

TEST REPORT

FCC Sub6 n25(2) Test for SM-F766U
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2504-FC020-R1

DATE OF ISSUE
May 23, 2025

Tested by
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TEST REPORT

REPORT NO.

HCT-RF-2504-FC020-R1

DATE OF ISSUE

May 23, 2025

Additional Model

SM-F766U1

Applicant

SAMSUNG Electronics Co., Ltd.

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

Product Name

Mobile Phone

Model Name

SM-F766U

Date of Test

February 24, 2025 ~ April 21, 2025

FCC ID

A3LSMF766U

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 Held to Ear (PCE)

Test Standard Used

FCC Rule Part : § 24

Test Results

PASS

REVISION HISTORY

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

Revision No.	Date of Issue	Description
0	April 22, 2025	Initial Release
1	May 23, 2025	Revised the Power Supply Voltage. (DC 3.88 V → DC 3.90 V)

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).

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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:	A3LSMF766U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§ 24
EUT Type:	Mobile Phone
Model(s):	SM-F766U
Additional Model	SM-F766U1
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20, 25, 30, 35, 40
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:	1852.5 MHz – 1912.5 MHz (5 MHz) (Sub6 n25(2)) 1855.0 MHz – 1910.0 MHz (10 MHz) (Sub6 n25(2)) 1857.5 MHz – 1907.5 MHz (15 MHz) (Sub6 n25(2)) 1860.0 MHz – 1905.0 MHz (20 MHz) (Sub6 n25(2)) 1862.5 MHz – 1902.5 MHz (25 MHz) (Sub6 n25(2)) 1865.0 MHz – 1900.0 MHz (30 MHz) (Sub6 n25(2)) 1867.5 MHz – 1897.5 MHz (35 MHz) (Sub6 n25(2)) 1870.0 MHz – 1895.0 MHz (40 MHz) (Sub6 n25(2))
Date(s) of Tests:	February 24, 2025 ~ April 21, 2025
Serial number:	Radiated : R3CY209A81W (Main 2 ANT), R3CY30S8YBP (Sub 5 ANT) Uplink Carrier Aggregation : R3CY30SANBY Conducted : R3CY10XMRGA
Antenna Information	Please refer to the Antenna Specification document.

1.1. MAXIMUM OUTPUT POWER

Main 2 ANT

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25(2) (5)	1852.5 - 1912.5	4M54G7D	PI/2 BPSK	0.153	21.84
		4M52G7D	QPSK	0.148	21.70
		4M54W7D	16QAM	0.117	20.67
		4M53W7D	64QAM	0.083	19.18
		4M53W7D	256QAM	0.051	17.08
Sub6 n25(2) (10)	1855.0 - 1910.0	9M00G7D	PI/2 BPSK	0.147	21.67
		9M02G7D	QPSK	0.144	21.58
		9M00W7D	16QAM	0.116	20.66
		8M98W7D	64QAM	0.081	19.06
		8M96W7D	256QAM	0.050	16.98
Sub6 n25(2) (15)	1857.5 - 1907.5	13M5G7D	PI/2 BPSK	0.142	21.54
		13M5G7D	QPSK	0.142	21.51
		13M5W7D	16QAM	0.111	20.46
		13M5W7D	64QAM	0.078	18.92
		13M5W7D	256QAM	0.048	16.78
Sub6 n25(2) (20)	1860.0 - 1905.0	18M0G7D	PI/2 BPSK	0.140	21.47
		18M0G7D	QPSK	0.140	21.46
		17M9W7D	16QAM	0.114	20.57
		18M0W7D	64QAM	0.077	18.89
		17M9W7D	256QAM	0.048	16.83
Sub6 n25(2) (25)	1862.5 – 1902.5	23M0G7D	PI/2 BPSK	0.145	21.62
		23M0G7D	QPSK	0.145	21.61
		23M0W7D	16QAM	0.113	20.52
		23M1W7D	64QAM	0.079	18.99
		23M0W7D	256QAM	0.050	16.97
Sub6 n25(2) (30)	1865.0 – 1900.0	28M8G7D	PI/2 BPSK	0.150	21.77
		28M8G7D	QPSK	0.148	21.70
		28M7W7D	16QAM	0.118	20.73
		28M8W7D	64QAM	0.081	19.08
		28M8W7D	256QAM	0.052	17.20
Sub6 n25(2) (35)	1867.5 – 1897.5	32M4G7D	PI/2 BPSK	0.155	21.89
		32M3G7D	QPSK	0.152	21.82
		32M3W7D	16QAM	0.121	20.82
		32M3W7D	64QAM	0.083	19.20
		32M3W7D	256QAM	0.052	17.16
Sub6 n25(2) (40)	1870.0 – 1895.0	38M8G7D	PI/2 BPSK	0.154	21.87
		38M9G7D	QPSK	0.151	21.80
		38M9W7D	16QAM	0.119	20.76
		38M8W7D	64QAM	0.084	19.26
		38M9W7D	256QAM	0.053	17.23

Sub 5 ANT

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25(2) (5)	1852.5 - 1912.5	4M53G7D	PI/2 BPSK	0.040	16.01
		4M53G7D	QPSK	0.040	15.97
		4M52W7D	16QAM	0.031	14.89
		4M52W7D	64QAM	0.022	13.46
		4M52W7D	256QAM	0.014	11.40
Sub6 n25(2) (10)	1855.0 - 1910.0	8M99G7D	PI/2 BPSK	0.038	15.75
		8M99G7D	QPSK	0.038	15.74
		8M98W7D	16QAM	0.030	14.76
		8M97W7D	64QAM	0.021	13.19
		8M97W7D	256QAM	0.014	11.36
Sub6 n25(2) (15)	1857.5 - 1907.5	13M5G7D	PI/2 BPSK	0.037	15.66
		13M4G7D	QPSK	0.036	15.58
		13M5W7D	16QAM	0.029	14.66
		13M4W7D	64QAM	0.020	13.10
		13M4W7D	256QAM	0.013	11.05
Sub6 n25(2) (20)	1860.0 - 1905.0	17M9G7D	PI/2 BPSK	0.037	15.68
		18M0G7D	QPSK	0.037	15.66
		17M9W7D	16QAM	0.029	14.62
		18M0W7D	64QAM	0.020	13.10
		17M9W7D	256QAM	0.013	11.09
Sub6 n25(2) (25)	1862.5 – 1902.5	22M9G7D	PI/2 BPSK	0.038	15.81
		23M0G7D	QPSK	0.038	15.76
		23M0W7D	16QAM	0.030	14.80
		23M1W7D	64QAM	0.021	13.17
		22M9W7D	256QAM	0.013	11.25
Sub6 n25(2) (30)	1865.0 – 1900.0	28M8G7D	PI/2 BPSK	0.040	16.00
		28M7G7D	QPSK	0.040	15.98
		28M7W7D	16QAM	0.031	14.96
		28M8W7D	64QAM	0.022	13.42
		28M7W7D	256QAM	0.014	11.51
Sub6 n25(2) (35)	1867.5 – 1897.5	32M4G7D	PI/2 BPSK	0.040	16.05
		32M3G7D	QPSK	0.040	16.04
		32M2W7D	16QAM	0.032	15.04
		32M3W7D	64QAM	0.023	13.53
		32M3W7D	256QAM	0.014	11.52
Sub6 n25(2) (40)	1870.0 – 1895.0	38M7G7D	PI/2 BPSK	0.041	16.10
		38M8G7D	QPSK	0.040	16.02
		38M9W7D	16QAM	0.032	15.04
		38M9W7D	64QAM	0.022	13.43
		38M9W7D	256QAM	0.014	11.60

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

Please refer to the [2G3G] 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
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	- 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;

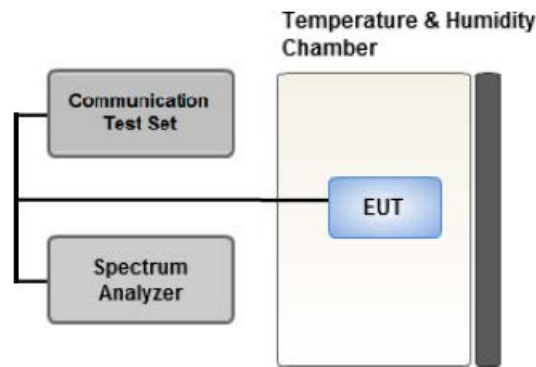
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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)

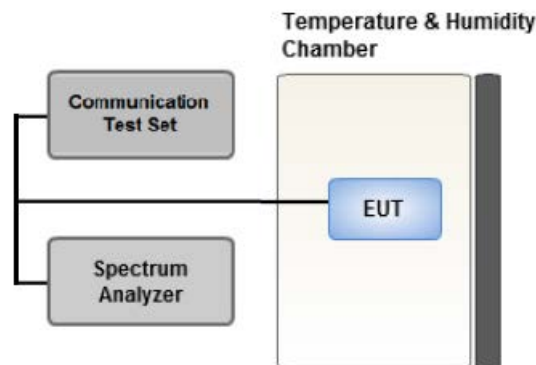
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW $\geq 3 \times$ RBW.

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.

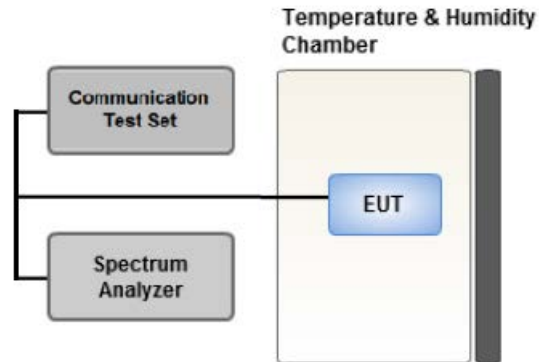
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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

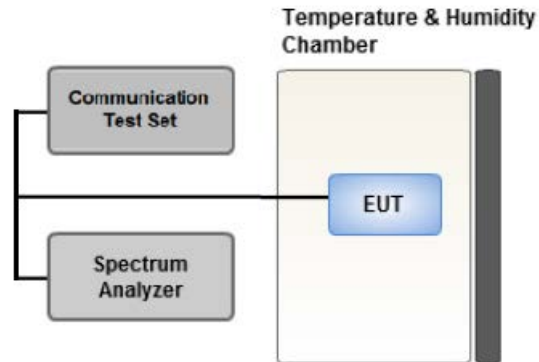
Test Overview

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 BAND 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 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. 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. RBW > 1 % of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Notes

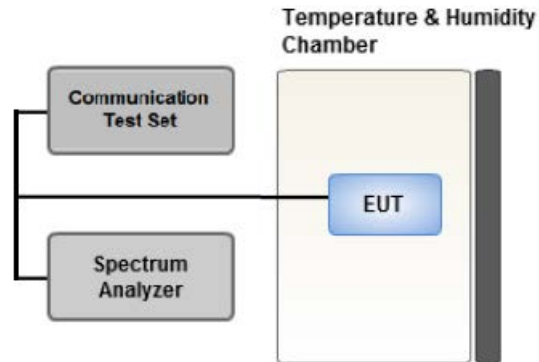
According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

All measurements were done at 2 channels(low and high operational frequency range.)

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)

- 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.
- The EUT was tested in three modes(Open, Half-open, Closed), the worst case configuration results are reported.
- Worst case (Equivalent Isotropic Radiated Power)
: Main 2 ANT (Open), Sub 5 ANT (Open)
- Worst case (Radiated Spurious Emissions)
: Main 2 ANT (Open), Sub 5 ANT (Open)
- 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 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.
- In the case of radiated spurious emissions, all bandwidth of operation was investigated and the worst case bandwidth results are reported. (Worst case : 35 MHz (Main 2 ANT), 40 MHz (Sub 5 ANT))
- Sub6 n25 (1 850 – 1 915 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth) overlaps the entire frequency range of Sub6 n2 (1 850 – 1 910 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth).
Therefore, test data provided in this report covers Sub6 n25 as well as Sub6 n2.
- SM-F766U & additional models were tested and the worst case results are reported.
(Worst case : SM-F766U)

[Main 2 ANT 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

[Sub 5 ANT Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Equivalent Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 9.1		X
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 9.2		Z

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 RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
Please refer to the table below.
- Sub6 n25 (1 850 – 1 915 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth) overlaps the entire frequency range of Sub6 n2 (1 850 – 1 910 MHz, 5/10/15/20/25/30/35/40 MHz bandwidth).
Therefore, test data provided in this report covers Sub6 n25 as well as Sub6 n2.
- SM-F766U & additional models were tested and the worst case results are reported.
(Worst case : SM-F766U)

[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	5, 10, 15, 20, 25,30, 35, 40	Mid	Full RB	0
Band Edge	PI/2 BPSK	5	Low	1	0
			High	1	24
		10	Low	1	0
			High	1	51
		15	Low	1	0
			High	1	78
		20	Low	1	0
			High	1	105
		25	Low	1	0
			High	1	132
		30	Low	1	0
			High	1	159
		35	Low	1	0
			High	1	187
		40	Low	1	0
			High	1	215
		5, 10, 15, 20, 25,30, 35, 40	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20, 25,30, 35, 40	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	04/17/2027	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/06/2027	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/05/2027	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/17/2027	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	02/19/2026	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
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	03/21/2026	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/10/2026	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
UXM 5G Wireless Test Platform	E7515B	KEYSIGHT	MY60101126	02/10/2026	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)	5.68 (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, § 24.238(a)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§ 2.1046	N/A	<u>See Note1</u>
Peak- to- Average Ratio	§ 24.232(d)	< 13 dB	PASS
Frequency stability / variation of ambient temperature	§ 24.235	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	§ 24.232(c)	< 2 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 24.238(a)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	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(Main 2 ANT)

8.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1852.5		PI/2 BPSK	-20.16	13.47	10.45	2.08	H	< 2.00	0.153	21.84	1	12
		QPSK	-20.30	13.33	10.45	2.08	H		0.148	21.70		
		16-QAM	-21.33	12.30	10.45	2.08	H		0.117	20.67		
		64-QAM	-22.82	10.81	10.45	2.08	H		0.083	19.18		
		256-QAM	-24.92	8.71	10.45	2.08	H		0.051	17.08		
1882.5	Sub6 n25(2)/ 5 MHz [15 kHz]	PI/2 BPSK	-20.50	13.39	10.32	2.21	H		0.141	21.50	1	12
		QPSK	-20.51	13.38	10.32	2.21	H		0.141	21.49		
		16-QAM	-21.47	12.42	10.32	2.21	H		0.113	20.53		
		64-QAM	-23.13	10.76	10.32	2.21	H		0.077	18.87		
		256-QAM	-25.16	8.73	10.32	2.21	H		0.048	16.84		
1912.5		PI/2 BPSK	-21.46	12.72	10.19	2.17	H		0.119	20.74	1	1
		QPSK	-21.54	12.64	10.19	2.17	H		0.116	20.66		
		16-QAM	-22.50	11.68	10.19	2.17	H		0.093	19.70		
		64-QAM	-24.21	9.97	10.19	2.17	H		0.063	17.99		
		256-QAM	-26.12	8.06	10.19	2.17	H		0.041	16.08		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1855.0		PI/2 BPSK	-20.33	13.30	10.45	2.08	H	< 2.00	0.147	21.67	1	50
		QPSK	-20.42	13.21	10.45	2.08	H		0.144	21.58		
		16-QAM	-21.34	12.29	10.45	2.08	H		0.116	20.66		
		64-QAM	-22.94	10.69	10.45	2.08	H		0.081	19.06		
		256-QAM	-25.02	8.61	10.45	2.08	H		0.050	16.98		
1882.5	Sub6 n25(2)/ 10 MHz [15 kHz]	PI/2 BPSK	-20.39	13.50	10.32	2.21	H	< 2.00	0.145	21.61	1	1
		QPSK	-20.45	13.44	10.32	2.21	H		0.143	21.55		
		16-QAM	-21.53	12.36	10.32	2.21	H		0.112	20.47		
		64-QAM	-23.13	10.76	10.32	2.21	H		0.077	18.87		
		256-QAM	-25.03	8.86	10.32	2.21	H		0.050	16.97		
1910.0		PI/2 BPSK	-21.24	12.66	10.21	2.17	H	< 2.00	0.118	20.70	1	26
		QPSK	-21.32	12.58	10.21	2.17	H		0.115	20.62		
		16-QAM	-22.43	11.47	10.21	2.17	H		0.089	19.51		
		64-QAM	-23.89	10.01	10.21	2.17	H		0.064	18.05		
		256-QAM	-25.99	7.91	10.21	2.17	H		0.039	15.95		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1857.5		PI/2 BPSK	-20.38	12.94	10.43	2.10	H	< 2.00	0.134	21.27	1	1
		QPSK	-20.39	12.93	10.43	2.10	H		0.134	21.26		
		16-QAM	-21.43	11.89	10.43	2.10	H		0.105	20.22		
		64-QAM	-22.99	10.33	10.43	2.10	H		0.073	18.66		
		256-QAM	-24.95	8.37	10.43	2.10	H		0.047	16.70		
1882.5	Sub6 n25(2)/ 15 MHz [15 kHz]	PI/2 BPSK	-20.46	13.43	10.32	2.21	H	< 2.00	0.142	21.54	1	39
		QPSK	-20.49	13.40	10.32	2.21	H		0.142	21.51		
		16-QAM	-21.54	12.35	10.32	2.21	H		0.111	20.46		
		64-QAM	-23.08	10.81	10.32	2.21	H		0.078	18.92		
		256-QAM	-25.22	8.67	10.32	2.21	H		0.048	16.78		
1907.5		PI/2 BPSK	-21.06	12.84	10.21	2.17	H	< 2.00	0.123	20.88	1	1
		QPSK	-21.08	12.82	10.21	2.17	H		0.122	20.86		
		16-QAM	-22.15	11.75	10.21	2.17	H		0.095	19.79		
		64-QAM	-23.59	10.31	10.21	2.17	H		0.068	18.35		
		256-QAM	-25.64	8.26	10.21	2.17	H		0.043	16.30		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1860.0		PI/2 BPSK	-20.23	13.09	10.43	2.10	H	< 2.00	0.139	21.42	1	53
		QPSK	-20.28	13.04	10.43	2.10	H		0.137	21.37		
		16-QAM	-21.26	12.06	10.43	2.10	H		0.110	20.39		
		64-QAM	-22.76	10.56	10.43	2.10	H		0.078	18.89		
		256-QAM	-24.87	8.45	10.43	2.10	H		0.048	16.78		
1882.5	Sub6 n25(2)/ 20 MHz [15 kHz]	PI/2 BPSK	-20.53	13.36	10.32	2.21	H		0.140	21.47	1	53
		QPSK	-20.54	13.35	10.32	2.21	H		0.140	21.46		
		16-QAM	-21.43	12.46	10.32	2.21	H		0.114	20.57		
		64-QAM	-23.17	10.72	10.32	2.21	H		0.076	18.83		
		256-QAM	-25.17	8.72	10.32	2.21	H		0.048	16.83		
1905.0		PI/2 BPSK	-20.87	13.17	10.23	2.19	H		0.132	21.21	1	1
		QPSK	-20.91	13.13	10.23	2.19	H		0.131	21.17		
		16-QAM	-21.84	12.20	10.23	2.19	H		0.106	20.24		
		64-QAM	-23.47	10.57	10.23	2.19	H		0.073	18.61		
		256-QAM	-25.49	8.55	10.23	2.19	H		0.046	16.59		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1862.5		PI/2 BPSK	-20.32	13.29	10.41	2.13	H	< 2.00	0.144	21.57	1	66
		QPSK	-20.34	13.27	10.41	2.13	H		0.143	21.55		
		16-QAM	-21.37	12.24	10.41	2.13	H		0.113	20.52		
		64-QAM	-23.07	10.54	10.41	2.13	H		0.076	18.82		
		256-QAM	-25.05	8.56	10.41	2.13	H		0.048	16.84		
1882.5	Sub6 n25(2)/ 25 MHz [15 kHz]	PI/2 BPSK	-20.38	13.51	10.32	2.21	H		0.145	21.62	1	1
		QPSK	-20.39	13.50	10.32	2.21	H		0.145	21.61		
		16-QAM	-21.50	12.39	10.32	2.21	H		0.112	20.50		
		64-QAM	-23.01	10.88	10.32	2.21	H		0.079	18.99		
		256-QAM	-25.03	8.86	10.32	2.21	H		0.050	16.97		
1902.5		PI/2 BPSK	-20.70	13.34	10.23	2.19	H		0.137	21.38	1	1
		QPSK	-20.81	13.23	10.23	2.19	H		0.134	21.27		
		16-QAM	-21.76	12.28	10.23	2.19	H		0.108	20.32		
		64-QAM	-23.30	10.74	10.23	2.19	H		0.076	18.78		
		256-QAM	-25.32	8.72	10.23	2.19	H		0.047	16.76		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1865.0		PI/2 BPSK	-20.42	13.19	10.41	2.13	H	< 2.00	0.140	21.47	1	80
		QPSK	-20.44	13.17	10.41	2.13	H		0.140	21.45		
		16-QAM	-21.44	12.17	10.41	2.13	H		0.111	20.45		
		64-QAM	-22.98	10.63	10.41	2.13	H		0.078	18.91		
		256-QAM	-25.05	8.56	10.41	2.13	H		0.048	16.84		
1882.5	Sub6 n25(2)/ 30 MHz [15 kHz]	PI/2 BPSK	-20.34	13.55	10.32	2.21	H		0.146	21.66	1	1
		QPSK	-20.44	13.45	10.32	2.21	H		0.143	21.56		
		16-QAM	-21.27	12.62	10.32	2.21	H		0.118	20.73		
		64-QAM	-22.98	10.91	10.32	2.21	H		0.080	19.02		
		256-QAM	-25.04	8.85	10.32	2.21	H		0.050	16.96		
1900.0		PI/2 BPSK	-20.45	13.72	10.25	2.20	H		0.150	21.77	1	1
		QPSK	-20.52	13.65	10.25	2.20	H		0.148	21.70		
		16-QAM	-21.52	12.65	10.25	2.20	H		0.117	20.70		
		64-QAM	-23.14	11.03	10.25	2.20	H		0.081	19.08		
		256-QAM	-25.02	9.15	10.25	2.20	H		0.053	17.20		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1867.5		PI/2 BPSK	-20.25	13.66	10.39	2.16	H	< 2.00	0.155	21.89	1	1
		QPSK	-20.32	13.59	10.39	2.16	H		0.152	21.82		
		16-QAM	-21.32	12.59	10.39	2.16	H		0.121	20.82		
		64-QAM	-22.94	10.97	10.39	2.16	H		0.083	19.20		
		256-QAM	-24.98	8.93	10.39	2.16	H		0.052	17.16		
1882.5	Sub6 n25(2)/ 35 MHz [15 kHz]	PI/2 BPSK	-20.38	13.51	10.32	2.21	H		0.145	21.62	1	1
		QPSK	-20.48	13.41	10.32	2.21	H		0.142	21.52		
		16-QAM	-21.45	12.44	10.32	2.21	H		0.114	20.55		
		64-QAM	-23.01	10.88	10.32	2.21	H		0.079	18.99		
		256-QAM	-25.05	8.84	10.32	2.21	H		0.050	16.95		
1897.5		PI/2 BPSK	-20.41	13.76	10.25	2.20	H		0.152	21.81	1	1
		QPSK	-20.42	13.75	10.25	2.20	H		0.151	21.80		
		16-QAM	-21.54	12.63	10.25	2.20	H		0.117	20.68		
		64-QAM	-23.07	11.10	10.25	2.20	H		0.082	19.15		
		256-QAM	-25.12	9.05	10.25	2.20	H		0.051	17.10		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1870.0		PI/2 BPSK	-20.27	13.64	10.39	2.16	H	< 2.00	0.154	21.87	1	108
		QPSK	-20.36	13.55	10.39	2.16	H		0.151	21.78		
		16-QAM	-21.42	12.49	10.39	2.16	H		0.118	20.72		
		64-QAM	-22.93	10.98	10.39	2.16	H		0.084	19.21		
		256-QAM	-25.11	8.80	10.39	2.16	H		0.050	17.03		
1882.5	Sub6 n25(2)/ 40 MHz [15 kHz]	PI/2 BPSK	-20.45	13.44	10.32	2.21	H		0.143	21.55	1	108
		QPSK	-20.49	13.40	10.32	2.21	H		0.142	21.51		
		16-QAM	-21.56	12.33	10.32	2.21	H		0.111	20.44		
		64-QAM	-23.03	10.86	10.32	2.21	H		0.079	18.97		
		256-QAM	-25.19	8.70	10.32	2.21	H		0.048	16.81		
1895.0		PI/2 BPSK	-20.44	13.74	10.28	2.20	H		0.152	21.82	1	1
		QPSK	-20.46	13.72	10.28	2.20	H		0.151	21.80		
		16-QAM	-21.50	12.68	10.28	2.20	H		0.119	20.76		
		64-QAM	-23.00	11.18	10.28	2.20	H		0.084	19.26		
		256-QAM	-25.03	9.15	10.28	2.20	H		0.053	17.23		

