

# FCC Sub6 REPORT

## Certification

**Applicant Name:**

SAMSUNG Electronics Co., Ltd.

**Date of Issue:**

May 09, 2023

**Address:**

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

**Location:**

HCT CO., LTD.,  
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Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

**Report No.:** HCT-RF-2305-FC022

**FCC ID:**

**A3LSMX818U**

**APPLICANT:**

**SAMSUNG Electronics Co., Ltd.**

Model(s): SM-X818U  
EUT Type: Tablet  
FCC Classification: PCS Licensed Transmitter (PCB)  
FCC Rule Part(s): §24, §2

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)

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n25(2) (5)	1852.5 - 1912.5	4M51G7D	PI/2 BPSK	0.177	22.47
		4M53G7D	QPSK	0.171	22.34
		4M52W7D	16QAM	0.137	21.38
		4M51W7D	64QAM	0.102	20.10
		4M56W7D	256QAM	0.056	17.46
Sub6 n25(2) (10)	1855.0 - 1910.0	8M95G7D	PI/2 BPSK	0.169	22.28
		8M97G7D	QPSK	0.167	22.22
		9M02W7D	16QAM	0.135	21.29
		8M99W7D	64QAM	0.098	19.92
		8M98W7D	256QAM	0.053	17.28
Sub6 n25(2) (15)	1857.5 - 1907.5	13M5G7D	PI/2 BPSK	0.184	22.64
		13M4G7D	QPSK	0.183	22.62
		13M4W7D	16QAM	0.142	21.52
		13M4W7D	64QAM	0.106	20.24
		13M4W7D	256QAM	0.056	17.52
Sub6 n25(2) (20)	1860.0 - 1905.0	17M9G7D	PI/2 BPSK	0.171	22.33
		17M9G7D	QPSK	0.171	22.32
		17M9W7D	16QAM	0.136	21.34
		17M9W7D	64QAM	0.100	19.98
		17M9W7D	256QAM	0.054	17.32
Sub6 n25 (25)	1862.5 - 1902.5	22M9G7D	PI/2 BPSK	0.169	22.28
		23M0G7D	QPSK	0.168	22.26
		22M9W7D	16QAM	0.135	21.31
		22M9W7D	64QAM	0.100	19.99
		22M9W7D	256QAM	0.059	17.69
Sub6 n25 (30)	1865.0 - 1900.0	28M6G7D	PI/2 BPSK	0.181	22.58
		28M6G7D	QPSK	0.180	22.55
		28M6W7D	16QAM	0.144	21.59
		28M6W7D	64QAM	0.104	20.18
		28M7W7D	256QAM	0.058	17.60
Sub6 n25 (40)	1870.0 - 1895.0	38M6G7D	PI/2 BPSK	0.190	22.79
		38M6G7D	QPSK	0.189	22.77
		38M6W7D	16QAM	0.152	21.82
		38M5W7D	64QAM	0.110	20.42
		38M6W7D	256QAM	0.061	17.83

Report No.: HCT-RF-2305-FC022

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REVIEWED BY



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Report prepared by : Jae Ryang Do  
Engineer of Telecommunication Testing Center

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Report approved by : Jong Seok Lee  
Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked \*.

The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

\* The report shall not be reproduced except in full(only partly) without approval of the laboratory.

## Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2305-FC022	May 09, 2023	- First Approval Report

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

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# MEASUREMENT REPORT

## 1. GENERAL INFORMATION

<b>Applicant Name:</b>	SAMSUNG Electronics Co., Ltd.
<b>Address:</b>	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
<b>FCC ID:</b>	A3LSMX818U
<b>Application Type:</b>	Certification
<b>FCC Classification:</b>	PCS Licensed Transmitter (PCB)
<b>FCC Rule Part(s):</b>	§24, §2
<b>EUT Type:</b>	Tablet
<b>Model(s):</b>	SM-X818U
<b>SCS(kHz):</b>	15
<b>Bandwidth(MHz):</b>	5, 10, 15, 20, 25, 30, 40
<b>Waveform:</b>	CP-OFDM, DFT-S-OFDM
<b>Modulation:</b>	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
<b>Tx Frequency:</b>	1852.5 MHz – 1912.5 MHz (Sub6 n25(2) (5 MHz)) 1855.0 MHz – 1910.0 MHz (Sub6 n25(2) (10 MHz)) 1857.5 MHz – 1907.5 MHz (Sub6 n25(2) (15 MHz)) 1860.0 MHz – 1905.0 MHz (Sub6 n25(2) (20 MHz)) 1862.5 MHz – 1902.5 MHz (Sub6 n25 (25 MHz)) 1865.0 MHz – 1900.0 MHz (Sub6 n25 (30 MHz)) 1870.0 MHz – 1895.0 MHz (Sub6 n25 (40 MHz))
<b>Date(s) of Tests:</b>	March 15, 2023 ~ May 07, 2023
<b>Serial number:</b>	Radiated: R32W2003H2Z Conducted: R32W2003GWK

## **2. INTRODUCTION**

### **2.1. DESCRIPTION OF EUT**

The EUT was a Tablet with UMTS and LTE, Sub6.

It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160 MHz), WIFI 6E AIT, Keyboard, S-pen, mmWave.

### **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, 17383, Rep. 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 - ANSI C63.26-2015 – Section 5.2.6(only GSM)
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Effective Radiated Power/ Effective Isotropic Radiated Power	- KDB 971168 D01 v03r01 – Section 5.2 & 5.8 - ANSI/TIA-603-E-2016 – Section 2.2.17
Radiated Spurious and Harmonic Emissions	- KDB 971168 D01 v03r01 – Section 6.2 - ANSI/TIA-603-E-2016 – Section 2.2.12



## 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 in accordance with ANSI/TIA-603-E-2016 Clause 2.2.17.

### 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;

$$P_{d(dBm)} = P_{g(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

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 according to ANSI/TIA-603-E-2016.

#### 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 10<sup>th</sup> 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 1GHz, 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;

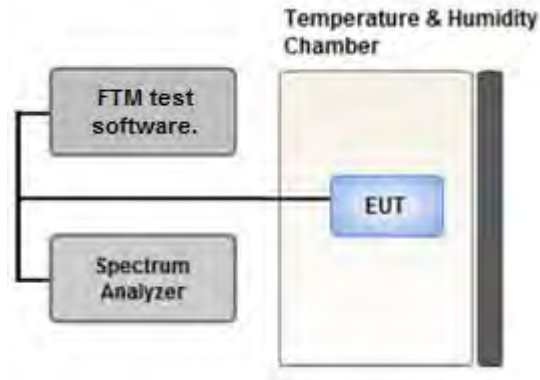
$$\text{Result}_{(\text{dBm})} = P_{g(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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

If the fundamental frequency is below 1GHz, 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)**

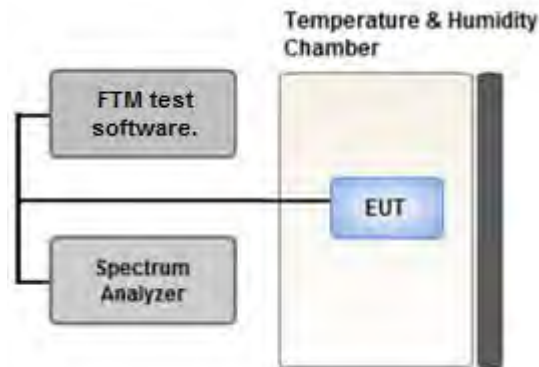
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW  $\geq 3 \times$  RBW.

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  $[10 \log (1/0.25)] = 6$  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.

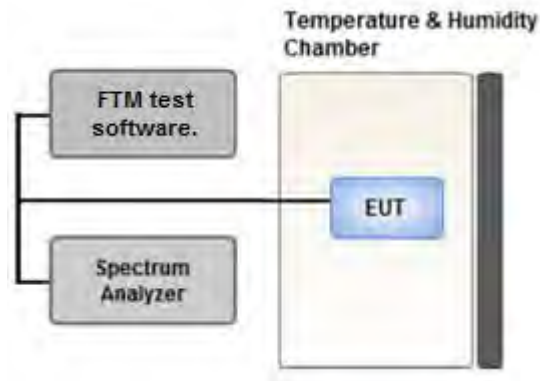
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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 26dB 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

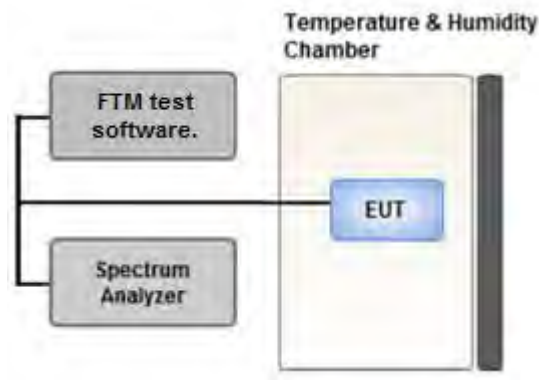
#### Test Overview

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 = RMS
4. Trace Mode = Average
5. Sweep time = auto
6. Number of points in sweep  $\geq$  2 \* Span / 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  $\geq 2 \times \text{Span}/\text{RBW}$
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

#### Test Notes

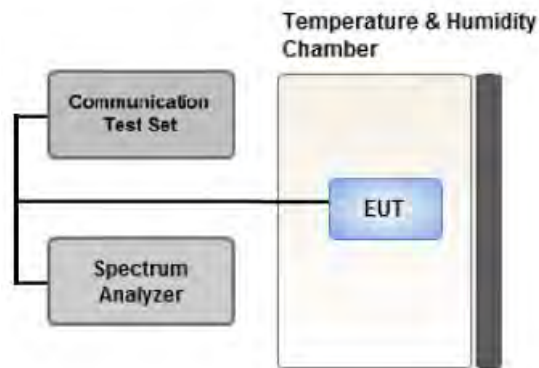
According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. In the 1 MHz bands immediately outside and adjacent to the frequency block 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)
- NR n25 (1850 – 1915 MHz) overlaps the entire frequency range of NR n2 (1850 - 1910 MHz) and they have the same Tune-up power. Therefore, test data provided in this report covers NR n2 as well as NR n25.
- 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: SA, NSA  
Worst case: SA  
Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)  
Worst case : Stand alone
- We were performed the RSE test in condition of co-location.  
Mode : Stand alone, Simultaneous transmission scenarios  
Worst case : Stand alone
- 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 were investigated and the worst case configuration results are reported.  
(Worst case: 66A-n25A(BW 10 MHz))
- 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 were investigated and the worst case bandwidth results are reported.  
(Worst case : 15 MHz, 40 MHz)

[ Worst case ]

Test Description	Modulation	RB size	RB offset	Axis
<b>Effective Isotropic Radiated Power</b>	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 8.1		X,Y
<b>Radiated Spurious and Harmonic Emissions</b>	PI/2 BPSK	See Section 8.2		X

**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)
- NR n25 (1850 – 1915 MHz) overlaps the entire frequency range of NR n2 (1850 - 1910 MHz) and they have the same Tune-up power. Therefore, test data provided in this report covers NR n2 as well as NR n25.
- All modes of operation were investigated and the worst case configuration results are reported.  
Mode: SA, NSA  
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.

[ 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, 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		
		40	Low	1	0		
			High	1	215		
				5, 10, 15, 20, 25,30, 40	Low, High	Full RB	0
		Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20, 25,30, 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	03/27/2024	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/27/2024	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	03/21/2024	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/29/2024	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	06/04/2023	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
High Pass Filter	WHKX10-900-1000-15000-40SS	Wainwright Instruments	15	05/18/2023	Annual
High Pass Filter	WHKX10-2700-3000-18000-40SS	Wainwright Instruments	145	05/18/2023	Annual
High Pass Filter	WHNX6-4740-6000-26500-40CC	Wainwright Instruments	11	05/18/2023	Annual
LOW NOISE AMP (100 MHz ~ 18 GHz)	CBLU1183540B-01	CERNEX	26822	05/18/2023	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/01/2023	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/02/2024	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	09/05/2023	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	03/02/2024	Annual
Chamber	SU-642	ESPEC	93008124	02/22/2024	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/11/2024	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/19/2024	Annual
Spectrum Analyzer(10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/22/2024	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/18/2023	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287700	05/19/2023	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/18/2023	Annual
SIGNAL GENERATOR (100 kHz~40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/05/2023	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/30/2023	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/27/2023	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

**Note:**

1. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
2. 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  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ( $\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.90 (Confidence level about 95 %, $k=2$ )
Radiated Disturbance (9 kHz ~ 30 MHz)	4.14 (Confidence level about 95 %, $k=2$ )
Radiated Disturbance (30 MHz ~ 1 GHz)	5.82 (Confidence level about 95 %, $k=2$ )
Radiated Disturbance (1 GHz ~ 18 GHz)	5.74 (Confidence level about 95 %, $k=2$ )
Radiated Disturbance (18 GHz ~ 40 GHz)	5.76 (Confidence level about 95 %, $k=2$ )
Radiated Disturbance (Above 40 GHz)	5.52 (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, §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

**ERP = Substitute LEVEL(dBm) + Ant. Gain – 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

**EIRP = Substitute LEVEL(dBm) + Ant. Gain – 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 = 4 M17F9W**

WCDMA BW = 4.17 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

#### QPSK Modulation

**Emission Designator = 4 M48G7D**

LTE BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

#### QAM Modulation

Emission Designator = 4 M48W7D

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 Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
									W	W	dBm	Size
1852.5	Sub6 n25(2)/ 5 MHz [15 kHz]	PI/2 BPSK	-18.97	14.62	10.00	2.15	H	< 2.00	0.177	22.47	1	12
		QPSK	-19.10	14.49	10.00	2.15	H		0.171	22.34		
		16-QAM	-20.06	13.53	10.00	2.15	H		0.137	21.38		
		64-QAM	-21.34	12.25	10.00	2.15	H		0.102	20.10		
		256-QAM	-23.98	9.61	10.00	2.15	H		0.056	17.46		
1882.5		PI/2 BPSK	-19.58	14.02	10.00	2.21	H		0.152	21.81	1	1
		QPSK	-19.71	13.89	10.00	2.21	H		0.147	21.68		
		16-QAM	-20.60	13.00	10.00	2.21	H		0.120	20.79		
		64-QAM	-22.00	11.60	10.00	2.21	H		0.087	19.39		
		256-QAM	-24.62	8.98	10.00	2.21	H		0.048	16.77		
1912.5	PI/2 BPSK	-20.27	13.75	10.01	2.11	H	0.146	21.65	1	1		
	QPSK	-20.30	13.72	10.01	2.11	H	0.145	21.62				
	16-QAM	-21.26	12.76	10.01	2.11	H	0.116	20.66				
	64-QAM	-22.61	11.41	10.01	2.11	H	0.085	19.31				
	256-QAM	-25.13	8.89	10.01	2.11	H	0.048	16.79				



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
1855.0	Sub6 n25(2)/ 10 MHz [15 kHz]	PI/2 BPSK	-19.16	14.43	10.00	2.15	H	< 2.00	0.169	22.28	1	50
		QPSK	-19.22	14.37	10.00	2.15	H		0.167	22.22		
		16-QAM	-20.15	13.44	10.00	2.15	H		0.135	21.29		
		64-QAM	-21.52	12.07	10.00	2.15	H		0.098	19.92		
		256-QAM	-24.16	9.43	10.00	2.15	H		0.053	17.28		
1882.5		PI/2 BPSK	-19.13	14.47	10.00	2.21	H		0.168	22.26	1	1
		QPSK	-19.25	14.35	10.00	2.21	H		0.164	22.14		
		16-QAM	-20.18	13.42	10.00	2.21	H		0.132	21.21		
		64-QAM	-21.51	12.09	10.00	2.21	H		0.097	19.88		
		256-QAM	-24.30	9.30	10.00	2.21	H		0.051	17.09		
1910.0	PI/2 BPSK	-20.18	13.84	10.01	2.11	H	0.149	21.74	1	1		
	QPSK	-20.25	13.77	10.01	2.11	H	0.147	21.67				
	16-QAM	-21.11	12.91	10.01	2.11	H	0.121	20.81				
	64-QAM	-22.54	11.48	10.01	2.11	H	0.087	19.38				
	256-QAM	-25.09	8.93	10.01	2.11	H	0.048	16.83				

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
1857.5	Sub6 n25(2)/ 15 MHz [15 kHz]	PI/2 BPSK	-18.80	14.79	10.00	2.15	H	< 2.00	0.184	22.64	1	1
		QPSK	-18.82	14.77	10.00	2.15	H		0.183	22.62		
		16-QAM	-19.92	13.67	10.00	2.15	H		0.142	21.52		
		64-QAM	-21.20	12.39	10.00	2.15	H		0.106	20.24		
		256-QAM	-23.92	9.67	10.00	2.15	H		0.056	17.52		
1882.5		PI/2 BPSK	-19.07	14.53	10.00	2.21	H		0.171	22.32	1	1
		QPSK	-19.09	14.51	10.00	2.21	H		0.170	22.30		
		16-QAM	-20.14	13.46	10.00	2.21	H		0.133	21.25		
		64-QAM	-21.44	12.16	10.00	2.21	H		0.099	19.95		
		256-QAM	-24.15	9.45	10.00	2.21	H		0.053	17.24		
1907.5	PI/2 BPSK	-19.58	14.39	10.01	2.13	H	0.169	22.27	1	1		
	QPSK	-19.60	14.37	10.01	2.13	H	0.168	22.25				
	16-QAM	-20.48	13.49	10.01	2.13	H	0.137	21.37				
	64-QAM	-21.90	12.07	10.01	2.13	H	0.099	19.95				
	256-QAM	-24.49	9.48	10.01	2.13	H	0.055	17.36				

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
1860.0	Sub6 n25(2)/ 20 MHz [15 kHz]	PI/2 BPSK	-18.84	14.50	10.00	2.17	H	< 2.00	0.171	22.33	1	53
		QPSK	-18.85	14.49	10.00	2.17	H		0.171	22.32		
		16-QAM	-19.83	13.51	10.00	2.17	H		0.136	21.34		
		64-QAM	-21.19	12.15	10.00	2.17	H		0.100	19.98		
		256-QAM	-23.85	9.49	10.00	2.17	H		0.054	17.32		
1882.5		PI/2 BPSK	-19.20	14.40	10.00	2.21	H		0.166	22.19	1	1
		QPSK	-19.26	14.34	10.00	2.21	H		0.163	22.13		
		16-QAM	-20.18	13.42	10.00	2.21	H		0.132	21.21		
		64-QAM	-21.57	12.03	10.00	2.21	H		0.096	19.82		
		256-QAM	-24.10	9.50	10.00	2.21	H		0.054	17.29		
1905.0	PI/2 BPSK	-19.93	14.04	10.01	2.13	H	0.156	21.92	1	1		
	QPSK	-19.95	14.02	10.01	2.13	H	0.155	21.90				
	16-QAM	-20.80	13.17	10.01	2.13	H	0.127	21.05				
	64-QAM	-22.19	11.78	10.01	2.13	H	0.092	19.66				
	256-QAM	-24.81	9.16	10.01	2.13	H	0.051	17.04				

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	Sub6 n25/ 25 MHz [15 kHz]	PI/2 BPSK	-18.96	14.38	10.00	2.17	H	< 2.00	0.166	22.21	1	1
		QPSK	-18.97	14.37	10.00	2.17	H		0.166	22.20		
		16-QAM	-20.00	13.34	10.00	2.17	H		0.131	21.17		
		64-QAM	-21.28	12.06	10.00	2.17	H		0.097	19.89		
		256-QAM	-23.64	9.70	10.00	2.17	H		0.057	17.53		
1882.5		PI/2 BPSK	-19.11	14.49	10.00	2.21	H		0.169	22.28	1	1
		QPSK	-19.13	14.47	10.00	2.21	H		0.168	22.26		
		16-QAM	-20.08	13.52	10.00	2.21	H		0.135	21.31		
		64-QAM	-21.40	12.20	10.00	2.21	H		0.100	19.99		
		256-QAM	-23.70	9.90	10.00	2.21	H		0.059	17.69		
1902.5	PI/2 BPSK	-19.76	14.15	10.01	2.15	H	0.159	22.01	1	1		
	QPSK	-19.80	14.11	10.01	2.15	H	0.157	21.97				
	16-QAM	-20.77	13.14	10.01	2.15	H	0.126	21.00				
	64-QAM	-22.04	11.87	10.01	2.15	H	0.094	19.73				
	256-QAM	-24.39	9.52	10.01	2.15	H	0.055	17.38				

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
1865.0	Sub6 n25/ 30 MHz [15 kHz]	PI/2 BPSK	-18.92	14.71	10.00	2.19	H	< 2.00	0.179	22.52	1	1
		QPSK	-18.95	14.68	10.00	2.19	H		0.177	22.49		
		16-QAM	-19.90	13.73	10.00	2.19	H		0.143	21.54		
		64-QAM	-21.26	12.37	10.00	2.19	H		0.104	20.18		
		256-QAM	-23.86	9.77	10.00	2.19	H		0.057	17.58		
1882.5		PI/2 BPSK	-18.81	14.79	10.00	2.21	H		0.181	22.58	1	1
		QPSK	-18.84	14.76	10.00	2.21	H		0.180	22.55		
		16-QAM	-19.80	13.80	10.00	2.21	H		0.144	21.59		
		64-QAM	-21.27	12.33	10.00	2.21	H		0.103	20.12		
		256-QAM	-23.79	9.81	10.00	2.21	H		0.058	17.60		
1900.0	PI/2 BPSK	-19.52	14.39	10.01	2.15	H	0.168	22.25	1	1		
	QPSK	-19.53	14.38	10.01	2.15	H	0.167	22.24				
	16-QAM	-20.46	13.45	10.01	2.15	H	0.135	21.31				
	64-QAM	-21.86	12.05	10.01	2.15	H	0.098	19.91				
	256-QAM	-24.35	9.56	10.01	2.15	H	0.055	17.42				

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
1870.0	Sub6 n25/ 40 MHz [15 kHz]	PI/2 BPSK	-19.10	14.81	10.00	2.21	H	< 2.00	0.182	22.60	1	1
		QPSK	-19.11	14.80	10.00	2.21	H		0.182	22.59		
		16-QAM	-20.19	13.72	10.00	2.21	H		0.142	21.51		
		64-QAM	-21.56	12.35	10.00	2.21	H		0.103	20.14		
		256-QAM	-23.90	10.01	10.00	2.21	H		0.060	17.80		
1882.5		PI/2 BPSK	-19.05	14.55	10.00	2.21	H		0.171	22.34	1	1
		QPSK	-19.06	14.54	10.00	2.21	H		0.171	22.33		
		16-QAM	-19.99	13.61	10.00	2.21	H		0.138	21.40		
		64-QAM	-21.30	12.30	10.00	2.21	H		0.102	20.09		
		256-QAM	-23.89	9.71	10.00	2.21	H		0.056	17.50		
1895.0	PI/2 BPSK	-19.14	14.94	10.01	2.16	H	0.190	22.79	1	1		
	QPSK	-19.16	14.92	10.01	2.16	H	0.189	22.77				
	16-QAM	-20.11	13.97	10.01	2.16	H	0.152	21.82				
	64-QAM	-21.51	12.57	10.01	2.16	H	0.110	20.42				
	256-QAM	-24.10	9.98	10.01	2.16	H	0.061	17.83				

**8.2 RADIATED SPURIOUS EMISSIONS**

- NR Band: N25 (2)
- LTE Band(Anchor): B66
- Bandwidth: 15 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
371500 (1857.5)	3 715.00	-58.35	11.40	-58.73	3.12	V	-50.45	-13.00	1	1
	5 572.50	-60.92	11.90	-55.16	3.86	V	-47.12	-13.00		
	7 430.00	-64.16	10.80	-49.32	4.46	V	-42.98	-13.00		
376500 (1882.5)	3 765.00	-57.97	11.30	-58.04	3.09	V	-49.83	-13.00	1	1
	5 647.50	-61.69	11.85	-56.27	3.89	V	-48.31	-13.00		
	7 530.00	-63.32	11.10	-48.85	4.50	V	-42.25	-13.00		
381500 (1907.5)	3 815.00	-58.08	11.10	-57.50	3.10	V	-49.50	-13.00	1	1
	5 722.50	-61.54	11.70	-55.52	3.84	V	-47.66	-13.00		
	7 630.00	-63.73	11.20	-50.29	4.52	V	-43.61	-13.00		

- ▣ NR Band: N25
- ▣ LTE Band(Anchor): B66
- ▣ 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	-57.56	11.40	-58.78	3.10	H	-50.48	-13.00	1	1
	5 610.00	-62.02	11.90	-56.94	3.79	H	-48.83	-13.00		
	7 480.00	-64.34	10.90	-49.98	4.49	H	-43.57	-13.00		
	9 350.00	-61.43	10.80	-46.36	5.07	H	-40.63	-13.00		
	11 220.00	-62.42	11.40	-43.69	5.60	H	-37.89	-13.00		
376500 (1882.5)	3 765.00	-59.18	11.30	-59.25	3.09	H	-51.04	-13.00	1	1
	5 647.50	-62.12	11.85	-56.70	3.89	H	-48.74	-13.00		
	7 530.00	-64.80	11.10	-50.33	4.50	H	-43.73	-13.00		
	9 412.50	-62.03	10.80	-46.70	5.07	H	-40.97	-13.00		
	11 295.00	-63.92	11.35	-45.59	5.64	H	-39.88	-13.00		
379000 (1895.0)	3 790.00	-60.47	11.30	-60.78	3.17	V	-52.65	-13.00	1	1
	5 685.00	-61.48	11.80	-55.12	3.88	V	-47.20	-13.00		
	7 580.00	-63.69	11.10	-49.90	4.54	V	-43.34	-13.00		
	9 475.00	-62.55	10.90	-47.32	5.09	V	-41.51	-13.00		
	11 370.00	-60.94	11.30	-41.68	5.69	V	-36.07	-13.00		

▣ ENDC-Mode : 66A(10 MHz)-n25A(40 MHz)

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
132322 (1745.0)	3490.00	-60.31	11.46	-61.62	3.05	V	-53.21	-13.00
	5235.00	-61.52	11.57	-56.21	3.79	V	-48.43	-13.00
	6980.00	-61.73	11.16	-49.50	4.51	V	-42.85	-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	4.09
			QPSK			4.81
			16-QAM			6.05
			64-QAM			6.44
			256-QAM			6.89
	10 MHz		BPSK	50		4.29
			QPSK			4.98
			16-QAM			6.09
			64-QAM			6.36
			256-QAM			6.87
	15 MHz		BPSK	75		3.91
			QPSK			4.54
			16-QAM			5.69
			64-QAM			6.25
			256-QAM			6.75
	20 MHz		BPSK	100		4.16
			QPSK			4.47
			16-QAM			5.63
			64-QAM			6.28
			256-QAM			6.69

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB )
Sub6 n25	25 MHz	1882.5	BPSK	128	0	4.19
			QPSK			5.16
			16-QAM			5.74
			64-QAM			6.26
			256-QAM			6.65
	30 MHz		BPSK	160		4.14
			QPSK			4.95
			16-QAM			5.41
			64-QAM			6.06
			256-QAM			6.71
	40 MHz		BPSK	216		3.95
			QPSK			4.81
			16-QAM			5.88
			64-QAM			6.00
			256-QAM			6.65

**Note:**

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 82 ~ 116.

