

TEST REPORT

FCC Sub6 n41 Test for SM-X528U
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2502-FC018

DATE OF ISSUE
February 10, 2025

Tested by
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Applicant

SAMSUNG Electronics Co., Ltd.

129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Product Name

Tablet

Model Name

SM-X528U

Date of Test

December 23, 2024 ~ February 07, 2025

FCC ID

A3LSMX528U

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 Classification:

PCS Licensed Transmitter (PCB)

Test Standard Used

FCC Rule Part: § 27

Test Results

PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	February 10, 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 Bs 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).

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMX528U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter (PCB)
FCC Rule Part(s):	§ 27
EUT Type:	Tablet
Model(s):	SM-X528U
SCS(kHz):	30
Bandwidth(MHz):	Sub6 n41 : 10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency:	2501.010 – 2685.000 : 10 MHz(Sub6 n41) 2503.500 – 2682.480 : 15 MHz(Sub6 n41) 2506.020 – 2679.990 : 20 MHz(Sub6 n41) 2511.000 – 2674.980 : 30 MHz(Sub6 n41) 2516.010 – 2670.000 : 40 MHz(Sub6 n41) 2521.020 – 2664.990 : 50 MHz(Sub6 n41) 2526.000 – 2659.980 : 60 MHz(Sub6 n41) 2531.010 – 2655.000 : 70 MHz(Sub6 n41) 2536.020 – 2649.990 : 80 MHz(Sub6 n41) 2541.000 – 2644.980 : 90 MHz(Sub6 n41) 2546.010 – 2640.000 : 100 MHz(Sub6 n41)
Date(s) of Tests:	December 23, 2024 ~ February 07, 2025
Serial number:	Radiated : R32XC00A63Z Conducted : B32XC00A2YJ

1.1 MAXIMUM OUTPUT POWER

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n41 (10)	2501.010 – 2685.000	8M70G7D	PI/2 BPSK	0.451	26.54
		8M67G7D	QPSK	0.443	26.46
		8M67W7D	16QAM	0.366	25.64
		8M74W7D	64QAM	0.255	24.07
		8M68W7D	256QAM	0.158	21.98
Sub6 n41 (15)	2503.500 – 2682.480	13M0G7D	PI/2 BPSK	0.458	26.61
		13M0G7D	QPSK	0.456	26.59
		12M9W7D	16QAM	0.361	25.57
		13M0W7D	64QAM	0.260	24.15
		13M0W7D	256QAM	0.158	22.00
Sub6 n41 (20)	2506.020 – 2679.990	18M0G7D	PI/2 BPSK	0.469	26.71
		17M9G7D	QPSK	0.459	26.62
		18M0W7D	16QAM	0.378	25.77
		18M0W7D	64QAM	0.260	24.15
		17M9W7D	256QAM	0.163	22.11
Sub6 n41 (30)	2511.000 – 2674.980	27M0G7D	PI/2 BPSK	0.461	26.64
		27M0G7D	QPSK	0.450	26.53
		27M0W7D	16QAM	0.366	25.63
		27M0W7D	64QAM	0.258	24.11
		26M9W7D	256QAM	0.157	21.96
Sub6 n41 (40)	2516.010 – 2670.000	35M9G7D	PI/2 BPSK	0.469	26.71
		36M0G7D	QPSK	0.465	26.67
		36M0W7D	16QAM	0.366	25.63
		36M0W7D	64QAM	0.269	24.29
		35M9W7D	256QAM	0.162	22.10
Sub6 n41 (50)	2521.020 – 2664.990	46M0G7D	PI/2 BPSK	0.468	26.70
		45M9G7D	QPSK	0.458	26.61
		46M0W7D	16QAM	0.364	25.61
		46M0W7D	64QAM	0.267	24.26
		45M8W7D	256QAM	0.160	22.04
Sub6 n41 (60)	2526.000 – 2659.980	58M1G7D	PI/2 BPSK	0.432	26.35
		58M3G7D	QPSK	0.430	26.33
		58M4W7D	16QAM	0.349	25.43
		58M2W7D	64QAM	0.249	23.96
		58M3W7D	256QAM	0.149	21.72

Sub6 n41 (70)	2531.010 – 2655.000	64M8G7D	PI/2 BPSK	0.401	26.03
		64M7G7D	QPSK	0.398	26.00
		64M7W7D	16QAM	0.316	24.99
		64M7W7D	64QAM	0.225	23.53
		64M8W7D	256QAM	0.140	21.47
Sub6 n41 (80)	2536.020 – 2649.990	77M6G7D	PI/2 BPSK	0.435	26.38
		77M6G7D	QPSK	0.413	26.16
		77M5W7D	16QAM	0.348	25.42
		77M6W7D	64QAM	0.245	23.90
		77M6W7D	256QAM	0.150	21.77
Sub6 n41 (90)	2541.000 – 2644.980	87M2G7D	PI/2 BPSK	0.469	26.71
		87M1G7D	QPSK	0.465	26.67
		87M3W7D	16QAM	0.374	25.73
		87M4W7D	64QAM	0.286	24.57
		87M2W7D	256QAM	0.172	22.35
Sub6 n41 (100)	2546.010 – 2640.000	97M0G7D	PI/2 BPSK	0.470	26.72
		97M0G7D	QPSK	0.466	26.68
		96M5W7D	16QAM	0.392	25.93
		96M7W7D	64QAM	0.267	24.27
		96M9W7D	256QAM	0.169	22.29

2. INTRODUCTION

2.1 DESCRIPTION OF EUT

Please refer to the [3G] Test Report.

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
Channel 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	- N/A (See SAR Report)
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	- ANSI C63.26-2015 – Section 5.5.3 - KDB 971168 D01 v03r01 – Section 5.8

3.2 RADIATED POWER

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna.

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 turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The power is calculated by the following formula;

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

Where: P_d is the dipole equivalent power and P_g is the generator output power into the substitution antenna.

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.

These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration

4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. 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.

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method.

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. 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.
2. 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
3. For spurious emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is
driven by a signal generator and the previously recorded signal was duplicated.
The spurious emissions is calculated by the following formula;

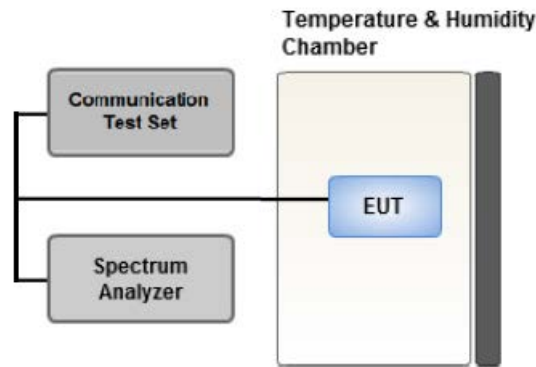
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

Where: P_g is the generator output power into the substitution antenna.

If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(\text{dBm})} = \text{ERP}_{(\text{dBm})} + 2.15$$

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① 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 %.

② Alternate Procedure for PAPR

Use one of the procedures presented in 5.2(ANSI C63.26-2015) to measure the total peak power and record as P_{Pk} .
 Use one of the applicable procedures presented 5.2(ANSI C63.26-2015) to measure the total average power and record as P_{Avg} . Determine the P.A.R. from:

$$P.A.R. (dB) = P_{Pk} (dBm) - P_{Avg} (dBm) \quad (P_{Avg} = \text{Average Power} + \text{Duty cycle Factor})$$

Test Settings(Peak Power)

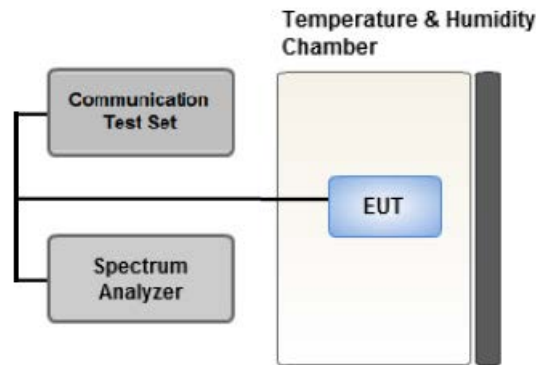
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW $\geq 3 \times$ RBW.

1. Set the RBW $\geq$ OBW.
2. Set VBW $\geq 3 \times$ RBW.
3. Set span $\geq 2 \times$ OBW.
4. Sweep time $\geq 10 \times$ (number of points in sweep) $\times$ (transmission symbol period).
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the peak amplitude level.

Test Settings(Average Power)

1. Set span to $2 \times$ to $3 \times$ the OBW.
2. Set RBW $\geq$ OBW.
3. Set VBW $\geq 3 \times$ RBW.
4. Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
5. Sweep time:
Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ for single sweep (automation-compatible) measurement. The transmission period is the (on + off) time.
6. Detector = power averaging (rms).
7. Set sweep trigger to "free run."
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. (To accurately determine the average power over the on and off period of the transmitter, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.)
9. Use the peak marker function to determine the maximum amplitude level.
10. Add $[10 \log (1/\text{duty cycle})]$ to the measured maximum power level to compute the average power during continuous transmission. For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ if the duty cycle is a constant 25 %.

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.

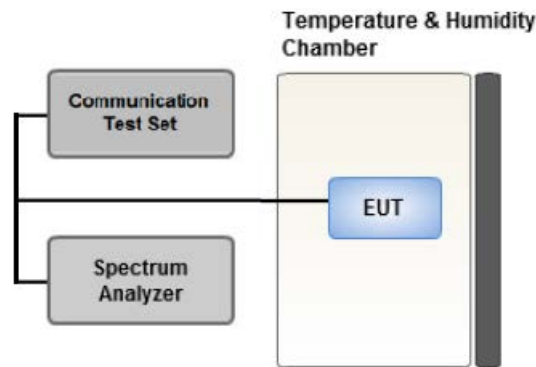
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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

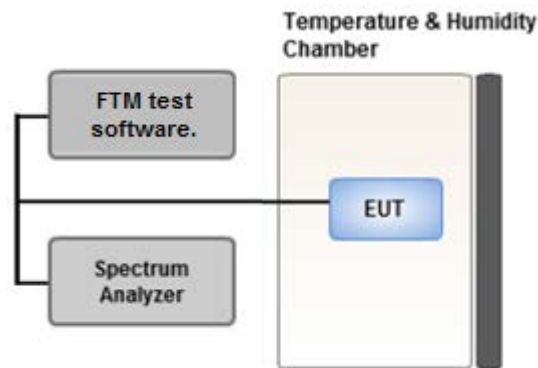
Test Overview

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 $\geq 2 \times \text{Span} / \text{RBW}$

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

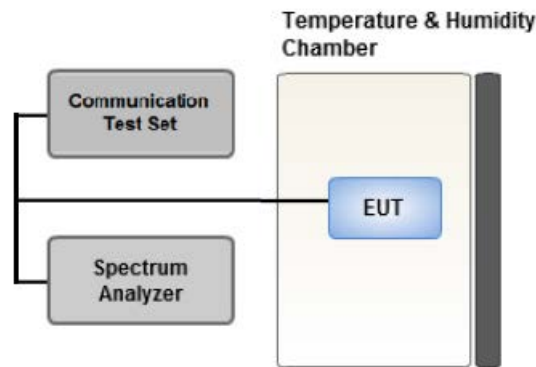
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. Within 1 MHz of the channel edge the RBW should be 2 % of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. 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 $10 \log(1 \text{ MHz/ RB})$ 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)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
(Worst case: DFT-S-OFDM)
- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
Mode: NSA, SA
Worst case: SA
Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
Worst case : Stand alone
- All power classes were tested, and the results were reported for the worst case PC2.
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional significant emissions relative to the least restrictive limit were observed.
Therefore, only the worst case(stand-alone) results were reported.
- 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.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
Please refer to the table below.

[Worst case]				
Test Description	Modulation	RB size	RB offset	Axis
Equivalent Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.2		Y

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
(Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
(Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.
Mode: NSA, SA
Worst case: SA
- All power classes were tested, and the results were reported for the worst case PC2.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
Please refer to the table below.

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth, Peak-To-Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Mid	Full RB	0
Channel Edge	PI/2 BPSK	10	Low	1	0
			High	1	23
		15	Low	1	0
			High	1	37
		20	Low	1	0
			High	1	50
		30	Low	1	0
			High	1	77
		40	Low	1	0
			High	1	105
		50	Low	1	0
			High	1	132
		60	Low	1	0
			High	1	161
		70	Low	1	0
			High	1	188
		80	Low	1	0
			High	1	216
		90	Low	1	0
			High	1	244
		100	Low	1	0
			High	1	272
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Low, Mid, High	Full RB	0
			Low, Mid, High	1	1

4. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	03/10/2026	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	02/14/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/06/2027	Biennial
Trilog Broadband Antenna	VULB9168	Schwarzbeck	895	08/28/2026	Biennial
Trilog Broadband Antenna	VULB9168	Schwarzbeck	1135	08/19/2026	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/14/2025	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/14/2025	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/14/2025	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/14/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	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	02/19/2025	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/04/2025	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/17/2025	Annual
Spectrum Analyzer (10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/04/2026	Annual
Signal & Spectrum Analyzer (2 Hz~67 GHz)	FSW67	REOHDE & SCHWARZ	101736	05/23/2025	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/16/2025	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/14/2025	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/10/2025	Annual
SIGNAL GENERATOR (100 kHz ~ 40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/26/2025	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)	5.70 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.52 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.66 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, $k=2$)

6. SUMMARY OF TEST RESULTS

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	<u>See Note1</u>
Frequency stability / variation of ambient temperature	§ 2.1055, § 27.54	Emission must remain in band	PASS

Note:

1. See SAR Report
2. All conducted 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. Radiated tests were tested using 5G Wireless Tester.

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol.	ERP	
channel	Freq.(MHz)						W	dBm
128	824.20	-21.37	38.40	-10.61	0.95	H	0.483	26.84

$$\text{ERP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
20175	1,732.50	-15.75	18.45	9.90	1.76	H	0.456	26.59

$$\text{EIRP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

7.3. 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 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2501.010	Sub6 n41 / 10 MHz [30 kHz]	PI/2 BPSK	-18.37	18.43	10.61	2.50	H	< 2.00	0.451	26.54	1	12
		QPSK	-18.45	18.35	10.61	2.50	H		0.443	26.46		
		16-QAM	-19.27	17.53	10.61	2.50	H		0.366	25.64		
		64-QAM	-20.84	15.96	10.61	2.50	H		0.255	24.07		
		256-QAM	-22.93	13.87	10.61	2.50	H		0.158	21.98		
2592.990		PI/2 BPSK	-19.15	17.56	11.00	2.55	H		0.399	26.01	1	1
		QPSK	-19.20	17.51	11.00	2.55	H		0.395	25.96		
		16-QAM	-20.22	16.49	11.00	2.55	H		0.312	24.94		
		64-QAM	-21.82	14.89	11.00	2.55	H		0.216	23.34		
		256-QAM	-23.63	13.08	11.00	2.55	H		0.142	21.53		
2685.000		PI/2 BPSK	-21.82	15.74	10.82	2.61	H		0.248	23.95	1	12
		QPSK	-21.83	15.73	10.82	2.61	H		0.248	23.94		
		16-QAM	-22.85	14.71	10.82	2.61	H		0.196	22.92		
		64-QAM	-24.37	13.19	10.82	2.61	H		0.138	21.40		
		256-QAM	-26.38	11.18	10.82	2.61	H		0.087	19.39		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2503.500	Sub6 n41 / 15 MHz [30 kHz]	PI/2 BPSK	-18.32	18.54	10.58	2.51	H		0.458	26.61	1	36
		QPSK	-18.34	18.52	10.58	2.51	H		0.456	26.59		
		16-QAM	-19.36	17.50	10.58	2.51	H		0.361	25.57		
		64-QAM	-20.78	16.08	10.58	2.51	H		0.260	24.15		
		256-QAM	-22.93	13.93	10.58	2.51	H		0.159	22.00		
2592.990		PI/2 BPSK	-19.12	17.59	11.00	2.55	H	< 2.00	0.402	26.04	1	1
		QPSK	-19.17	17.54	11.00	2.55	H		0.397	25.99		
		16-QAM	-20.09	16.62	11.00	2.55	H		0.321	25.07		
		64-QAM	-21.51	15.20	11.00	2.55	H		0.232	23.65		
		256-QAM	-23.68	13.03	11.00	2.55	H		0.141	21.48		
2682.480		PI/2 BPSK	-21.95	15.72	10.84	2.61	H		0.248	23.95	1	36
		QPSK	-21.97	15.70	10.84	2.61	H		0.247	23.93		
		16-QAM	-22.98	14.69	10.84	2.61	H		0.196	22.92		
		64-QAM	-24.57	13.10	10.84	2.61	H		0.136	21.33		
		256-QAM	-26.51	11.16	10.84	2.61	H		0.087	19.39		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2506.020	Sub6 n41 / 20 MHz [30 kHz]	PI/2 BPSK	-18.22	18.64	10.58	2.51	H		0.469	26.71	1	49
		QPSK	-18.31	18.55	10.58	2.51	H		0.459	26.62		
		16-QAM	-19.16	17.70	10.58	2.51	H		0.378	25.77		
		64-QAM	-20.78	16.08	10.58	2.51	H		0.260	24.15		
		256-QAM	-22.82	14.04	10.58	2.51	H		0.163	22.11		
2592.990		PI/2 BPSK	-19.22	17.49	11.00	2.55	H	< 2.00	0.393	25.94	1	25
		QPSK	-19.23	17.48	11.00	2.55	H		0.392	25.93		
		16-QAM	-20.23	16.48	11.00	2.55	H		0.311	24.93		
		64-QAM	-21.50	15.21	11.00	2.55	H		0.232	23.66		
		256-QAM	-23.90	12.81	11.00	2.55	H		0.134	21.26		
2679.990		PI/2 BPSK	-21.95	15.72	10.84	2.61	H		0.248	23.95	1	1
		QPSK	-21.96	15.71	10.84	2.61	H		0.248	23.94		
		16-QAM	-23.03	14.64	10.84	2.61	H		0.194	22.87		
		64-QAM	-24.59	13.08	10.84	2.61	H		0.135	21.31		
		256-QAM	-26.51	11.16	10.84	2.61	H		0.087	19.39		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2511.000	Sub6 n41 / 30 MHz [30 kHz]	PI/2 BPSK	-18.32	18.60	10.55	2.51	V		0.461	26.64	1	39
		QPSK	-18.43	18.49	10.55	2.51	V		0.450	26.53		
		16-QAM	-19.33	17.59	10.55	2.51	V		0.366	25.63		
		64-QAM	-20.85	16.07	10.55	2.51	V		0.258	24.11		
		256-QAM	-23.00	13.92	10.55	2.51	V		0.157	21.96		
2592.990		PI/2 BPSK	-19.03	17.68	11.00	2.55	V	< 2.00	0.410	26.13	1	1
		QPSK	-19.05	17.66	11.00	2.55	V		0.408	26.11		
		16-QAM	-20.08	16.63	11.00	2.55	V		0.322	25.08		
		64-QAM	-21.54	15.17	11.00	2.55	V		0.230	23.62		
		256-QAM	-23.61	13.10	11.00	2.55	V		0.143	21.55		
2674.980		PI/2 BPSK	-21.71	15.58	10.85	2.62	V		0.240	23.81	1	1
		QPSK	-21.74	15.55	10.85	2.62	V		0.239	23.78		
		16-QAM	-22.92	14.37	10.85	2.62	V		0.182	22.60		
		64-QAM	-24.13	13.16	10.85	2.62	V		0.138	21.39		
		256-QAM	-26.30	10.99	10.85	2.62	V		0.084	19.22		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2516.010	Sub6 n41 / 40 MHz [30 kHz]	PI/2 BPSK	-18.21	18.72	10.52	2.53	H	< 2.00	0.469	26.71	1	53
		QPSK	-18.25	18.68	10.52	2.53	H		0.465	26.67		
		16-QAM	-19.29	17.64	10.52	2.53	H		0.366	25.63		
		64-QAM	-20.63	16.30	10.52	2.53	H		0.269	24.29		
		256-QAM	-22.82	14.11	10.52	2.53	H		0.162	22.10		
2592.990		-20.43	-19.14	17.57	11.00	2.55	H		0.400	26.02	1	53
		-20.50	-19.22	17.49	11.00	2.55	H		0.393	25.94		
		-21.70	-20.14	16.57	11.00	2.55	H		0.318	25.02		
		-22.96	-21.62	15.09	11.00	2.55	H		0.226	23.54		
		-25.24	-23.69	13.02	11.00	2.55	H		0.140	21.47		
2670.000		PI/2 BPSK	-21.43	15.47	10.87	2.62	H		0.236	23.72	1	1
		QPSK	-21.44	15.46	10.87	2.62	H		0.235	23.71		
		16-QAM	-22.33	14.57	10.87	2.62	H		0.191	22.82		
		64-QAM	-24.01	12.89	10.87	2.62	H		0.130	21.14		
		256-QAM	-25.92	10.98	10.87	2.62	H		0.084	19.23		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2521.020	Sub6 n41 / 50 MHz [30 kHz]	PI/2 BPSK	-18.18	18.75	10.49	2.54	H		0.468	26.70	1	66
		QPSK	-18.27	18.66	10.49	2.54	H		0.458	26.61		
		16-QAM	-19.27	17.66	10.49	2.54	H		0.364	25.61		
		64-QAM	-20.62	16.31	10.49	2.54	H		0.267	24.26		
		256-QAM	-22.84	14.09	10.49	2.54	H		0.160	22.04		
2592.990		-20.43	-19.16	17.55	11.00	2.55	H	< 2.00	0.398	26.00	1	66
		-20.50	-19.19	17.52	11.00	2.55	H		0.395	25.97		
		-21.70	-20.16	16.55	11.00	2.55	H		0.316	25.00		
		-22.96	-21.67	15.04	11.00	2.55	H		0.223	23.49		
		-25.24	-23.78	12.93	11.00	2.55	H		0.137	21.38		
2664.990		PI/2 BPSK	-21.29	15.66	10.88	2.64	H		0.246	23.90	1	1
		QPSK	-21.31	15.64	10.88	2.64	H		0.244	23.88		
		16-QAM	-22.38	14.57	10.88	2.64	H		0.191	22.81		
		64-QAM	-23.89	13.06	10.88	2.64	H		0.135	21.30		
		256-QAM	-25.87	11.08	10.88	2.64	H		0.086	19.32		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2526.000	Sub6 41/ 60 MHz [30 kHz]	PI/2 BPSK	-18.28	18.35	10.52	2.54	H		0.430	26.33	1	82
		QPSK	-18.30	18.33	10.52	2.54	H		0.428	26.31		
		16-QAM	-19.18	17.45	10.52	2.54	H		0.349	25.43		
		64-QAM	-20.76	15.87	10.52	2.54	H		0.243	23.85		
		256-QAM	-22.91	13.72	10.52	2.54	H		0.148	21.70		
2592.990		PI/2 BPSK	-18.81	17.90	11.00	2.55	H	< 2.00	0.432	26.35	1	1
		QPSK	-18.83	17.88	11.00	2.55	H		0.430	26.33		
		16-QAM	-19.78	16.93	11.00	2.55	H		0.345	25.38		
		64-QAM	-21.20	15.51	11.00	2.55	H		0.249	23.96		
		256-QAM	-23.44	13.27	11.00	2.55	H		0.149	21.72		
2659.980		PI/2 BPSK	-20.71	16.30	10.90	2.67	H		0.284	24.53	1	1
		QPSK	-20.76	16.25	10.90	2.67	H		0.281	24.48		
		16-QAM	-21.89	15.12	10.90	2.67	H		0.216	23.35		
		64-QAM	-23.08	13.93	10.90	2.67	H		0.164	22.16		
		256-QAM	-25.28	11.73	10.90	2.67	H		0.099	19.96		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2531.010	Sub6 41/ 70 MHz [30 kHz]	PI/2 BPSK	-18.51	17.82	10.56	2.54	H		0.384	25.84	1	94
		QPSK	-18.54	17.79	10.56	2.54	H		0.381	25.81		
		16-QAM	-19.59	16.74	10.56	2.54	H		0.299	24.76		
		64-QAM	-20.96	15.37	10.56	2.54	H		0.218	23.39		
		256-QAM	-23.09	13.24	10.56	2.54	H		0.134	21.26		
2592.990		PI/2 BPSK	-19.13	17.58	11.00	2.55	H	< 2.00	0.401	26.03	1	1
		QPSK	-19.16	17.55	11.00	2.55	H		0.398	26.00		
		16-QAM	-20.17	16.54	11.00	2.55	H		0.316	24.99		
		64-QAM	-21.63	15.08	11.00	2.55	H		0.225	23.53		
		256-QAM	-23.69	13.02	11.00	2.55	H		0.140	21.47		
2655.000		PI/2 BPSK	-20.09	16.82	10.91	2.68	H		0.320	25.05	1	1
		QPSK	-20.13	16.78	10.91	2.68	H		0.317	25.01		
		16-QAM	-21.06	15.85	10.91	2.68	H		0.256	24.08		
		64-QAM	-22.75	14.16	10.91	2.68	H		0.173	22.39		
		256-QAM	-24.60	12.31	10.91	2.68	H		0.113	20.54		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2536.020	Sub6 41/ 80 MHz [30 kHz]	PI/2 BPSK	-18.13	18.33	10.59	2.54	H		0.435	26.38	1	108
		QPSK	-18.36	18.10	10.59	2.54	H		0.412	26.15		
		16-QAM	-19.09	17.37	10.59	2.54	H		0.348	25.42		
		64-QAM	-20.61	15.85	10.59	2.54	H		0.246	23.90		
		256-QAM	-22.74	13.72	10.59	2.54	H		0.150	21.77		
2592.990		PI/2 BPSK	-18.97	17.74	11.00	2.55	H	< 2.00	0.416	26.19	1	1
		QPSK	-19.00	17.71	11.00	2.55	H		0.413	26.16		
		16-QAM	-20.08	16.63	11.00	2.55	H		0.322	25.08		
		64-QAM	-21.57	15.14	11.00	2.55	H		0.229	23.59		
		256-QAM	-23.52	13.19	11.00	2.55	H		0.146	21.64		
2649.990		PI/2 BPSK	-19.79	17.00	10.93	2.69	H		0.334	25.24	1	1
		QPSK	-19.85	16.94	10.93	2.69	H		0.330	25.18		
		16-QAM	-20.84	15.95	10.93	2.69	H		0.262	24.19		
		64-QAM	-22.46	14.33	10.93	2.69	H		0.181	22.57		
		256-QAM	-24.43	12.36	10.93	2.69	H		0.115	20.60		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2541.000	Sub6 41/ 90 MHz [30 kHz]	PI/2 BPSK	-18.04	18.54	10.62	2.53	H		0.460	26.63	1	122
		QPSK	-18.14	18.44	10.62	2.53	H		0.450	26.53		
		16-QAM	-19.11	17.47	10.62	2.53	H		0.360	25.56		
		64-QAM	-20.70	15.88	10.62	2.53	H		0.250	23.97		
		256-QAM	-22.77	13.81	10.62	2.53	H		0.155	21.90		
2592.990		PI/2 BPSK	-18.49	18.22	11.00	2.55	H	< 2.00	0.469	26.71	1	1
		QPSK	-18.45	18.26	11.00	2.55	H		0.465	26.67		
		16-QAM	-19.43	17.28	11.00	2.55	H		0.374	25.73		
		64-QAM	-41.59	-4.88	11.00	2.55	H		0.286	24.57		
		256-QAM	-22.81	13.90	11.00	2.55	H		0.172	22.35		
2644.980		PI/2 BPSK	-19.56	17.55	10.95	2.68	H		0.382	25.82	1	1
		QPSK	-19.59	17.52	10.95	2.68	H		0.379	25.79		
		16-QAM	-20.61	16.50	10.95	2.68	H		0.300	24.77		
		64-QAM	-22.19	14.92	10.95	2.68	H		0.208	23.19		
		256-QAM	-24.11	13.00	10.95	2.68	H		0.134	21.27		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	EIRP		RB	
			Level (dBm)	Level (dBm)	Gain (dBi)				W	W	dBm	Size
2546.010	Sub6 41/ 100 MHz [30 kHz]	PI/2 BPSK	-18.44	18.11	10.66	2.53	H		0.421	26.24	1	136
		QPSK	-18.47	18.08	10.66	2.53	H		0.418	26.21		
		16-QAM	-19.61	16.94	10.66	2.53	H		0.321	25.07		
		64-QAM	-20.90	15.65	10.66	2.53	H		0.239	23.78		
		256-QAM	-23.05	13.50	10.66	2.53	H		0.146	21.63		
2592.990		PI/2 BPSK	-18.44	18.27	11.00	2.55	H	< 2.00	0.470	26.72	1	1
		QPSK	-18.48	18.23	11.00	2.55	H		0.466	26.68		
		16-QAM	-19.23	17.48	11.00	2.55	H		0.392	25.93		
		64-QAM	-20.89	15.82	11.00	2.55	H		0.267	24.27		
		256-QAM	-22.87	13.84	11.00	2.55	H		0.169	22.29		
2640.000		PI/2 BPSK	-19.50	17.94	10.96	2.68	H		0.419	26.22	1	1
		QPSK	-19.52	17.92	10.96	2.68	H		0.417	26.20		
		16-QAM	-20.48	16.96	10.96	2.68	H		0.334	25.24		
		64-QAM	-22.01	15.43	10.96	2.68	H		0.235	23.71		
		256-QAM	-24.03	13.41	10.96	2.68	H		0.148	21.69		