8.2 RADIATED SPURIOUS EMISSIONS

NR Band:	<u>N25(2)</u>
Bandwidth:	<u>35 MHz</u>
Modulation:	<u>PI/2 BPSK</u>
Distance:	<u>3 meters</u>
SCS:	<u>15 kHz</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
373500 (1867.5)	3 735.00	-60.83	12.02	-60.73	3.18	V	-51.89	-13.00	1	1
	5 602.50	-62.29	12.21	-56.28	3.94	V	-48.01	-13.00		
	7 470.00	-63.81	11.41	-48.87	4.61	V	-42.07	-13.00		
376500 (1882.5)	3 765.00	-62.35	11.88	-61.74	3.11	V	-52.97	-13.00	1	1
	5 647.50	-62.27	12.11	-56.08	3.96	V	-47.93	-13.00		
	7 530.00	-63.69	11.57	-48.92	4.60	V	-41.95	-13.00		
379500 (1897.5)	3 795.00	-62.15	11.74	-61.51	3.20	V	-52.97	-13.00	1	1
	5 692.50	-63.06	11.97	-56.26	4.02	V	-48.31	-13.00		
	7 590.00	-63.88	11.62	-49.46	4.64	V	-42.48	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.77
			QPSK			5.37
			16-QAM			6.12
			64-QAM			6.13
			256-QAM			6.13
	10 MHz		BPSK	50		5.03
			QPSK			5.38
			16-QAM			5.99
			64-QAM			6.02
			256-QAM			5.91
	15 MHz		BPSK	75		4.19
			QPSK			5.17
			16-QAM			5.99
			64-QAM			5.93
			256-QAM			5.84
	20 MHz		BPSK	100		5.35
			QPSK			5.61
			16-QAM			6.19
			64-QAM			6.17
			256-QAM			6.19

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	4.32
			QPSK			5.29
			16-QAM			6.06
			64-QAM			6.11
			256-QAM			6.09
	30 MHz		BPSK	160		4.45
			QPSK			5.36
			16-QAM			6.06
			64-QAM			6.09
			256-QAM			6.05
	35 MHz		BPSK	180		4.43
			QPSK			5.37
			16-QAM			6.08
			64-QAM			6.07
			256-QAM			6.04
	40 MHz		BPSK	216		4.54
			QPSK			5.39
			16-QAM			6.11
			64-QAM			6.11
			256-QAM			6.11

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 73 ~ 112.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.5415
			QPSK			4.5218
			16-QAM			4.5360
			64-QAM			4.5330
			256-QAM			4.5269
	10 MHz		BPSK	50		8.9950
			QPSK			9.0179
			16-QAM			9.0021
			64-QAM			8.9794
			256-QAM			8.9626
	15 MHz		BPSK	75		13.490
			QPSK			13.507
			16-QAM			13.454
			64-QAM			13.474
			256-QAM			13.448
	20 MHz		BPSK	100		18.027
			QPSK			17.948
			16-QAM			17.936
			64-QAM			17.968
			256-QAM			17.933

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	23.037
			QPSK			23.008
			16-QAM			23.035
			64-QAM			23.142
			256-QAM			23.004
	30 MHz		BPSK	160		28.825
			QPSK			28.818
			16-QAM			28.721
			64-QAM			28.810
			256-QAM			28.752
	35 MHz		BPSK	180		32.406
			QPSK			32.334
			16-QAM			32.290
			64-QAM			32.318
			256-QAM			32.330
	40 MHz		BPSK	216		38.782
			QPSK			38.847
			16-QAM			38.849
			64-QAM			38.811
			256-QAM			38.934

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 113 ~ 152.

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)
Sub6 n25(2)	5	1852.5	3.7688	29.722	-61.434	-31.712	-13.00
		1882.5	8.3649	30.315	-60.889	-30.574	
		1912.5	3.8186	29.722	-61.518	-31.796	
	10	1855.0	4.9053	29.722	-61.351	-31.629	
		1882.5	4.9851	29.722	-60.488	-30.766	
		1910.0	7.7169	30.315	-62.046	-31.731	
	15	1857.5	5.0050	30.315	-61.541	-31.226	
		1882.5	9.9701	30.315	-61.574	-31.259	
		1907.5	9.6810	30.315	-62.008	-31.693	
	20	1860.0	4.0180	29.722	-60.588	-30.866	
		1882.5	7.1885	30.315	-60.606	-30.291	
		1905.0	3.8385	29.722	-60.880	-31.158	
	25	1862.5	3.8485	29.722	-61.600	-31.878	
		1882.5	8.8634	30.315	-61.540	-31.225	
		1902.5	7.1885	30.315	-61.211	-30.896	
	30	1865.0	9.6710	30.315	-61.680	-31.365	
		1882.5	4.0080	29.722	-61.532	-31.810	
		1900.0	1.8246	29.722	-60.671	-30.949	
	35	1867.5	4.7757	29.722	-61.626	-31.904	
		1882.5	4.0180	29.722	-61.742	-32.020	
		1897.5	3.7688	29.722	-61.753	-32.031	
	40	1870.0	4.9452	29.722	-61.210	-31.488	
		1882.5	3.8286	29.722	-61.340	-31.618	
		1895.0	3.7388	29.722	-61.309	-31.587	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 153 ~ 200.
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	27.012
1 – 5	29.722
5 – 10	30.315
10 – 15	30.840
15 – 20	31.213
Above 20	31.855

8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 201 ~ 248.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 5 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 499 995	0.0	0.000 000	0.000
	100 %	-30	1852 499 990	-4.9	0.000 000	-0.003
	100 %	-20	1852 499 990	-5.3	0.000 000	-0.003
	100 %	-10	1852 499 990	-5.2	0.000 000	-0.003
	100 %	0	1852 499 991	-3.8	0.000 000	-0.002
	100 %	+10	1852 499 989	-5.6	0.000 000	-0.003
	100 %	+30	1852 499 989	-5.3	0.000 000	-0.003
	100 %	+40	1852 499 990	-4.6	0.000 000	-0.002
	100 %	+50	1852 499 990	-4.7	0.000 000	-0.003
	Batt. Endpoint	+20	1852 499 990	-4.5	0.000 000	-0.002
1912.5	100 %	+20(Ref)	1912 499 998	0.0	0.000 000	0.000
	100 %	-30	1912 499 996	-2.4	0.000 000	-0.001
	100 %	-20	1912 499 995	-3.4	0.000 000	-0.002
	100 %	-10	1912 499 996	-2.3	0.000 000	-0.001
	100 %	0	1912 499 996	-2.0	0.000 000	-0.001
	100 %	+10	1912 499 996	-2.2	0.000 000	-0.001
	100 %	+30	1912 499 998	-0.5	0.000 000	0.000
	100 %	+40	1912 499 998	0.1	0.000 000	0.000
	100 %	+50	1912 499 995	-2.8	0.000 000	-0.001
	Batt. Endpoint	+20	1912 499 995	-3.5	0.000 000	-0.002

■ BandWidth:	<u>10 MHz</u>
■ Voltage(100 %):	<u>3.900 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1854 999 998	0.0	0.000 000	0.000
	100 %	-30	1854 999 997	-0.9	0.000 000	-0.001
	100 %	-20	1854 999 997	-0.9	0.000 000	0.000
	100 %	-10	1854 999 997	-1.0	0.000 000	-0.001
	100 %	0	1854 999 996	-1.8	0.000 000	-0.001
	100 %	+10	1854 999 997	-1.0	0.000 000	-0.001
	100 %	+30	1854 999 998	-0.6	0.000 000	0.000
	100 %	+40	1854 999 997	-0.9	0.000 000	0.000
	100 %	+50	1854 999 997	-1.2	0.000 000	-0.001
	Batt. Endpoint	+20	1854 999 996	-2.4	0.000 000	-0.001
1910.0	100 %	+20(Ref)	1909 999 999	0.0	0.000 000	0.000
	100 %	-30	1909 999 997	-1.8	0.000 000	-0.001
	100 %	-20	1909 999 997	-2.5	0.000 000	-0.001
	100 %	-10	1909 999 999	-0.5	0.000 000	0.000
	100 %	0	1909 999 999	-0.7	0.000 000	0.000
	100 %	+10	1909 999 998	-1.0	0.000 000	-0.001
	100 %	+30	1909 999 999	-0.5	0.000 000	0.000
	100 %	+40	1909 999 995	-3.8	0.000 000	-0.002
	100 %	+50	1909 999 997	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	1909 999 996	-2.8	0.000 000	-0.001

☐ BandWidth: 15 MHz
☐ Voltage(100 %): 3.900 VDC
☐ Batt. Endpoint: 3.300 VDC
☐ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 499 996	0.0	0.000 000	0.000
	100 %	-30	1857 499 994	-2.1	0.000 000	-0.001
	100 %	-20	1857 499 998	1.1	0.000 000	0.001
	100 %	-10	1857 499 995	-1.7	0.000 000	-0.001
	100 %	0	1857 499 996	0.1	0.000 000	0.000
	100 %	+10	1857 499 995	-1.8	0.000 000	-0.001
	100 %	+30	1857 499 994	-2.3	0.000 000	-0.001
	100 %	+40	1857 499 996	-0.1	0.000 000	0.000
	100 %	+50	1857 499 996	-0.7	0.000 000	0.000
	Batt. Endpoint	+20	1857 499 995	-1.3	0.000 000	-0.001
1907.5	100 %	+20(Ref)	1907 499 998	0.0	0.000 000	0.000
	100 %	-30	1907 499 999	0.8	0.000 000	0.000
	100 %	-20	1907 499 997	-1.1	0.000 000	-0.001
	100 %	-10	1907 499 998	-0.5	0.000 000	0.000
	100 %	0	1907 499 997	-0.8	0.000 000	0.000
	100 %	+10	1907 499 998	0.0	0.000 000	0.000
	100 %	+30	1907 499 998	-0.4	0.000 000	0.000
	100 %	+40	1907 499 995	-2.8	0.000 000	-0.001
	100 %	+50	1907 499 998	-0.4	0.000 000	0.000
	Batt. Endpoint	+20	1907 499 999	1.3	0.000 000	0.001

☐ BandWidth: 20 MHz
☐ Voltage(100 %): 3.900 VDC
☐ Batt. Endpoint: 3.300 VDC
☐ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1859 999 997	0.0	0.000 000	0.000
	100 %	-30	1859 999 992	-4.2	0.000 000	-0.002
	100 %	-20	1859 999 992	-4.6	0.000 000	-0.002
	100 %	-10	1859 999 992	-4.2	0.000 000	-0.002
	100 %	0	1859 999 993	-3.8	0.000 000	-0.002
	100 %	+10	1859 999 993	-3.2	0.000 000	-0.002
	100 %	+30	1859 999 993	-3.4	0.000 000	-0.002
	100 %	+40	1859 999 993	-3.8	0.000 000	-0.002
	100 %	+50	1859 999 993	-3.4	0.000 000	-0.002
	Batt. Endpoint	+20	1859 999 993	-3.4	0.000 000	-0.002
1905.0	100 %	+20(Ref)	1905 000 003	0.0	0.000 000	0.000
	100 %	-30	1905 000 005	2.1	0.000 000	0.001
	100 %	-20	1905 000 006	3.1	0.000 000	0.002
	100 %	-10	1905 000 005	2.0	0.000 000	0.001
	100 %	0	1905 000 004	1.7	0.000 000	0.001
	100 %	+10	1905 000 004	1.4	0.000 000	0.001
	100 %	+30	1905 000 006	3.2	0.000 000	0.002
	100 %	+40	1905 000 005	2.8	0.000 000	0.001
	100 %	+50	1905 000 005	2.3	0.000 000	0.001
	Batt. Endpoint	+20	1905 000 005	2.6	0.000 000	0.001

- ▣ BandWidth: 25 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 499 999	0.0	0.000 000	0.000
	100 %	-30	1862 499 995	-3.9	0.000 000	-0.002
	100 %	-20	1862 499 995	-4.2	0.000 000	-0.002
	100 %	-10	1862 499 995	-3.9	0.000 000	-0.002
	100 %	0	1862 499 997	-2.2	0.000 000	-0.001
	100 %	+10	1862 499 996	-2.9	0.000 000	-0.002
	100 %	+30	1862 499 995	-3.6	0.000 000	-0.002
	100 %	+40	1862 499 996	-3.4	0.000 000	-0.002
	100 %	+50	1862 499 997	-1.8	0.000 000	-0.001
	Batt. Endpoint	+20	1862 499 998	-1.1	0.000 000	-0.001
1902.5	100 %	+20(Ref)	1902 499 997	0.0	0.000 000	0.000
	100 %	-30	1902 499 995	-2.5	0.000 000	-0.001
	100 %	-20	1902 499 993	-4.6	0.000 000	-0.002
	100 %	-10	1902 499 994	-3.3	0.000 000	-0.002
	100 %	0	1902 499 993	-4.1	0.000 000	-0.002
	100 %	+10	1902 499 992	-5.5	0.000 000	-0.003
	100 %	+30	1902 499 993	-3.9	0.000 000	-0.002
	100 %	+40	1902 499 993	-4.8	0.000 000	-0.003
	100 %	+50	1902 499 993	-3.9	0.000 000	-0.002
	Batt. Endpoint	+20	1902 499 994	-3.6	0.000 000	-0.002

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1865 000 000	0.0	0.000 000	0.000
	100 %	-30	1864 999 998	-1.2	0.000 000	-0.001
	100 %	-20	1864 999 996	-3.1	0.000 000	-0.002
	100 %	-10	1864 999 998	-1.4	0.000 000	-0.001
	100 %	0	1864 999 999	-0.5	0.000 000	0.000
	100 %	+10	1864 999 998	-1.7	0.000 000	-0.001
	100 %	+30	1864 999 999	-0.8	0.000 000	0.000
	100 %	+40	1864 999 998	-1.6	0.000 000	-0.001
	100 %	+50	1864 999 999	-1.0	0.000 000	-0.001
	Batt. Endpoint	+20	1864 999 999	-0.9	0.000 000	0.000
1900.0	100 %	+20(Ref)	1900 000 001	0.0	0.000 000	0.000
	100 %	-30	1900 000 002	1.4	0.000 000	0.001
	100 %	-20	1900 000 000	-0.1	0.000 000	0.000
	100 %	-10	1900 000 001	0.2	0.000 000	0.000
	100 %	0	1900 000 001	0.6	0.000 000	0.000
	100 %	+10	1899 999 998	-2.7	0.000 000	-0.001
	100 %	+30	1900 000 001	0.9	0.000 000	0.000
	100 %	+40	1899 999 999	-1.9	0.000 000	-0.001
	100 %	+50	1900 000 001	0.3	0.000 000	0.000
	Batt. Endpoint	+20	1899 999 999	-2.0	0.000 000	-0.001

- BandWidth: 35 MHz
- Voltage(100 %): 3.900 VDC
- Batt. Endpoint: 3.300 VDC
- LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 500 000	0.0	0.000 000	0.000
	100 %	-30	1867 499 999	-1.2	0.000 000	-0.001
	100 %	-20	1867 500 000	0.3	0.000 000	0.000
	100 %	-10	1867 499 999	-0.8	0.000 000	0.000
	100 %	0	1867 499 999	-0.8	0.000 000	0.000
	100 %	+10	1867 499 998	-1.6	0.000 000	-0.001
	100 %	+30	1867 500 001	0.8	0.000 000	0.000
	100 %	+40	1867 499 999	-0.7	0.000 000	0.000
	100 %	+50	1867 499 999	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	1867 500 000	0.3	0.000 000	0.000
1897.5	100 %	+20(Ref)	1897 500 001	0.0	0.000 000	0.000
	100 %	-30	1897 500 002	1.7	0.000 000	0.001
	100 %	-20	1897 500 002	0.9	0.000 000	0.000
	100 %	-10	1897 500 001	0.1	0.000 000	0.000
	100 %	0	1897 500 001	-0.1	0.000 000	0.000
	100 %	+10	1897 500 001	0.5	0.000 000	0.000
	100 %	+30	1897 499 999	-1.6	0.000 000	-0.001
	100 %	+40	1897 499 999	-1.7	0.000 000	-0.001
	100 %	+50	1897 500 001	0.4	0.000 000	0.000
	Batt. Endpoint	+20	1897 499 999	-1.7	0.000 000	-0.001

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1869 999 999	0.0	0.000 000	0.000
	100 %	-30	1869 999 996	-2.4	0.000 000	-0.001
	100 %	-20	1869 999 998	-0.7	0.000 000	0.000
	100 %	-10	1869 999 996	-2.4	0.000 000	-0.001
	100 %	0	1869 999 998	-1.0	0.000 000	-0.001
	100 %	+10	1869 999 997	-1.9	0.000 000	-0.001
	100 %	+30	1869 999 995	-3.4	0.000 000	-0.002
	100 %	+40	1870 000 000	1.8	0.000 000	0.001
	100 %	+50	1869 999 998	-0.5	0.000 000	0.000
	Batt. Endpoint	+20	1869 999 999	0.0	0.000 000	0.000
1895.0	100 %	+20(Ref)	1895 000 000	0.0	0.000 000	0.000
	100 %	-30	1894 999 999	-1.6	0.000 000	-0.001
	100 %	-20	1895 000 002	1.9	0.000 000	0.001
	100 %	-10	1895 000 000	-0.5	0.000 000	0.000
	100 %	0	1895 000 003	2.2	0.000 000	0.001
	100 %	+10	1894 999 999	-1.4	0.000 000	-0.001
	100 %	+30	1895 000 000	0.0	0.000 000	0.000
	100 %	+40	1894 999 999	-1.3	0.000 000	-0.001
	100 %	+50	1894 999 997	-2.9	0.000 000	-0.002
	Batt. Endpoint	+20	1894 999 998	-2.0	0.000 000	-0.001

8.8 UPLINK CARRIER AGGREGATION

Test Note

1. All tests were evaluated for the two bands using various combinations of RB size, RB offset, modulation, and channel bandwidth.
2. All modes of operation were investigated and the worst case configuration results are reported in this section.

Please refer to the table below.

