

On your side

**HCT**

# TEST REPORT

FCC Test for HT1K03-60A

**APPLICANT**

SAMSUNG Electronics Co., Ltd.

**REPORT NO.**

HCT-RF-2003-FC013

**DATE OF ISSUE**

March 13, 2020

HCT Co., Ltd.

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA

Tel. +82 31 634 6300 F ax. +82 31 645 6401



HCT Co., Ltd.

74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA  
Tel. +82 31 634 6300 Fax. +82 31 645 6401



REPORT NO.  
HCT-RF-2003-FC013

DATE OF ISSUE  
March 13, 2020

FCC ID  
A3LHT1K03-60A

Applicant	<b>SAMSUNG Electronics Co., Ltd.</b> 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
EUT Type	AT&T 39GHz 5G NR 1024T/R MICRO HRU
Model Name	HT1K03-60A
Date of Test	February 10, 2020 ~ March 12, 2020
Test Standard Used	CFR 47 Part 2, Part 30

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.  
This test results were applied only to the test methods required by the standard.

Tested by  
Kyung Soo Kang

Technical Manager  
Jong Seok Lee

HCT CO., LTD.

*Soo Chan Lee*  
SooChan Lee / CEO

## REVISION HISTORY

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

<b>Revision No.</b>	<b>Date of Issue</b>	<b>Description</b>
0	March 13, 2020	Initial Release

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

## CONTENTS

1. GENERAL INFORMATION	5
1.1. APPLICANT INFORMATION	5
1.2. PRODUCT INFORMATION	5
1.3. TEST INFORMATION	6
2. FACILITIES AND ACCREDITATIONS	7
2.1. FACILITIES	7
2.2. EQUIPMENT	7
3. TEST SPECIFICATIONS	8
3.1. STANDARDS	8
3.2. ADDITIONAL DESCRIPTIONS ABOUT TEST	9
3.3. MAXIMUM MEASUREMENT UNCERTAINTY	11
3.4. STANDARDS ENVIRONMENTAL TEST CONDITIONS	11
3.5. TEST DIAGRAMS	12
4. TEST EQUIPMENTS	14
5. TEST RESULT	15
5.1. OCCUPIED BANDWIDTH	15
5.2. EIRP DENSITY	47
5.3. CONDUCTED OUTPUT POWER	73
5.4. BAND EDGE	98
5.5. RADIATED SPURIOUS EMISSIONS	170
5.6. FREQUENCY STABILTY	191
6. Annex A_Test Equipment CERTIFIED DOCUMENTS	194
7. Annex B_EUT AND TEST SETUP PHOTO	195

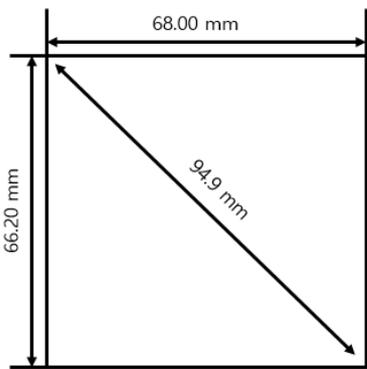
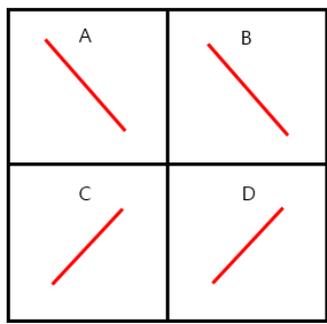
## 1. GENERAL INFORMATION

### 1.1. APPLICANT INFORMATION

Company Name	Samsung Electronics Co., Ltd.
Company Address	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

### 1.2. PRODUCT INFORMATION

EUT Type	AT&T 39GHz 5G NR 1024T/R MICRO HRU																	
Equipment Class	5GB-Part 30 Fixed Transmitter																	
Power Supply	-48V DC Typical (-38V~-57V )																	
Output Power	For 1 Path: <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Mode</th> <th>dBm</th> <th>W</th> </tr> </thead> <tbody> <tr> <td>1CC</td> <td>47</td> <td>12.59</td> </tr> <tr> <td>2CC</td> <td>50</td> <td>100</td> </tr> <tr> <td>3CC</td> <td>51.77</td> <td>150.31</td> </tr> <tr> <td>4CC</td> <td>53</td> <td>199.53</td> </tr> </tbody> </table> <p>*This EUT is supported both contiguous and non-contiguous mode.</p> <p>Total (4 Path) MAX: 59 dBm (794.33 W)</p>			Mode	dBm	W	1CC	47	12.59	2CC	50	100	3CC	51.77	150.31	4CC	53	199.53
Mode	dBm	W																
1CC	47	12.59																
2CC	50	100																
3CC	51.77	150.31																
4CC	53	199.53																
Frequency Range	37 000 MHz ~ 40 000 MHz																	
Emission Designator	<table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Mode</th> <th>64QAM (W7D)</th> <th>Max EIRP Density [W]</th> </tr> </thead> <tbody> <tr> <td>1CC</td> <td>94M7W7D</td> <td>164.82</td> </tr> <tr> <td>4CC</td> <td>392MW7D</td> <td>204.64</td> </tr> </tbody> </table>	Mode	64QAM (W7D)	Max EIRP Density [W]	1CC	94M7W7D	164.82	4CC	392MW7D	204.64								
Mode	64QAM (W7D)	Max EIRP Density [W]																
1CC	94M7W7D	164.82																
4CC	392MW7D	204.64																
Channel Bandwidths	100 MHz, 200 MHz, 300 MHz, 400 MHz																	
Modulation Type	QPSK, 16QAM, 64QAM																	

<p>Antenna Specification</p>	<p>Stacked Microstrip Patch Antenna                      Peak Gain: 27.04 dBi                      Size:</p>  <p>Array:</p> 
------------------------------	--

1.3. TEST INFORMATION

<p>FCC Rule Parts</p>	<p>CFR 47 Part 2, Part 30</p>
<p>Measurement standards</p>	<p>ANSI C63.26-2015, KDB 971168 D01 v03r01, KDB 662911 D01 v02r01, KDB 662911 D02 v01, KDB 842590 D01 v01</p>
<p>Place of Test</p>	<p>HCT CO., LTD.                      74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA</p>

## 2. FACILITIES AND ACCREDITATIONS

### 2.1. FACILITIES

The SAC(Semi-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. The site is constructed in conformance with the requirements of ANSI C63.4 (Version: 2014) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated April 02, 2018 (Registration Number: KR0032).

### 2.2. EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

### 3. TEST SPECIFICATIONS

#### 3.1. STANDARDS

The following tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 2, Part 30

Description	Reference	Results
Occupied Bandwidth	§2.1049	Compliant
EIRP Density	§30.202	Compliant
Conducted Output Power	§2.1046	Compliant
Band Edge	§2.1051, §30.203	Compliant
Radiated Spurious Emissions	§2.1051, §30.203	Compliant
Frequency Stability	§2.1055	Compliant

### 3.2. ADDITIONAL DESCRIPTIONS ABOUT TEST

- All tests is performed by radiated measurement and applied below conditions.

: Used measurement distance with far field of test such as EIRP, OBW and Band edge are as follow.

$$\text{Wavelength} = \text{Speed of light} / \text{Measurement frequency} = 30 / 4\,000 = 0.0075$$

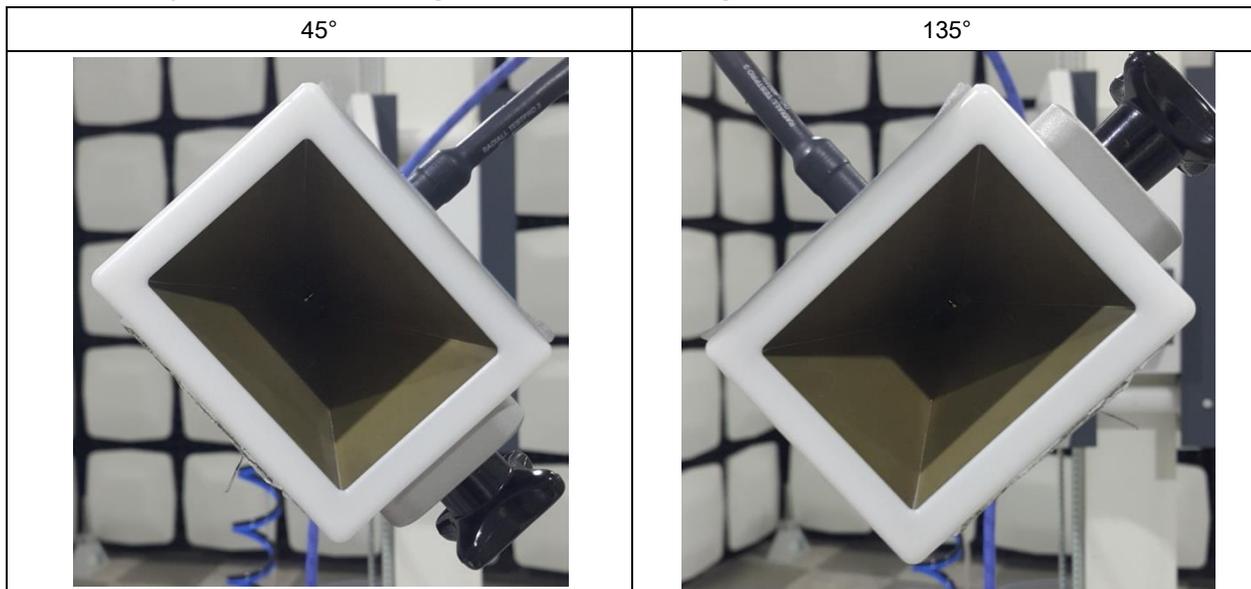
$$(2 \times (\text{Max measured antenna dimension})^2) / \text{Wavelength} = (2 \times (0.0949)^2) / 0.0075 = 2.40 \text{ m}$$

**So, measurement distance is 3 m.**

: Spurious emissions measurement distance is shown in table below(Reference : Measurement Antenna Dimension).

Frequency Range (GHz)	Wavelength (cm)	Far Field Distance (m)	Measurement Distance(m)
18 ~ 40	0.75	2.40	3.00
40 ~ 41.5	0.72	0.94	1.00
40 ~ 60	0.50	1.354	3.75
60 ~90	0.33	0.856	3.75
90 ~ 140	0.214	0.572	3.75
140 ~ 200	0.15	0.332	3.75

: Radiated test is performed on various angle of antenna and following location is worst test case.



- CC means component carriers and EUT support 1 cc ~ 4 cc.

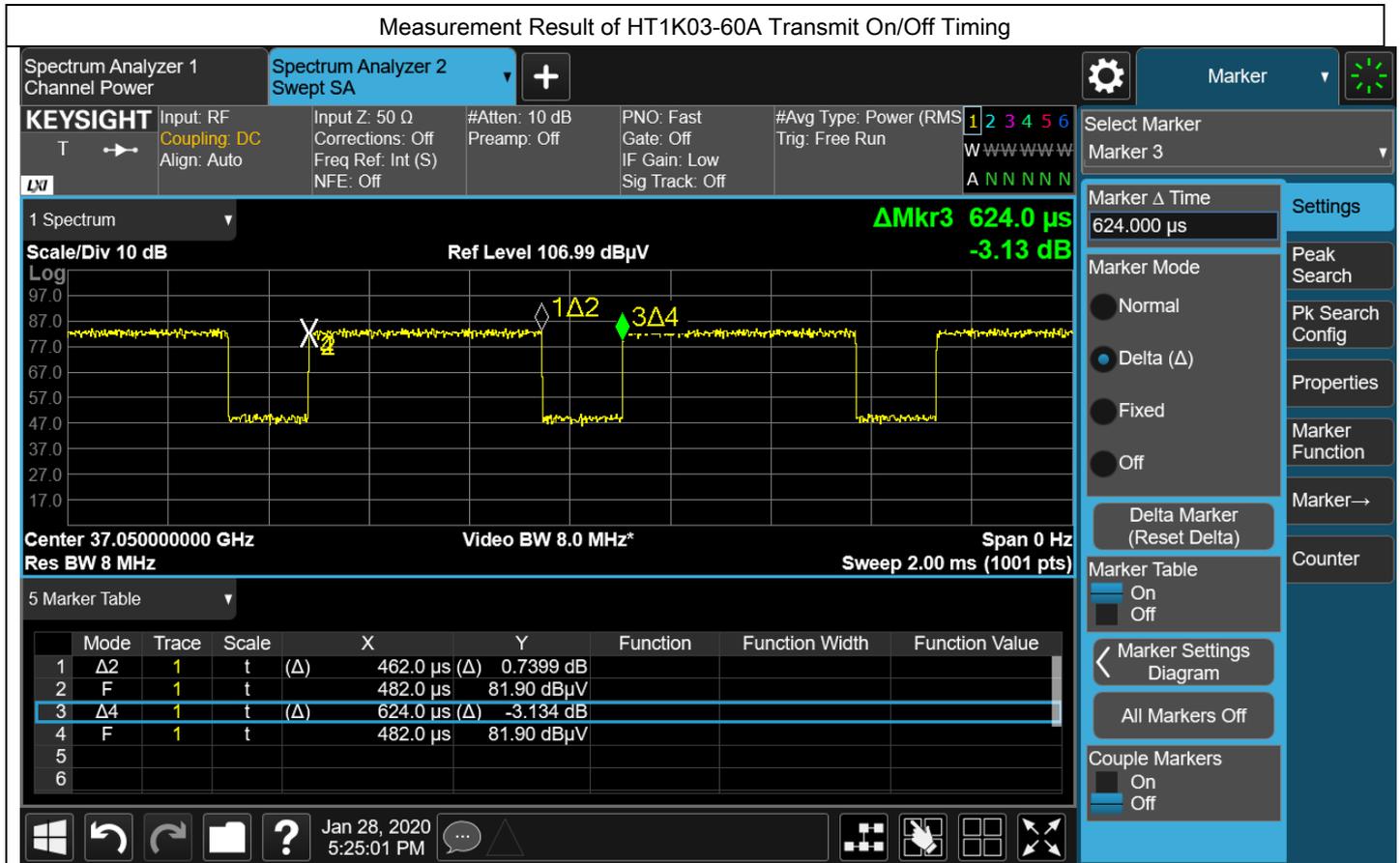
- Test was performed the carrier 1 and 4 case having maximum output power and maximum PSD(It means the worst case.).

- Unwanted radiated emissions test was performed on state of all EUT antenna path is operated with a maximum output power level.

- Transmitter output signals are correlated.

- In case of far-field distance for fundamental, we applied the measured antenna dimension because the measured antenna is bigger than the antenna of EUT.

- Because of the EUT using TDD technology, it cannot be configured to transmit continuously and measurement instrument cannot be configured to measure only during active transmissions. So we perform the measurement using duty cycle method.



- The EUT duty cycle is calculated according to ANSI C63.26 - 5.2.4.3.4.

$$\text{Duty Cycle} = \text{On-time} / \text{Transmitter period} = 0.462 \text{ ms} / 0.624 \text{ ms} = 0.7404$$

$$\text{Duty Correction} = 10 \log (1/\text{duty cycle}) = 10 \log (1/0.74) = 1.305 \text{ dB}$$

- All modulations(QPSK, 16QAM, 64QAM) were investigated and the worst case configuration results are reported.

### 3.3. MAXIMUM MEASUREMENT UNCERTAINTY

The value of the measurement uncertainty for the measurement of each parameter.

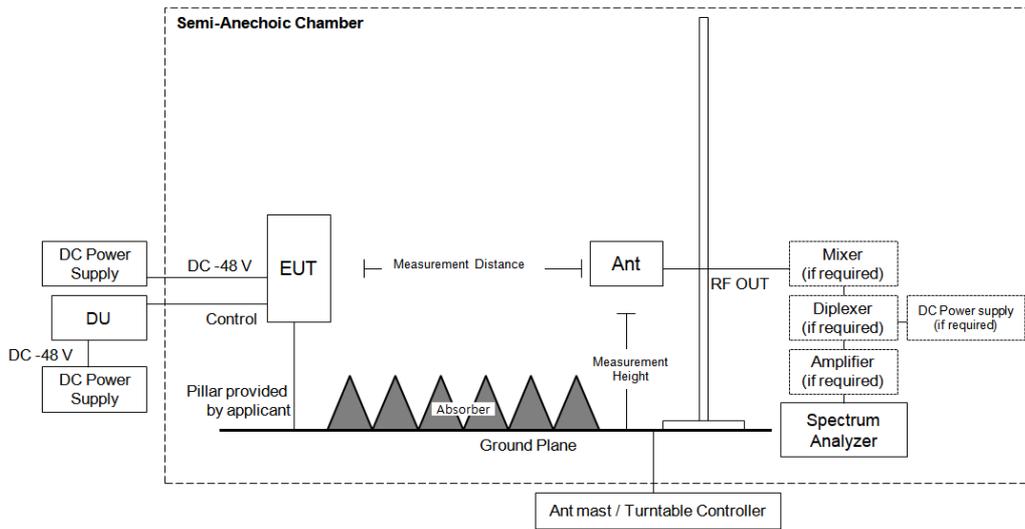
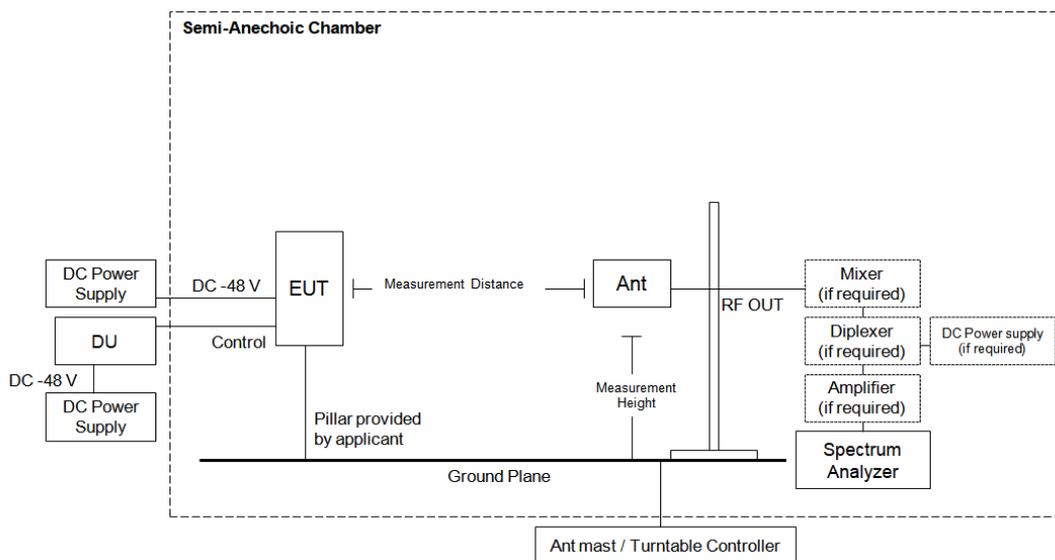
Coverage factor  $k = 2$ , Confidence levels of 95 %

Description	Frequency	Uncertainty
Occupied Bandwidth	37 ~ 40 GHz	$\pm 0.31$ MHz
Conducted Output Power	37 ~ 40 GHz	$\pm 5.05$ dB
EIRP Density		
Band Edge		
Radiated Spurious Emissions	9 kHz ~ 30 MHz	$\pm 3.40$ dB
	30 MHz ~ 1 GHz	$\pm 4.80$ dB
	1 GHz ~ 18 GHz	$\pm 5.70$ dB
	18 GHz ~ 40 GHz	$\pm 5.05$ dB
	40 GHz ~ 200 GHz	$\pm 4.59$ dB
Frequency Stability	37 ~ 40 GHz	69.61 kHz