**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	4.5106
			QPSK			4.5314
			16-QAM			4.5211
			64-QAM			4.5100
			256-QAM			4.5610
	10 MHz		BPSK	50		8.9502
			QPSK			8.9704
			16-QAM			9.0216
			64-QAM			8.9912
			256-QAM			8.9780
	15 MHz		BPSK	75		13.463
			QPSK			13.417
			16-QAM			13.426
			64-QAM			13.439
			256-QAM			13.434
	20 MHz		BPSK	100		17.931
			QPSK			17.894
			16-QAM			17.937
			64-QAM			17.940
			256-QAM			17.916

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data ( MHz )
Sub6 n25	25 MHz	1882.5	BPSK	128	0	22.891
			QPSK			22.993
			16-QAM			22.913
			64-QAM			22.932
			256-QAM			22.932
	30 MHz		BPSK	160		28.642
			QPSK			28.599
			16-QAM			28.581
			64-QAM			28.609
			256-QAM			28.707
	40 MHz		BPSK	216		38.622
			QPSK			38.584
			16-QAM			38.571
			64-QAM			38.475
			256-QAM			38.586

**Note:**

1. Plots of the EUT's Occupied Bandwidth are shown Page 47 ~ 81.

**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	8.2448	30.815	-70.47	-39.659	-13.00
		1882.5	8.8569	30.815	-70.87	-40.054	
		1912.5	4.0080	30.200	-70.44	-40.238	
	10	1855.0	4.0589	30.200	-71.10	-40.898	
		1882.5	7.4771	30.815	-71.24	-40.421	
		1910.0	9.7468	30.815	-70.60	-39.789	
	15	1857.5	8.8535	30.815	-70.79	-39.972	
		1882.5	3.7513	30.200	-68.57	-38.374	
		1907.5	3.8046	30.200	-69.94	-39.744	
	20	1860.0	3.7015	30.200	-64.77	-34.567	
		1882.5	8.9058	30.815	-71.04	-40.228	
		1905.0	9.1461	30.815	-70.11	-39.296	
Sub6 n25	25	1862.5	9.6830	30.815	-70.34	-39.524	
		1882.5	8.8714	30.815	-70.75	-39.935	
		1902.5	3.7812	30.200	-65.69	-35.489	
	30	1865.0	3.9951	30.200	-69.80	-39.600	
		1882.5	4.0150	30.200	-70.24	-40.039	
		1900.0	4.0354	30.200	-70.62	-40.416	
	40	1870.0	3.7015	30.200	-60.79	-30.594	
		1882.5	9.6600	30.815	-71.08	-40.261	
		1895.0	9.7353	30.815	-70.04	-39.229	

**Note:**

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 159 ~ 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	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

## **8.6 BAND EDGE**

- Plots of the EUT's Band Edge are shown Page 117 ~ 158.

**8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE**

- ▣ BandWidth: 5 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1852.5	100 %	+20(Ref)	1852 499 996	0.0	0.000 000	0.000
	100 %	-30	1852 499 994	-2.5	0.000 000	-0.001
	100 %	-20	1852 499 996	-0.8	0.000 000	0.000
	100 %	-10	1852 499 993	-3.6	0.000 000	-0.002
	100 %	0	1852 499 992	-4.4	0.000 000	-0.002
	100 %	+10	1852 499 993	-3.9	0.000 000	-0.002
	100 %	+30	1852 499 991	-5.3	0.000 000	-0.003
	100 %	+40	1852 499 991	-5.6	0.000 000	-0.003
	100 %	+50	1852 499 994	-2.7	0.000 000	-0.001
	Batt. Endpoint	+20	1852 499 994	-2.6	0.000 000	-0.001
1912.5	100 %	+20(Ref)	1912 499 997	0.0	0.000 000	0.000
	100 %	-30	1912 499 995	-1.7	0.000 000	-0.001
	100 %	-20	1912 499 995	-1.4	0.000 000	-0.001
	100 %	-10	1912 499 995	-1.3	0.000 000	-0.001
	100 %	0	1912 499 995	-1.4	0.000 000	-0.001
	100 %	+10	1912 499 996	-0.9	0.000 000	0.000
	100 %	+30	1912 499 995	-1.4	0.000 000	-0.001
	100 %	+40	1912 499 993	-3.7	0.000 000	-0.002
	100 %	+50	1912 499 994	-2.4	0.000 000	-0.001
	Batt. Endpoint	+20	1912 499 994	-2.3	0.000 000	-0.001

- ▣ BandWidth: 10 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1855.0	100 %	+20(Ref)	1855 000 000	0.0	0.000 000	0.000
	100 %	-30	1855 000 001	0.6	0.000 000	0.000
	100 %	-20	1854 999 999	-1.2	0.000 000	-0.001
	100 %	-10	1854 999 999	-1.5	0.000 000	-0.001
	100 %	0	1854 999 999	-1.4	0.000 000	-0.001
	100 %	+10	1855 000 001	0.1	0.000 000	0.000
	100 %	+30	1855 000 000	-0.2	0.000 000	0.000
	100 %	+40	1855 000 002	1.2	0.000 000	0.001
	100 %	+50	1855 000 000	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	1855 000 002	1.6	0.000 000	0.001
1910.0	100 %	+20(Ref)	1910 000 009	0.0	0.000 000	0.000
	100 %	-30	1910 000 015	6.9	0.000 000	0.004
	100 %	-20	1910 000 019	10.5	0.000 001	0.005
	100 %	-10	1910 000 018	9.1	0.000 000	0.005
	100 %	0	1910 000 018	9.0	0.000 000	0.005
	100 %	+10	1910 000 017	8.8	0.000 000	0.005
	100 %	+30	1910 000 014	5.1	0.000 000	0.003
	100 %	+40	1910 000 017	8.2	0.000 000	0.004
	100 %	+50	1910 000 020	11.1	0.000 001	0.006
	Batt. Endpoint	+20	1910 000 018	9.0	0.000 000	0.005



- ▣ BandWidth: 15 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1857.5	100 %	+20(Ref)	1857 500 003	0.0	0.000 000	0.000
	100 %	-30	1857 500 005	2.7	0.000 000	0.001
	100 %	-20	1857 500 006	3.5	0.000 000	0.002
	100 %	-10	1857 500 005	2.3	0.000 000	0.001
	100 %	0	1857 500 003	0.1	0.000 000	0.000
	100 %	+10	1857 500 006	3.7	0.000 000	0.002
	100 %	+30	1857 500 003	0.2	0.000 000	0.000
	100 %	+40	1857 500 003	0.2	0.000 000	0.000
	100 %	+50	1857 500 004	1.5	0.000 000	0.001
	Batt. Endpoint	+20	1857 500 003	0.6	0.000 000	0.000
1907.5	100 %	+20(Ref)	1907 500 004	0.0	0.000 000	0.000
	100 %	-30	1907 500 009	4.7	0.000 000	0.002
	100 %	-20	1907 500 006	2.0	0.000 000	0.001
	100 %	-10	1907 500 007	2.5	0.000 000	0.001
	100 %	0	1907 500 010	5.7	0.000 000	0.003
	100 %	+10	1907 500 008	3.3	0.000 000	0.002
	100 %	+30	1907 500 009	4.5	0.000 000	0.002
	100 %	+40	1907 500 007	2.3	0.000 000	0.001
	100 %	+50	1907 500 006	1.1	0.000 000	0.001
	Batt. Endpoint	+20	1907 500 008	3.5	0.000 000	0.002

- ▣ BandWidth: 20 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1860.0	100 %	+20(Ref)	1859 999 999	0.0	0.000 000	0.000
	100 %	-30	1859 999 998	-0.6	0.000 000	0.000
	100 %	-20	1859 999 998	-0.5	0.000 000	0.000
	100 %	-10	1859 999 998	-1.0	0.000 000	-0.001
	100 %	0	1860 000 002	2.7	0.000 000	0.001
	100 %	+10	1860 000 000	1.3	0.000 000	0.001
	100 %	+30	1860 000 001	1.7	0.000 000	0.001
	100 %	+40	1860 000 000	1.1	0.000 000	0.001
	100 %	+50	1859 999 999	-0.4	0.000 000	0.000
	Batt. Endpoint	+20	1860 000 000	1.4	0.000 000	0.001
1905.0	100 %	+20(Ref)	1905 000 000	0.0	0.000 000	0.000
	100 %	-30	1904 999 999	-0.8	0.000 000	0.000
	100 %	-20	1904 999 998	-2.3	0.000 000	-0.001
	100 %	-10	1904 999 997	-2.5	0.000 000	-0.001
	100 %	0	1904 999 998	-1.6	0.000 000	-0.001
	100 %	+10	1904 999 998	-2.2	0.000 000	-0.001
	100 %	+30	1905 000 000	0.1	0.000 000	0.000
	100 %	+40	1904 999 999	-0.9	0.000 000	0.000
	100 %	+50	1905 000 001	1.5	0.000 000	0.001
	Batt. Endpoint	+20	1905 000 000	-0.3	0.000 000	0.000

- ▣ BandWidth: 25 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1862.5	100 %	+20(Ref)	1862 500 007	0.0	0.000 000	0.000
	100 %	-30	1862 500 015	7.6	0.000 000	0.004
	100 %	-20	1862 500 012	4.9	0.000 000	0.003
	100 %	-10	1862 500 014	7.1	0.000 000	0.004
	100 %	0	1862 500 013	5.5	0.000 000	0.003
	100 %	+10	1862 500 015	7.4	0.000 000	0.004
	100 %	+30	1862 500 014	6.9	0.000 000	0.004
	100 %	+40	1862 500 014	6.9	0.000 000	0.004
	100 %	+50	1862 500 016	8.6	0.000 000	0.005
	Batt. Endpoint	+20	1862 500 016	8.6	0.000 000	0.005
1902.5	100 %	+20(Ref)	1902 500 010	0.0	0.000 000	0.000
	100 %	-30	1902 500 019	9.5	0.000 000	0.005
	100 %	-20	1902 500 019	9.5	0.000 000	0.005
	100 %	-10	1902 500 019	9.4	0.000 000	0.005
	100 %	0	1902 500 019	9.0	0.000 000	0.005
	100 %	+10	1902 500 019	8.5	0.000 000	0.004
	100 %	+30	1902 500 018	8.1	0.000 000	0.004
	100 %	+40	1902 500 020	9.6	0.000 001	0.005
	100 %	+50	1902 500 020	10.2	0.000 001	0.005
	Batt. Endpoint	+20	1902 500 020	9.7	0.000 001	0.005

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

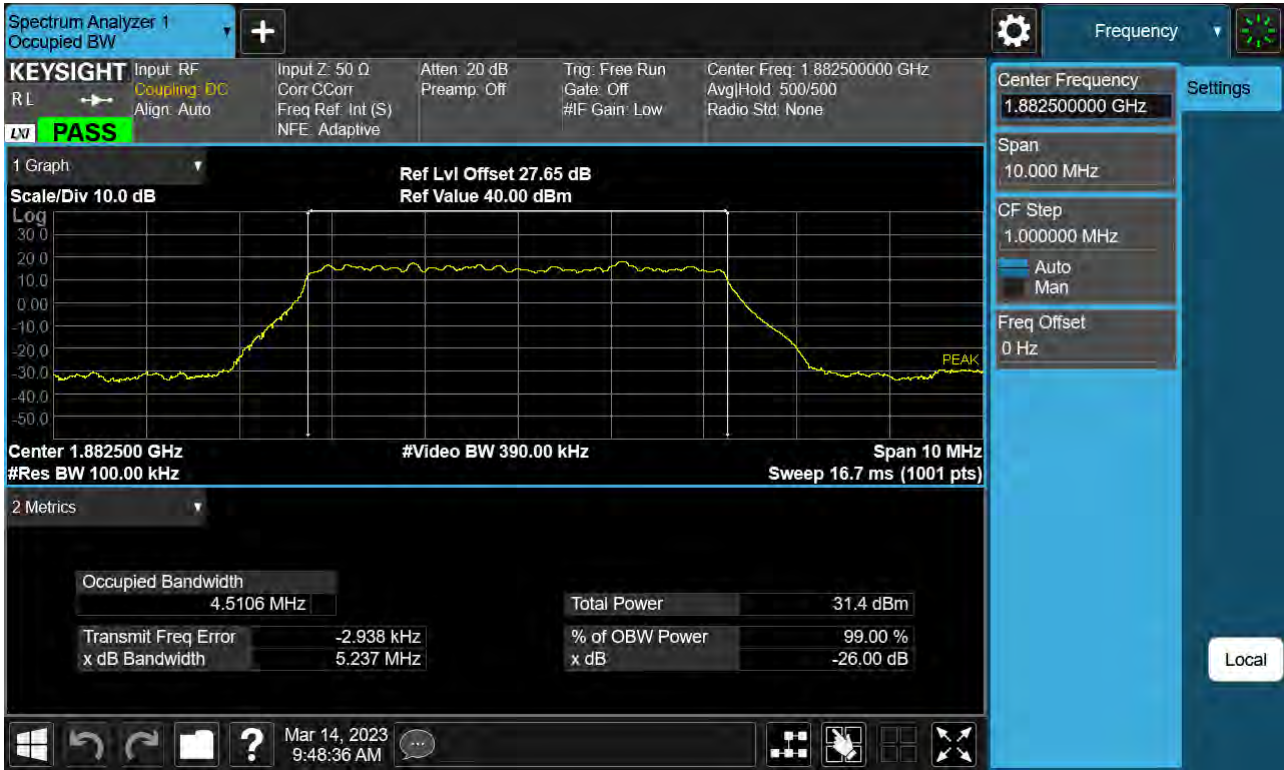
Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1865.0	100 %	+20(Ref)	1865 000 006	0.0	0.000 000	0.000
	100 %	-30	1865 000 011	4.7	0.000 000	0.003
	100 %	-20	1865 000 011	4.7	0.000 000	0.003
	100 %	-10	1865 000 015	8.5	0.000 000	0.005
	100 %	0	1865 000 013	6.7	0.000 000	0.004
	100 %	+10	1865 000 012	5.6	0.000 000	0.003
	100 %	+30	1865 000 011	4.6	0.000 000	0.002
	100 %	+40	1865 000 014	7.4	0.000 000	0.004
	100 %	+50	1865 000 012	6.1	0.000 000	0.003
	Batt. Endpoint	+20	1865 000 015	8.4	0.000 000	0.005
1900.0	100 %	+20(Ref)	1900 000 005	0.0	0.000 000	0.000
	100 %	-30	1900 000 011	5.3	0.000 000	0.003
	100 %	-20	1900 000 011	5.3	0.000 000	0.003
	100 %	-10	1900 000 011	5.7	0.000 000	0.003
	100 %	0	1900 000 013	7.4	0.000 000	0.004
	100 %	+10	1900 000 009	4.0	0.000 000	0.002
	100 %	+30	1900 000 012	6.3	0.000 000	0.003
	100 %	+40	1900 000 012	7.0	0.000 000	0.004
	100 %	+50	1900 000 009	3.8	0.000 000	0.002
	Batt. Endpoint	+20	1900 000 009	3.8	0.000 000	0.002

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.400 VDC
- ▣ LIMIT: Emission must remain in band

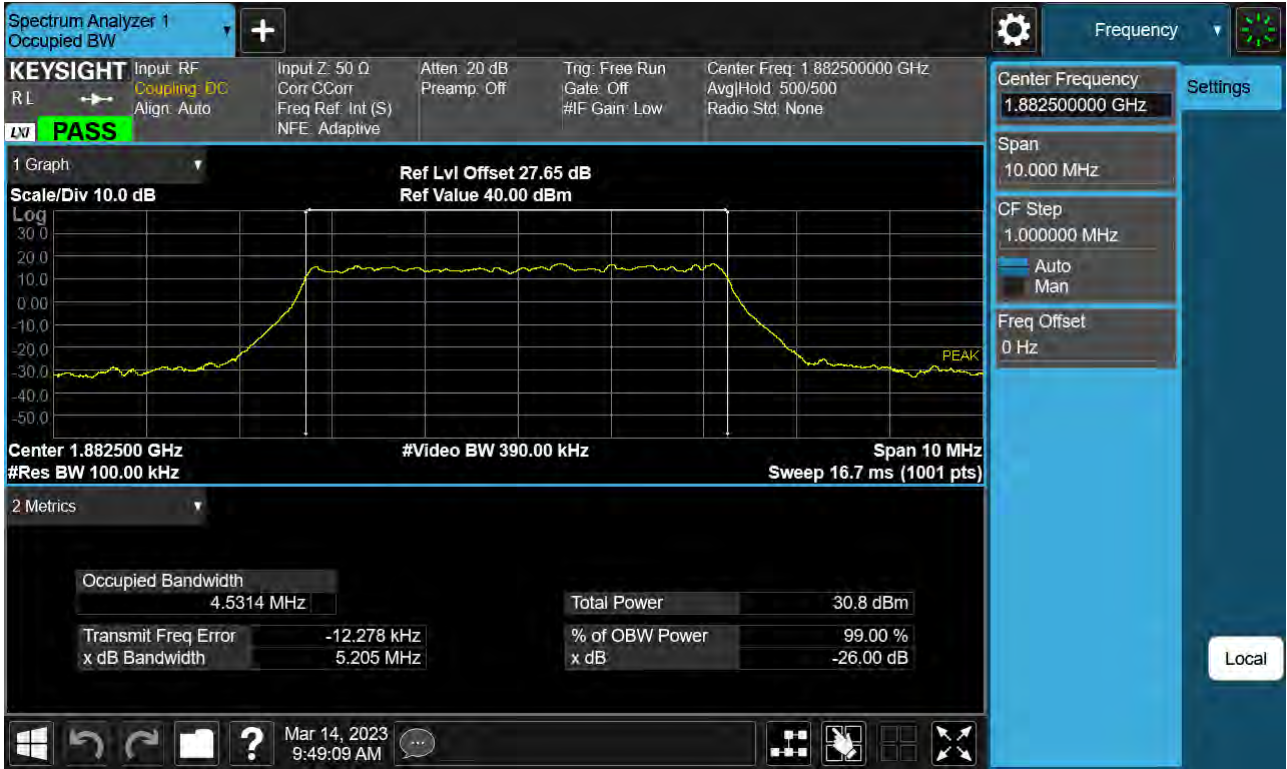
Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1870.0	100 %	+20(Ref)	1870 000 008	0.0	0.000 000	0.000
	100 %	-30	1870 000 017	8.5	0.000 000	0.005
	100 %	-20	1870 000 016	8.0	0.000 000	0.004
	100 %	-10	1870 000 017	8.3	0.000 000	0.004
	100 %	0	1870 000 016	7.2	0.000 000	0.004
	100 %	+10	1870 000 019	10.1	0.000 001	0.005
	100 %	+30	1870 000 018	9.8	0.000 001	0.005
	100 %	+40	1870 000 019	10.4	0.000 001	0.006
	100 %	+50	1870 000 017	8.9	0.000 000	0.005
	Batt. Endpoint	+20	1870 000 017	8.9	0.000 000	0.005
1895.0	100 %	+20(Ref)	1895 000 009	0.0	0.000 000	0.000
	100 %	-30	1895 000 018	8.9	0.000 000	0.005
	100 %	-20	1895 000 018	8.9	0.000 000	0.005
	100 %	-10	1895 000 021	11.5	0.000 001	0.006
	100 %	0	1895 000 020	10.9	0.000 001	0.006
	100 %	+10	1895 000 020	10.9	0.000 001	0.006
	100 %	+30	1895 000 019	10.1	0.000 001	0.005
	100 %	+40	1895 000 019	10.1	0.000 001	0.005
	100 %	+50	1895 000 021	12.1	0.000 001	0.006
	Batt. Endpoint	+20	1895 000 021	11.5	0.000 001	0.006

## 9. TEST PLOTS

Sub6 n25(2). Occupied Bandwidth Plot (5 M BW Ch.376500 BPSK\_ Full RB\_0 )

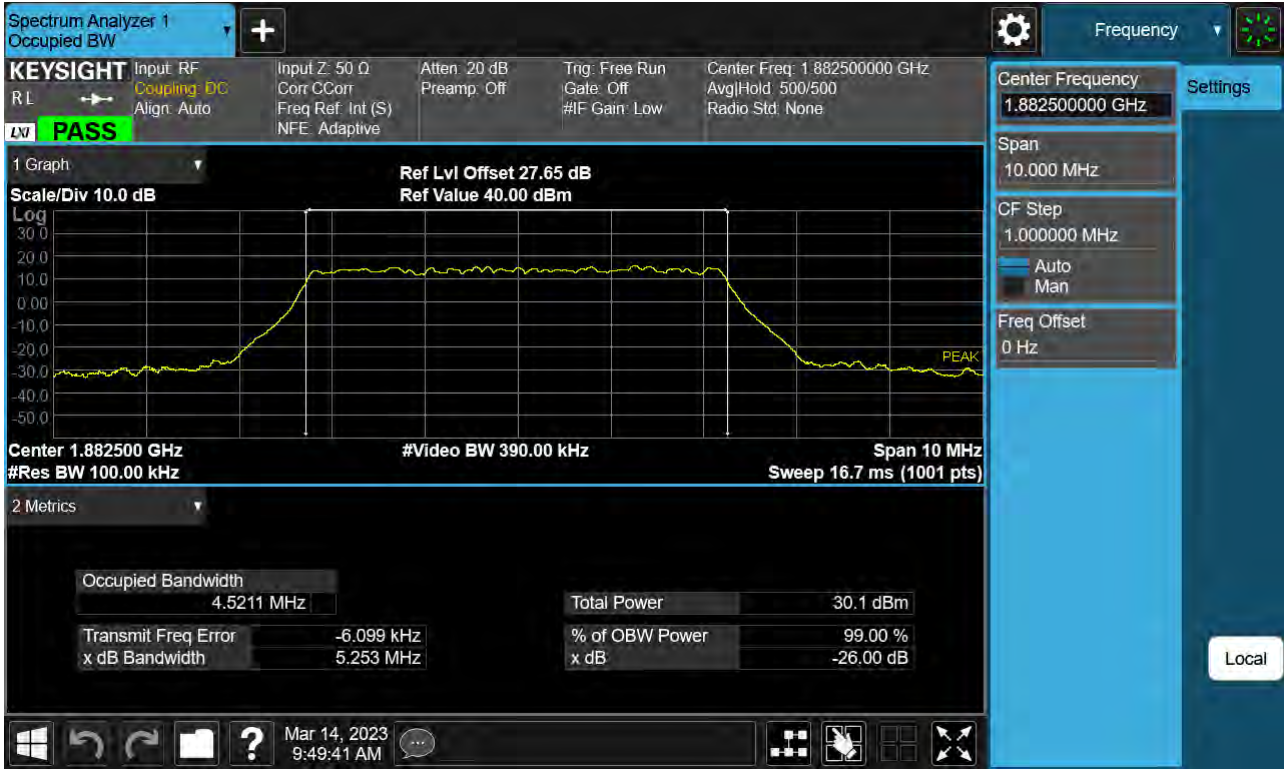


Sub6 n25(2). Occupied Bandwidth Plot (5 M BW Ch.376500 QPSK\_ Full RB\_0 )

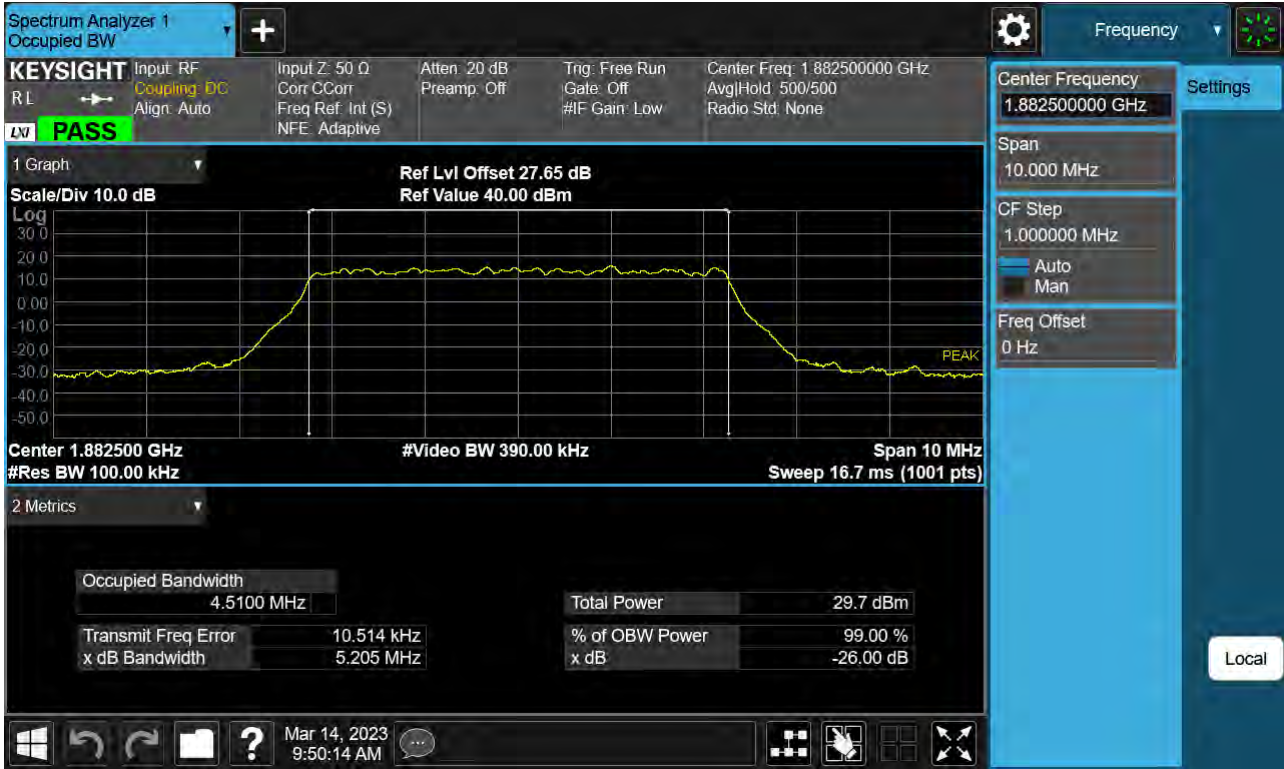




Sub6 n25(2). Occupied Bandwidth Plot (5 M BW Ch.376500 16QAM \_ Full RB \_0)