3. The worst case is reported with the modulations, RB sizes and offsets.

- N25A(Main 2)-N41A(Sub 5)

(PCC - Modulation: BPSK, RB: 1, RB Offset: 1, SCC - Modulation: BPSK, RB: 1, RB Offset: 12)

Radiated Spurious Emissions

PCC	SCC	PCC		SCC	
		BW(MHz)	Channel	BW(MHz)	Channel
N25A(Main2)	N41A(Sub 5)	35	376500	10	537000

8.8.1 RADIATED SPURIOUS EMISSIONS

N25A (Main 2) (PCC)- N41A (Sub 5) (SCC)

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)	Limit (dBm)
3 765.00	-60.61	11.88	-60.00	3.11	H	-51.23	-13.00
5 647.50	-63.33	12.11	-57.14	3.96	H	-48.99	-13.00
7 530.00	-65.20	11.57	-50.43	4.60	H	-43.46	-13.00

Freq.(MHz)	Measured Level [dBm]	Ant. Gain (dBi)	Substitute Level [dBm]	C.L	Pol.	Result (dBm)	Limit (dBm)
5 370.00	-64.02	11.96	-65.65	3.92	V	-57.61	-25.00
8 055.00	-58.29	11.24	-51.01	4.81	V	-44.58	-25.00
10 740.00	-65.44	11.55	-53.42	5.64	V	-47.51	-25.00

9. TEST DATA(Sub 5 ANT)

9.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1852.5	Sub6 n25(2)/ 5 MHz [15 kHz]	PI/2 BPSK	-25.99	7.64	10.45	2.08	H	< 2.00	0.040	16.01	1	12
		QPSK	-26.03	7.60	10.45	2.08	H		0.040	15.97		
		16-QAM	-27.11	6.52	10.45	2.08	H		0.031	14.89		
		64-QAM	-28.54	5.09	10.45	2.08	H		0.022	13.46		
		256-QAM	-30.60	3.03	10.45	2.08	H		0.014	11.40		
1882.5		PI/2 BPSK	-26.37	7.52	10.32	2.21	H		0.037	15.63	1	12
		QPSK	-26.44	7.45	10.32	2.21	H		0.036	15.56		
		16-QAM	-27.47	6.42	10.32	2.21	H		0.028	14.53		
		64-QAM	-29.02	4.87	10.32	2.21	H		0.020	12.98		
		256-QAM	-30.91	2.98	10.32	2.21	H		0.013	11.09		
1912.5		PI/2 BPSK	-26.76	7.42	10.19	2.17	H		0.035	15.44	1	1
		QPSK	-26.82	7.36	10.19	2.17	H		0.035	15.38		
		16-QAM	-27.86	6.32	10.19	2.17	H		0.027	14.34		
		64-QAM	-29.40	4.78	10.19	2.17	H		0.019	12.80		
		256-QAM	-31.44	2.74	10.19	2.17	H		0.012	10.76		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1855.0		PI/2 BPSK	-26.25	7.38	10.45	2.08	H	< 2.00	0.038	15.75	1	26
		QPSK	-26.26	7.37	10.45	2.08	H		0.038	15.74		
		16-QAM	-27.26	6.37	10.45	2.08	H		0.030	14.74		
		64-QAM	-28.81	4.82	10.45	2.08	H		0.021	13.19		
		256-QAM	-30.64	2.99	10.45	2.08	H		0.014	11.36		
1882.5	Sub6 n25(2)/ 10 MHz [15 kHz]	PI/2 BPSK	-26.35	7.54	10.32	2.21	H	< 2.00	0.037	15.65	1	50
		QPSK	-26.36	7.53	10.32	2.21	H		0.037	15.64		
		16-QAM	-27.24	6.65	10.32	2.21	H		0.030	14.76		
		64-QAM	-28.86	5.03	10.32	2.21	H		0.021	13.14		
		256-QAM	-30.75	3.14	10.32	2.21	H		0.013	11.25		
1910.0		PI/2 BPSK	-26.48	7.42	10.21	2.17	H	< 2.00	0.035	15.46	1	26
		QPSK	-26.61	7.29	10.21	2.17	H		0.034	15.33		
		16-QAM	-27.71	6.19	10.21	2.17	H		0.027	14.23		
		64-QAM	-29.16	4.74	10.21	2.17	H		0.019	12.78		
		256-QAM	-31.21	2.69	10.21	2.17	H		0.012	10.73		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1857.5		PI/2 BPSK	-26.14	7.18	10.43	2.10	H	< 2.00	0.036	15.51	1	39
		QPSK	-26.17	7.15	10.43	2.10	H		0.035	15.48		
		16-QAM	-27.26	6.06	10.43	2.10	H		0.028	14.39		
		64-QAM	-28.78	4.54	10.43	2.10	H		0.019	12.87		
		256-QAM	-30.69	2.63	10.43	2.10	H		0.013	10.96		
1882.5	Sub6 n25(2)/ 15 MHz [15 kHz]	PI/2 BPSK	-26.34	7.55	10.32	2.21	H	< 2.00	0.037	15.66	1	39
		QPSK	-26.42	7.47	10.32	2.21	H		0.036	15.58		
		16-QAM	-27.34	6.55	10.32	2.21	H		0.029	14.66		
		64-QAM	-28.90	4.99	10.32	2.21	H		0.020	13.10		
		256-QAM	-30.95	2.94	10.32	2.21	H		0.013	11.05		
1907.5		PI/2 BPSK	-26.37	7.53	10.21	2.17	H	< 2.00	0.036	15.57	1	1
		QPSK	-26.50	7.40	10.21	2.17	H		0.035	15.44		
		16-QAM	-27.48	6.42	10.21	2.17	H		0.028	14.46		
		64-QAM	-28.93	4.97	10.21	2.17	H		0.020	13.01		
		256-QAM	-31.01	2.89	10.21	2.17	H		0.012	10.93		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1860.0		PI/2 BPSK	-26.06	7.26	10.43	2.10	H	< 2.00	0.036	15.59	1	53
		QPSK	-26.15	7.17	10.43	2.10	H		0.036	15.50		
		16-QAM	-27.03	6.29	10.43	2.10	H		0.029	14.62		
		64-QAM	-28.66	4.66	10.43	2.10	H		0.020	12.99		
		256-QAM	-30.56	2.76	10.43	2.10	H		0.013	11.09		
1882.5	Sub6 n25(2)/ 20 MHz [15 kHz]	PI/2 BPSK	-26.32	7.57	10.32	2.21	H		0.037	15.68	1	53
		QPSK	-26.34	7.55	10.32	2.21	H		0.037	15.66		
		16-QAM	-27.39	6.50	10.32	2.21	H		0.029	14.61		
		64-QAM	-28.90	4.99	10.32	2.21	H		0.020	13.10		
		256-QAM	-30.95	2.94	10.32	2.21	H		0.013	11.05		
1905.0		PI/2 BPSK	-26.55	7.49	10.23	2.19	H		0.036	15.53	1	1
		QPSK	-26.61	7.43	10.23	2.19	H		0.035	15.47		
		16-QAM	-27.54	6.50	10.23	2.19	H		0.028	14.54		
		64-QAM	-29.04	5.00	10.23	2.19	H		0.020	13.04		
		256-QAM	-31.05	2.99	10.23	2.19	H		0.013	11.03		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1862.5		PI/2 BPSK	-26.08	7.53	10.41	2.13	H	< 2.00	0.038	15.81	1	1
		QPSK	-26.13	7.48	10.41	2.13	H		0.038	15.76		
		16-QAM	-27.09	6.52	10.41	2.13	H		0.030	14.80		
		64-QAM	-28.72	4.89	10.41	2.13	H		0.021	13.17		
		256-QAM	-30.64	2.97	10.41	2.13	H		0.013	11.25		
1882.5	Sub6 n25(2)/ 25 MHz [15 kHz]	PI/2 BPSK	-26.33	7.56	10.32	2.21	H		0.037	15.67	1	66
		QPSK	-26.36	7.53	10.32	2.21	H		0.037	15.64		
		16-QAM	-27.43	6.46	10.32	2.21	H		0.029	14.57		
		64-QAM	-28.99	4.90	10.32	2.21	H		0.020	13.01		
		256-QAM	-30.83	3.06	10.32	2.21	H		0.013	11.17		
1902.5		PI/2 BPSK	-26.44	7.60	10.23	2.19	H		0.037	15.64	1	66
		QPSK	-26.47	7.57	10.23	2.19	H		0.036	15.61		
		16-QAM	-27.44	6.60	10.23	2.19	H		0.029	14.64		
		64-QAM	-28.94	5.10	10.23	2.19	H		0.021	13.14		
		256-QAM	-30.99	3.05	10.23	2.19	H		0.013	11.09		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1865.0		PI/2 BPSK	-26.12	7.49	10.41	2.13	H	< 2.00	0.038	15.77	1	1
		QPSK	-26.17	7.44	10.41	2.13	H		0.037	15.72		
		16-QAM	-27.17	6.44	10.41	2.13	H		0.030	14.72		
		64-QAM	-28.73	4.88	10.41	2.13	H		0.021	13.16		
		256-QAM	-30.64	2.97	10.41	2.13	H		0.013	11.25		
1882.5	Sub6 n25(2)/ 30 MHz [15 kHz]	PI/2 BPSK	-26.30	7.59	10.32	2.21	H		0.037	15.70	1	1
		QPSK	-26.32	7.57	10.32	2.21	H		0.037	15.68		
		16-QAM	-27.24	6.65	10.32	2.21	H		0.030	14.76		
		64-QAM	-28.80	5.09	10.32	2.21	H		0.021	13.20		
		256-QAM	-30.82	3.07	10.32	2.21	H		0.013	11.18		
1900.0		PI/2 BPSK	-26.22	7.95	10.25	2.20	H		0.040	16.00	1	1
		QPSK	-26.24	7.93	10.25	2.20	H		0.040	15.98		
		16-QAM	-27.26	6.91	10.25	2.20	H		0.031	14.96		
		64-QAM	-28.80	5.37	10.25	2.20	H		0.022	13.42		
		256-QAM	-30.71	3.46	10.25	2.20	H		0.014	11.51		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1867.5		PI/2 BPSK	-26.09	7.82	10.39	2.16	H	< 2.00	0.040	16.05	1	1
		QPSK	-26.10	7.81	10.39	2.16	H		0.040	16.04		
		16-QAM	-27.10	6.81	10.39	2.16	H		0.032	15.04		
		64-QAM	-28.61	5.30	10.39	2.16	H		0.023	13.53		
		256-QAM	-30.62	3.29	10.39	2.16	H		0.014	11.52		
1882.5	Sub6 n25(2)/ 35 MHz [15 kHz]	PI/2 BPSK	-26.29	7.60	10.32	2.21	H		0.037	15.71	1	94
		QPSK	-26.33	7.56	10.32	2.21	H		0.037	15.67		
		16-QAM	-27.35	6.54	10.32	2.21	H		0.029	14.65		
		64-QAM	-28.88	5.01	10.32	2.21	H		0.021	13.12		
		256-QAM	-30.84	3.05	10.32	2.21	H		0.013	11.16		
1897.5		PI/2 BPSK	-26.35	7.82	10.25	2.20	H		0.039	15.87	1	1
		QPSK	-26.36	7.81	10.25	2.20	H		0.039	15.86		
		16-QAM	-27.33	6.84	10.25	2.20	H		0.031	14.89		
		64-QAM	-28.84	5.33	10.25	2.20	H		0.022	13.38		
		256-QAM	-30.81	3.36	10.25	2.20	H		0.014	11.41		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1870.0		PI/2 BPSK	-26.04	7.87	10.39	2.16	H	< 2.00	0.041	16.10	1	1
		QPSK	-26.12	7.79	10.39	2.16	H		0.040	16.02		
		16-QAM	-27.10	6.81	10.39	2.16	H		0.032	15.04		
		64-QAM	-28.71	5.20	10.39	2.16	H		0.022	13.43		
		256-QAM	-30.54	3.37	10.39	2.16	H		0.014	11.60		
1882.5	Sub6 n25(2)/ 40 MHz [15 kHz]	PI/2 BPSK	-26.21	7.68	10.32	2.21	H		0.038	15.79	1	1
		QPSK	-26.27	7.62	10.32	2.21	H		0.037	15.73		
		16-QAM	-27.29	6.60	10.32	2.21	H		0.030	14.71		
		64-QAM	-28.75	5.14	10.32	2.21	H		0.021	13.25		
		256-QAM	-30.78	3.11	10.32	2.21	H		0.013	11.22		
1895.0		PI/2 BPSK	-26.33	7.85	10.28	2.20	H		0.039	15.93	1	1
		QPSK	-26.38	7.80	10.28	2.20	H		0.039	15.88		
		16-QAM	-27.31	6.87	10.28	2.20	H		0.031	14.95		
		64-QAM	-28.83	5.35	10.28	2.20	H		0.022	13.43		
		256-QAM	-30.76	3.42	10.28	2.20	H		0.014	11.50		

9.2 RADIATED SPURIOUS EMISSIONS

☐ NR Band: N25(2)
☐ Bandwidth: 40 MHz
☐ Modulation: PI/2 BPSK
☐ Distance: 3 meters
☐ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
374000 (1870.0)	3 740.00	-48.92	12.00	-48.86	3.19	H	-40.05	-13.00	1	1
	5 610.00	-61.75	12.21	-56.02	3.92	V	-47.73	-13.00		
	7 480.00	-63.09	11.45	-48.29	4.62	V	-41.46	-13.00		
376500 (1882.5)	3 765.00	-48.24	11.88	-47.63	3.11	H	-38.86	-13.00	1	1
	5 647.50	-58.50	12.11	-52.31	3.96	V	-44.16	-13.00		
	7 530.00	-63.47	11.57	-48.70	4.60	H	-41.73	-13.00		
379000 (1895.0)	3 790.00	-49.16	11.76	-48.31	3.19	H	-39.74	-13.00	1	1
	5 685.00	-62.52	12.00	-56.25	4.01	H	-48.26	-13.00		
	7 580.00	-63.35	11.61	-48.78	4.65	H	-41.82	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	5.43
			QPSK			5.76
			16-QAM			6.37
			64-QAM			6.28
			256-QAM			6.75
	10 MHz		BPSK	50		5.10
			QPSK			5.56
			16-QAM			6.17
			64-QAM			6.12
			256-QAM			6.61
	15 MHz		BPSK	75		4.53
			QPSK			5.50
			16-QAM			6.35
			64-QAM			6.20
			256-QAM			6.66
	20 MHz		BPSK	100		5.61
			QPSK			5.90
			16-QAM			6.45
			64-QAM			6.37
			256-QAM			6.78

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	4.39
			QPSK			5.48
			16-QAM			6.23
			64-QAM			6.16
			256-QAM			6.67
	30 MHz		BPSK	160		4.52
			QPSK			5.52
			16-QAM			6.24
			64-QAM			6.16
			256-QAM			6.63
	35 MHz		BPSK	180		4.58
			QPSK			5.56
			16-QAM			6.29
			64-QAM			6.17
			256-QAM			6.65
	40 MHz		BPSK	216		4.81
			QPSK			5.64
			16-QAM			6.35
			64-QAM			6.23
			256-QAM			6.75

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 250 ~ 289.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	5 MHz	1882.5	BPSK	25	0	4.5309
			QPSK			4.5277
			16-QAM			4.5192
			64-QAM			4.5187
			256-QAM			4.5230
	10 MHz		BPSK	50		8.9940
			QPSK			8.9859
			16-QAM			8.9838
			64-QAM			8.9703
			256-QAM			8.9671
	15 MHz		BPSK	75		13.445
			QPSK			13.417
			16-QAM			13.470
			64-QAM			13.433
			256-QAM			13.429
	20 MHz		BPSK	100		17.930
			QPSK			17.958
			16-QAM			17.928
			64-QAM			17.950
			256-QAM			17.891

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n25(2)	25 MHz	1882.5	BPSK	128	0	22.942
			QPSK			22.966
			16-QAM			23.008
			64-QAM			23.064
			256-QAM			22.939
	30 MHz		BPSK	160		28.762
			QPSK			28.703
			16-QAM			28.701
			64-QAM			28.764
			256-QAM			28.695
	35 MHz		BPSK	180		32.363
			QPSK			32.286
			16-QAM			32.203
			64-QAM			32.330
			256-QAM			32.260
	40 MHz		BPSK	216		38.702
			QPSK			38.839
			16-QAM			38.915
			64-QAM			38.856
			256-QAM			38.902

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 290 ~ 329.

9.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n25(2)	5	1852.5	4.9652	29.722	-60.912	-31.190	-13.00
		1882.5	3.7887	29.722	-61.910	-32.188	
		1912.5	3.7787	29.722	-61.414	-31.692	
	10	1855.0	9.5613	30.315	-62.024	-31.709	
		1882.5	3.7987	29.722	-61.337	-31.615	
		1910.0	8.3550	30.315	-61.112	-30.797	
	15	1857.5	9.7009	30.315	-61.387	-31.072	
		1882.5	5.2144	30.315	-61.543	-31.228	
		1907.5	3.9682	29.722	-60.785	-31.063	
	20	1860.0	4.9851	29.722	-60.943	-31.221	
		1882.5	8.0858	30.315	-61.331	-31.016	
		1905.0	3.8186	29.722	-61.403	-31.681	
	25	1862.5	3.7488	29.722	-61.745	-32.023	
		1882.5	4.9253	29.722	-61.302	-31.580	
		1902.5	3.7688	29.722	-61.635	-31.913	
	30	1865.0	7.1885	30.315	-60.994	-30.679	
		1882.5	5.4936	30.315	-61.396	-31.081	
		1900.0	4.9053	29.722	-61.593	-31.871	
	35	1867.5	3.8186	29.722	-61.535	-31.813	
		1882.5	9.4018	30.315	-61.898	-31.583	
		1897.5	3.9981	29.722	-60.931	-31.209	
	40	1870.0	4.9452	29.722	-59.624	-29.902	
		1882.5	3.7588	29.722	-61.730	-32.008	
		1895.0	4.0679	29.722	-61.531	-31.809	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 330 ~ 377.
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	27.012
1 – 5	29.722
5 – 10	30.315
10 – 15	30.840
15 – 20	31.213
Above 20	31.855

9.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 378 ~ 425.

9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 5 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1852.5	100 %	+20(Ref)	1852 499 999	0.0	0.000 000	0.000
	100 %	-30	1852 499 998	-1.0	0.000 000	-0.001
	100 %	-20	1852 499 998	-1.3	0.000 000	-0.001
	100 %	-10	1852 499 998	-1.4	0.000 000	-0.001
	100 %	0	1852 499 998	-1.5	0.000 000	-0.001
	100 %	+10	1852 499 998	-1.4	0.000 000	-0.001
	100 %	+30	1852 499 998	-1.5	0.000 000	-0.001
	100 %	+40	1852 499 998	-1.4	0.000 000	-0.001
	100 %	+50	1852 499 998	-1.4	0.000 000	-0.001
	Batt. Endpoint	+20	1852 499 997	-1.8	0.000 000	-0.001
1912.5	100 %	+20(Ref)	1912 500 000	0.0	0.000 000	0.000
	100 %	-30	1912 499 999	-1.3	0.000 000	-0.001
	100 %	-20	1912 499 998	-2.6	0.000 000	-0.001
	100 %	-10	1912 500 000	-0.1	0.000 000	0.000
	100 %	0	1912 499 999	-1.3	0.000 000	-0.001
	100 %	+10	1912 500 001	0.4	0.000 000	0.000
	100 %	+30	1912 499 999	-1.1	0.000 000	-0.001
	100 %	+40	1912 499 998	-2.4	0.000 000	-0.001
	100 %	+50	1912 500 000	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	1912 499 998	-2.5	0.000 000	-0.001

■ BandWidth:	<u>10 MHz</u>
■ Voltage(100 %):	<u>3.900 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1855.0	100 %	+20(Ref)	1854 999 997	0.0	0.000 000	0.000
	100 %	-30	1854 999 995	-2.1	0.000 000	-0.001
	100 %	-20	1854 999 995	-1.8	0.000 000	-0.001
	100 %	-10	1854 999 995	-2.5	0.000 000	-0.001
	100 %	0	1854 999 995	-2.0	0.000 000	-0.001
	100 %	+10	1854 999 995	-2.5	0.000 000	-0.001
	100 %	+30	1854 999 996	-1.5	0.000 000	-0.001
	100 %	+40	1854 999 996	-1.6	0.000 000	-0.001
	100 %	+50	1854 999 997	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	1854 999 997	-0.7	0.000 000	0.000
1910.0	100 %	+20(Ref)	1909 999 998	0.0	0.000 000	0.000
	100 %	-30	1909 999 995	-3.0	0.000 000	-0.002
	100 %	-20	1909 999 996	-2.4	0.000 000	-0.001
	100 %	-10	1909 999 995	-2.6	0.000 000	-0.001
	100 %	0	1909 999 995	-2.7	0.000 000	-0.001
	100 %	+10	1909 999 996	-2.1	0.000 000	-0.001
	100 %	+30	1909 999 997	-1.4	0.000 000	-0.001
	100 %	+40	1909 999 995	-2.6	0.000 000	-0.001
	100 %	+50	1909 999 997	-1.1	0.000 000	-0.001
	Batt. Endpoint	+20	1909 999 997	-0.6	0.000 000	0.000

■ BandWidth:	<u>15 MHz</u>
■ Voltage(100 %):	<u>3.900 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1857.5	100 %	+20(Ref)	1857 499 997	0.0	0.000 000	0.000
	100 %	-30	1857 499 997	-0.1	0.000 000	0.000
	100 %	-20	1857 499 998	0.6	0.000 000	0.000
	100 %	-10	1857 499 997	-0.6	0.000 000	0.000
	100 %	0	1857 499 997	-0.3	0.000 000	0.000
	100 %	+10	1857 499 996	-1.6	0.000 000	-0.001
	100 %	+30	1857 499 999	1.6	0.000 000	0.001
	100 %	+40	1857 499 996	-0.9	0.000 000	0.000
	100 %	+50	1857 499 999	1.8	0.000 000	0.001
	Batt. Endpoint	+20	1857 499 998	0.6	0.000 000	0.000
1907.5	100 %	+20(Ref)	1907 500 001	0.0	0.000 000	0.000
	100 %	-30	1907 500 001	0.3	0.000 000	0.000
	100 %	-20	1907 500 000	-0.4	0.000 000	0.000
	100 %	-10	1907 500 001	-0.2	0.000 000	0.000
	100 %	0	1907 500 000	-0.8	0.000 000	0.000
	100 %	+10	1907 500 003	1.8	0.000 000	0.001
	100 %	+30	1907 500 002	1.2	0.000 000	0.001
	100 %	+40	1907 500 002	1.0	0.000 000	0.001
	100 %	+50	1907 500 000	-1.0	0.000 000	-0.001
	Batt. Endpoint	+20	1907 500 000	-0.7	0.000 000	0.000

■ BandWidth:	<u>20 MHz</u>
■ Voltage(100 %):	<u>3.900 VDC</u>
■ Batt. Endpoint:	<u>3.300 VDC</u>
■ LIMIT:	<u>Emission must remain in band</u>

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1860.0	100 %	+20(Ref)	1860 000 000	0.0	0.000 000	0.000
	100 %	-30	1859 999 998	-1.9	0.000 000	-0.001
	100 %	-20	1859 999 999	-1.0	0.000 000	-0.001
	100 %	-10	1859 999 999	-0.9	0.000 000	0.000
	100 %	0	1859 999 999	-0.9	0.000 000	0.000
	100 %	+10	1859 999 997	-3.0	0.000 000	-0.002
	100 %	+30	1859 999 999	-0.9	0.000 000	0.000
	100 %	+40	1859 999 998	-2.0	0.000 000	-0.001
	100 %	+50	1859 999 998	-2.2	0.000 000	-0.001
	Batt. Endpoint	+20	1860 000 001	0.2	0.000 000	0.000
1905.0	100 %	+20(Ref)	1904 999 999	0.0	0.000 000	0.000
	100 %	-30	1905 000 000	0.5	0.000 000	0.000
	100 %	-20	1904 999 999	0.2	0.000 000	0.000
	100 %	-10	1905 000 001	1.9	0.000 000	0.001
	100 %	0	1904 999 999	0.0	0.000 000	0.000
	100 %	+10	1905 000 000	1.0	0.000 000	0.001
	100 %	+30	1905 000 000	0.7	0.000 000	0.000
	100 %	+40	1904 999 999	-0.1	0.000 000	0.000
	100 %	+50	1905 000 001	1.6	0.000 000	0.001
	Batt. Endpoint	+20	1905 000 001	1.7	0.000 000	0.001