8.2 RADIATED SPURIOUS EMISSIONS

- ▣ NR Band: n41
- ▣ Bandwidth: 10 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
500202 (2501.010)	5 002.02	-55.38	11.22	-57.09	3.71	V	-49.58	-25.00	1	12
	7 503.03	-51.82	11.54	-44.39	4.60	H	-37.45	-25.00		
	10 004.04	-61.42	11.47	-52.02	5.47	H	-46.02	-25.00		
518598 (2592.990)	5 185.98	-62.63	11.61	-63.80	3.80	V	-55.99	-25.00	1	1
	7 778.97	-53.50	11.26	-46.43	4.70	H	-39.87	-25.00		
	10 371.96	-64.13	11.68	-53.04	5.55	V	-46.91	-25.00		
537000 (2685.000)	5 370.00	-52.01	11.96	-53.64	3.92	V	-45.60	-25.00	1	12
	8 055.00	-57.52	11.24	-50.24	4.81	H	-43.81	-25.00		
	10 740.00	-64.75	11.55	-52.73	5.64	H	-46.82	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 15 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
500700 (2503.500)	5 007.00	-55.64	11.20	-57.07	3.71	H	-49.58	-25.00	1	36
	7 510.50	-53.94	11.55	-46.40	4.60	V	-39.45	-25.00		
	10 014.00	-62.56	11.46	-53.17	5.47	H	-47.18	-25.00		
518598 (2592.990)	5 185.98	-58.06	11.61	-59.23	3.80	H	-51.42	-25.00	1	1
	7 778.97	-55.18	11.26	-48.11	4.70	H	-41.55	-25.00		
	10 371.96	-64.60	11.68	-53.51	5.55	H	-47.38	-25.00		
536496 (2682.480)	5 364.96	-53.70	11.95	-55.22	3.91	H	-47.18	-25.00	1	36
	8 047.44	-62.71	11.23	-55.49	4.81	H	-49.07	-25.00		
	10 729.92	-63.64	11.56	-51.57	5.65	H	-45.66	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 20 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
501204 (2506.020)	5 012.04	-55.52	11.18	-56.66	3.72	H	-49.20	-25.00	1	49
	7 518.06	-51.70	11.56	-44.06	4.61	V	-37.11	-25.00		
	10 024.08	-62.75	11.46	-53.40	5.47	H	-47.41	-25.00		
518598 (2592.990)	5 185.98	-58.92	11.61	-60.09	3.80	H	-52.28	-25.00	1	25
	7 778.97	-56.46	11.26	-49.39	4.70	H	-42.83	-25.00		
	10 371.96	-61.85	11.68	-50.76	5.55	H	-44.63	-25.00		
535998 (2679.990)	5 359.98	-49.62	11.95	-51.05	3.90	V	-43.00	-25.00	1	1
	8 039.97	-58.54	11.22	-51.23	4.80	H	-44.81	-25.00		
	10 719.96	-64.18	11.56	-52.53	5.64	H	-46.61	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 30 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
502200 (2511.000)	5 022.00	-56.92	11.17	-57.62	3.69	H	-50.14	-25.00	1	39
	7 533.00	-51.08	11.57	-43.48	4.61	V	-36.52	-25.00		
	10 044.00	-62.08	11.44	-52.76	5.48	H	-46.80	-25.00		
518598 (2592.990)	5 185.98	-56.09	11.61	-57.26	3.80	H	-49.45	-25.00	1	1
	7 778.97	-54.48	11.26	-47.41	4.70	H	-40.85	-25.00		
	10 371.96	-63.47	11.68	-52.38	5.55	H	-46.25	-25.00		
534996 (2674.980)	5 349.96	-51.99	11.94	-53.68	3.85	V	-45.59	-25.00	1	1
	8 024.94	-59.18	11.20	-51.93	4.79	H	-45.52	-25.00		
	10 699.92	-64.89	11.57	-52.89	5.67	H	-46.99	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 40 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
503202 (2516.010)	5 032.02	-56.58	11.19	-57.42	3.67	H	-49.90	-25.00	1	53
	7 548.03	-52.64	11.59	-45.27	4.63	V	-38.31	-25.00		
	10 064.04	-62.80	11.42	-53.58	5.47	H	-47.63	-25.00		
518598 (2592.990)	5 185.98	-58.58	11.61	-59.75	3.80	H	-51.94	-25.00	1	53
	7 778.97	-56.94	11.26	-49.87	4.70	H	-43.31	-25.00		
	10 371.96	-62.59	11.68	-51.50	5.55	H	-45.37	-25.00		
534000 (2670.000)	5 340.00	-51.14	11.93	-53.12	3.80	H	-44.99	-25.00	1	1
	8 010.00	-57.19	11.17	-49.87	4.77	H	-43.47	-25.00		
	10 680.00	-62.26	11.57	-49.68	5.71	H	-43.82	-25.00		

■ NR Band: n41
 ■ Bandwidth: 50 MHz
 ■ Modulation: PI/2 BPSK
 ■ Distance: 1 meter
 ■ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
504204 (2521.020)	5 042.04	-58.54	11.20	-59.58	3.68	V	-52.06	-25.00	1	66
	7 563.06	-53.68	11.60	-46.15	4.64	V	-39.19	-25.00		
	10 084.08	-63.51	11.40	-54.28	5.46	H	-48.34	-25.00		
518598 (2592.990)	5 185.98	-57.18	11.61	-58.35	3.80	H	-50.54	-25.00	1	66
	7 778.97	-55.90	11.26	-48.83	4.70	H	-42.27	-25.00		
	10 371.96	-64.59	11.68	-53.50	5.55	H	-47.37	-25.00		
532998 (2664.990)	5 329.98	-54.23	11.92	-55.96	3.77	V	-47.81	-25.00	1	1
	7 994.97	-62.20	11.13	-54.65	4.77	H	-48.29	-25.00		
	10 659.96	-63.28	11.58	-50.88	5.67	H	-44.97	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 60 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
505200 (2526.000)	5 052.00	-54.51	11.22	-55.98	3.73	H	-48.49	-25.00	1	82
	7 578.00	-52.22	11.61	-44.56	4.65	H	-37.60	-25.00		
	10 104.00	-63.23	11.39	-53.67	5.46	H	-47.74	-25.00		
518598 (2592.990)	5 185.98	-55.70	11.61	-56.87	3.80	H	-49.06	-25.00	1	1
	7 778.97	-52.83	11.26	-45.76	4.70	H	-39.20	-25.00		
	10 371.96	-63.86	11.68	-52.77	5.55	H	-46.64	-25.00		
531996 (2659.980)	5 319.96	-49.39	11.91	-50.94	3.79	H	-42.82	-25.00	1	1
	7 979.94	-56.85	11.10	-49.15	4.79	H	-42.84	-25.00		
	10 639.92	-64.70	11.58	-52.32	5.61	H	-46.35	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 70 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
506202 (2531.010)	5 062.02	-55.52	11.24	-56.89	3.78	H	-49.43	-25.00	1	94
	7 593.03	-52.75	11.62	-45.47	4.64	H	-38.49	-25.00		
	10 124.04	-61.69	11.37	-52.00	5.47	H	-46.10	-25.00		
518598 (2592.990)	5 185.98	-56.79	11.61	-57.96	3.80	H	-50.15	-25.00	1	1
	7 778.97	-52.96	11.26	-45.89	4.70	H	-39.33	-25.00		
	10 371.96	-63.67	11.68	-52.58	5.55	H	-46.45	-25.00		
531000 (2655.000)	5 310.00	-55.12	11.91	-56.23	3.82	H	-48.14	-25.00	1	1
	7 965.00	-55.54	11.07	-47.72	4.80	H	-41.45	-25.00		
	10 620.00	-63.98	11.58	-51.94	5.65	H	-46.01	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 80 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
507204 (2536.020)	5 072.04	-56.12	11.25	-57.28	3.80	H	-49.83	-25.00	1	108
	7 608.06	-52.92	11.60	-46.04	4.64	H	-39.08	-25.00		
	10 144.08	-61.22	11.36	-51.61	5.48	H	-45.73	-25.00		
518598 (2592.990)	5 185.98	-56.05	11.61	-57.22	3.80	H	-49.41	-25.00	1	1
	7 778.97	-52.61	11.26	-45.54	4.70	H	-38.98	-25.00		
	10 371.96	-64.30	11.68	-53.21	5.55	H	-47.08	-25.00		
529998 (2649.990)	5 299.98	-62.36	11.90	-63.86	3.83	H	-55.79	-25.00	1	1
	7 949.97	-55.44	11.03	-47.79	4.78	H	-41.54	-25.00		
	10 599.96	-63.16	11.58	-51.87	5.67	H	-45.96	-25.00		

- ▣ NR Band: n41
- ▣ Bandwidth: 90 MHz
- ▣ Modulation: PI/2 BPSK
- ▣ Distance: 1 meter
- ▣ SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
508200 (2541.000)	5 082.00	-55.13	11.27	-55.93	3.81	H	-48.47	-25.00	1	122
	7 623.00	-54.36	11.57	-47.42	4.65	H	-40.50	-25.00		
	10 164.00	-62.06	11.34	-52.20	5.50	H	-46.36	-25.00		
518598 (2592.990)	5 185.98	-55.02	11.61	-56.19	3.80	H	-48.38	-25.00	1	1
	7 778.97	-55.08	11.26	-48.01	4.70	H	-41.45	-25.00		
	10 371.96	-64.35	11.68	-53.26	5.55	H	-47.13	-25.00		
528996 (2644.980)	5 289.96	-62.47	11.89	-64.05	3.83	H	-55.99	-25.00	1	1
	7 934.94	-56.31	11.01	-48.93	4.77	H	-42.69	-25.00		
	10 579.92	-64.51	11.62	-53.36	5.65	H	-47.39	-25.00		

■ NR Band:	<u>n41</u>
■ Bandwidth:	<u>100 MHz</u>
■ Modulation:	<u>PI/2 BPSK</u>
■ Distance:	<u>1 meter</u>
■ SCS:	<u>30 kHz</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
509202 (2546.010)	5 092.02	-55.41	11.29	-56.29	3.78	H	-48.78	-25.00	1	136
	7 638.03	-53.72	11.54	-46.75	4.68	H	-39.89	-25.00		
	10 184.04	-60.46	11.35	-50.42	5.52	H	-44.59	-25.00		
518598 (2592.990)	5 185.98	-55.65	11.61	-56.82	3.80	H	-49.01	-25.00	1	1
	7 778.97	-53.77	11.26	-46.70	4.70	H	-40.14	-25.00		
	10 371.96	-64.53	11.68	-53.44	5.55	H	-47.31	-25.00		
528000 (2640.000)	5 280.00	-57.07	11.88	-59.09	3.80	H	-51.01	-25.00	1	1
	7 920.00	-52.61	11.02	-45.19	4.77	H	-38.94	-25.00		
	10 560.00	-63.94	11.65	-53.00	5.63	H	-46.98	-25.00		

8.3 PEAK-TO-AVERAGE RATIO

Band / BandWidth	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n41 / 10 MHz	2592.990	BPSK	24	0	4.55
		QPSK			5.87
		16-QAM			6.49
		64-QAM			6.69
		256-QAM			6.68
Sub6 n41 / 15 MHz		BPSK	36		4.41
		QPSK			5.69
		16-QAM			6.53
		64-QAM			6.71
		256-QAM			6.60
Sub6 n41 / 20 MHz		BPSK	50		4.51
		QPSK			5.78
		16-QAM			6.52
		64-QAM			6.68
		256-QAM			6.77
Sub6 n41 / 30 MHz		BPSK	75		4.55
		QPSK			5.85
		16-QAM			6.56
		64-QAM			6.60
		256-QAM			6.64
Sub6 n41 / 40 MHz		BPSK	100		5.06
		QPSK			5.86
		16-QAM			6.49
		64-QAM			6.69
		256-QAM			6.56

Sub6 n41 / 50 MHz	BPSK	128	4.86
	QPSK		5.77
	16-QAM		6.45
	64-QAM		6.52
	256-QAM		6.58
Sub6 n41 / 60 MHz	BPSK	162	4.77
	QPSK		5.77
	16-QAM		6.47
	64-QAM		6.57
	256-QAM		6.60
Sub6 n41 / 70 MHz	BPSK	180	6.07
	QPSK		6.23
	16-QAM		6.54
	64-QAM		6.69
	256-QAM		6.56
Sub6 n41 / 80 MHz	BPSK	216	4.55
	QPSK		5.79
	16-QAM		6.45
	64-QAM		6.56
	256-QAM		6.60
Sub6 n41 / 90 MHz	BPSK	243	4.69
	QPSK		5.73
	16-QAM		6.49
	64-QAM		6.60
	256-QAM		6.64
Sub6 n41 / 100 MHz	BPSK	270	4.61
	QPSK		5.75
	16-QAM		6.59
	64-QAM		6.64
	256-QAM		6.64

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 68 ~ 122.

8.4 OCCUPIED BANDWIDTH

Band / BandWidth	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n41 / 10 MHz	2592.990	BPSK	24	0	8.7024
		QPSK			8.6672
		16-QAM			8.6666
		64-QAM			8.7392
		256-QAM			8.6808
Sub6 n41 / 15 MHz		BPSK	36		12.964
		QPSK			13.032
		16-QAM			12.919
		64-QAM			12.974
		256-QAM			12.960
Sub6 n41 / 20 MHz		BPSK	50		18.000
		QPSK			17.937
		16-QAM			17.978
		64-QAM			17.988
		256-QAM			17.931
Sub6 n41 / 30 MHz		BPSK	75		27.028
		QPSK			26.951
		16-QAM			26.984
		64-QAM			27.009
		256-QAM			26.878
Sub6 n41 / 40 MHz		BPSK	100		35.936
		QPSK			35.965
		16-QAM			36.011
		64-QAM			35.967
		256-QAM			35.895

Sub6 n41 / 50 MHz	BPSK	128	46.018
	QPSK		45.940
	16-QAM		45.946
	64-QAM		45.973
	256-QAM		45.834
Sub6 n41 / 60 MHz	BPSK	162	58.058
	QPSK		58.312
	16-QAM		58.398
	64-QAM		58.195
	256-QAM		58.295
Sub6 n41 / 70 MHz	BPSK	180	64.821
	QPSK		64.671
	16-QAM		64.670
	64-QAM		64.740
	256-QAM		64.799
Sub6 n41 / 80 MHz	BPSK	216	77.619
	QPSK		77.589
	16-QAM		77.492
	64-QAM		77.574
	256-QAM		77.611
Sub6 n41 / 90 MHz	BPSK	243	87.178
	QPSK		87.108
	16-QAM		87.327
	64-QAM		87.350
	256-QAM		87.231
Sub6 n41 / 100 MHz	BPSK	270	96.999
	QPSK		96.992
	16-QAM		96.490
	64-QAM		96.670
	256-QAM		96.855

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 123 ~ 177.

8.5 CONDUCTED SPURIOUS EMISSIONS

Band / Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub 6 n41 / 10	2501.010	5.2044	30.815	-60.927	-30.112	-25.00
	2592.990	5.0150	30.815	-61.555	-30.740	
	2685.000	3.7987	30.200	-60.537	-30.337	
Sub 6 n41 / 15	2503.500	4.9352	30.200	-61.178	-30.978	
	2592.990	4.0579	30.200	-61.423	-31.223	
	2682.480	9.1825	30.815	-60.645	-29.830	
Sub 6 n41 / 20	2506.020	4.9253	30.200	-61.518	-31.318	
	2592.990	4.9053	30.200	-60.652	-30.452	
	2679.990	3.8086	30.200	-61.649	-31.449	
Sub 6 n41 / 30	2511.000	4.0280	30.200	-60.241	-30.041	
	2592.990	6.9492	30.815	-61.197	-30.382	
	2674.980	3.7987	30.200	-61.135	-30.935	
Sub 6 n41 / 40	2516.010	3.9981	30.200	-61.984	-31.784	
	2592.990	4.0180	30.200	-61.128	-30.928	
	2670.000	3.7688	30.200	-61.682	-31.482	
Sub 6 n41 / 50	2521.020	4.9253	30.200	-61.221	-31.021	
	2592.990	4.0379	30.200	-61.402	-31.202	
	2664.990	3.9881	30.200	-62.321	-32.121	
Sub 6 n41 / 60	2526.000	4.0280	30.200	-60.693	-30.493	
	2592.990	3.7388	30.200	-60.819	-30.619	
	2659.980	9.1526	30.815	-61.757	-30.942	
Sub 6 n41 / 70	2531.010	4.9452	30.200	-61.610	-31.410	
	2592.990	4.9352	30.200	-61.932	-31.732	
	2655.000	8.8834	30.815	-61.267	-30.452	
Sub 6 n41 / 80	2536.020	4.9552	30.200	-61.357	-31.157	
	2592.990	4.9053	30.200	-61.236	-31.036	
	2649.990	4.0280	30.200	-61.414	-31.214	
Sub 6 n41 / 90	2541.000	6.9891	30.815	-60.773	-29.958	
	2592.990	8.0957	30.815	-61.009	-30.194	
	2644.980	3.8186	30.200	-61.127	-30.927	
Sub 6 n41 / 100	2546.010	5.1646	30.815	-62.176	-31.361	
	2592.990	3.8286	30.200	-61.355	-31.155	
	2640.000	3.8286	30.200	-60.563	-30.363	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 178 ~ 243.
2. Factor(dB)
 - Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter
 - Result(dBm) = Reading + Factor

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

8.6 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	2 495 MHz ~ 2 496 MHz	C.E ~ (C.E +1MHz)	2 490.5 MHz ~ 2 495 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
10	2501.010	BPSK	Full RB	-22.51	-22.00	-27.09	-26.07	-36.77	-35.56	-38.70
15	2503.500	BPSK	Full RB	-22.29	-29.87	-28.20	-35.38	-37.27	-36.11	-41.32
20	2506.020	BPSK	Full RB	-24.13	-27.94	-30.94	-34.40	-36.93	-36.04	-42.78
30	2511.000	BPSK	Full RB	-25.32	-36.60	-34.02	-37.07	-38.16	-35.42	-39.09
40	2516.010	BPSK	Full RB	-25.17	-37.59	-34.45	-36.20	-36.78	-35.67	-41.42
50	2521.020	BPSK	Full RB	-22.95	-33.71	-30.37	-37.90	-41.40	-38.05	-42.04
60	2526.000	BPSK	Full RB	-17.28	-15.77	-26.71	-23.47	-38.80	-35.90	-41.84
70	2531.010	BPSK	Full RB	-21.56	-33.61	-27.13	-35.84	-38.47	-37.16	-42.98
80	2536.020	BPSK	Full RB	-23.16	-23.16	-28.93	-27.51	-39.51	-37.95	-43.97
90	2541.000	BPSK	Full RB	-21.11	-26.04	-27.98	-29.57	-39.24	-37.71	-46.81
100	2546.010	BPSK	Full RB	-20.42	-28.15	-28.45	-31.58	-40.20	-38.80	-48.73
Limit (dBm)				-13.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	C.E ~ (C.E $\pm$ 1 MHz)		(C.E $\pm$ 1 MHz) ~ (C.E $\pm$ 5 MHz)	
					Lower	Upper	Lower	Upper
10 MHz	2592.990	BPSK	Full RB	0	-21.39	-20.50	-25.39	-24.93
	2685.000	BPSK	Full RB	0	-21.32	-21.29	-25.33	-25.98
15 MHz	2592.990	BPSK	Full RB	0	-21.19	-31.40	-27.51	-35.04
	2682.480	BPSK	Full RB	0	-21.33	-32.09	-27.19	-35.96
20 MHz	2592.990	BPSK	Full RB	0	-22.49	-28.54	-29.23	-33.52
	2679.990	BPSK	Full RB	0	-22.31	-27.94	-29.35	-34.49
30 MHz	2592.990	BPSK	Full RB	0	-23.97	-36.33	-32.50	-36.04
	2674.980	BPSK	Full RB	0	-23.71	-36.62	-32.30	-37.52
40 MHz	2592.990	BPSK	Full RB	0	-24.72	-37.94	-33.49	-37.01
	2670.000	BPSK	Full RB	0	-23.70	-38.00	-33.00	-37.44
50 MHz	2592.990	BPSK	Full RB	0	-21.56	-33.22	-28.82	-37.84
	2664.990	BPSK	Full RB	0	-20.17	-34.08	-27.46	-37.59
60 MHz	2592.990	BPSK	Full RB	0	-15.58	-18.13	-25.01	-26.88
	2659.980	BPSK	Full RB	0	-15.24	-18.24	-23.98	-26.24
70 MHz	2592.990	BPSK	Full RB	0	-20.84	-33.77	-26.19	-36.21
	2655.000	BPSK	Full RB	0	-18.77	-33.74	-23.91	-36.06
80 MHz	2592.990	BPSK	Full RB	0	-20.61	-23.32	-26.77	-27.51
	2649.990	BPSK	Full RB	0	-18.88	-26.02	-25.30	-30.15
90 MHz	2592.990	BPSK	Full RB	0	-19.78	-25.69	-26.83	-29.47
	2644.980	BPSK	Full RB	0	-19.34	-26.80	-26.10	-30.26
100 MHz	2592.990	BPSK	Full RB	0	-18.83	-29.70	-27.15	-33.13
	2640.000	BPSK	Full RB	0	-17.27	-30.03	-25.40	-33.26
Limit (dBm)					-10.0		-10.0	

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	(C.E $\pm$ 5 MHz) ~ (C.E $\pm$ X MHz)		Above (C.E $\pm$ X MHz)	
					Lower	Upper	Lower	Upper
10 MHz	2592.990	BPSK	Full RB	0	-34.78	-34.58	-40.32	-40.85
	2685.000	BPSK	Full RB	0	-35.32	-35.01	-40.06	-41.79
15 MHz	2592.990	BPSK	Full RB	0	-35.03	-35.63	-40.62	-41.87
	2682.480	BPSK	Full RB	0	-35.14	-35.99	-38.88	-41.27
20 MHz	2592.990	BPSK	Full RB	0	-34.47	-34.73	-39.53	-40.44
	2679.990	BPSK	Full RB	0	-35.60	-36.63	-43.36	-44.99
30 MHz	2592.990	BPSK	Full RB	0	-34.97	-35.45	-38.62	-37.85
	2674.980	BPSK	Full RB	0	-35.21	-37.08	-39.08	-43.60
40 MHz	2592.990	BPSK	Full RB	0	-35.76	-36.49	-43.78	-44.47
	2670.000	BPSK	Full RB	0	-35.04	-37.81	-43.52	-48.95
50 MHz	2592.990	BPSK	Full RB	0	-38.23	-38.90	-42.12	-43.11
	2664.990	BPSK	Full RB	0	-36.51	-37.75	-38.69	-46.78
60 MHz	2592.990	BPSK	Full RB	0	-36.05	-37.52	-41.99	-44.34
	2659.980	BPSK	Full RB	0	-34.81	-37.13	-38.46	-52.57
70 MHz	2592.990	BPSK	Full RB	0	-37.21	-37.34	-44.29	-44.28
	2655.000	BPSK	Full RB	0	-35.61	-36.83	-39.17	-52.49
80 MHz	2592.990	BPSK	Full RB	0	-36.00	-37.25	-51.45	-41.33
	2649.990	BPSK	Full RB	0	-35.18	-37.92	-41.50	-52.49
90 MHz	2592.990	BPSK	Full RB	0	-36.87	-36.03	-52.89	-50.41
	2644.980	BPSK	Full RB	0	-36.00	-38.46	-43.68	-52.58
100 MHz	2592.990	BPSK	Full RB	0	-37.14	-36.72	-52.92	-51.33
	2640.000	BPSK	Full RB	0	-35.04	-38.07	-46.53	-52.54
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) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
 - Result(dBm) = Reading + Factor
 - Duty Cycle Factor(dB) = 6.99
4. Plots of the EUT's Channel Edge are shown Page 244 ~ 320. (1RB & Full RB)

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

BandWidth:	10 MHz
Voltage(100 %):	3.860 VDC
Batt. Endpoint:	3.400 VDC
LIMIT:	Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2501.010	100 %	+20(Ref)	2501 009 994	0.0	0.000 000	0.000
	100 %	-30	2501 009 990	-4.1	0.000 000	-0.002
	100 %	-20	2501 009 994	-0.6	0.000 000	0.000
	100 %	-10	2501 009 993	-1.1	0.000 000	0.000
	100 %	0	2501 009 984	-9.8	0.000 000	-0.004
	100 %	+10	2501 009 995	0.3	0.000 000	0.000
	100 %	+30	2501 009 993	-1.3	0.000 000	-0.001
	100 %	+40	2501 009 994	-0.2	0.000 000	0.000
	100 %	+50	2501 009 992	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	2501 009 996	1.5	0.000 000	0.001
2685.000	100 %	+20(Ref)	2685 000 001	0.0	0.000 000	0.000
	100 %	-30	2684 999 995	-5.6	0.000 000	-0.002
	100 %	-20	2684 999 997	-4.1	0.000 000	-0.002
	100 %	-10	2685 000 000	-0.8	0.000 000	0.000
	100 %	0	2684 999 996	-4.9	0.000 000	-0.002
	100 %	+10	2684 999 997	-3.7	0.000 000	-0.001
	100 %	+30	2684 999 999	-2.3	0.000 000	-0.001
	100 %	+40	2684 999 998	-3.2	0.000 000	-0.001
	100 %	+50	2684 999 999	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	2684 999 995	-6.0	0.000 000	-0.002