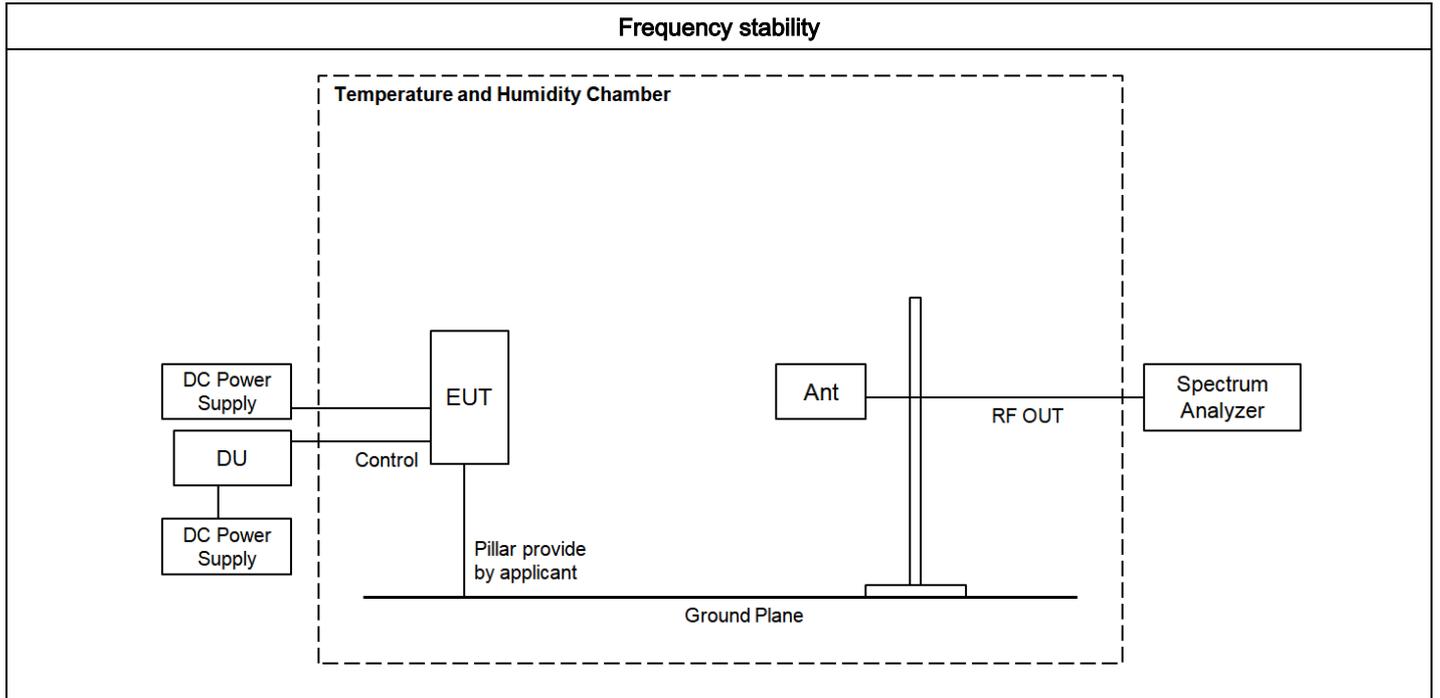
### 3.4. STANDARDS ENVIRONMENTAL TEST CONDITIONS

<b>Temperature :</b>	+15 °C to +35 °C
<b>Relative humidity:</b>	30 % to 60 %
<b>Air pressure</b>	860 mbar to 1 060 mbar

## 3.5. TEST DIAGRAMS

**Occupied Bandwidth / EIRP / Band Edge / Radiated Spurious Emissions in 1 GHz to 40 GHz**

**Radiated Spurious Emissions in other bands**


## Frequency stability



#### 4. TEST EQUIPMENTS

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Agilent	N9030B / PXA Signal Analyzer	03/27/2019	Annual	MY55480167
Schwarzbeck	BBHA 9170 / Horn Antenna	11/29/2019	Biennial	BBHA9170541
KIKUSUI	PWR800L / DC Power Supply	07/18/2019	Annual	RE002047
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640/800-XP-EP / Antenna Position Tower	N/A	N/A	N/A
Rohde&Schwarz	FSW / Spectrum Analyzer	07/18/2019	Annual	101256
Rohde&Schwarz	FSP / Spectrum Analyzer	09/11/2019	Annual	836650/016
Rohde & Schwarz	Loop Antenna	01/18/2019	Biennial	1513-175
Emco	2090 / Controller	N/A	N/A	060520
Ets	Turn Table	N/A	N/A	N/A
Schwarzbeck	VULB 9168 / Hybrid Antenna	08/31/2018	Biennial	00895
Schwarzbeck	BBHA 9120D / Horn Antenna	06/28/2019	Biennial	9120D-1300
OML INC.	WR-19 Horn Antenna / Horn Antenna	04/23/2018	Biennial	18042301
OML INC.	WR-19 Horn Antenna / Horn Antenna	04/23/2018	Biennial	18042302
OML INC.	WR-12 Horn Antenna / Horn Antenna	04/23/2018	Biennial	18042301
OML INC.	WR-12 Horn Antenna / Horn Antenna	04/23/2018	Biennial	18042302
OML INC.	WR-08 Horn Antenna / Horn Antenna	05/01/2018	Biennial	18050101
OML INC.	WR-08 Horn Antenna / Horn Antenna	05/01/2018	Biennial	18050102
OML INC.	WR-05 Horn Antenna / Horn Antenna	05/01/2018	Biennial	18050101
OML INC.	WR-05 Horn Antenna / Horn Antenna	05/01/2018	Biennial	18050102
OML INC.	OML WR19 / Harmonic Mixer	09/09/2019	Annual	M19HWD
OML INC.	OML WR12 / Harmonic Mixer	09/09/2019	Annual	M12HWD
OML INC.	OML WR08 / Harmonic Mixer	09/09/2019	Annual	M08HWD
OML INC.	OML WR05 / Harmonic Mixer	09/09/2019	Annual	M05HWD
OML INC.	WR-19 / Source Module	11/19/2019	Annual	S19MS-A-160516-1
OML INC.	WR-12 / Source Module	09/09/2019	Annual	S12MS-A-160419-1
OML INC.	WR-08 / Source Module	09/09/2019	Annual	S08MS-A-160419-1
OML INC.	WR-05 / Source Module	07/22/2019	Annual	S05MS-A-160419-1
NANGYEUL CO., LTD.	NY-THR18750 / Temperature and Humidity Chamber	12/16/2019	Annual	NY-2009012201A
Rohde & Schwarz	SMV100A / Signal Generator	07/15/2019	Annual	177633

**Note:**

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

## 5. TEST RESULT

### 5.1. OCCUPIED BANDWIDTH

#### FCC Rules

##### Test Requirements:

##### § 2.1049 Measurements required: Occupied bandwidth.

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the specified conditions of § 2.1049 (a) through (i) as applicable.

##### Test Procedures:

The measurement is performed in accordance with Section 5.4.3 and 5.4.4 of ANSI C63.26.

#### 5.4.3 Occupied bandwidth—Relative measurement procedure

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- b) The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set  $\geq 3 \times$  RBW.
- c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.

NOTE—Step a), step b), and step c) may require iteration to adjust within the specified tolerances.

- d) The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target “-X dB” requirement, i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
- e) Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- f) Determine the reference value by either of the following:
  - 1) Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
  - 2) Set the EUT to transmit an unmodulated carrier. Set the spectrum analyzer marker to the level of the carrier.
- g) Determine the “-X dB amplitude” as equal to (Reference Value - X). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
- h) If the reference value was determined using an unmodulated carrier, turn the EUT modulation on, then either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise the trace from step f) shall be used for step i).
- i) Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB amplitude” determined in step f). If a marker is below this “-X dB amplitude” value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers. The spectral envelope can cross the “-X dB amplitude” at multiple points. The lowest or highest frequency shall be selected as the frequencies that are the farthest away from the center frequency at which the spectral envelope crosses the “-X dB amplitude.”
- j) The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

#### 5.4.4 Occupied bandwidth—Power bandwidth (99%) measurement procedure

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (typically a span of  $1.5 \times$  OBW is sufficient).
- b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set  $\geq 3 \times$  RBW.

c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.

NOTE—Step a), step b), and step c) may require iteration to adjust within the specified tolerances.

d) Set the detection mode to peak, and the trace mode to max-hold.

e) If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.

f) The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

**Test Results:**
**Tabular Data of Occupied Bandwidth**
**Contiguous**

Ant.	Ant. Angle	CC	Channel	Freq. (GHz)	Mod.	Measured OBW (MHz)
A	135°	1	Low	37.05000	64QAM	94.301
		4		37.19994	64QAM	391.783
B	45°	1		37.05000	64QAM	94.334
		4		37.19994	64QAM	391.359
C	135°	1		37.05000	64QAM	94.397
		4		37.19994	64QAM	391.430
D	45°	1		37.05000	64QAM	94.511
		4		37.19994	64QAM	391.487
A	135°	1	Middle	38.50002	64QAM	94.666
		4		38.49996	64QAM	391.042
B	45°	1		38.50002	64QAM	94.471
		4		38.49996	64QAM	390.940
C	135°	1		38.50002	64QAM	94.402
		4		38.49996	64QAM	391.665
D	45°	1		38.50002	64QAM	94.334
		4		38.49996	64QAM	390.959
A	135°	1	High	39.94998	64QAM	94.670
		4		39.80004	64QAM	391.307
B	45°	1		39.94998	64QAM	94.354
		4		39.80004	64QAM	392.053
C	135°	1		39.94998	64QAM	94.442
		4		39.80004	64QAM	391.203
D	45°	1		39.94998	64QAM	94.408
		4		39.80004	64QAM	391.868

**Non-Contiguous**
**1+3\_Low**

Ant.	Ant. Angle	CC	Channel	Freq. (GHz)	Mod.	Measured OBW (MHz)_Left	Measured OBW (MHz)_Right	SUM OBW (MHz)
A	135°	1+3	Low	37.7	64QAM	94.32	292.62	386.94
B	45°	1+3		37.7	64QAM	94.43	292.34	386.77
C	135°	1+3		37.7	64QAM	94.42	292.43	386.86
D	45°	1+3		37.7	64QAM	94.41	292.56	386.96

**1+3\_High**

Ant.	Ant. Angle	CC	Channel	Freq. (GHz)	Mod.	Measured OBW (MHz)_Left	Measured OBW (MHz)_Right	SUM OBW (MHz)
A	135°	1+3	Low	39.3	64QAM	94.29	292.19	386.48
B	45°	1+3		39.3	64QAM	94.40	291.97	386.38
C	135°	1+3		39.3	64QAM	94.50	292.28	386.77
D	45°	1+3		39.3	64QAM	94.48	292.27	386.75

**3+1\_Low**

Ant.	Ant. Angle	CC	Channel	Freq. (GHz)	Mod.	Measured OBW (MHz)_Left	Measured OBW (MHz)_Right	SUM OBW (MHz)
A	135°	3+1	Low	37.7	64QAM	292.42	94.36	386.77
B	45°	3+1		37.7	64QAM	292.39	94.36	386.75
C	135°	3+1		37.7	64QAM	292.24	94.38	386.62
D	45°	3+1		37.7	64QAM	292.40	94.46	386.85

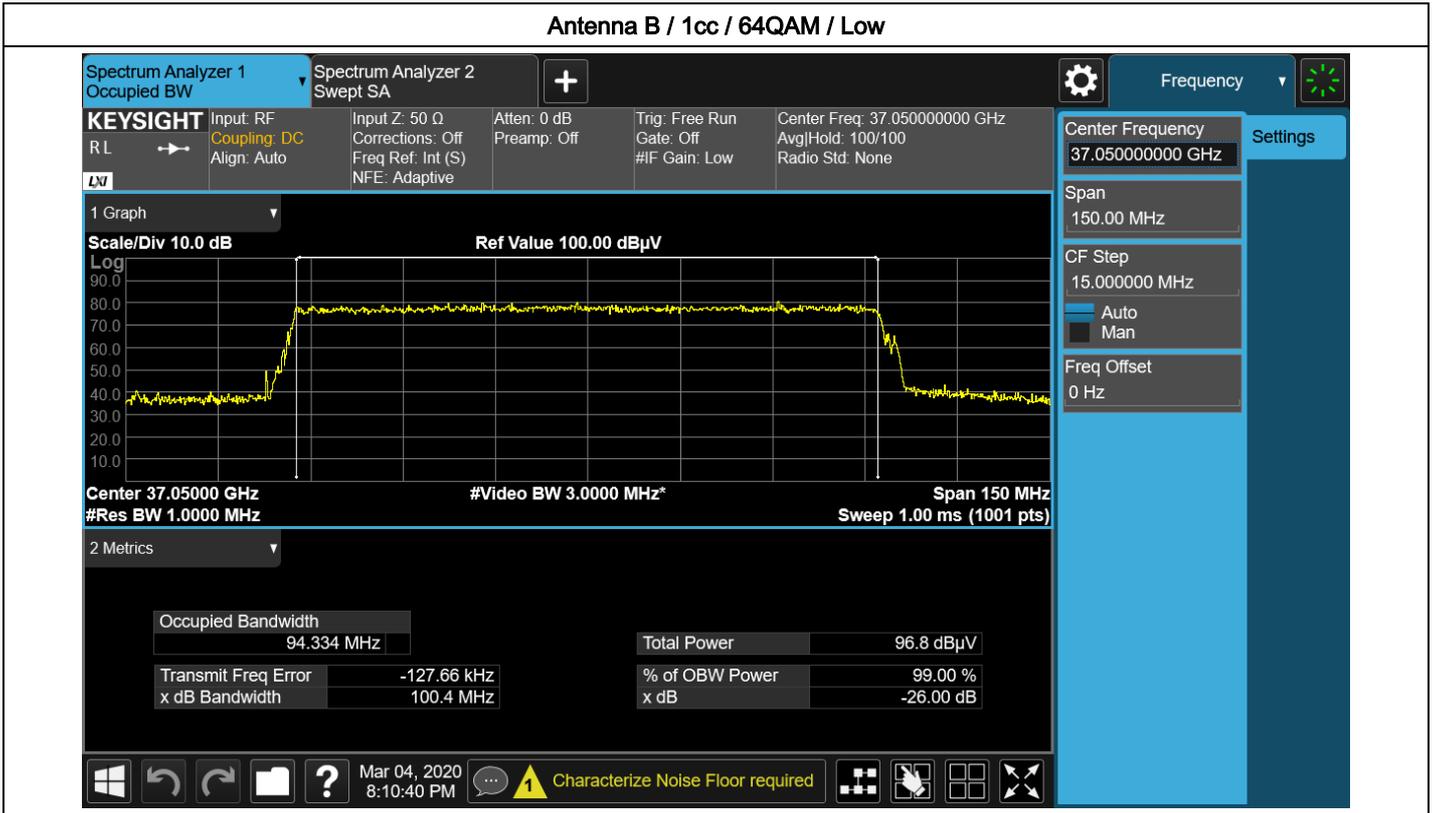
**3+1\_High**

Ant.	Ant. Angle	CC	Channel	Freq. (GHz)	Mod.	Measured OBW (MHz)_Left	Measured OBW (MHz)_Right	SUM OBW (MHz)
A	135°	3+1	Low	39.3	64QAM	292.23	94.48	386.70
B	45°	3+1		39.3	64QAM	292.53	94.33	386.86
C	135°	3+1		39.3	64QAM	292.65	94.38	387.04
D	45°	3+1		39.3	64QAM	292.28	94.34	386.62