- ▣ BandWidth: 25 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1862.5	100 %	+20(Ref)	1862 499 998	0.0	0.000 000	0.000
	100 %	-30	1862 499 997	-1.3	0.000 000	-0.001
	100 %	-20	1862 499 998	-0.5	0.000 000	0.000
	100 %	-10	1862 499 997	-1.3	0.000 000	-0.001
	100 %	0	1862 499 998	-0.5	0.000 000	0.000
	100 %	+10	1862 499 997	-1.1	0.000 000	-0.001
	100 %	+30	1862 499 998	-0.3	0.000 000	0.000
	100 %	+40	1862 499 996	-1.7	0.000 000	-0.001
	100 %	+50	1862 499 996	-2.1	0.000 000	-0.001
	Batt. Endpoint	+20	1862 499 998	-0.2	0.000 000	0.000
1902.5	100 %	+20(Ref)	1902 499 998	0.0	0.000 000	0.000
	100 %	-30	1902 499 995	-2.2	0.000 000	-0.001
	100 %	-20	1902 499 994	-3.4	0.000 000	-0.002
	100 %	-10	1902 499 995	-2.6	0.000 000	-0.001
	100 %	0	1902 499 994	-3.6	0.000 000	-0.002
	100 %	+10	1902 499 998	0.2	0.000 000	0.000
	100 %	+30	1902 499 994	-4.1	0.000 000	-0.002
	100 %	+40	1902 499 995	-2.6	0.000 000	-0.001
	100 %	+50	1902 499 997	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	1902 499 994	-4.0	0.000 000	-0.002

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1865.0	100 %	+20(Ref)	1864 999 999	0.0	0.000 000	0.000
	100 %	-30	1864 999 996	-3.1	0.000 000	-0.002
	100 %	-20	1864 999 997	-1.6	0.000 000	-0.001
	100 %	-10	1864 999 997	-1.4	0.000 000	-0.001
	100 %	0	1864 999 997	-1.7	0.000 000	-0.001
	100 %	+10	1864 999 997	-2.1	0.000 000	-0.001
	100 %	+30	1864 999 997	-1.8	0.000 000	-0.001
	100 %	+40	1864 999 998	-0.9	0.000 000	0.000
	100 %	+50	1864 999 995	-3.4	0.000 000	-0.002
	Batt. Endpoint	+20	1864 999 996	-3.1	0.000 000	-0.002
1900.0	100 %	+20(Ref)	1900 000 001	0.0	0.000 000	0.000
	100 %	-30	1900 000 001	0.9	0.000 000	0.000
	100 %	-20	1900 000 001	0.6	0.000 000	0.000
	100 %	-10	1900 000 000	-0.6	0.000 000	0.000
	100 %	0	1900 000 001	0.3	0.000 000	0.000
	100 %	+10	1899 999 999	-1.3	0.000 000	-0.001
	100 %	+30	1900 000 000	-0.4	0.000 000	0.000
	100 %	+40	1900 000 000	-0.9	0.000 000	0.000
	100 %	+50	1900 000 003	2.7	0.000 000	0.001
	Batt. Endpoint	+20	1900 000 000	-0.6	0.000 000	0.000

- ▣ BandWidth: 35 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

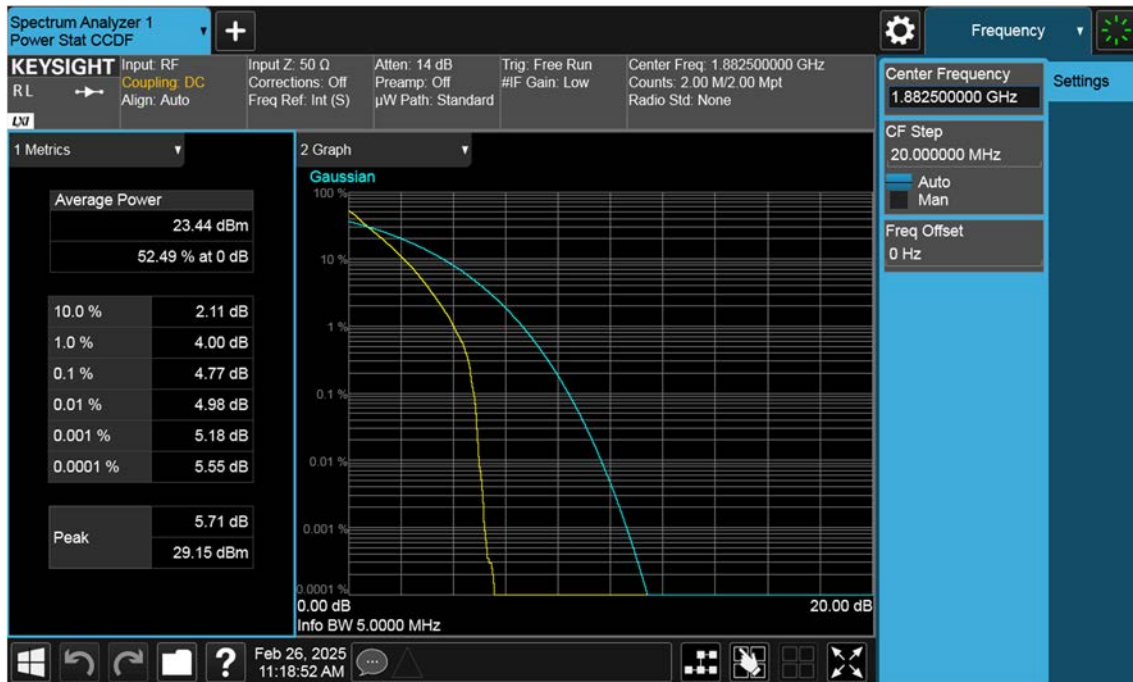
Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1867.5	100 %	+20(Ref)	1867 500 001	0.0	0.000 000	0.000
	100 %	-30	1867 500 002	1.2	0.000 000	0.001
	100 %	-20	1867 500 002	1.4	0.000 000	0.001
	100 %	-10	1867 500 000	-0.6	0.000 000	0.000
	100 %	0	1867 500 000	-0.6	0.000 000	0.000
	100 %	+10	1867 500 001	0.1	0.000 000	0.000
	100 %	+30	1867 500 003	2.0	0.000 000	0.001
	100 %	+40	1867 500 001	0.1	0.000 000	0.000
	100 %	+50	1867 500 002	1.5	0.000 000	0.001
	Batt. Endpoint	+20	1867 500 004	2.6	0.000 000	0.001
1897.5	100 %	+20(Ref)	1897 499 999	0.0	0.000 000	0.000
	100 %	-30	1897 500 000	1.1	0.000 000	0.001
	100 %	-20	1897 499 999	-0.3	0.000 000	0.000
	100 %	-10	1897 500 000	0.8	0.000 000	0.000
	100 %	0	1897 500 000	0.4	0.000 000	0.000
	100 %	+10	1897 499 998	-1.5	0.000 000	-0.001
	100 %	+30	1897 500 001	1.4	0.000 000	0.001
	100 %	+40	1897 500 001	1.4	0.000 000	0.001
	100 %	+50	1897 500 001	2.1	0.000 000	0.001
	Batt. Endpoint	+20	1897 500 000	0.2	0.000 000	0.000

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100 %): 3.900 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency Error	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	(Hz)	(%)	
1870.0	100 %	+20(Ref)	1870 000 000	0.0	0.000 000	0.000
	100 %	-30	1870 000 000	0.0	0.000 000	0.000
	100 %	-20	1869 999 999	-1.2	0.000 000	-0.001
	100 %	-10	1869 999 999	-1.0	0.000 000	-0.001
	100 %	0	1869 999 999	-0.9	0.000 000	0.000
	100 %	+10	1870 000 000	-0.2	0.000 000	0.000
	100 %	+30	1870 000 002	1.7	0.000 000	0.001
	100 %	+40	1870 000 000	0.3	0.000 000	0.000
	100 %	+50	1869 999 998	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	1869 999 999	-1.1	0.000 000	-0.001
1895.0	100 %	+20(Ref)	1894 999 999	0.0	0.000 000	0.000
	100 %	-30	1894 999 997	-2.5	0.000 000	-0.001
	100 %	-20	1894 999 997	-2.1	0.000 000	-0.001
	100 %	-10	1894 999 998	-0.9	0.000 000	0.000
	100 %	0	1894 999 997	-1.7	0.000 000	-0.001
	100 %	+10	1894 999 998	-1.2	0.000 000	-0.001
	100 %	+30	1894 999 998	-1.6	0.000 000	-0.001
	100 %	+40	1894 999 997	-2.4	0.000 000	-0.001
	100 %	+50	1894 999 998	-1.6	0.000 000	-0.001
	Batt. Endpoint	+20	1894 999 998	-1.4	0.000 000	-0.001

10. TEST PLOTS(Main 2 ANT)

NR25_5 M_PAR_Mid_BPSK_FullRB



NR25_5 M_PAR_Mid_QPSK_FullRB



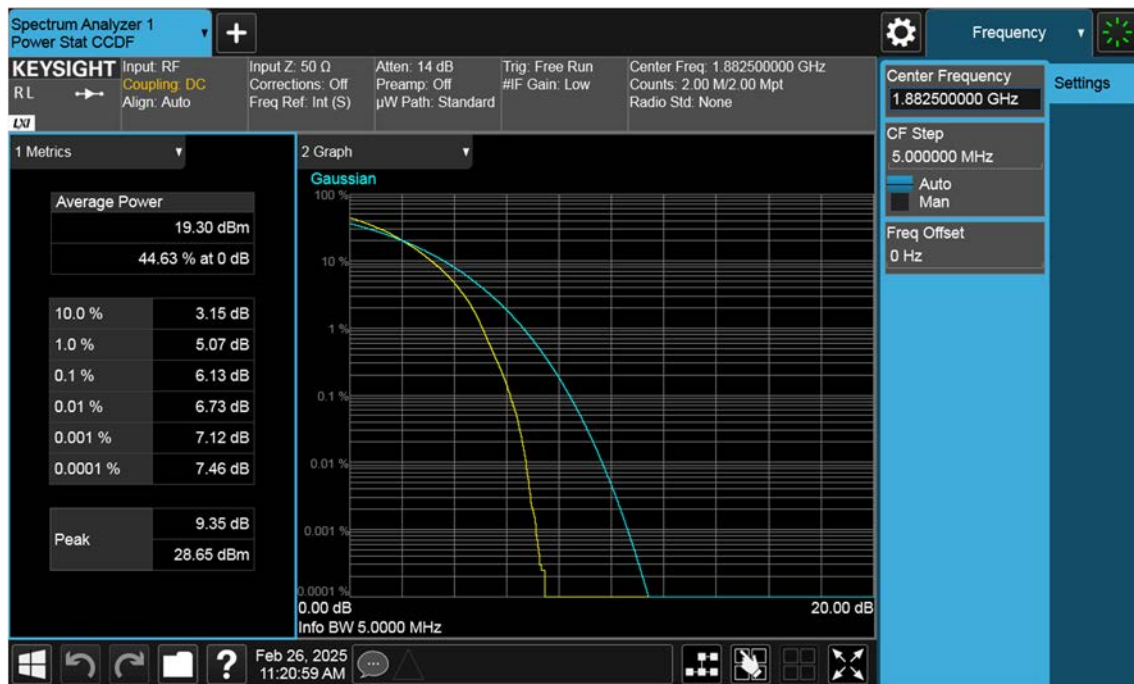
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NR25_5 M_PAR_Mid_64QAM_FullRB



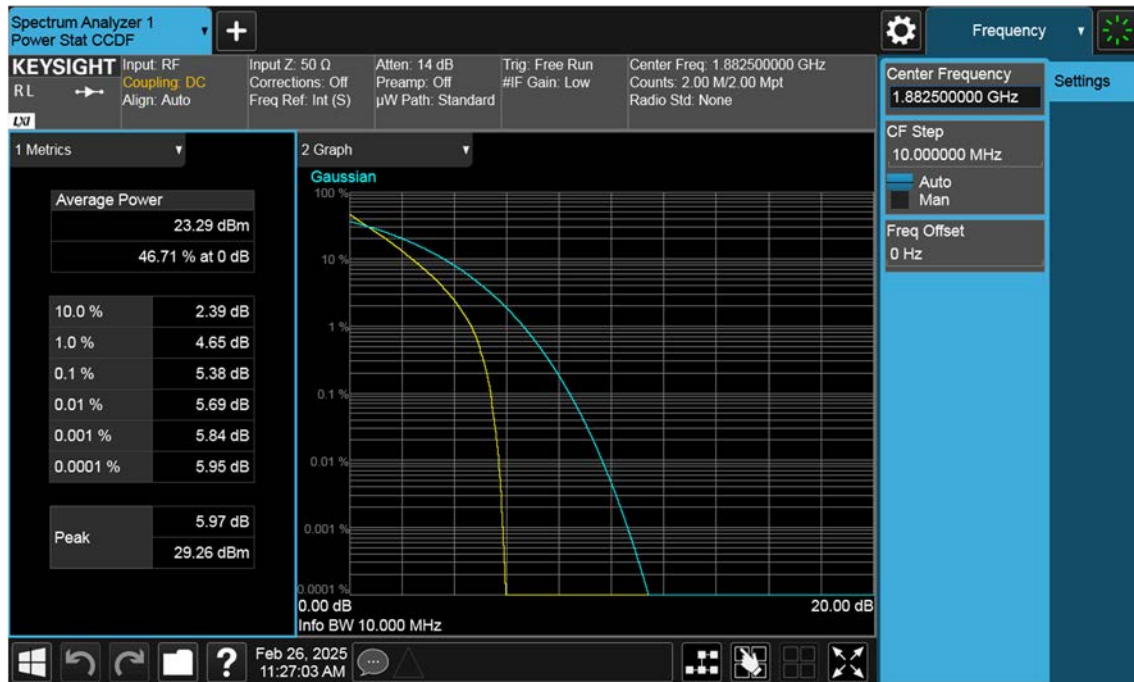
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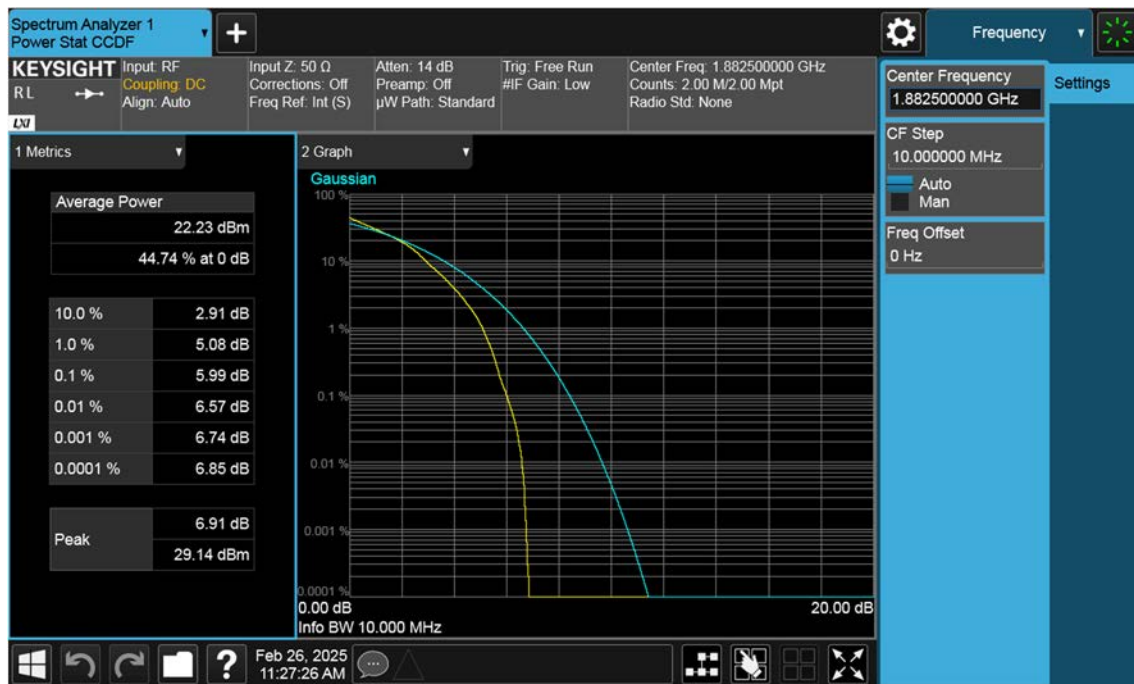
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NR25_10 M_PAR_Mid_QPSK_FullRB



NR25_10 M_PAR_Mid_16QAM_FullRB



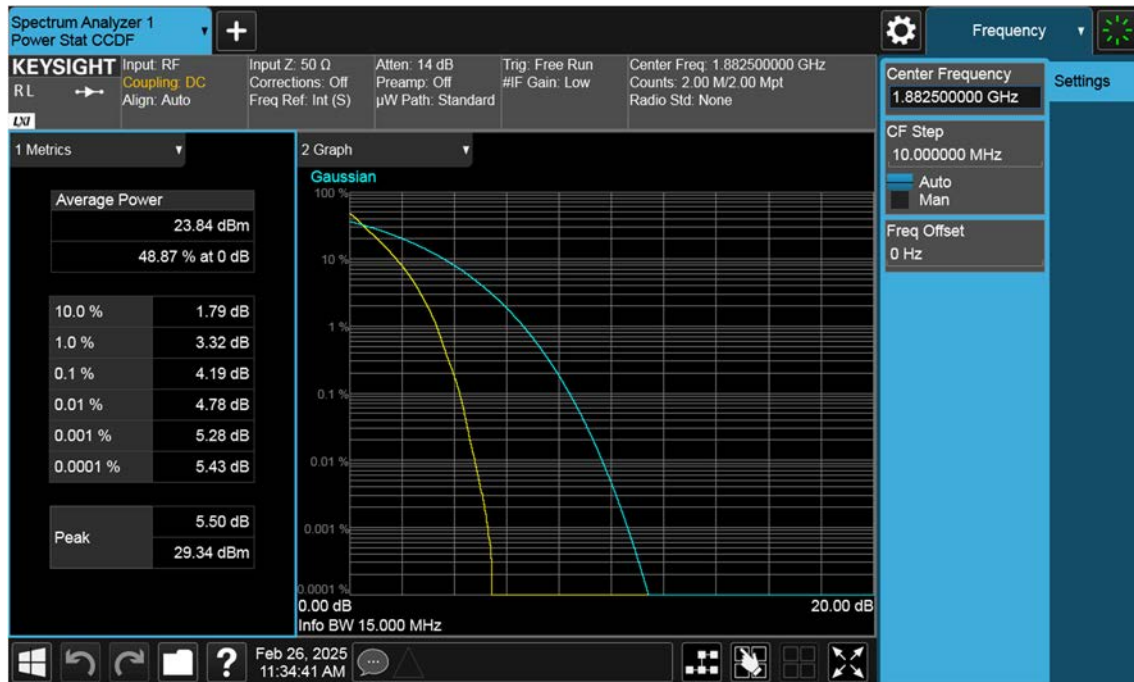
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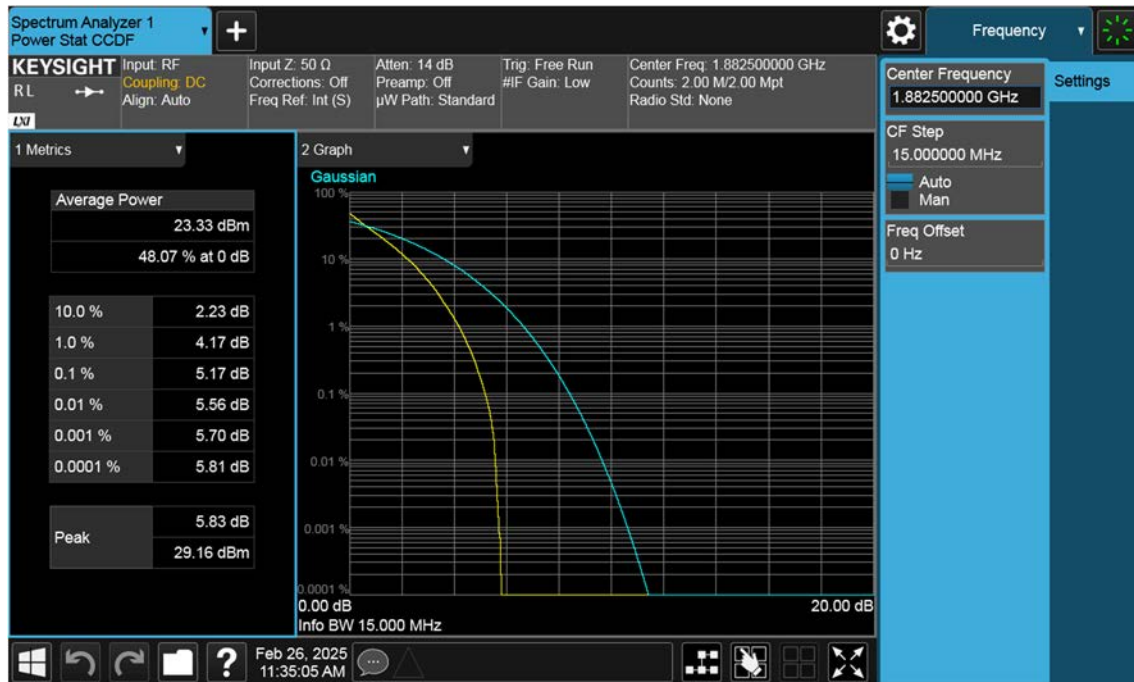
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NR25_15 M_PAR_Mid_BPSK_FullIRB



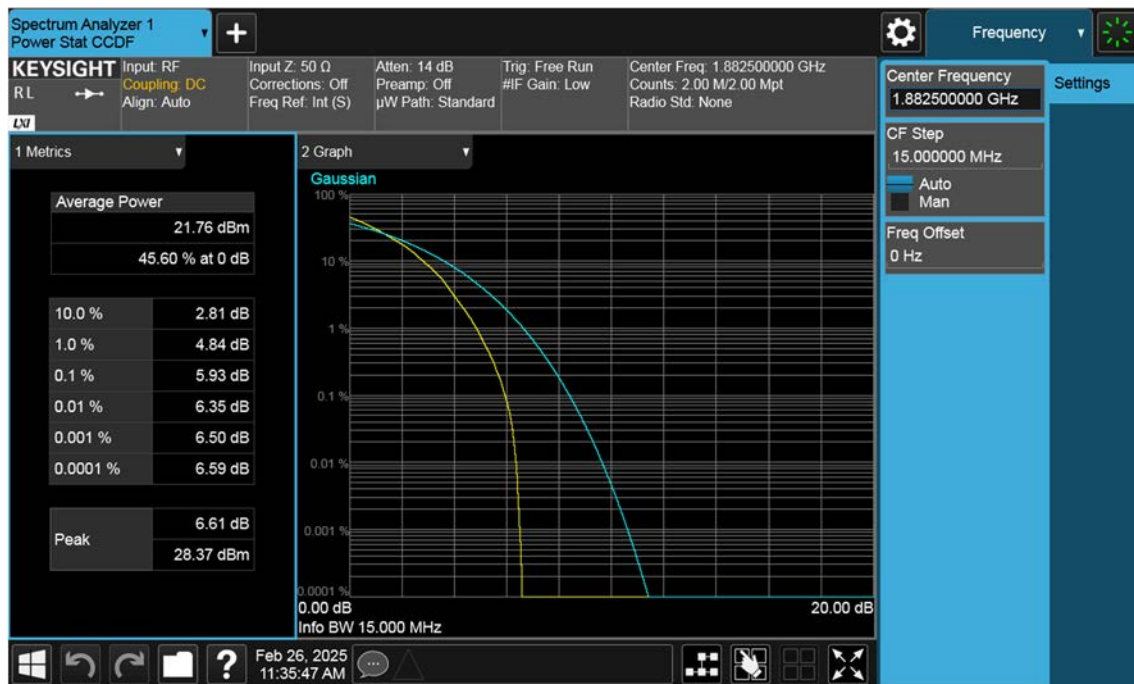
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NR25_15 M_PAR_Mid_16QAM_FullRB