- ▣ BandWidth: 15 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2503.500	100 %	+20(Ref)	2503 499 998	0.0	0.000 000	0.000
	100 %	-30	2503 499 998	0.0	0.000 000	0.000
	100 %	-20	2503 499 995	-3.3	0.000 000	-0.001
	100 %	-10	2503 499 996	-1.9	0.000 000	-0.001
	100 %	0	2503 499 997	-1.0	0.000 000	0.000
	100 %	+10	2503 499 997	-1.2	0.000 000	0.000
	100 %	+30	2503 499 997	-0.9	0.000 000	0.000
	100 %	+40	2503 499 995	-2.6	0.000 000	-0.001
	100 %	+50	2503 499 993	-5.2	0.000 000	-0.002
	Batt. Endpoint	+20	2503 499 998	-0.5	0.000 000	0.000
2682.480	100 %	+20(Ref)	2682 479 997	0.0	0.000 000	0.000
	100 %	-30	2682 479 992	-5.3	0.000 000	-0.002
	100 %	-20	2682 479 999	1.9	0.000 000	0.001
	100 %	-10	2682 479 993	-4.9	0.000 000	-0.002
	100 %	0	2682 479 993	-4.1	0.000 000	-0.002
	100 %	+10	2682 479 993	-4.7	0.000 000	-0.002
	100 %	+30	2682 479 994	-3.2	0.000 000	-0.001
	100 %	+40	2682 479 994	-3.7	0.000 000	-0.001
	100 %	+50	2682 479 994	-3.8	0.000 000	-0.001
	Batt. Endpoint	+20	2682 479 995	-2.1	0.000 000	-0.001

▣ BandWidth:	<u>20 MHz</u>
▣ Voltage(100 %):	<u>3.860 VDC</u>
▣ Batt. Endpoint:	<u>3.400 VDC</u>
▣ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2506.020	100 %	+20(Ref)	2506 019 996	0.0	0.000 000	0.000
	100 %	-30	2506 019 991	-4.1	0.000 000	-0.002
	100 %	-20	2506 019 994	-1.7	0.000 000	-0.001
	100 %	-10	2506 019 996	0.3	0.000 000	0.000
	100 %	0	2506 019 988	-7.1	0.000 000	-0.003
	100 %	+10	2506 019 995	-0.9	0.000 000	0.000
	100 %	+30	2506 019 990	-5.7	0.000 000	-0.002
	100 %	+40	2506 019 994	-1.8	0.000 000	-0.001
	100 %	+50	2506 019 993	-2.2	0.000 000	-0.001
	Batt. Endpoint	+20	2506 019 995	-0.4	0.000 000	0.000
2679.990	100 %	+20(Ref)	2679 990 009	0.0	0.000 000	0.000
	100 %	-30	2679 990 019	9.8	0.000 000	0.004
	100 %	-20	2679 990 020	10.2	0.000 000	0.004
	100 %	-10	2679 990 015	5.6	0.000 000	0.002
	100 %	0	2679 990 015	5.2	0.000 000	0.002
	100 %	+10	2679 990 017	7.8	0.000 000	0.003
	100 %	+30	2679 990 009	-0.7	0.000 000	0.000
	100 %	+40	2679 990 011	1.5	0.000 000	0.001
	100 %	+50	2679 990 004	-5.7	0.000 000	-0.002
	Batt. Endpoint	+20	2679 990 012	2.1	0.000 000	0.001

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2511.000	100 %	+20(Ref)	2510 999 997	0.0	0.000 000	0.000
	100 %	-30	2510 999 993	-4.3	0.000 000	-0.002
	100 %	-20	2510 999 995	-2.1	0.000 000	-0.001
	100 %	-10	2510 999 996	-1.5	0.000 000	-0.001
	100 %	0	2510 999 989	-8.0	0.000 000	-0.003
	100 %	+10	2510 999 993	-4.1	0.000 000	-0.002
	100 %	+30	2510 999 991	-6.4	0.000 000	-0.003
	100 %	+40	2510 999 992	-5.2	0.000 000	-0.002
	100 %	+50	2510 999 994	-2.8	0.000 000	-0.001
	Batt. Endpoint	+20	2510 999 988	-9.4	0.000 000	-0.004
2674.980	100 %	+20(Ref)	2674 980 000	0.0	0.000 000	0.000
	100 %	-30	2674 979 999	-0.8	0.000 000	0.000
	100 %	-20	2674 979 997	-2.8	0.000 000	-0.001
	100 %	-10	2674 979 998	-1.2	0.000 000	0.000
	100 %	0	2674 980 000	0.0	0.000 000	0.000
	100 %	+10	2674 979 999	-0.5	0.000 000	0.000
	100 %	+30	2674 980 000	0.1	0.000 000	0.000
	100 %	+40	2674 979 999	-0.7	0.000 000	0.000
	100 %	+50	2674 979 997	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	2674 979 997	-2.7	0.000 000	-0.001

■ BandWidth: 40 MHz
 ■ Voltage(100 %): 3.860 VDC
 ■ Batt. Endpoint: 3.400 VDC
 ■ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2516.010	100 %	+20(Ref)	2516 009 993	0.0	0.000 000	0.000
	100 %	-30	2516 009 992	-0.5	0.000 000	0.000
	100 %	-20	2516 009 988	-4.8	0.000 000	-0.002
	100 %	-10	2516 009 992	-0.6	0.000 000	0.000
	100 %	0	2516 009 985	-7.5	0.000 000	-0.003
	100 %	+10	2516 009 986	-6.7	0.000 000	-0.003
	100 %	+30	2516 009 987	-5.7	0.000 000	-0.002
	100 %	+40	2516 009 986	-6.9	0.000 000	-0.003
	100 %	+50	2516 009 986	-6.7	0.000 000	-0.003
	Batt. Endpoint	+20	2516 009 989	-3.9	0.000 000	-0.002
2670.000	100 %	+20(Ref)	2670 000 003	0.0	0.000 000	0.000
	100 %	-30	2669 999 998	-5.3	0.000 000	-0.002
	100 %	-20	2669 999 999	-4.3	0.000 000	-0.002
	100 %	-10	2670 000 000	-2.7	0.000 000	-0.001
	100 %	0	2669 999 999	-4.2	0.000 000	-0.002
	100 %	+10	2670 000 002	-1.2	0.000 000	0.000
	100 %	+30	2670 000 000	-2.5	0.000 000	-0.001
	100 %	+40	2669 999 997	-6.5	0.000 000	-0.002
	100 %	+50	2670 000 000	-2.8	0.000 000	-0.001
	Batt. Endpoint	+20	2669 999 999	-3.9	0.000 000	-0.001

- ▣ BandWidth: 50 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2521.020	100 %	+20(Ref)	2521 019 995	0.0	0.000 000	0.000
	100 %	-30	2521 019 990	-5.3	0.000 000	-0.002
	100 %	-20	2521 019 988	-7.1	0.000 000	-0.003
	100 %	-10	2521 019 990	-5.3	0.000 000	-0.002
	100 %	0	2521 019 985	-9.6	0.000 000	-0.004
	100 %	+10	2521 019 991	-4.1	0.000 000	-0.002
	100 %	+30	2521 019 986	-9.3	0.000 000	-0.004
	100 %	+40	2521 019 989	-6.1	0.000 000	-0.002
	100 %	+50	2521 019 990	-5.2	0.000 000	-0.002
	Batt. Endpoint	+20	2521 019 991	-4.1	0.000 000	-0.002
2664.990	100 %	+20(Ref)	2664 989 997	0.0	0.000 000	0.000
	100 %	-30	2664 989 995	-1.9	0.000 000	-0.001
	100 %	-20	2664 989 987	-10.3	0.000 000	-0.004
	100 %	-10	2664 989 993	-3.9	0.000 000	-0.001
	100 %	0	2664 989 994	-3.4	0.000 000	-0.001
	100 %	+10	2664 989 992	-5.3	0.000 000	-0.002
	100 %	+30	2664 989 992	-5.0	0.000 000	-0.002
	100 %	+40	2664 989 993	-4.0	0.000 000	-0.002
	100 %	+50	2664 989 988	-8.7	0.000 000	-0.003
	Batt. Endpoint	+20	2664 989 995	-2.1	0.000 000	-0.001

- ▣ BandWidth: 60 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2526.000	100 %	+20(Ref)	2525 999 998	0.0	0.000 000	0.000
	100 %	-30	2525 999 995	-2.8	0.000 000	-0.001
	100 %	-20	2525 999 994	-3.9	0.000 000	-0.002
	100 %	-10	2525 999 995	-3.1	0.000 000	-0.001
	100 %	0	2525 999 995	-2.2	0.000 000	-0.001
	100 %	+10	2525 999 997	-0.7	0.000 000	0.000
	100 %	+30	2525 999 991	-6.7	0.000 000	-0.003
	100 %	+40	2525 999 995	-2.7	0.000 000	-0.001
	100 %	+50	2525 999 994	-3.5	0.000 000	-0.001
	Batt. Endpoint	+20	2525 999 995	-3.1	0.000 000	-0.001
2659.980	100 %	+20(Ref)	2659 979 998	0.0	0.000 000	0.000
	100 %	-30	2659 979 998	-0.1	0.000 000	0.000
	100 %	-20	2659 979 995	-2.9	0.000 000	-0.001
	100 %	-10	2659 979 994	-3.4	0.000 000	-0.001
	100 %	0	2659 979 992	-5.3	0.000 000	-0.002
	100 %	+10	2659 979 997	-0.6	0.000 000	0.000
	100 %	+30	2659 979 996	-1.3	0.000 000	0.000
	100 %	+40	2659 979 996	-1.3	0.000 000	0.000
	100 %	+50	2659 979 995	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	2659 979 991	-6.3	0.000 000	-0.002

- ▣ BandWidth: 70 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2531.010	100 %	+20(Ref)	2531 009 997	0.0	0.000 000	0.000
	100 %	-30	2531 009 991	-5.4	0.000 000	-0.002
	100 %	-20	2531 009 991	-5.9	0.000 000	-0.002
	100 %	-10	2531 009 991	-6.2	0.000 000	-0.002
	100 %	0	2531 009 994	-3.3	0.000 000	-0.001
	100 %	+10	2531 009 995	-2.0	0.000 000	-0.001
	100 %	+30	2531 009 993	-4.2	0.000 000	-0.002
	100 %	+40	2531 009 990	-6.6	0.000 000	-0.003
	100 %	+50	2531 009 990	-6.5	0.000 000	-0.003
	Batt. Endpoint	+20	2531 009 994	-3.1	0.000 000	-0.001
2655.000	100 %	+20(Ref)	2654 999 998	0.0	0.000 000	0.000
	100 %	-30	2654 999 991	-7.3	0.000 000	-0.003
	100 %	-20	2654 999 992	-5.6	0.000 000	-0.002
	100 %	-10	2654 999 990	-8.3	0.000 000	-0.003
	100 %	0	2654 999 995	-2.5	0.000 000	-0.001
	100 %	+10	2654 999 991	-7.4	0.000 000	-0.003
	100 %	+30	2654 999 995	-3.1	0.000 000	-0.001
	100 %	+40	2654 999 990	-8.3	0.000 000	-0.003
	100 %	+50	2654 999 998	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	2654 999 994	-3.8	0.000 000	-0.001

- ▣ BandWidth: 80 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2536.020	100 %	+20(Ref)	2536 019 994	0.0	0.000 000	0.000
	100 %	-30	2536 019 987	-7.1	0.000 000	-0.003
	100 %	-20	2536 019 988	-5.6	0.000 000	-0.002
	100 %	-10	2536 019 991	-2.5	0.000 000	-0.001
	100 %	0	2536 019 990	-3.3	0.000 000	-0.001
	100 %	+10	2536 019 993	-0.4	0.000 000	0.000
	100 %	+30	2536 019 994	0.0	0.000 000	0.000
	100 %	+40	2536 019 989	-4.8	0.000 000	-0.002
	100 %	+50	2536 019 994	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	2536 019 993	-1.2	0.000 000	0.000
2649.990	100 %	+20(Ref)	2649 989 994	0.0	0.000 000	0.000
	100 %	-30	2649 989 993	-1.4	0.000 000	-0.001
	100 %	-20	2649 989 989	-5.3	0.000 000	-0.002
	100 %	-10	2649 989 991	-3.3	0.000 000	-0.001
	100 %	0	2649 989 991	-3.4	0.000 000	-0.001
	100 %	+10	2649 989 990	-4.3	0.000 000	-0.002
	100 %	+30	2649 989 991	-3.4	0.000 000	-0.001
	100 %	+40	2649 989 990	-4.2	0.000 000	-0.002
	100 %	+50	2649 989 986	-8.7	0.000 000	-0.003
	Batt. Endpoint	+20	2649 989 990	-4.5	0.000 000	-0.002

- ▣ BandWidth: 90 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

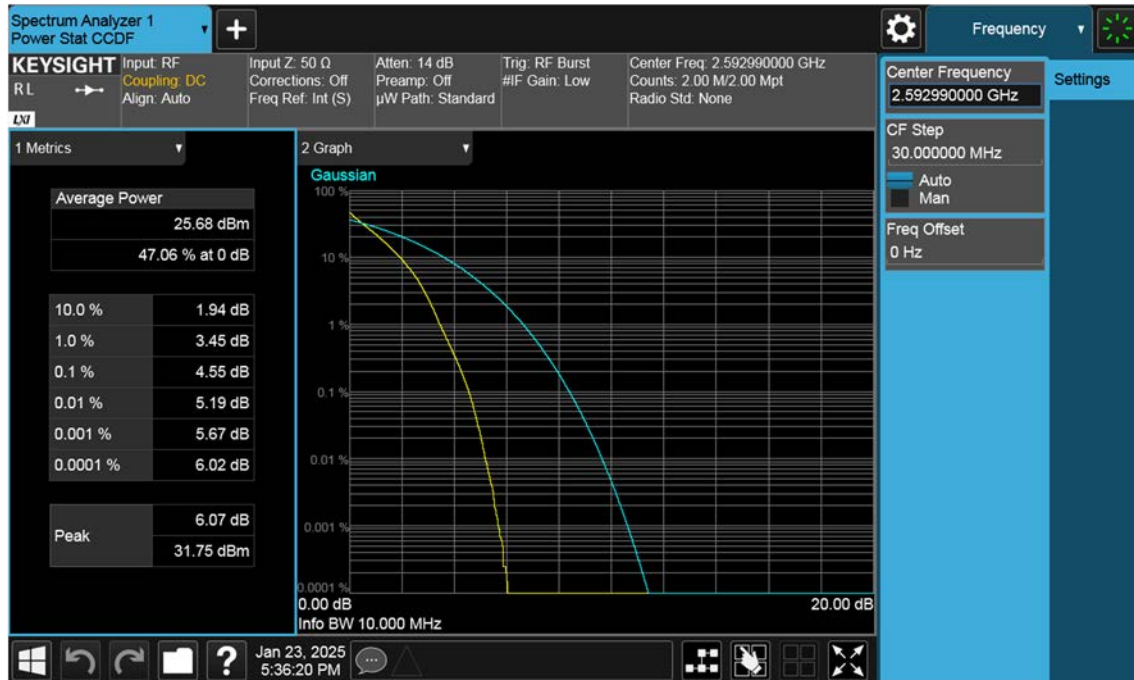
Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2541.000	100 %	+20(Ref)	2540 999 992	0.0	0.000 000	0.000
	100 %	-30	2540 999 992	-0.6	0.000 000	0.000
	100 %	-20	2540 999 988	-4.0	0.000 000	-0.002
	100 %	-10	2540 999 985	-7.1	0.000 000	-0.003
	100 %	0	2540 999 991	-1.8	0.000 000	-0.001
	100 %	+10	2540 999 991	-1.3	0.000 000	-0.001
	100 %	+30	2540 999 984	-8.1	0.000 000	-0.003
	100 %	+40	2540 999 990	-2.2	0.000 000	-0.001
	100 %	+50	2540 999 990	-2.9	0.000 000	-0.001
	Batt. Endpoint	+20	2540 999 985	-7.0	0.000 000	-0.003
2644.980	100 %	+20(Ref)	2644 979 999	0.0	0.000 000	0.000
	100 %	-30	2644 979 998	-0.7	0.000 000	0.000
	100 %	-20	2644 979 994	-5.1	0.000 000	-0.002
	100 %	-10	2644 979 995	-4.0	0.000 000	-0.002
	100 %	0	2644 979 998	-1.3	0.000 000	0.000
	100 %	+10	2644 979 997	-2.1	0.000 000	-0.001
	100 %	+30	2644 979 995	-3.9	0.000 000	-0.001
	100 %	+40	2644 979 994	-4.5	0.000 000	-0.002
	100 %	+50	2644 979 995	-4.0	0.000 000	-0.001
	Batt. Endpoint	+20	2644 979 997	-2.0	0.000 000	-0.001

- ▣ BandWidth: 100 MHz
- ▣ Voltage(100 %): 3.860 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

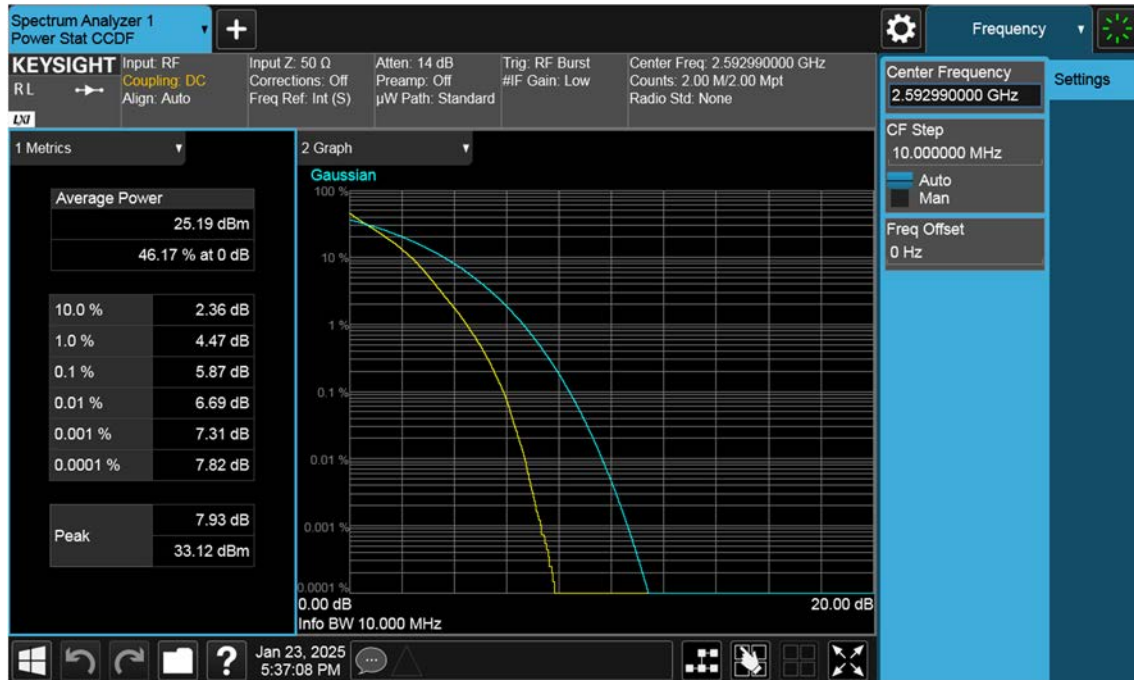
Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
2546.010	100 %	+20(Ref)	2546 010 004	0.0	0.000 000	0.000
	100 %	-30	2546 010 002	-1.7	0.000 000	-0.001
	100 %	-20	2546 010 005	1.3	0.000 000	0.001
	100 %	-10	2546 010 001	-3.0	0.000 000	-0.001
	100 %	0	2546 010 003	-1.0	0.000 000	0.000
	100 %	+10	2546 010 004	0.1	0.000 000	0.000
	100 %	+30	2546 009 998	-6.2	0.000 000	-0.002
	100 %	+40	2546 010 001	-2.5	0.000 000	-0.001
	100 %	+50	2546 009 999	-4.7	0.000 000	-0.002
	Batt. Endpoint	+20	2546 010 006	1.8	0.000 000	0.001
2640.000	100 %	+20(Ref)	2639 999 997	0.0	0.000 000	0.000
	100 %	-30	2639 999 992	-4.8	0.000 000	-0.002
	100 %	-20	2639 999 994	-2.7	0.000 000	-0.001
	100 %	-10	2639 999 994	-3.0	0.000 000	-0.001
	100 %	0	2639 999 997	-0.4	0.000 000	0.000
	100 %	+10	2639 999 996	-0.9	0.000 000	0.000
	100 %	+30	2639 999 994	-3.0	0.000 000	-0.001
	100 %	+40	2639 999 992	-5.1	0.000 000	-0.002
	100 %	+50	2639 999 995	-2.5	0.000 000	-0.001
	Batt. Endpoint	+20	2639 999 990	-6.9	0.000 000	-0.003

9. TEST PLOTS

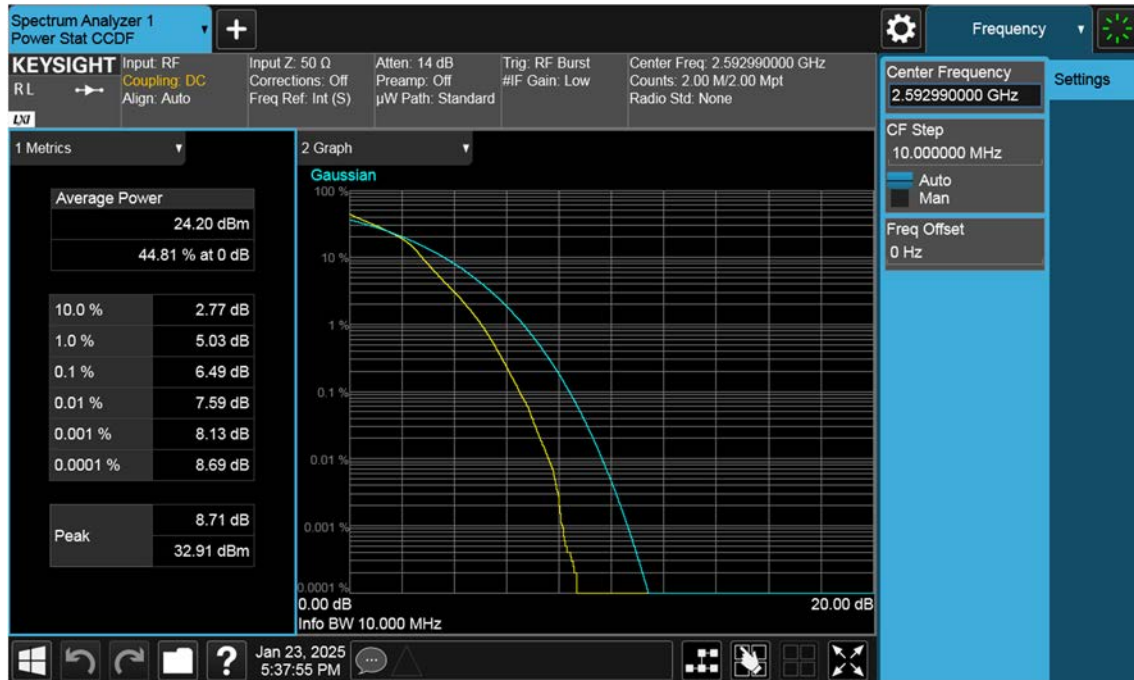
NR41_10 M_PAR_Mid_BPSK_FullRB



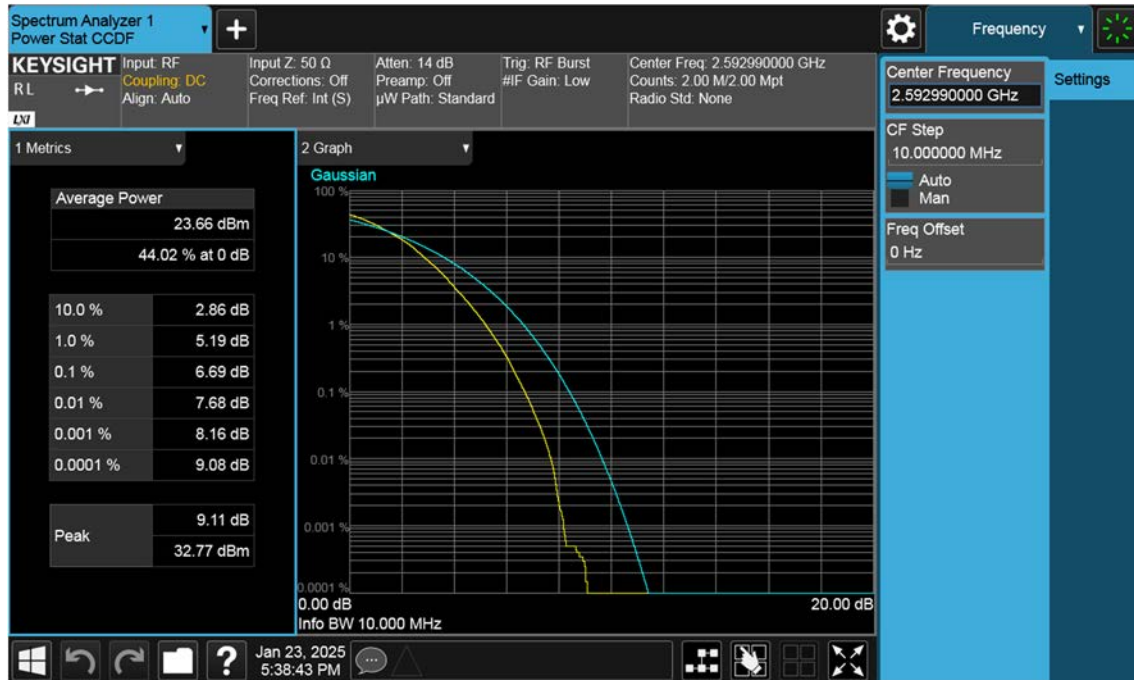
NR41_10 M_PAR_Mid_QPSK_FullRB



NR41_10 M_PAR_Mid_16QAM_FullRB



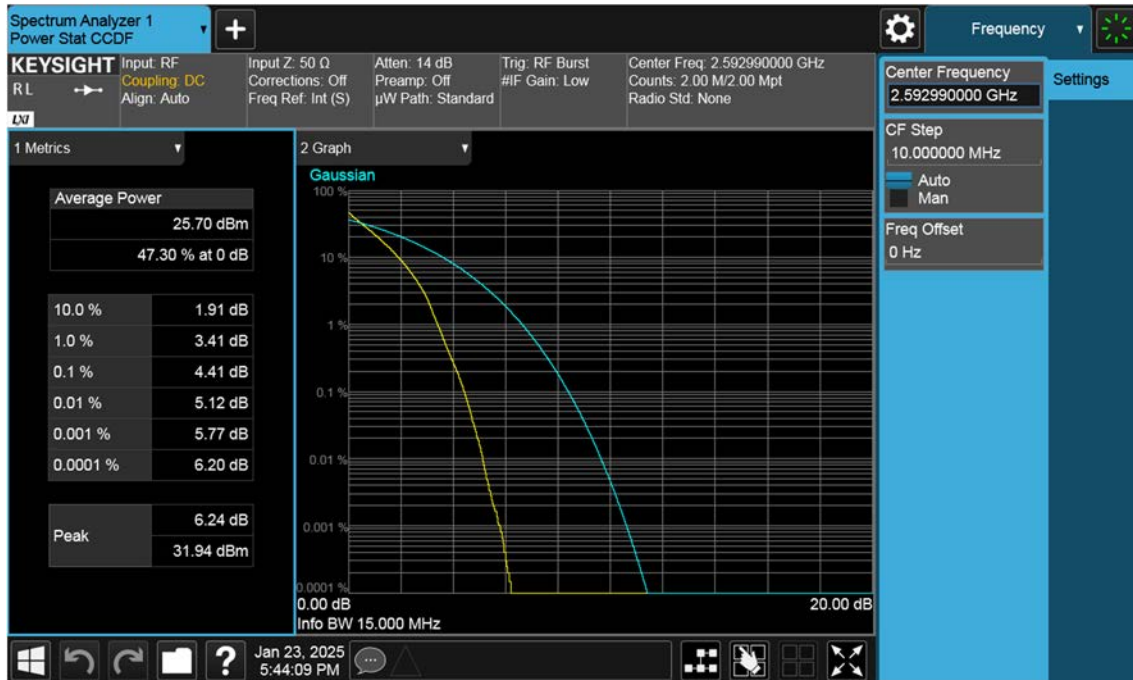
NR41_10 M_PAR_Mid_64QAM_FullRB



NR41_10 M_PAR_Mid_256QAM_FullRB



NR41_15 M_PAR_Mid_BPSK_FullRB



Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT R L → **Input: RF**
Coupling, DC
Align: Auto