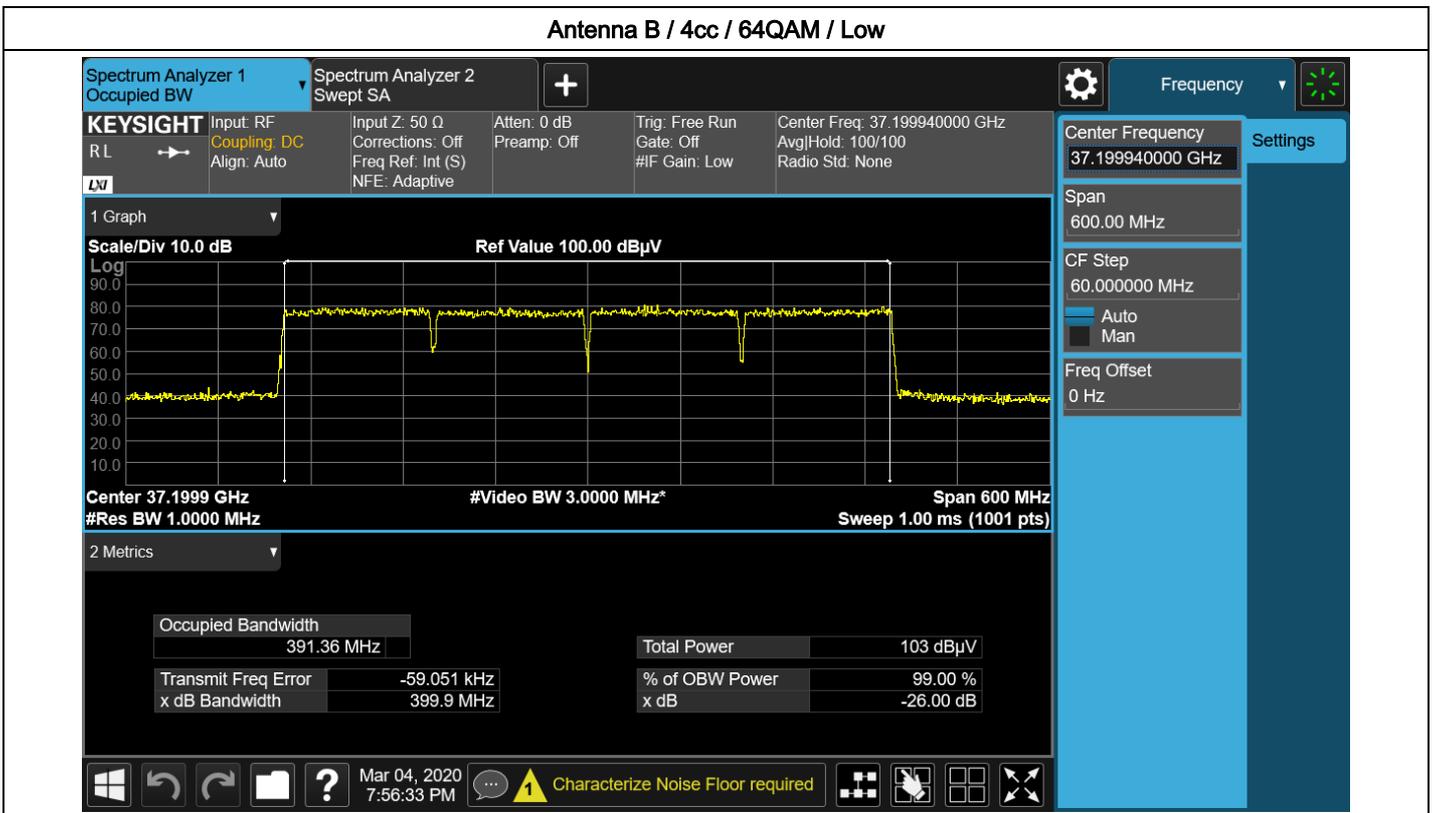
## Plot Data of RF Occupied Bandwidth



## Antenna B / 1cc / 64QAM / Low



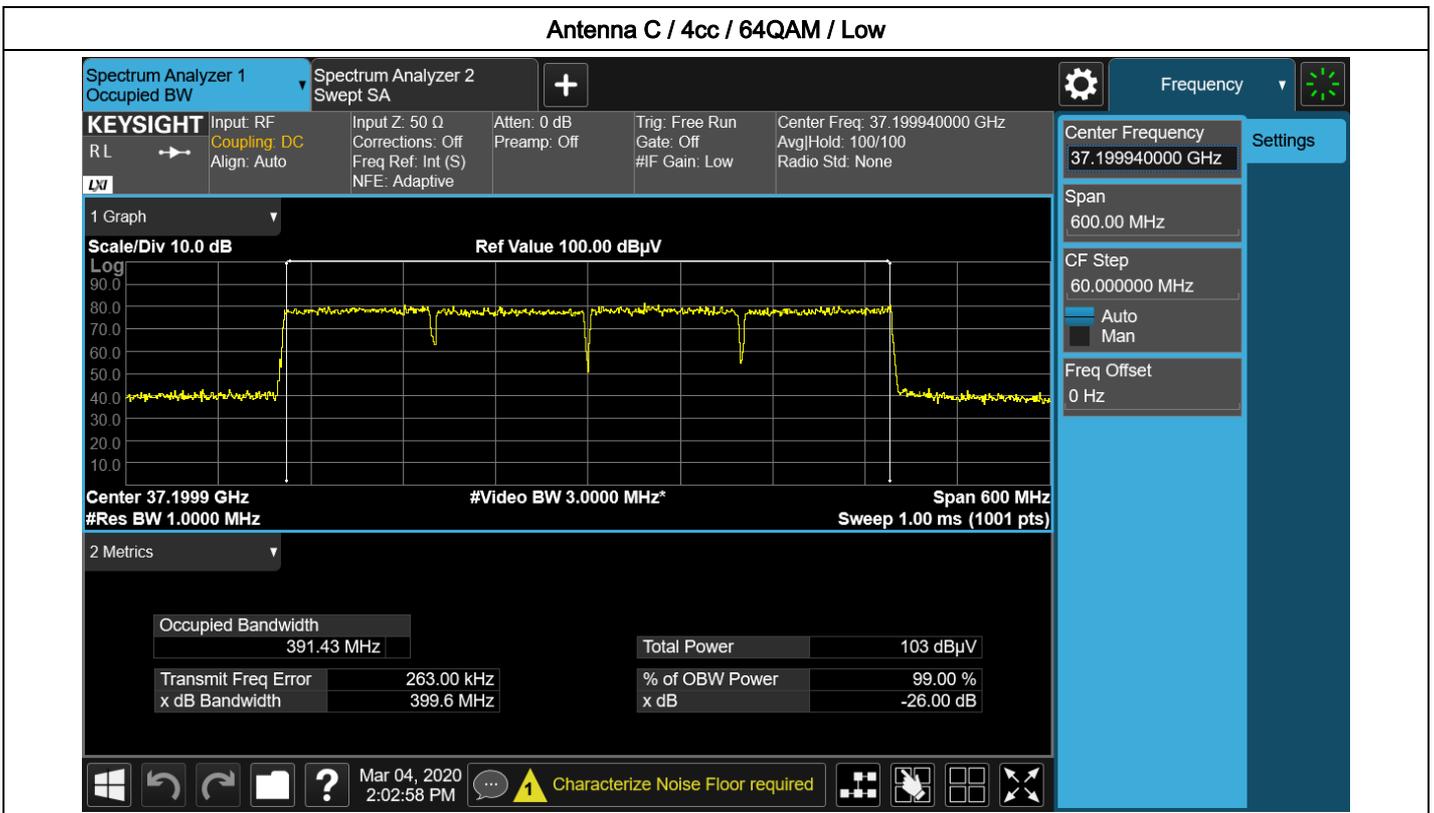
## Antenna B / 4cc / 64QAM / Low



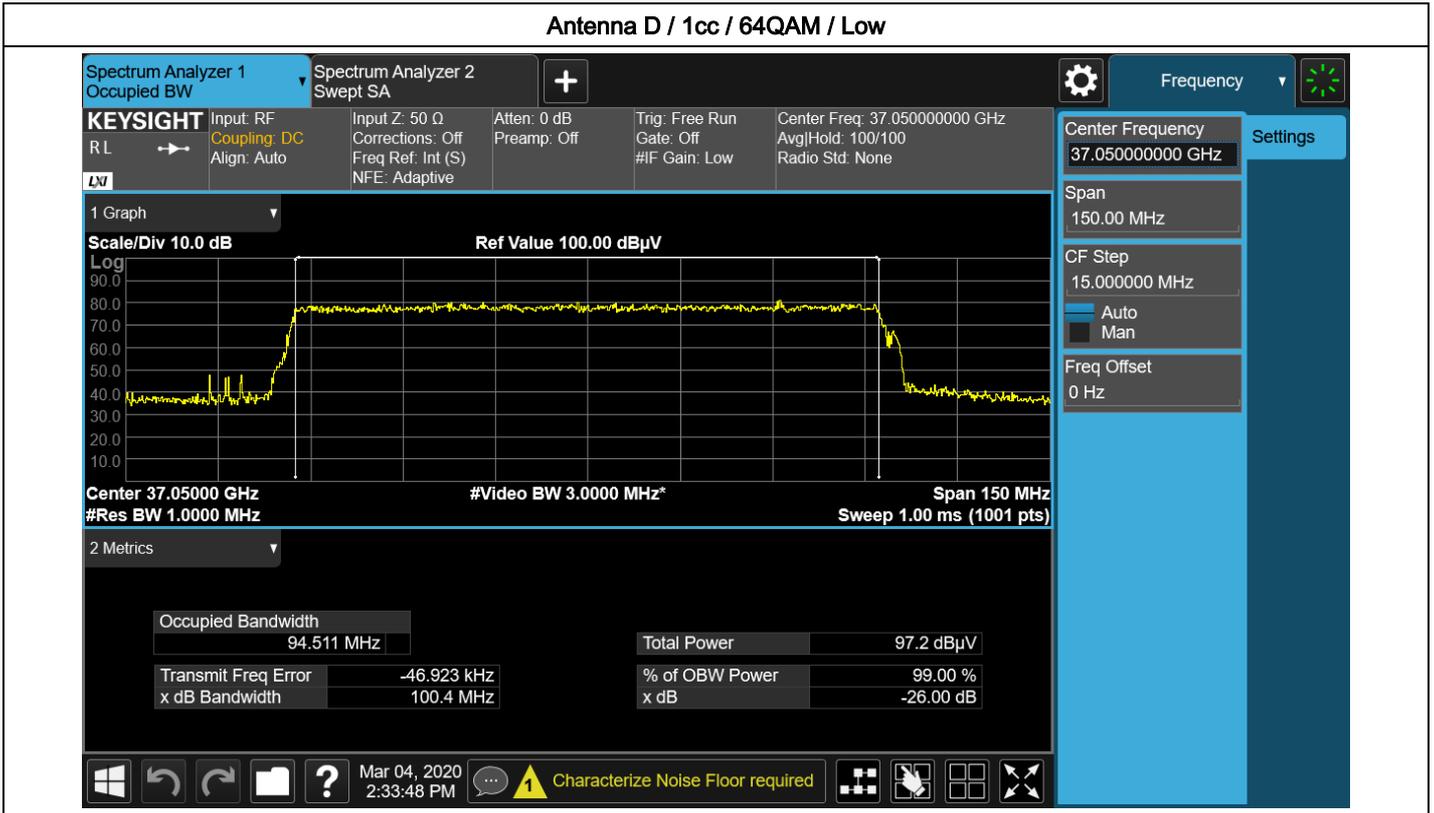
### Antenna C / 1cc / 64QAM / Low



### Antenna C / 4cc / 64QAM / Low



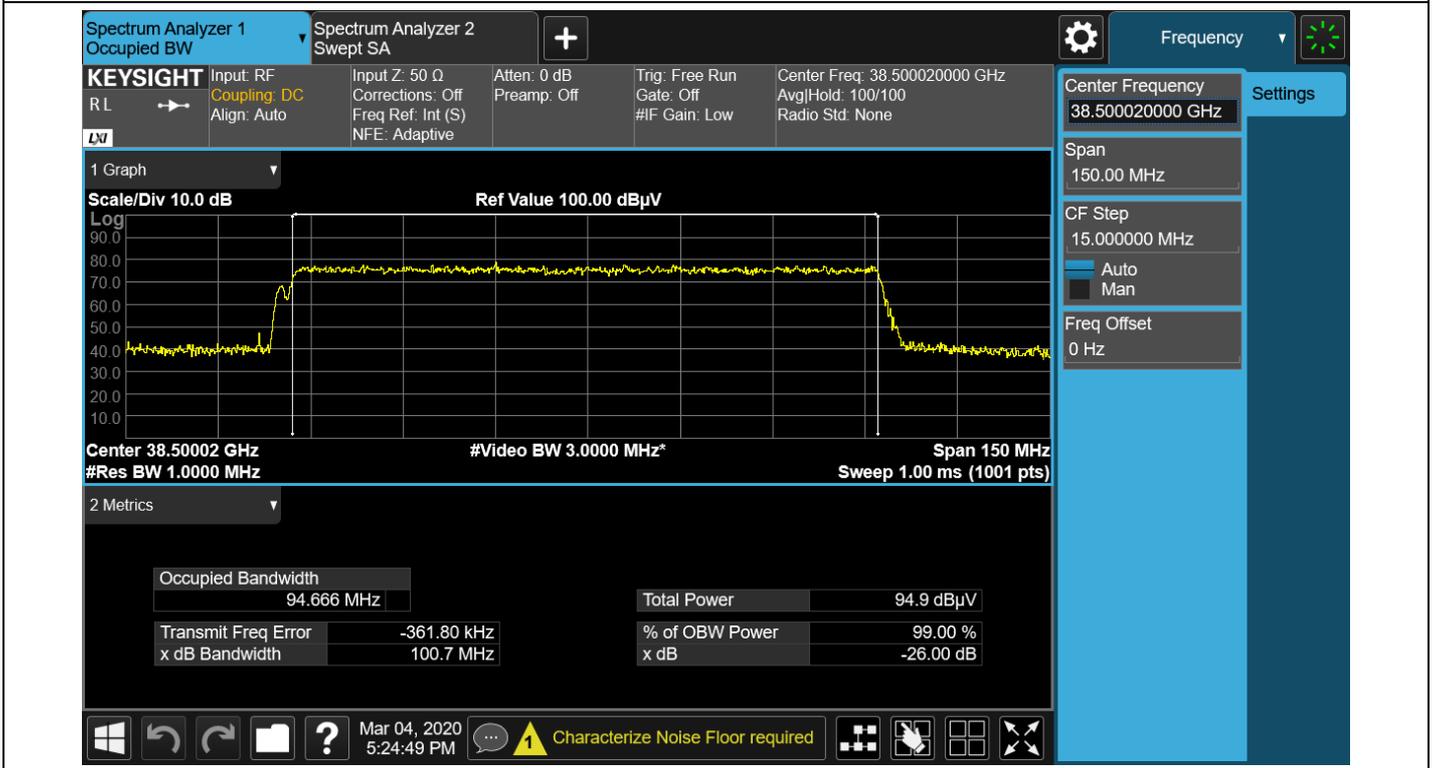
## Antenna D / 1cc / 64QAM / Low



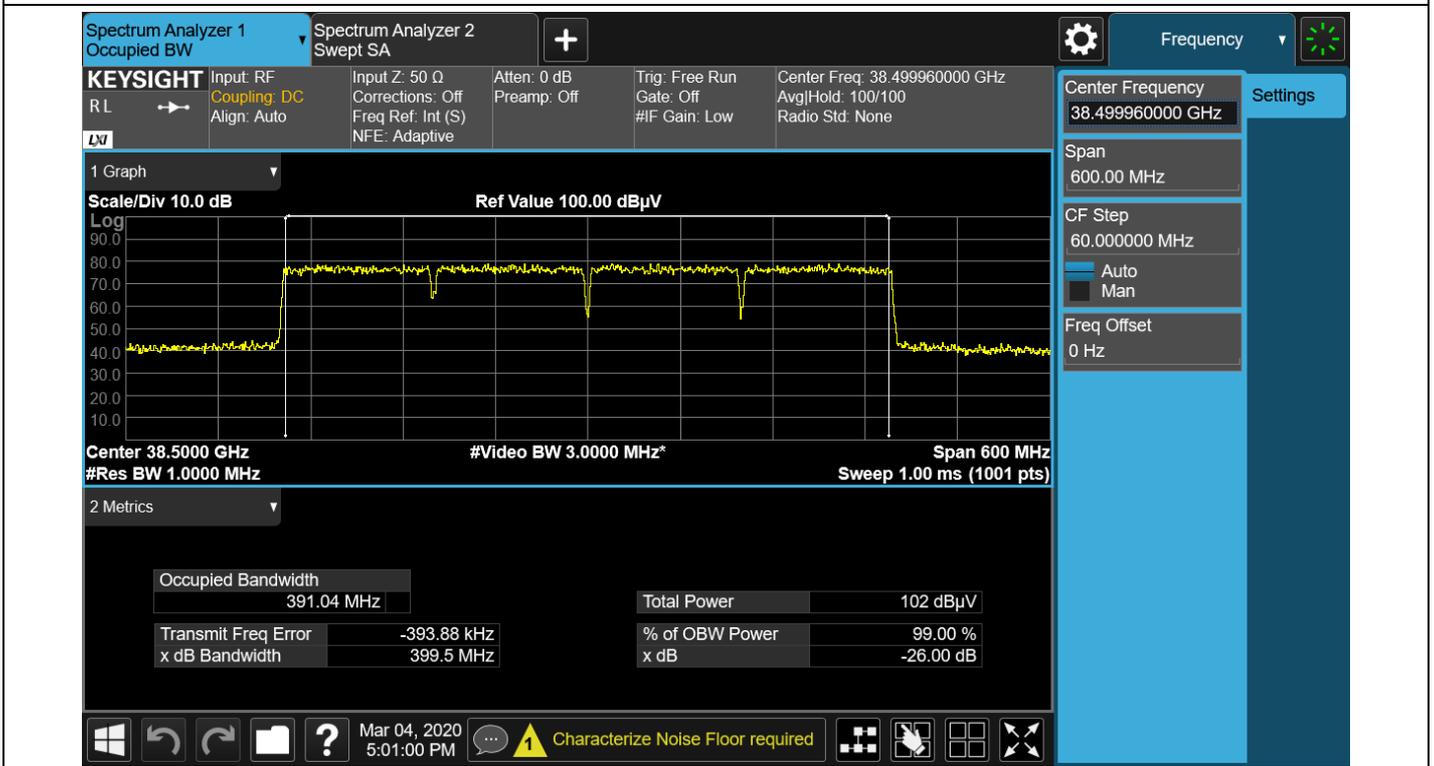