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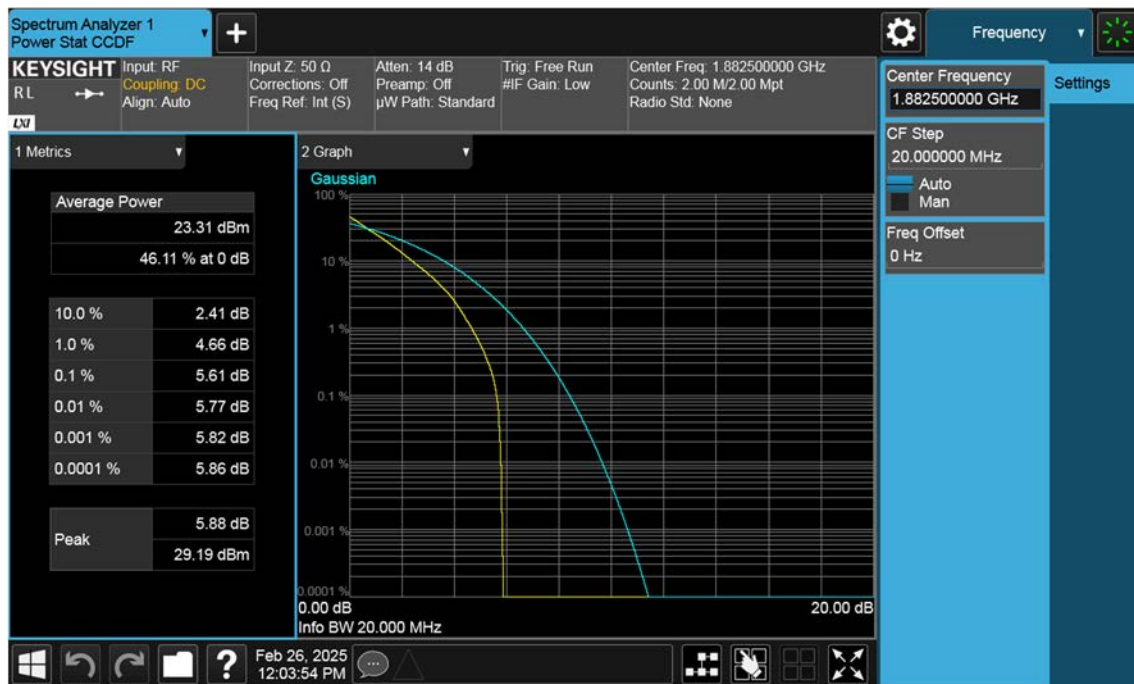
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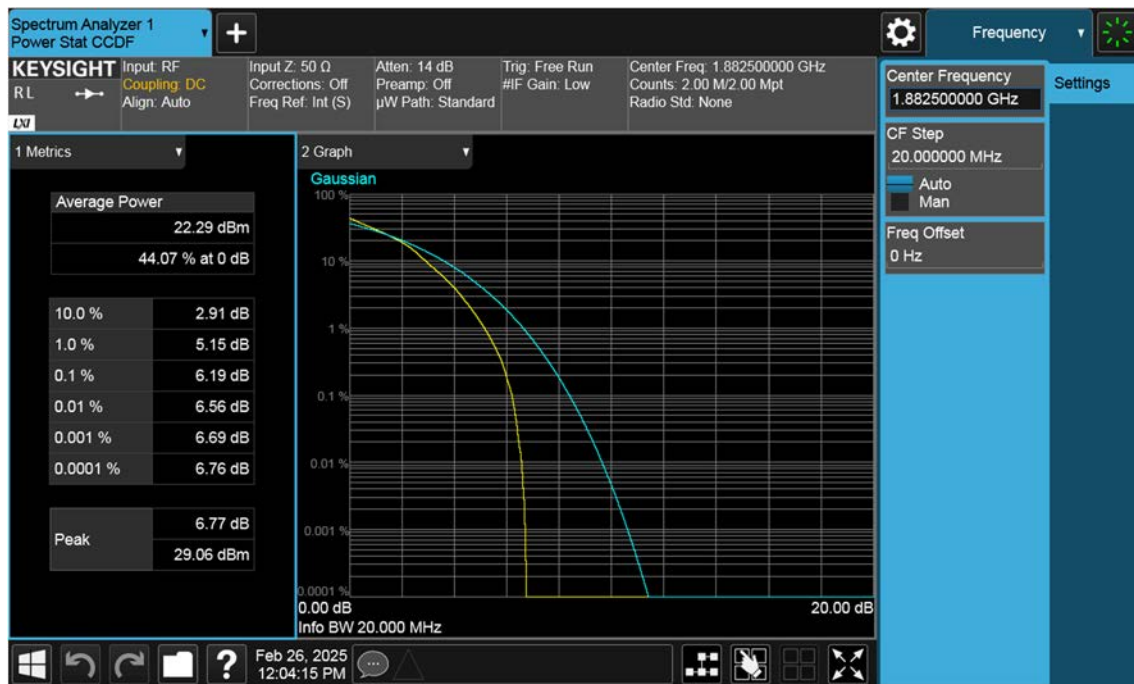
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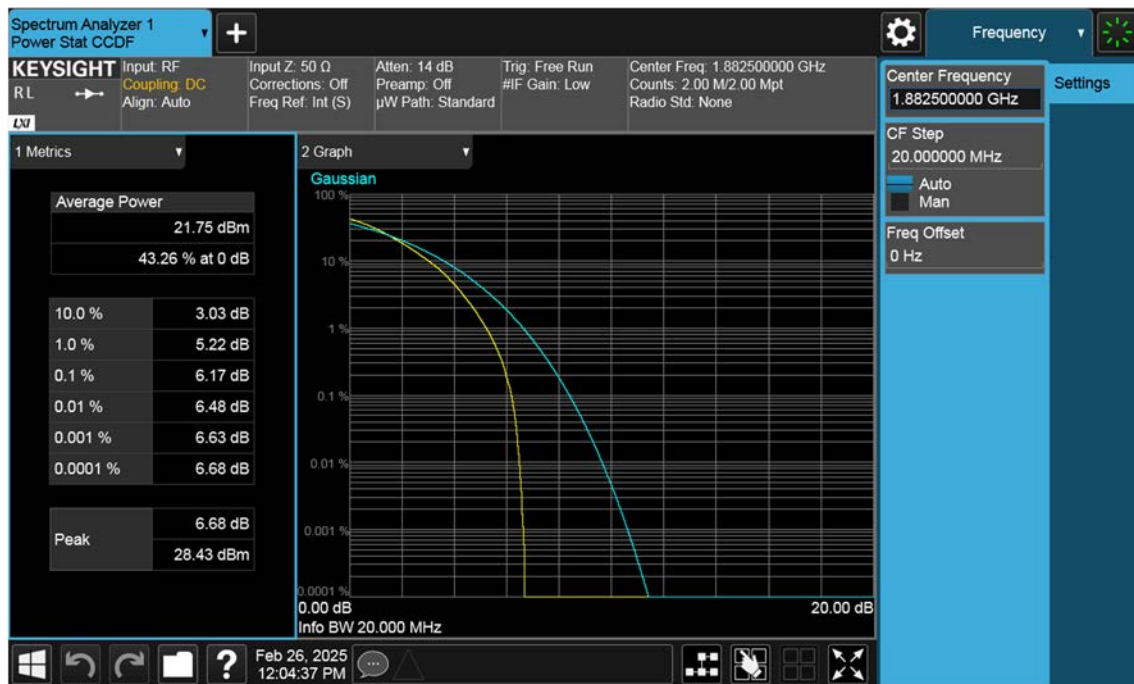
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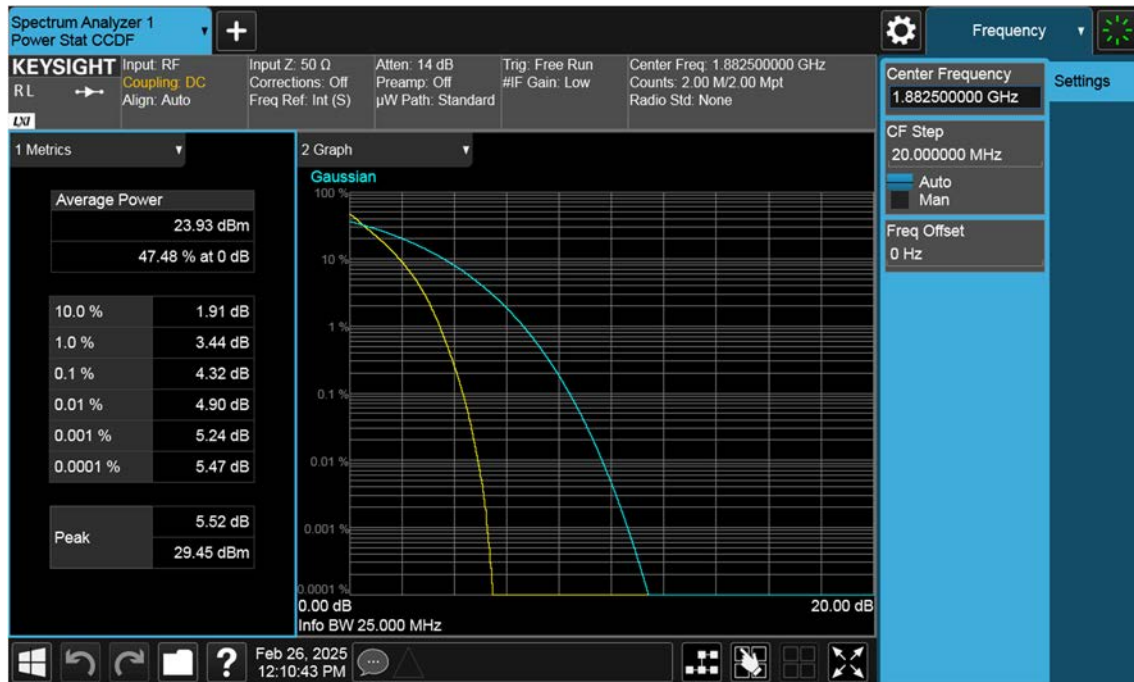
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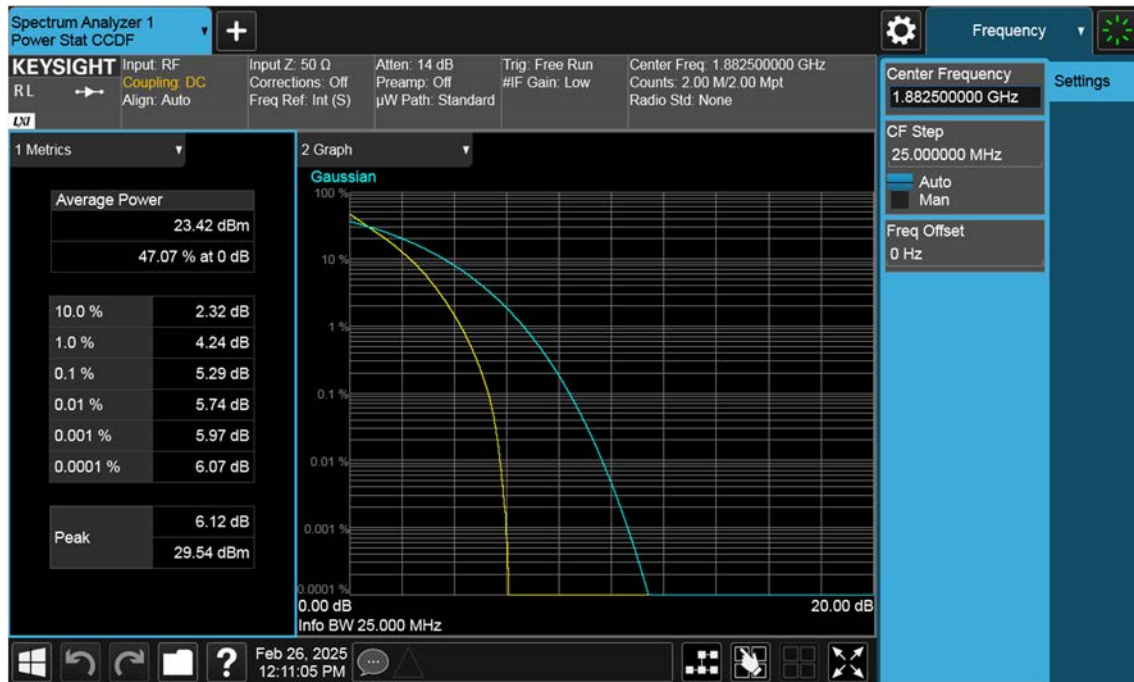
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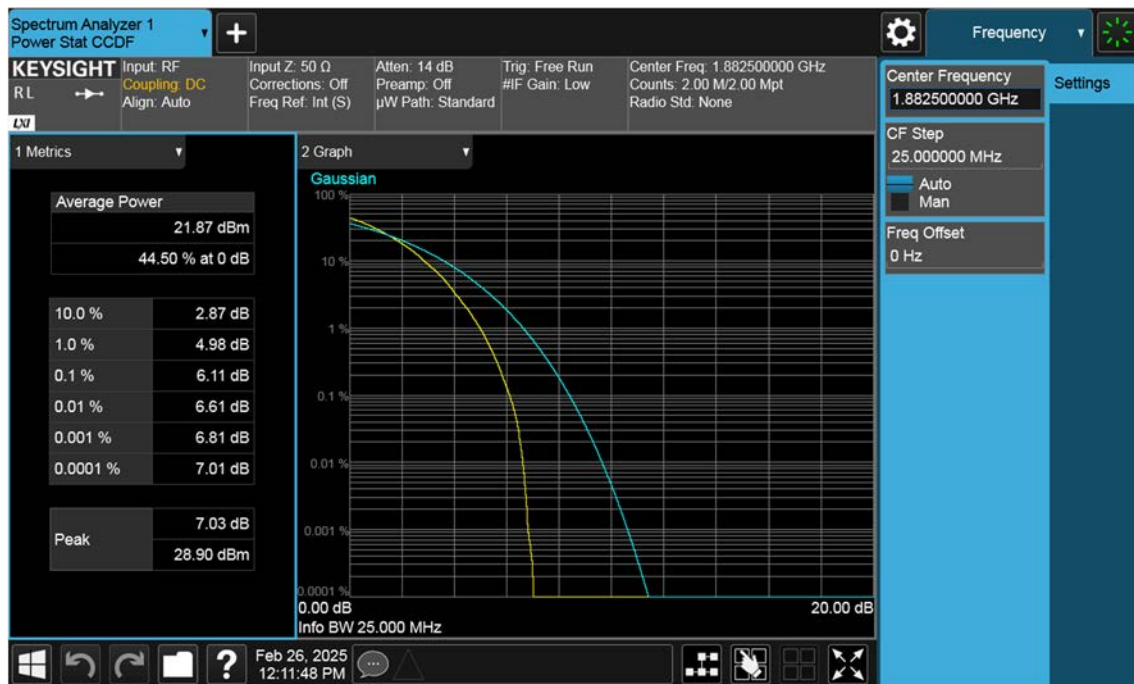
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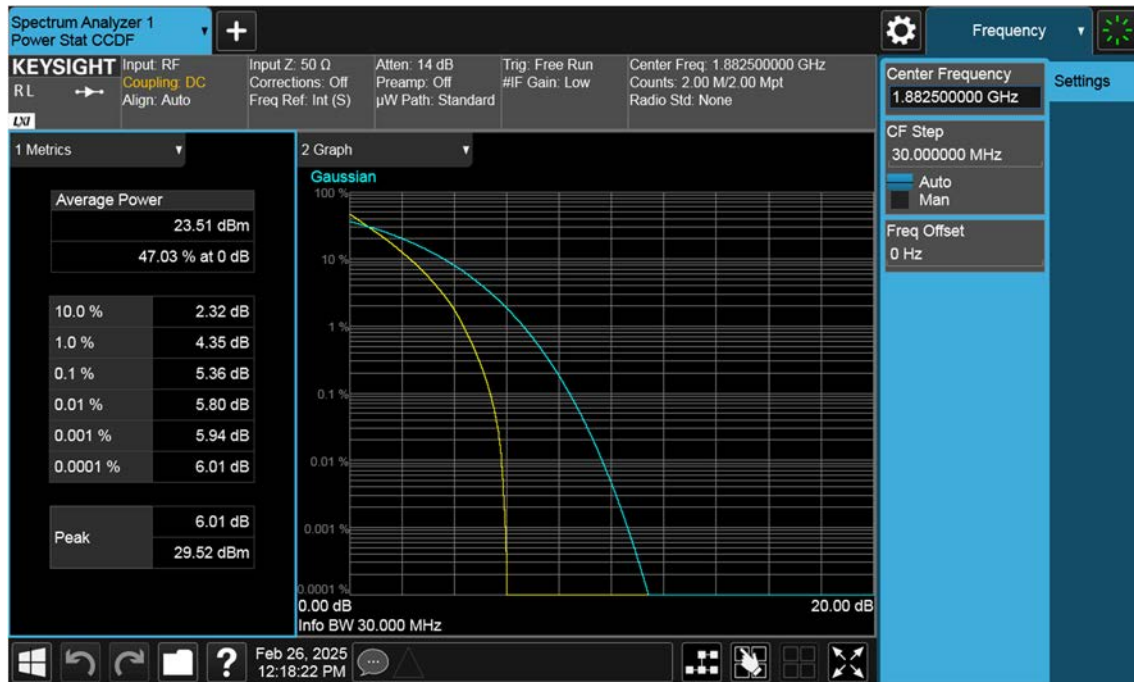
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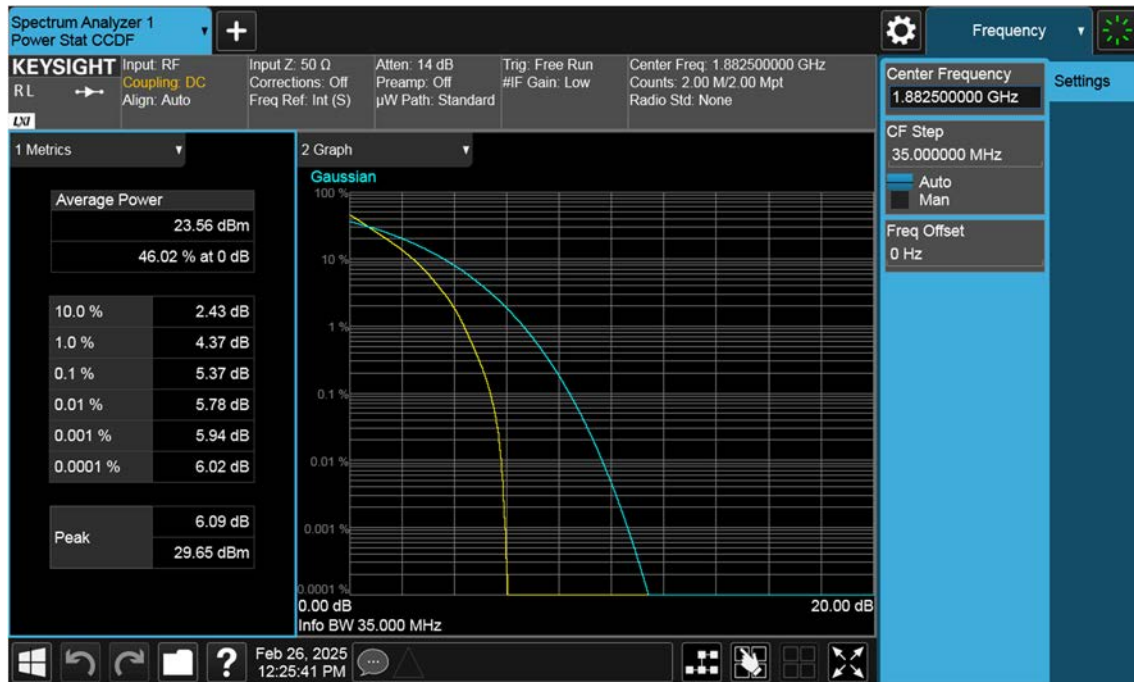
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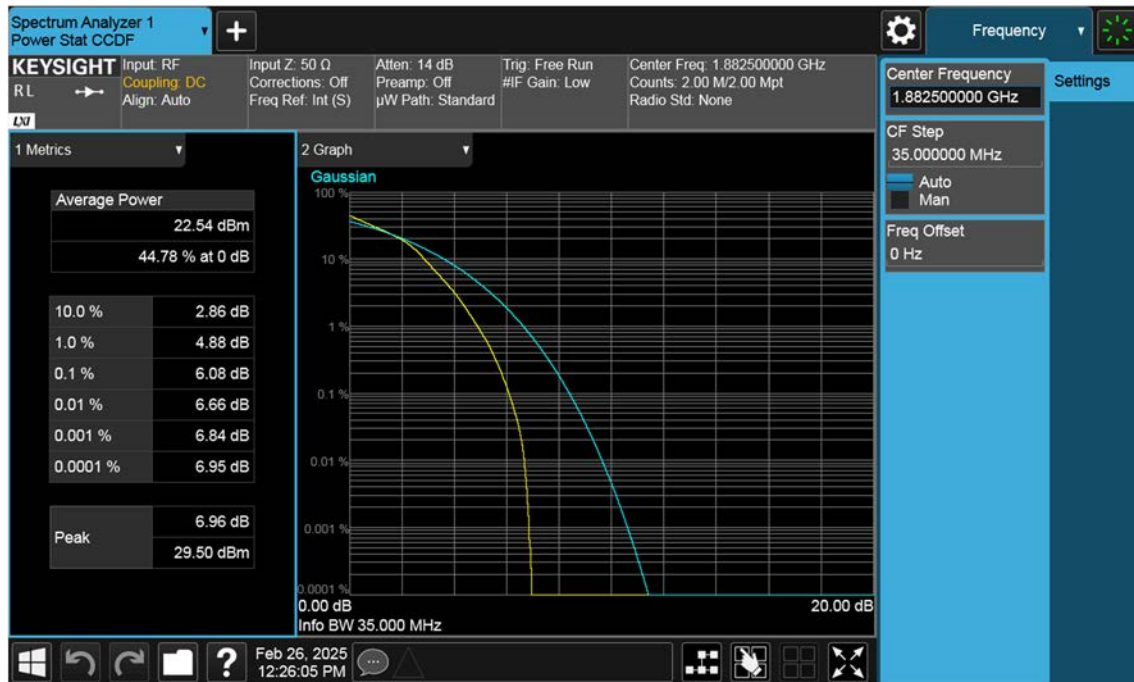