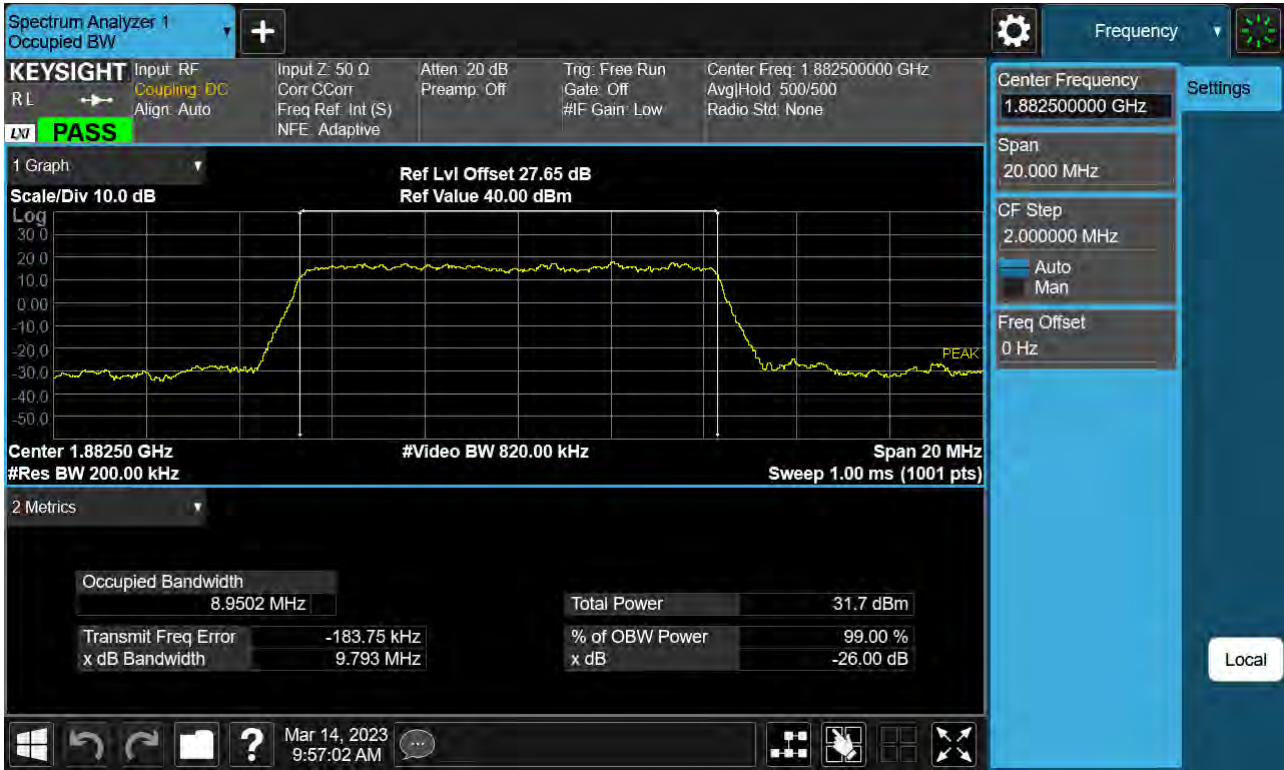
Sub6 n25(2). Occupied Bandwidth Plot (5 M BW Ch.376500 64QAM\_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (5 M BW Ch.376500 256QAM\_ Full RB\_0 )



Sub6 n25(2). Occupied Bandwidth Plot (10 M BW Ch.376500 BPSK \_ Full RB \_0)

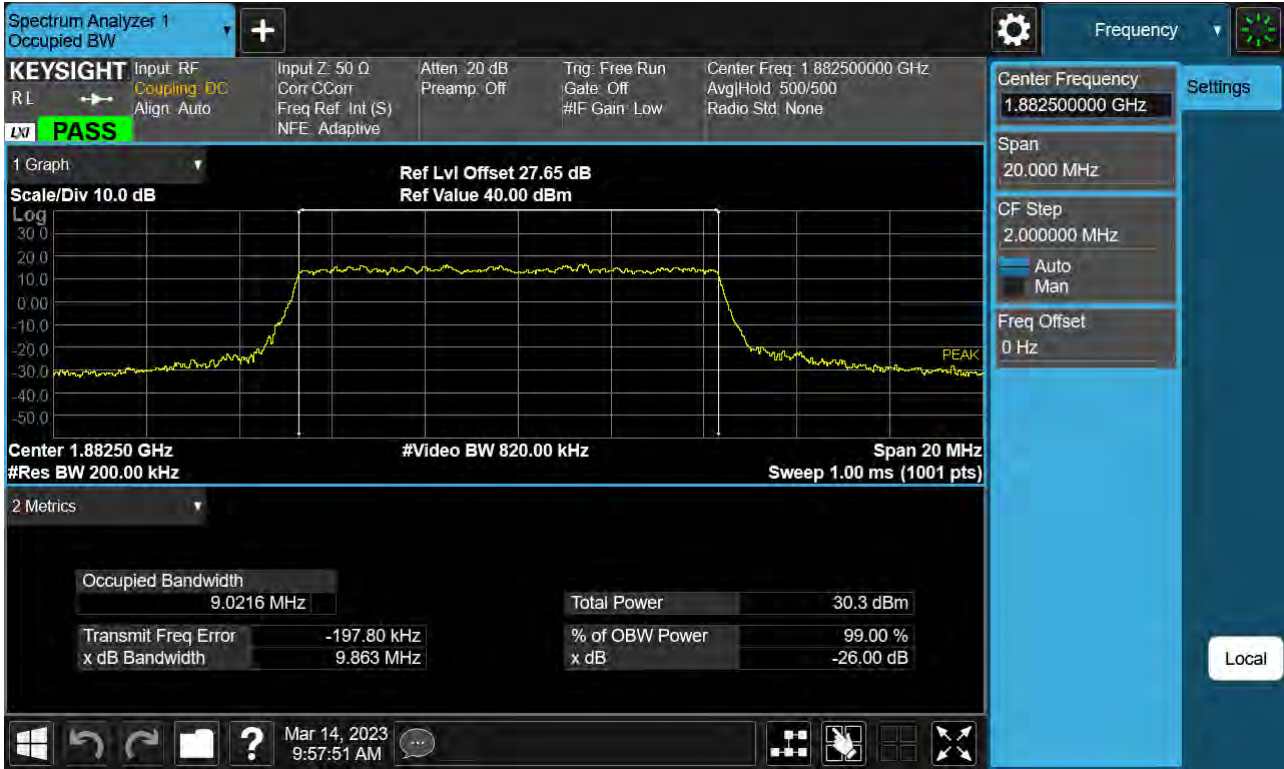




Sub6 n25(2). Occupied Bandwidth Plot (10 M BW Ch.376500 QPSK \_ Full RB \_0)



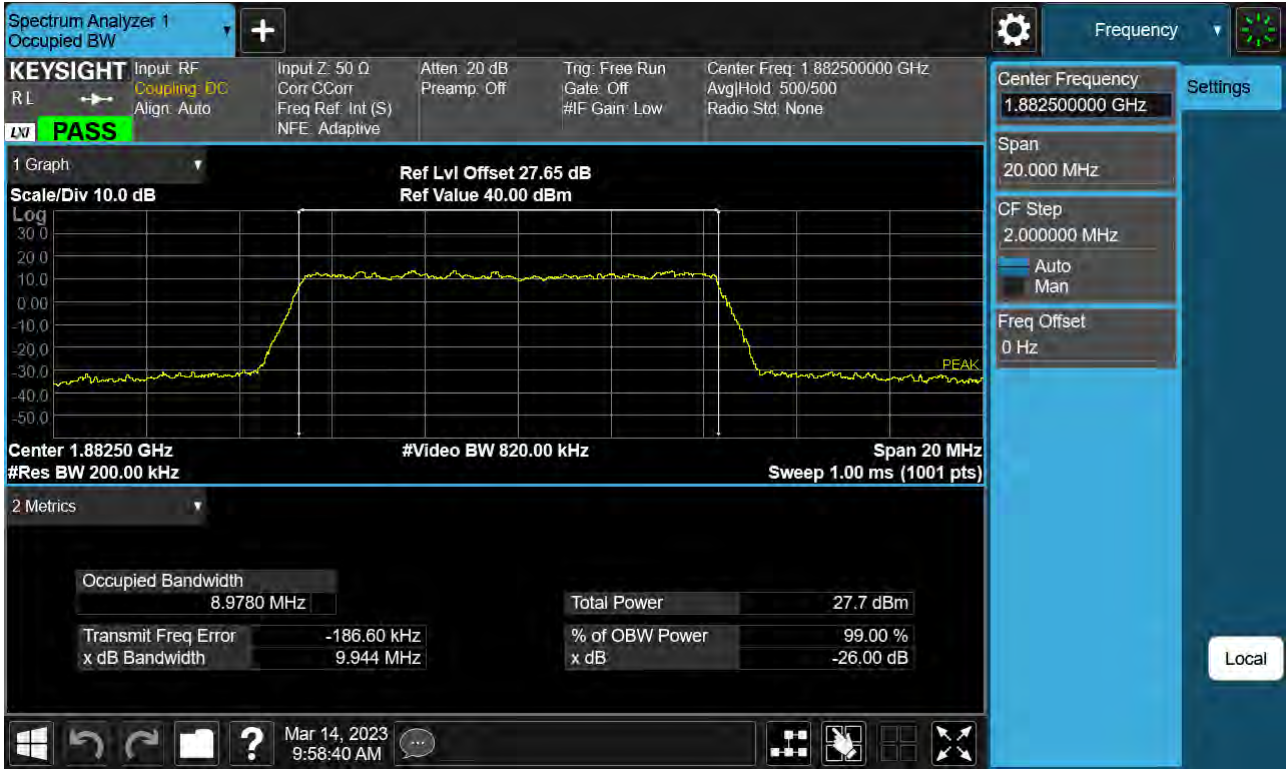
Sub6 n25(2). Occupied Bandwidth Plot (10 M BW Ch.376500 16QAM \_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (10 M BW Ch.376500 64QAM \_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (10 M BW Ch.376500 256QAM \_ Full RB \_0)





Sub6 n25(2). Occupied Bandwidth Plot (15 M BW Ch.376500 BPSK\_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (15 M BW Ch.376500 QPSK \_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (15 M BW Ch.376500 16QAM \_ Full RB \_0)

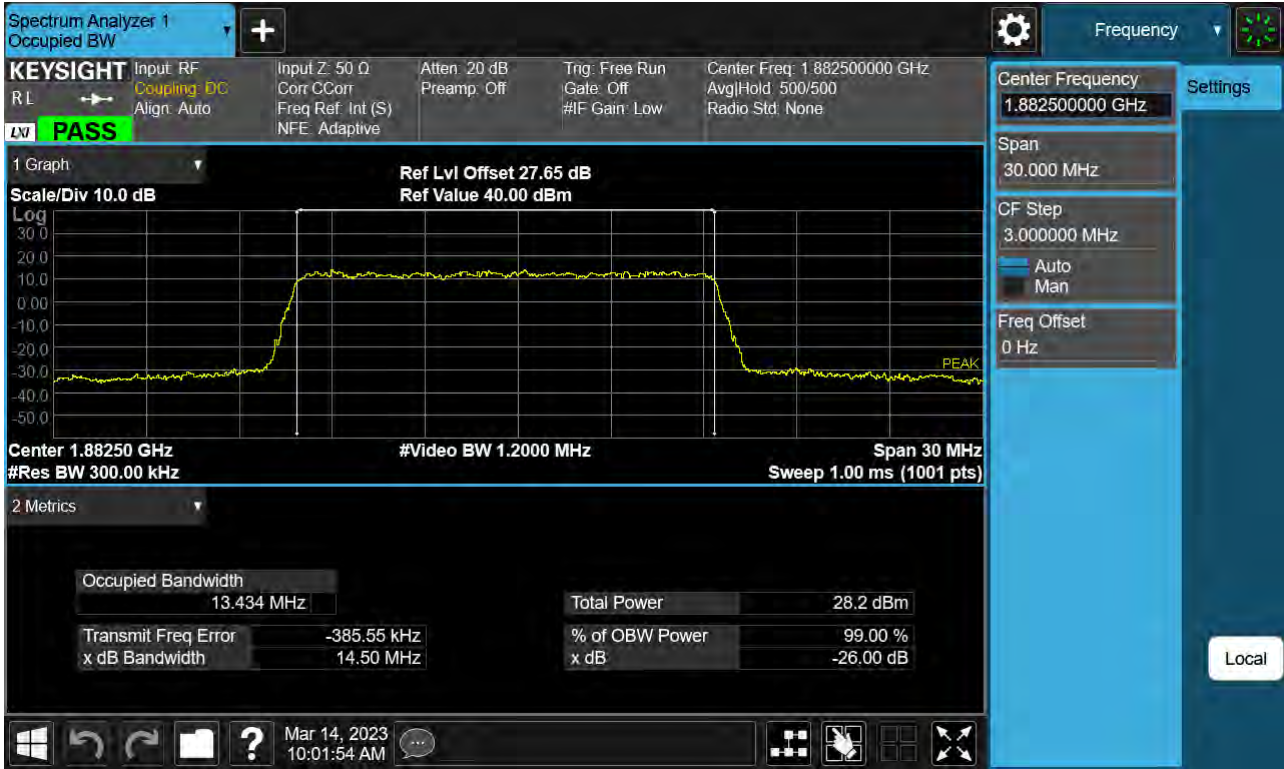


Sub6 n25(2). Occupied Bandwidth Plot (15 M BW Ch.376500 64QAM \_ Full RB \_0)





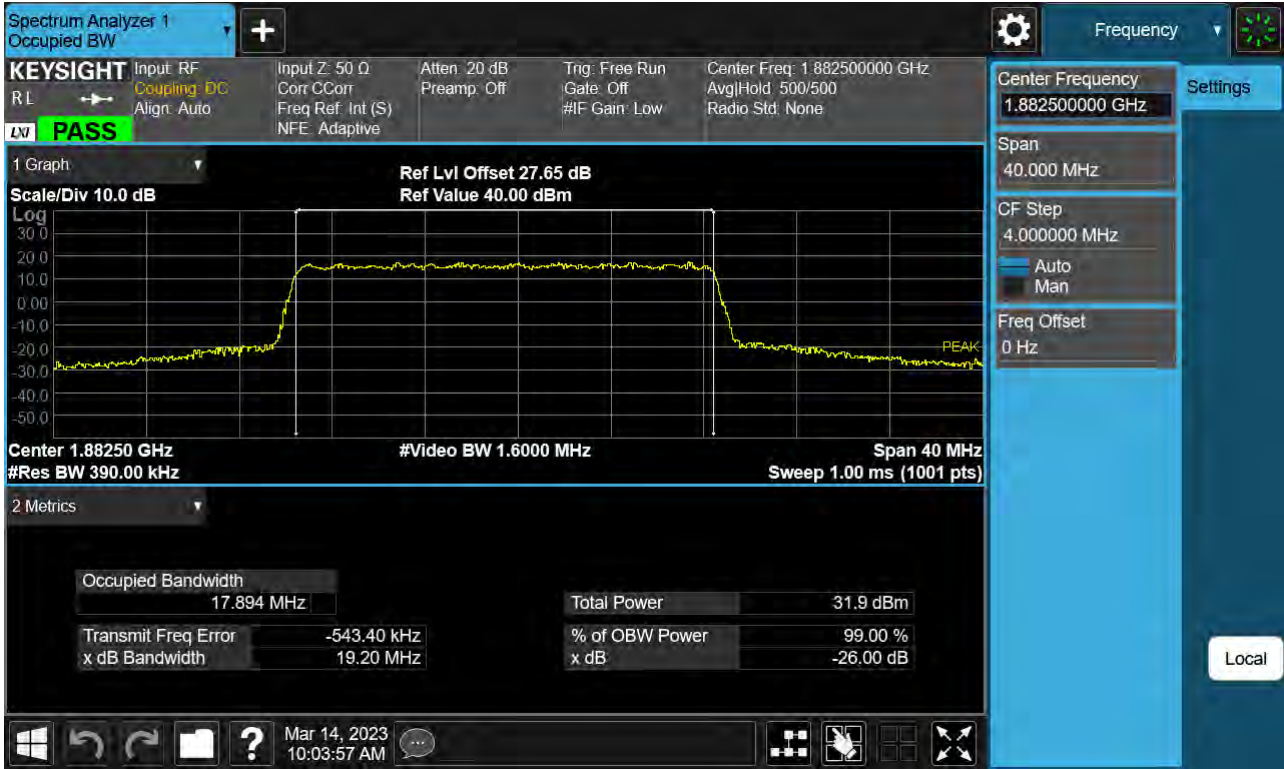
Sub6 n25(2). Occupied Bandwidth Plot (15 M BW Ch.376500 256QAM \_ Full RB \_0



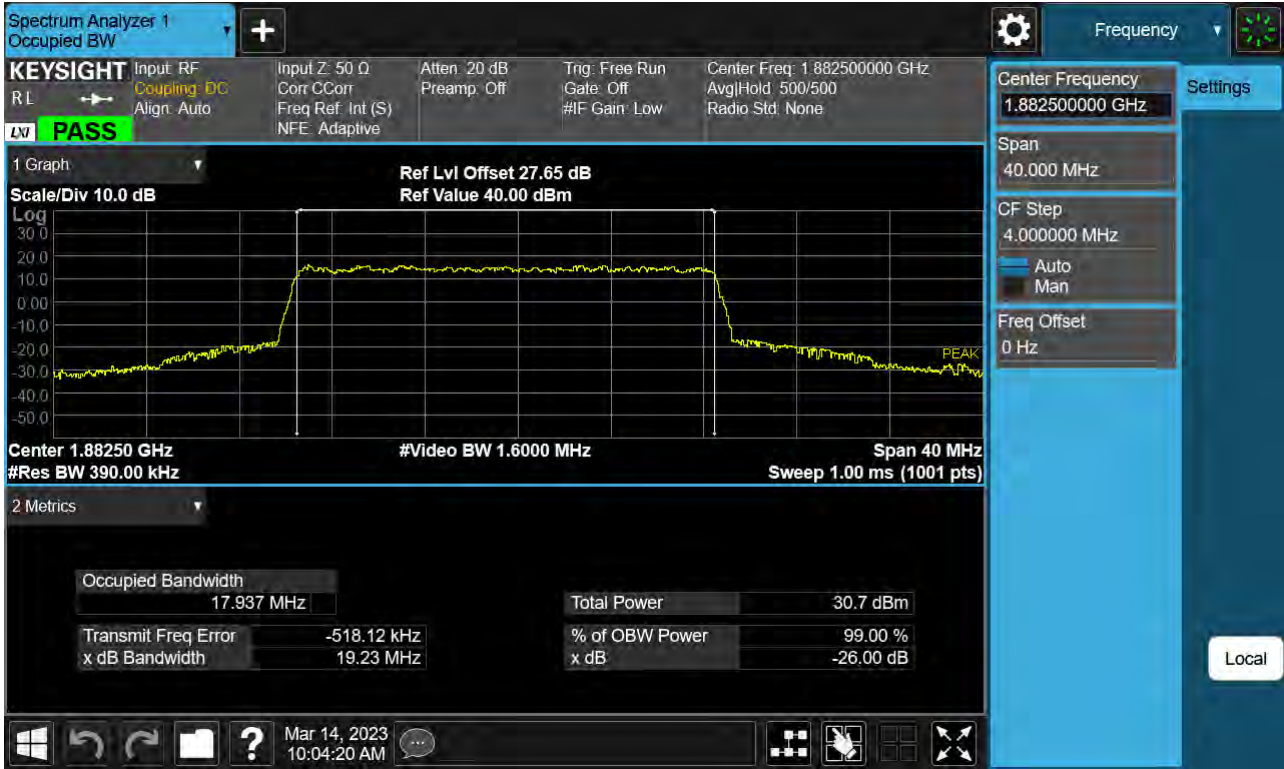
Sub6 n25(2). Occupied Bandwidth Plot (20 M BW Ch.376500 BPSK \_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (20 M BW Ch.376500 QPSK \_ Full RB \_0)



Sub6 n25(2). Occupied Bandwidth Plot (20 M BW Ch.376500 16QAM \_ Full RB \_0)

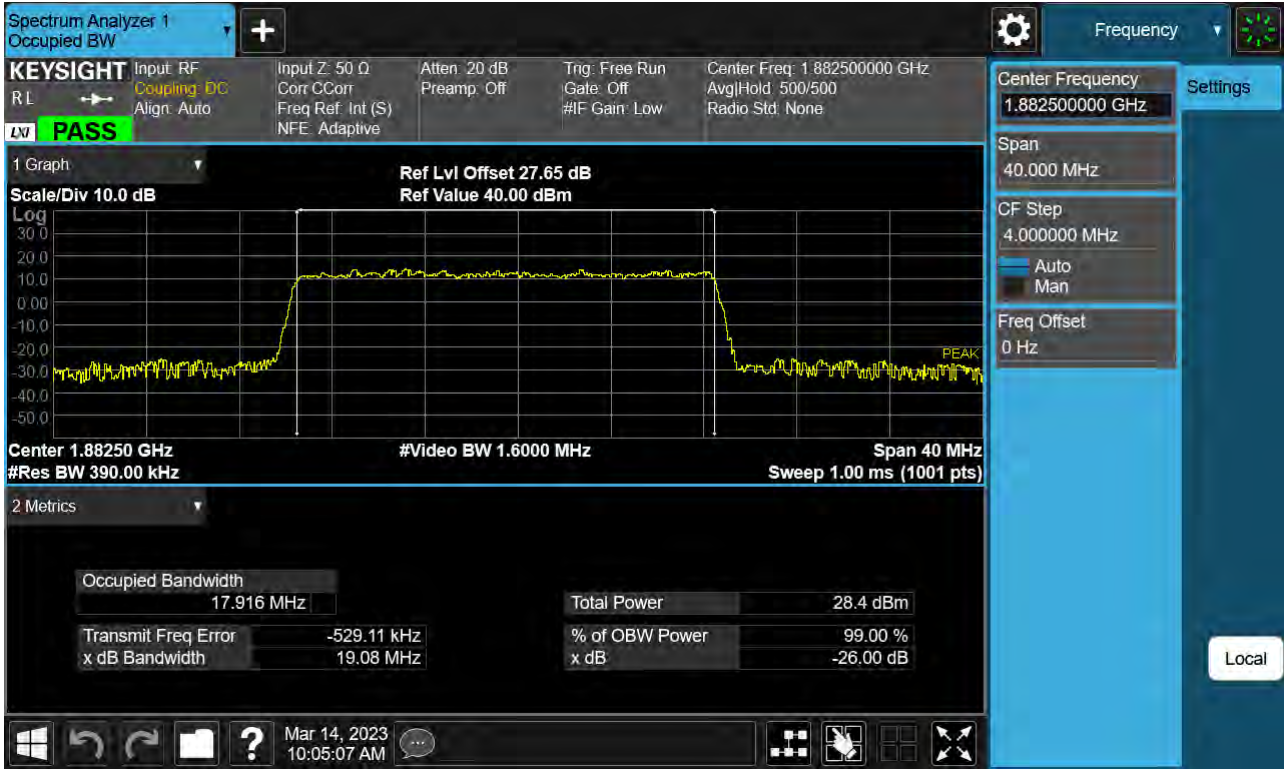




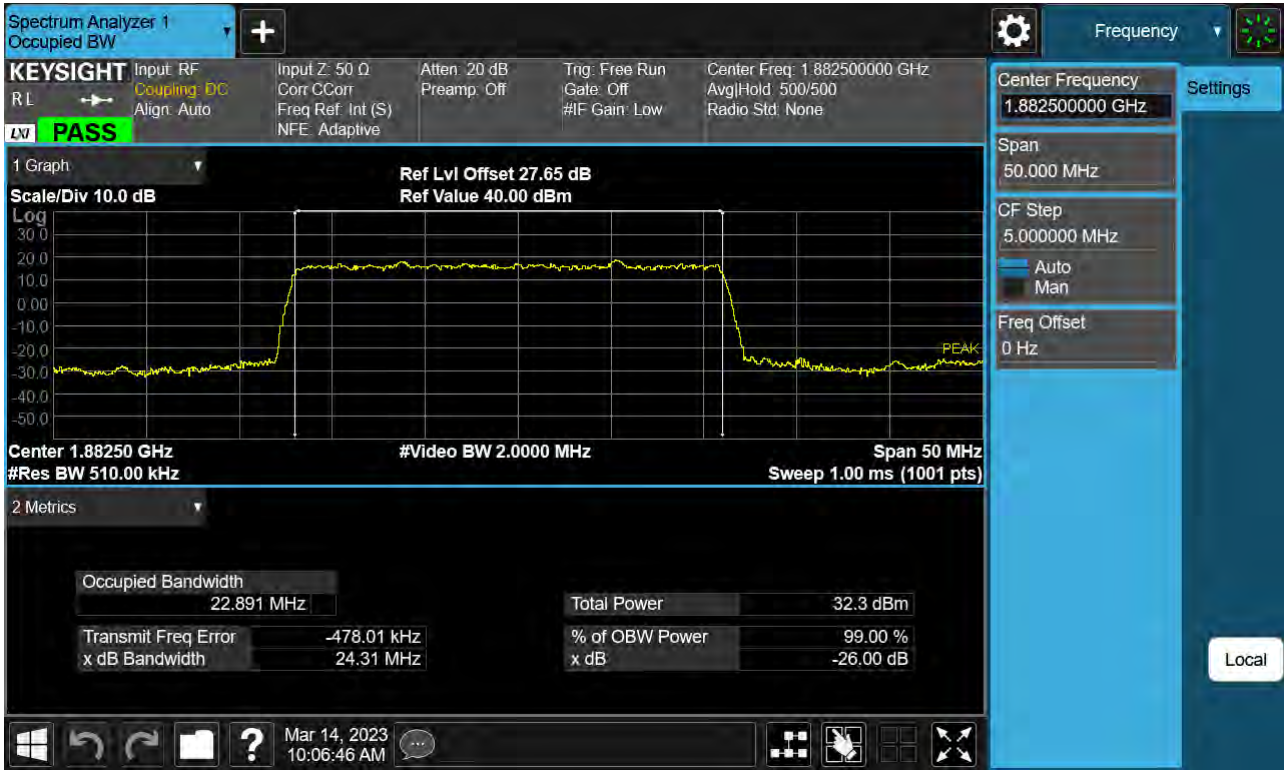
Sub6 n25(2). Occupied Bandwidth Plot (20 M BW Ch.376500 64QAM \_ Full RB \_0)



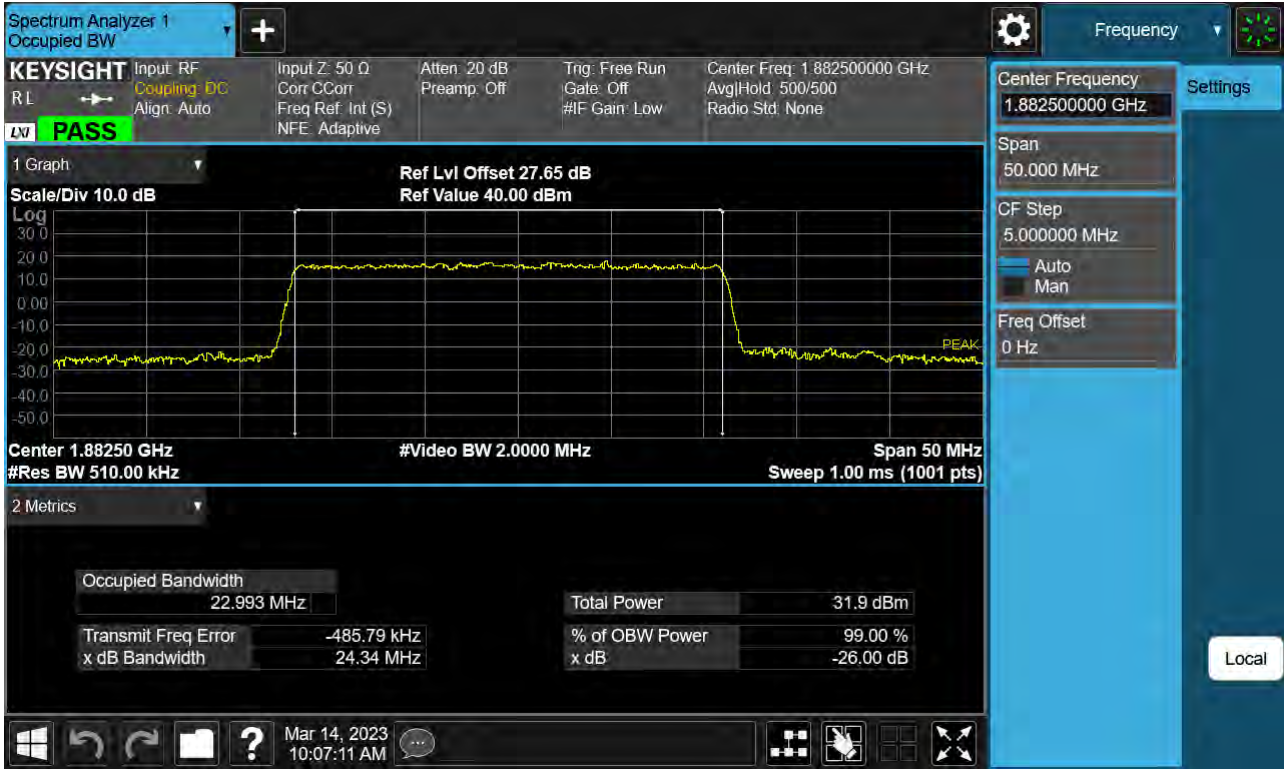
Sub6 n25(2). Occupied Bandwidth Plot (20 M BW Ch.376500 256QAM \_ Full RB \_0)



