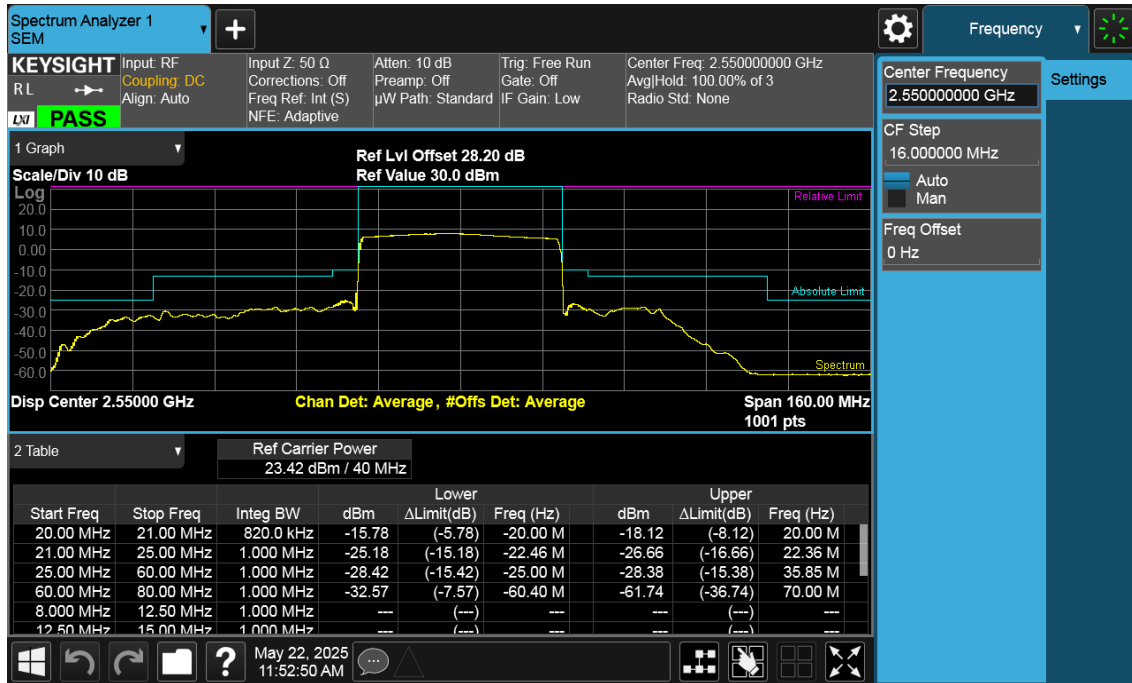
Mid Channel Edge Plot (40 MHz BPSK)



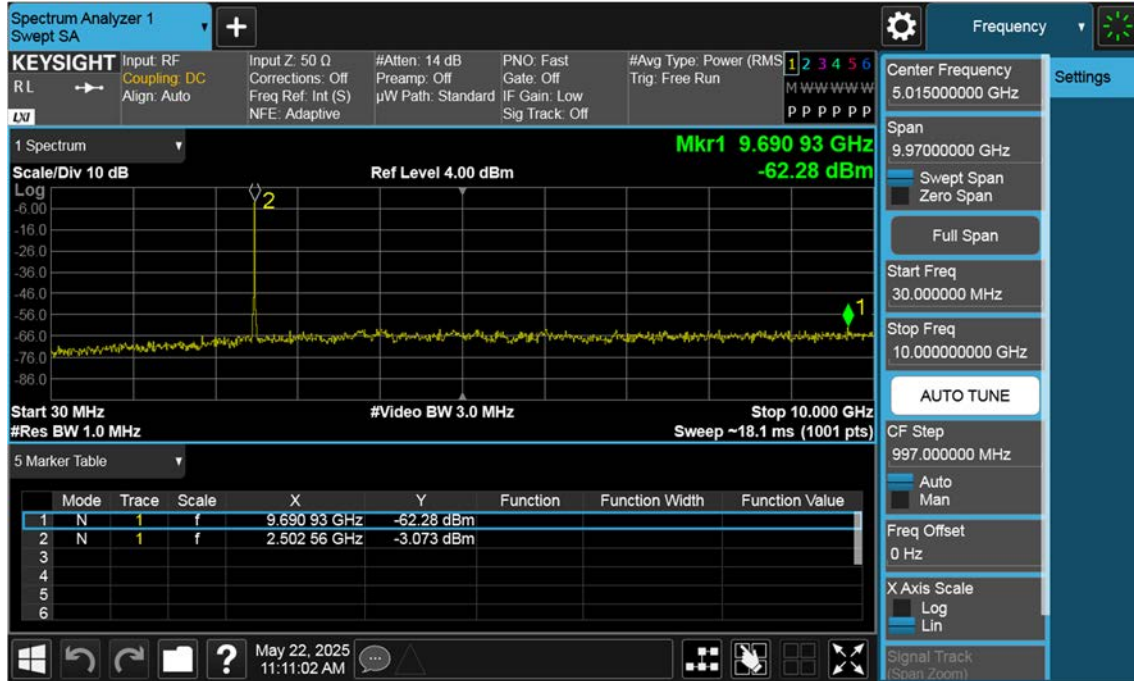
High Channel Edge Plot (40 MHz BPSK RB 1)