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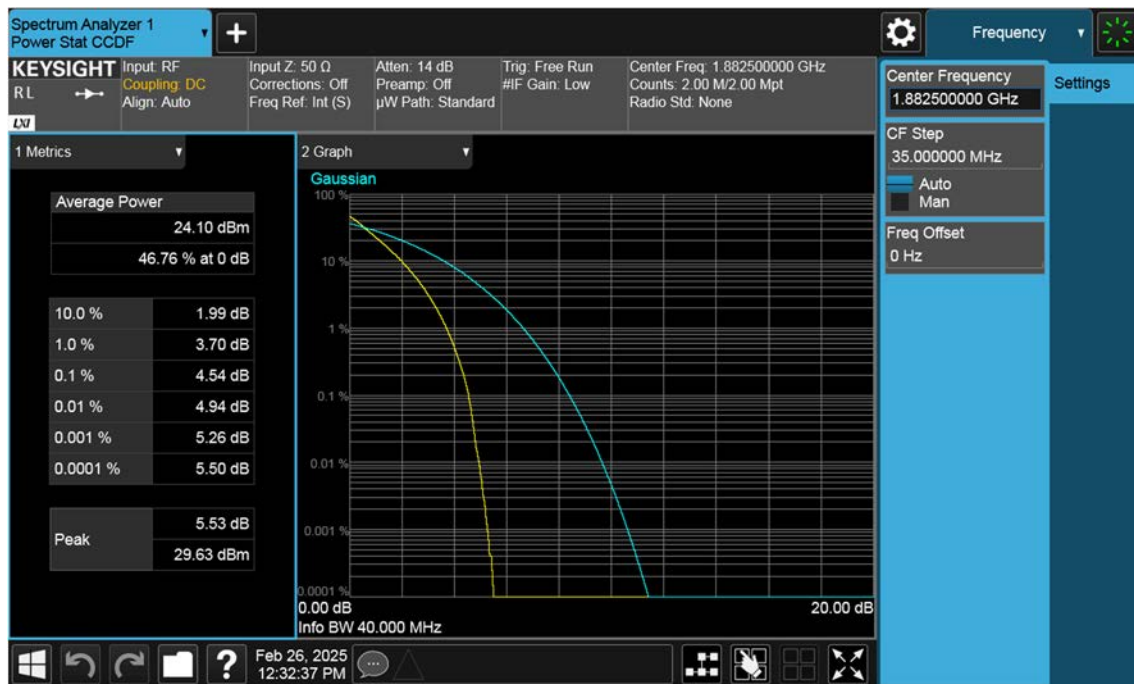
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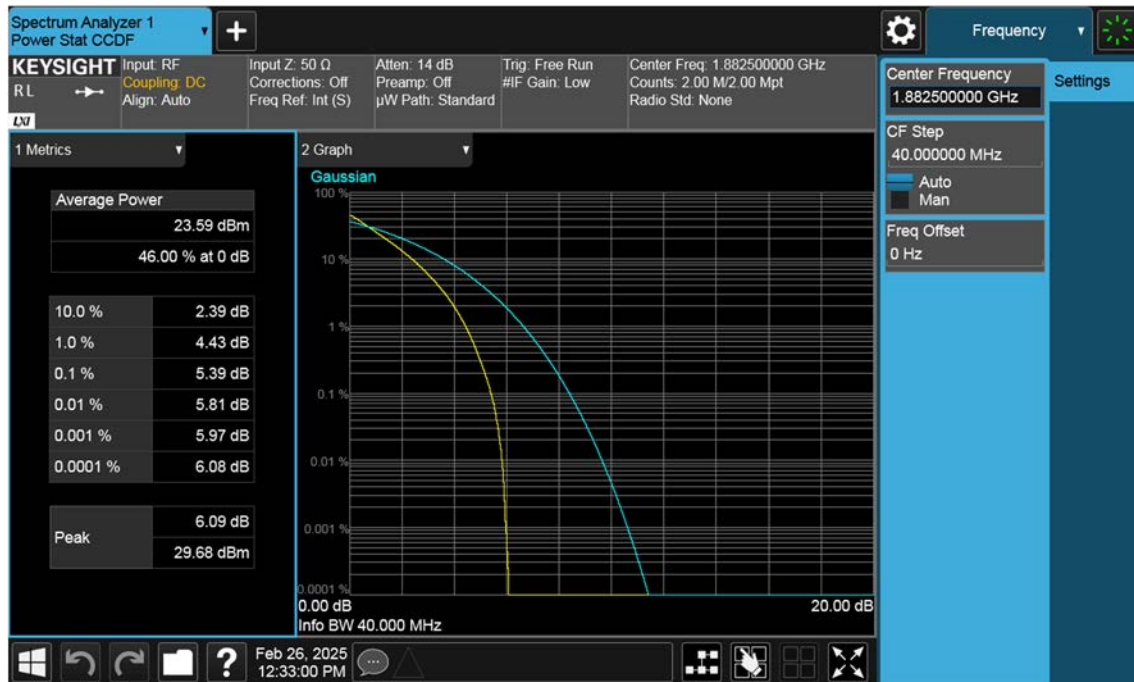
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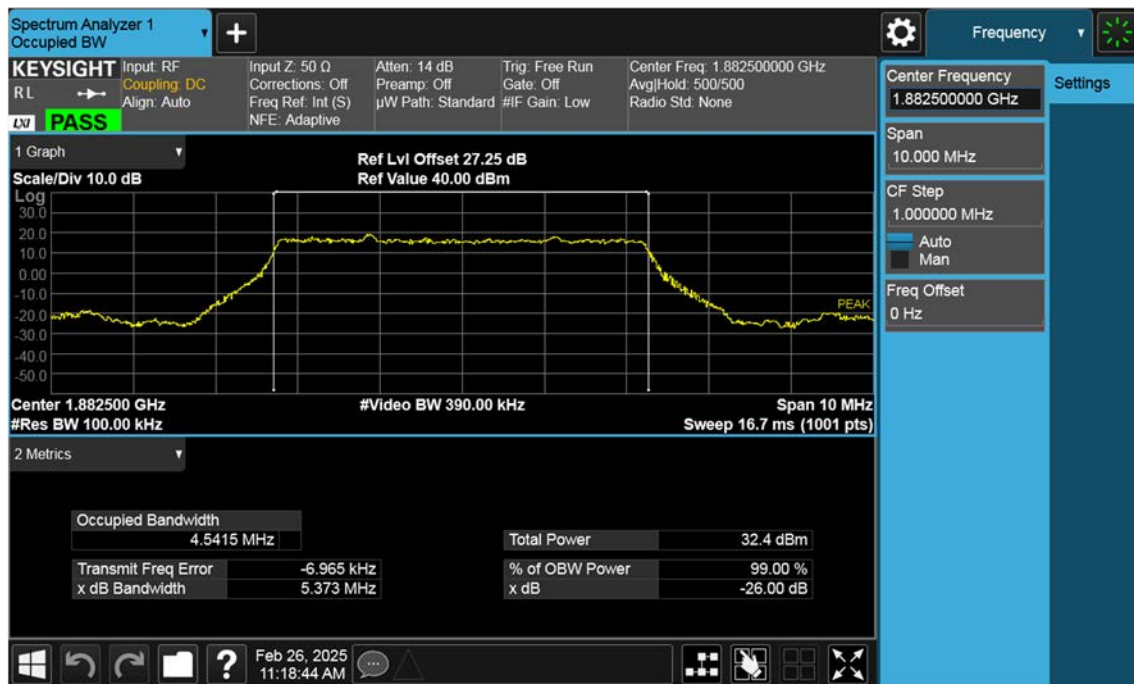
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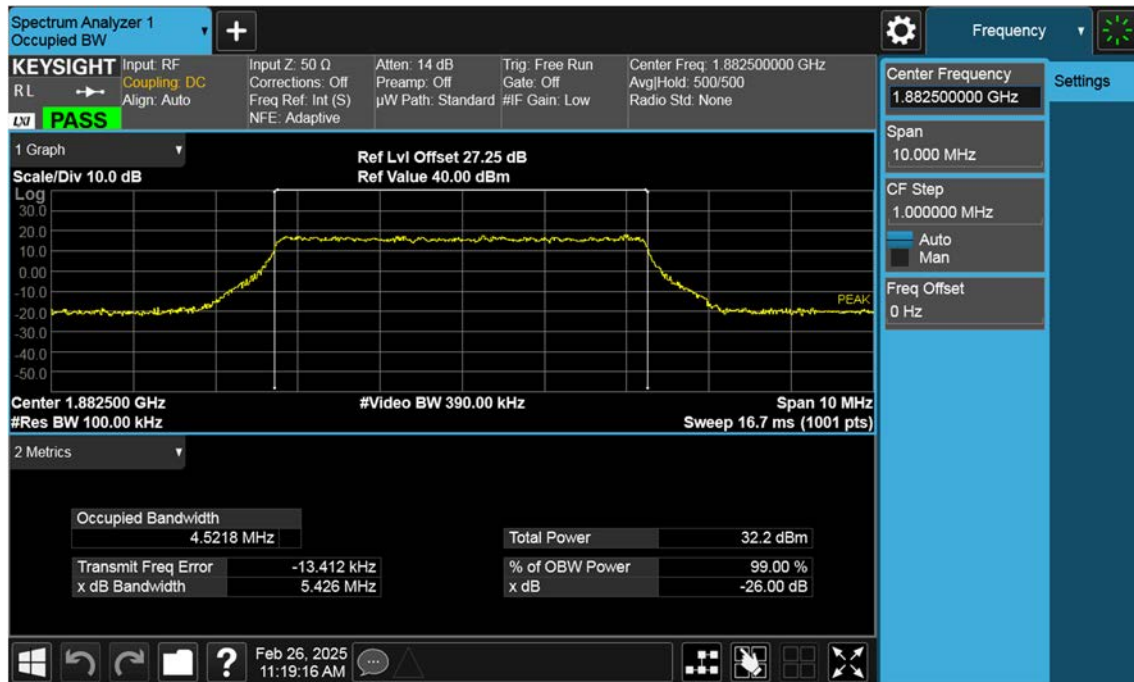
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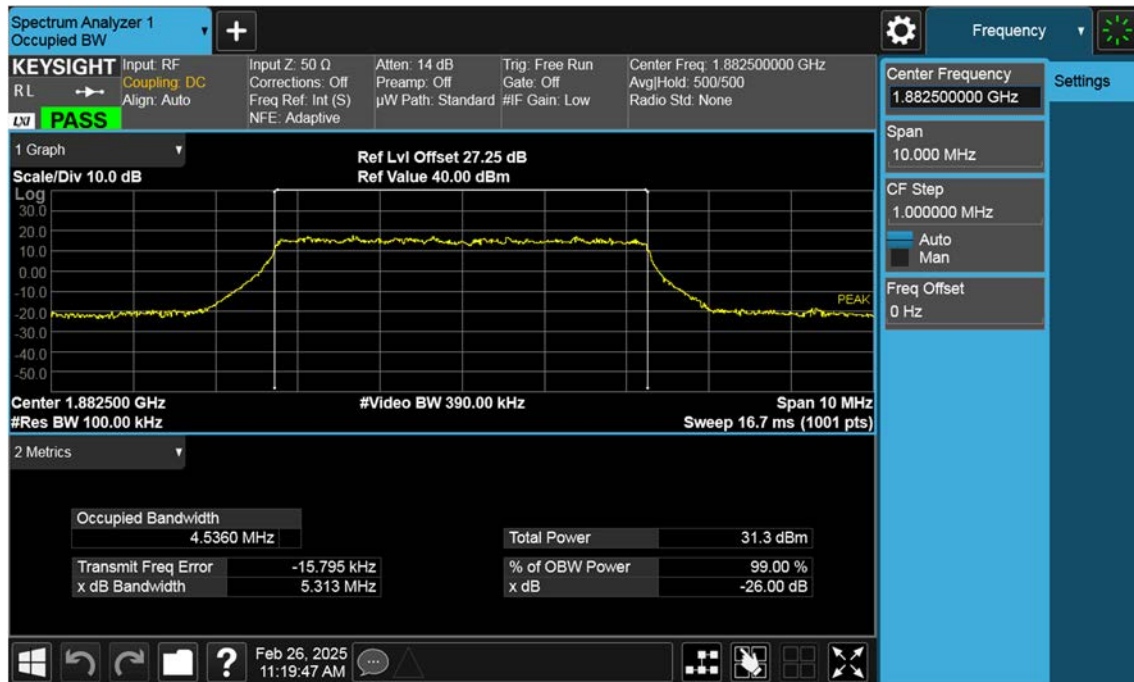
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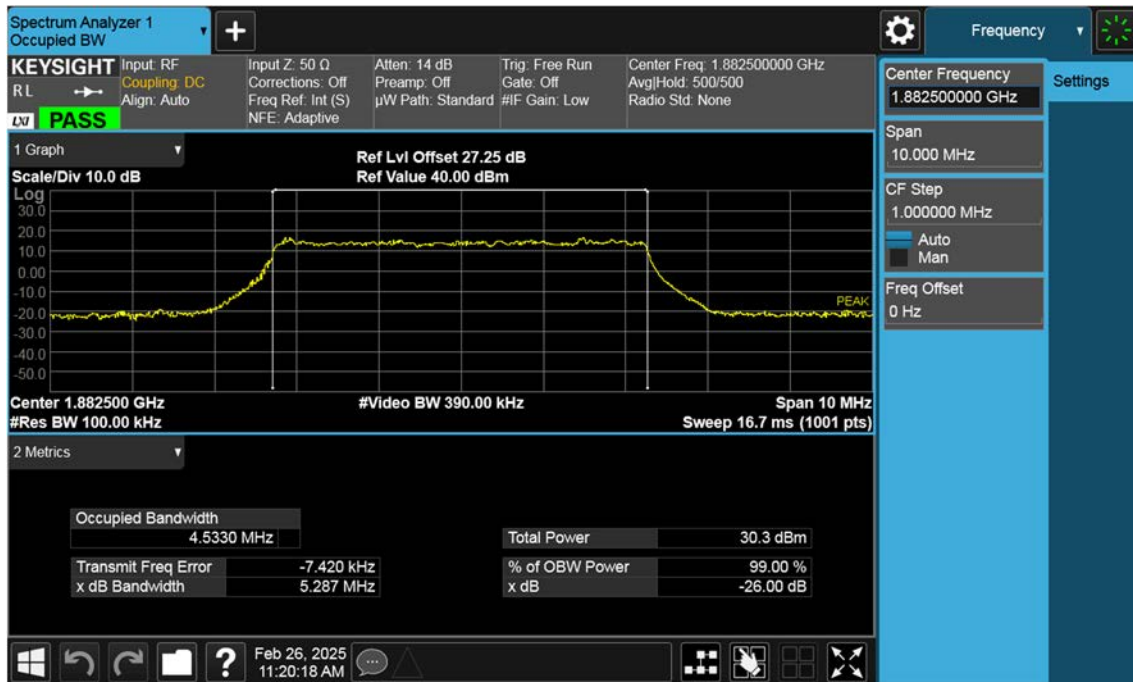
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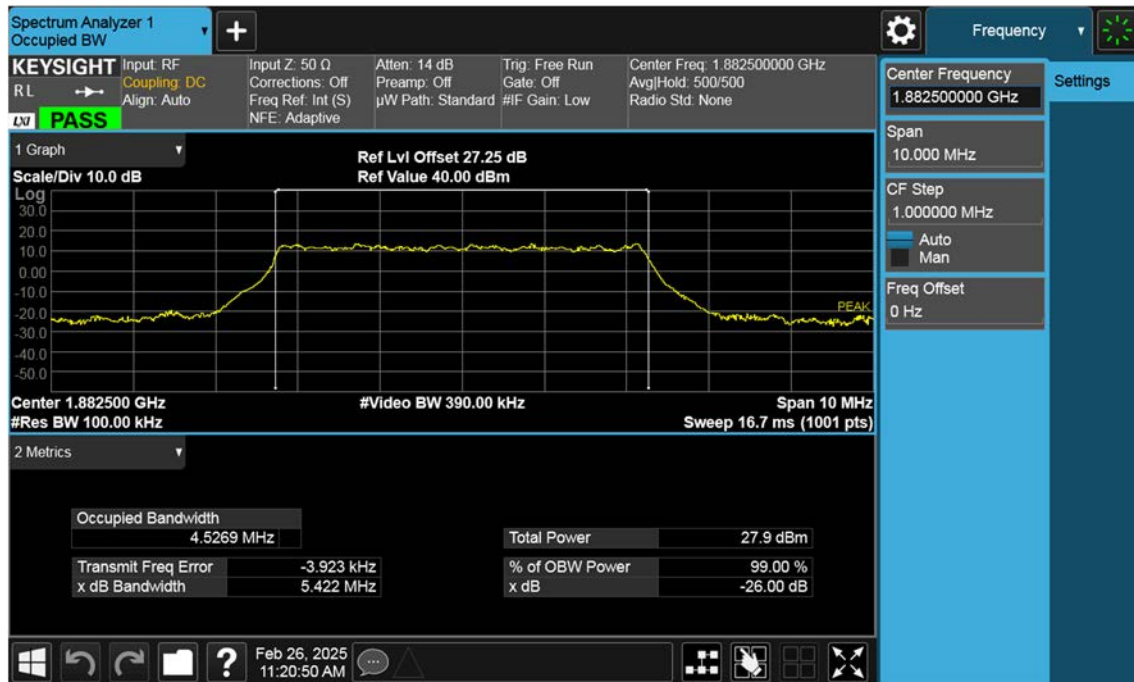
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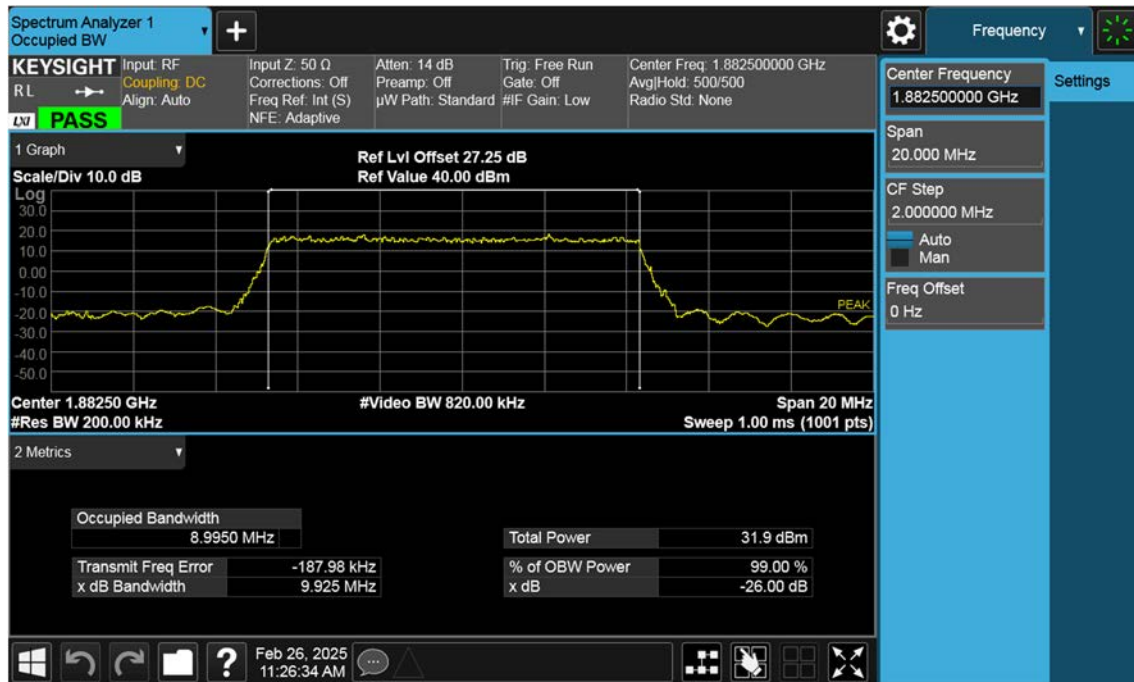
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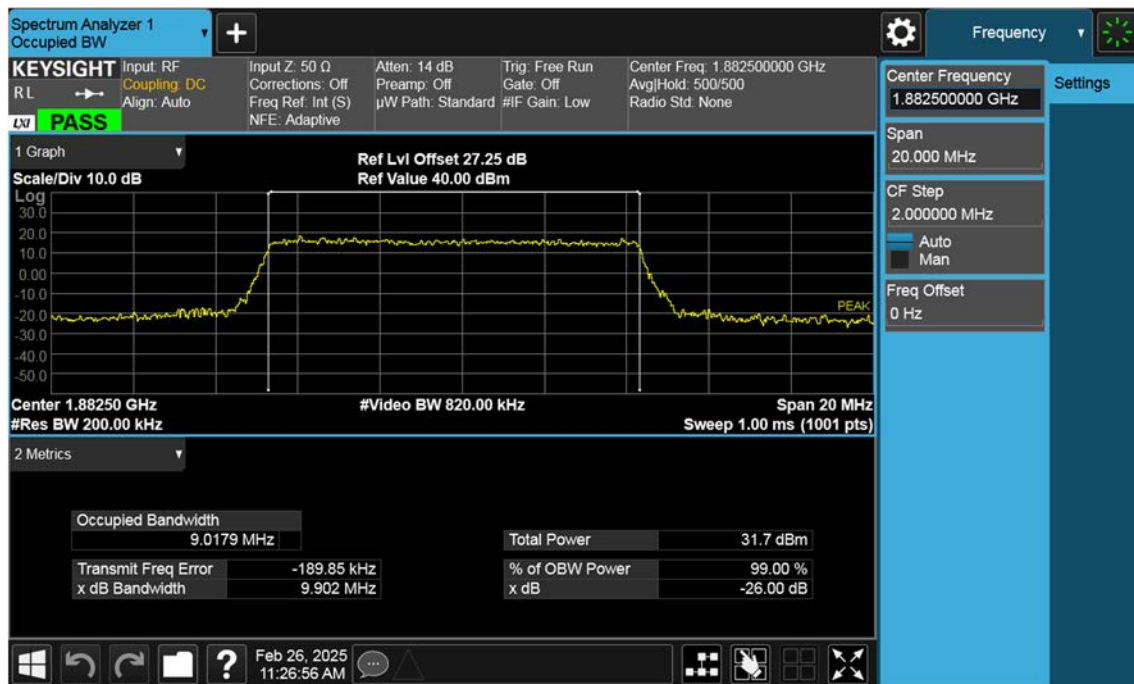