Sub6 n25. Occupied Bandwidth Plot (25 M BW Ch.376500 BPSK \_ Full RB \_0)

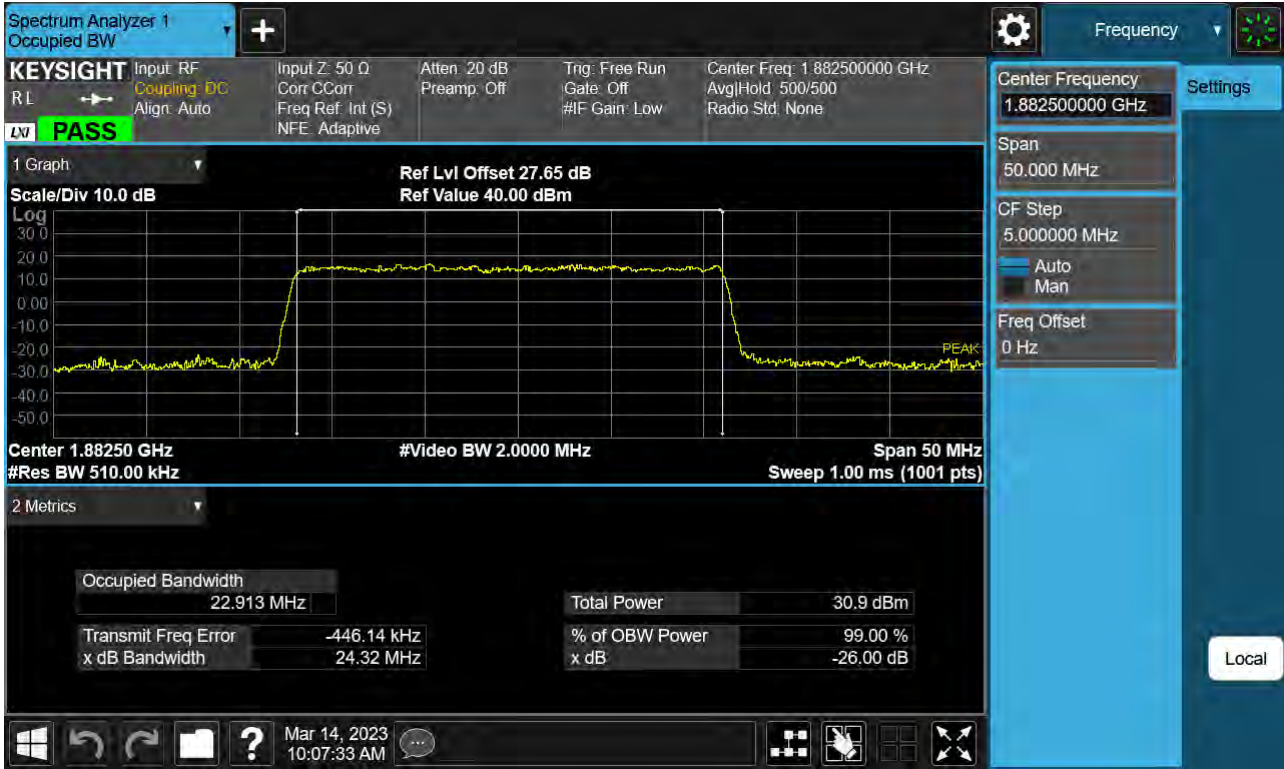


Sub6 n25. Occupied Bandwidth Plot (25 M BW Ch.376500 QPSK \_ Full RB \_0)





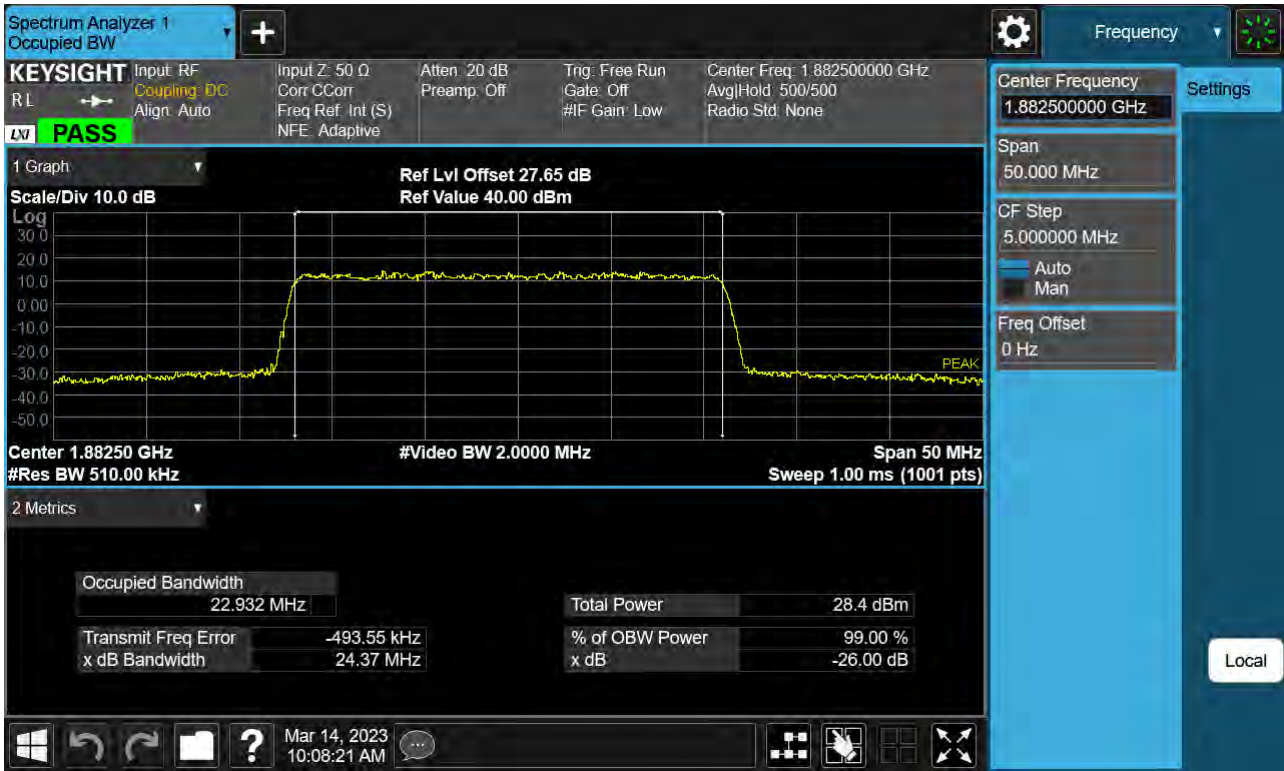
Sub6 n25. Occupied Bandwidth Plot (25 M BW Ch.376500 16QAM \_ Full RB \_0)



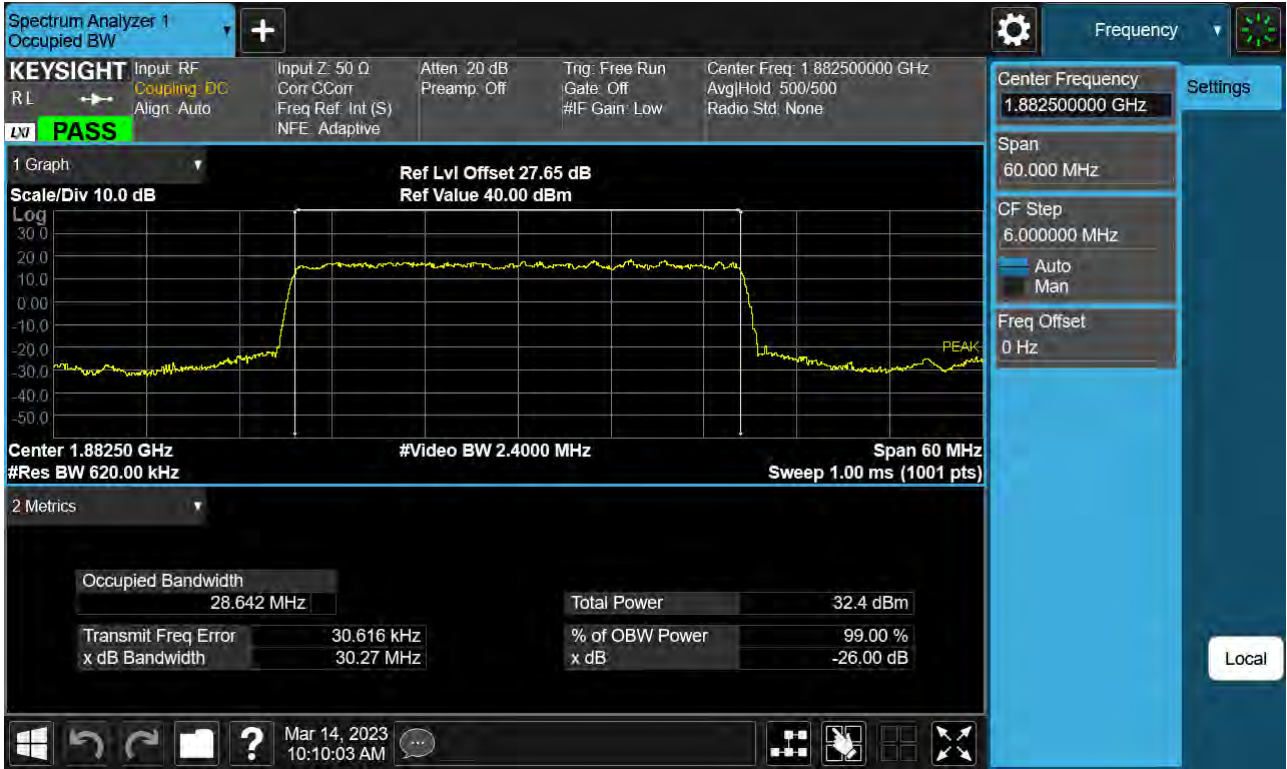
Sub6 n25. Occupied Bandwidth Plot (25 M BW Ch.376500 64QAM \_ Full RB \_0)



Sub6 n25. Occupied Bandwidth Plot (25 M BW Ch.376500 256QAM \_ Full RB \_0)

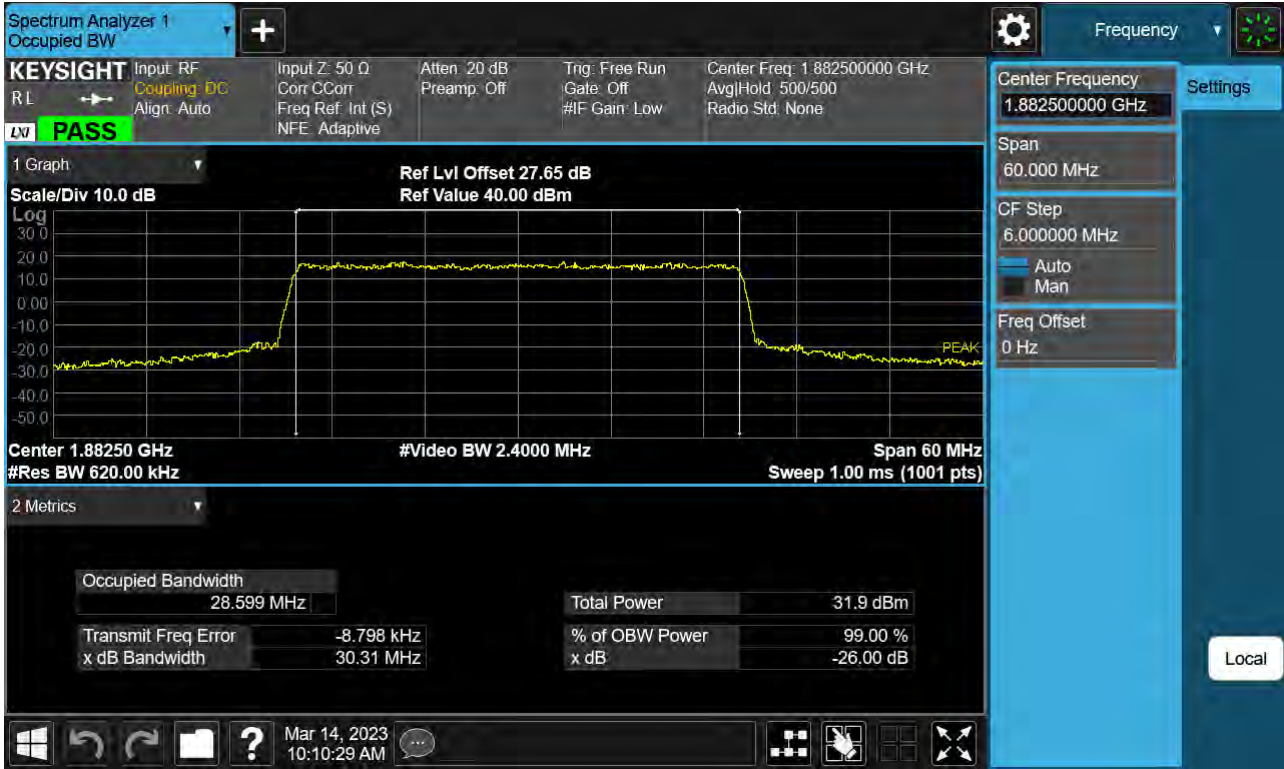


Sub6 n25. Occupied Bandwidth Plot (30 M BW Ch.376500 BPSK\_ Full RB\_0)

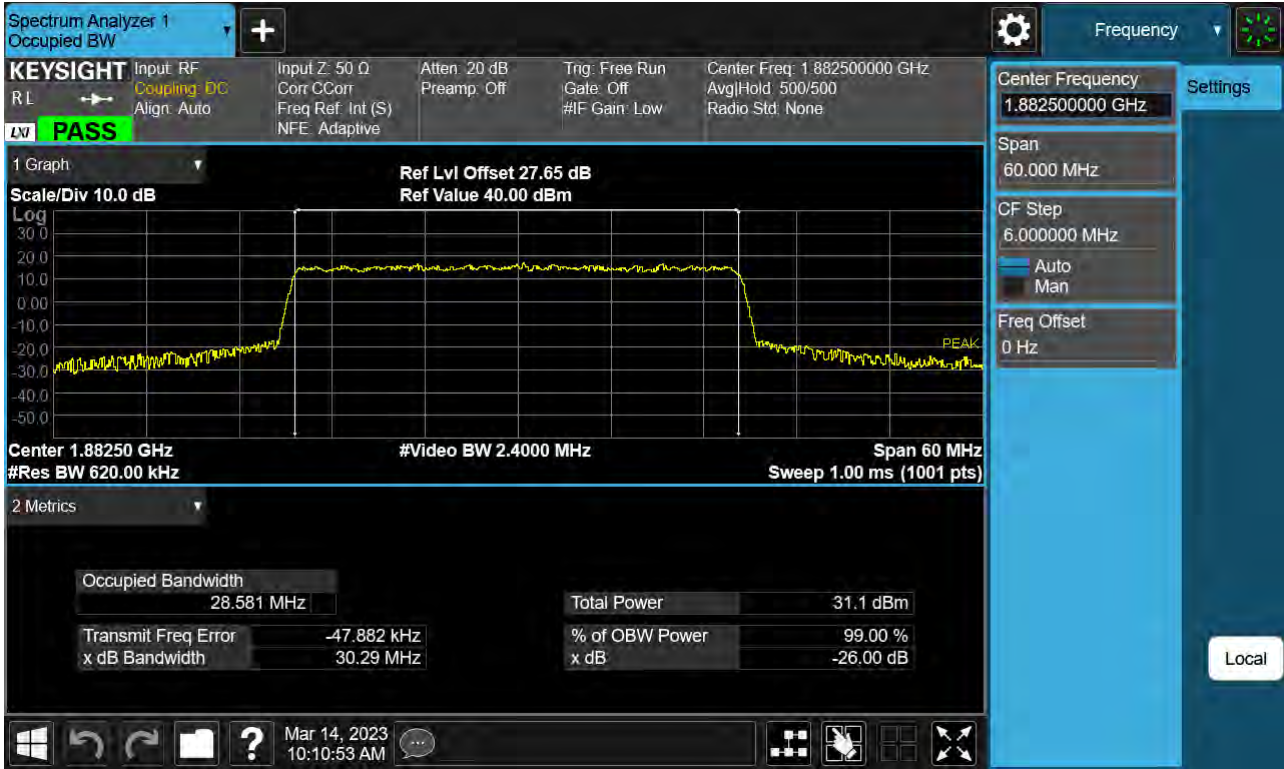




Sub6 n25. Occupied Bandwidth Plot (30 M BW Ch.376500 QPSK\_ Full RB\_0)



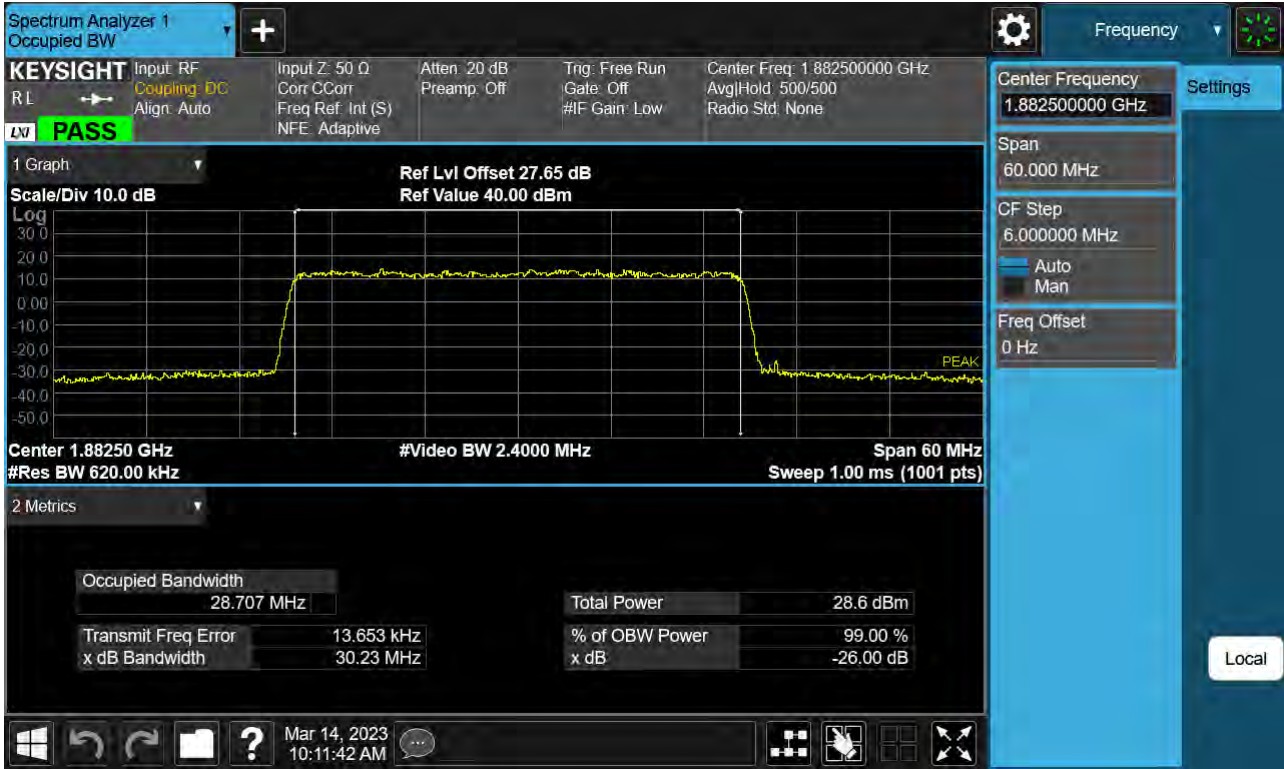
Sub6 n25. Occupied Bandwidth Plot (30 M BW Ch.376500 16QAM \_ Full RB \_0)



Sub6 n25. Occupied Bandwidth Plot (30 M BW Ch.376500 64QAM\_ Full RB\_0 )

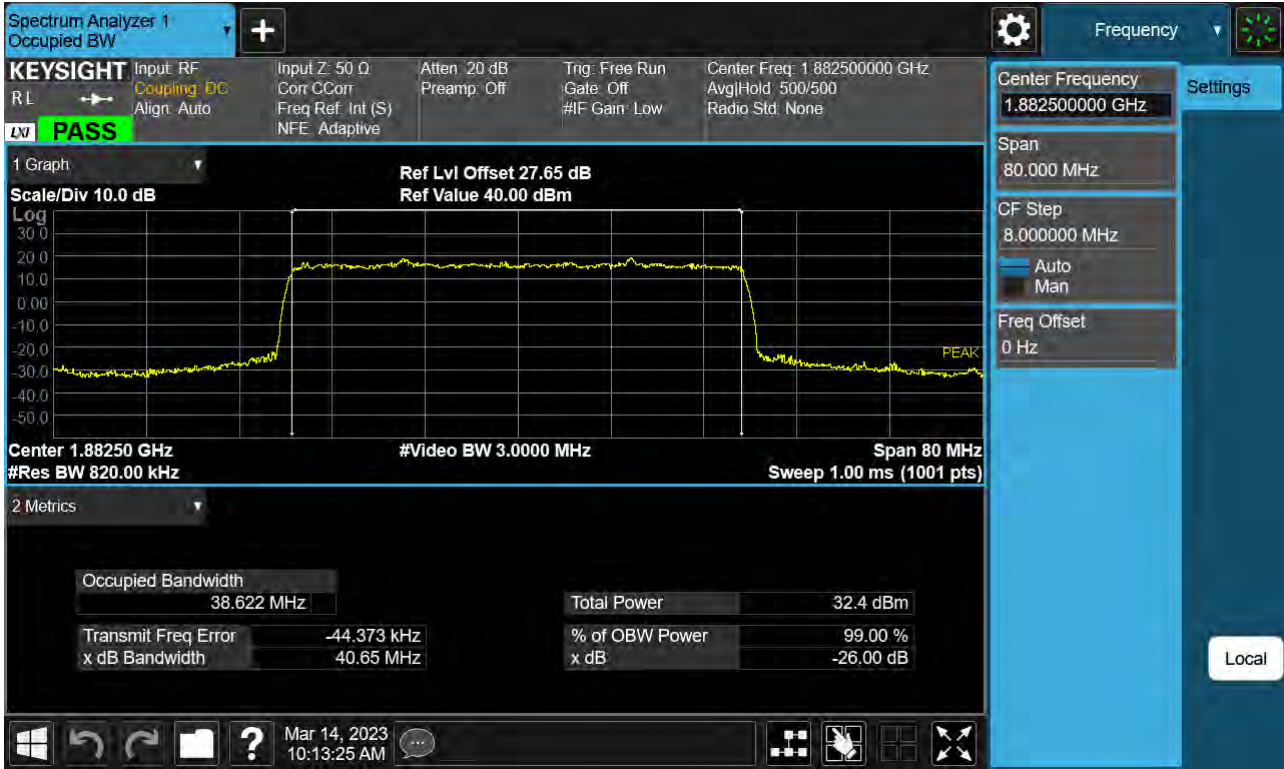


Sub6 n25. Occupied Bandwidth Plot (30 M BW Ch.376500 256QAM\_ Full RB \_0)

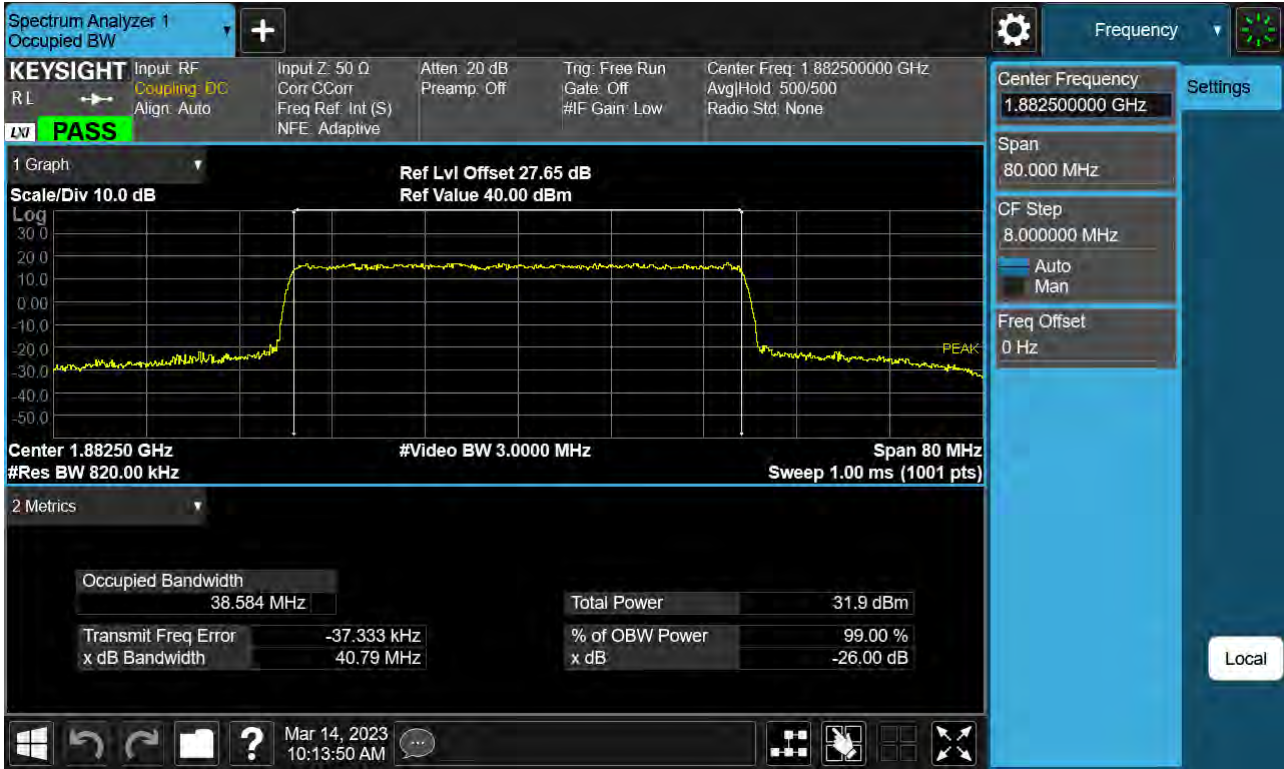




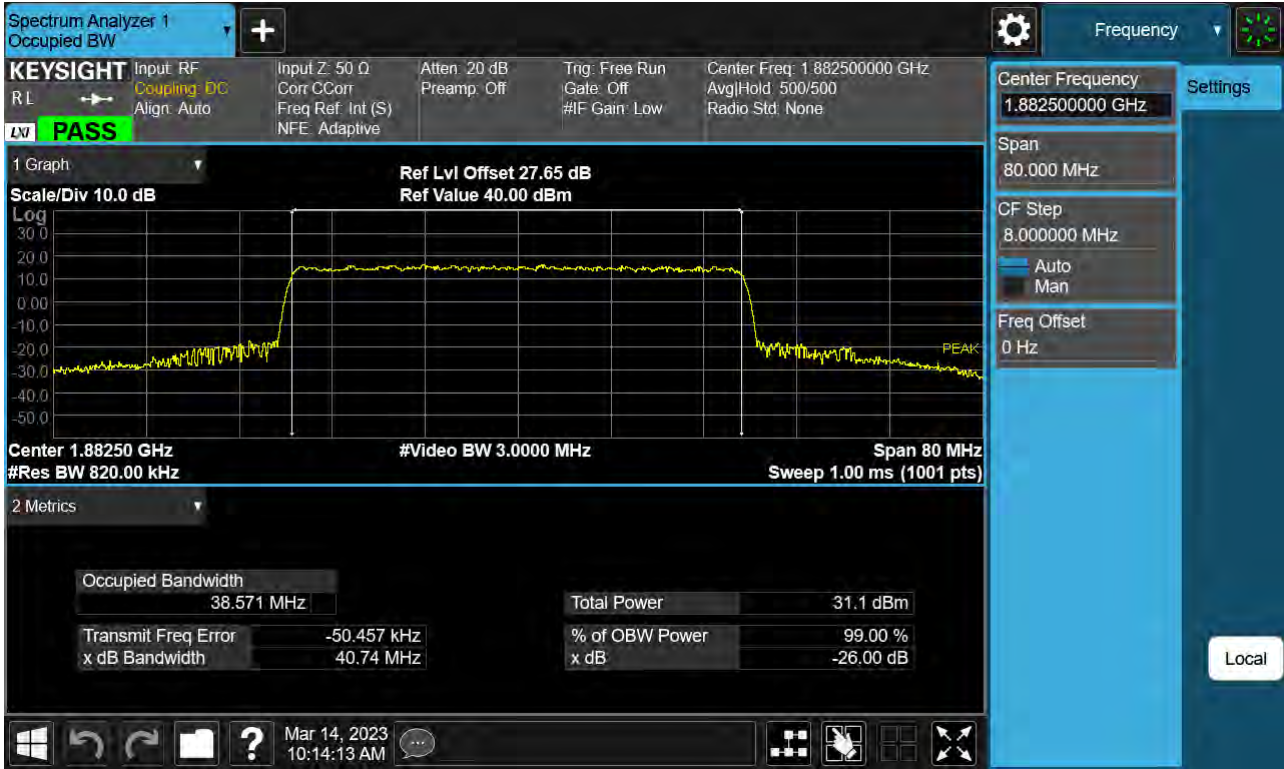
Sub6 n25. Occupied Bandwidth Plot (40 M BW Ch.376500 BPSK\_ Full RB \_0)