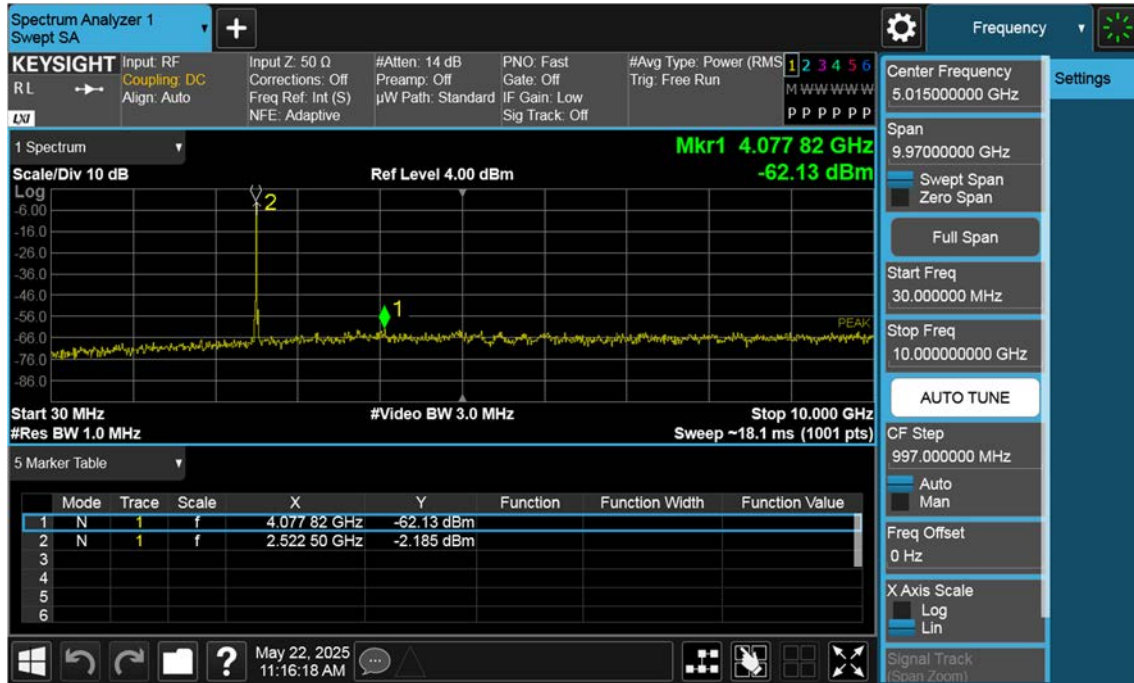
High Channel Edge Plot (40 MHz BPSK)



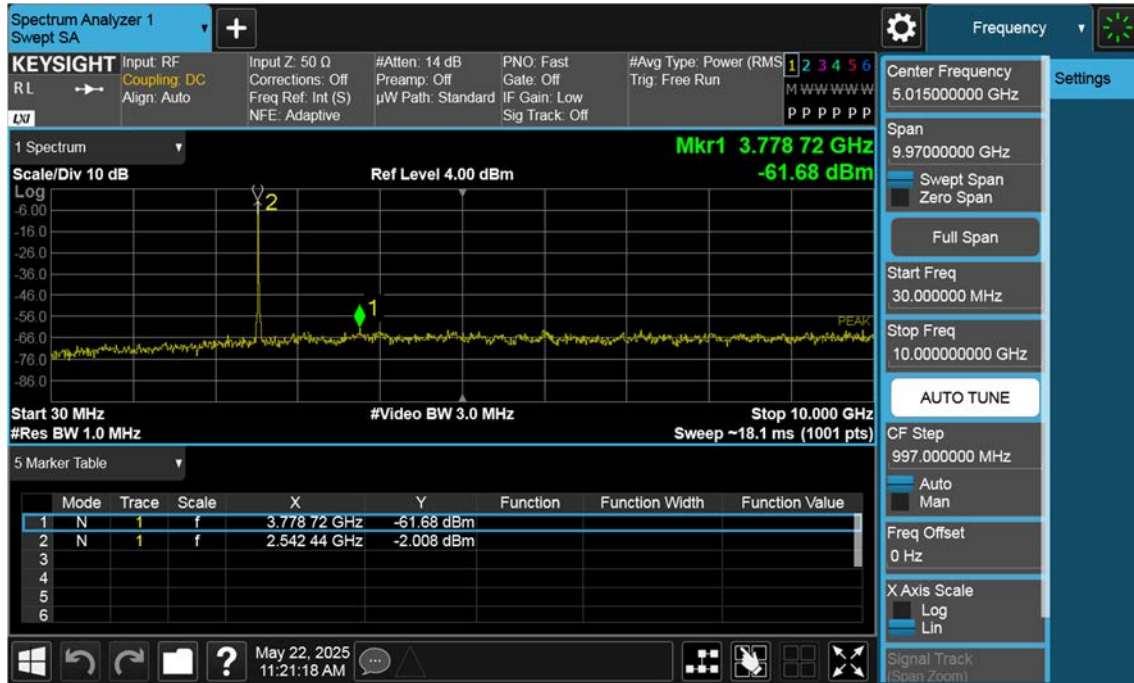
NR7_25 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB



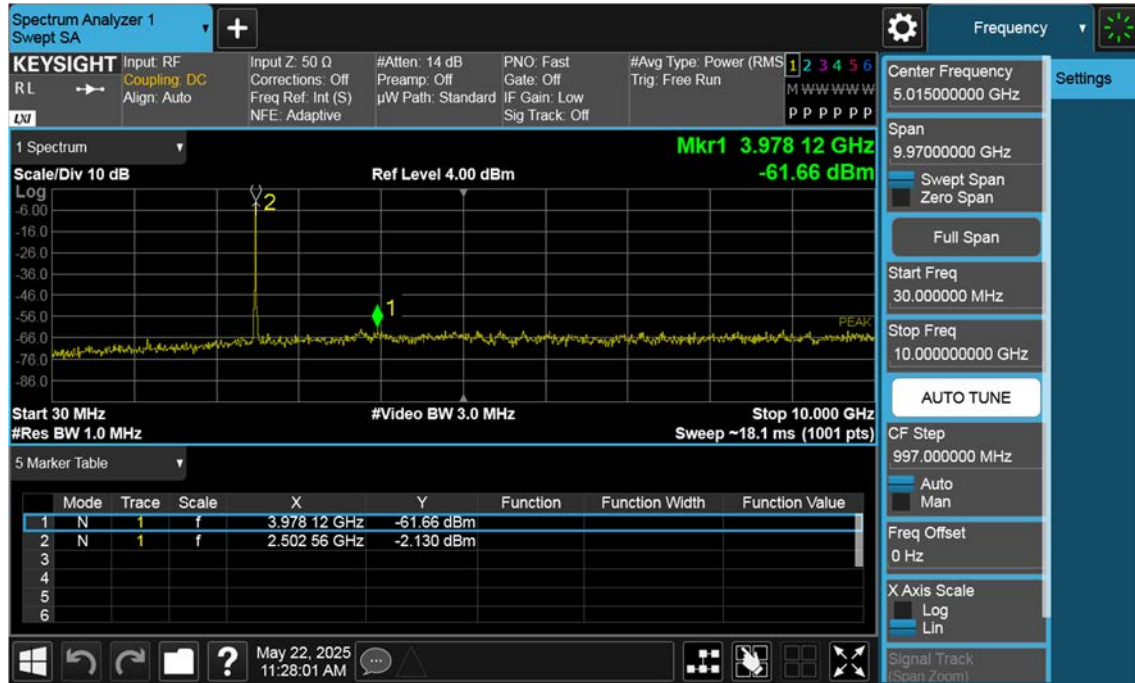
NR7_25 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_1RB