Input Z: 50 Ω
Corrections: Off
Freq Ref: Int (S)

Atten: 14 dB
Preamp: Off
μW Path: Standard

Trig: RF Burst
#IF Gain: Low

Center Freq: 2.592990000 GHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Center Frequency
2.592990000 GHz

Settings

CF Step
15.000000 MHz

Freq Offset
0 Hz

1 Metrics

Average Power

25.20 dBm

46.22 % at 0 dB

10.0 % 2.35 dB

1.0 % 4.37 dB

0.1 % 5.69 dB

0.01 % 6.47 dB

0.001 % 7.09 dB

0.0001 % 7.38 dB

Peak

7.45 dB

32.65 dBm

2 Graph

Gaussian

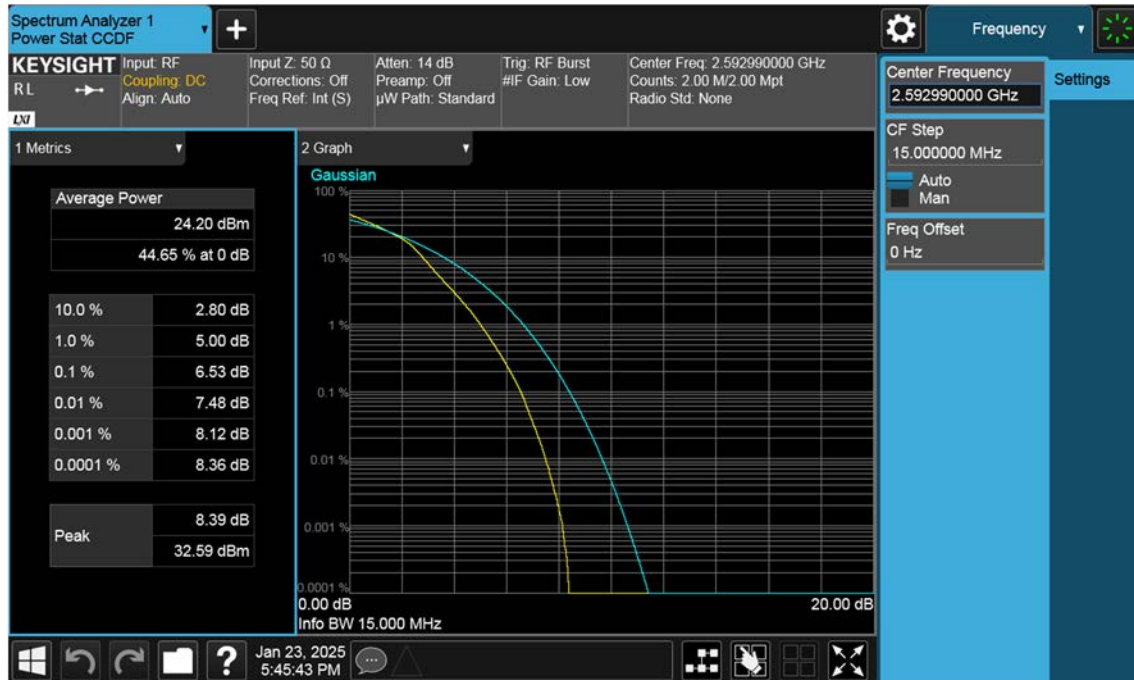
0.00 dB

20.00 dB

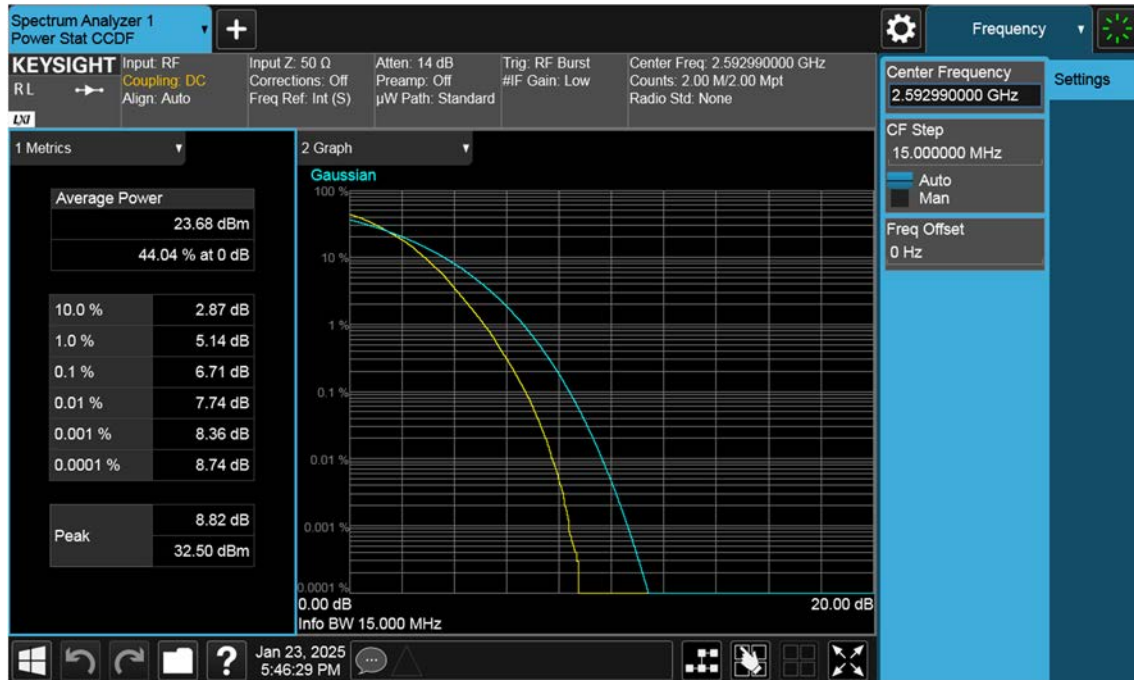
Info BW 15.000 MHz

Jan 23, 2025 5:44:57 PM

NR41_15 M_PAR_Mid_16QAM_FullRB



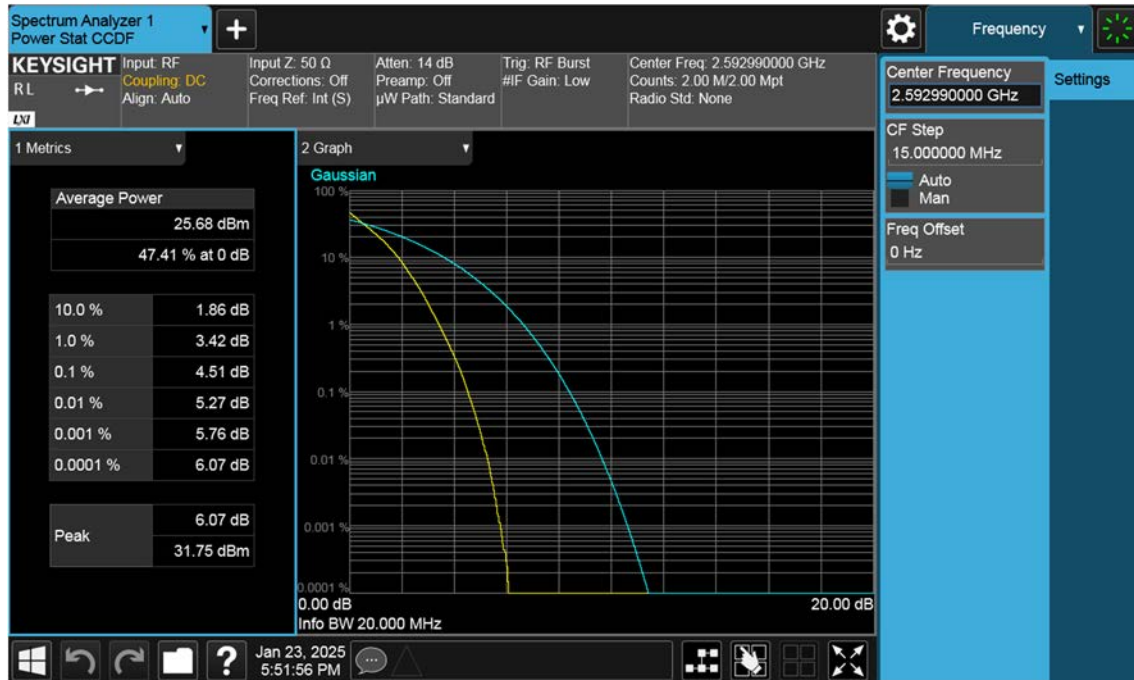
NR41_15 M_PAR_Mid_64QAM_FullRB



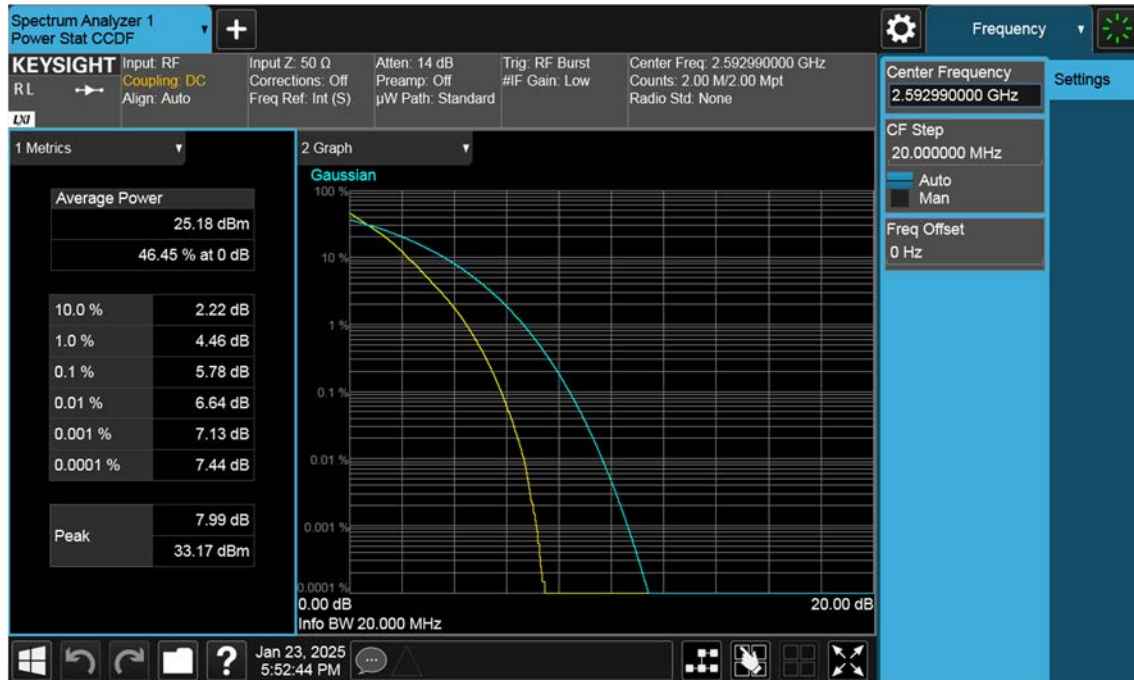
NR41_15 M_PAR_Mid_256QAM_FullRB



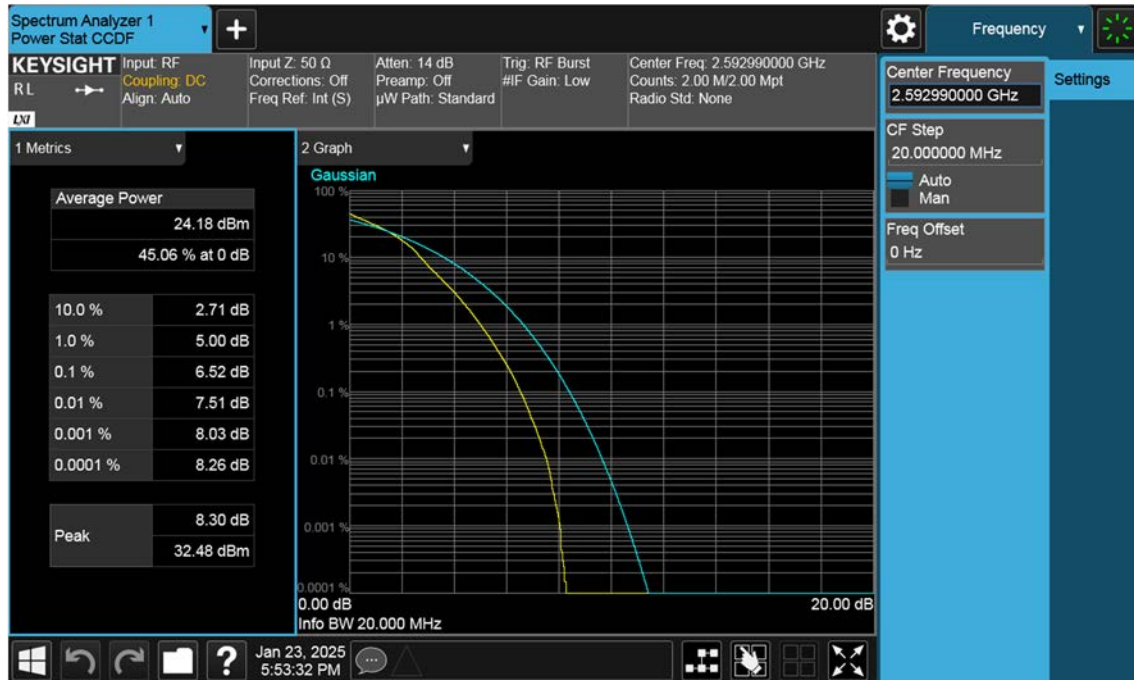
NR41_20 M_PAR_Mid_BPSK_FullRB



NR41_20 M_PAR_Mid_QPSK_FullRB



NR41_20 M_PAR_Mid_16QAM_FullRB



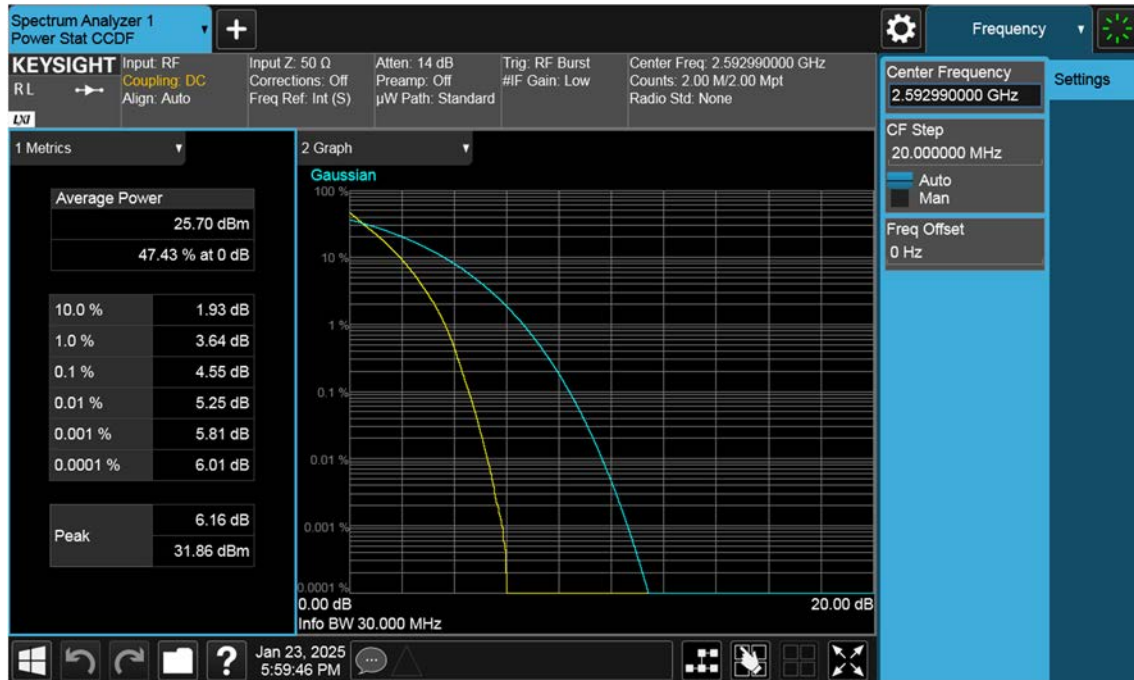
NR41_20 M_PAR_Mid_64QAM_FullRB



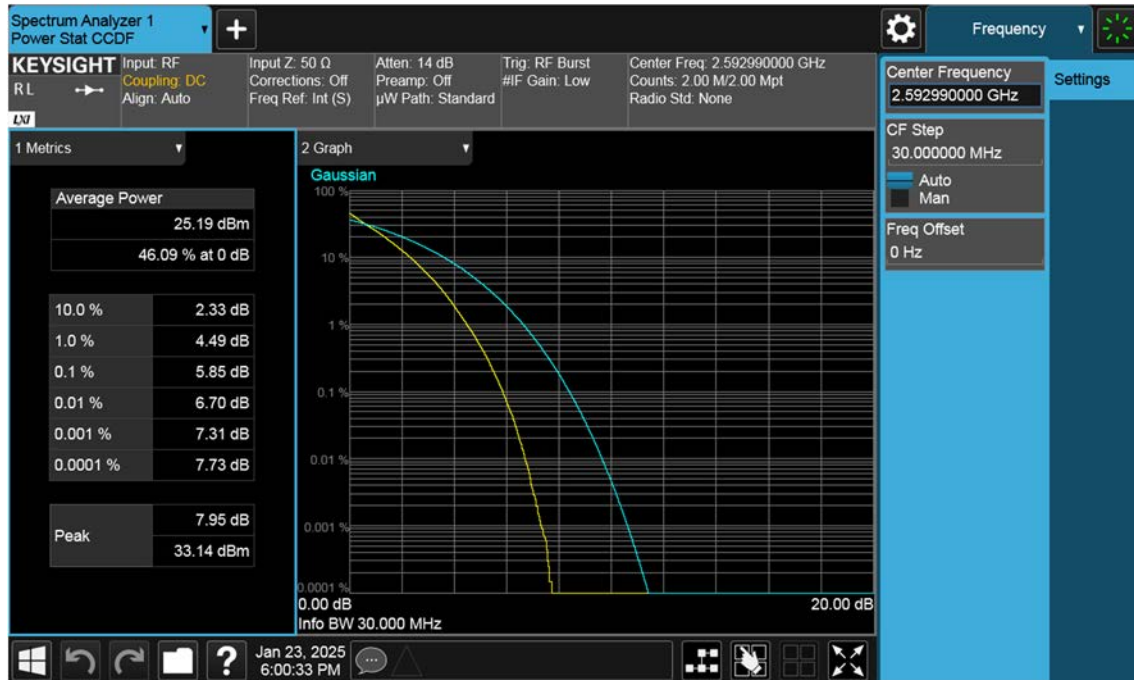