Sub6 n25. Occupied Bandwidth Plot (40 M BW Ch.376500 QPSK\_ Full RB\_0)



Sub6 n25. Occupied Bandwidth Plot (40 M BW Ch.376500 16QAM\_ Full RB\_0 )

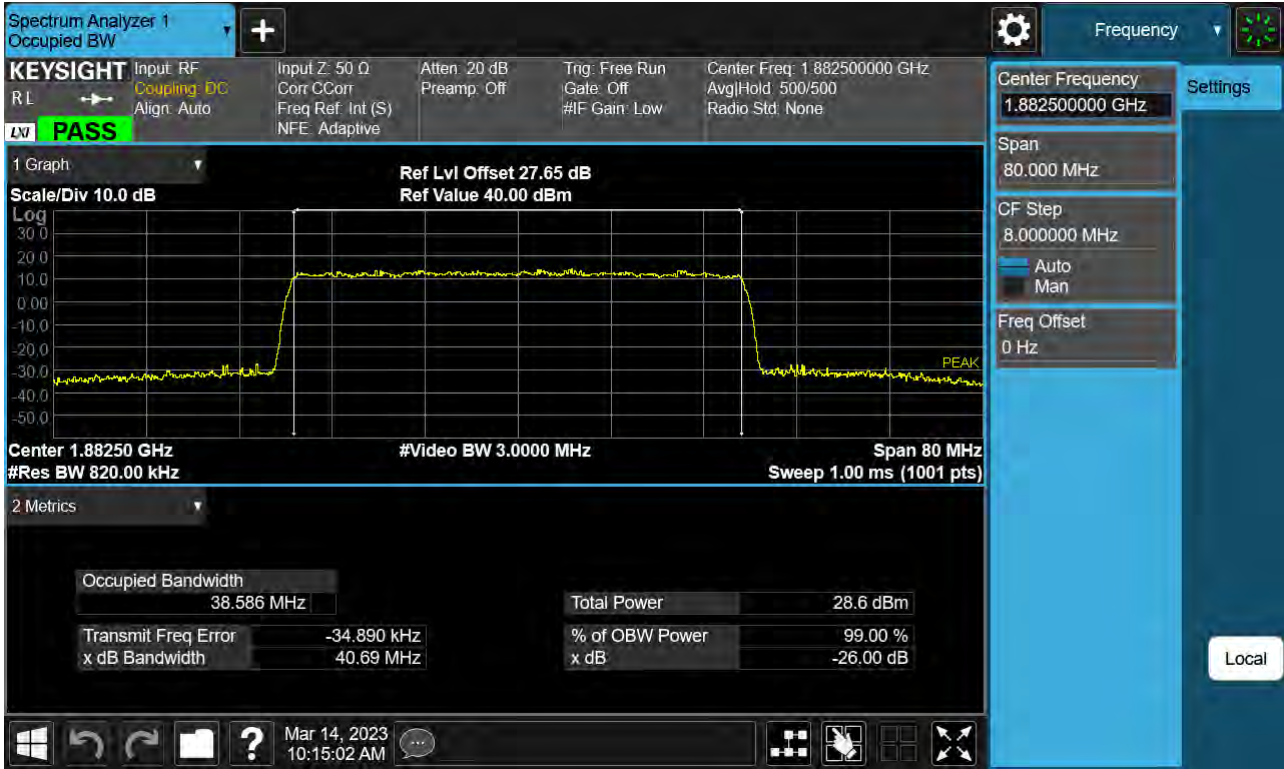


Sub6 n25. Occupied Bandwidth Plot (40 M BW Ch.376500 64QAM\_ Full RB\_0 )

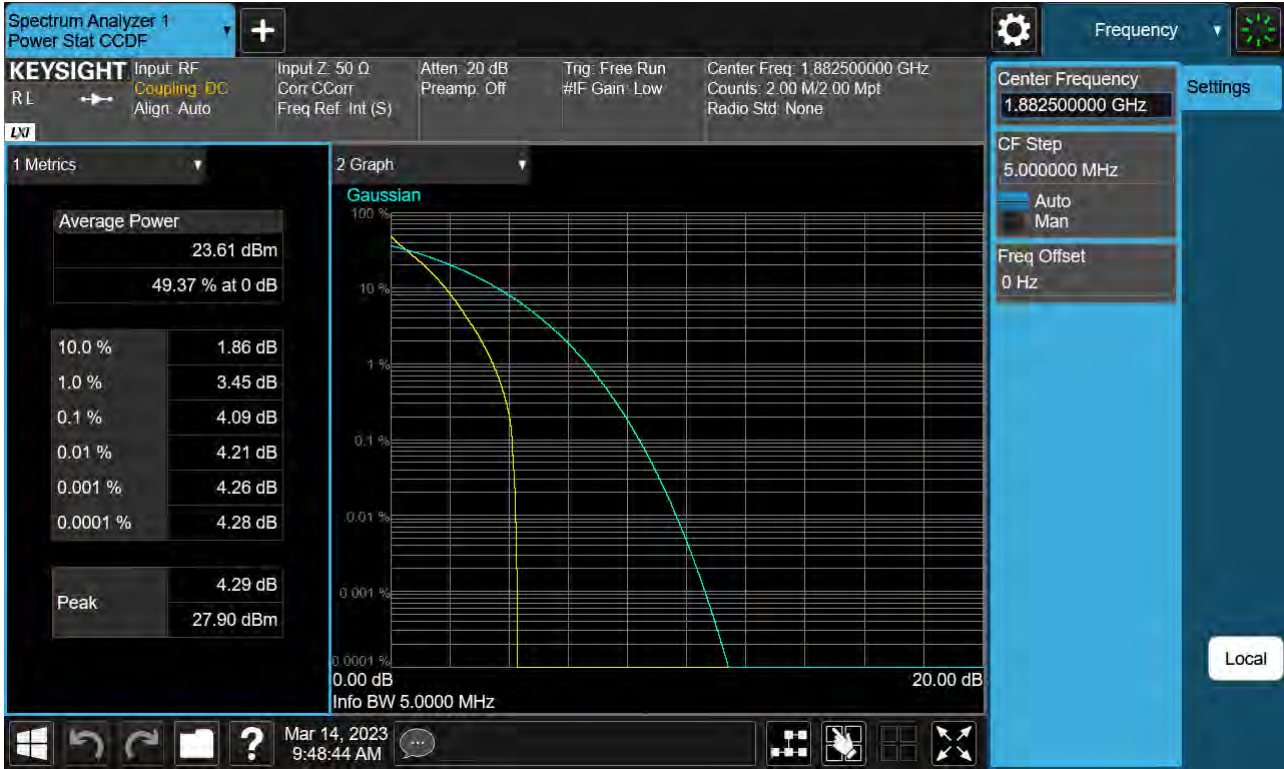




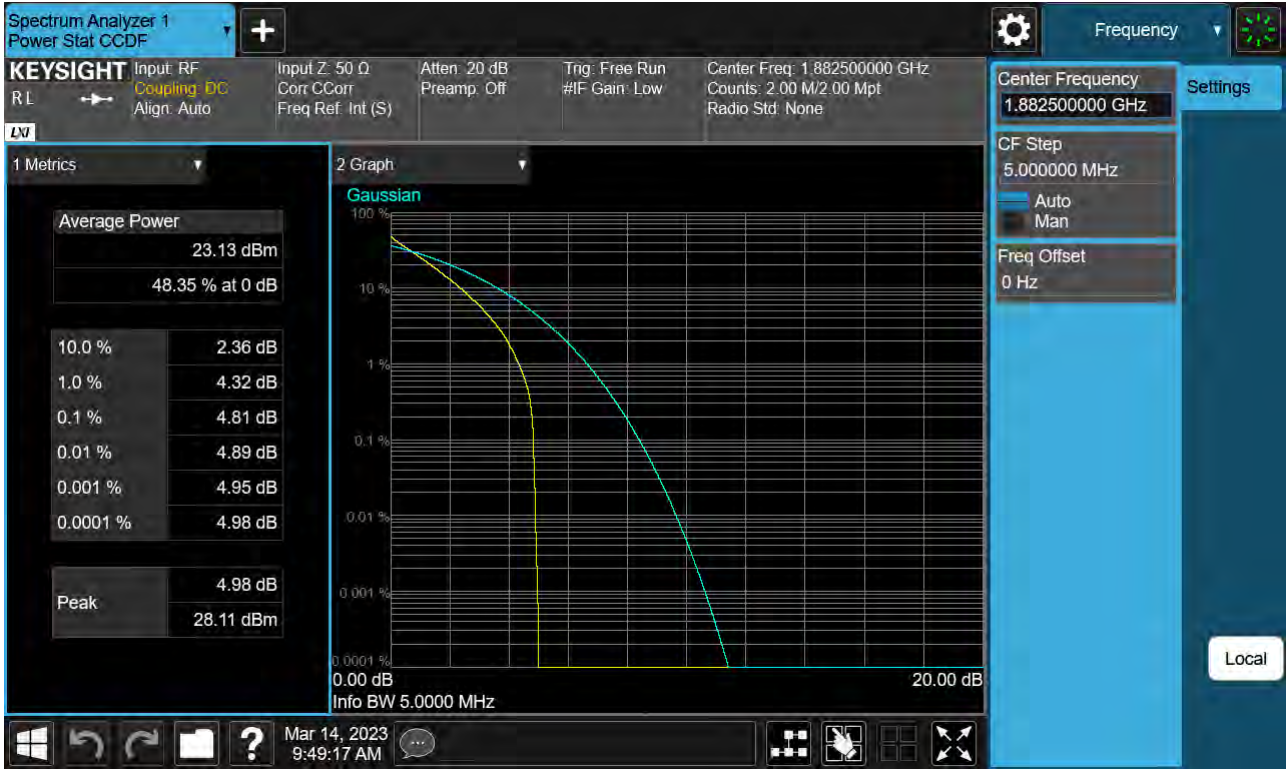
Sub6 n25. Occupied Bandwidth Plot (40 M BW Ch.376500 256QAM\_ Full RB \_0 )



Sub6 n25(2). PAR Plot (5 M BW Ch.376500 BPSK\_ Full RB\_0)



Sub6 n25(2). PAR Plot (5 M BW Ch.376500 QPSK \_ Full RB \_0)



Sub6 n25(2). PAR Plot (5 M BW Ch.376500 16QAM\_ Full RB \_0 )





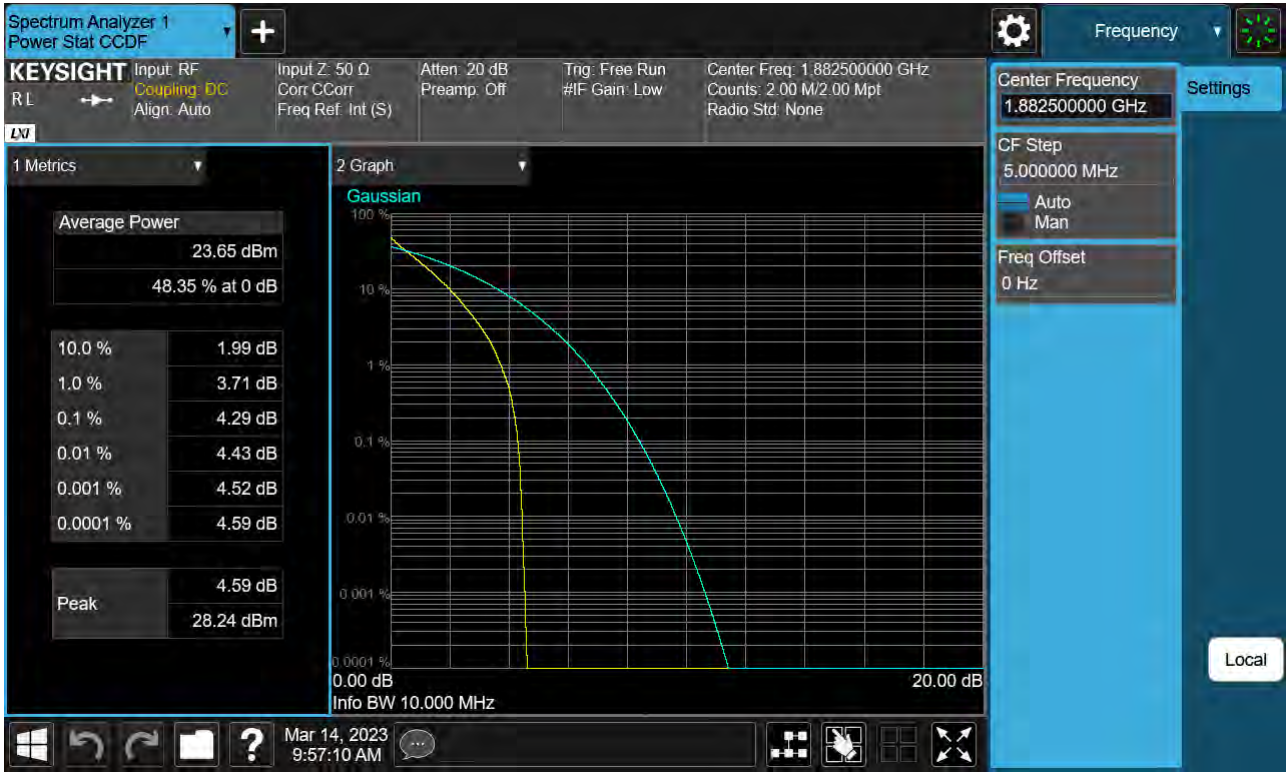
Sub6 n25(2). PAR Plot (5 M BW Ch.376500 64QAM\_ Full RB \_0 )



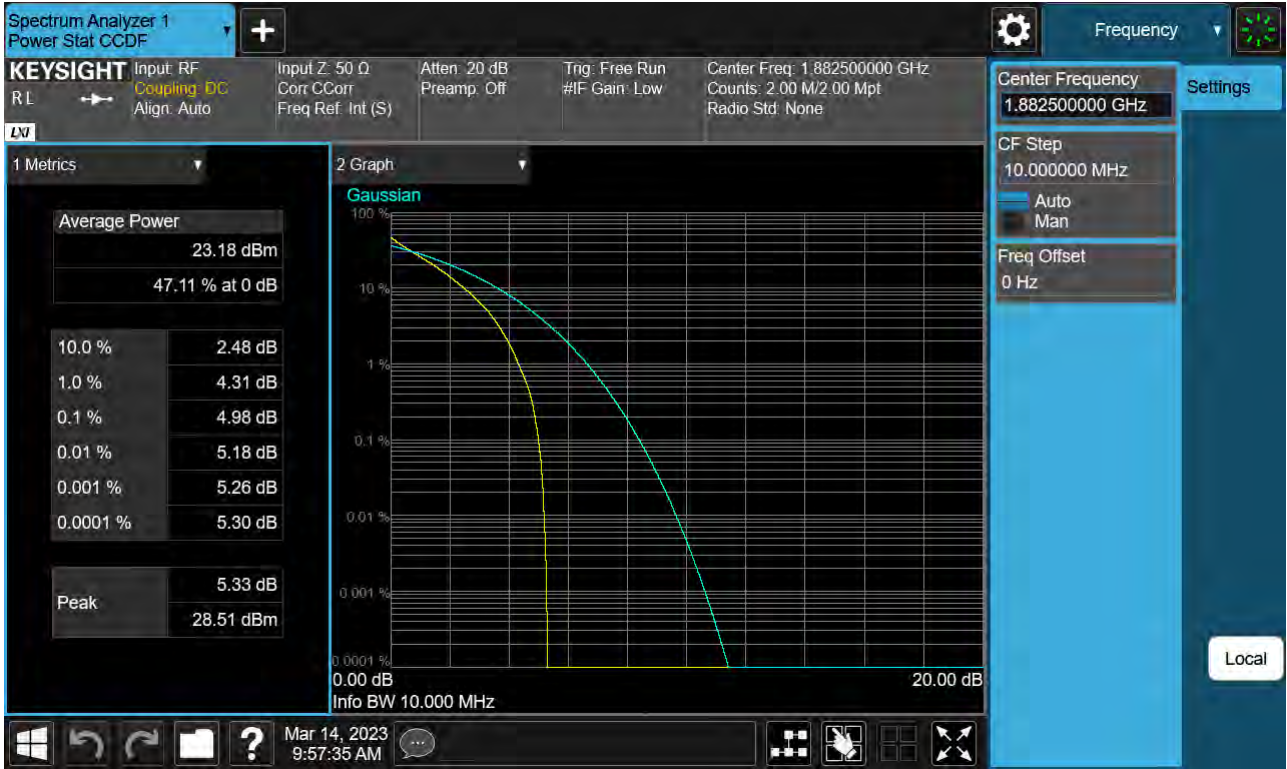
Sub6 n25(2). PAR Plot (5 M BW Ch.376500 256QAM\_ Full RB\_0)



Sub6 n25(2). PAR Plot (10 M BW Ch.376500 BPSK \_ Full RB \_0)



Sub6 n25(2). PAR Plot (10 M BW Ch.376500 QPSK \_ Full RB \_0)





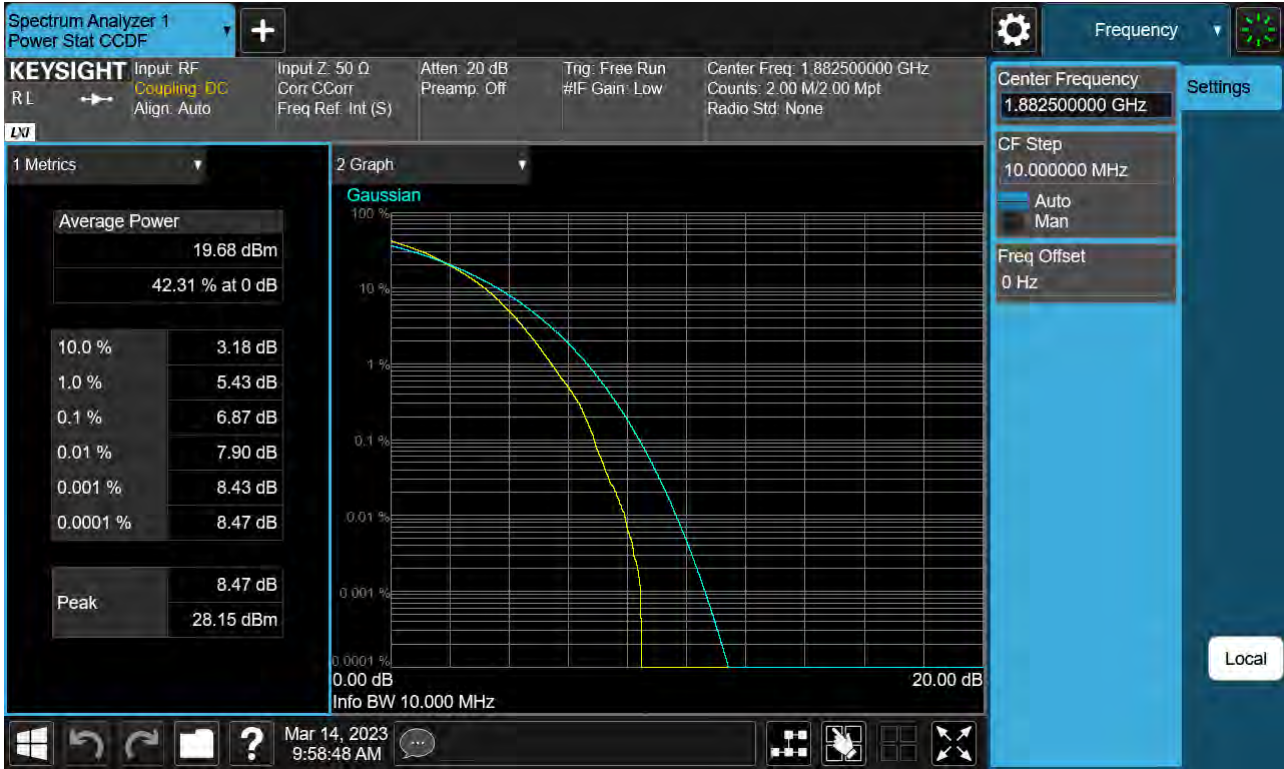
Sub6 n25(2). PAR Plot (10 M BW Ch.376500 16QAM \_ Full RB \_0)



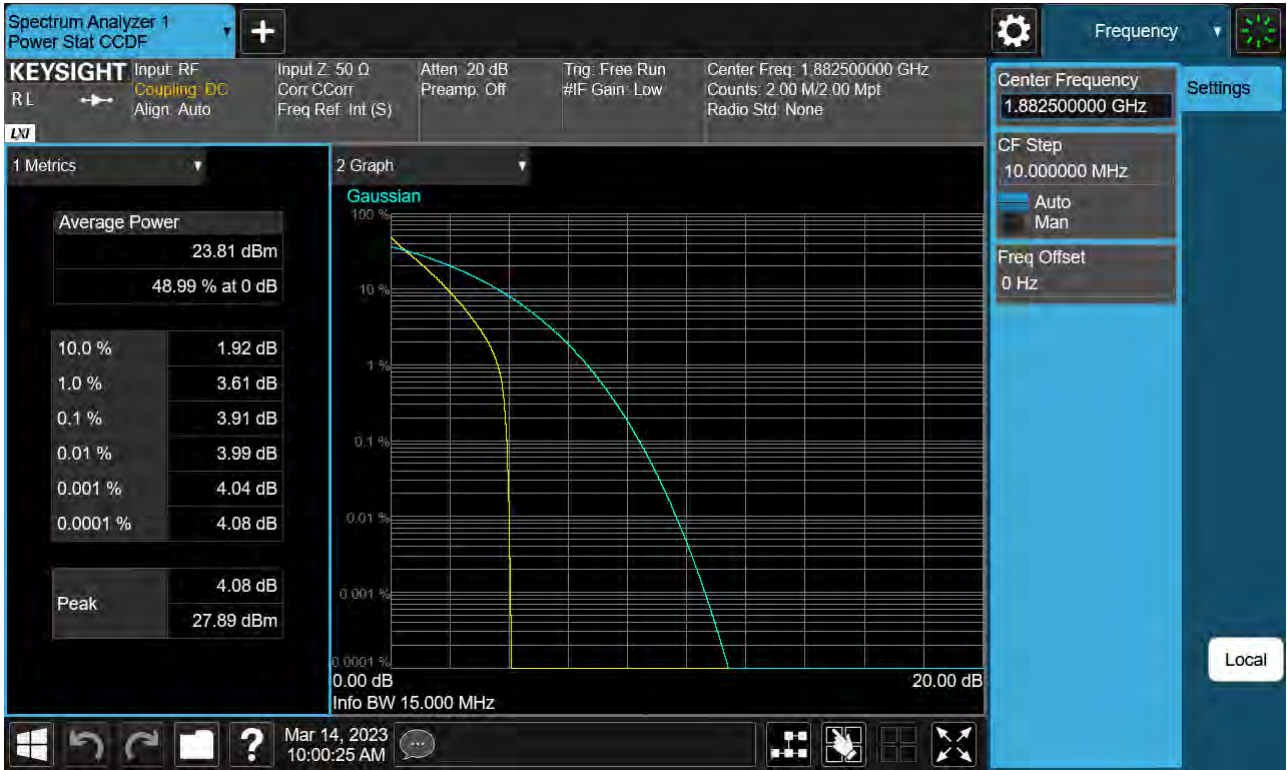
Sub6 n25(2). PAR Plot (10 M BW Ch.376500 64QAM \_ Full RB \_0)



Sub6 n25(2). PAR Plot (10 M BW Ch.376500 256QAM \_ Full RB \_0)