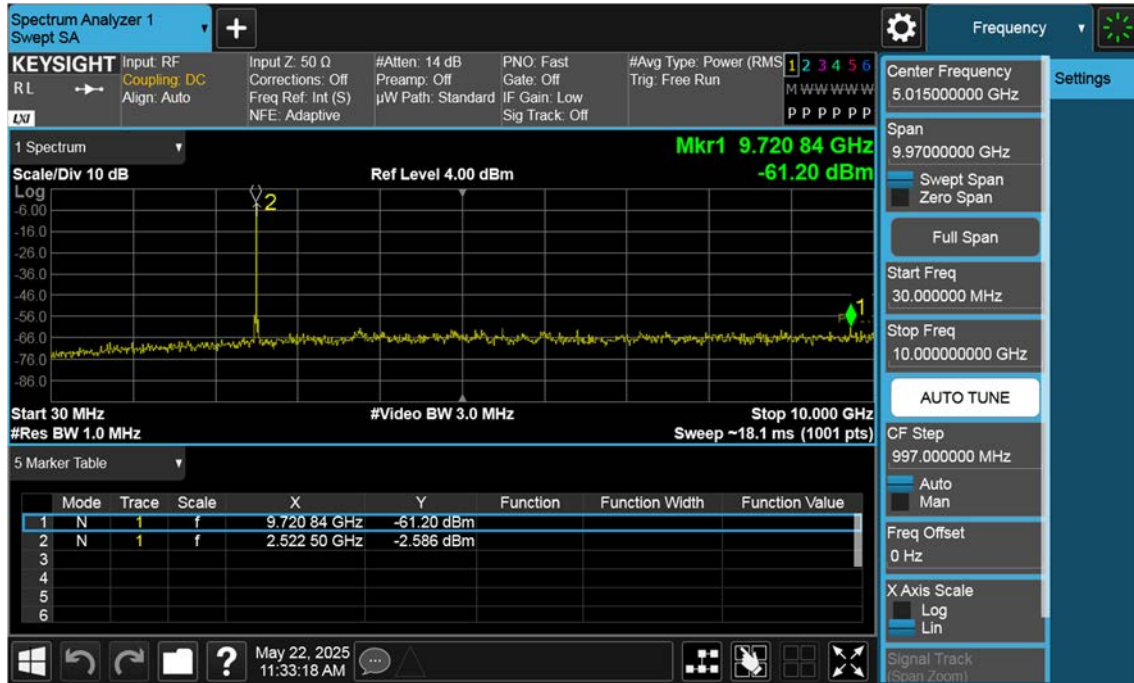
NR7_25 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB



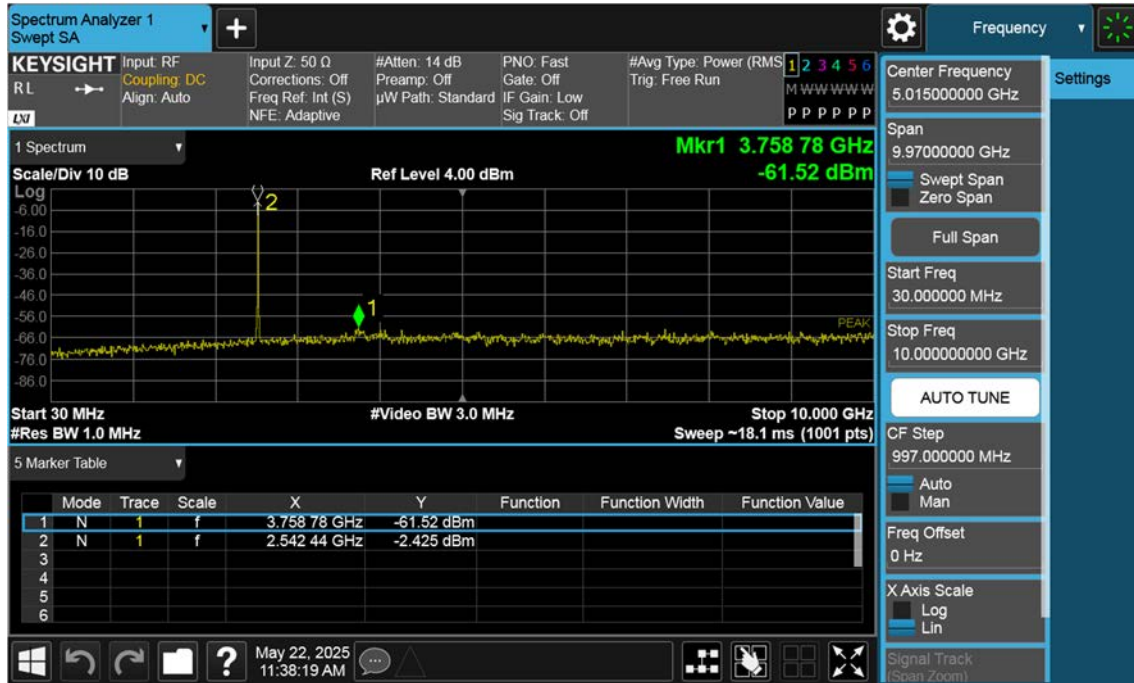
NR7_30 M_Conducted Spurious(30 M-10 G)_Low_BPSK_1RB