## Antenna D / 4cc / 64QAM / Low



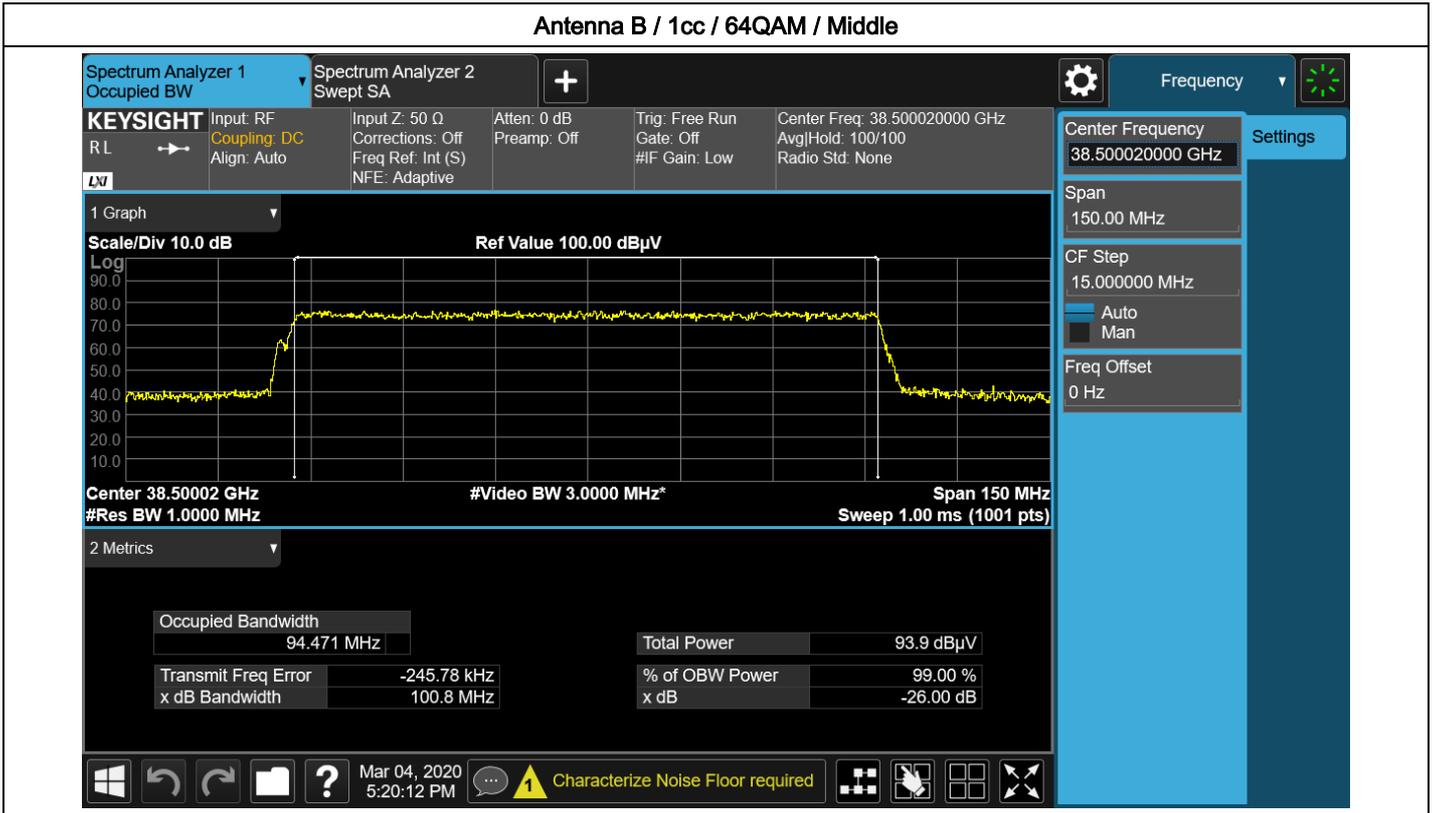
## Antenna A / 1cc / 64QAM / Middle



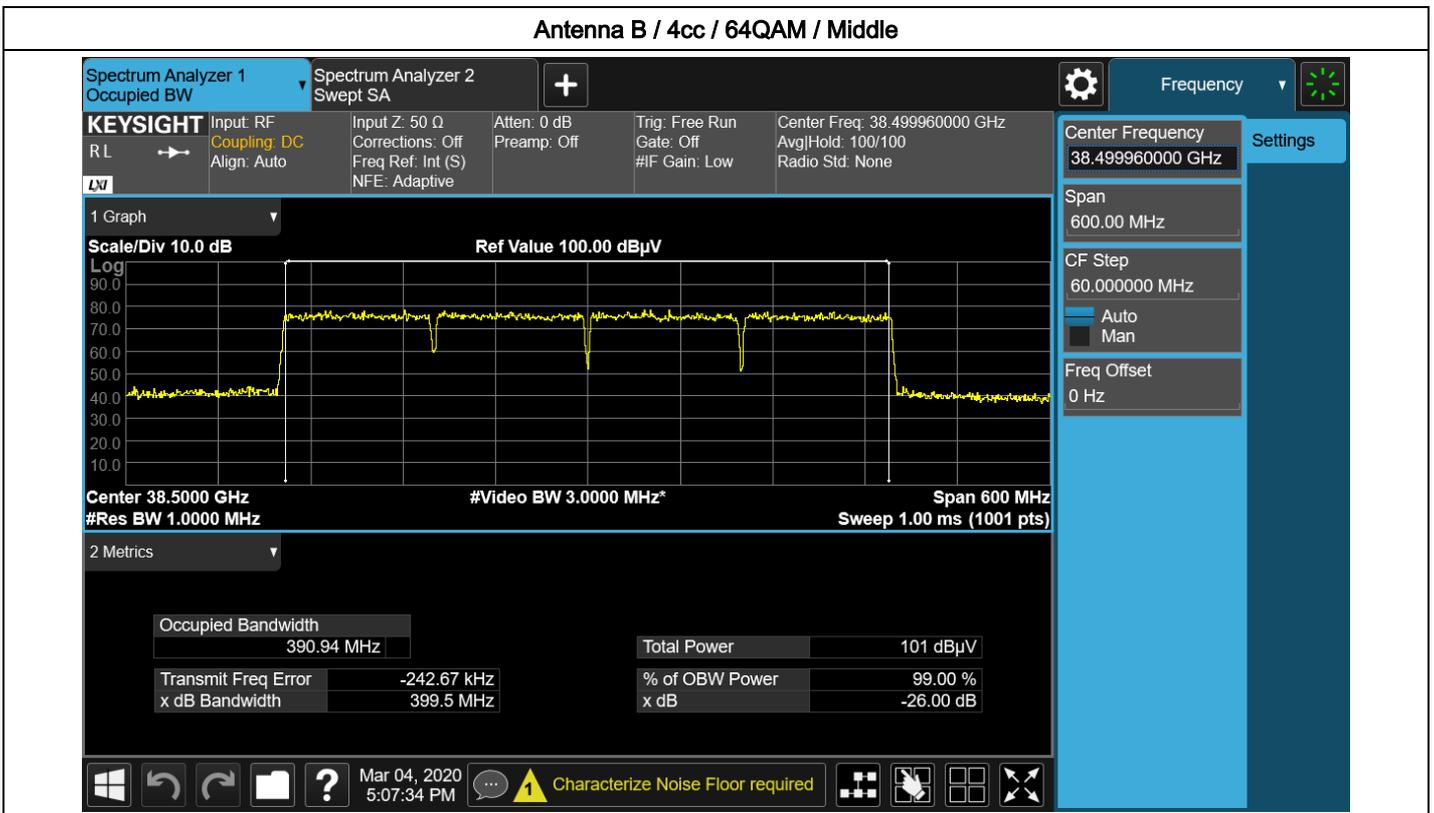
## Antenna A / 4cc / 64QAM / Middle



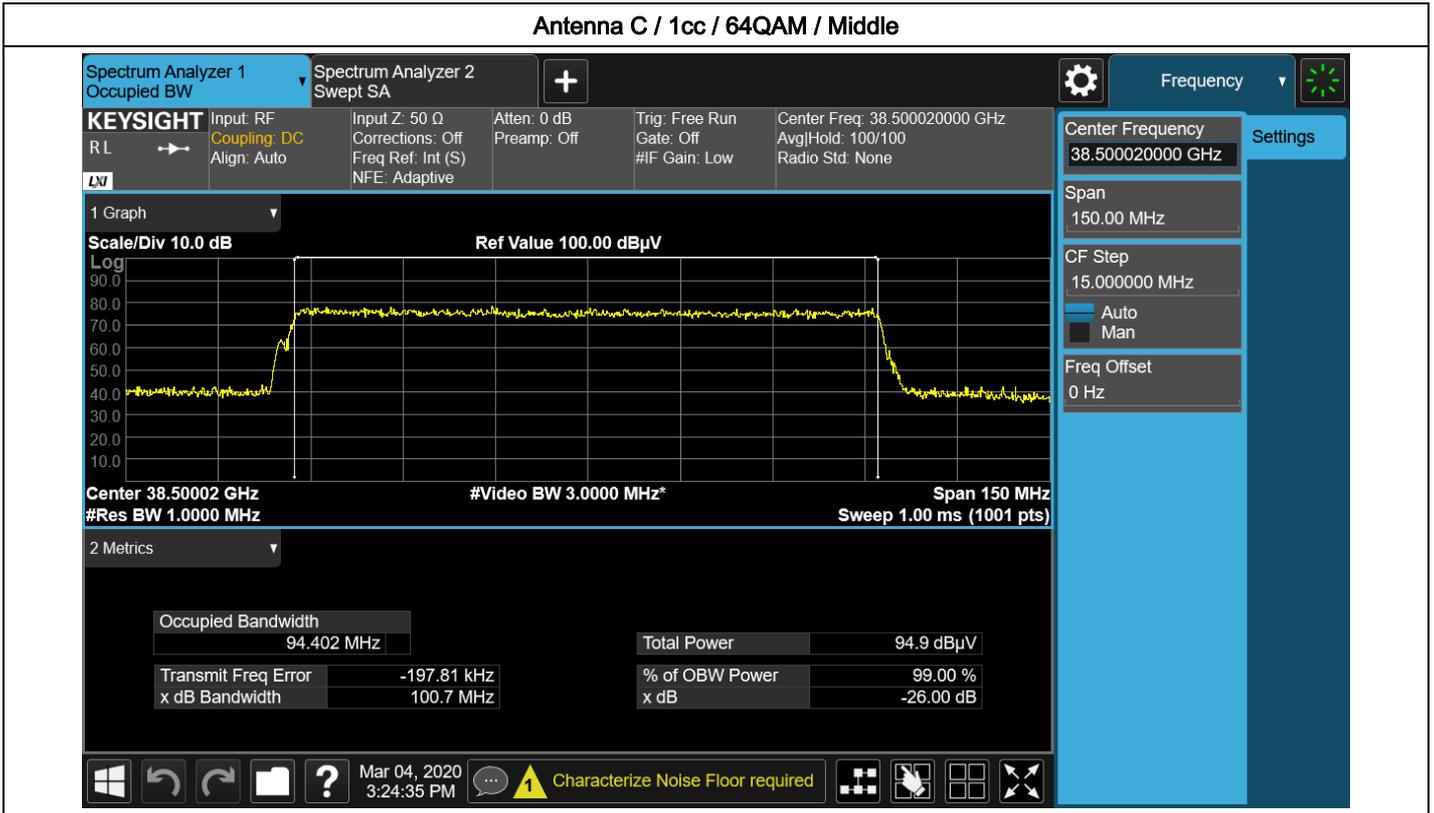
### Antenna B / 1cc / 64QAM / Middle



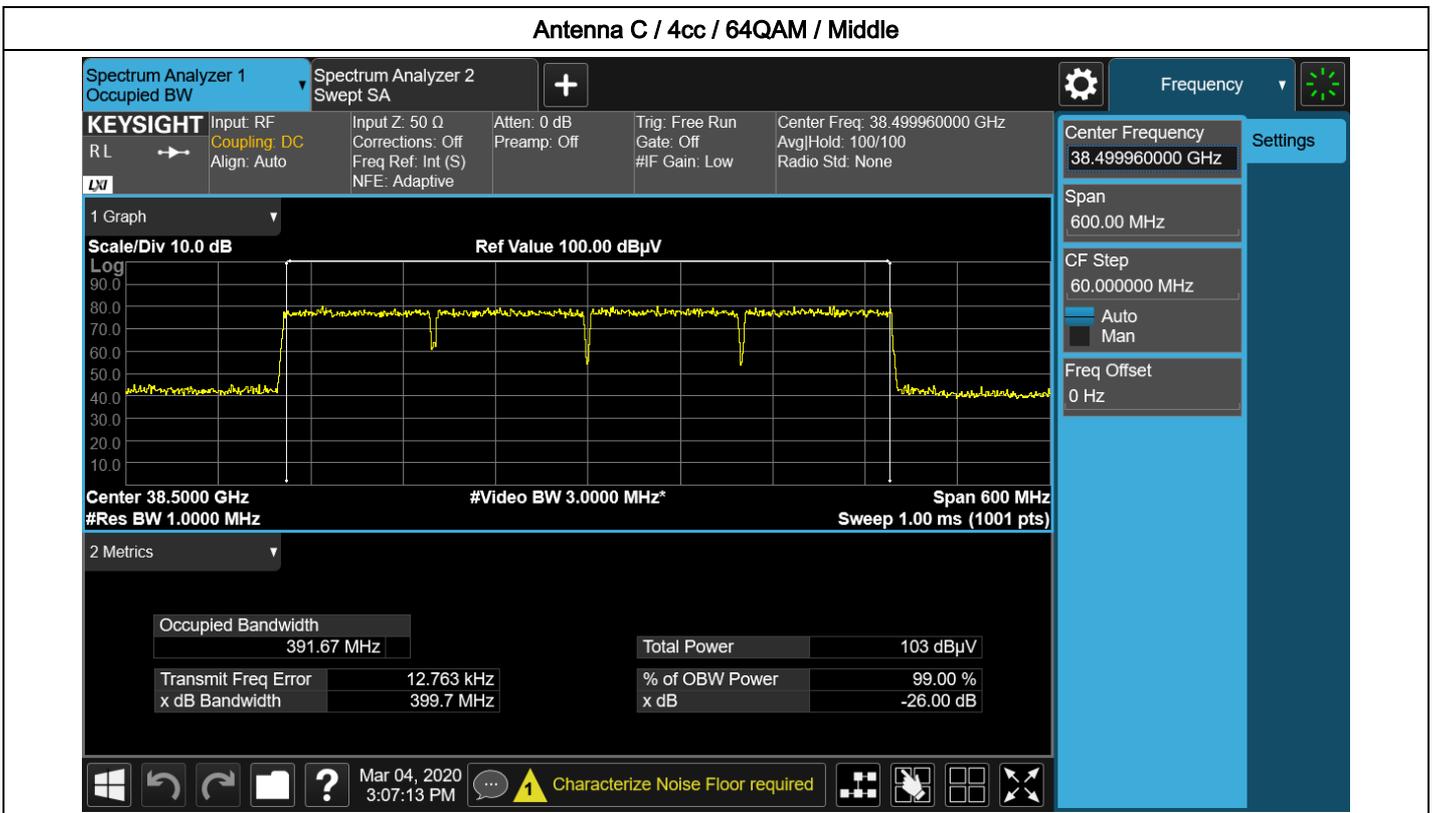
### Antenna B / 4cc / 64QAM / Middle



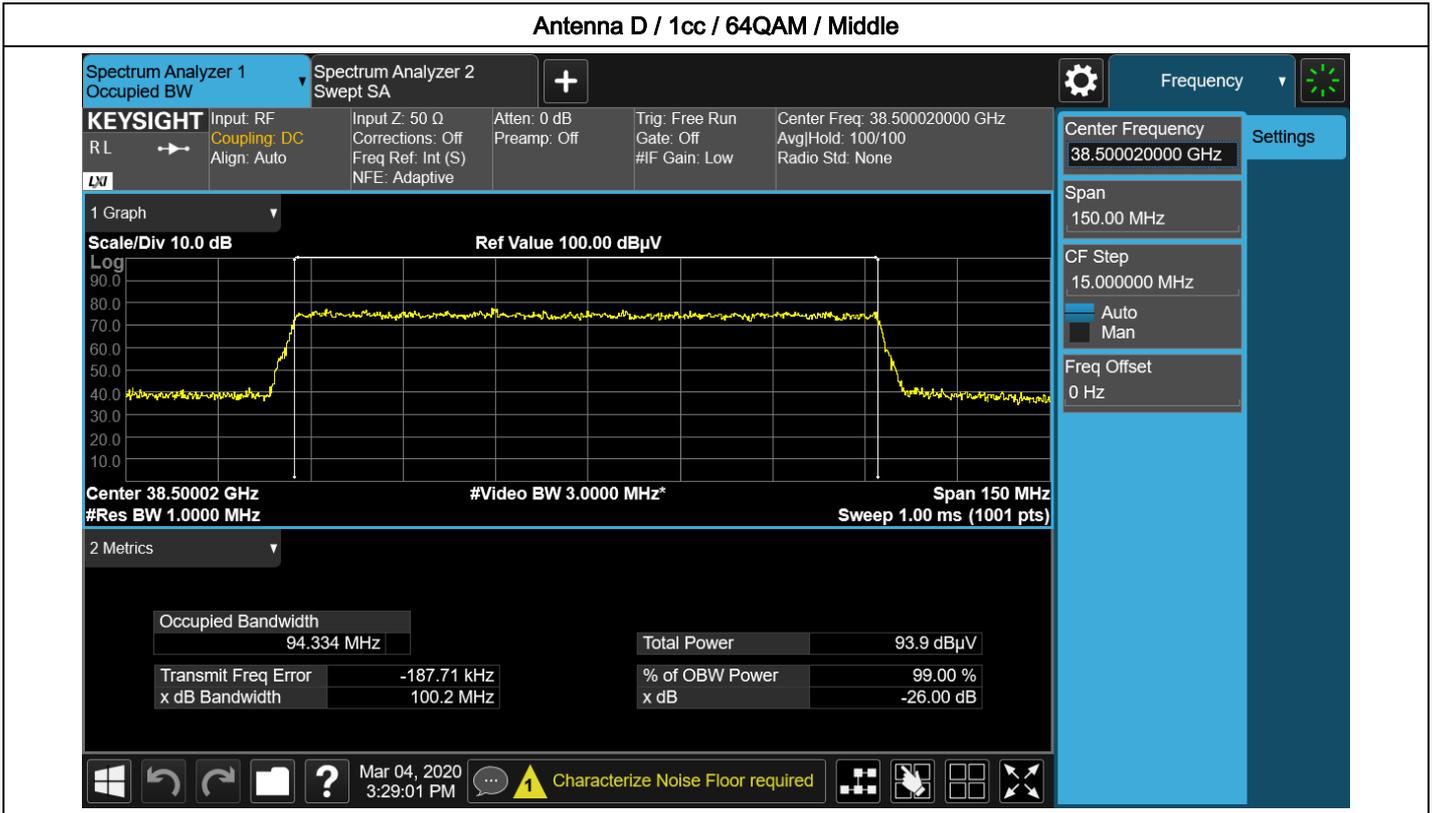
## Antenna C / 1cc / 64QAM / Middle



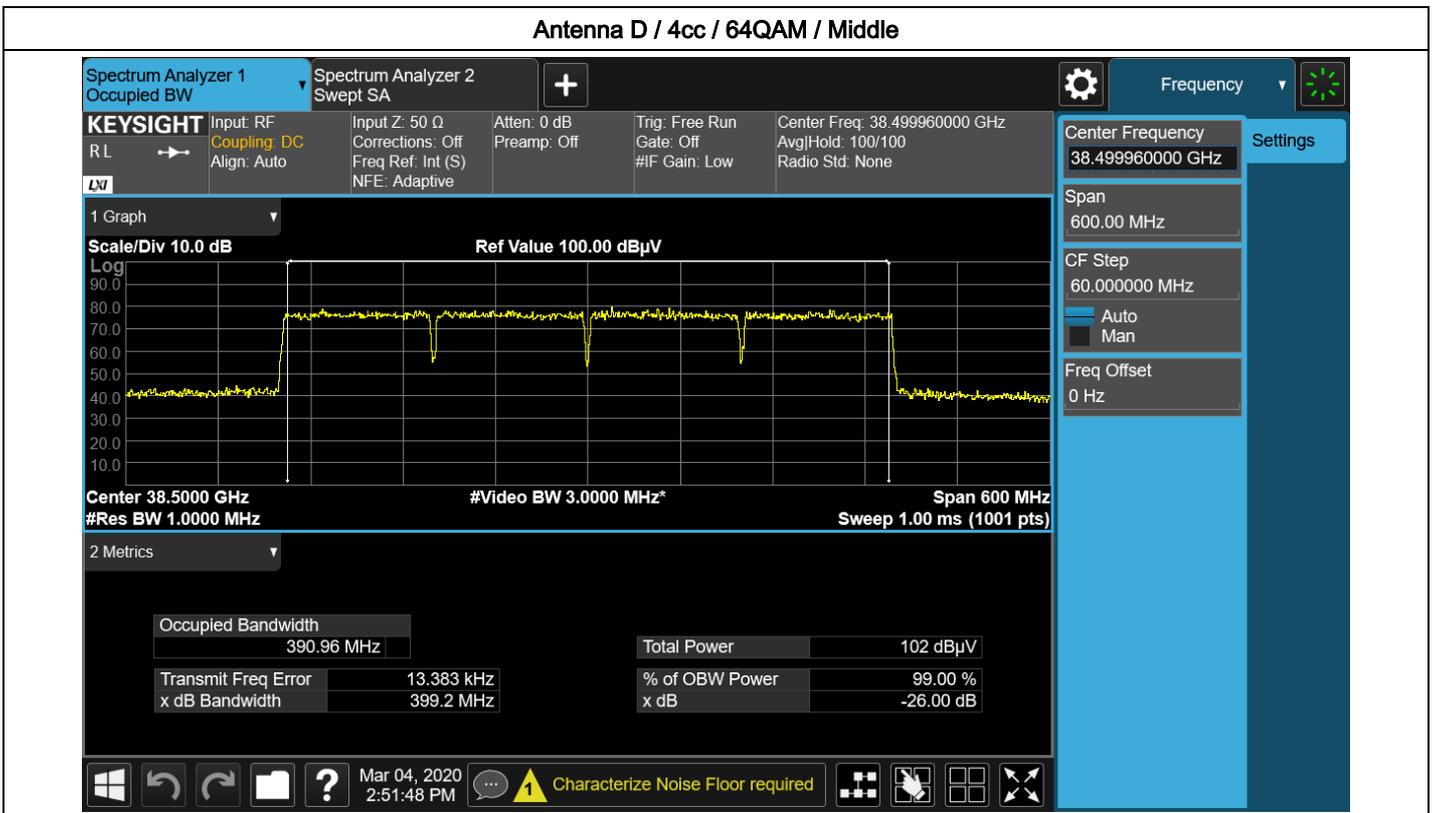