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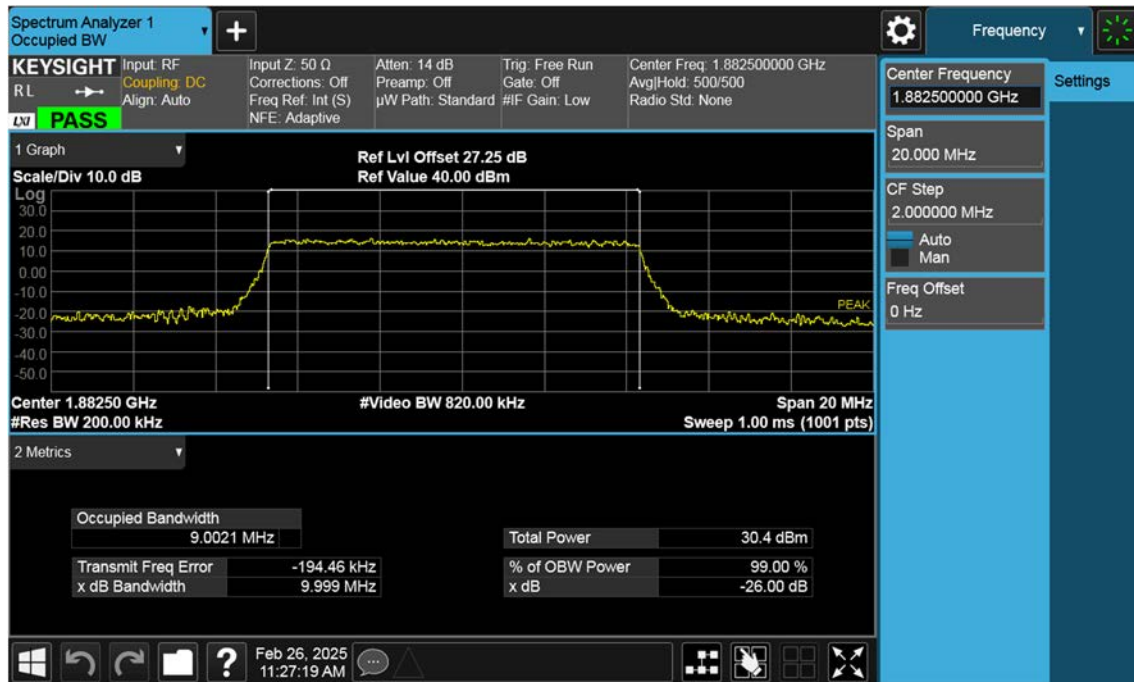
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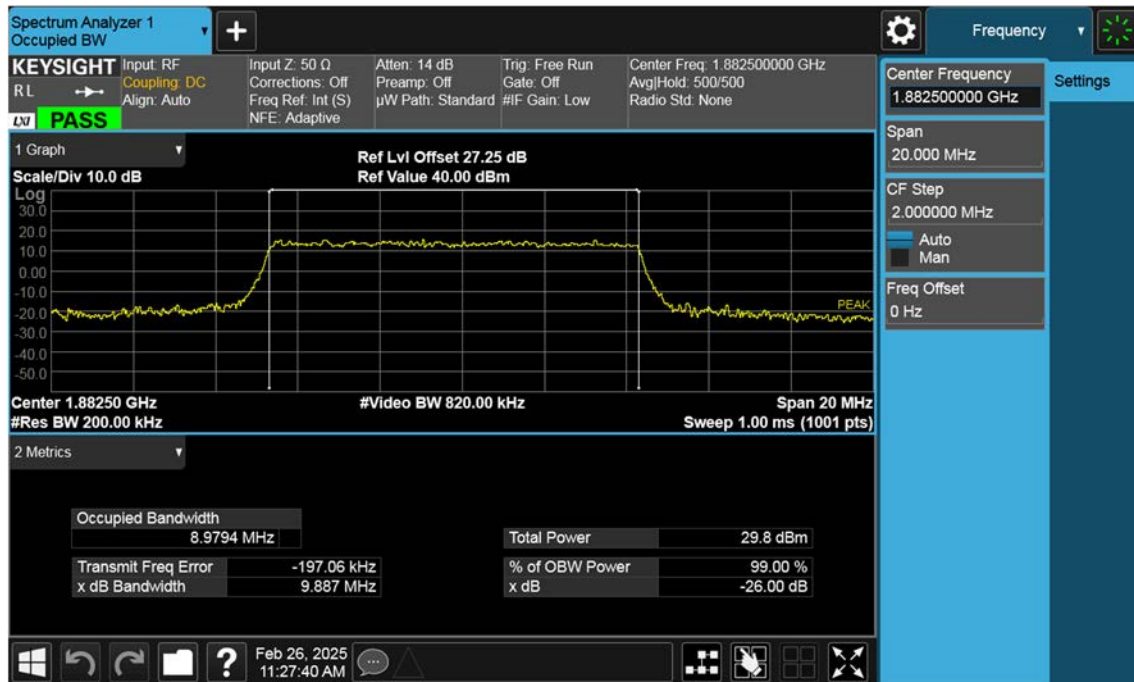
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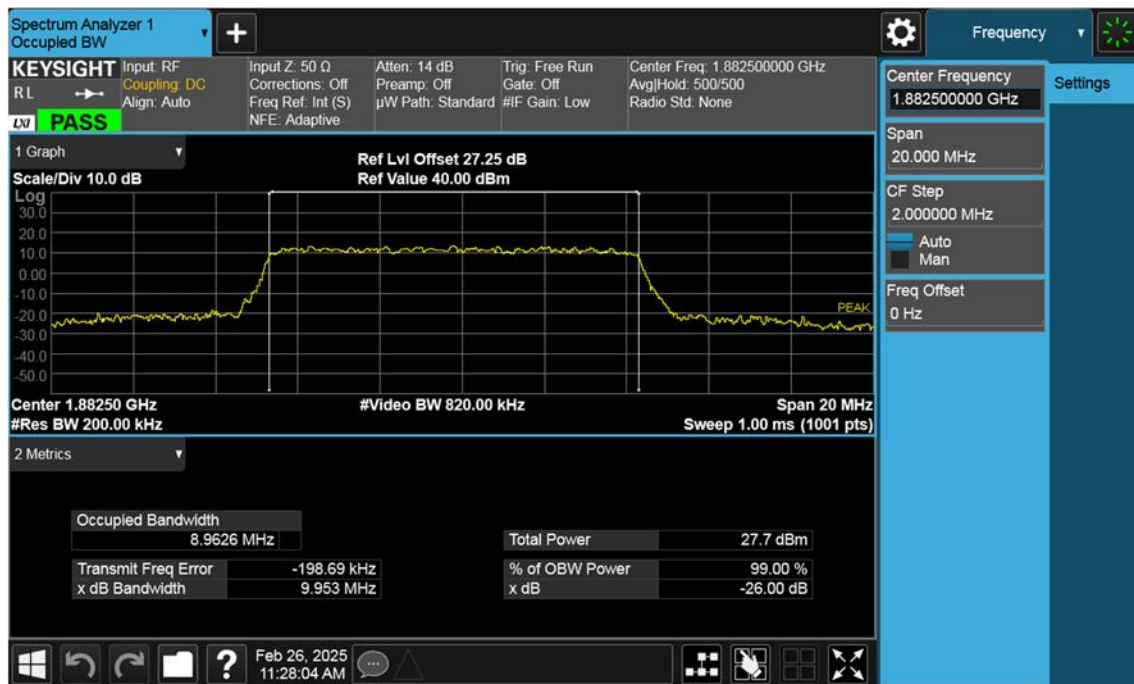
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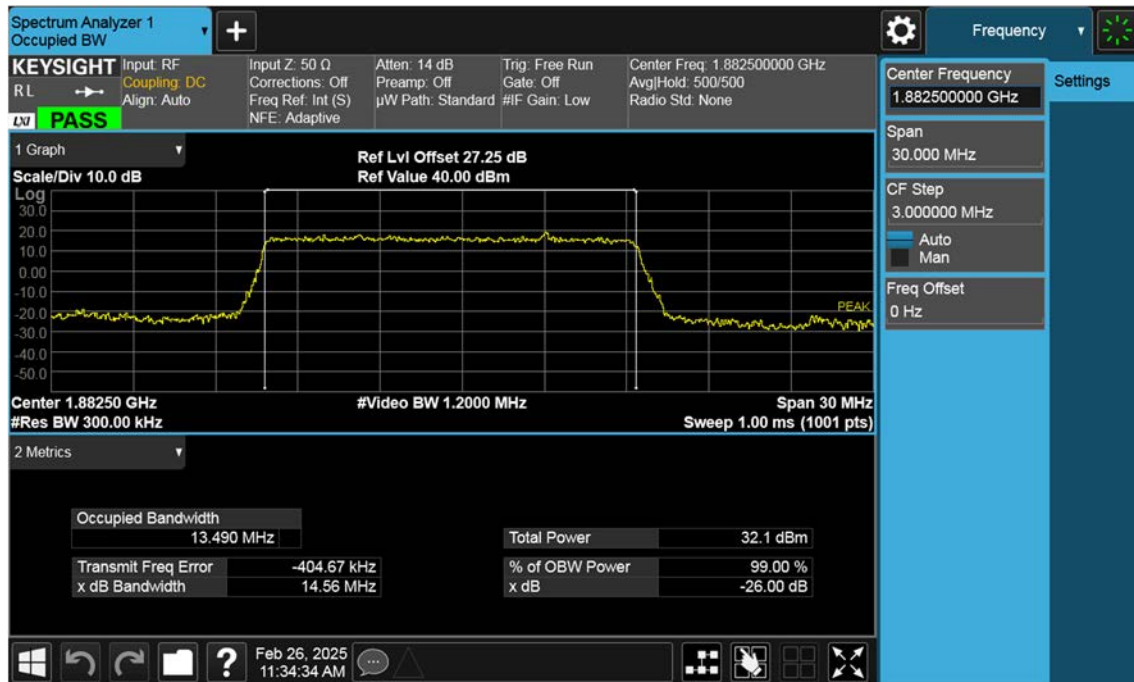
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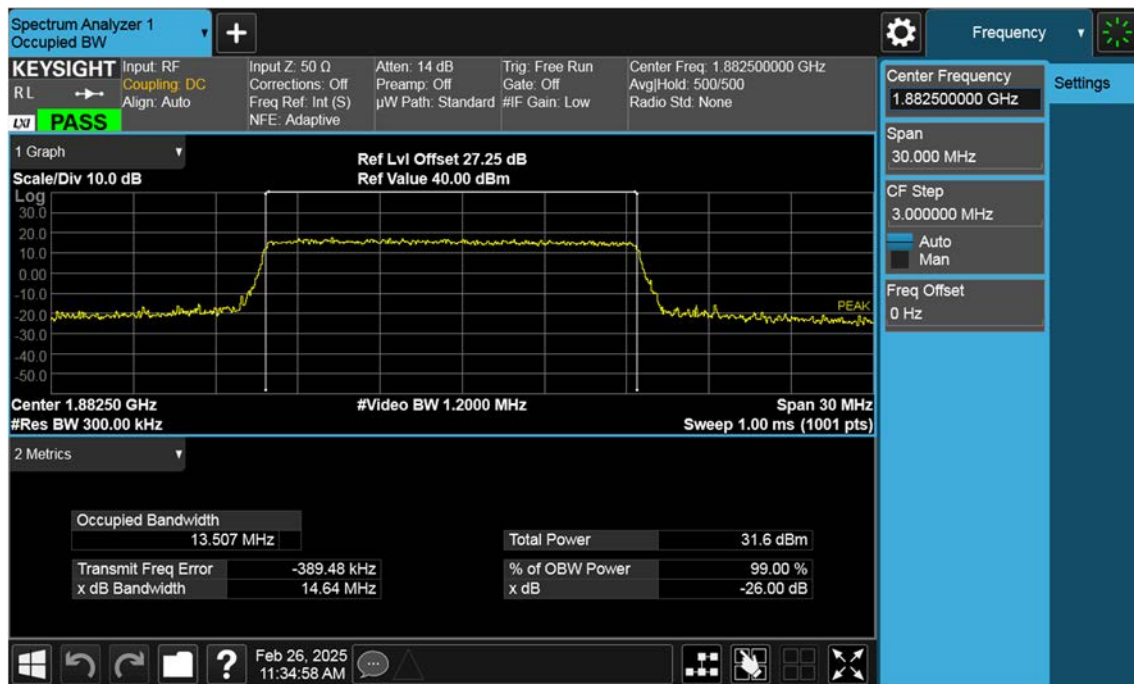
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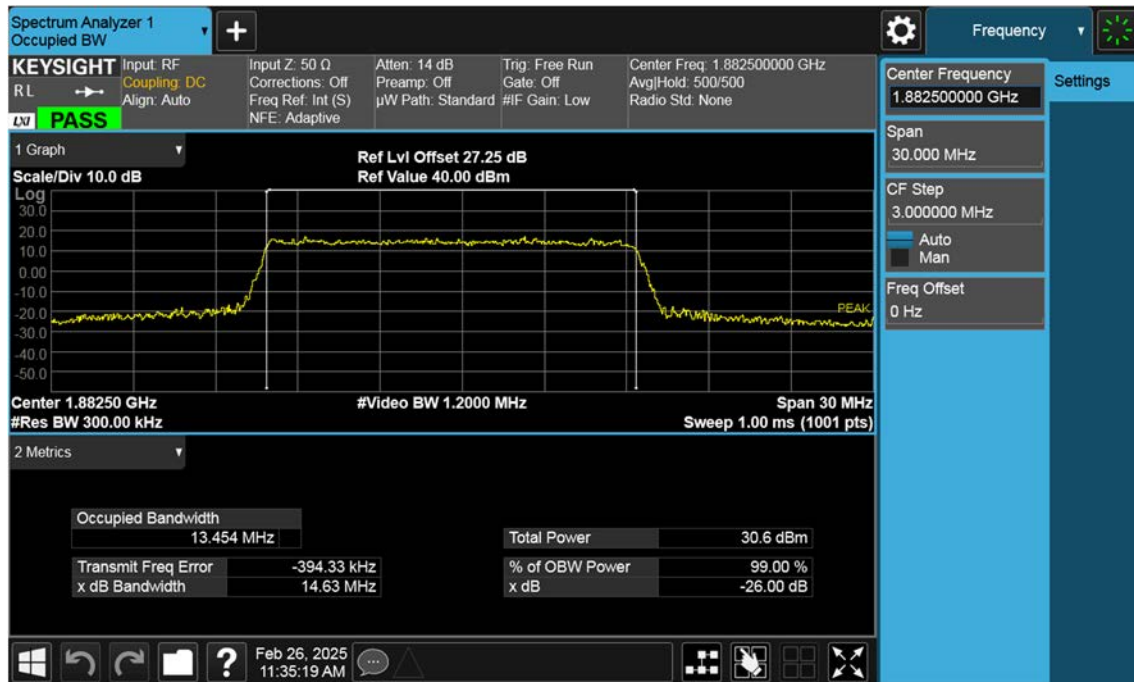
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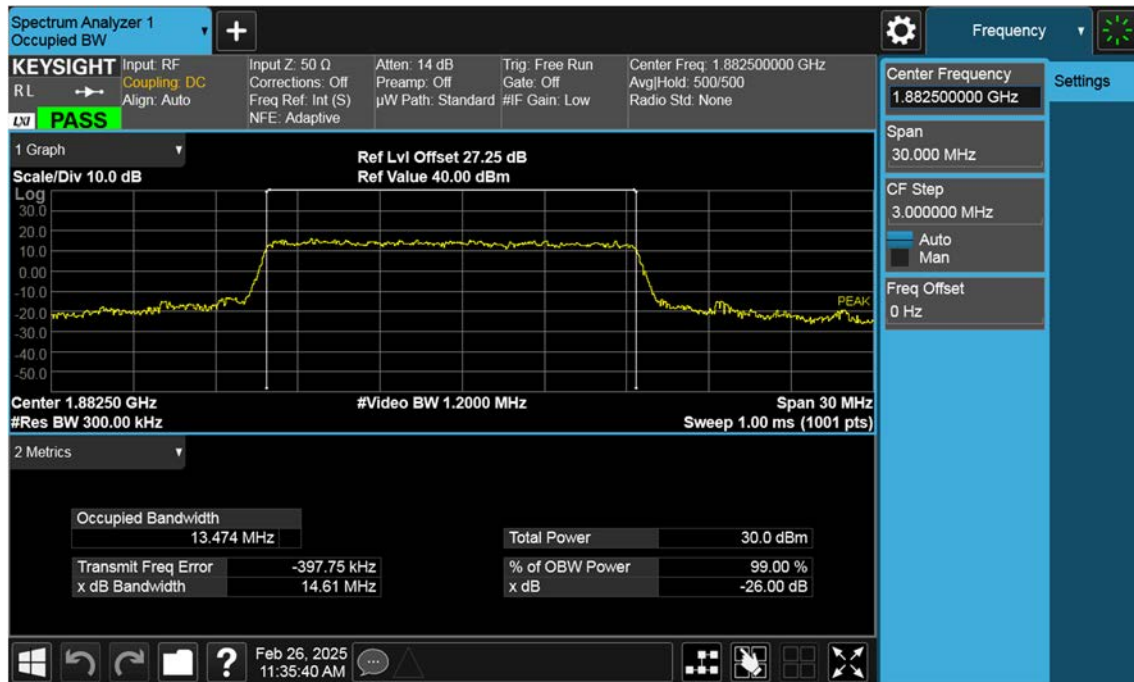
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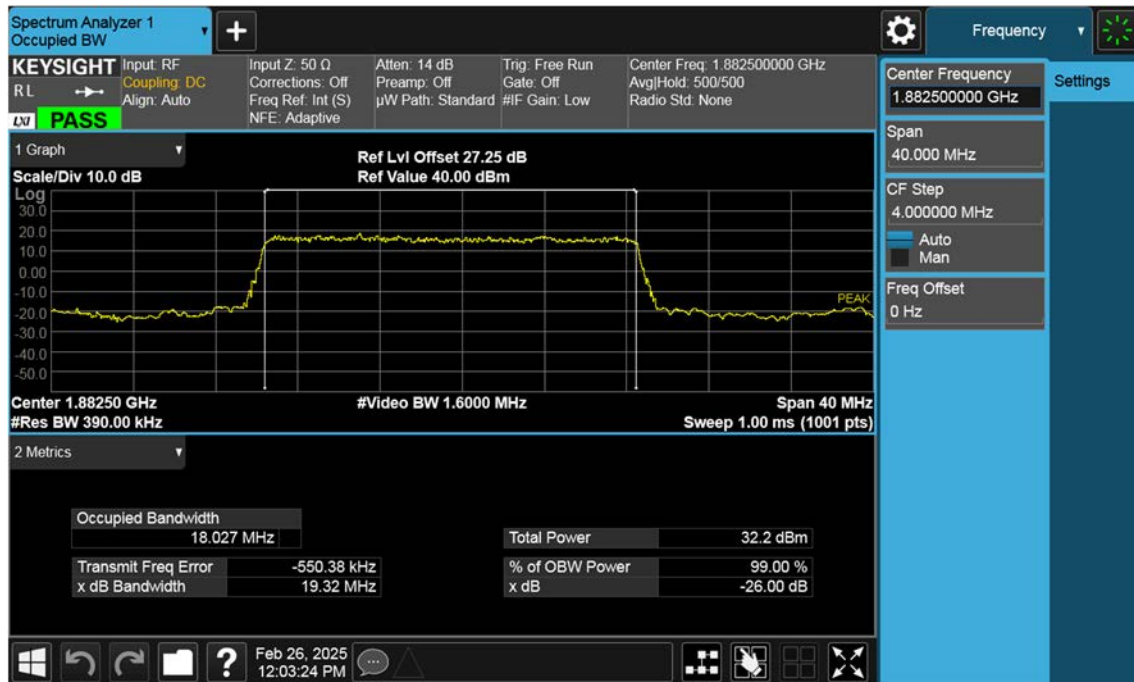
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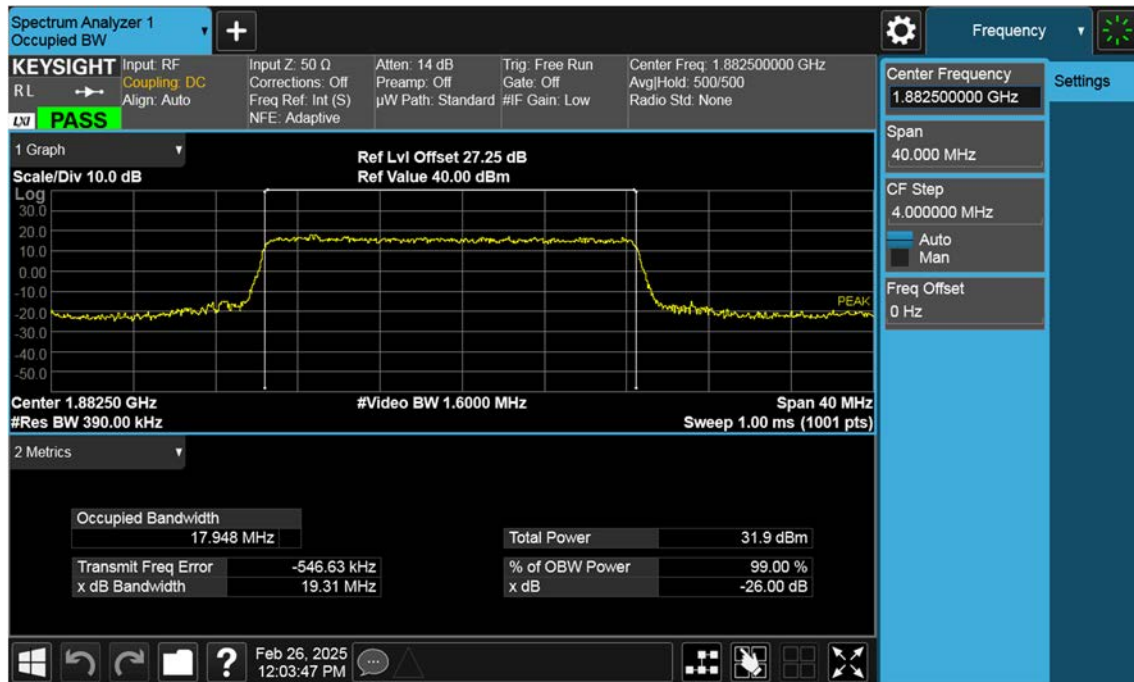
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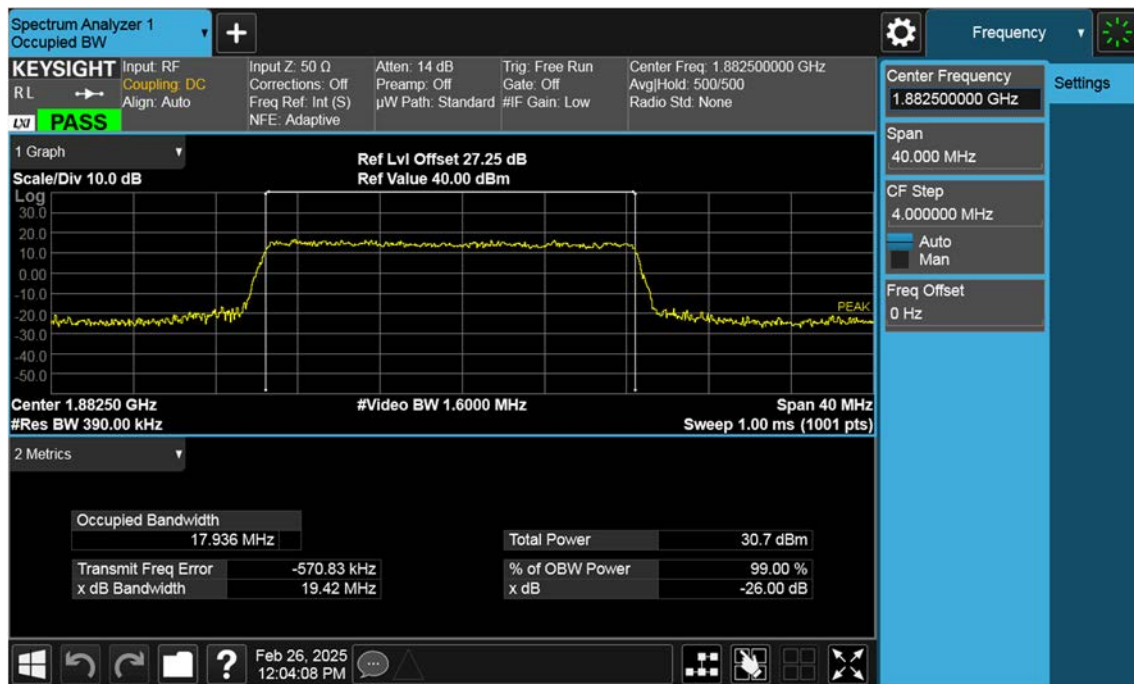