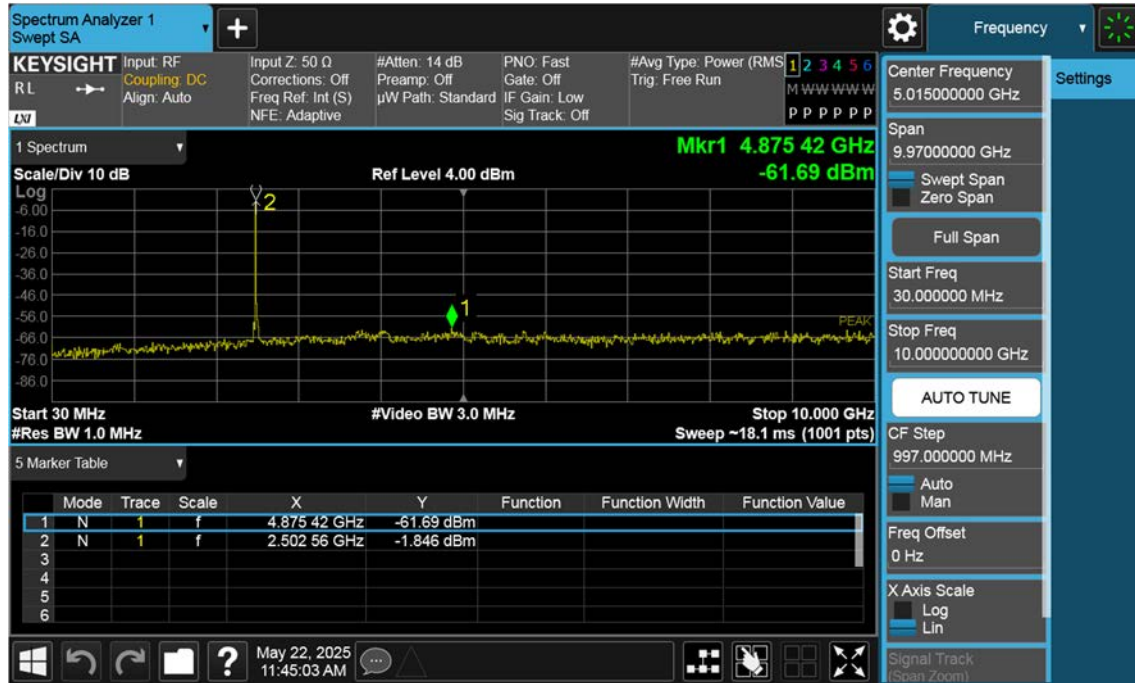
NR7_30 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_1RB



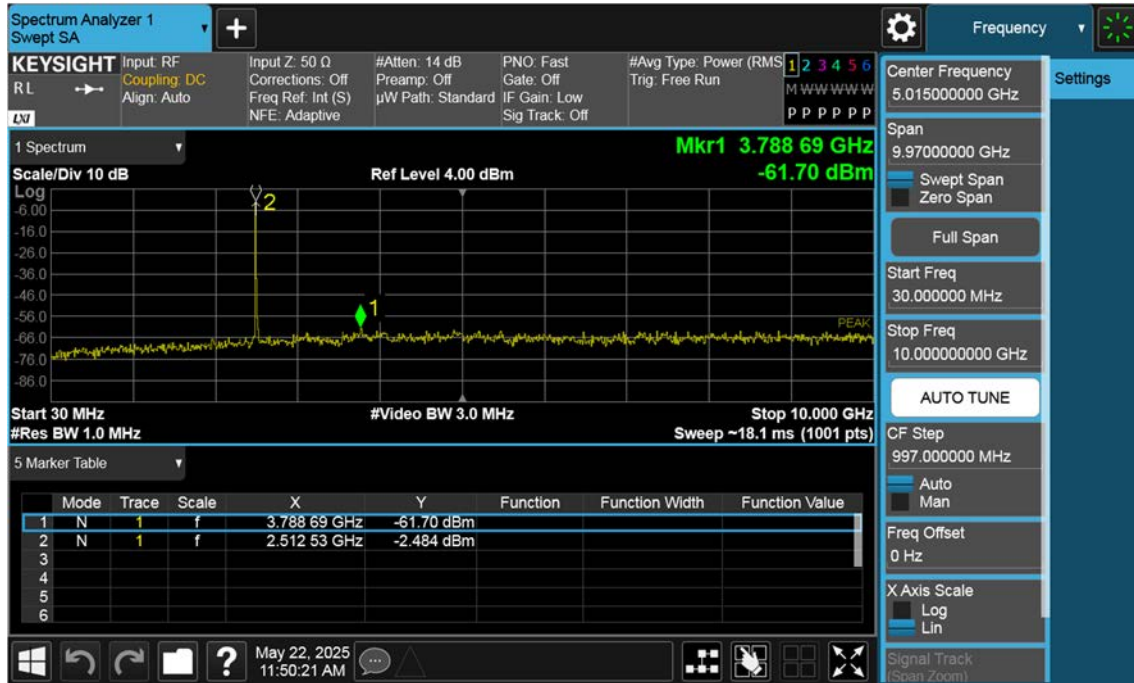
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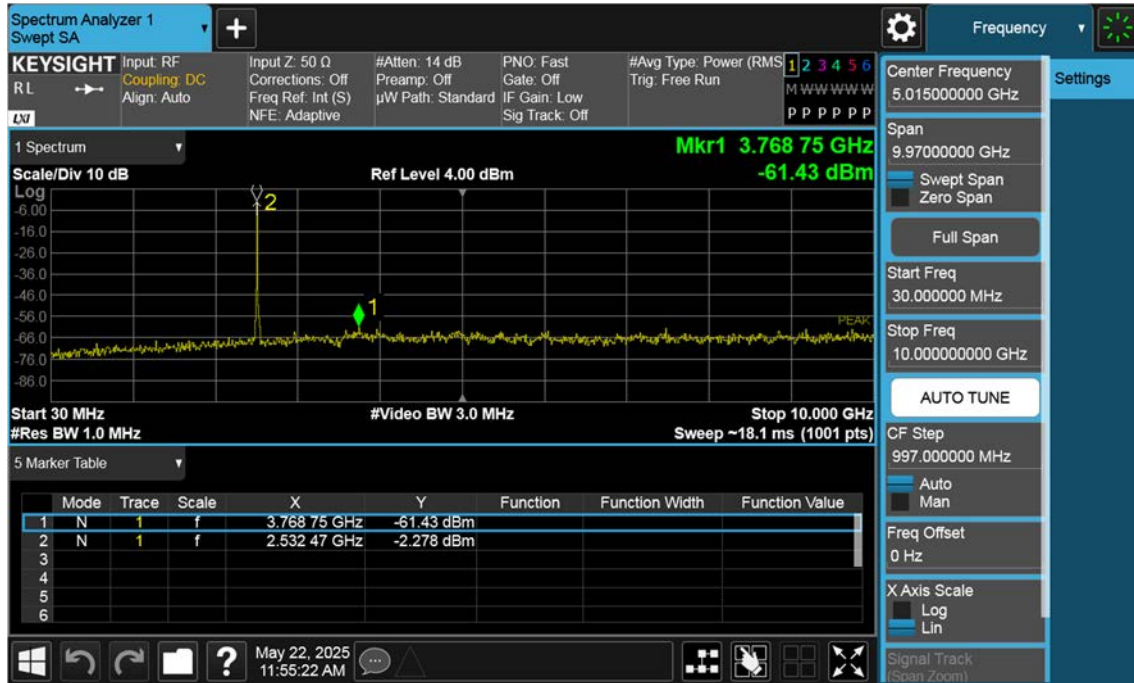
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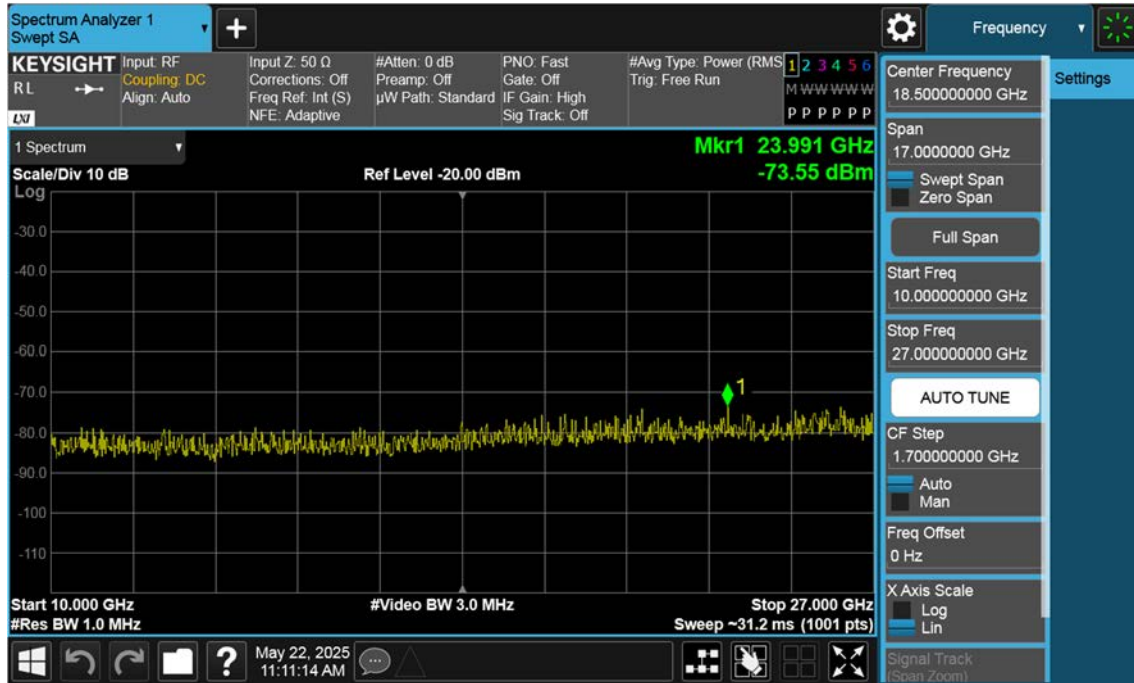
NR7_40 M_Conducted Spurious(30 M-10 G)_Mid_BPSK_1RB