## Antenna C / 4cc / 64QAM / Middle



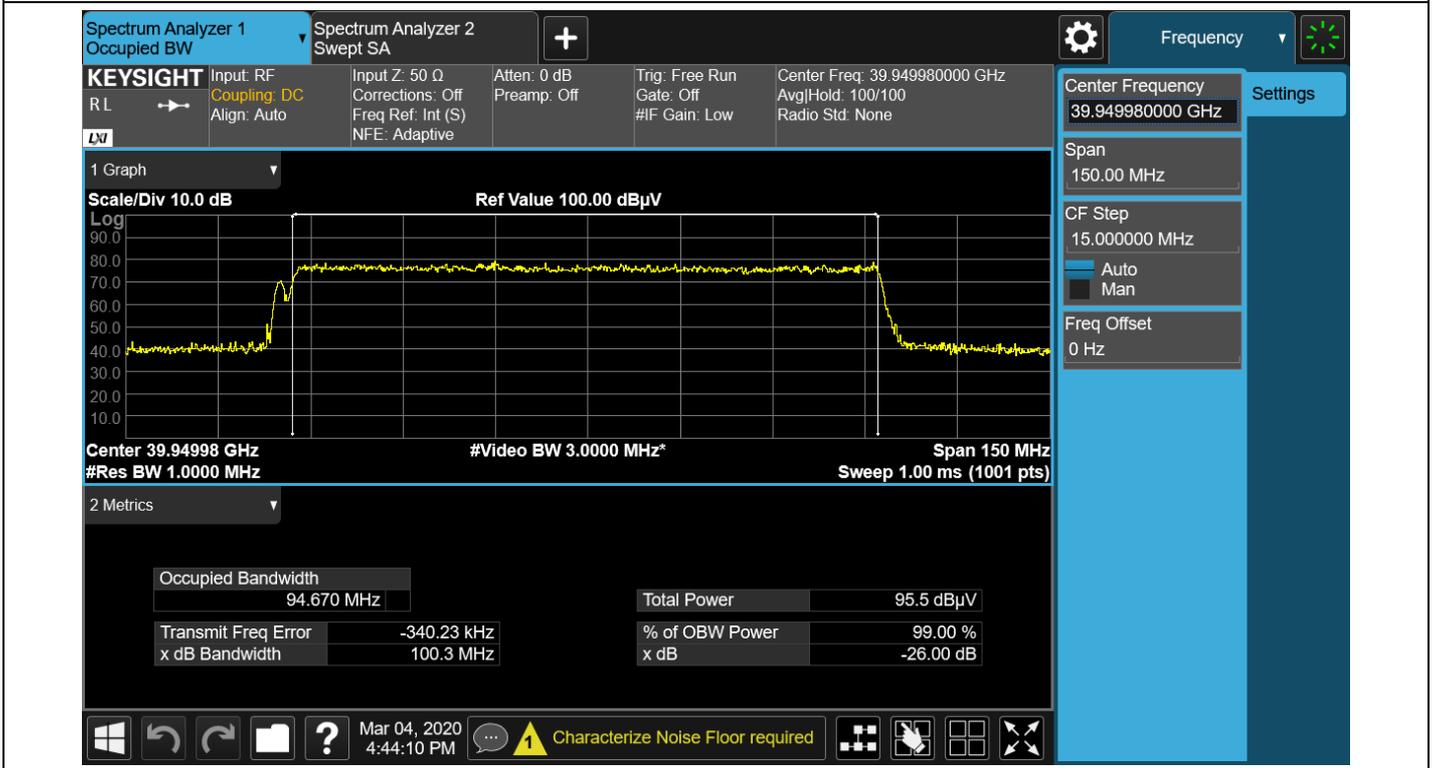
## Antenna D / 1cc / 64QAM / Middle



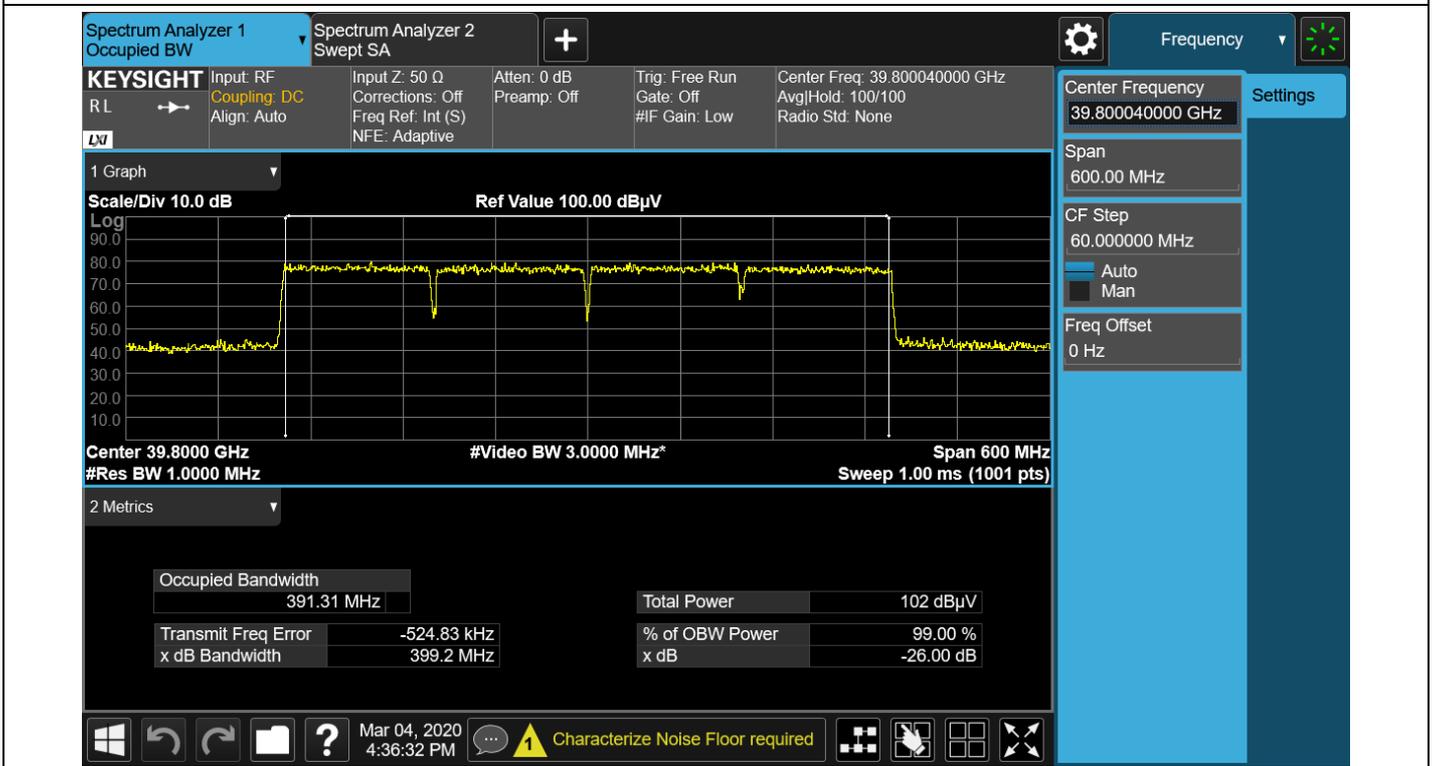
## Antenna D / 4cc / 64QAM / Middle



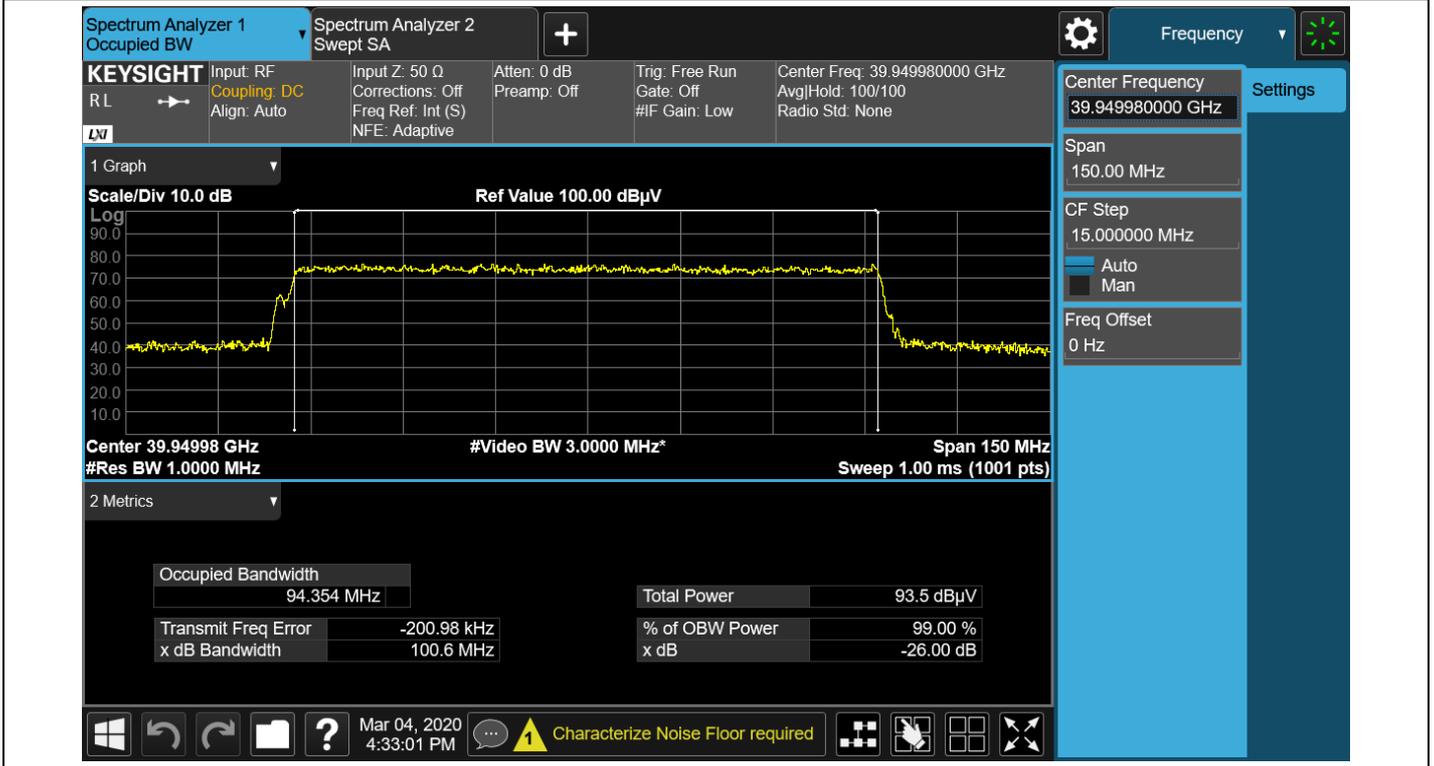
## Antenna A / 1cc / 64QAM / High



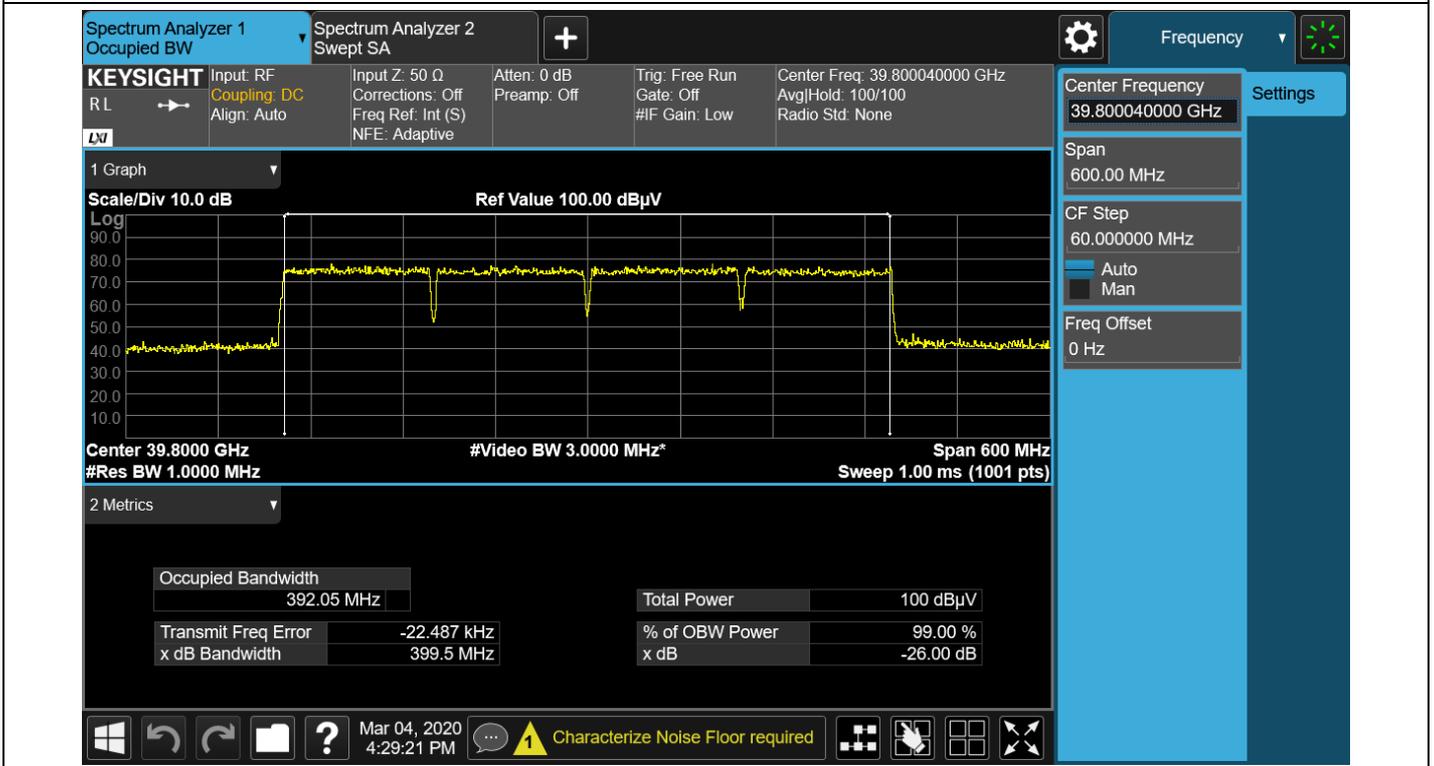
## Antenna A / 4cc / 64QAM / High



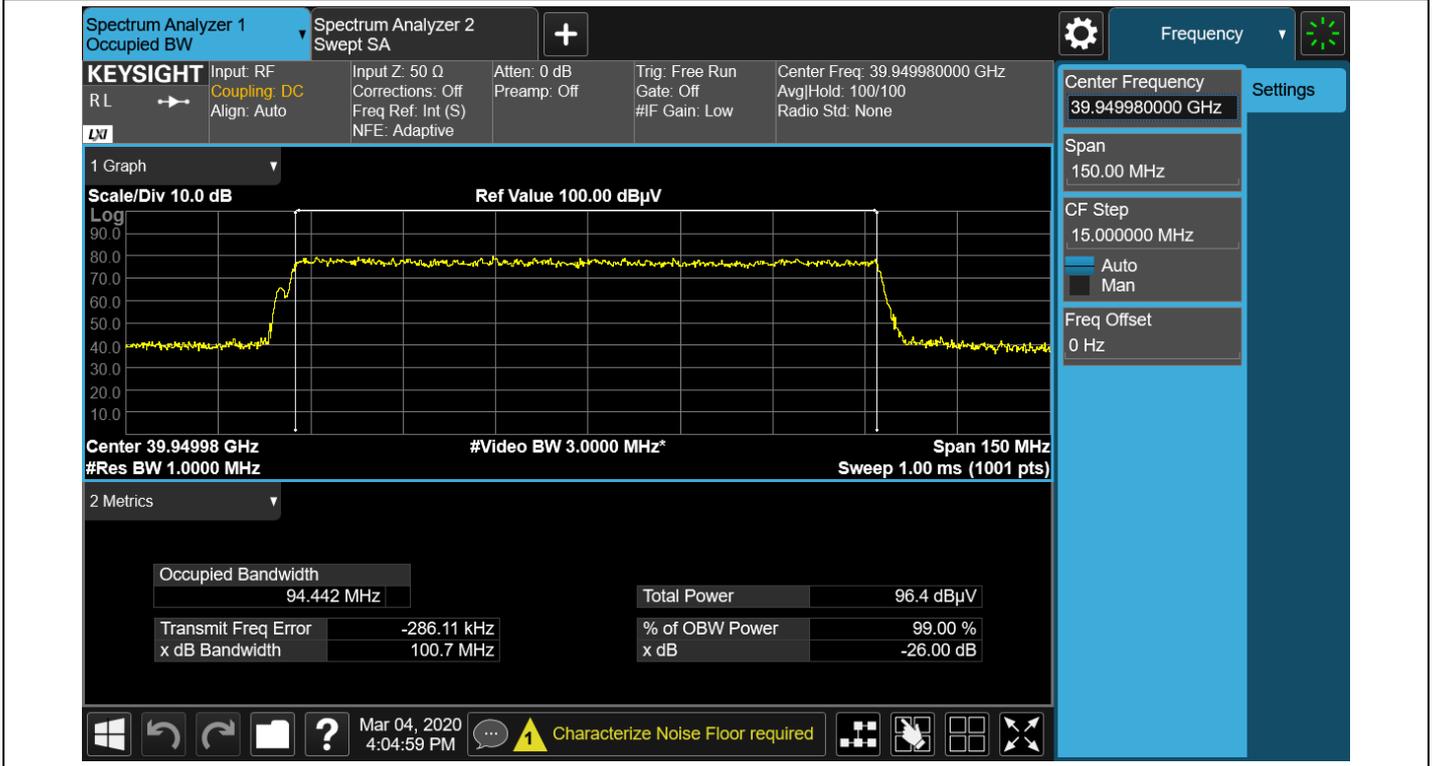
## Antenna B / 1cc / 64QAM / High



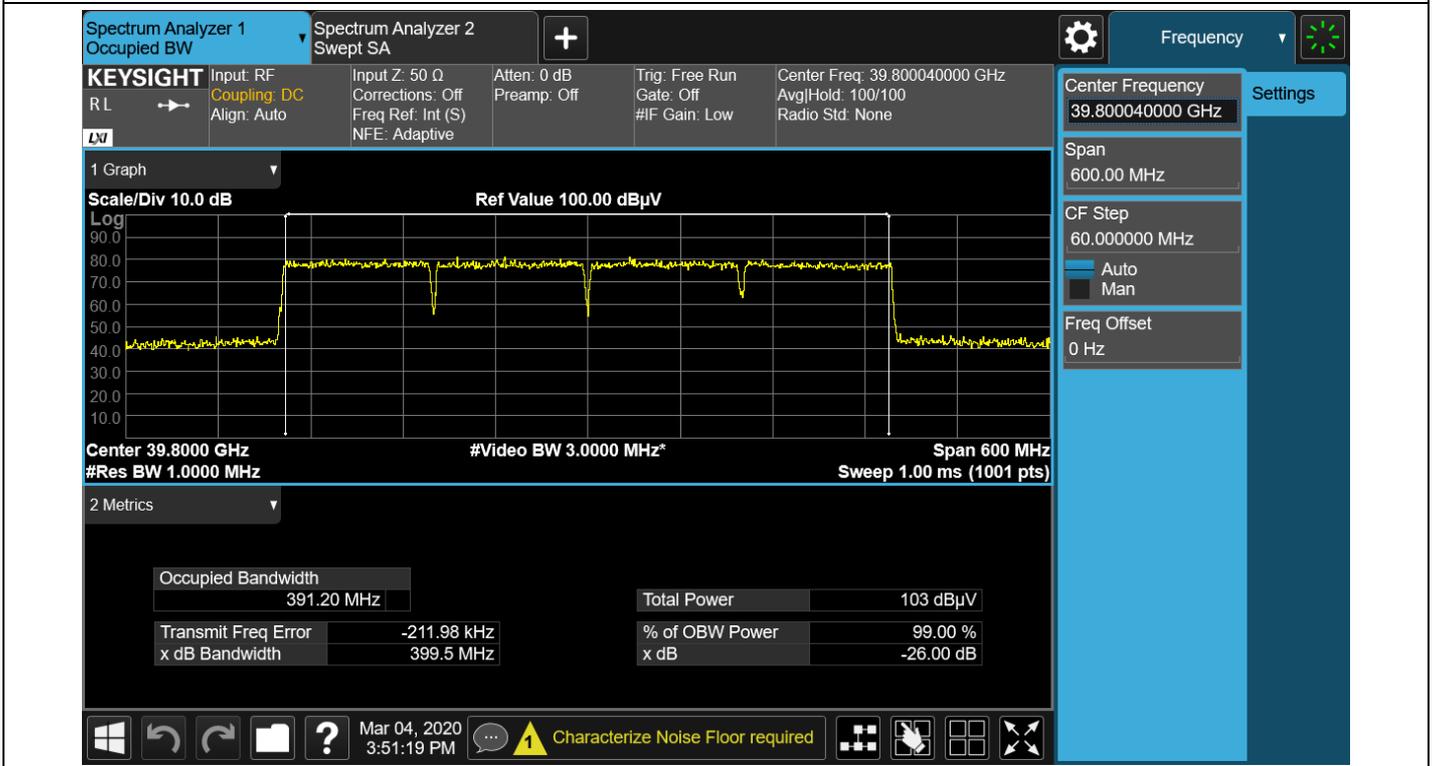