NR41_20 M_PAR_Mid_256QAM_FullRB



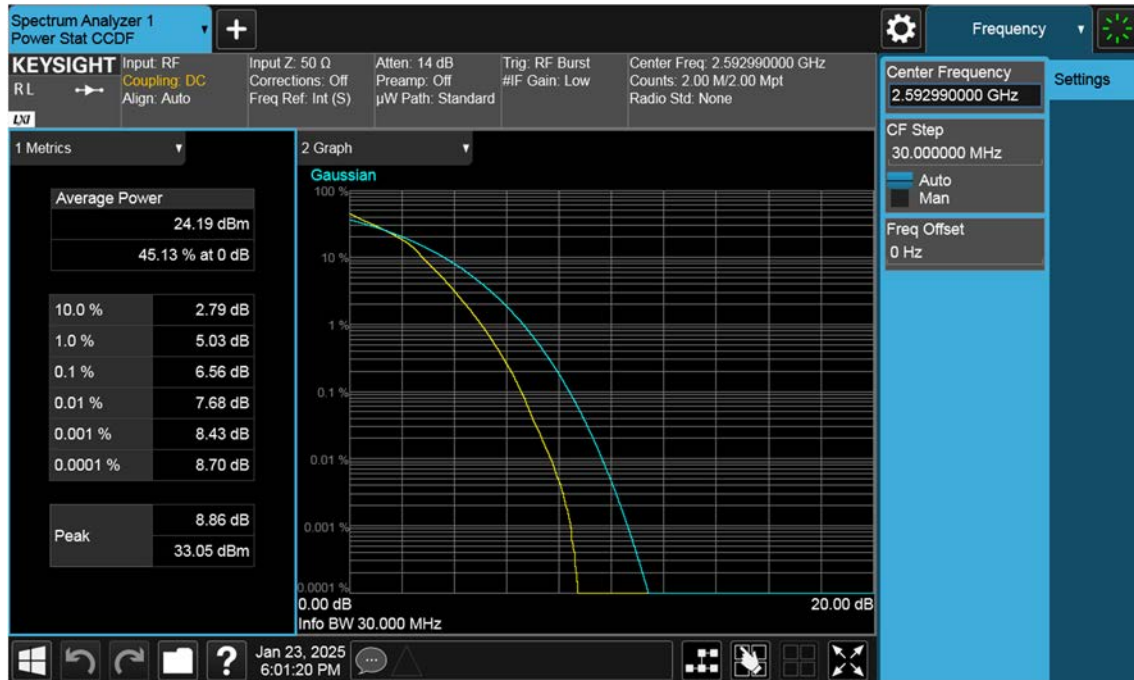
NR41_30 M_PAR_Mid_BPSK_FullRB



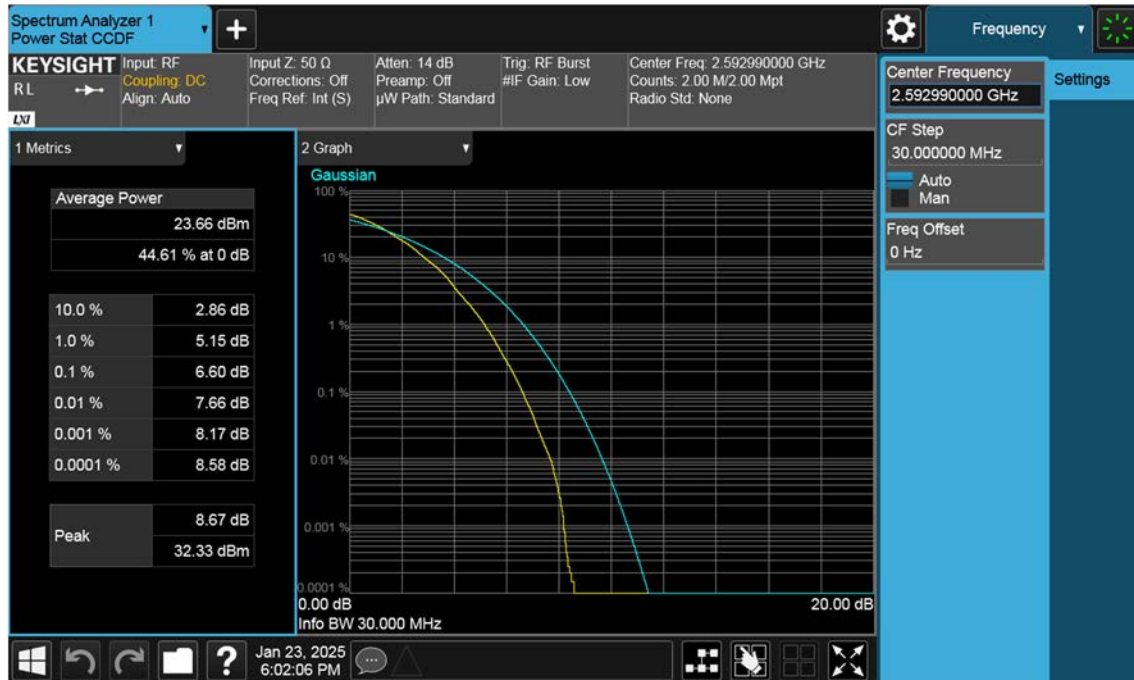
NR41_30 M_PAR_Mid_QPSK_FullRB



NR41_30 M_PAR_Mid_16QAM_FullRB



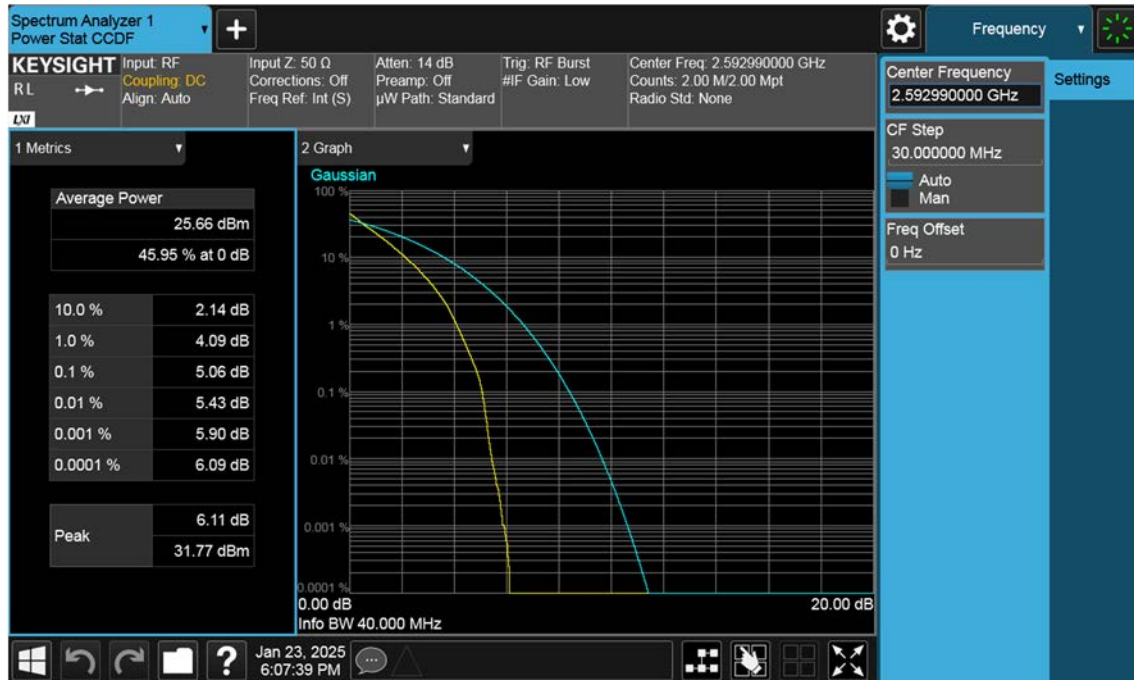
NR41_30 M_PAR_Mid_64QAM_FullRB



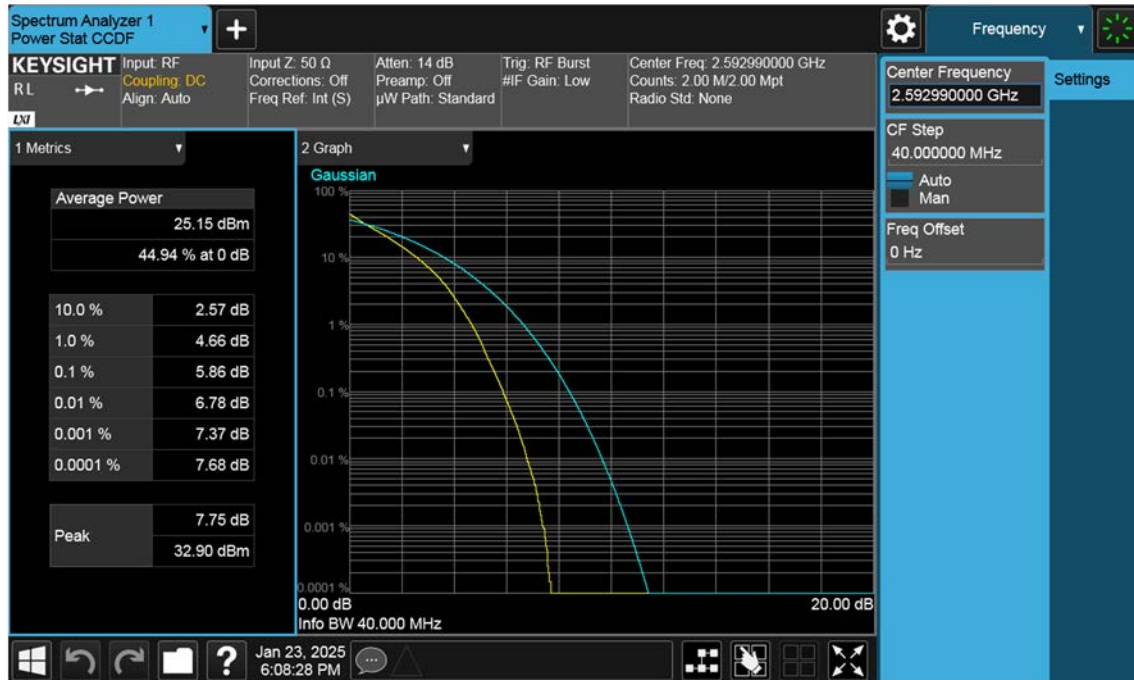
NR41_30 M_PAR_Mid_256QAM_FullRB



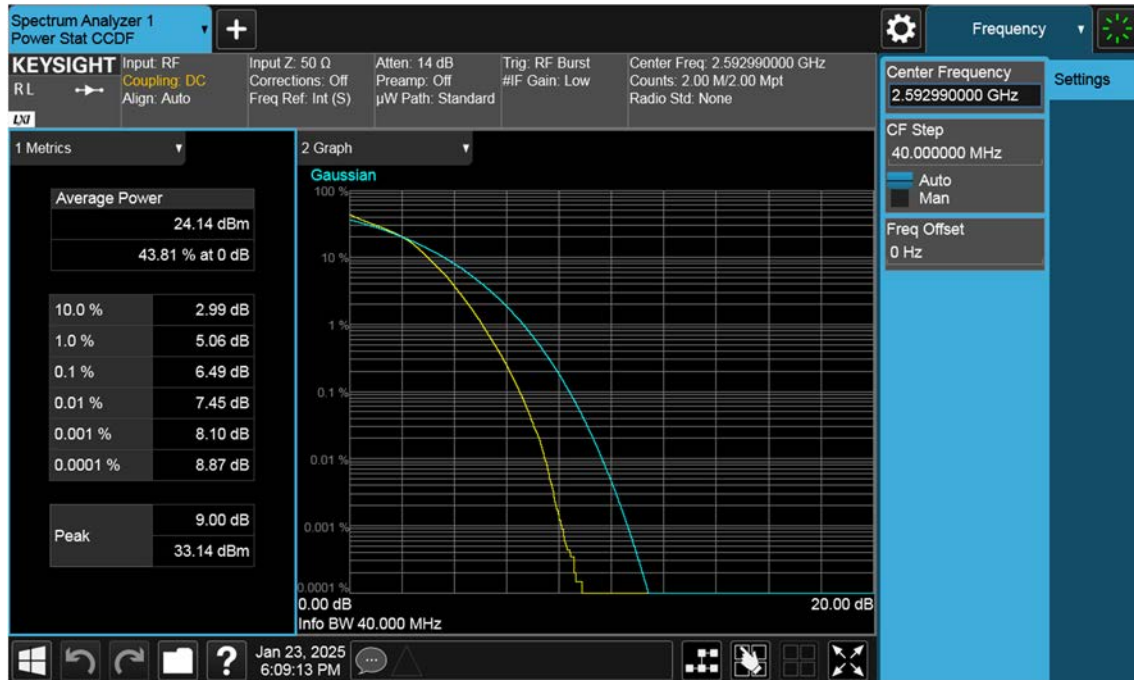
NR41_40 M_PAR_Mid_BPSK_FullRB



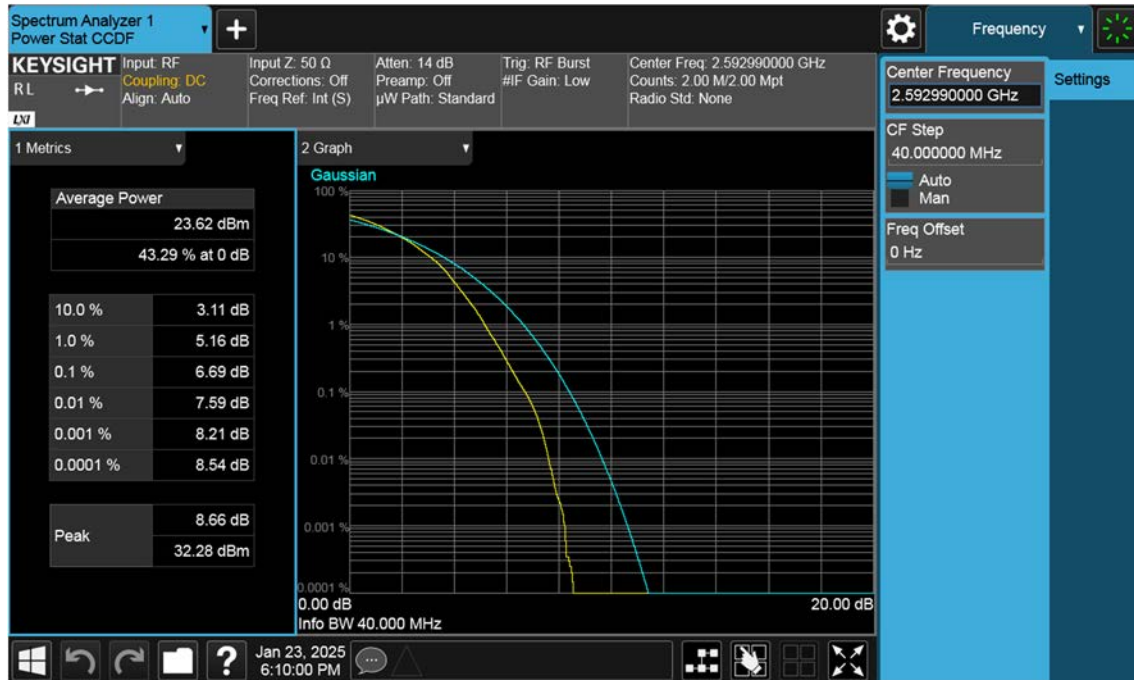
NR41_40 M_PAR_Mid_QPSK_FullRB



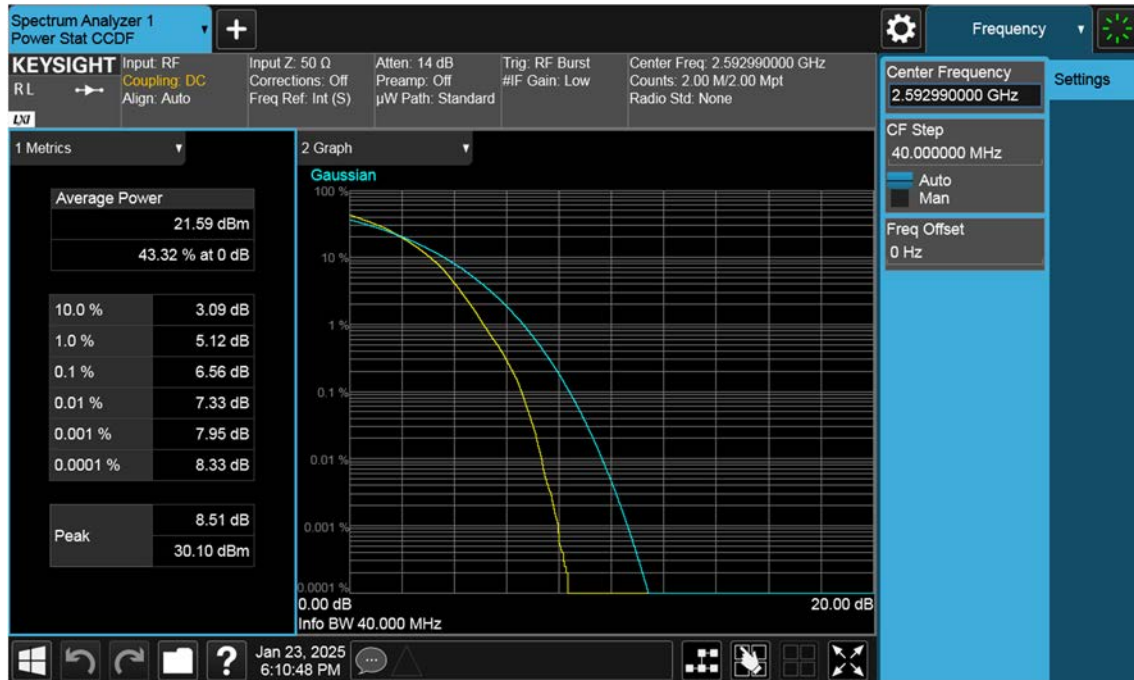
NR41_40 M_PAR_Mid_16QAM_FullRB



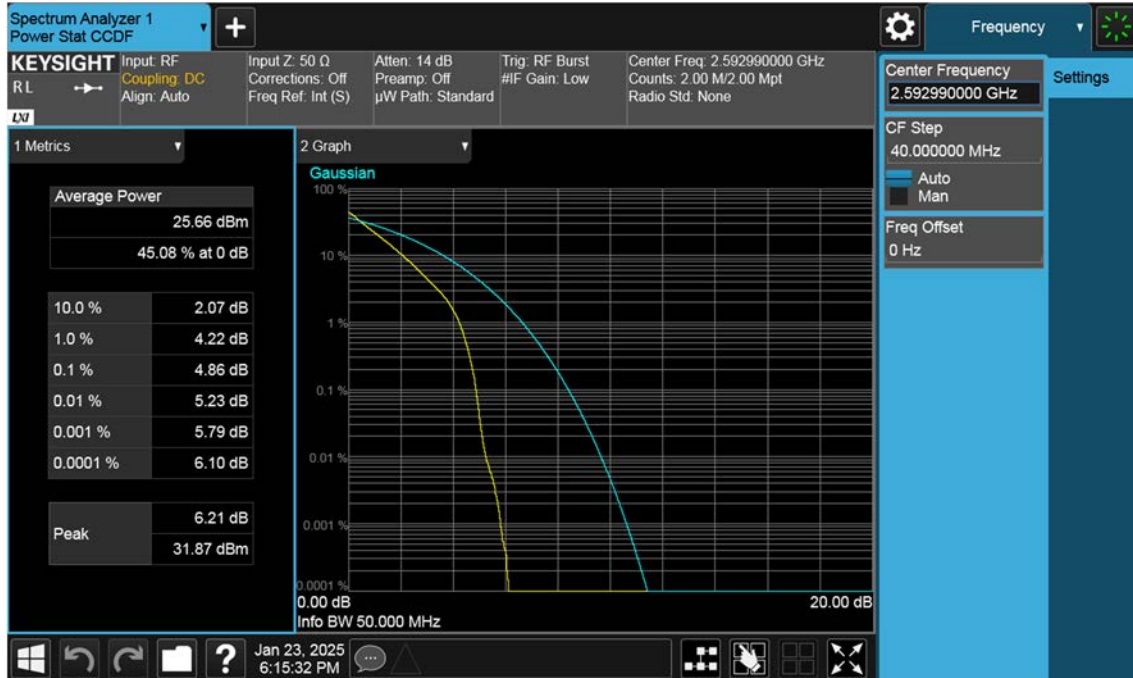
NR41_40 M_PAR_Mid_64QAM_FullRB



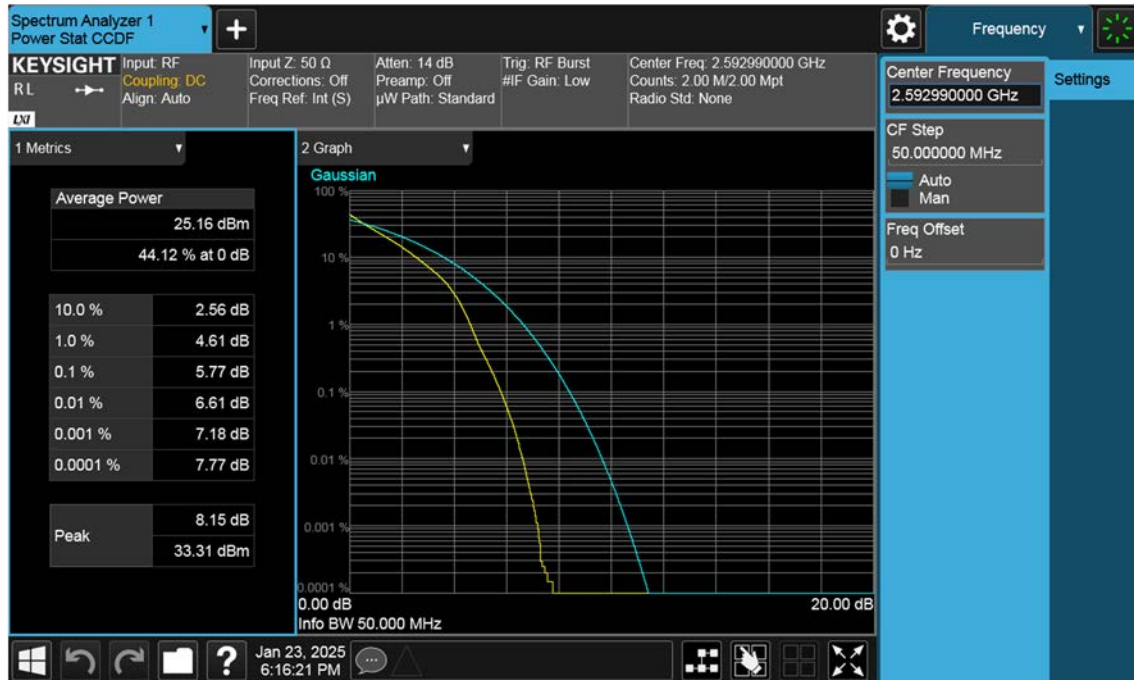
NR41_40 M_PAR_Mid_256QAM_FullRB



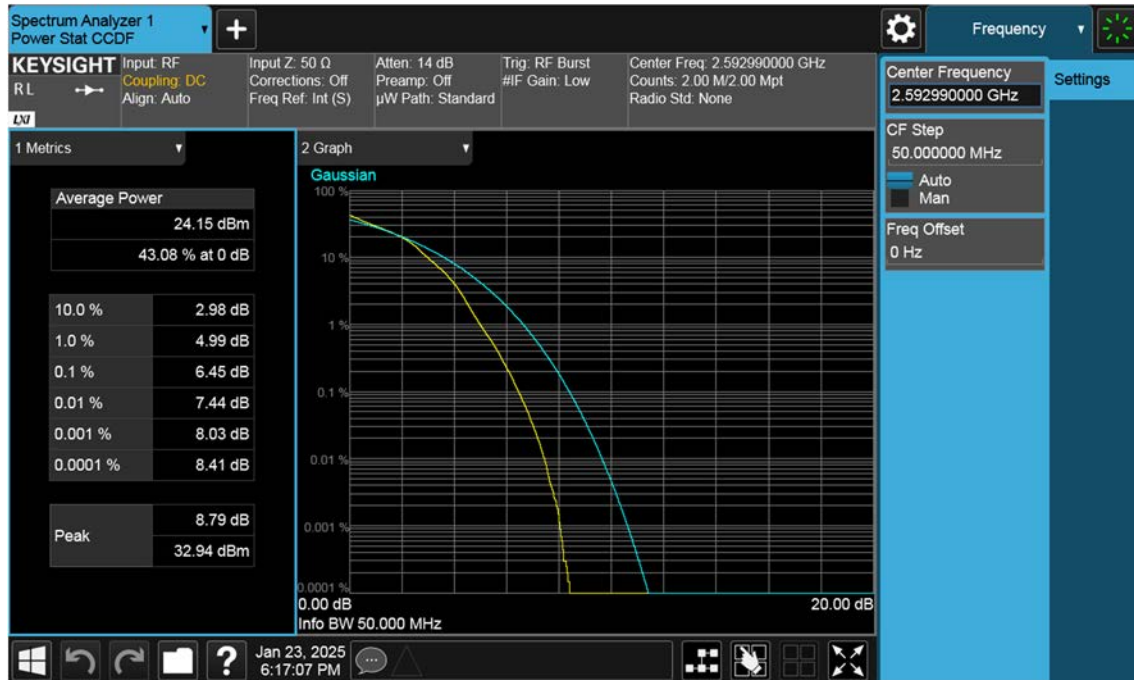
NR41_50 M_PAR_Mid_BPSK_FullRB



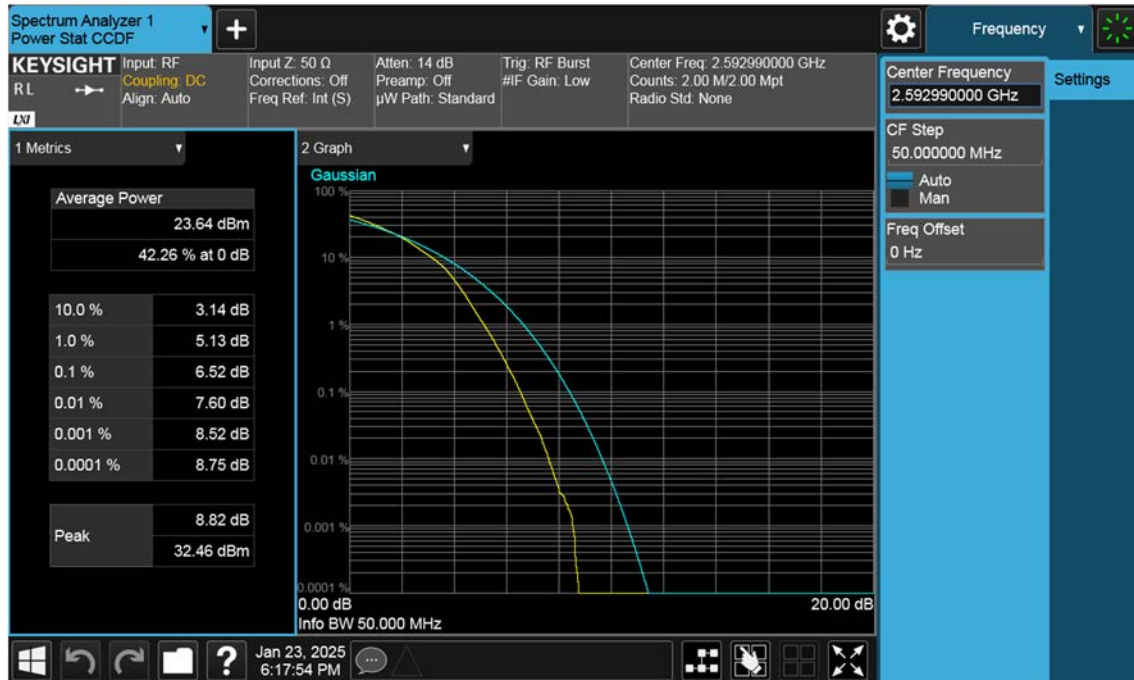
NR41_50 M_PAR_Mid_QPSK_FullRB



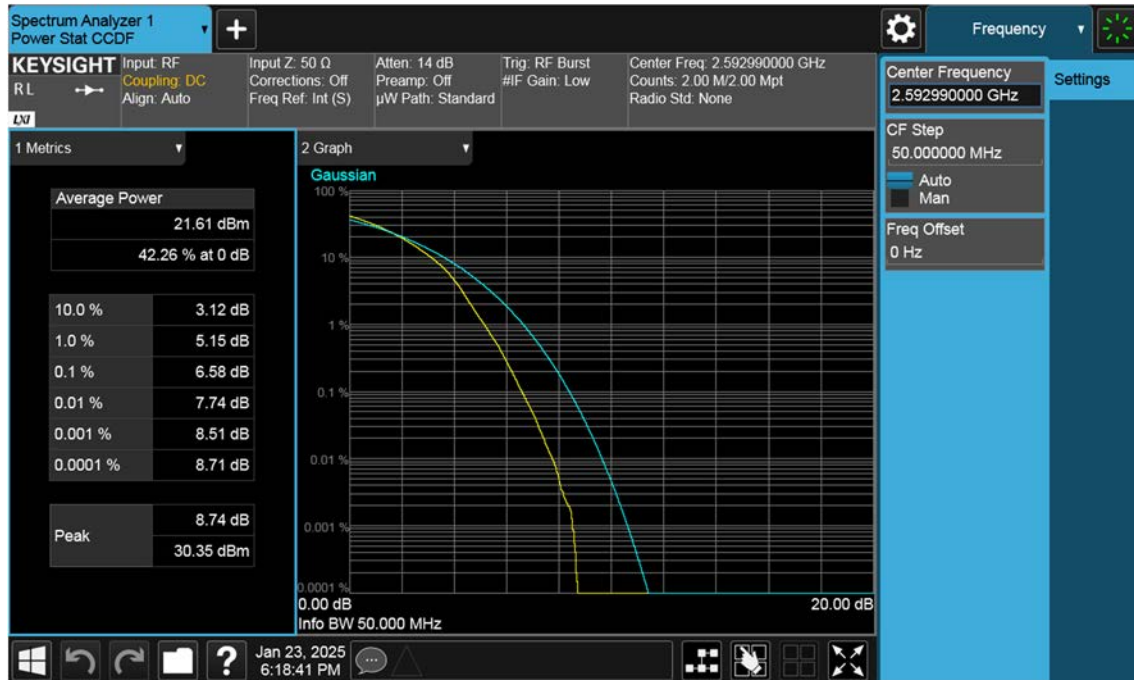
NR41_50 M_PAR_Mid_16QAM_FullRB



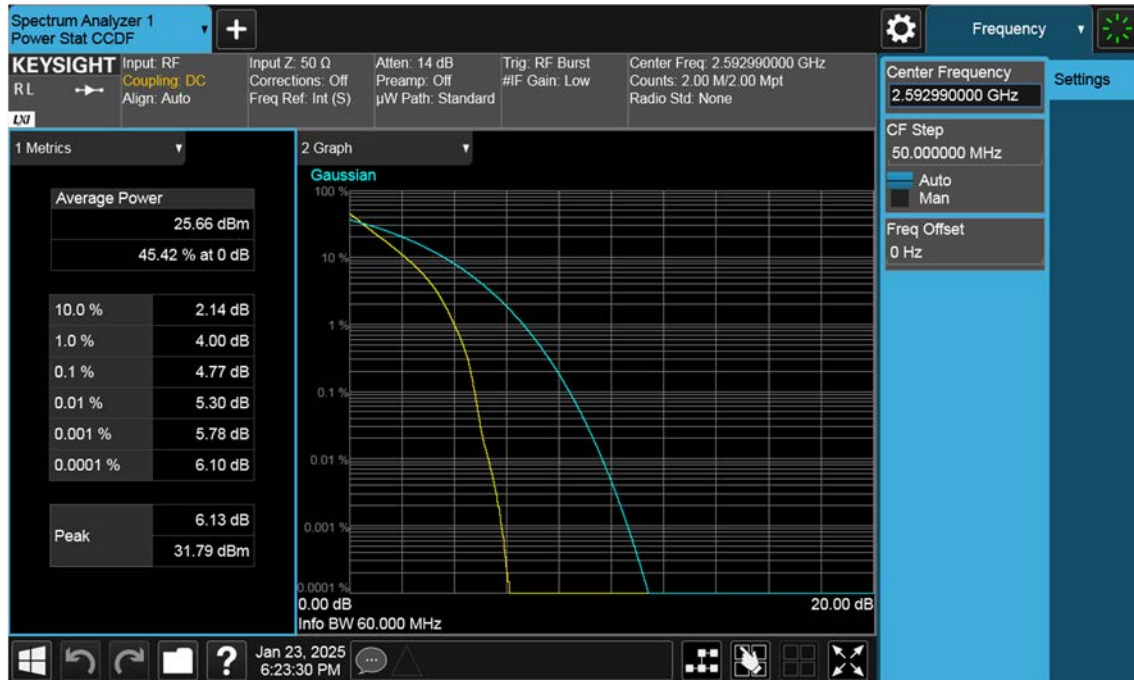
NR41_50 M_PAR_Mid_64QAM_FullRB



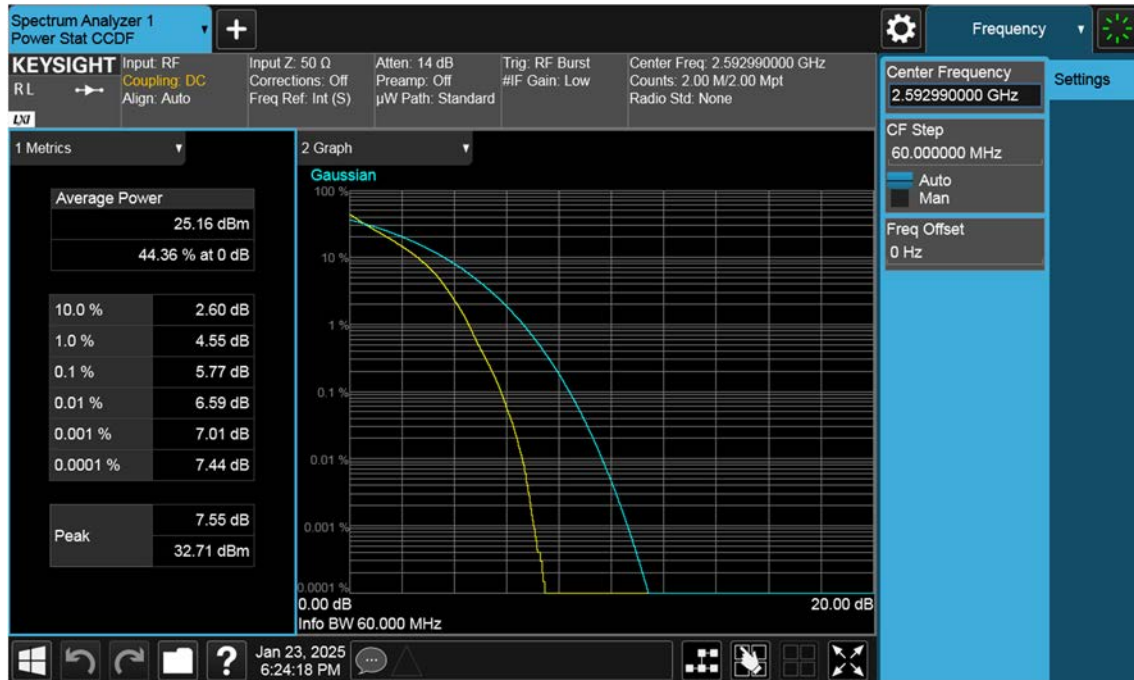