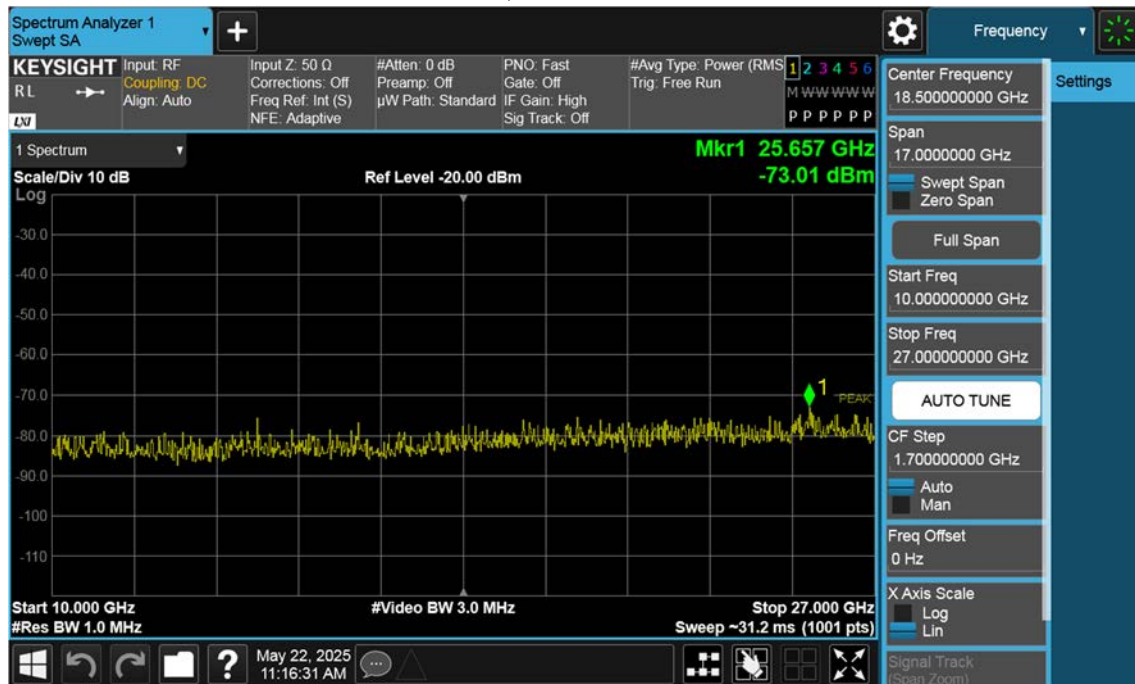
NR7_40 M_Conducted Spurious(30 M-10 G)_High_BPSK_1RB