## Antenna B / 4cc / 64QAM / High



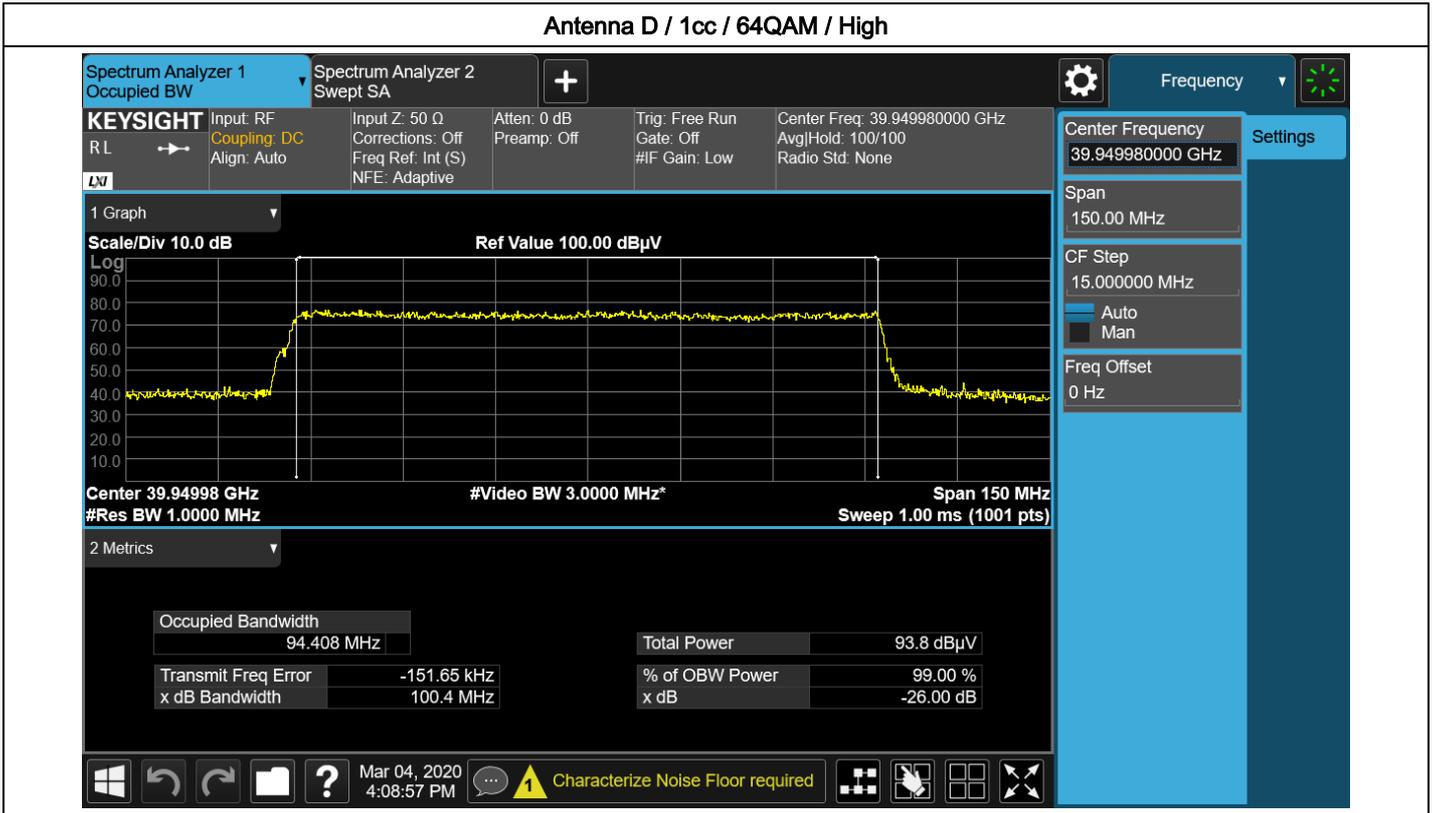
## Antenna C / 1cc / 64QAM / High



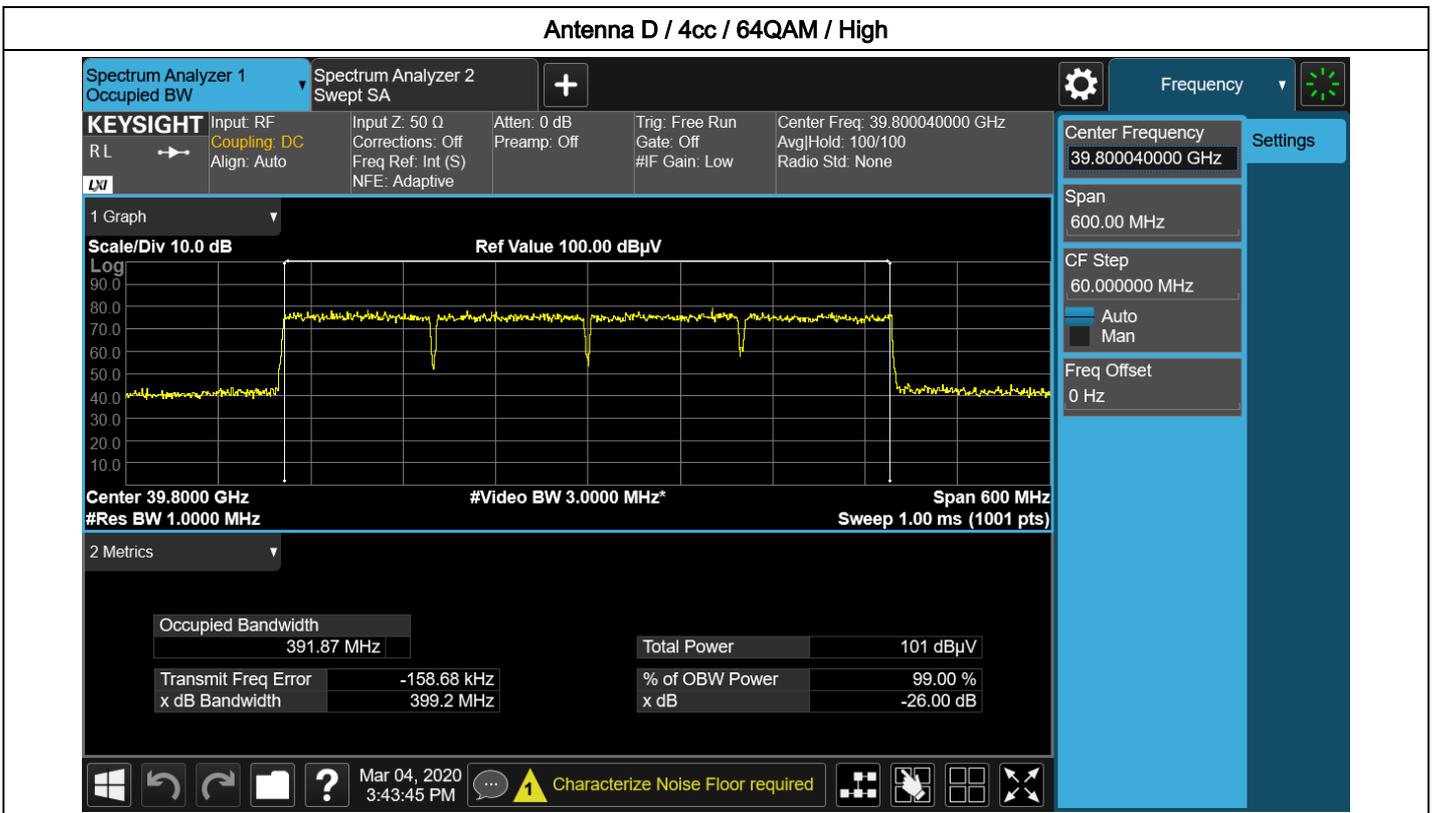
## Antenna C / 4cc / 64QAM / High



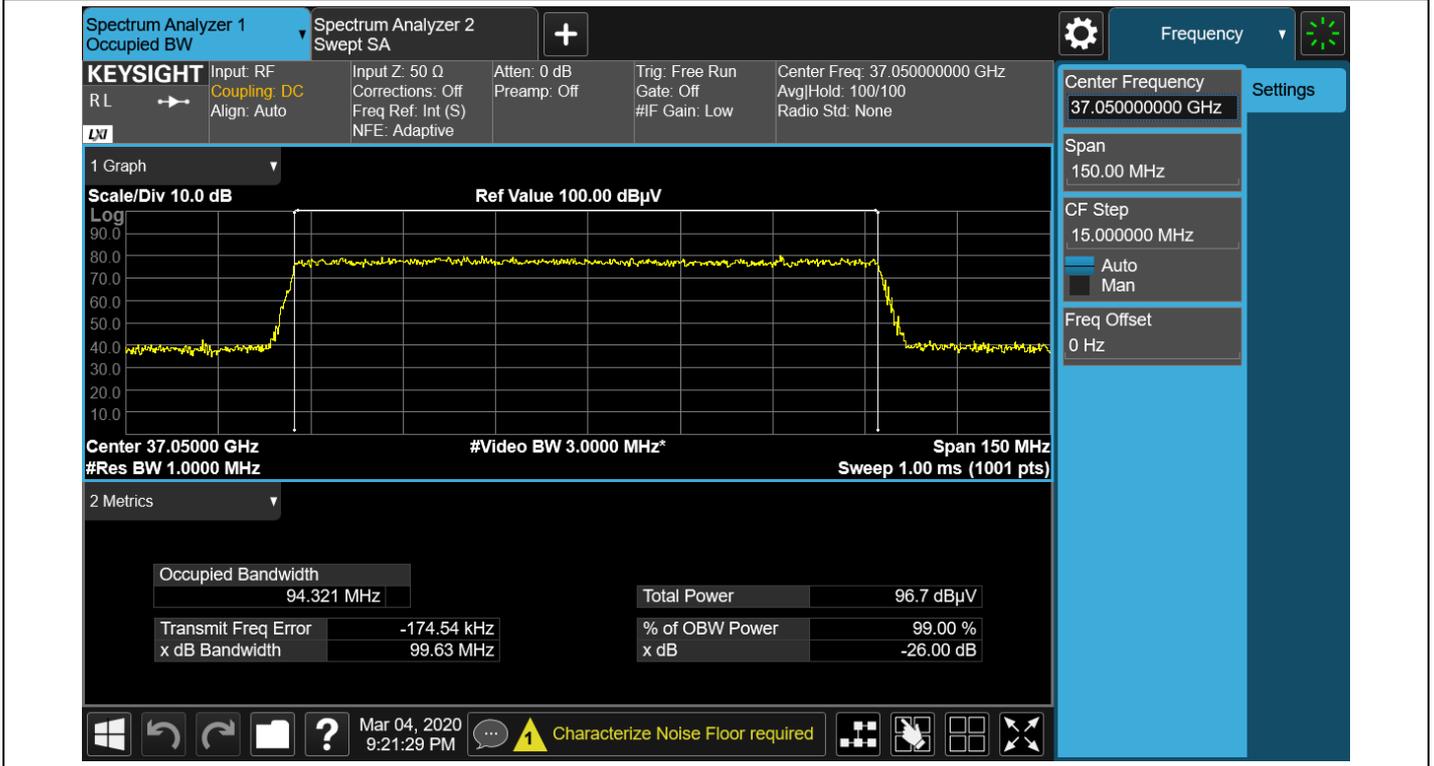
## Antenna D / 1cc / 64QAM / High



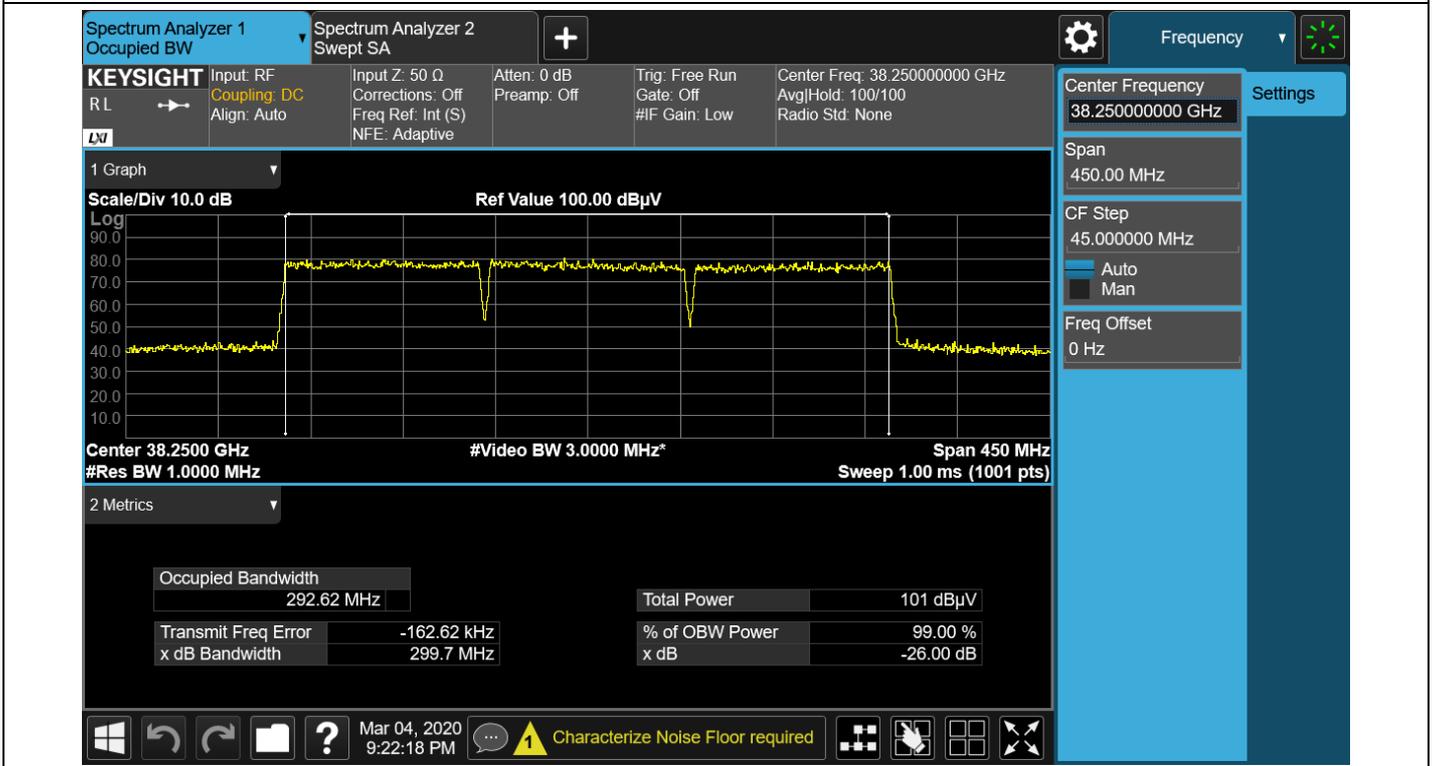
## Antenna D / 4cc / 64QAM / High



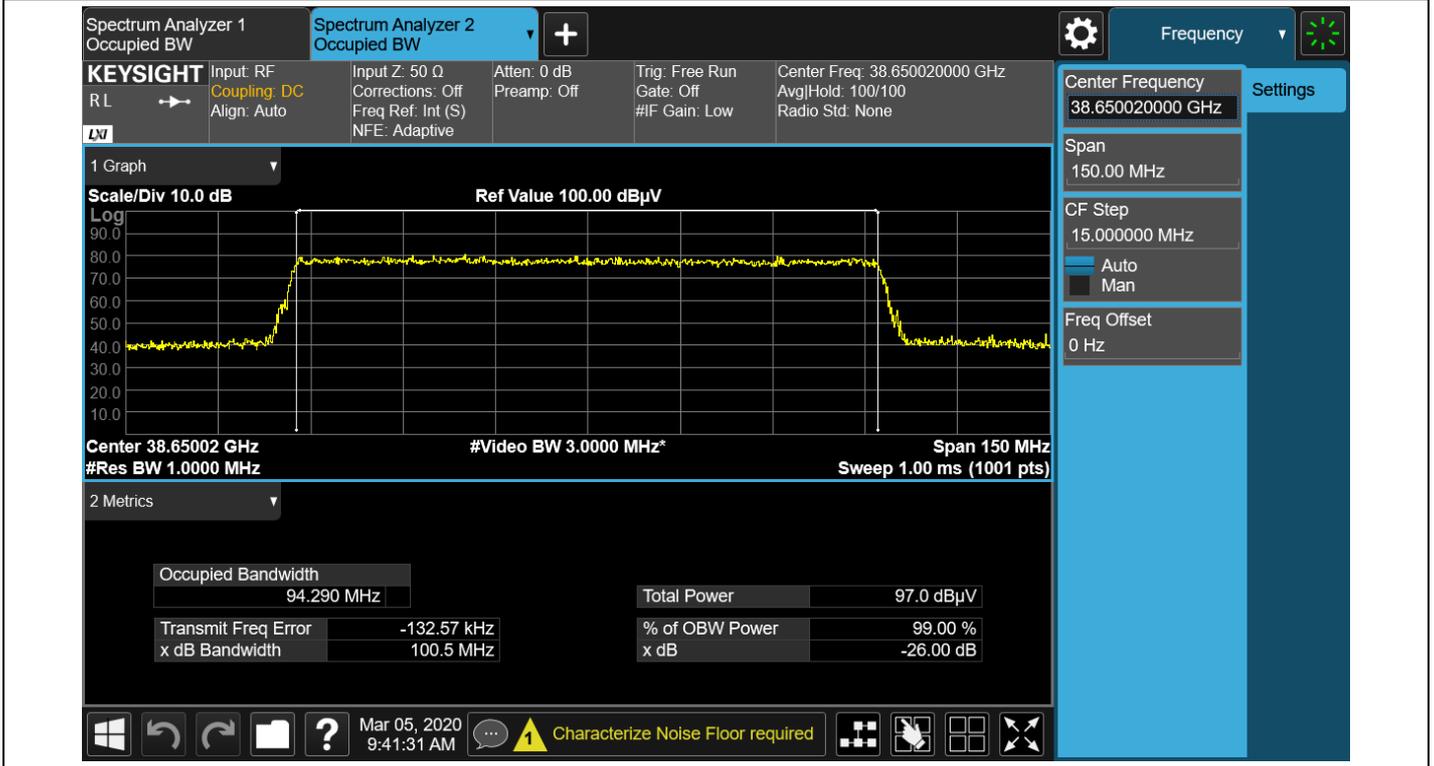
## Antenna A / cc1+3 / 64QAM / Low\_1



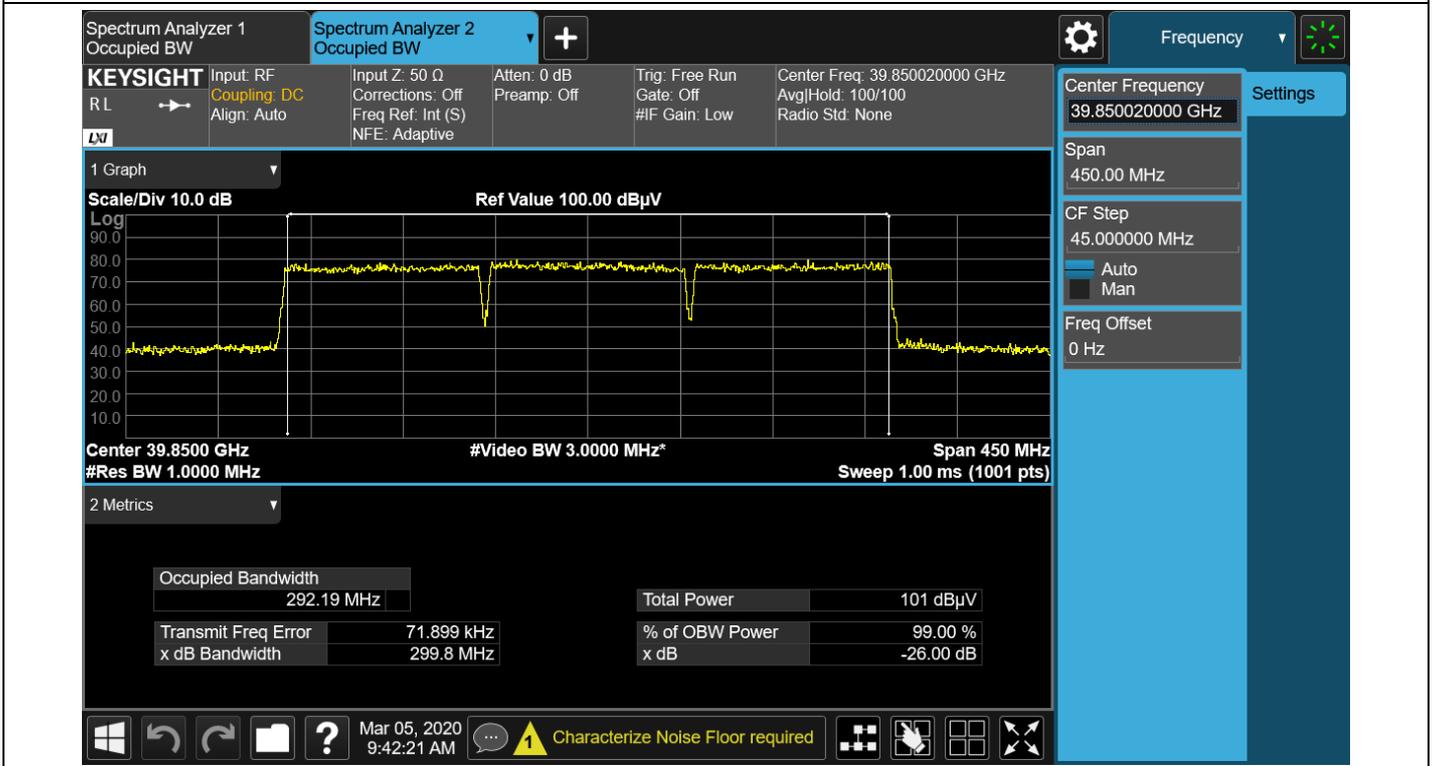