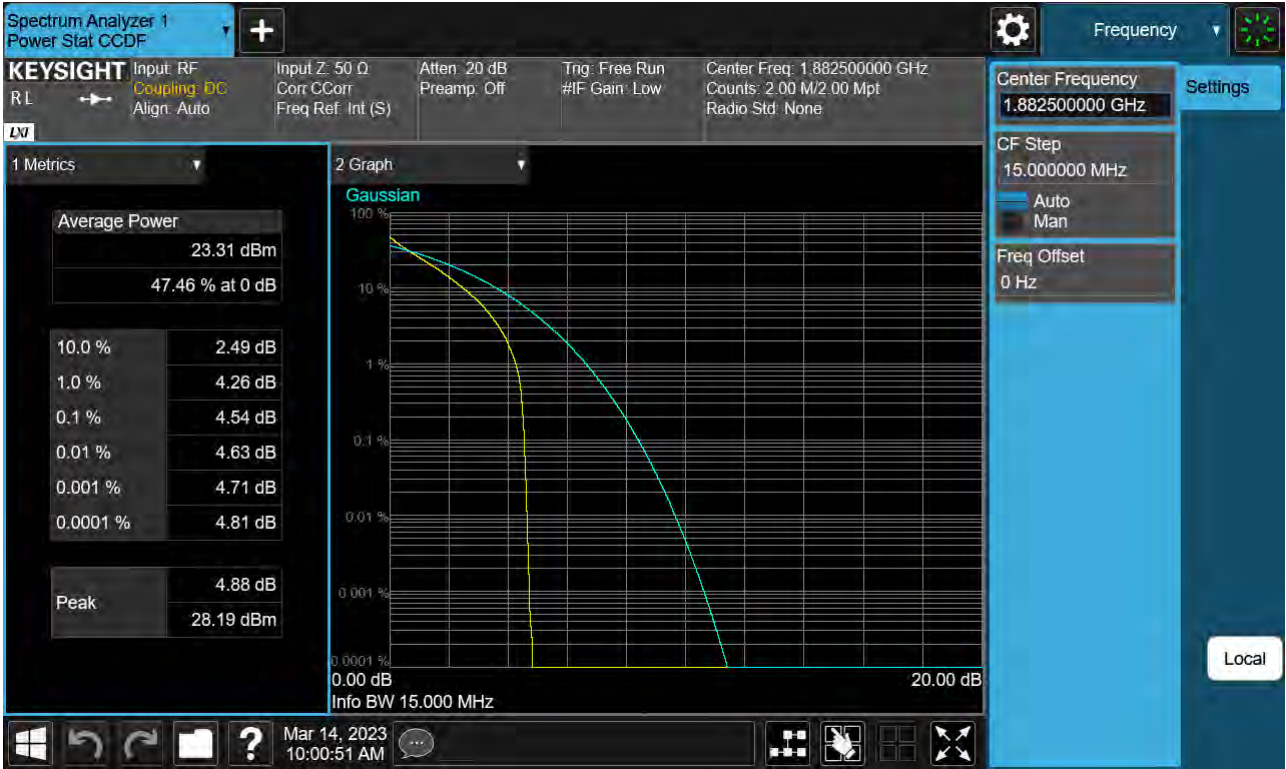


Sub6 n25(2). PAR Plot (15 M BW Ch.376500 BPSK \_ Full RB \_0)





Sub6 n25(2). PAR Plot (15 M BW Ch.376500 QPSK \_ Full RB \_0)



Sub6 n25(2). PAR Plot (15 M BW Ch.376500 16QAM \_ Full RB \_0)

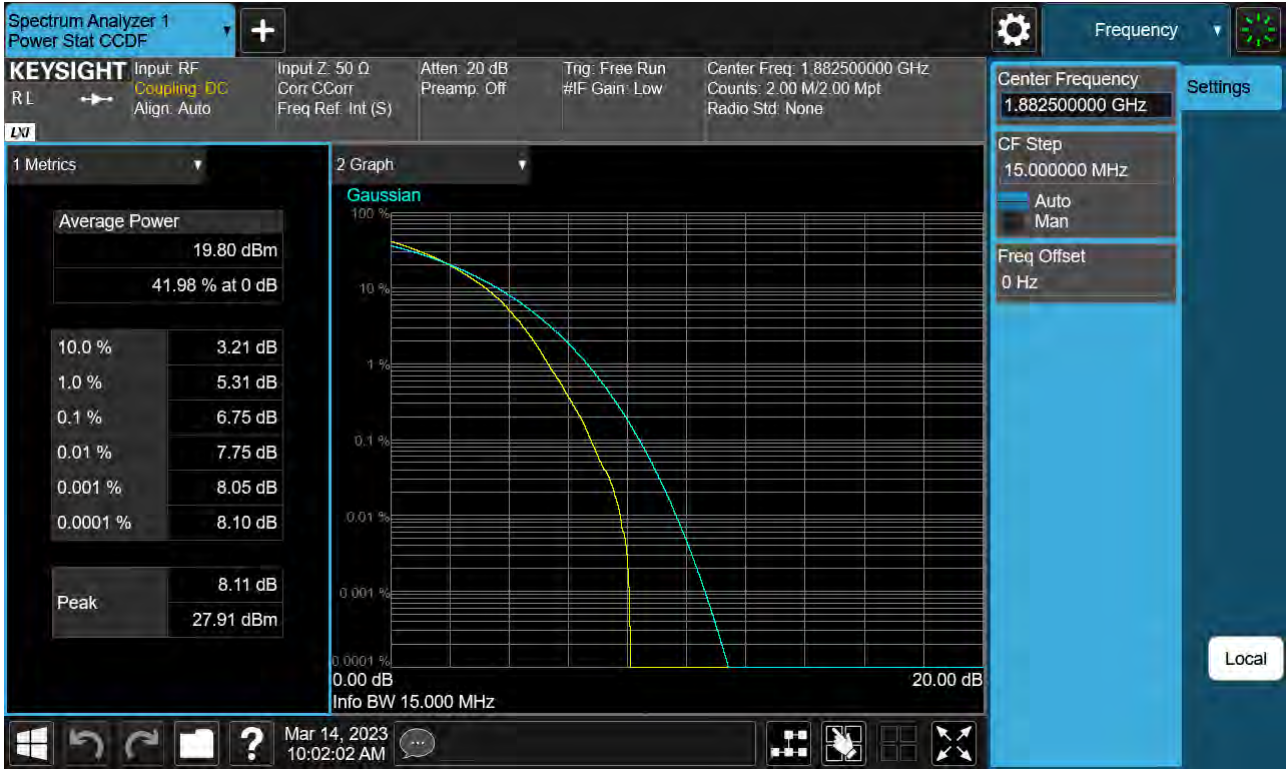


Sub6 n25(2). PAR Plot (15 M BW Ch.376500 64QAM \_ Full RB \_0)

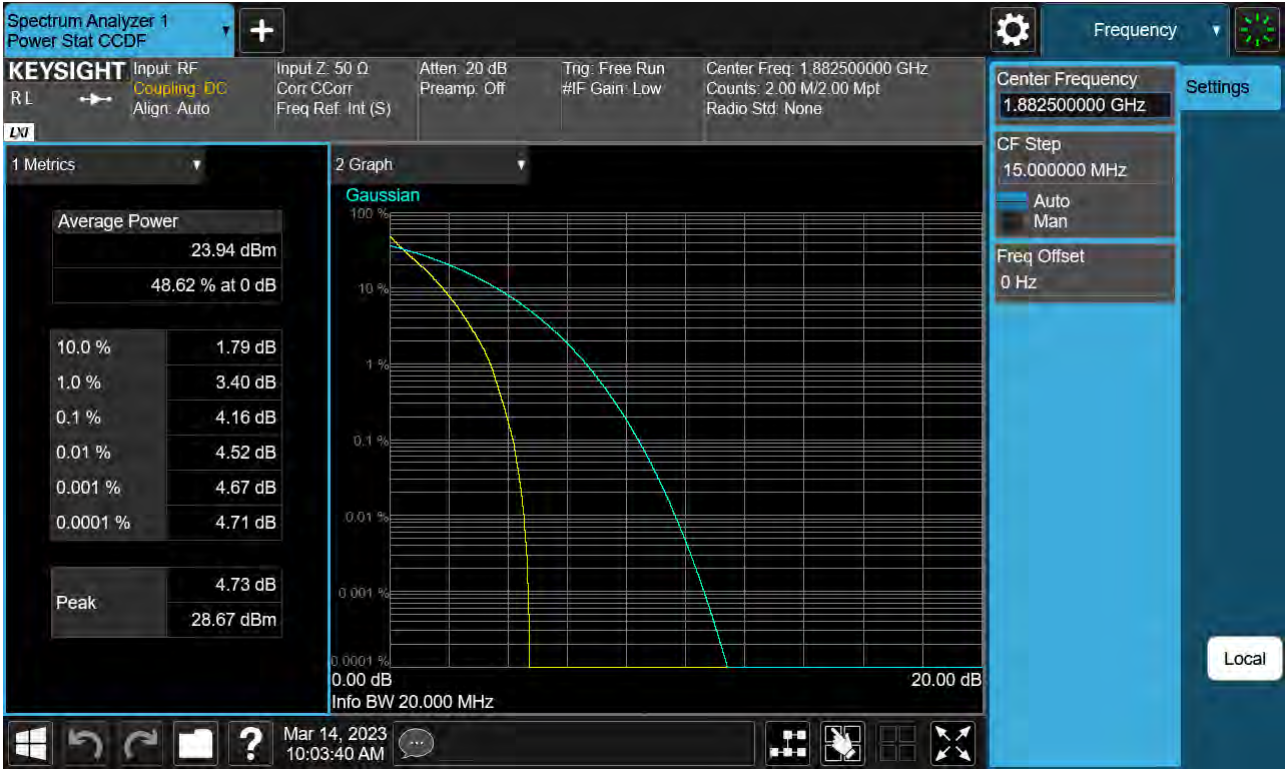




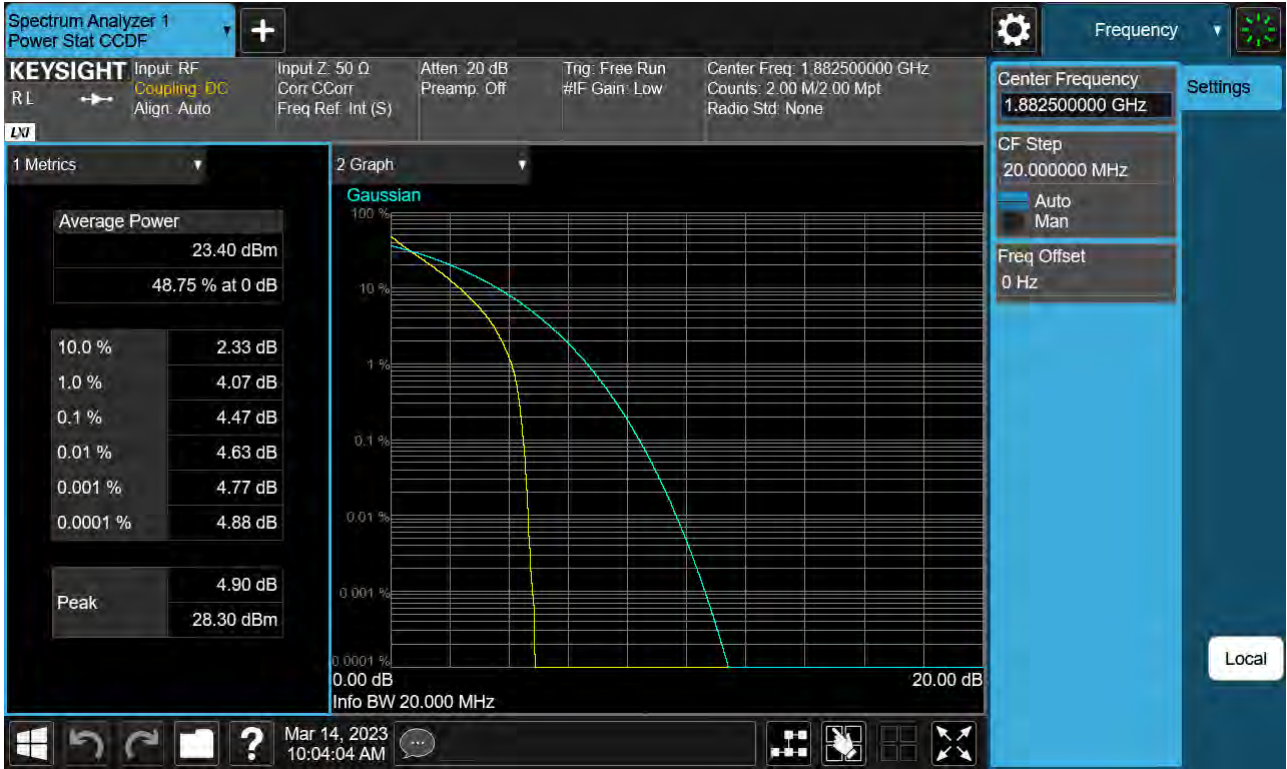
Sub6 n25(2). PAR Plot (15 M BW Ch.376500 256QAM \_ Full RB \_0)



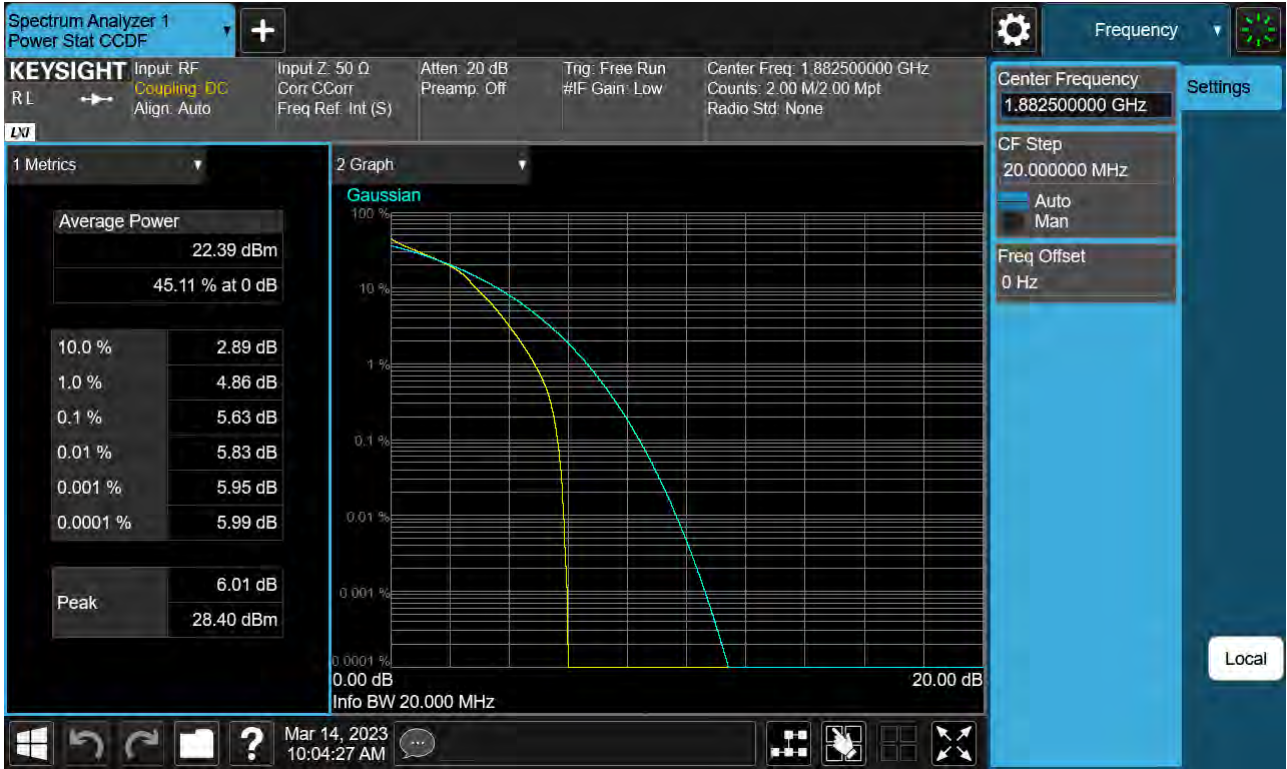
Sub6 n25(2). PAR Plot (20 M BW Ch.376500 BPSK \_ Full RB \_0)



Sub6 n25(2). PAR Plot (20 M BW Ch.376500 QPSK \_ Full RB \_0)

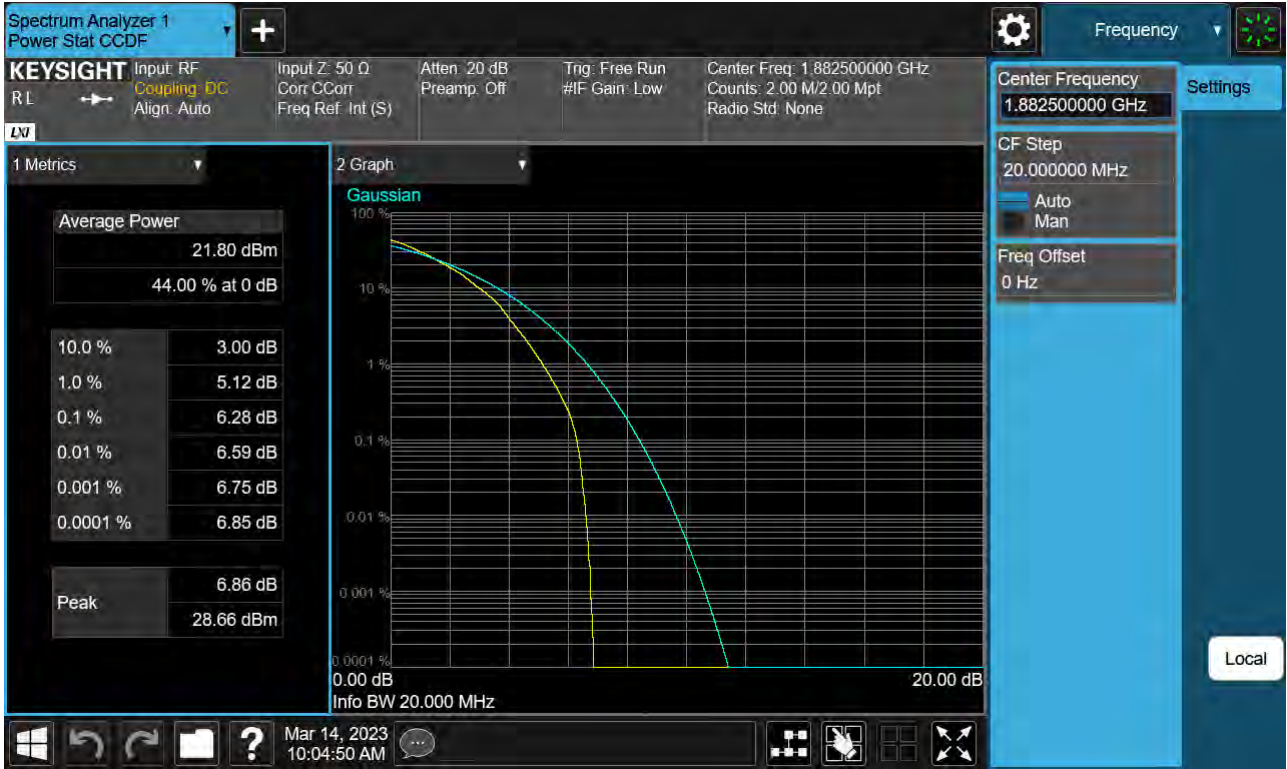


Sub6 n25(2). PAR Plot (20 M BW Ch.376500 16QAM \_ Full RB \_0)





Sub6 n25(2). PAR Plot (20 M BW Ch.376500 64QAM \_ Full RB \_0)



Sub6 n25(2). PAR Plot (20 M BW Ch.376500 256QAM \_ Full RB \_0)

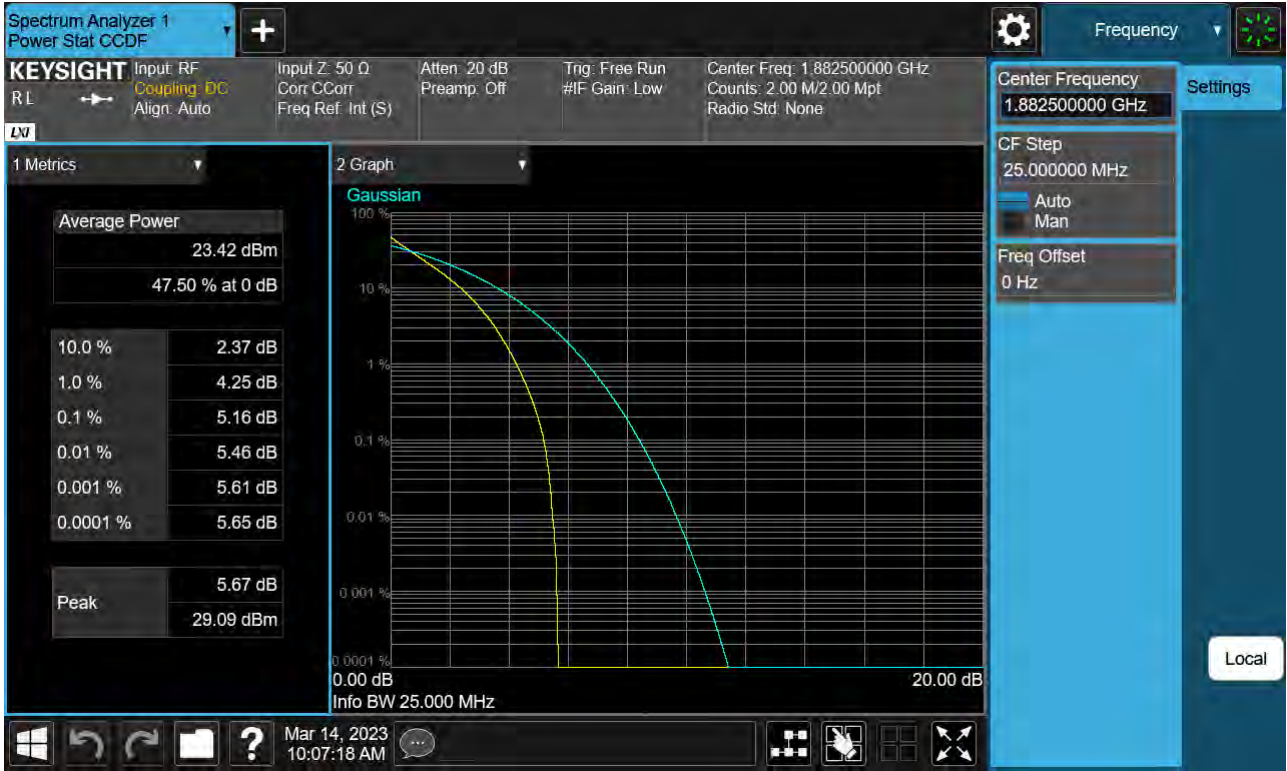


Sub6 n25. PAR Plot (25 M BW Ch.376500 BPSK \_ Full RB \_0)





Sub6 n25. PAR Plot (25 M BW Ch.376500 QPSK \_ Full RB \_0)



Sub6 n25. PAR Plot (25 M BW Ch.376500 16QAM \_ Full RB \_0)



Sub6 n25. PAR Plot (25 M BW Ch.376500 64QAM \_ Full RB \_0)



Sub6 n25. PAR Plot (25 M BW Ch.376500 256QAM \_ Full RB \_0)

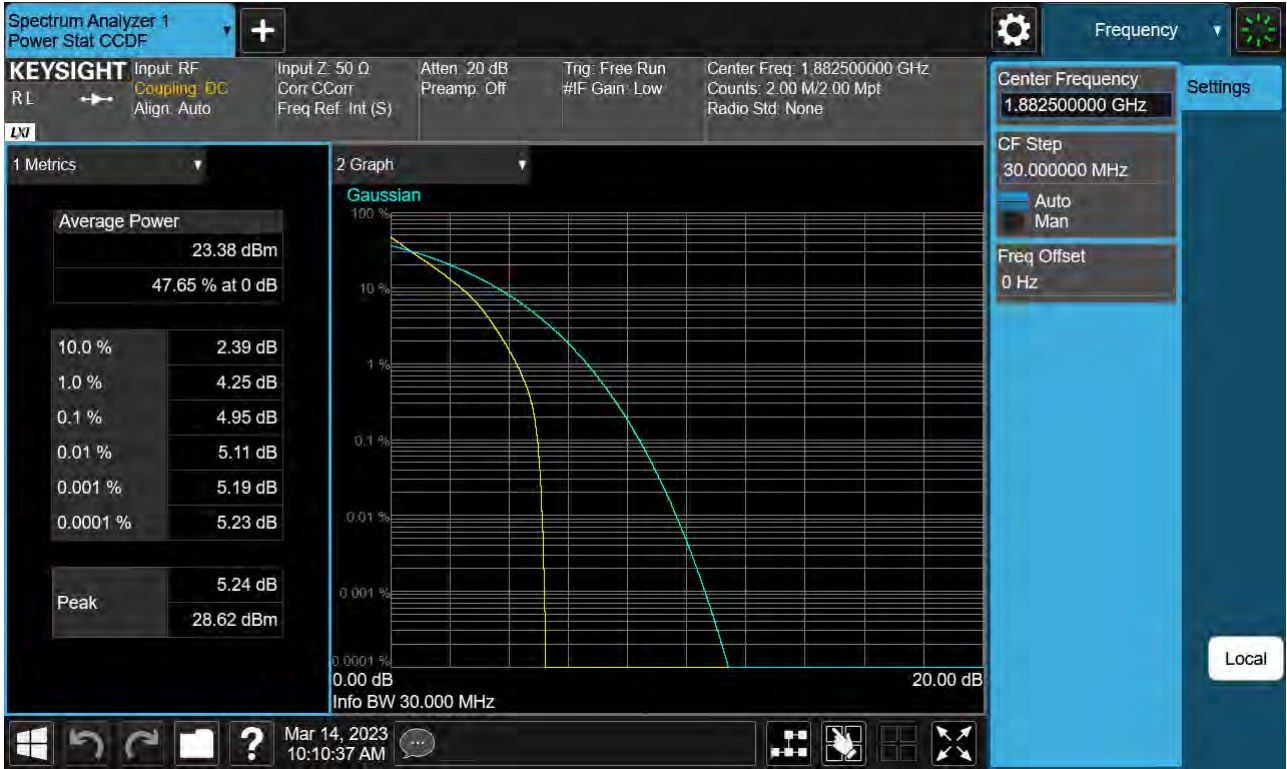




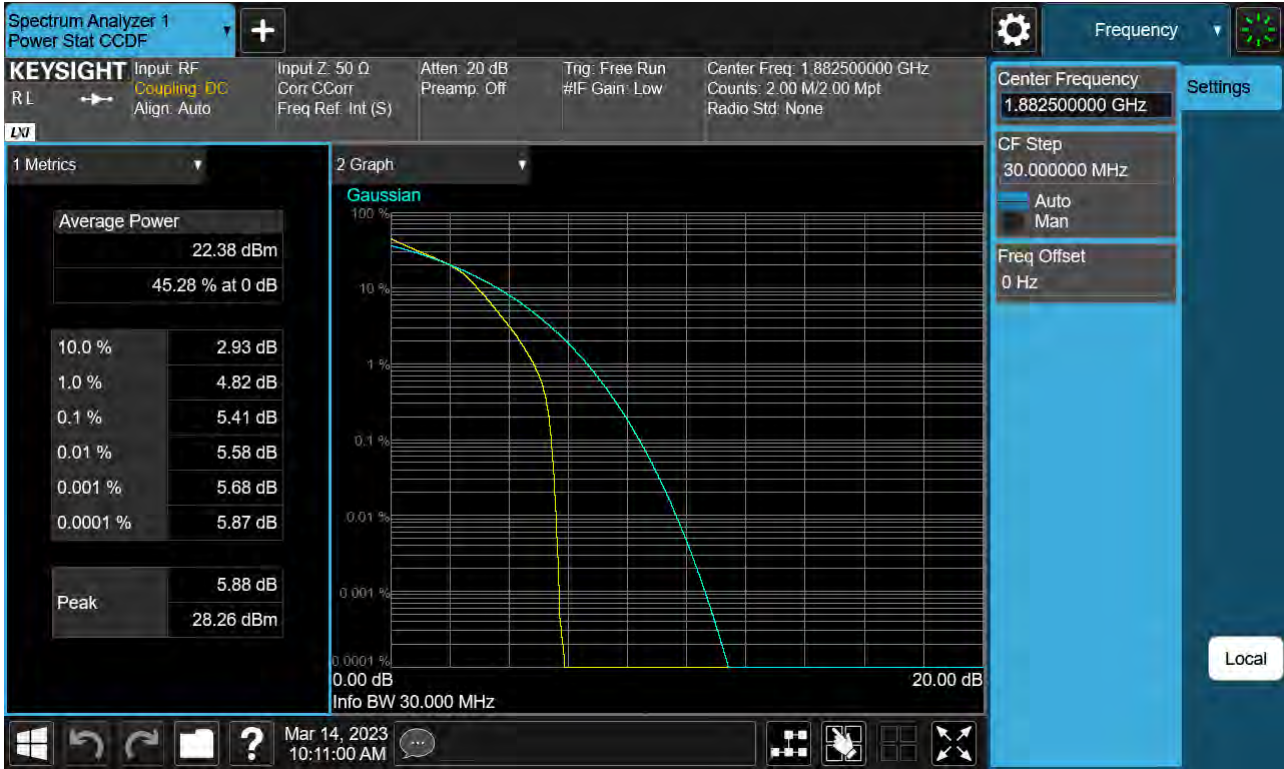
Sub6 n25. PAR Plot (30 M BW Ch.376500 BPSK\_ Full RB\_0 )