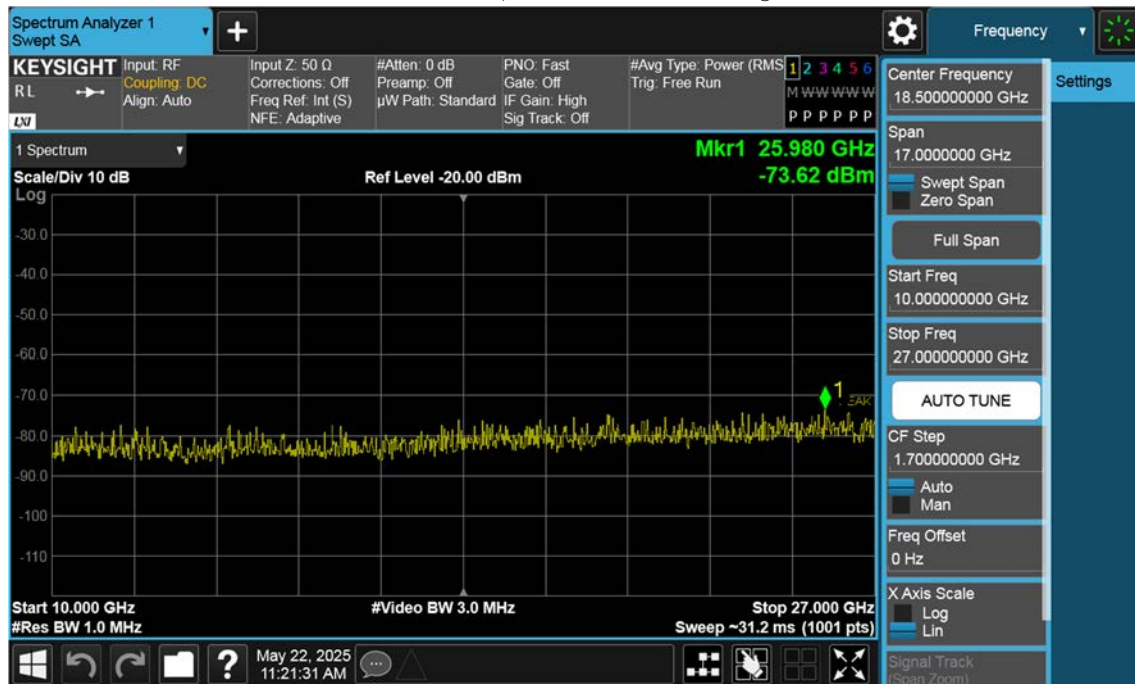
NR7_25 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



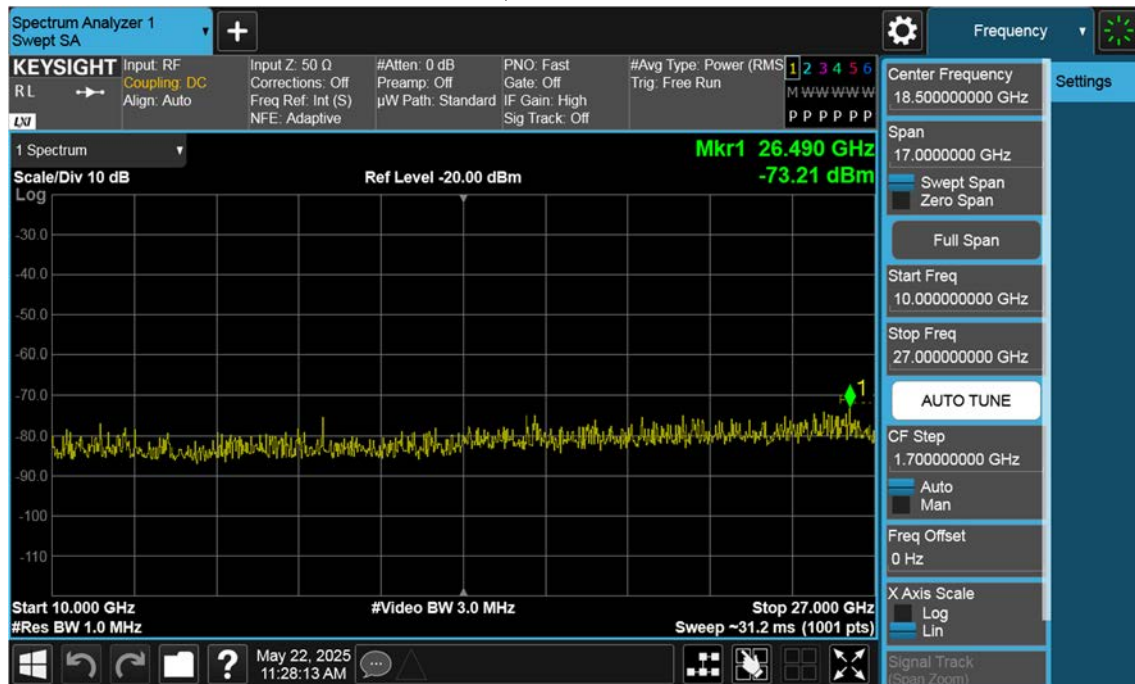
NR7_25 M_Conducted Spurious(Above10 G)_Mid_BPSK_1RB