NR41_50 M_PAR_Mid_256QAM_FullRB



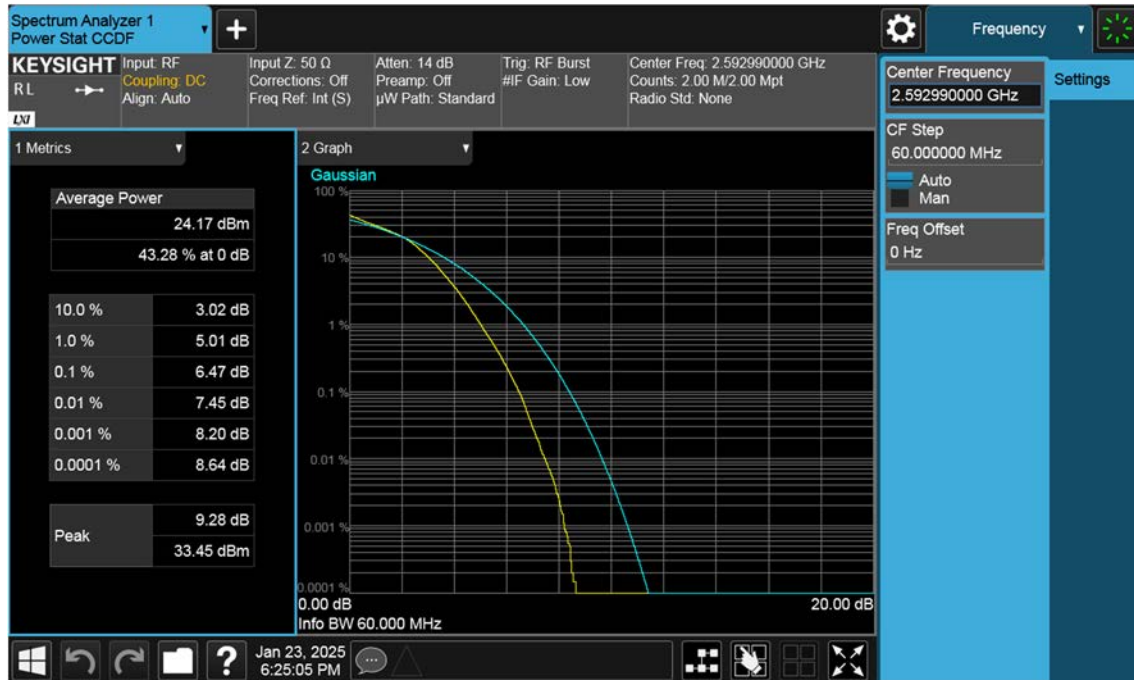
NR41_60 M_PAR_Mid_BPSK_FullRB



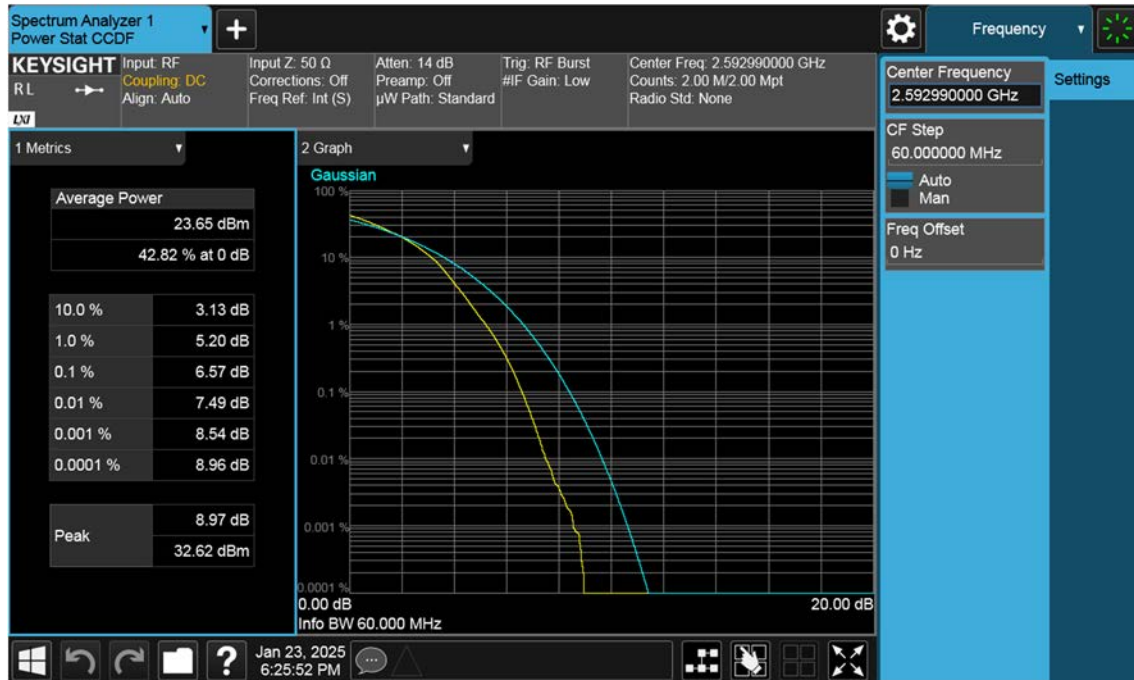
NR41_60 M_PAR_Mid_QPSK_FullRB



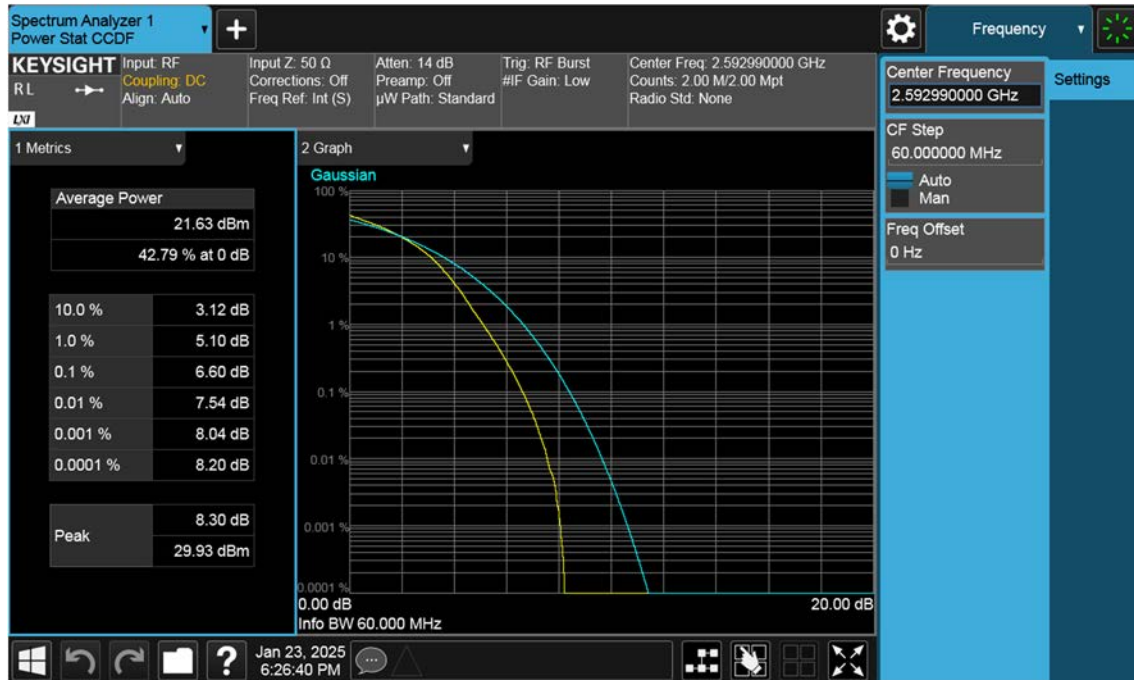
NR41_60 M_PAR_Mid_16QAM_FullRB



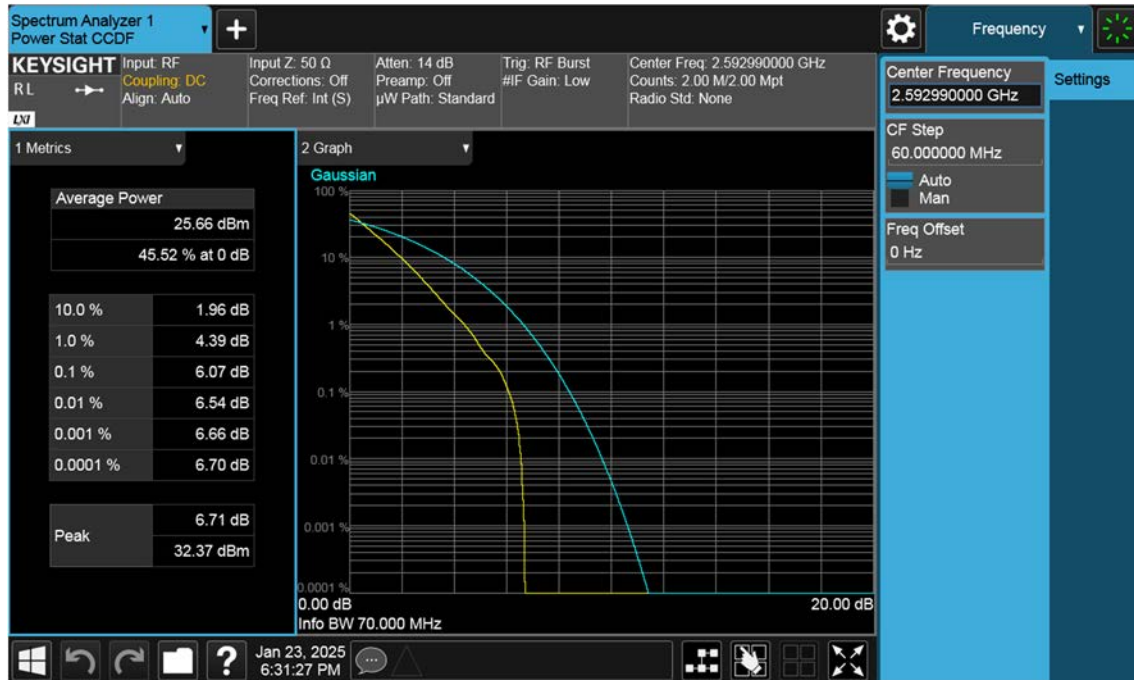
NR41_60 M_PAR_Mid_64QAM_FullRB



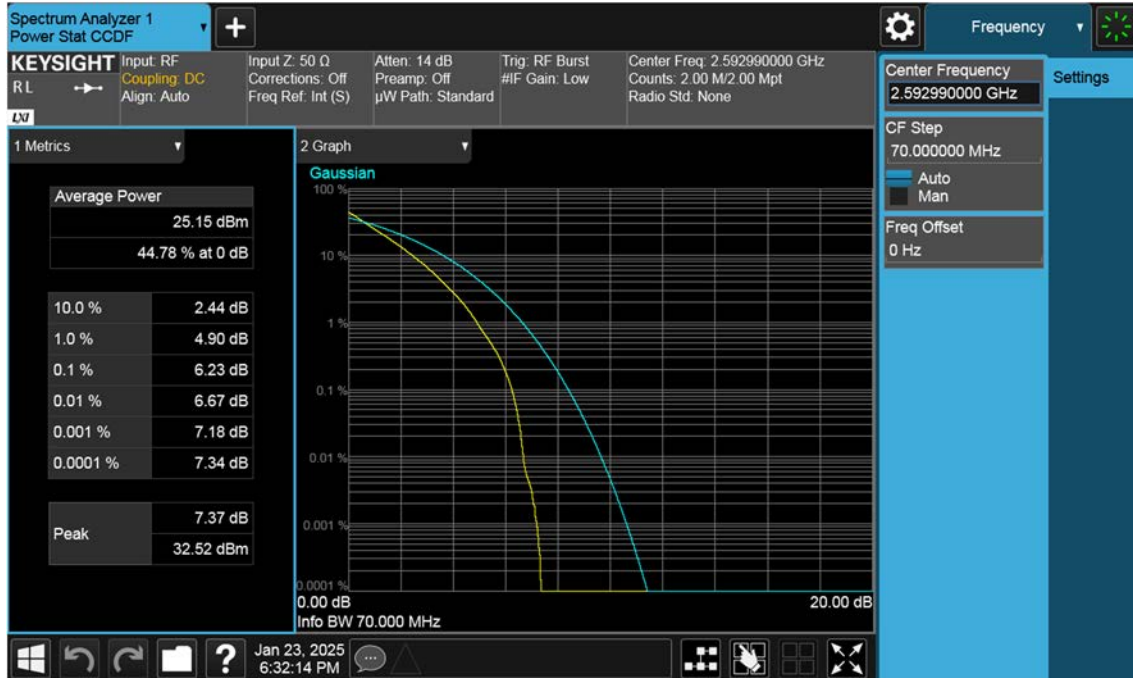
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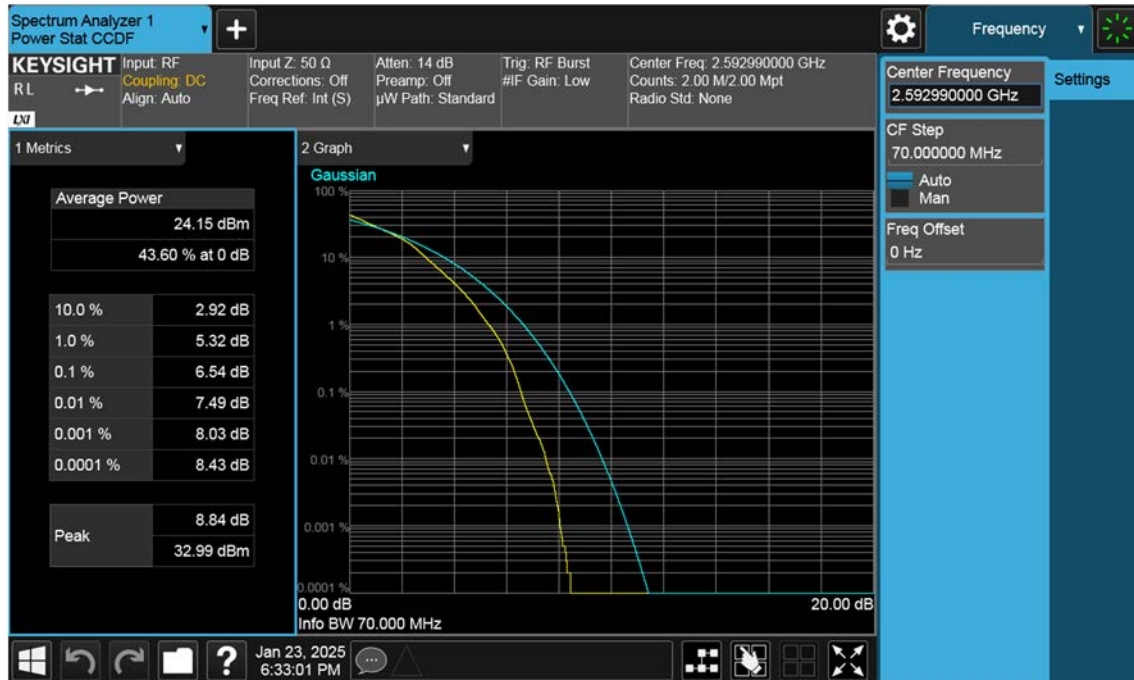
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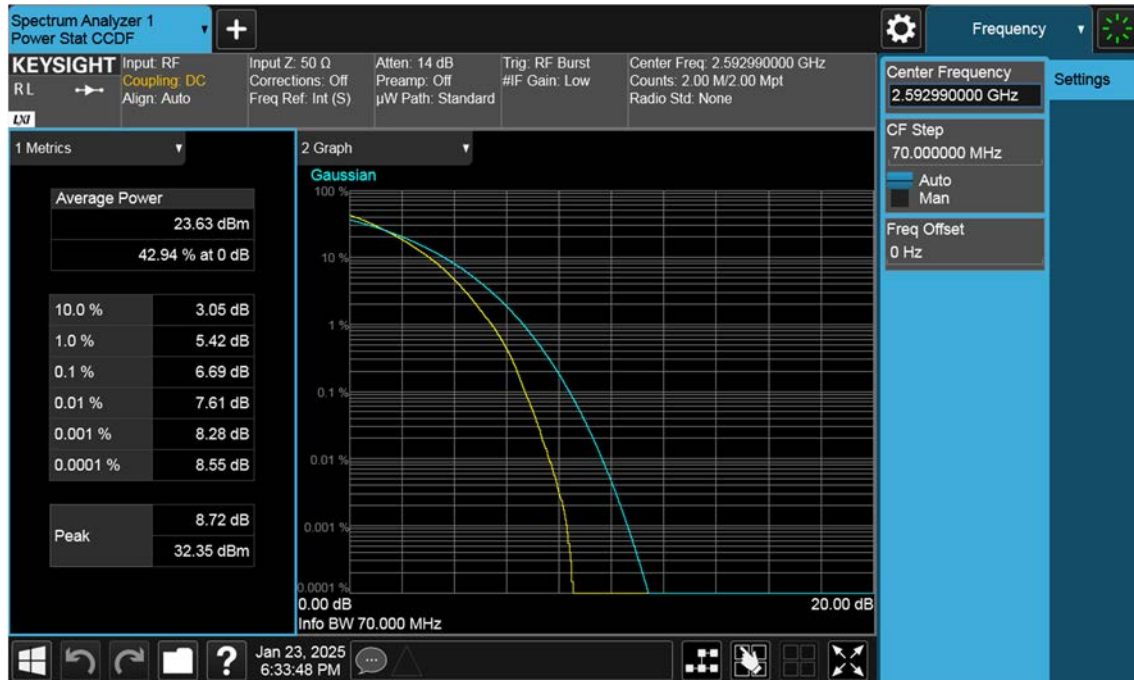
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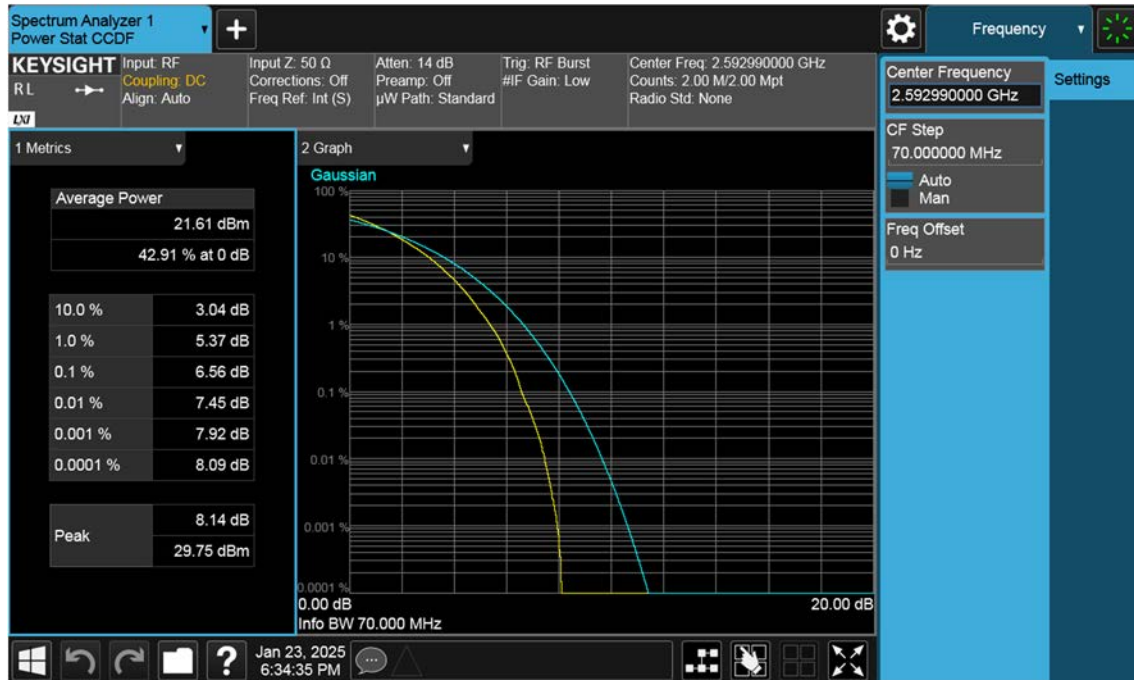
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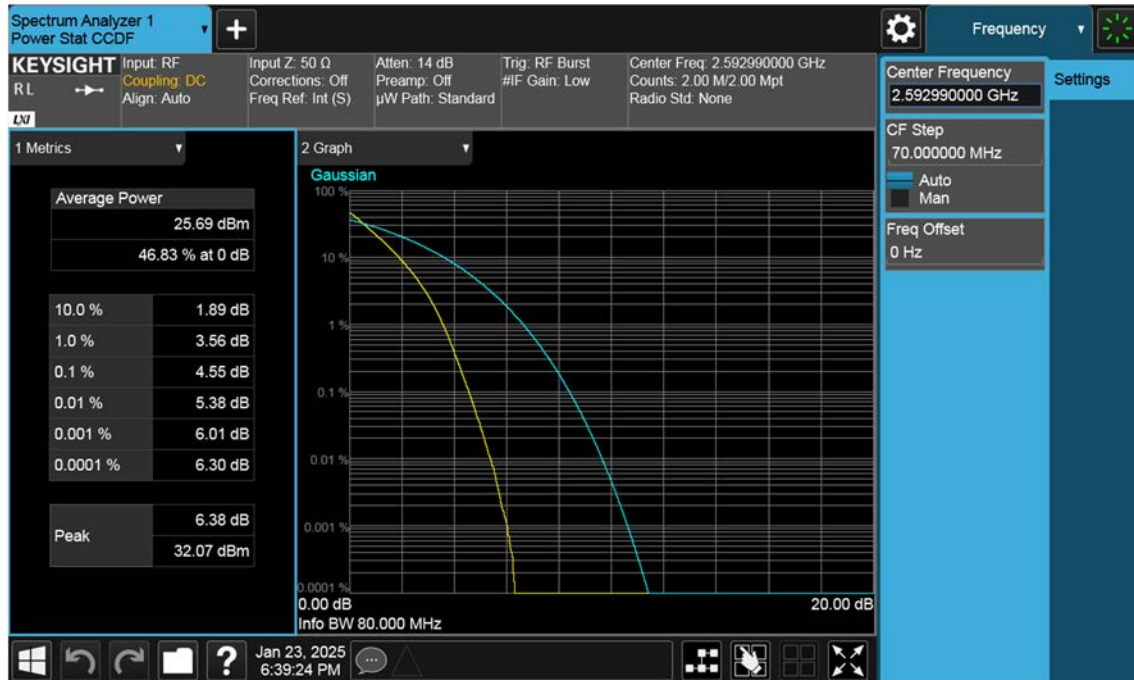
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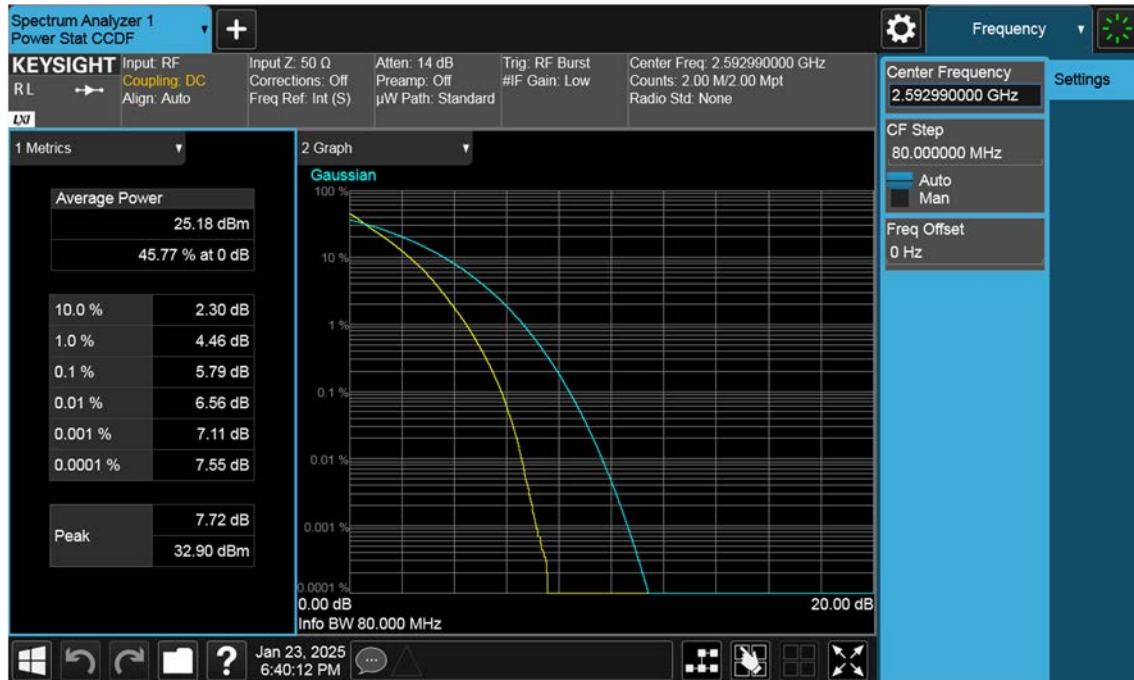
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NR41_80 M_PAR_Mid_BPSK_FullRB



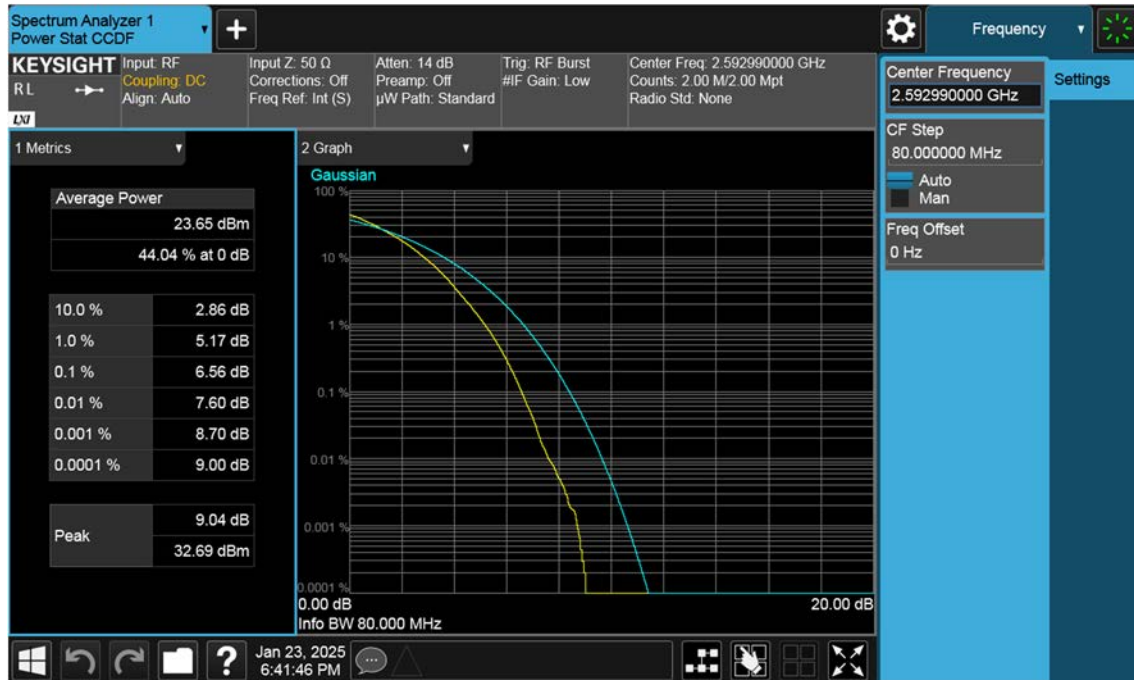
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NR41_80 M_PAR_Mid_16QAM_FullRB