## Antenna A / cc1+3 / 64QAM / Low\_2



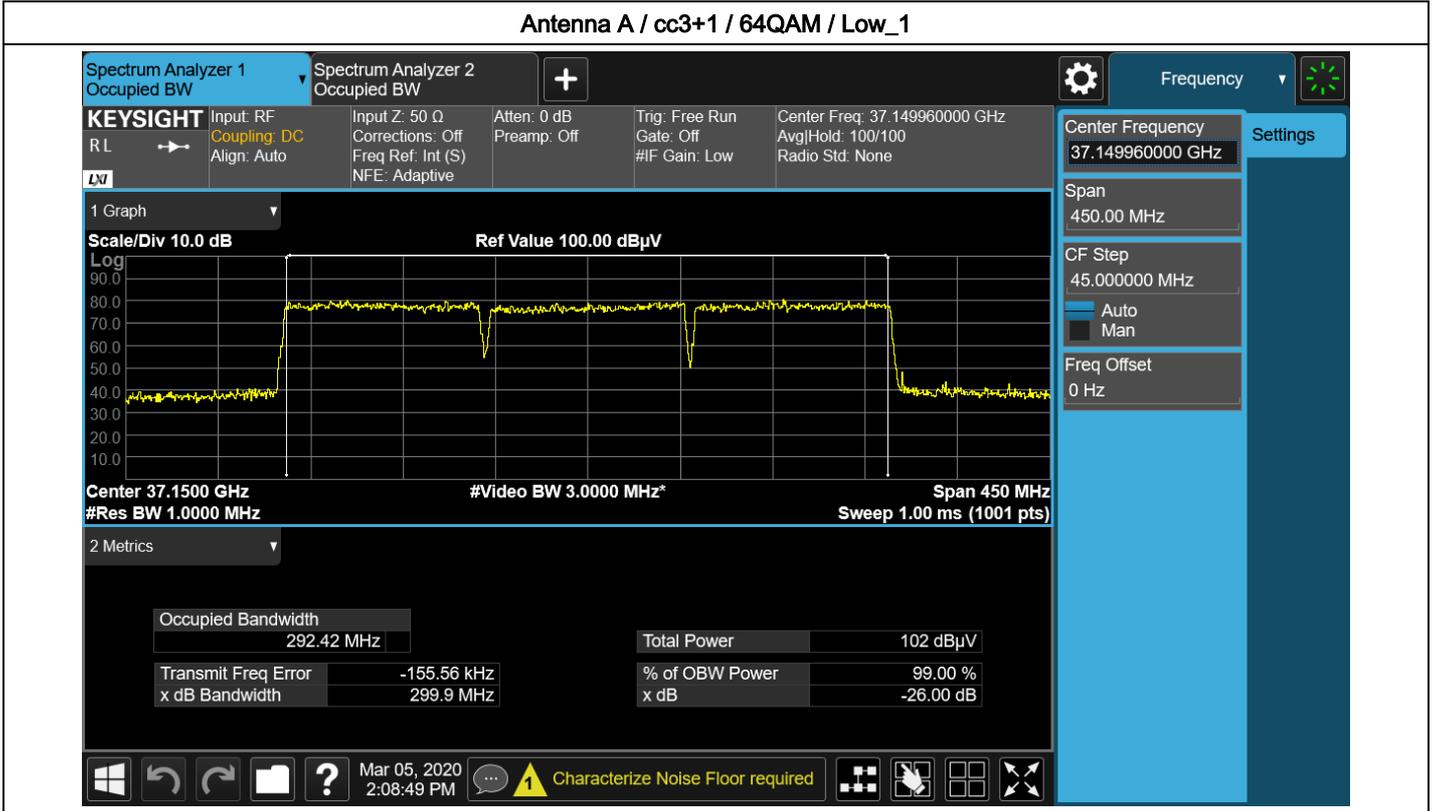
## Antenna A / cc1+3 / 64QAM / High\_1



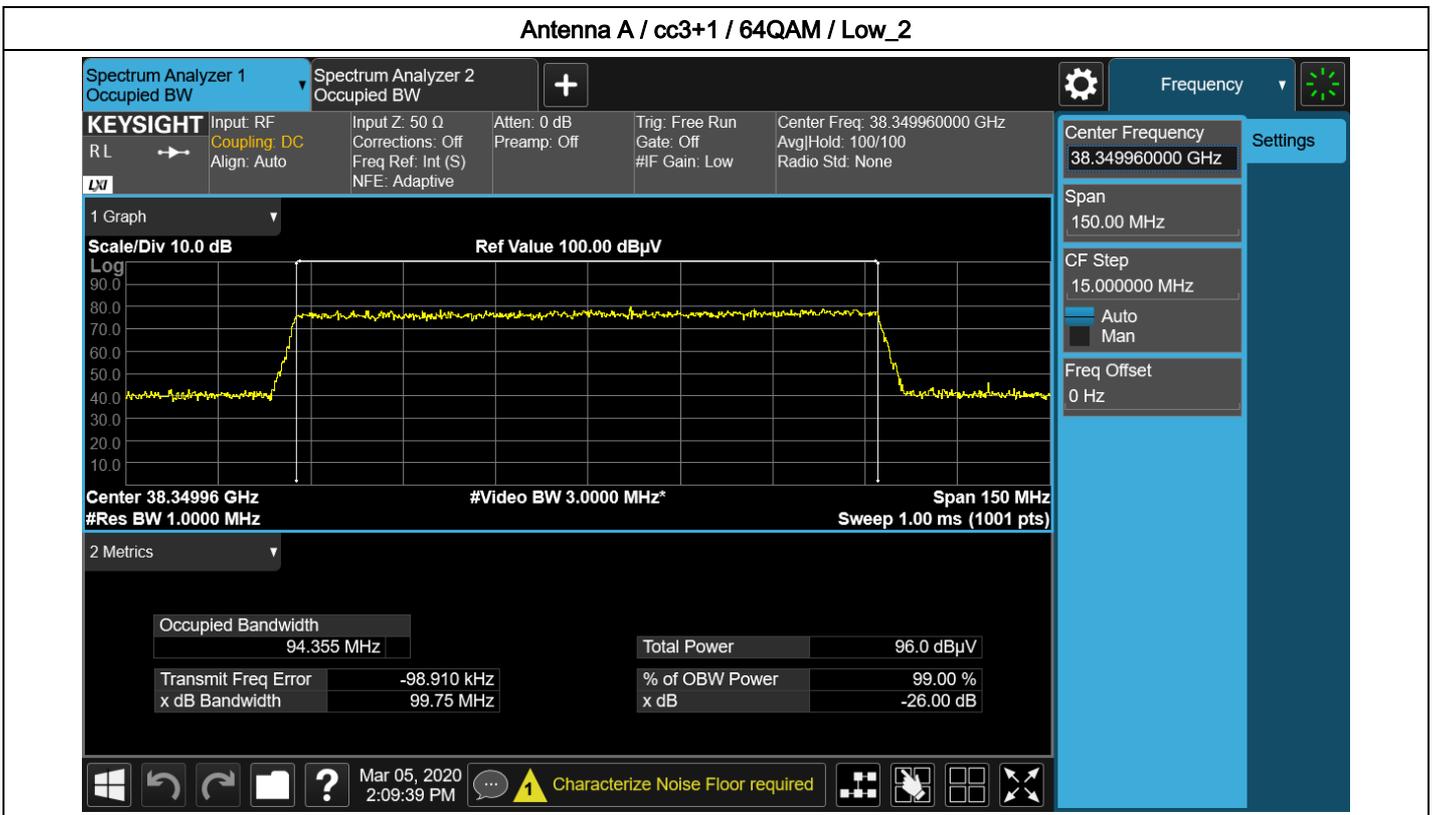
## Antenna A / cc1+3 / 64QAM / High\_2



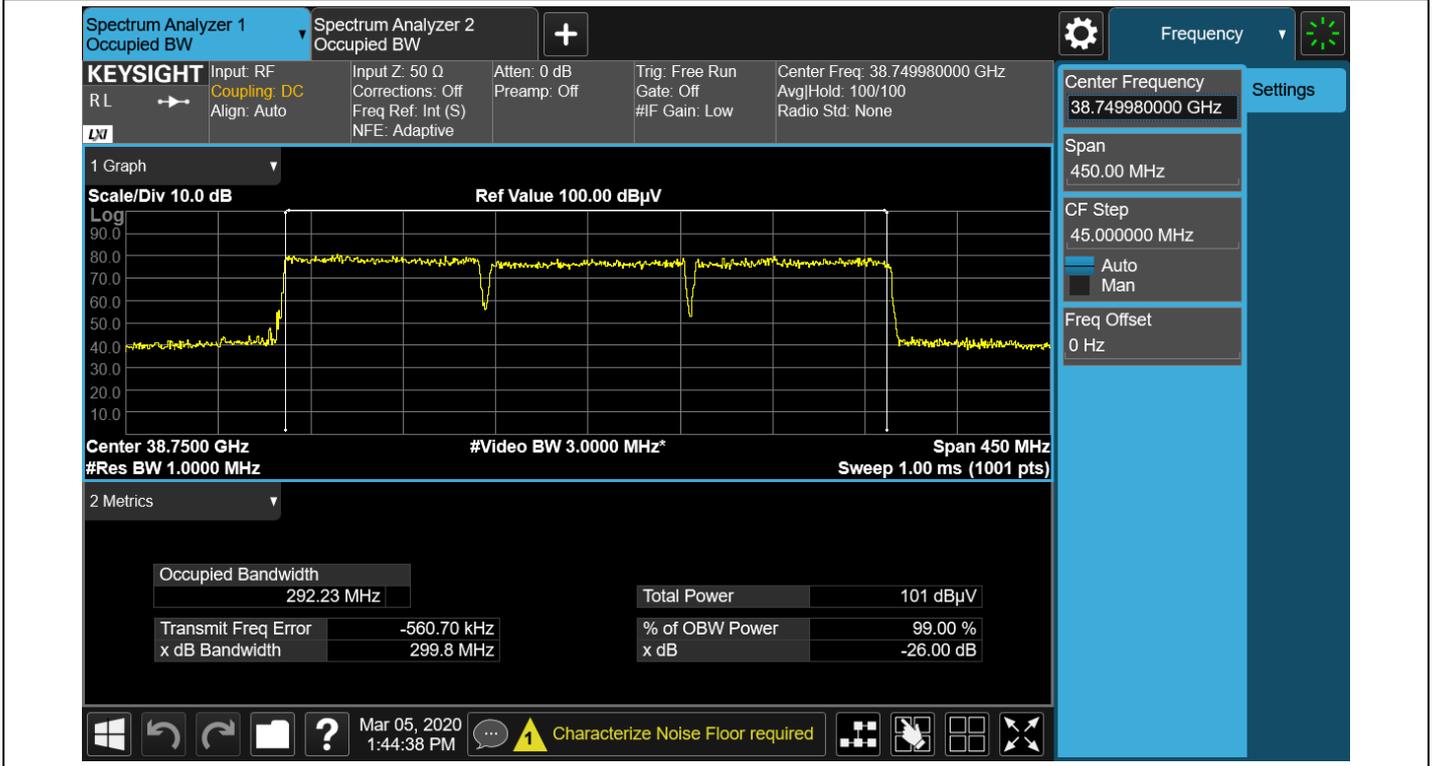
## Antenna A / cc3+1 / 64QAM / Low\_1



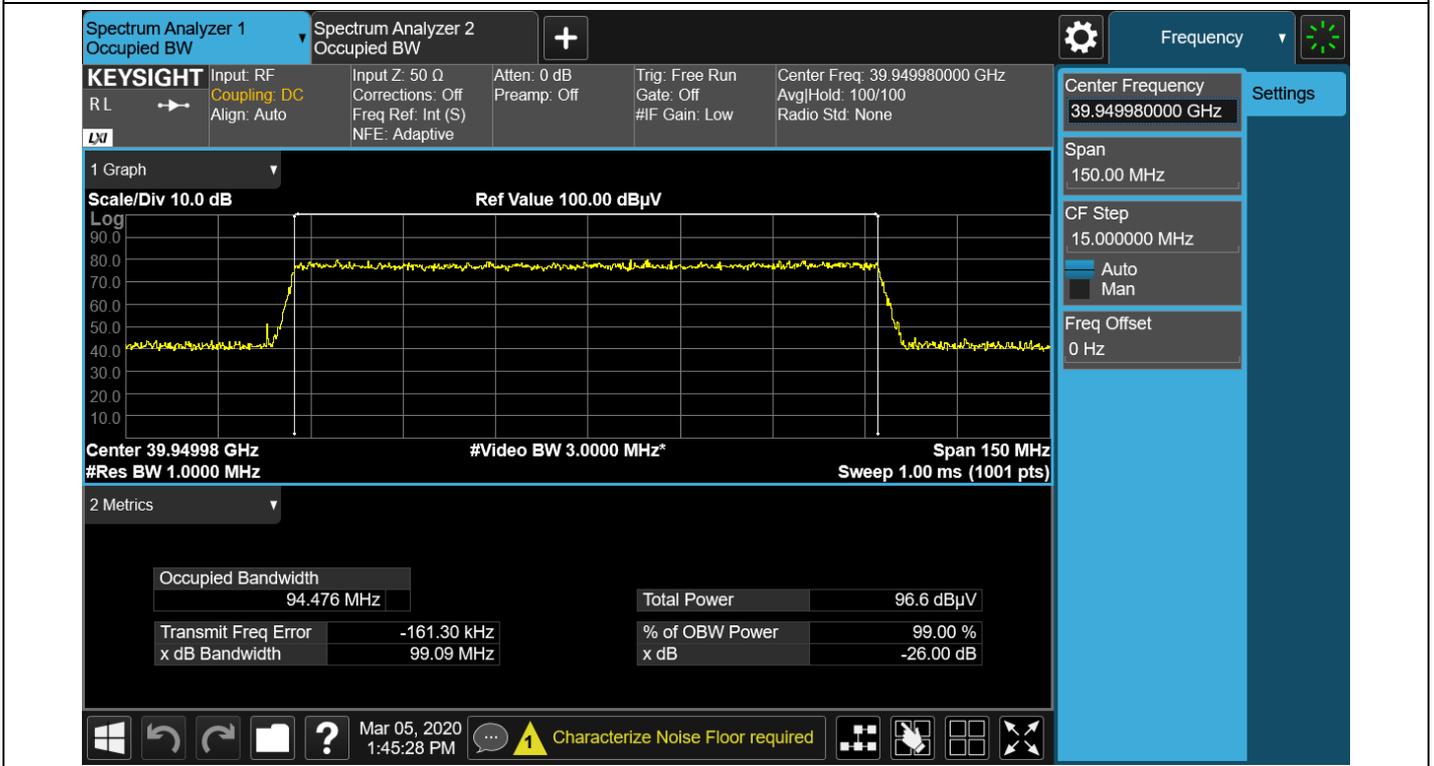
## Antenna A / cc3+1 / 64QAM / Low\_2



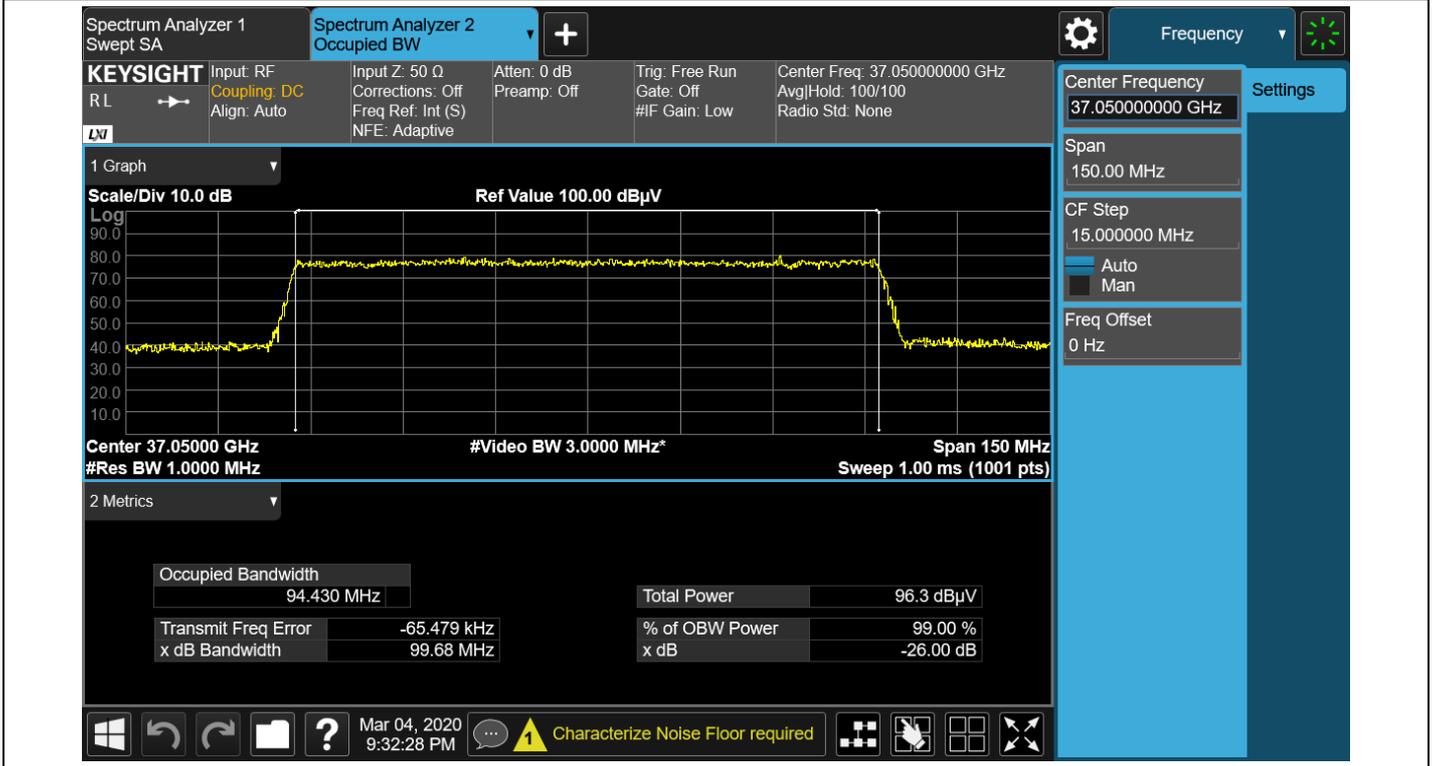