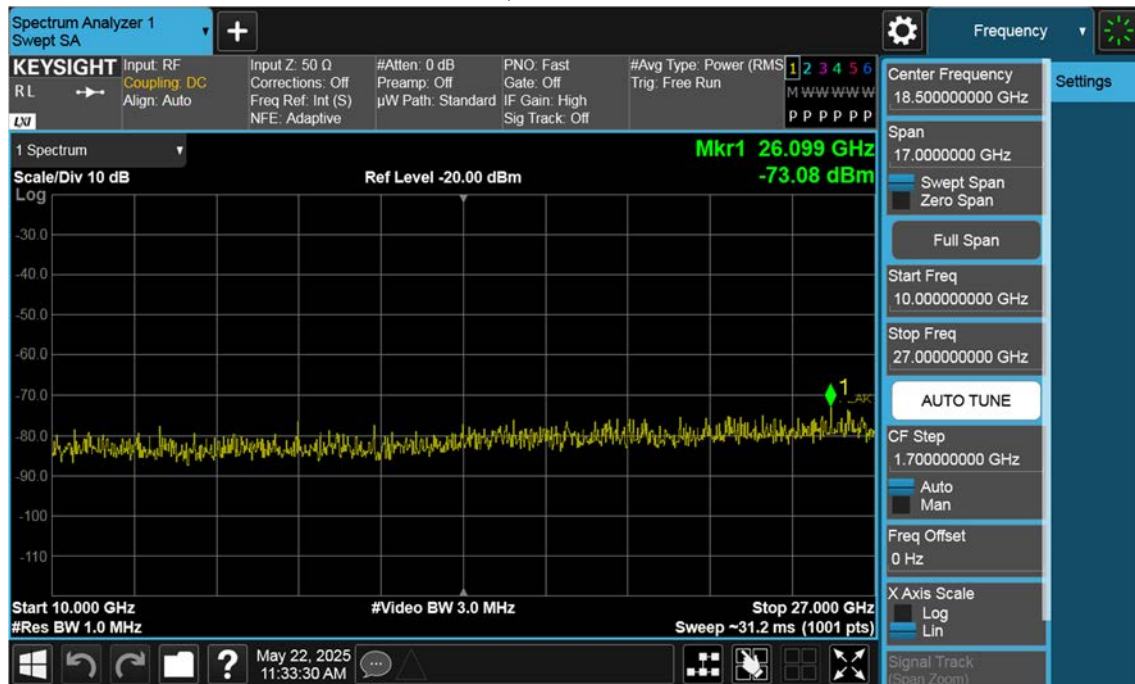
NR7_25 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



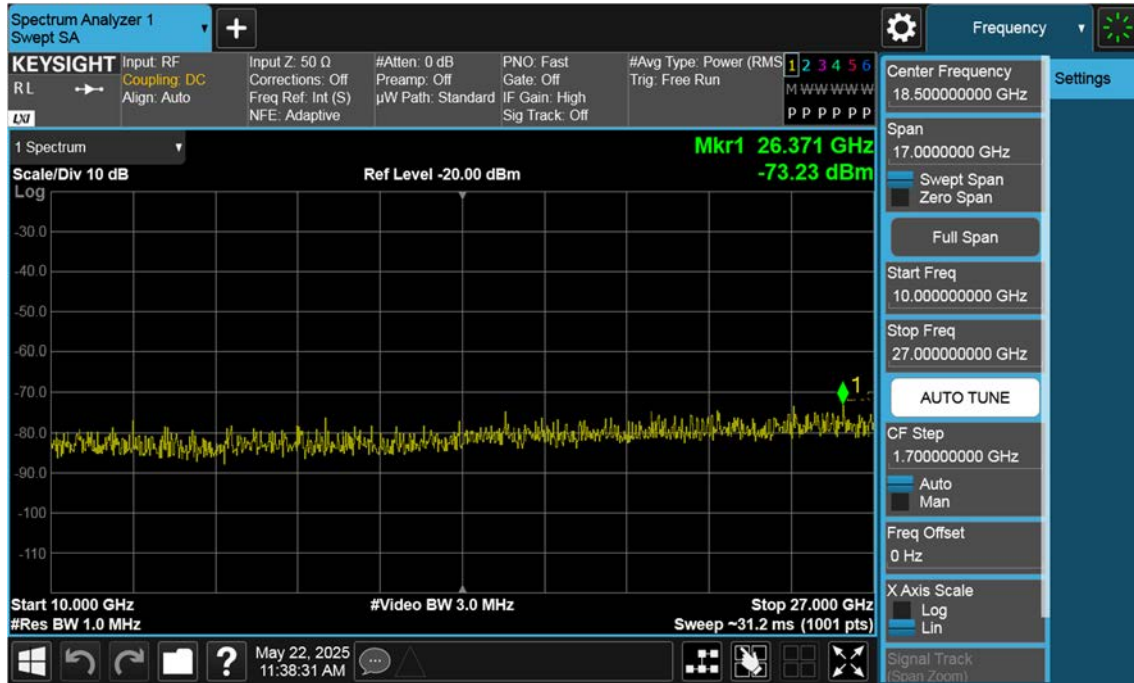
NR7_30 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



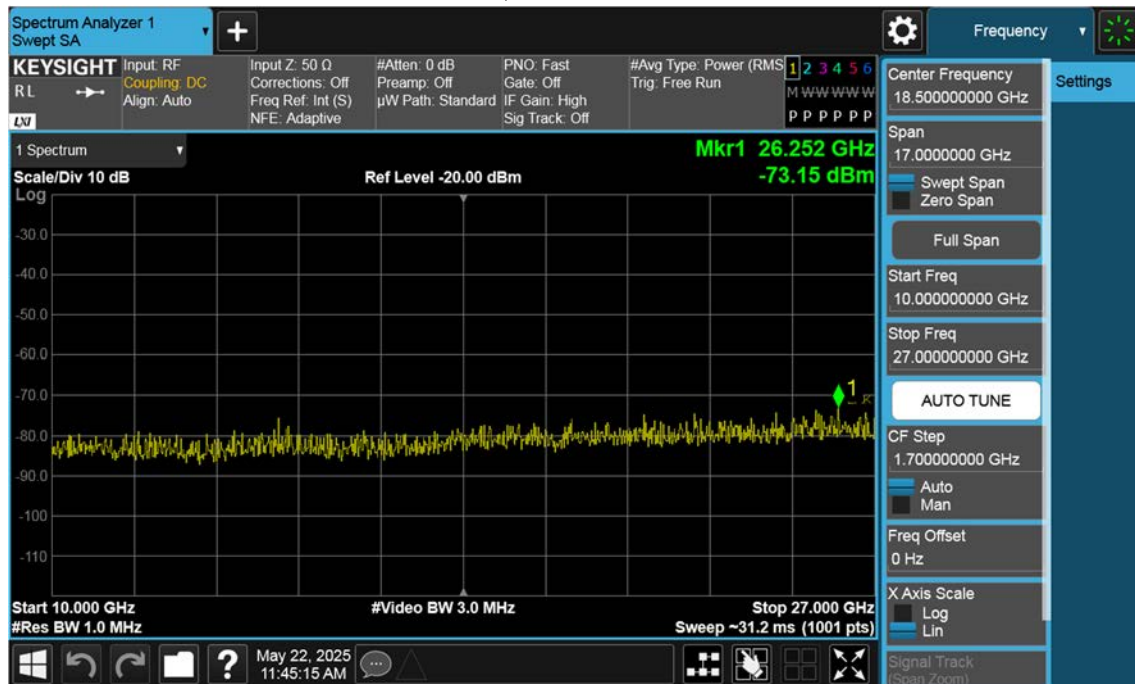
NR7_30 M_Conducted Spurious(Above10 G)_Mid_BPSK_1RB