Sub6 n25. PAR Plot (30 M BW Ch.376500 QPSK\_Full RB\_0 )



Sub6 n25. PAR Plot (30 M BW Ch.376500 16QAM\_ Full RB\_0)





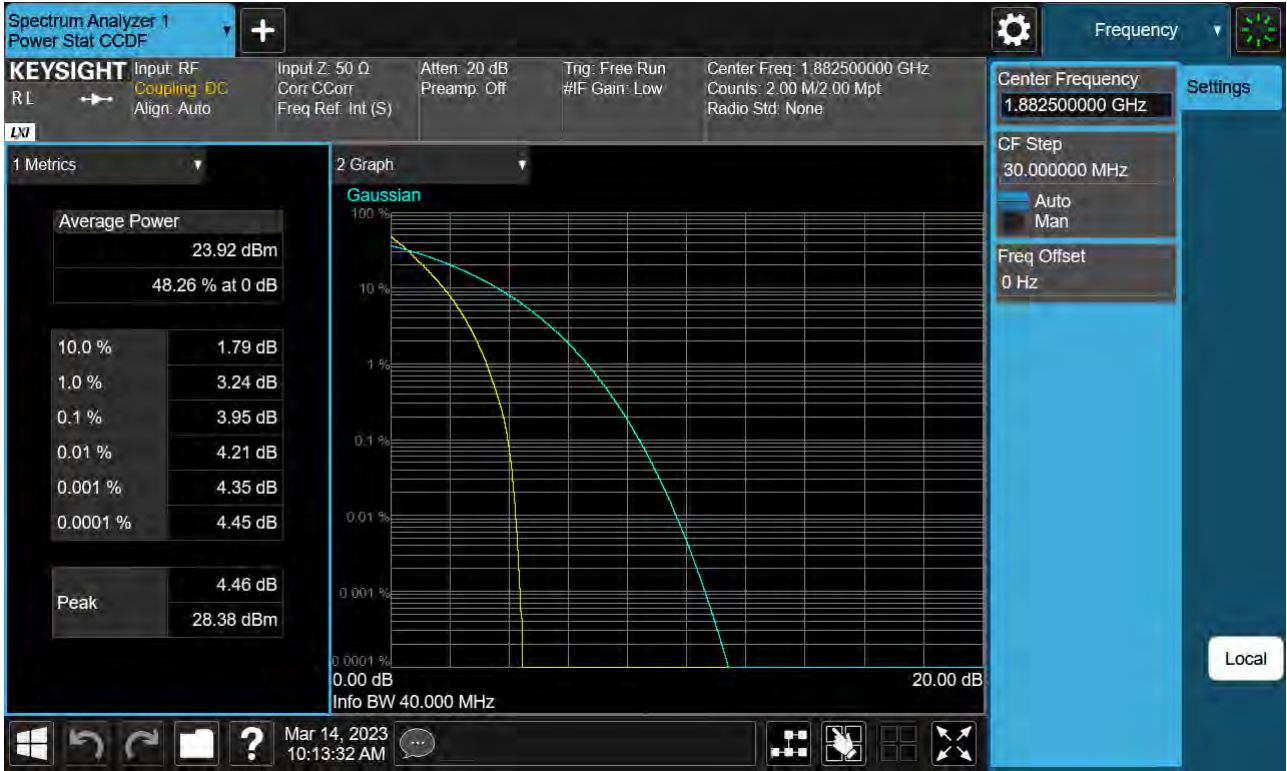
Sub6 n25. PAR Plot (30 M BW Ch.376500 64QAM\_ Full RB\_0)



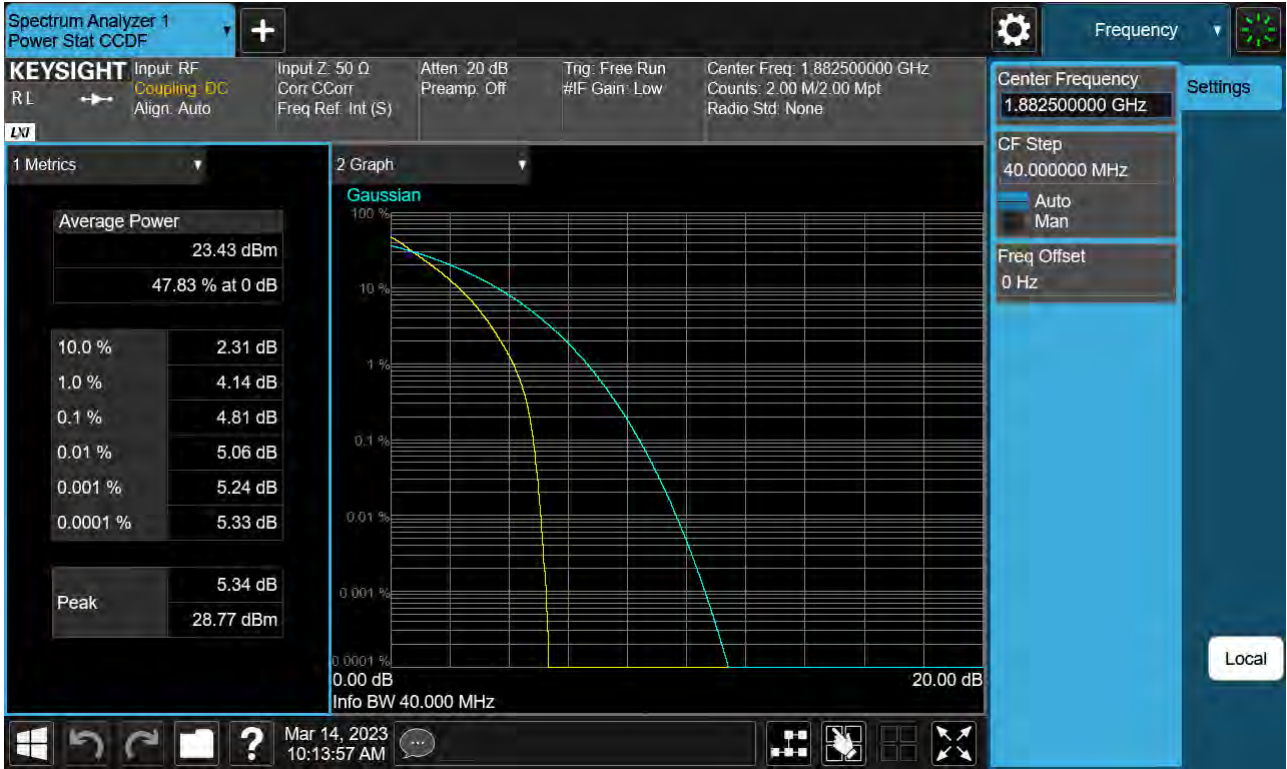
Sub6 n25. PAR Plot (30 M BW Ch.376500 256QAM\_ Full RB\_0 )



Sub6 n25. PAR Plot (40 M BW Ch.376500 BPSK\_ Full RB\_0 )

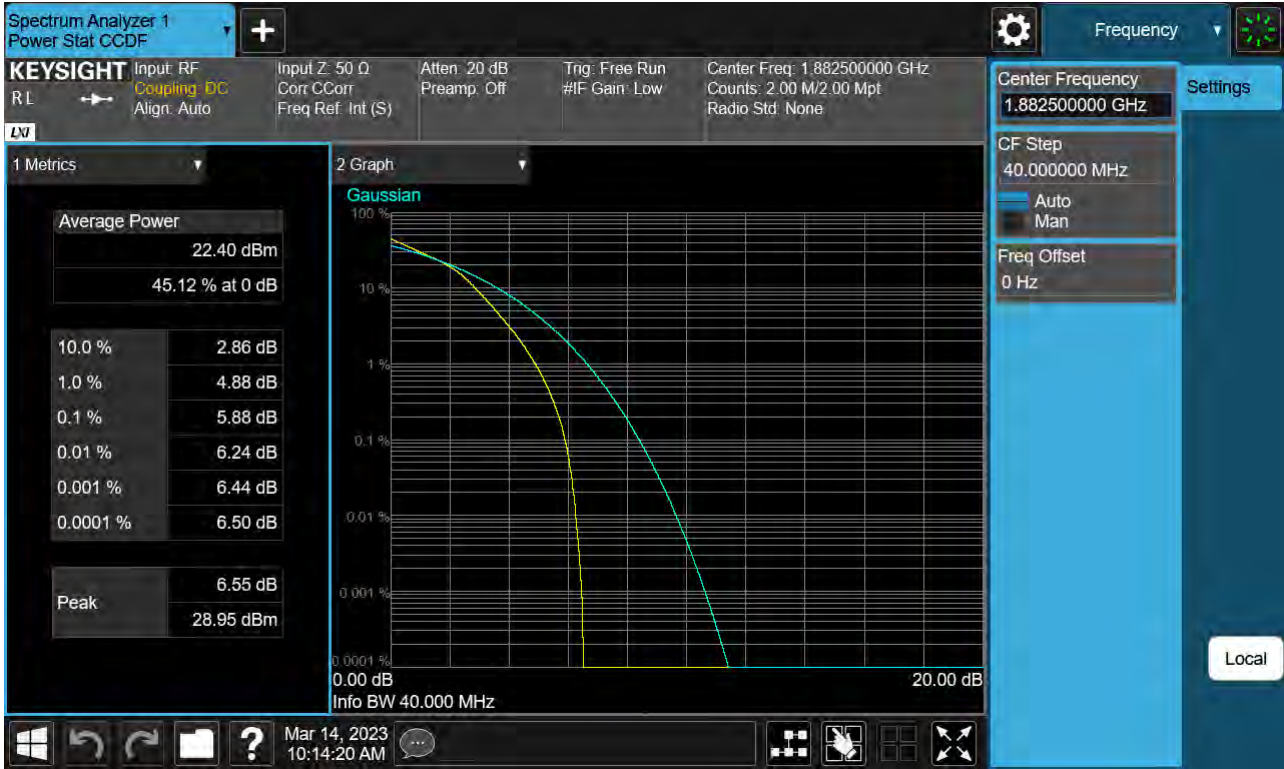


Sub6 n25. PAR Plot (40 M BW Ch.376500 QPSK\_ Full RB \_0 )

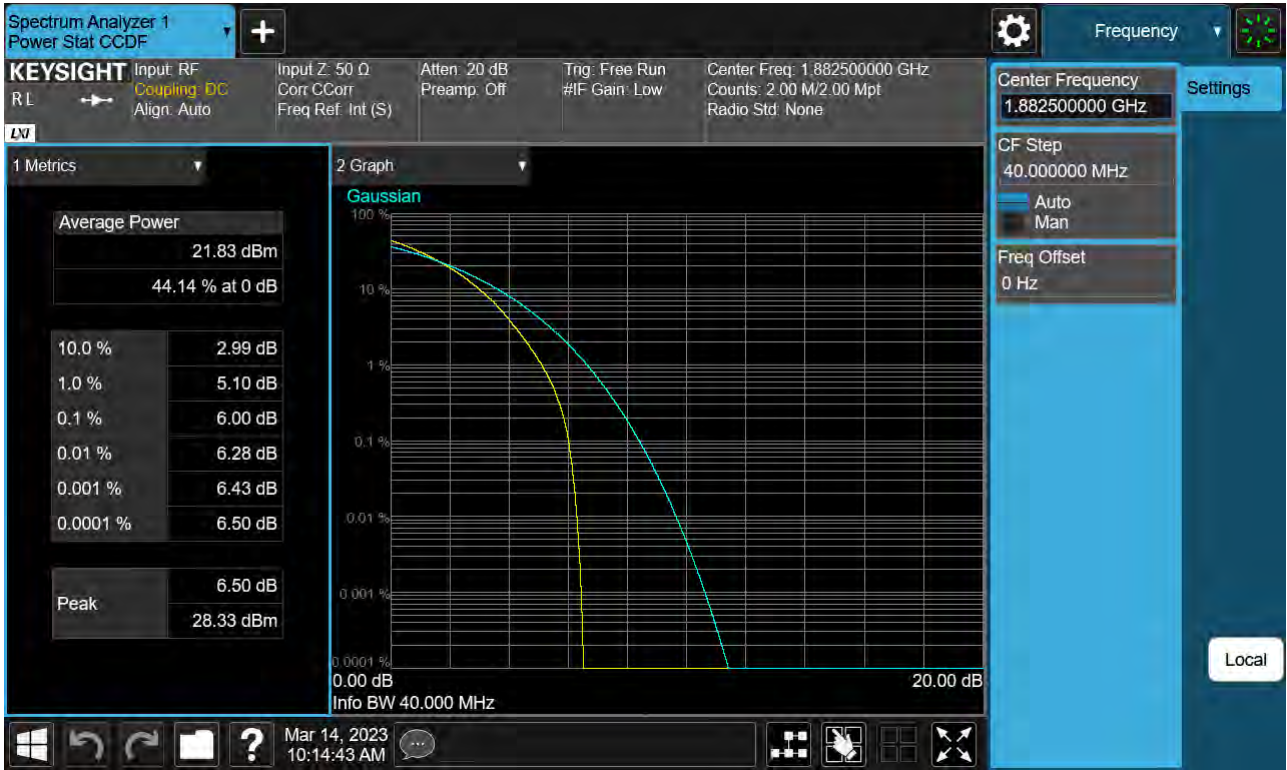




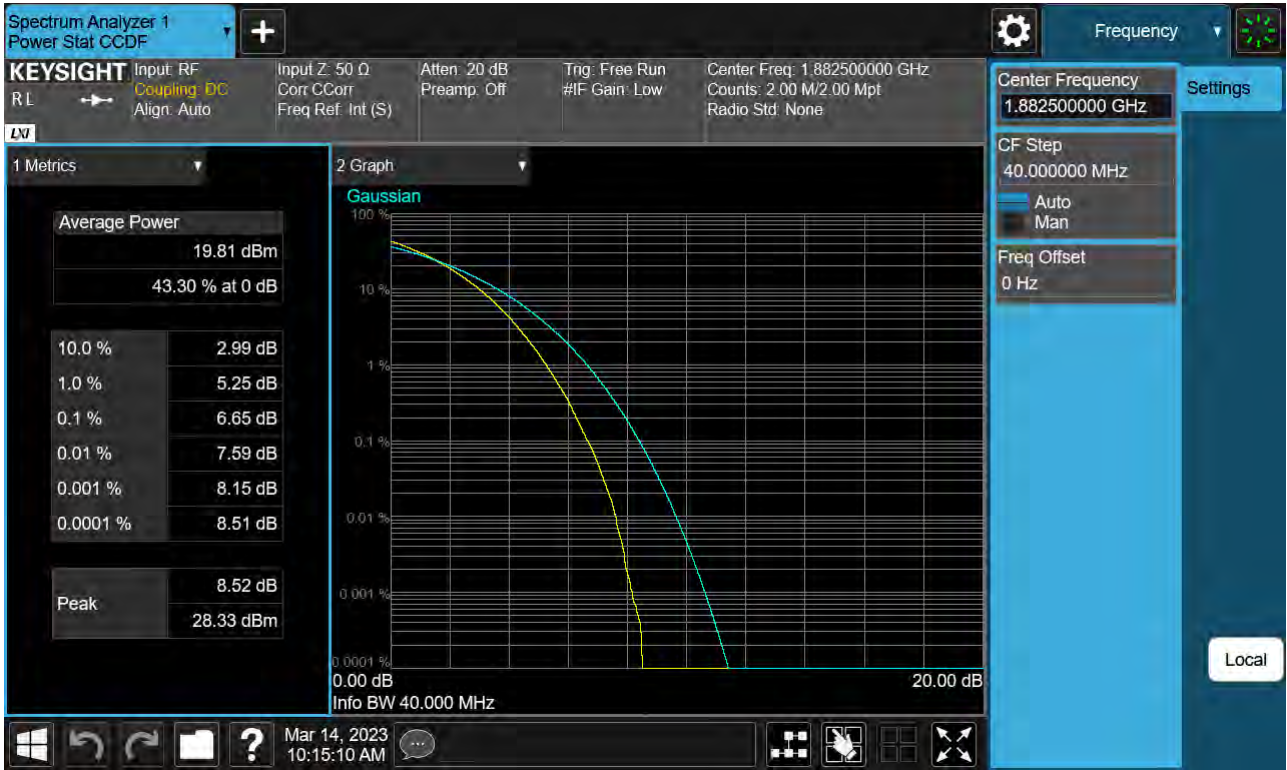
Sub6 n25. PAR Plot (40 M BW Ch.376500 16QAM\_ Full RB\_0)



Sub6 n25. PAR Plot (40 M BW Ch.376500 64QAM\_ Full RB\_0)

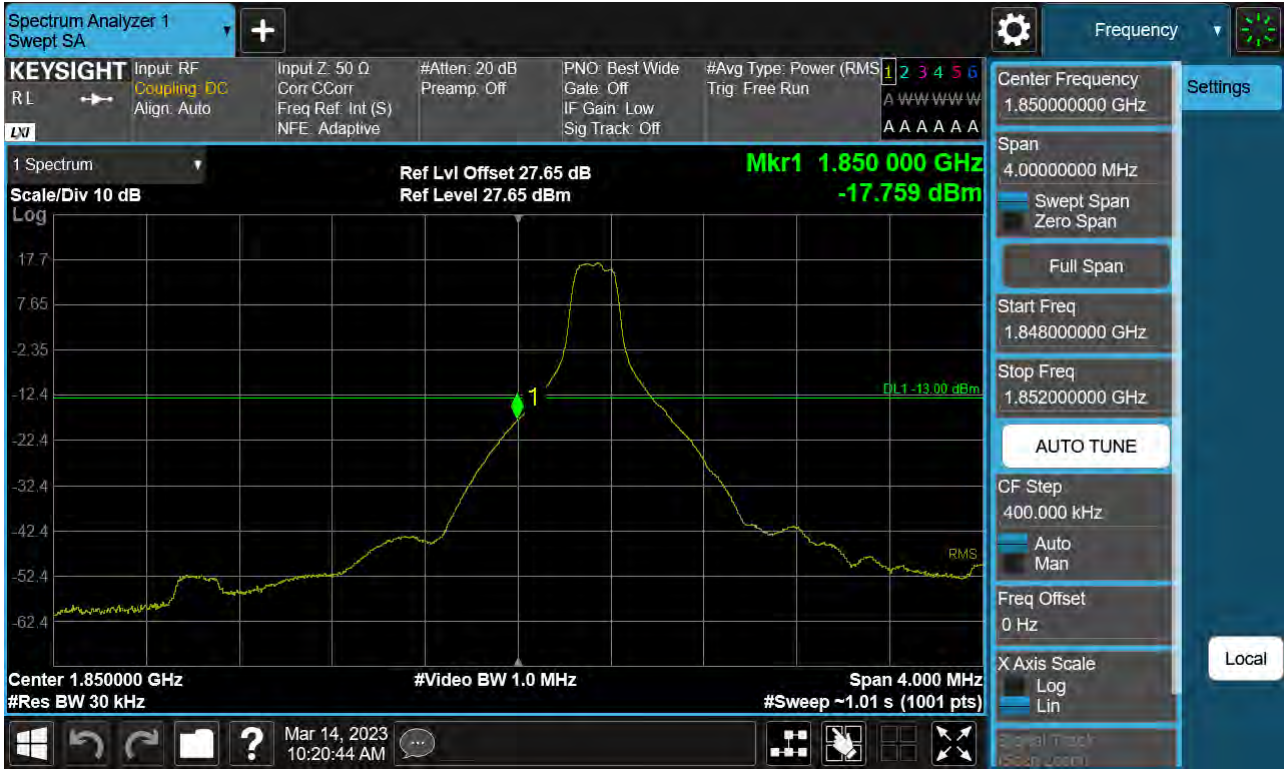


Sub6 n25. PAR Plot (40 M BW Ch.376500 256QAM\_ Full RB\_0 )





Sub6 n25(2). Lower Band Edge Plot (5 M BW Ch.370500 BPSK\_RB1\_Offset 0)



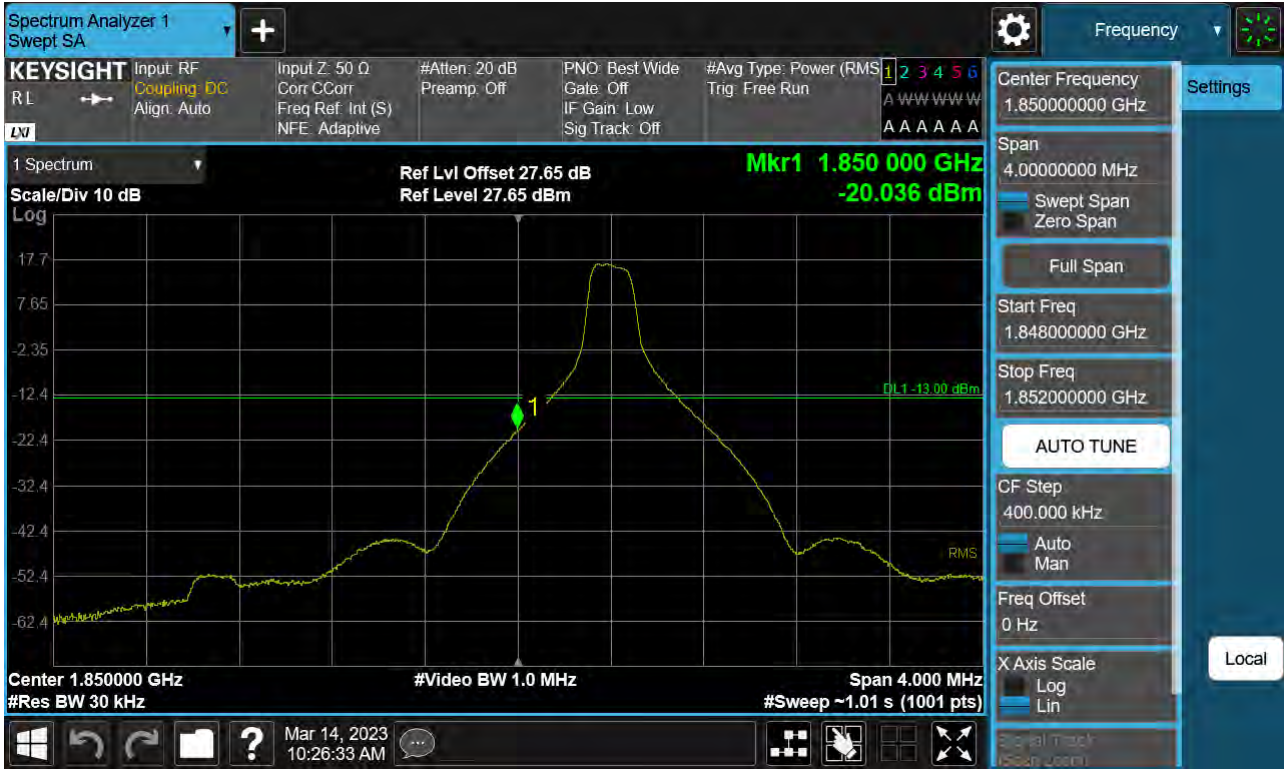
Sub6 n25(2). Lower Band Edge Plot (5 M BW Ch.370500 BPSK\_RB25\_Offset 0) -1



Sub6 n25(2). Lower Extended Band Edge Plot (5 M BW Ch.370500 BPSK\_RB25\_0) -2



Sub6 n25(2). Lower Band Edge Plot (10 M BW Ch.371000 BPSK\_RB1\_Offset 0)





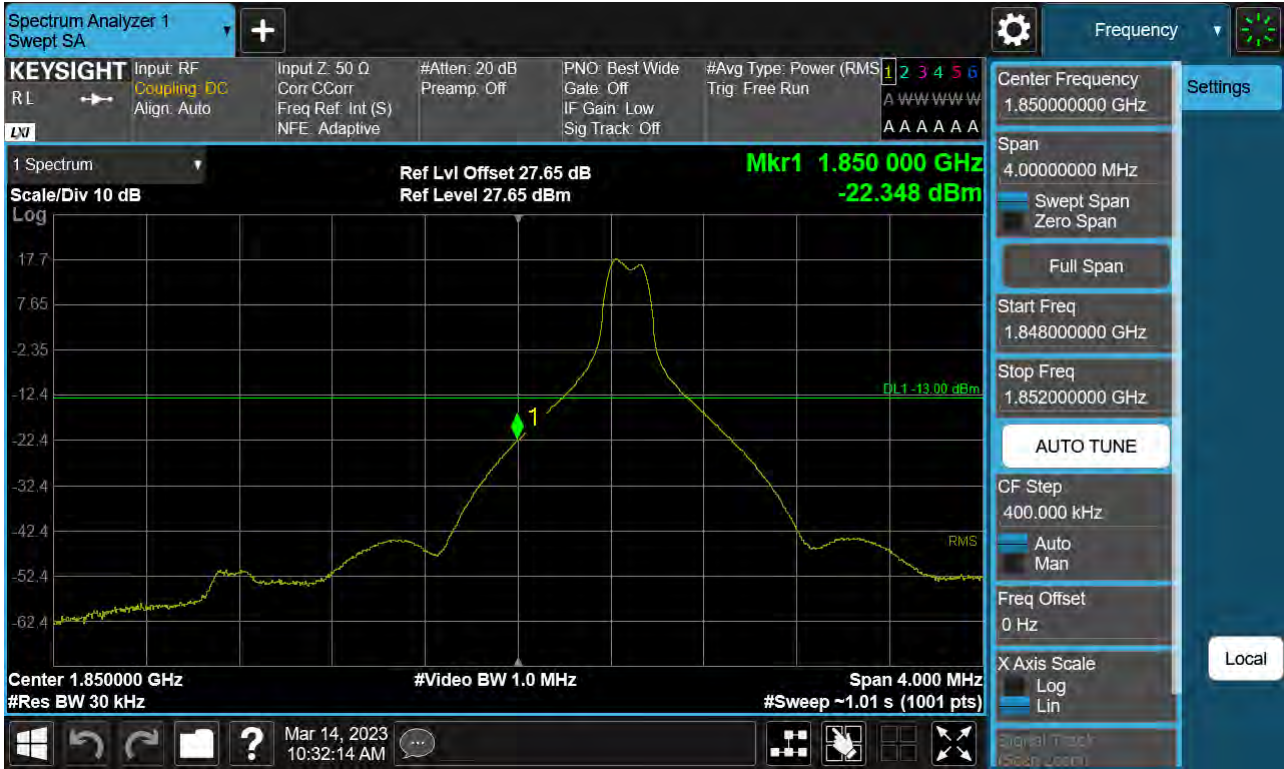
Sub6 n25(2). Lower Band Edge Plot (10 M BW Ch.371000 BPSK\_RB50\_Offset 0) -1



Sub6 n25(2). Lower Extended Band Edge Plot (10 M BW Ch.371000 BPSK\_RB50\_0) -2



Sub6 n25(2). Lower Band Edge Plot (15 M BW Ch.371500 BPSK\_RB1\_Offset 0)