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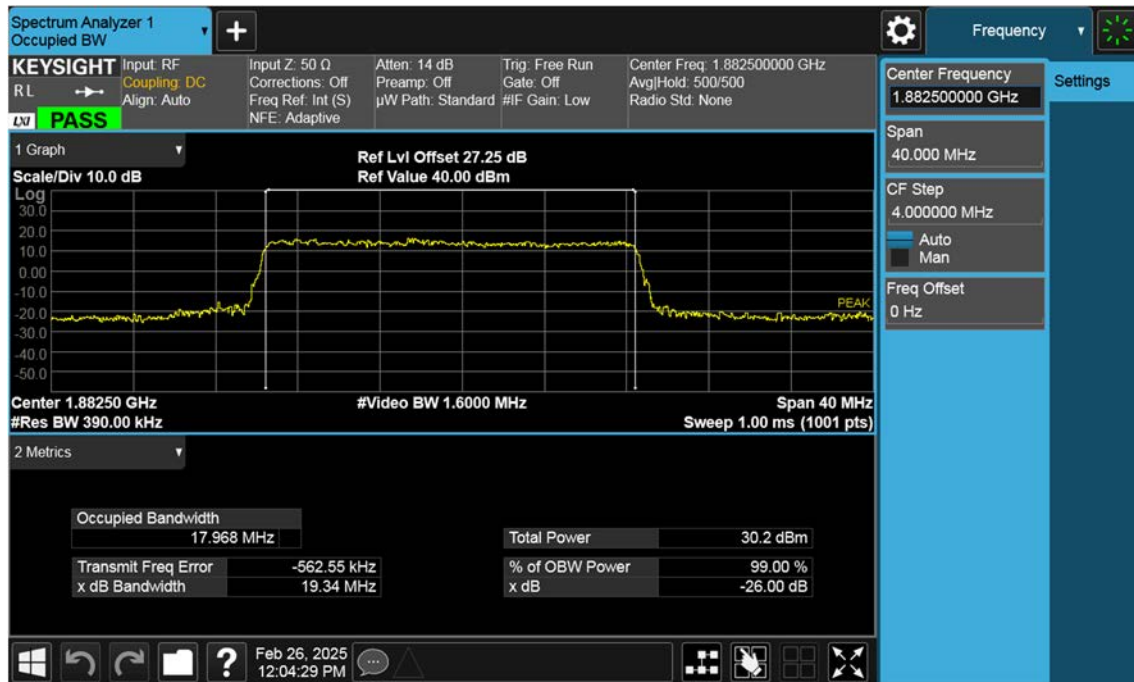
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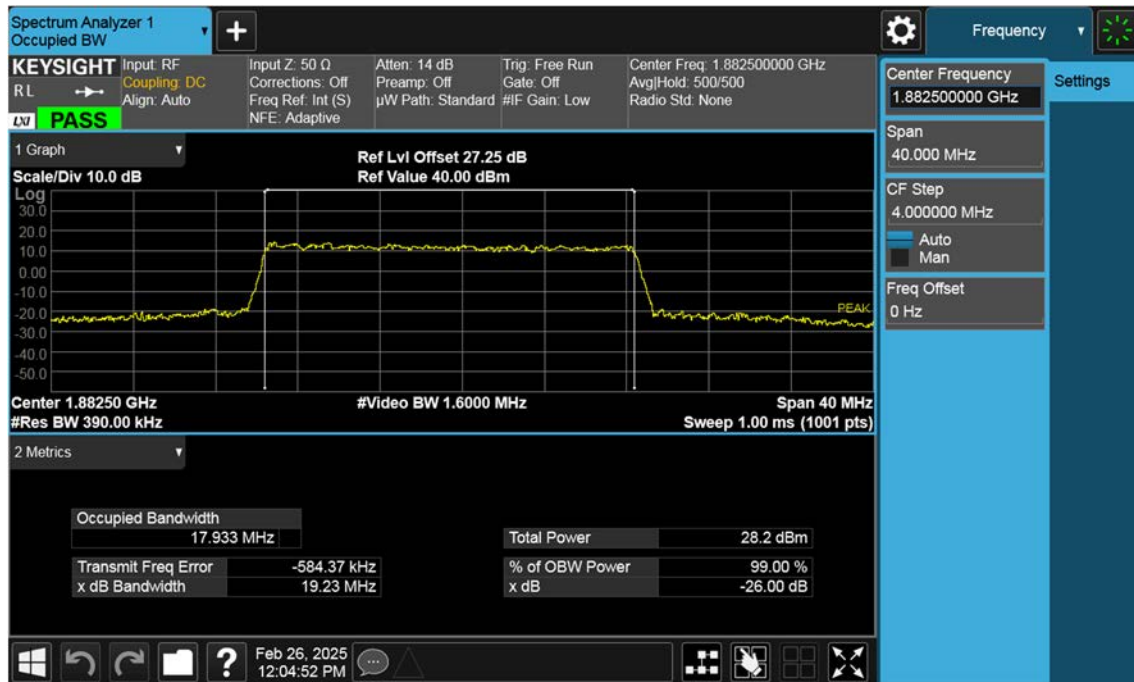
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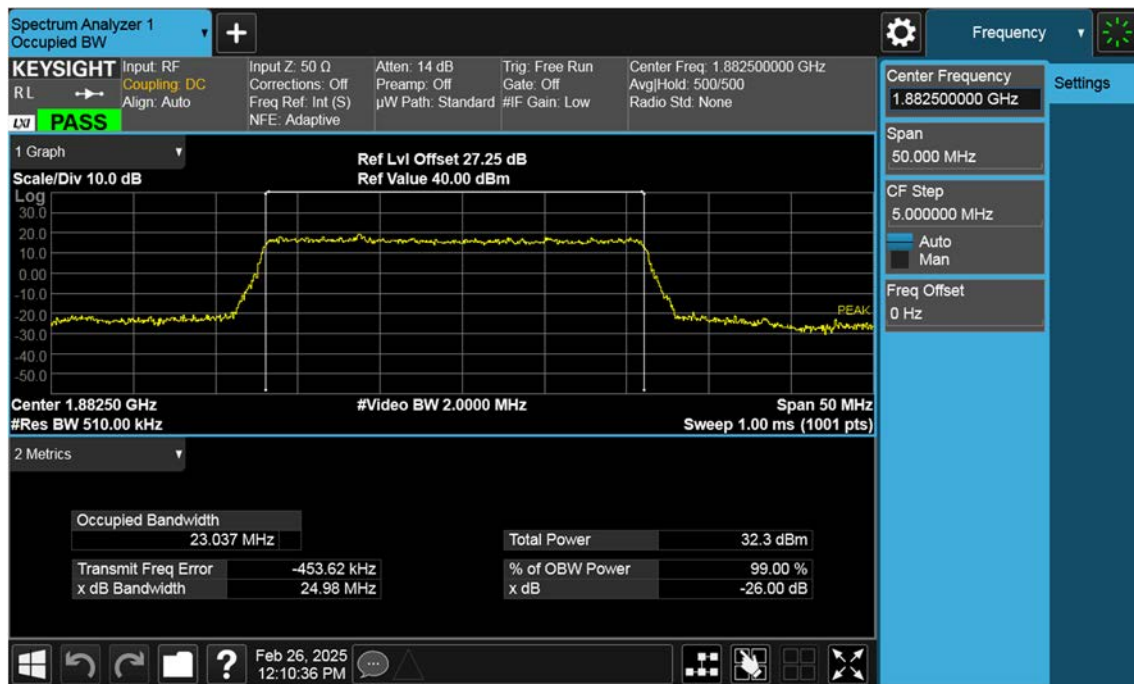
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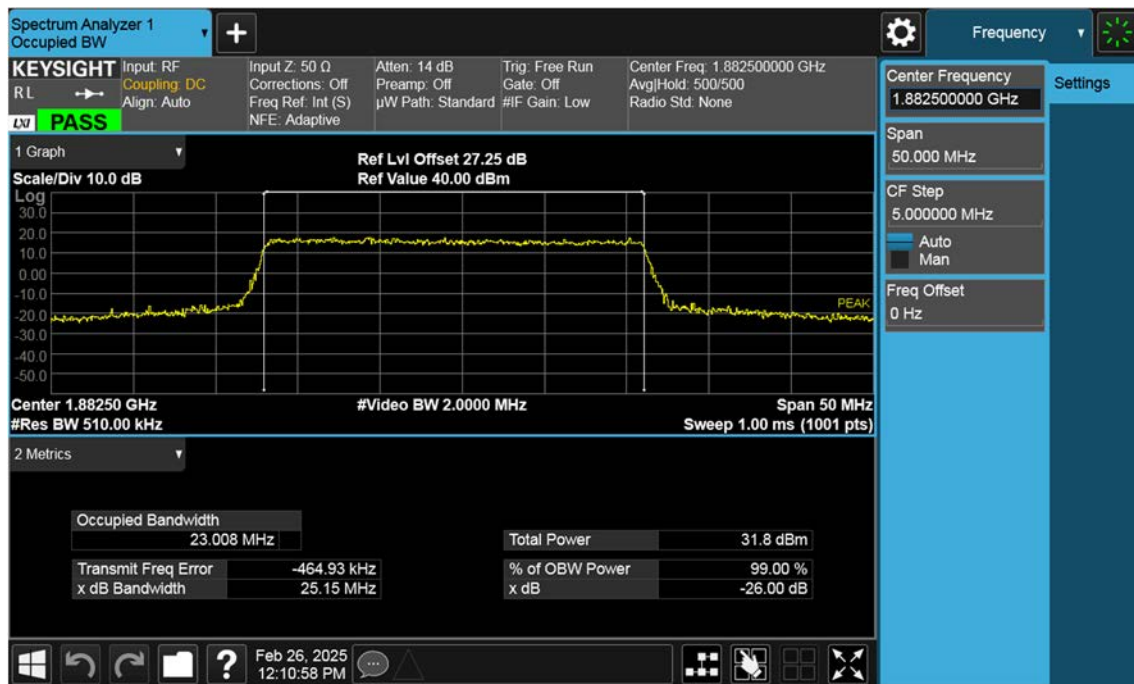
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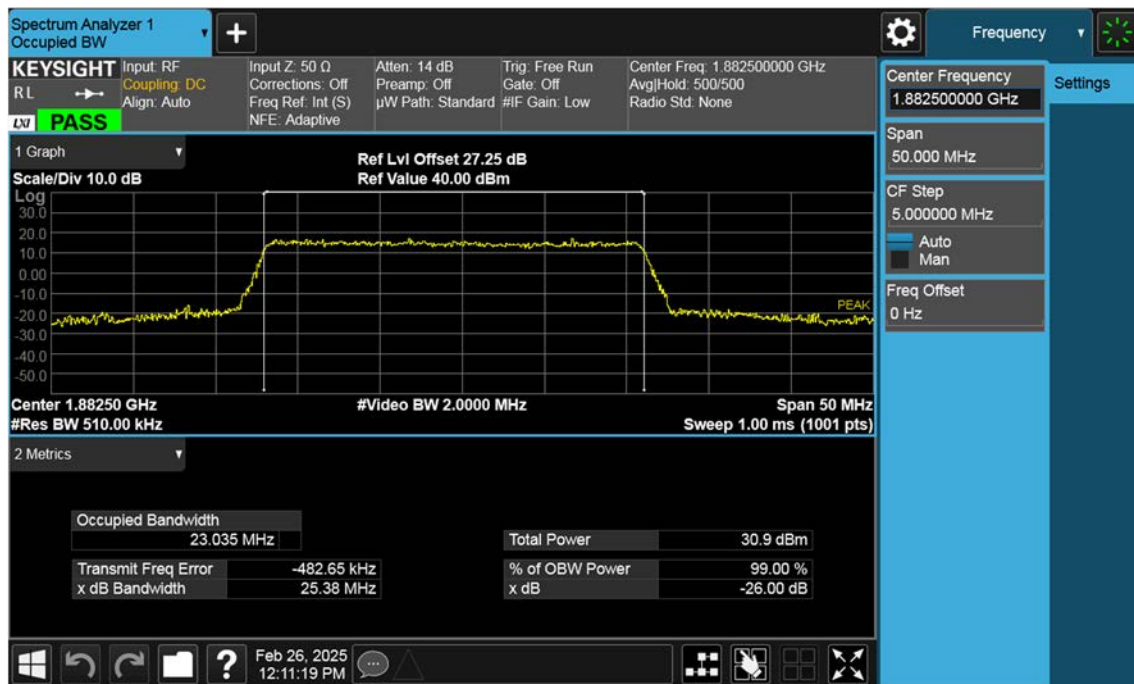
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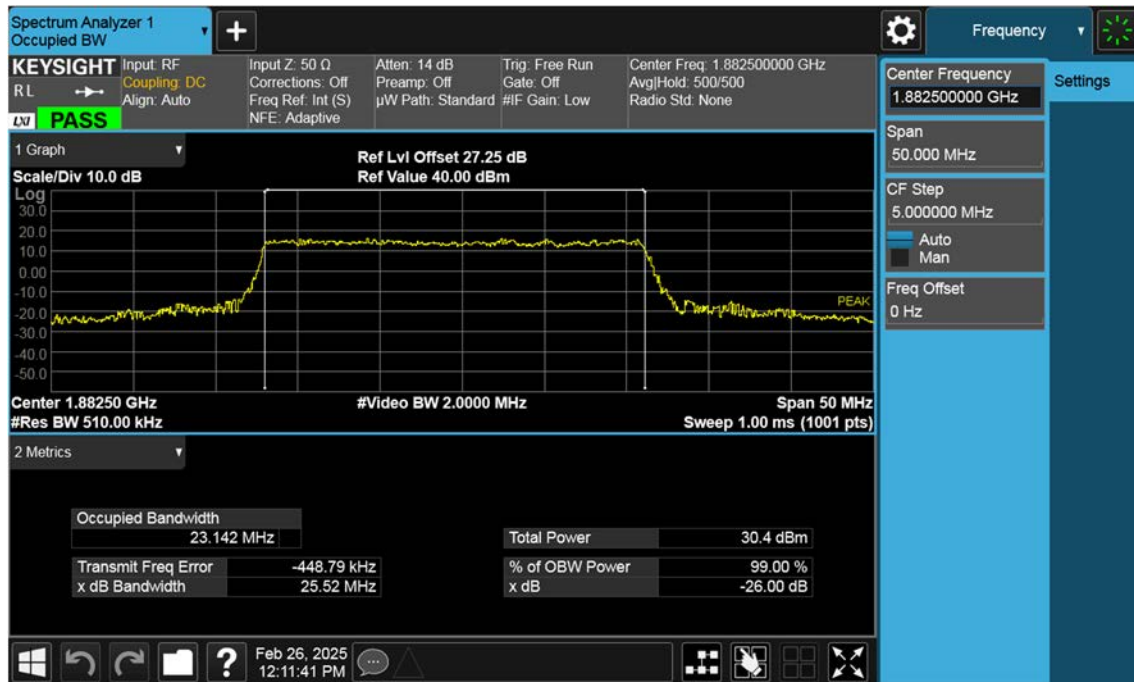
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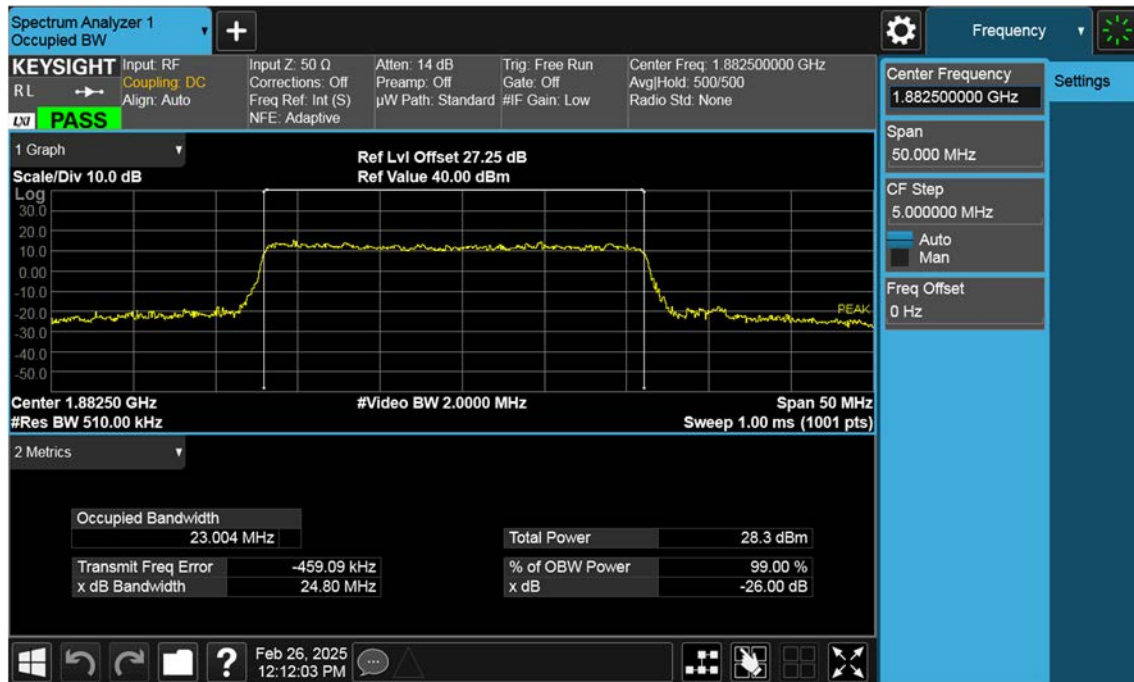
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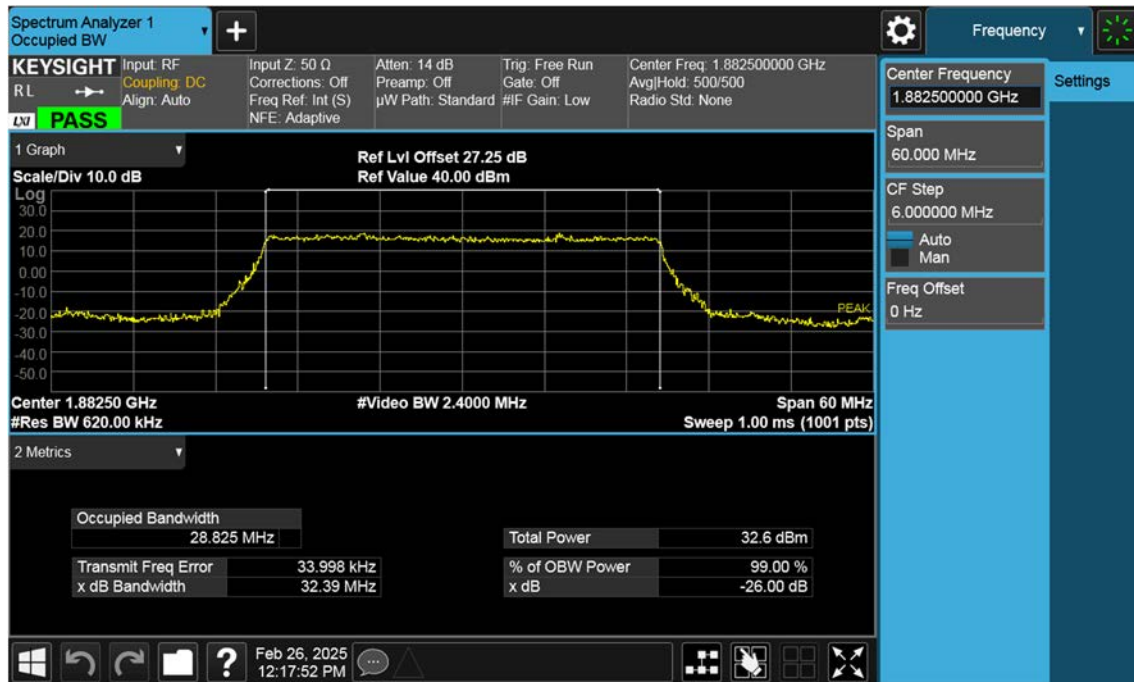
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NR25_30 M_OBW_Mid_16QAM_FullRB