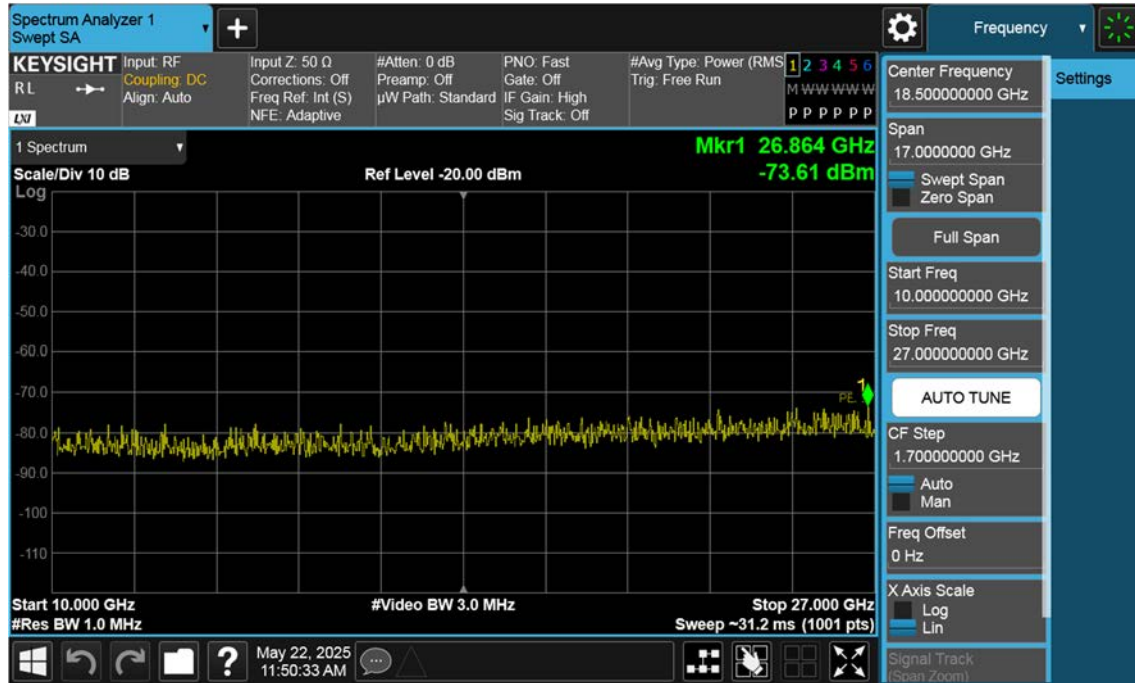
NR7_30 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



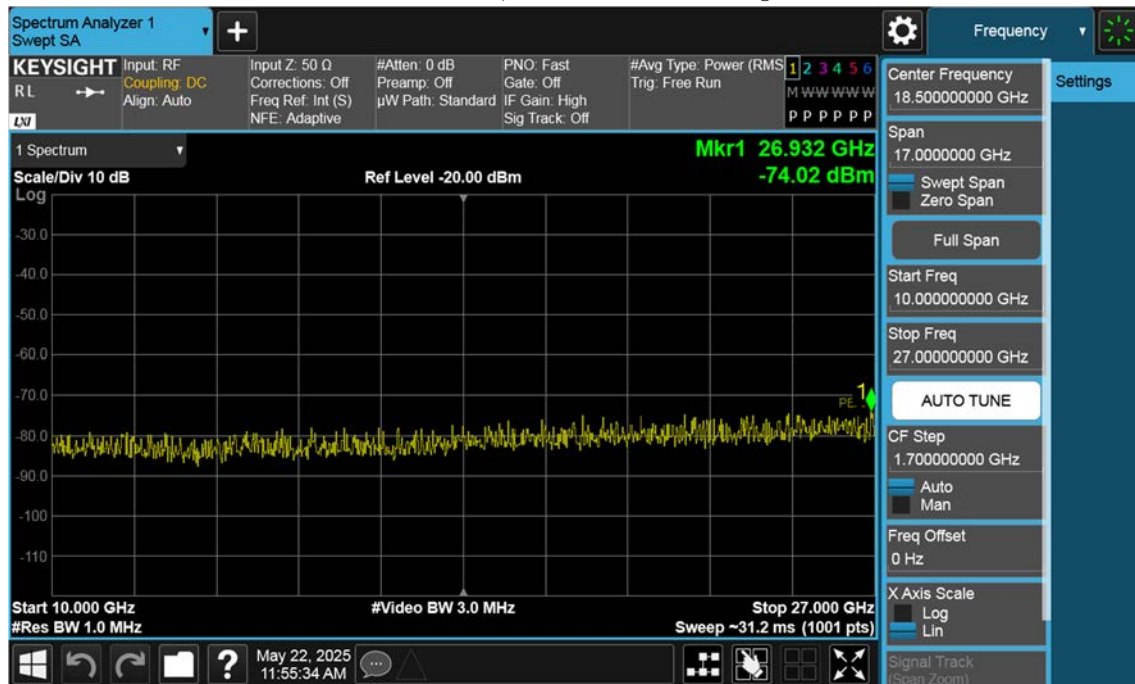
NR7_40 M_Conducted Spurious(Above10 G)_Low_BPSK_1RB



NR7_40 M_Conducted Spurious(Above10 G)_Mid_BPSK_1RB



NR7_40 M_Conducted Spurious(Above10 G)_High_BPSK_1RB



10. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2505-FC100-P