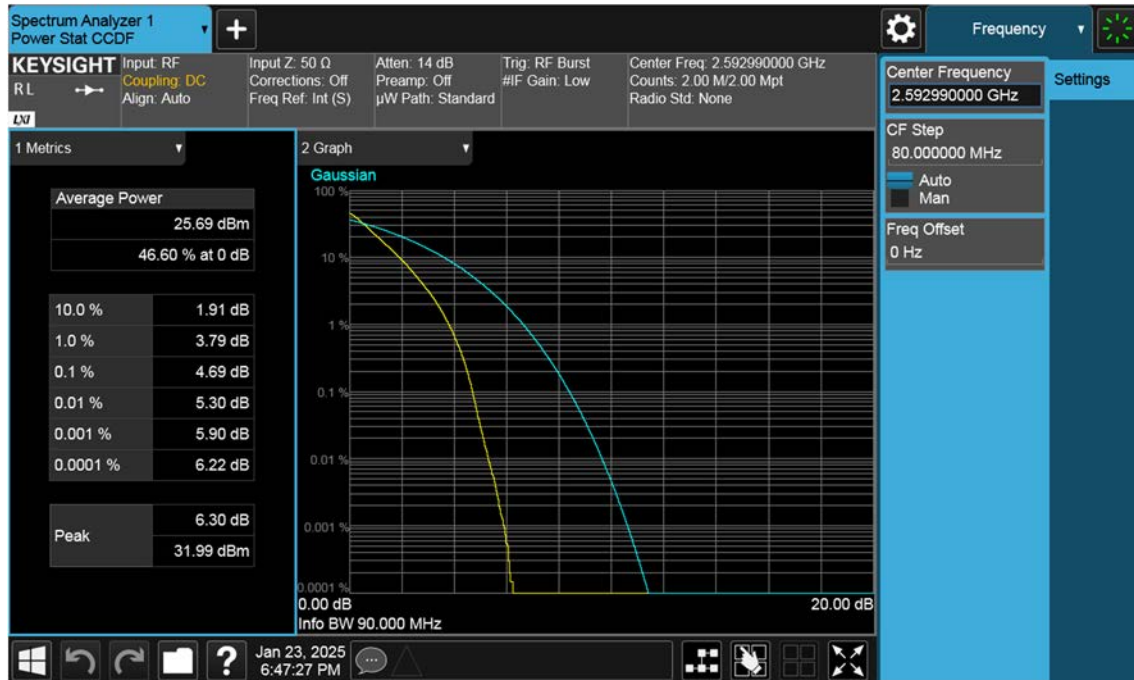
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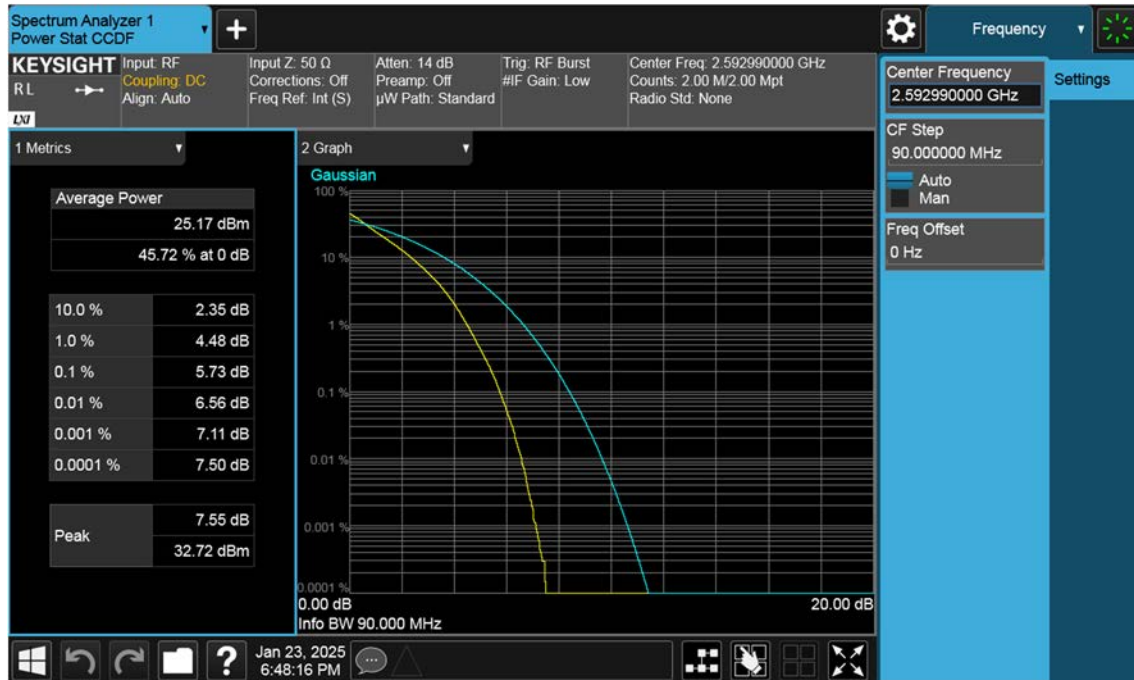
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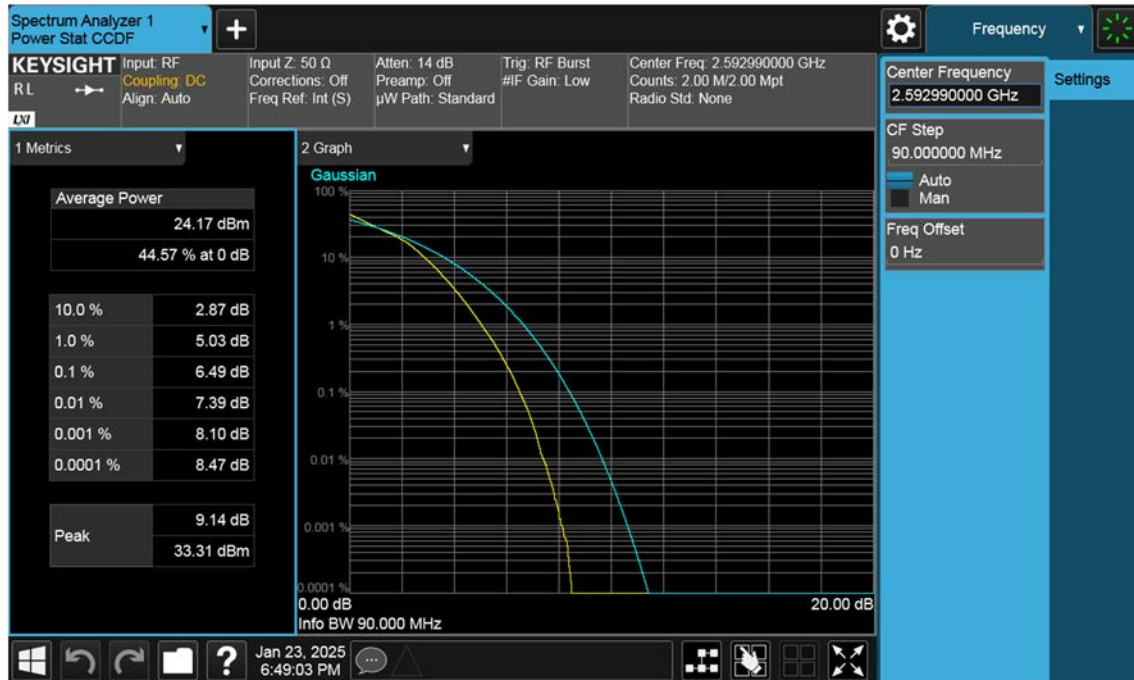
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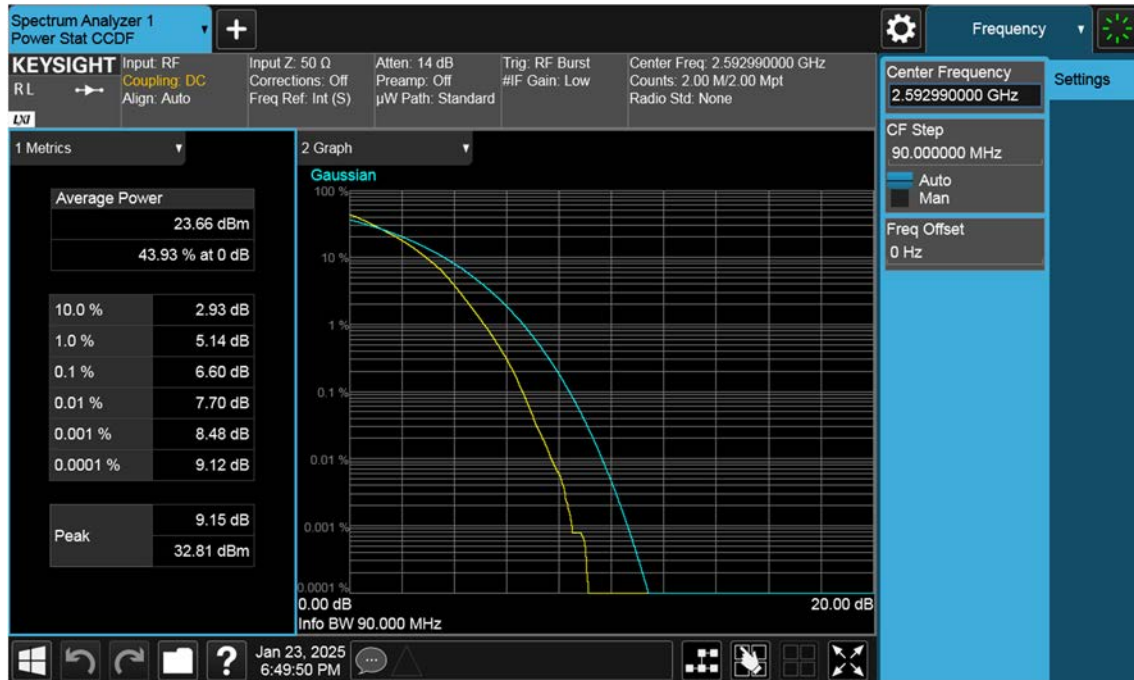
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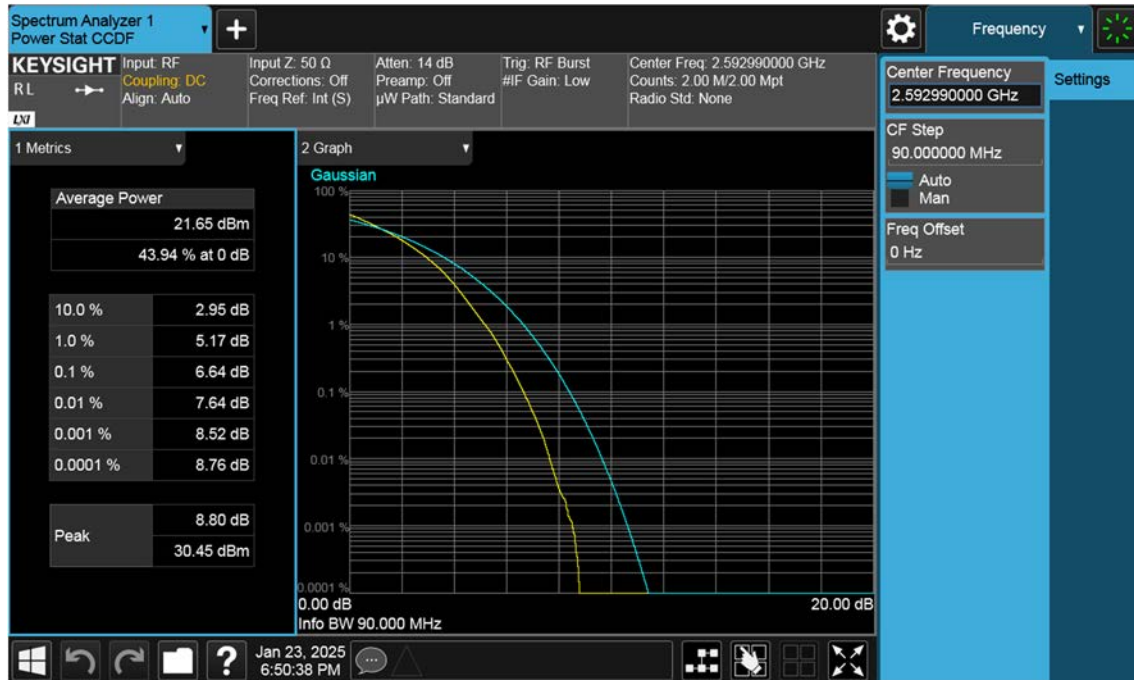
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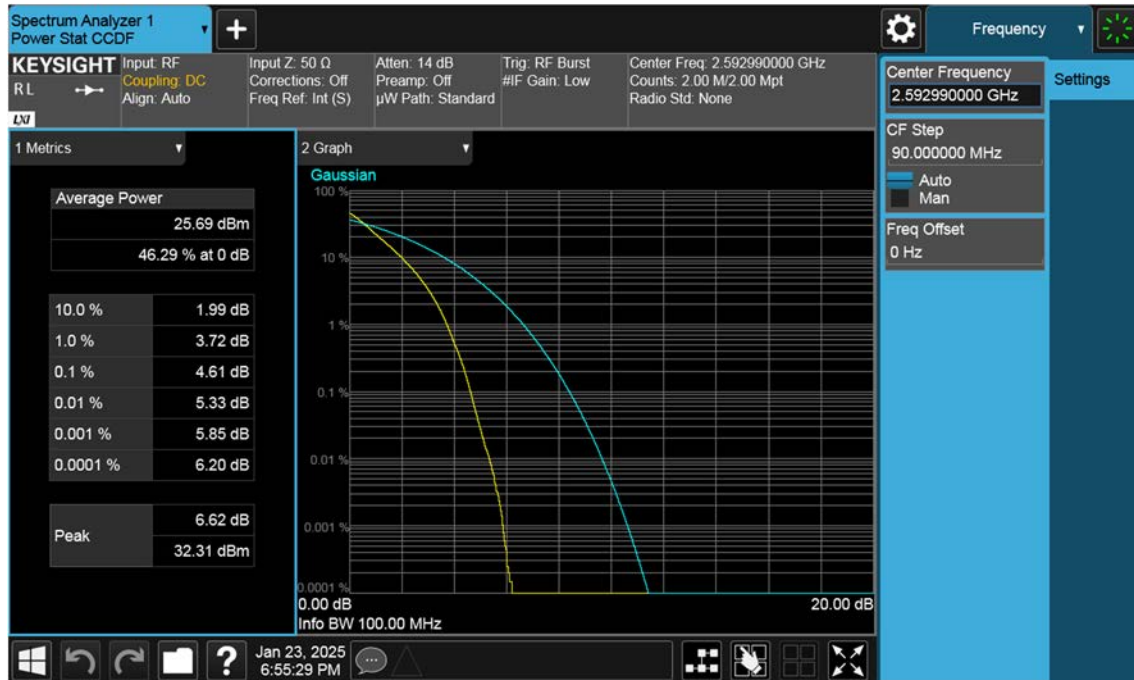
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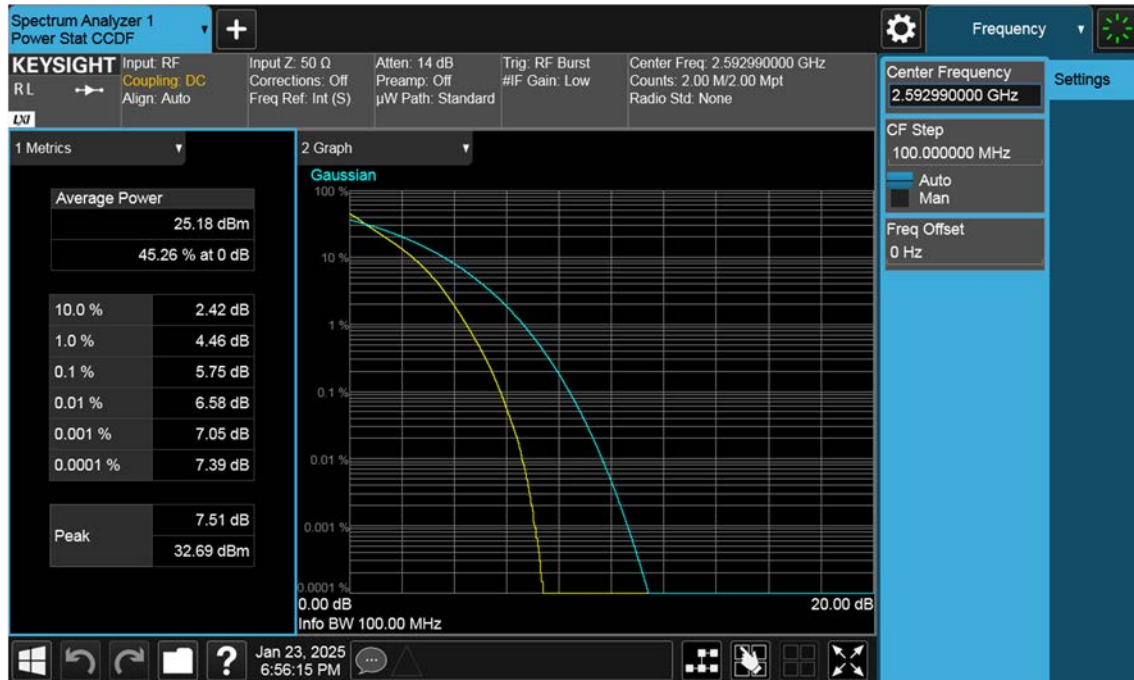
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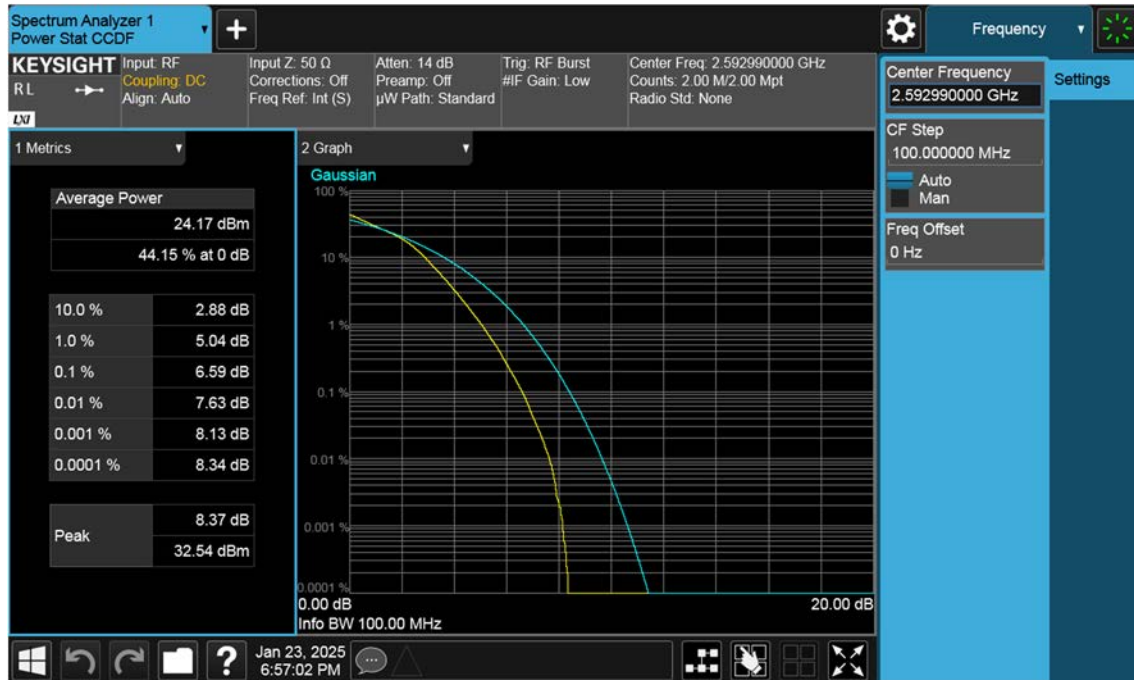
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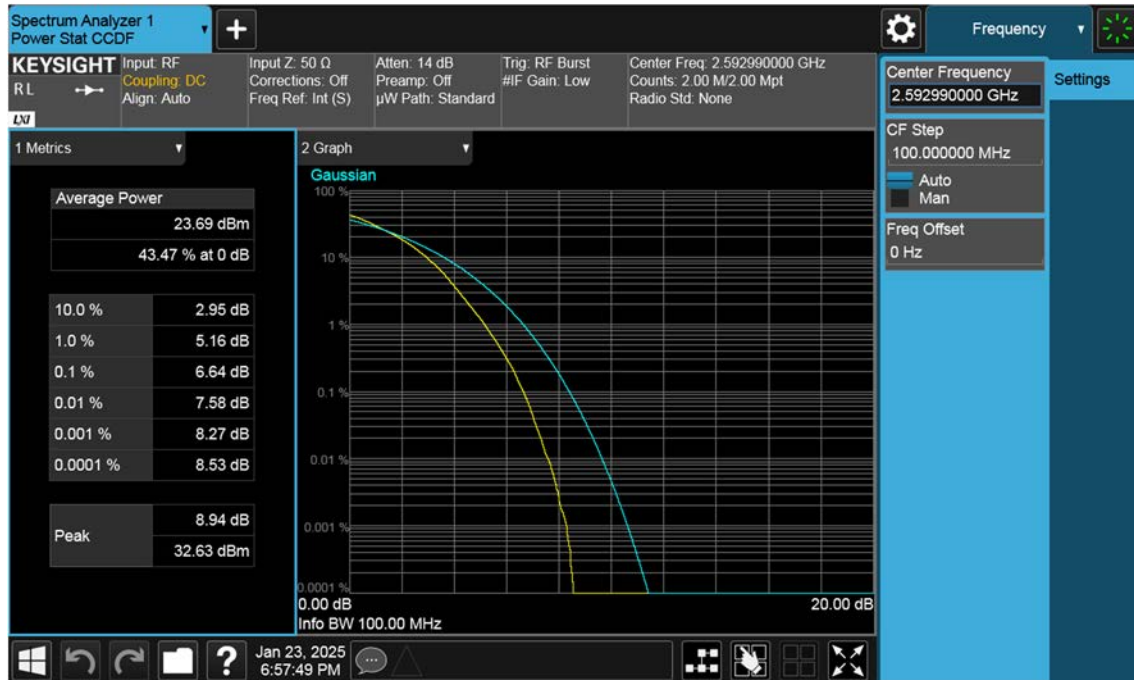
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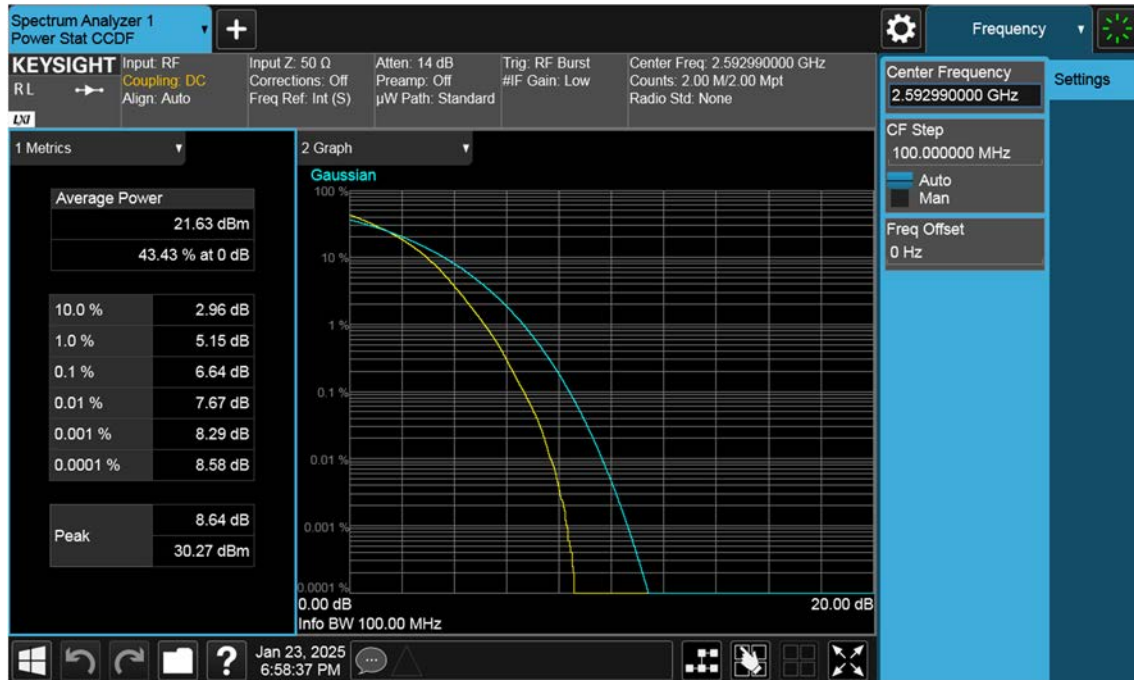
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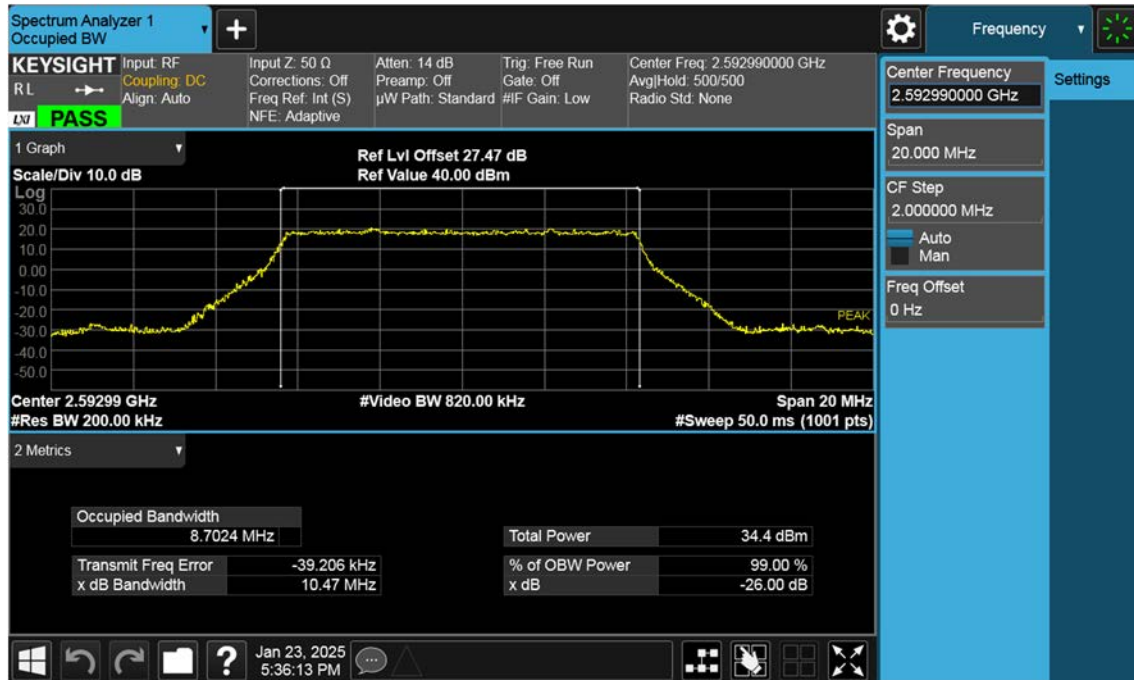
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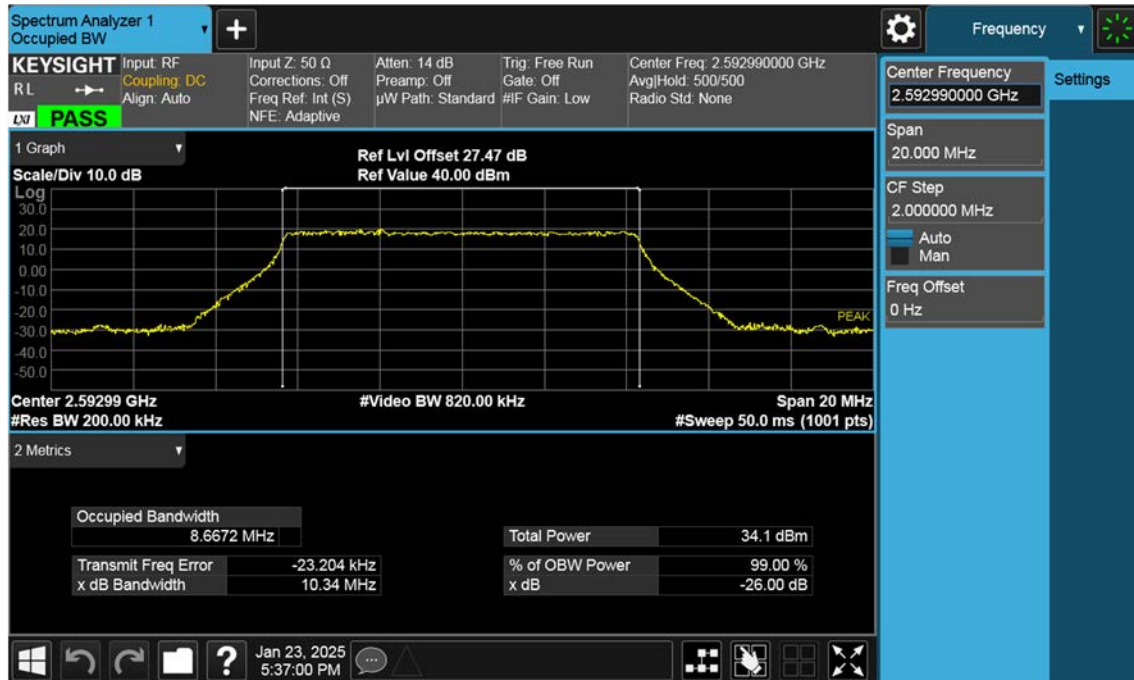
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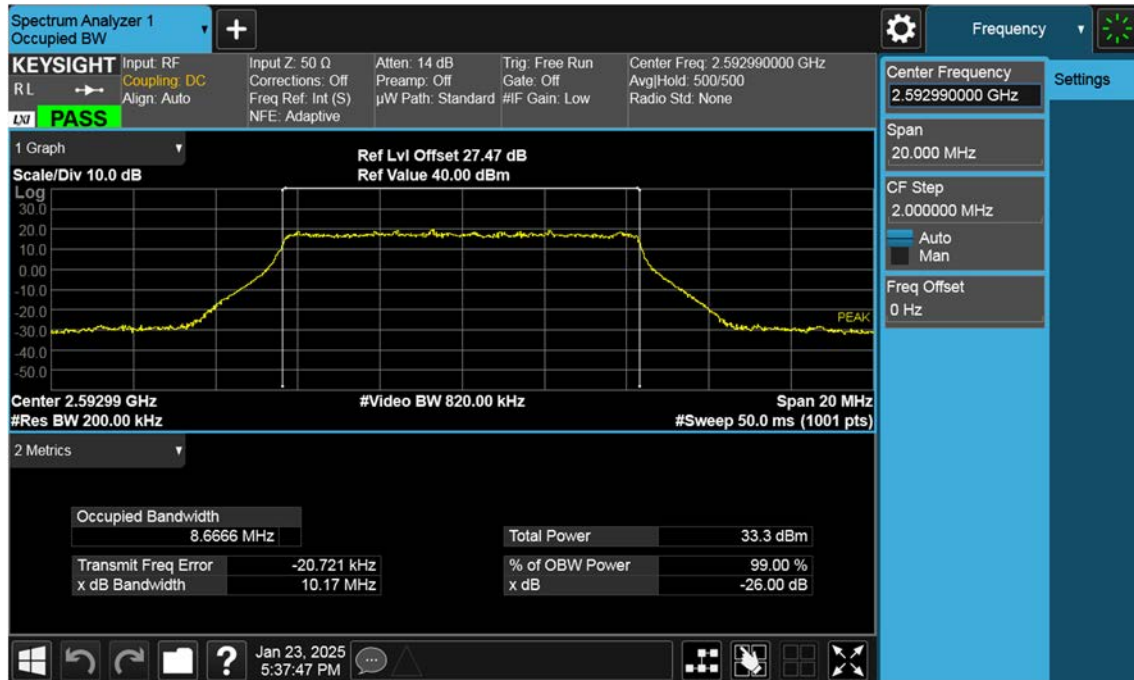
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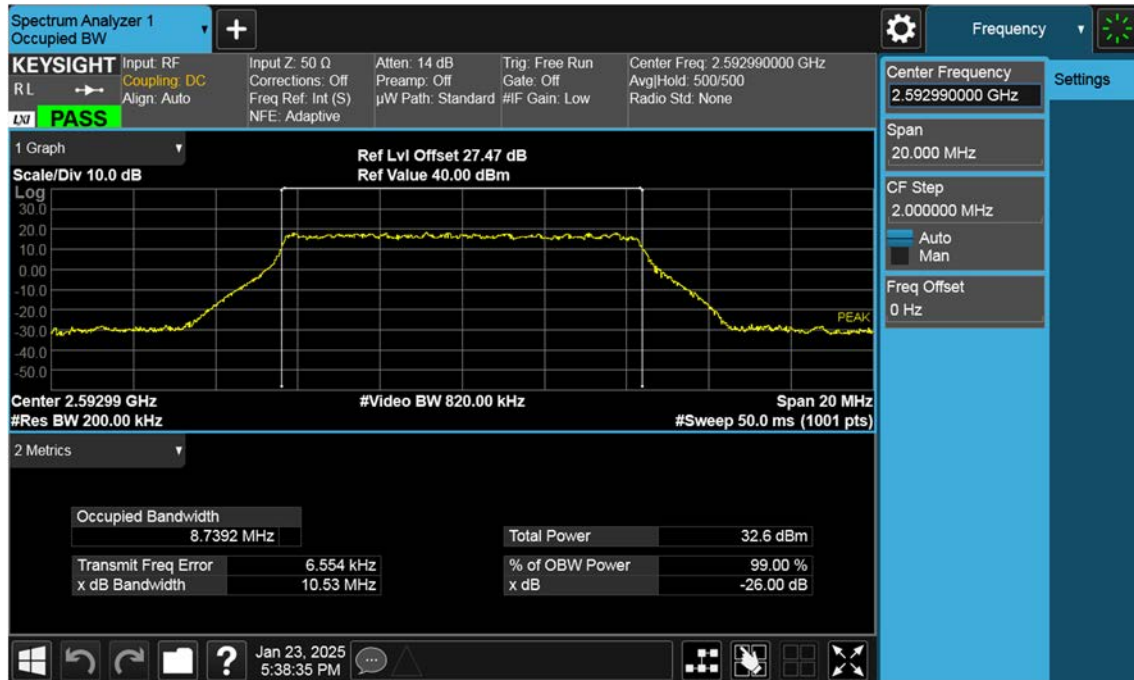
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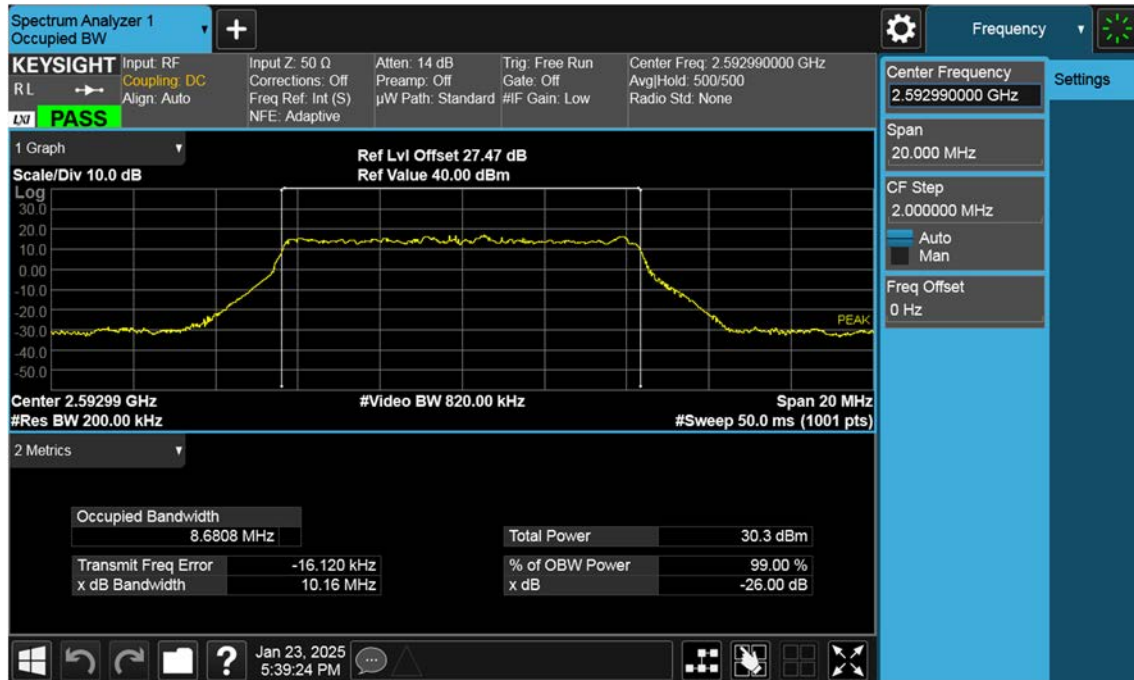
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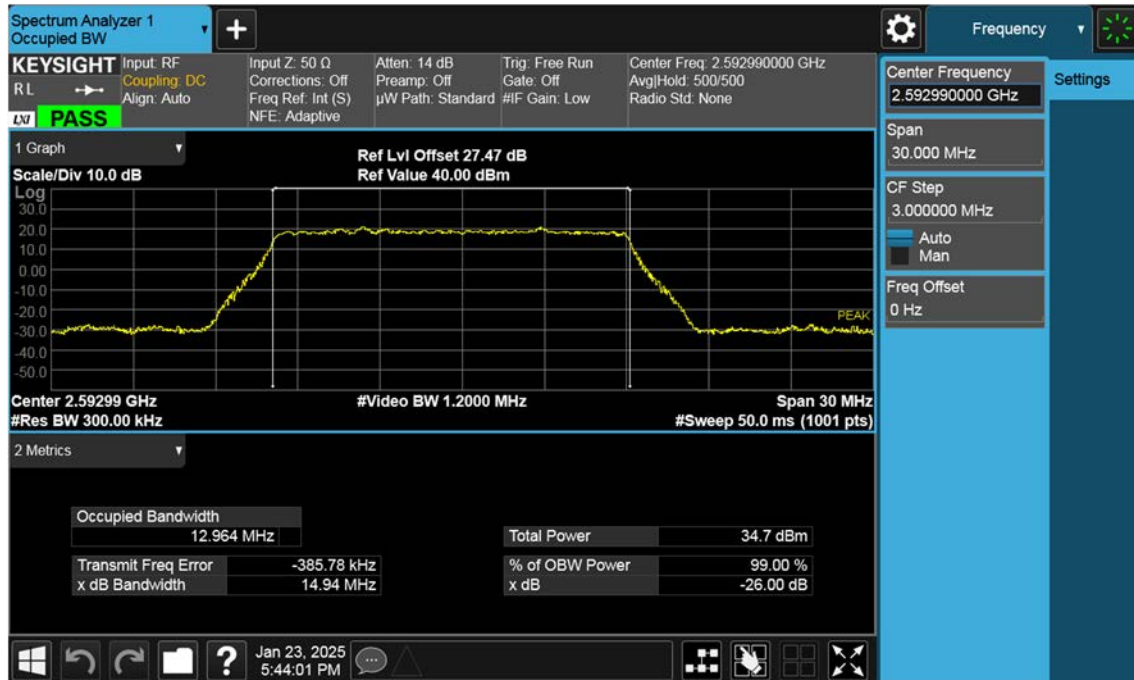
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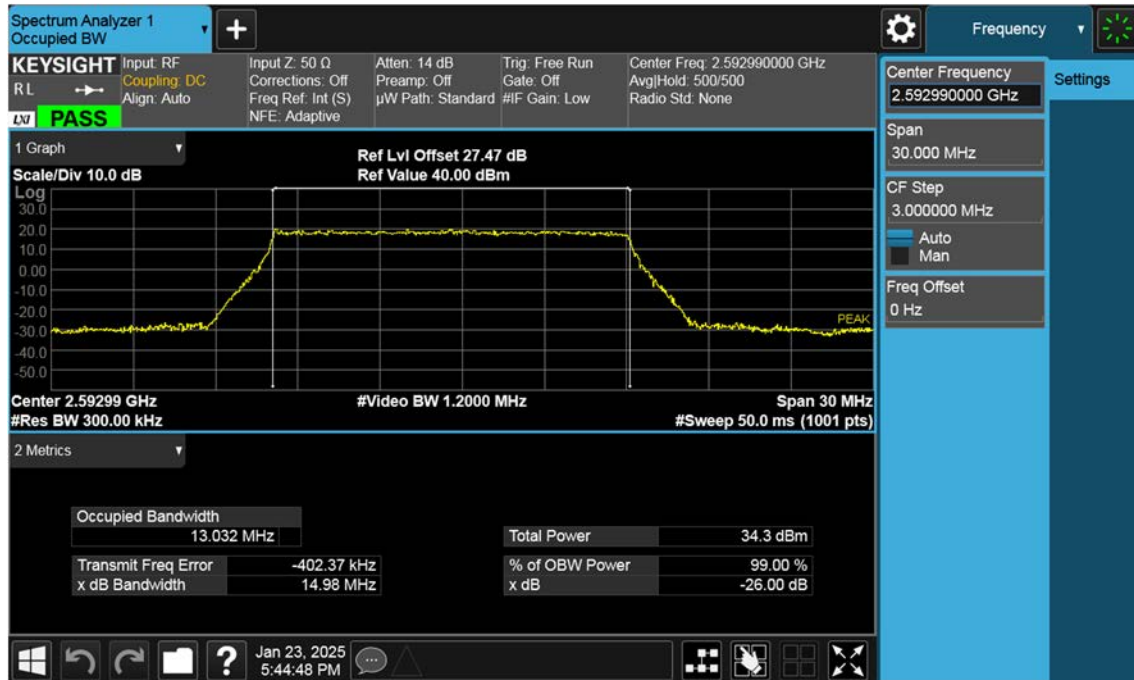
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NR41_15 M_OBW_Mid_BPSK_FullRB