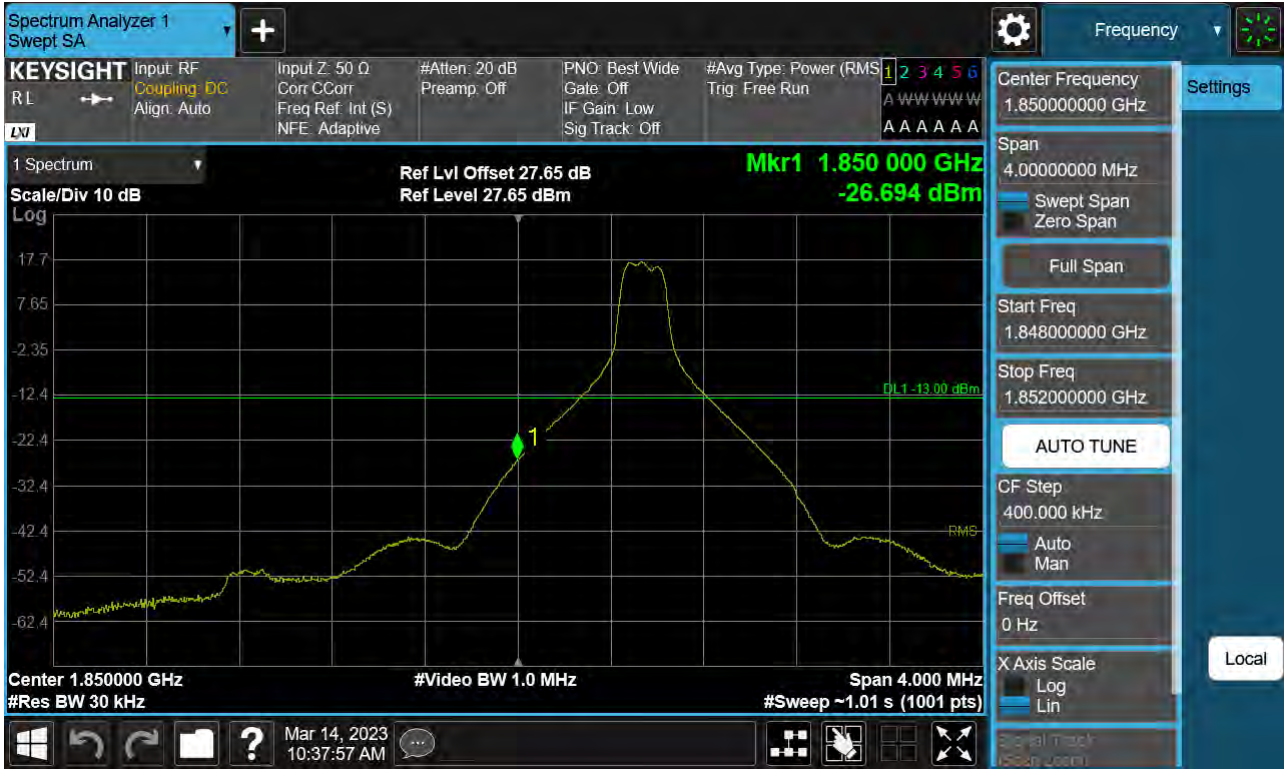
Sub6 n25(2). Lower Band Edge Plot (15 M BW Ch.371500 BPSK\_RB75\_Offset 0) -1



Sub6 n25(2). Lower Extended Band Edge Plot (15 M BW Ch.371500 BPSK\_RB75\_0) -2



Sub6 n25(2). Lower Band Edge Plot (20 M BW Ch.372000 BPSK\_RB1\_Offset 0)

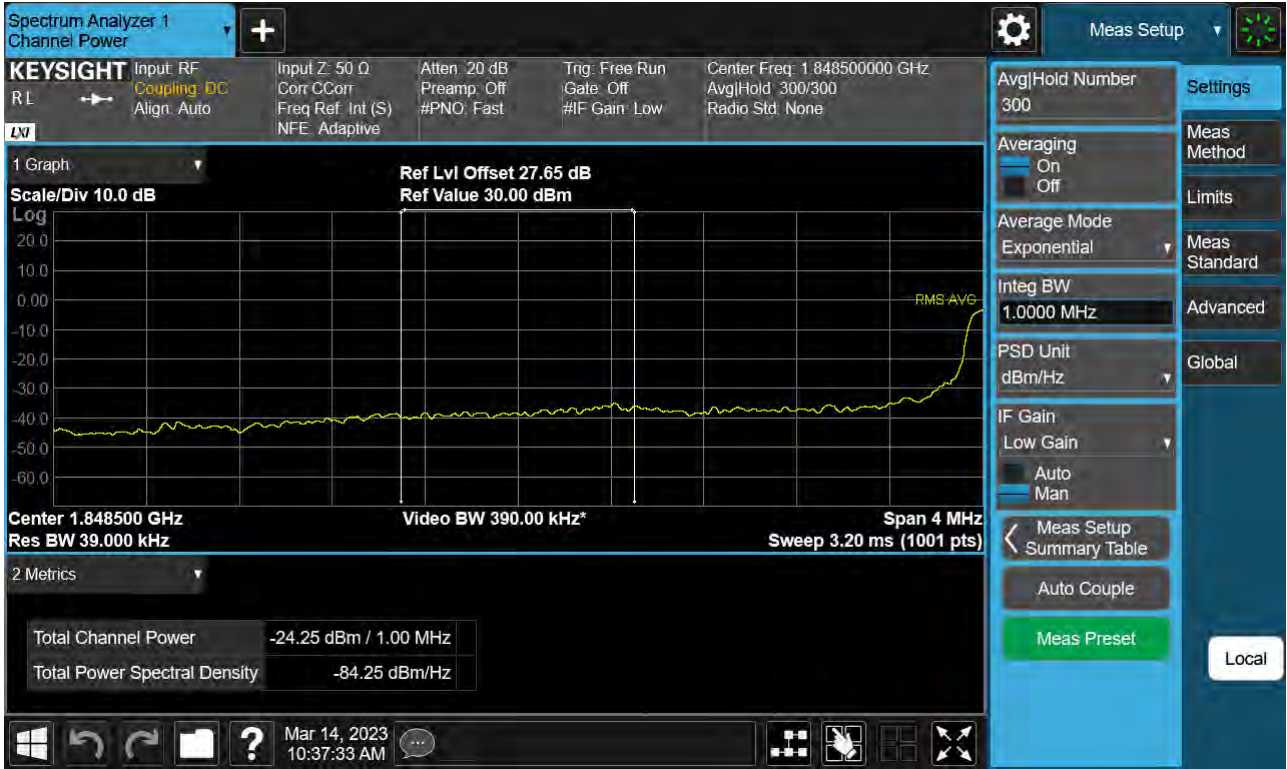


Sub6 n25(2). Lower Band Edge Plot (20 M BW Ch.372000 BPSK\_RB100\_Offset 0) -1





Sub6 n25(2). Lower Extended Band Edge Plot (20 M BW Ch.372000 BPSK\_RB100\_0) -2



Sub6 n25. Lower Band Edge Plot (25 M BW Ch.372500 BPSK\_RB1\_Offset 0)





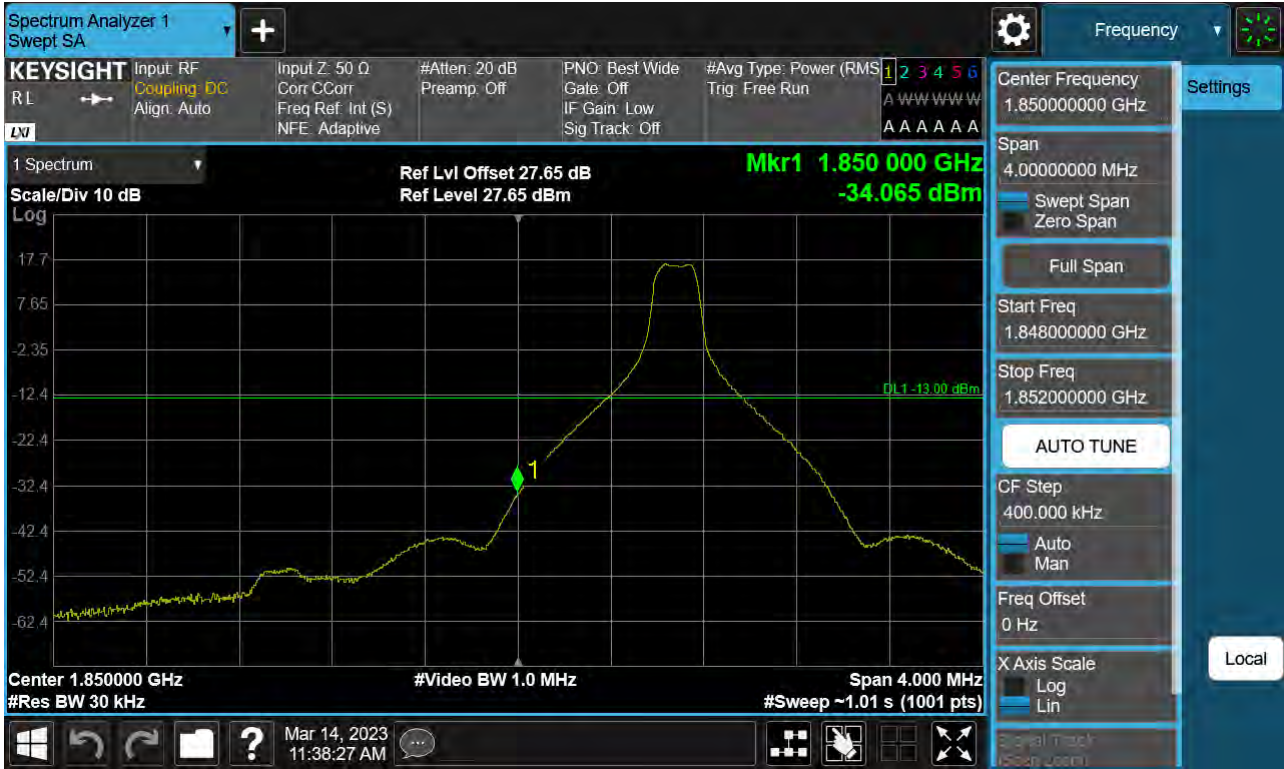
Sub6 n25. Lower Band Edge Plot (25 M BW Ch.372500 BPSK\_RB100\_Offset 0) -1



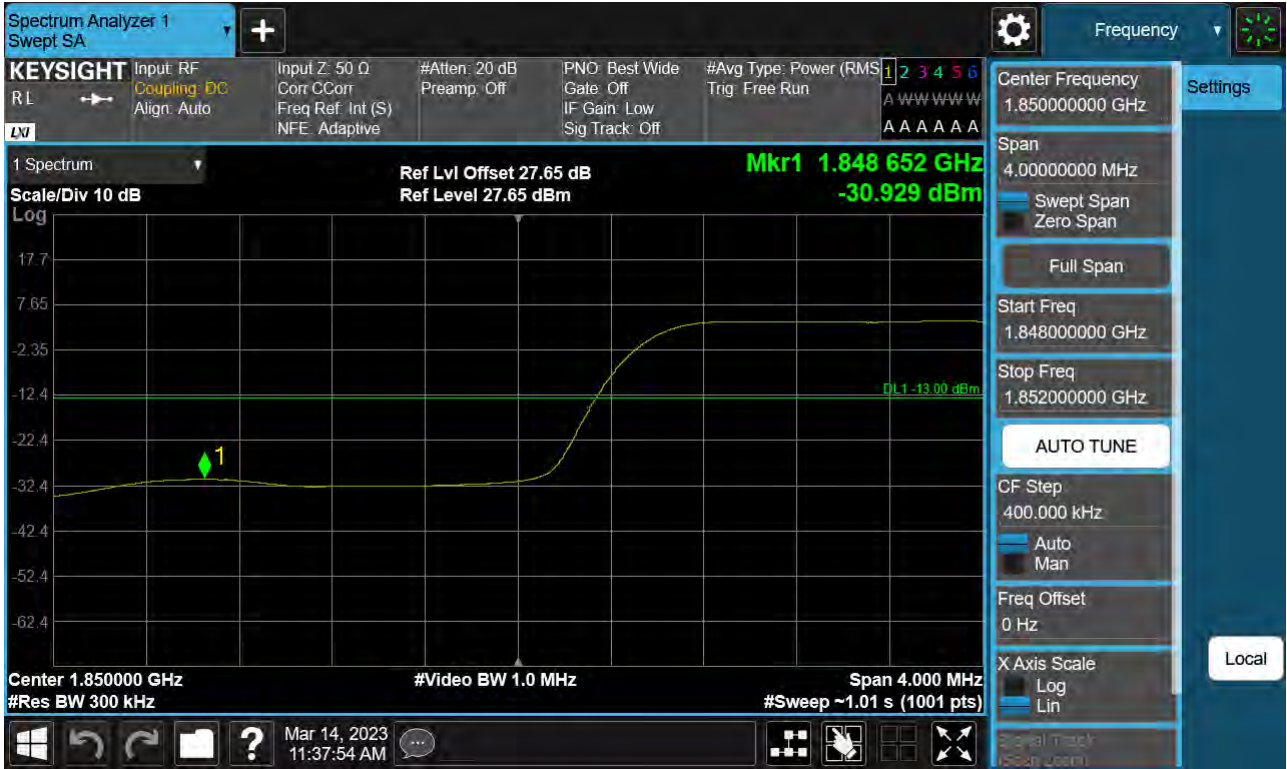
Sub6 n25. Lower Extended Band Edge Plot (25 M BW Ch.372500 BPSK\_RB100\_0) -2



Sub6 n25. Lower Band Edge Plot (30 M BW Ch.373000 BPSK\_RB1\_Offset 0)

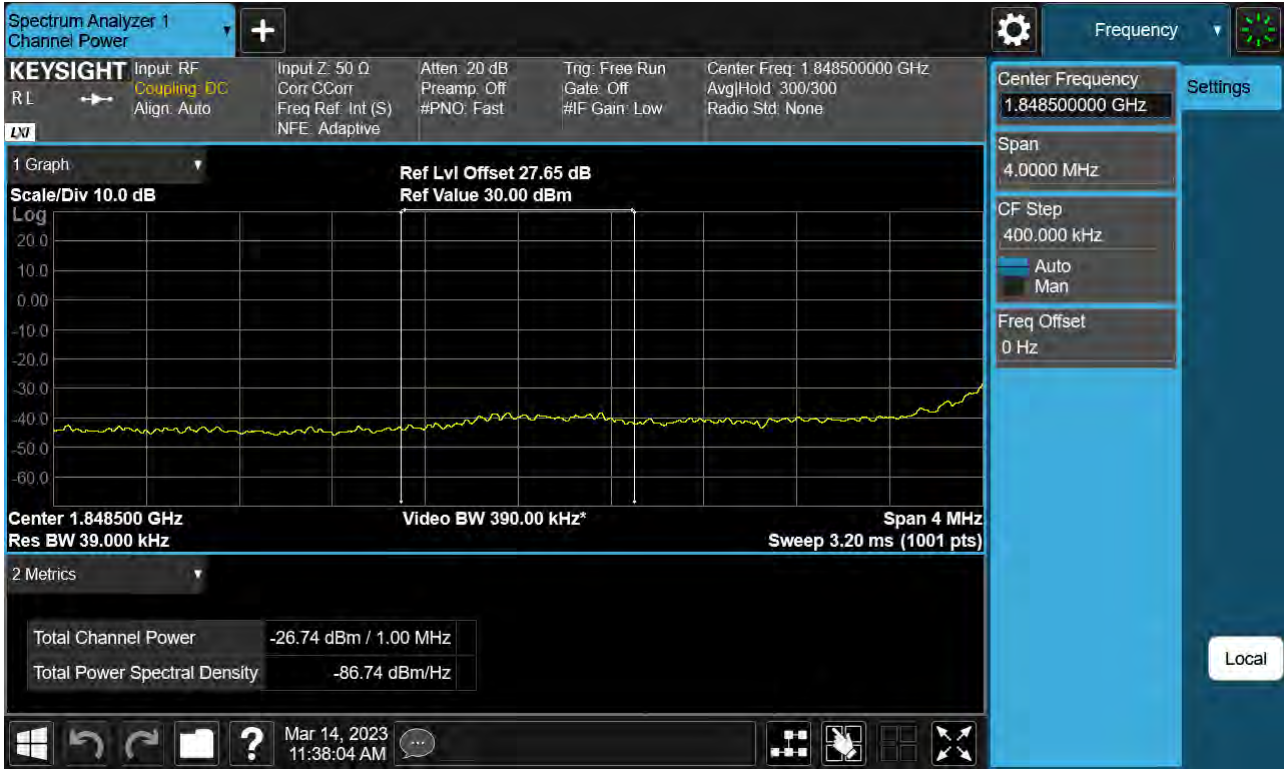


Sub6 n25. Lower Band Edge Plot (30 M BW Ch.373000 BPSK\_RB160\_Offset 0) -1

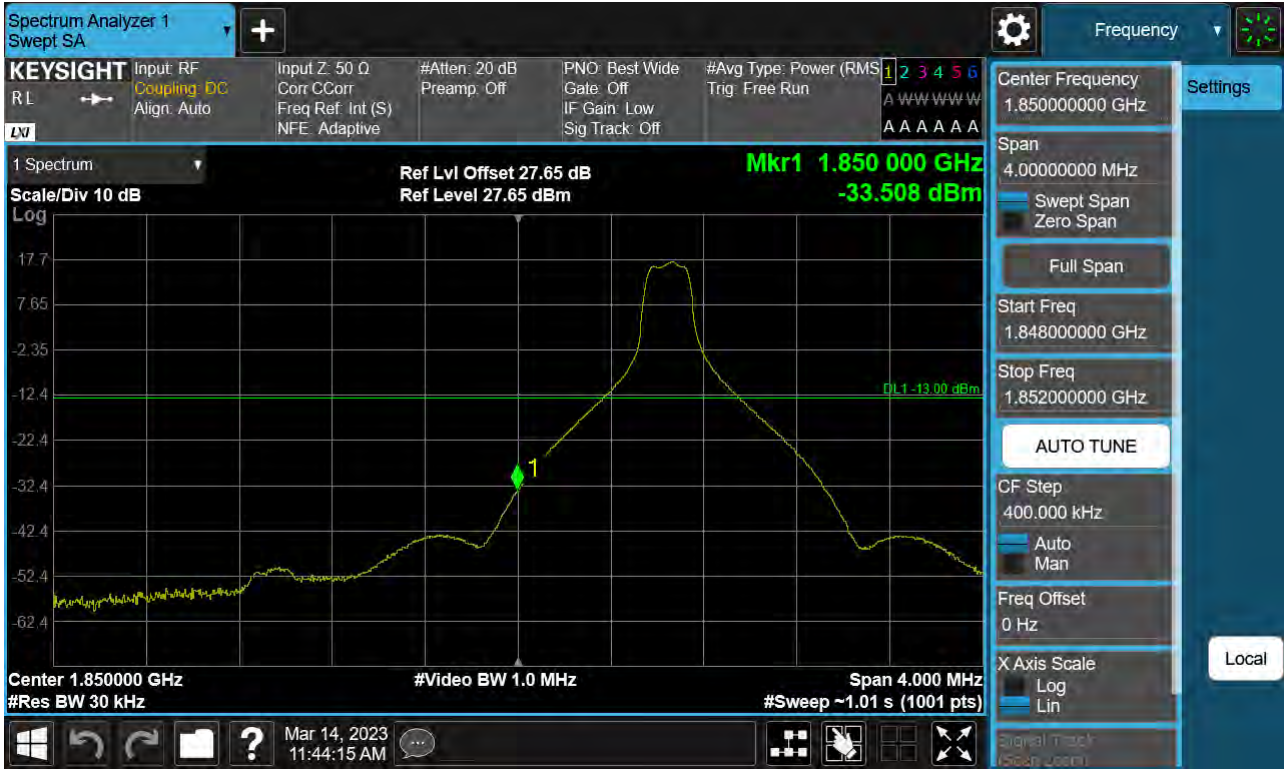




Sub6 n25. Lower Extended Band Edge Plot (30 M BW Ch.373000 BPSK\_RB160\_0) -2



Sub6 n25. Lower Band Edge Plot (40 M BW Ch.374000 BPSK\_RB1\_Offset 0)

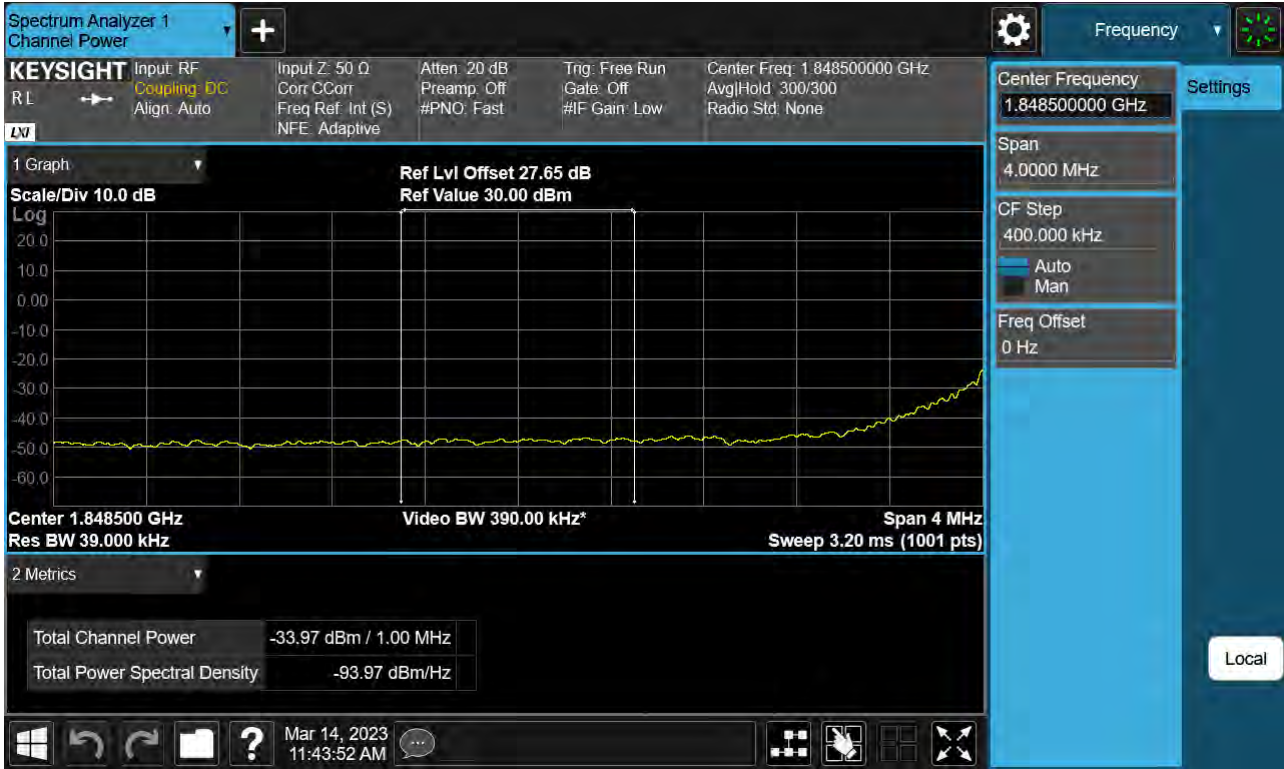




Sub6 n25. Lower Band Edge Plot (40 M BW Ch.374000 BPSK\_RB216\_Offset 0) -1



Sub6 n25. Lower Extended Band Edge Plot (40 M BW Ch.374000 BPSK\_RB216\_0) -2



Sub6 n25(2). Upper Band Edge Plot (5 M BW Ch.382500 BPSK\_RB1\_Offset 24)

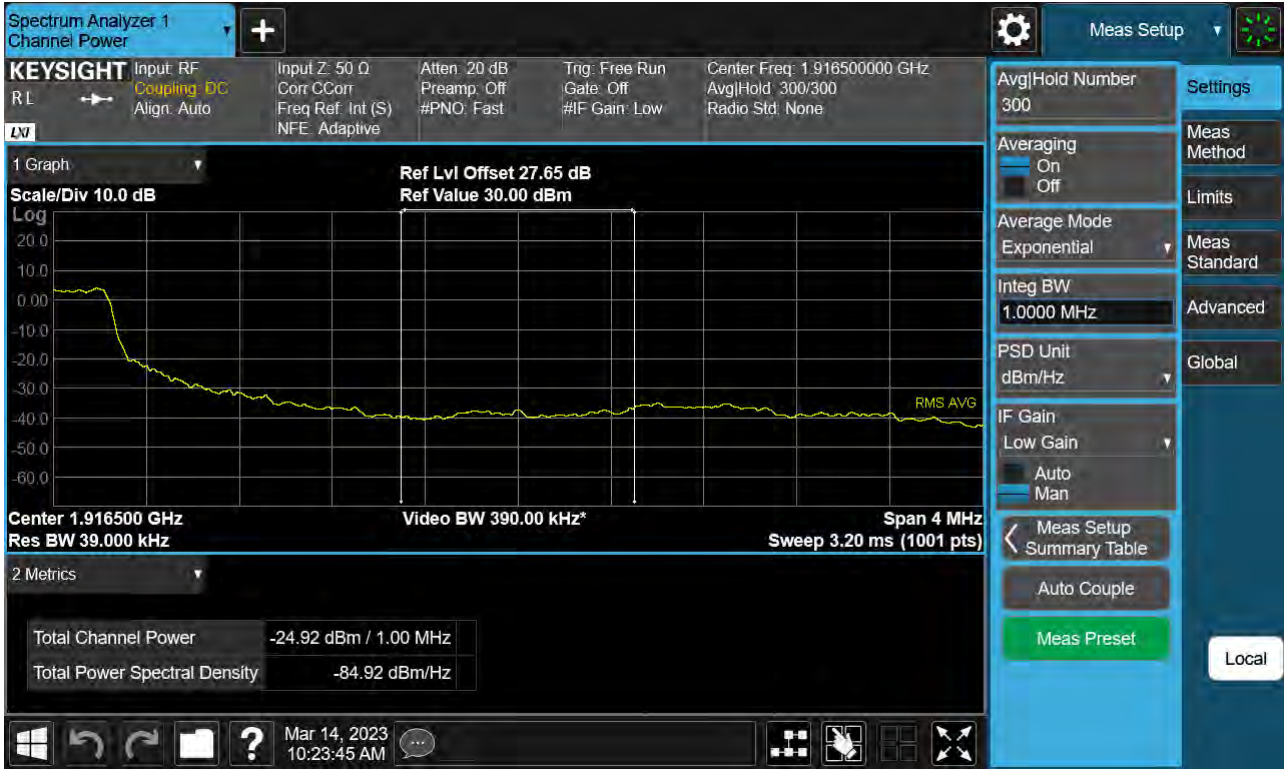


Sub6 n25(2). Upper Band Edge Plot (5 M BW Ch.382500 BPSK\_RB25\_Offset 0) -1





Sub6 n25(2). Upper Extended Band Edge Plot (5 M BW Ch.382500 BPSK\_RB25\_0) -2



Sub6 n25(2). Upper Band Edge Plot (10 M BW Ch.382000 BPSK\_RB1\_Offset 49)





Sub6 n25(2). Upper Band Edge Plot (10 M BW Ch.382000 BPSK\_RB50\_Offset 0) -1



Sub6 n25(2). Upper Extended Band Edge Plot (10 M BW Ch.382000 BPSK\_RB50\_0) -2