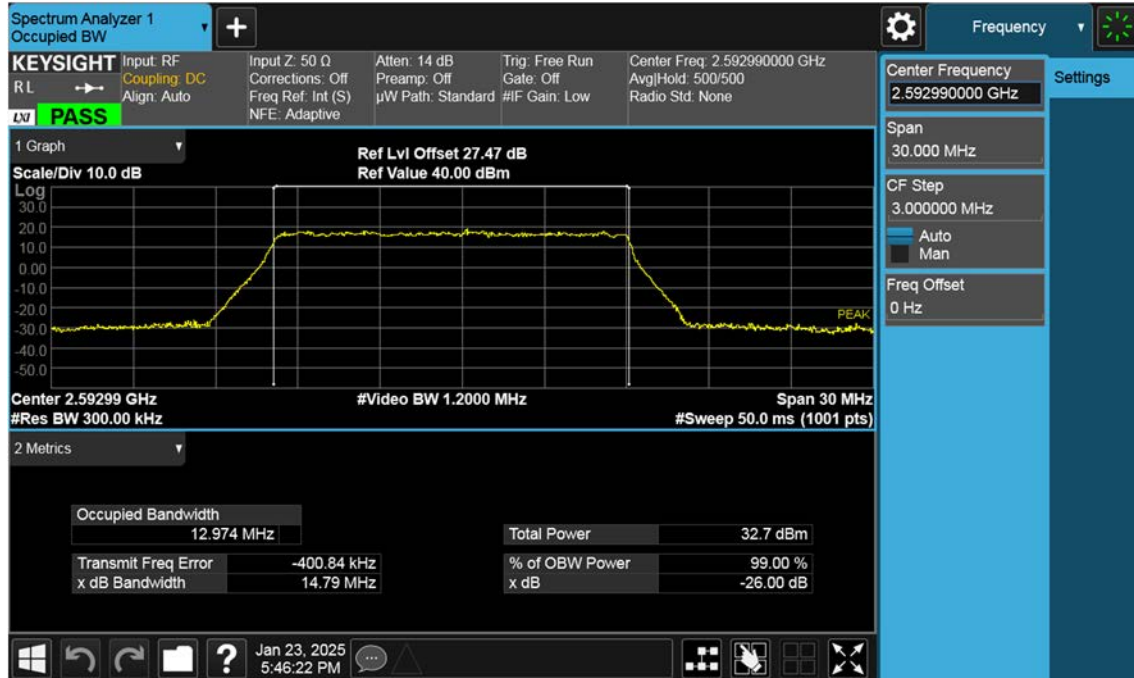
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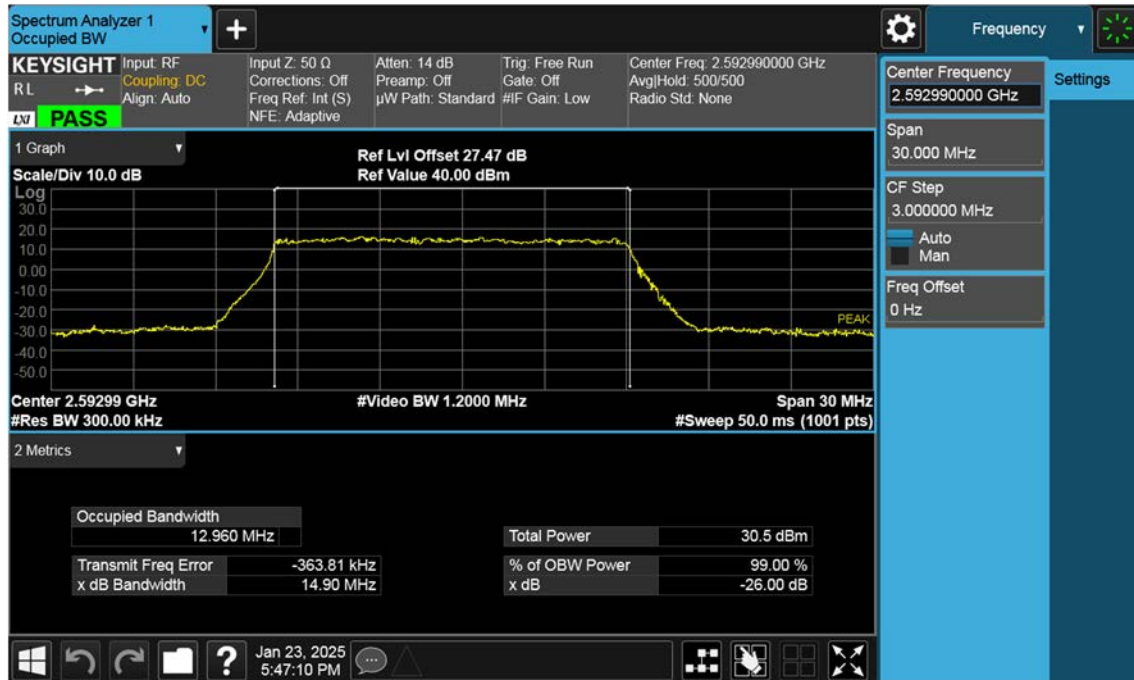
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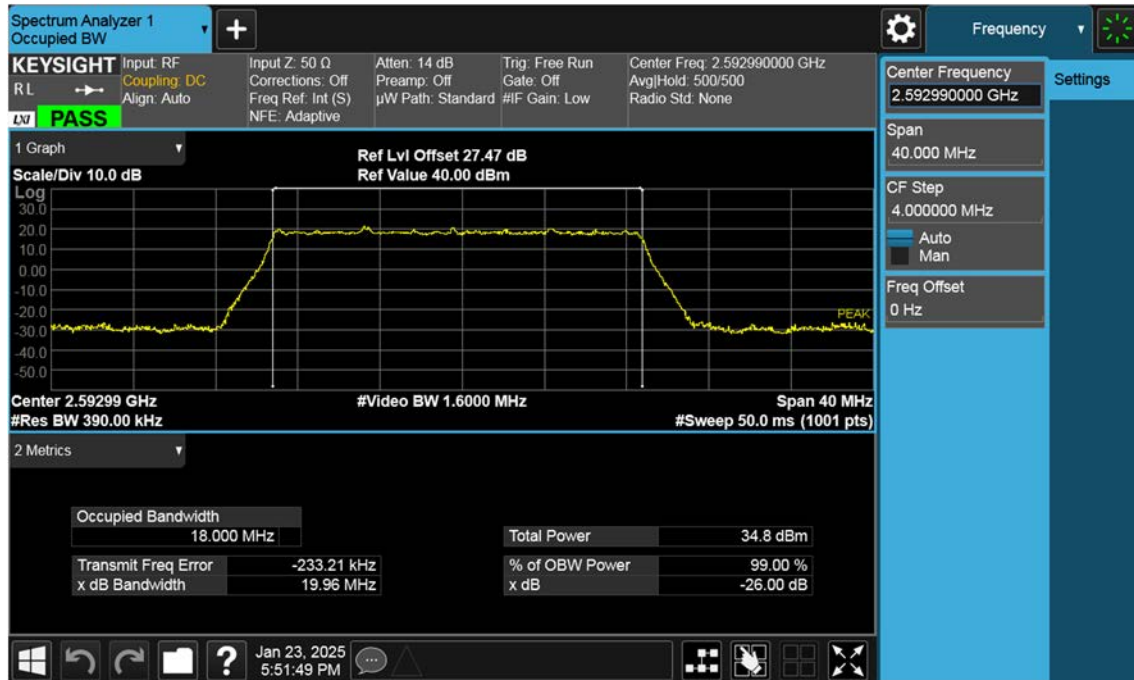
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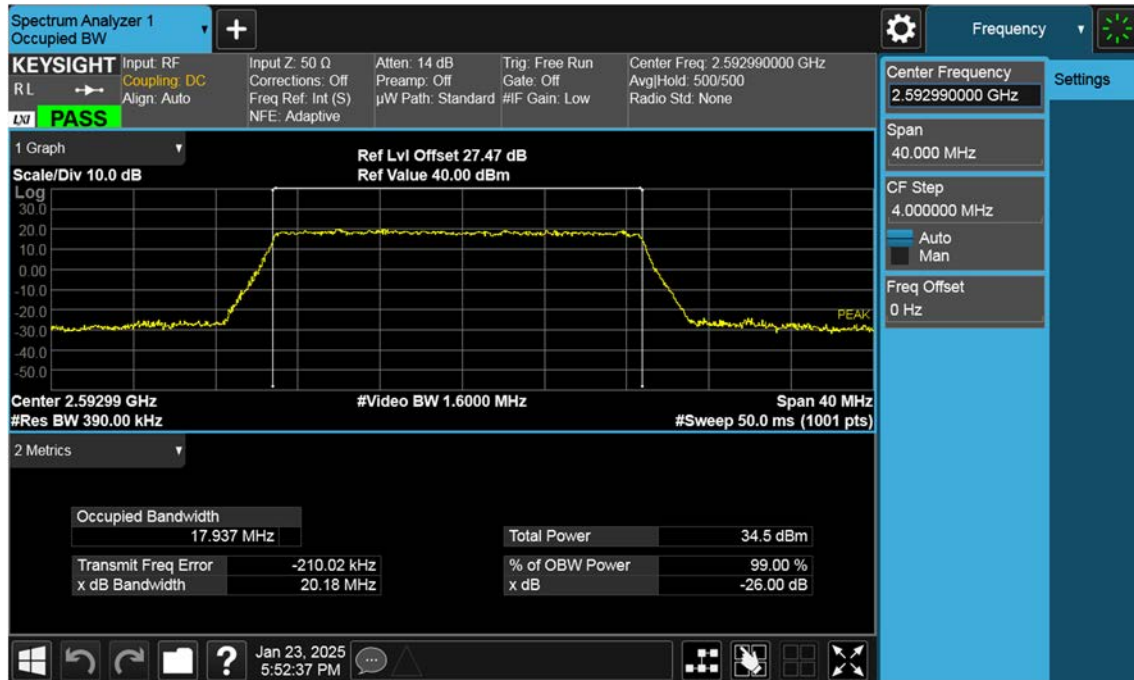
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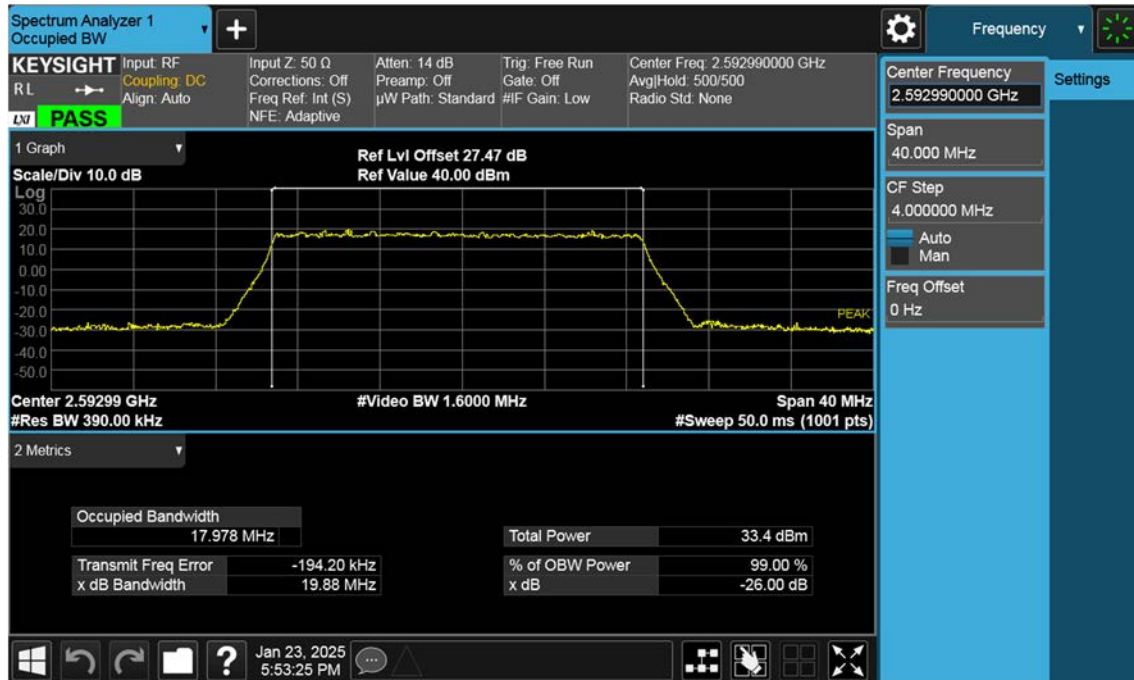
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NR41_20 M_OBW_Mid_QPSK_FullRB



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