## Antenna A / cc3+1 / 64QAM / High\_1



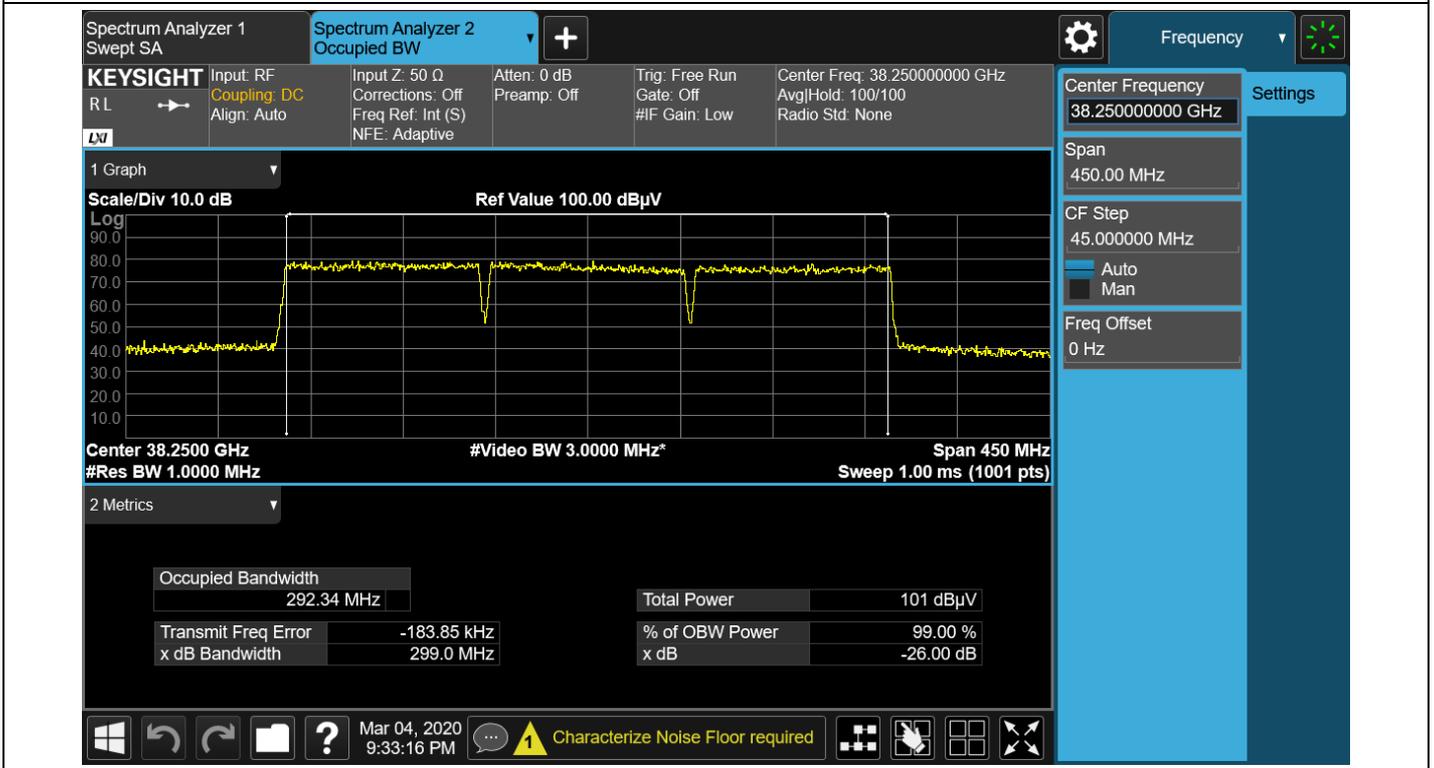
## Antenna A / cc3+1 / 64QAM / High\_2



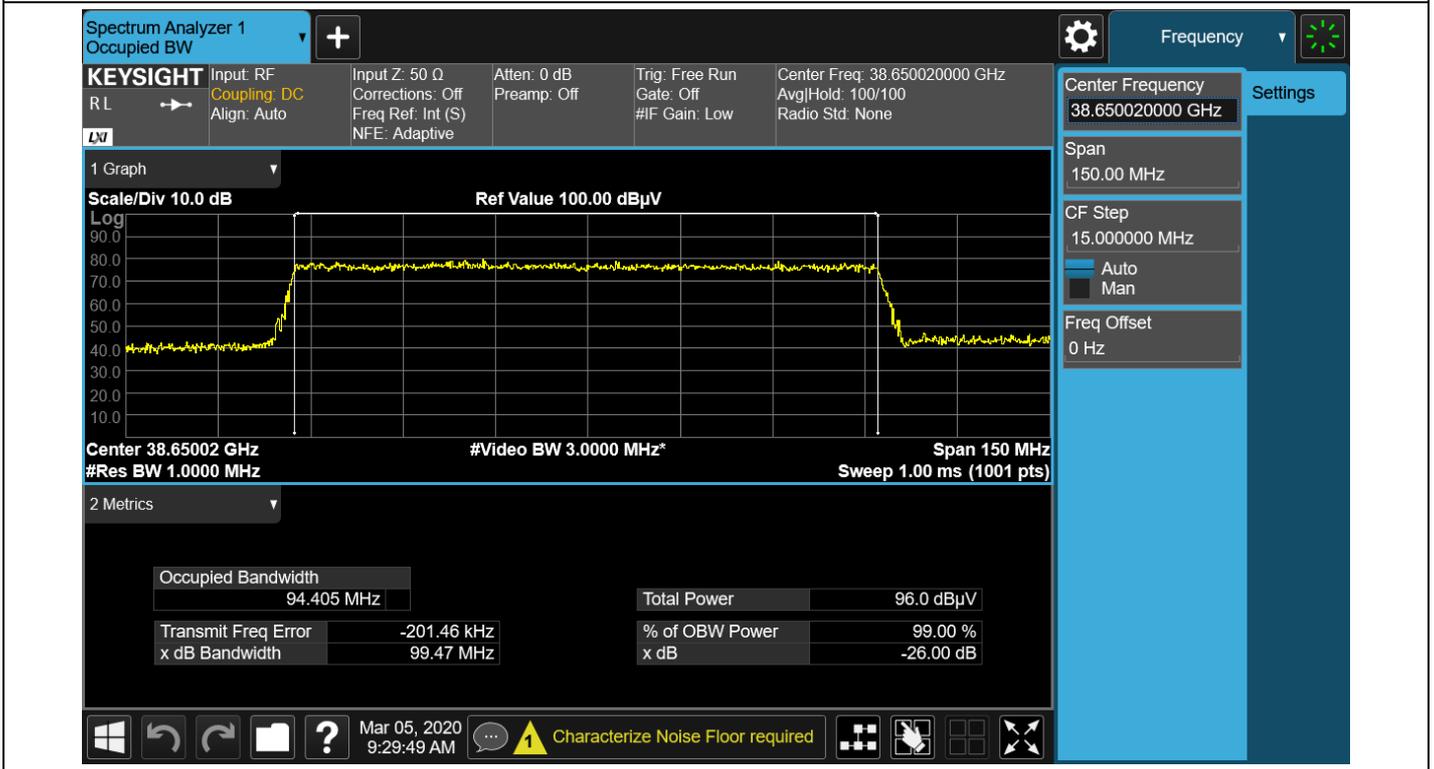
## Antenna B / cc1+3 / 64QAM / Low\_1



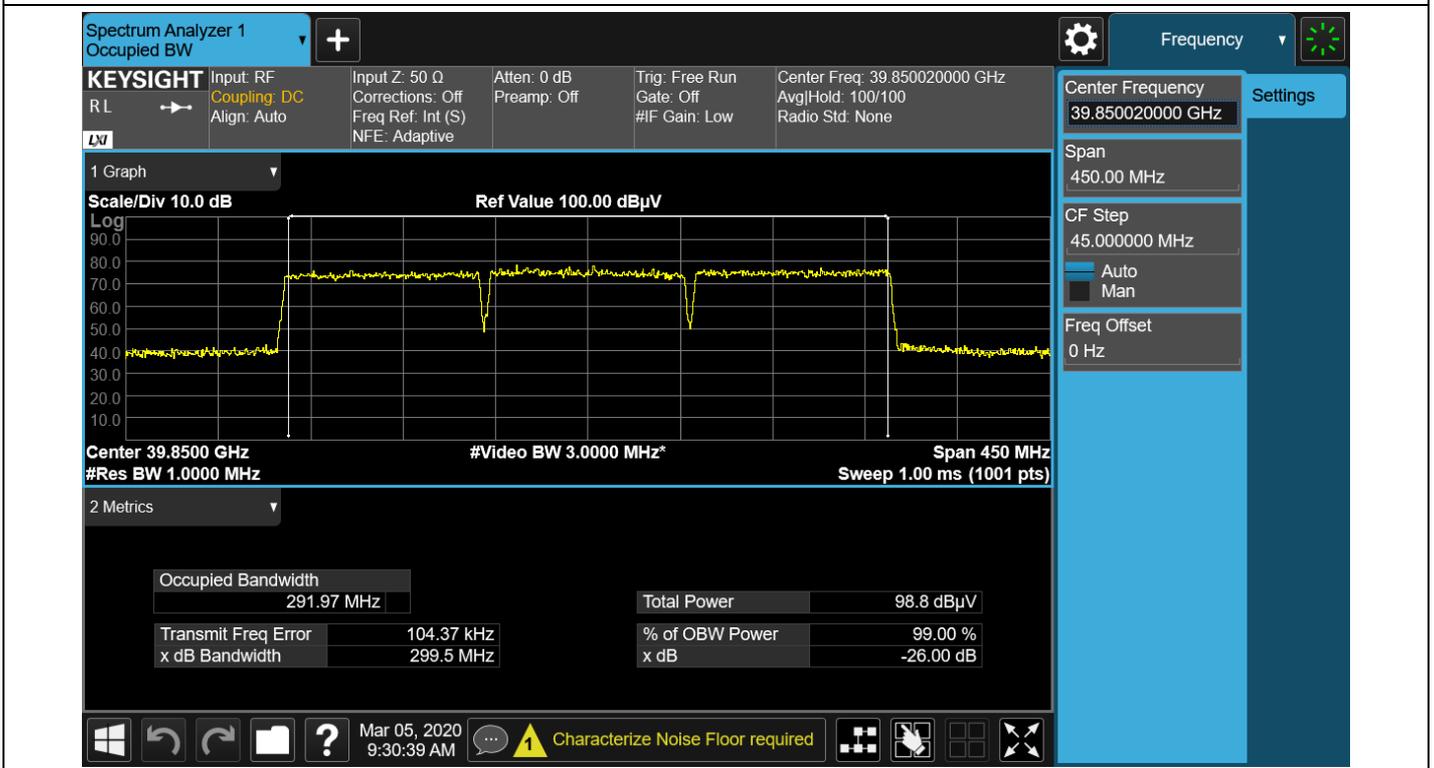
## Antenna B / cc1+3 / 64QAM / Low\_2



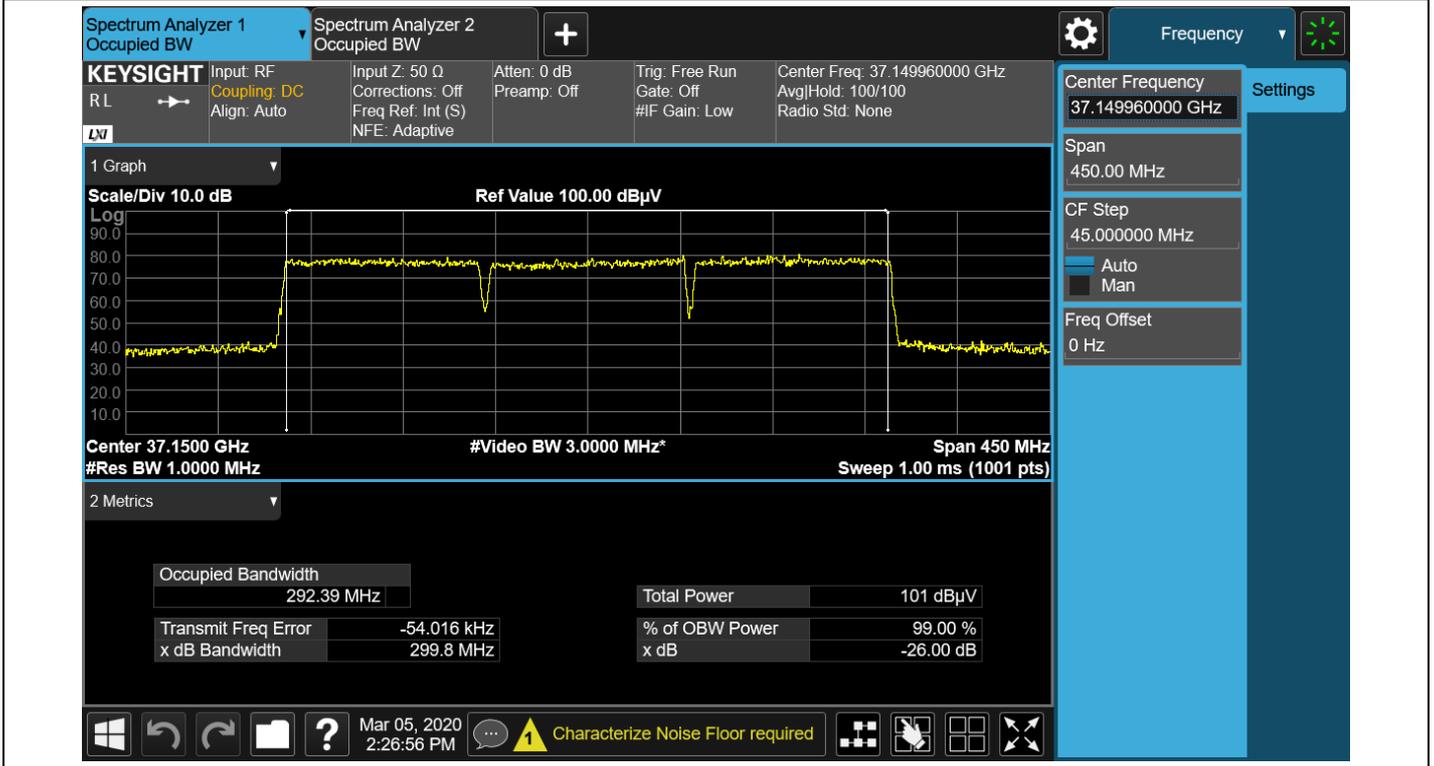
## Antenna B / cc1+3 / 64QAM / High\_1



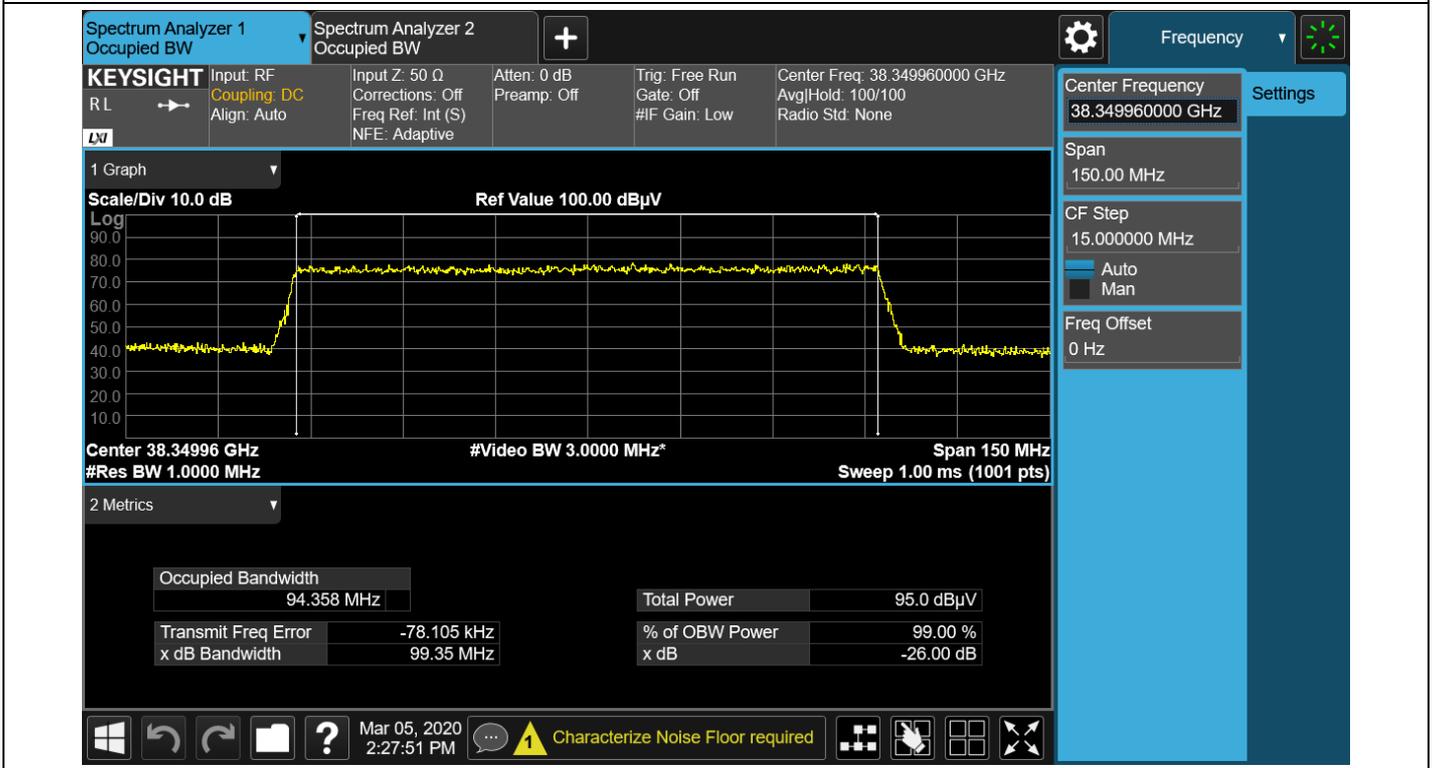
## Antenna B / cc1+3 / 64QAM / High\_2



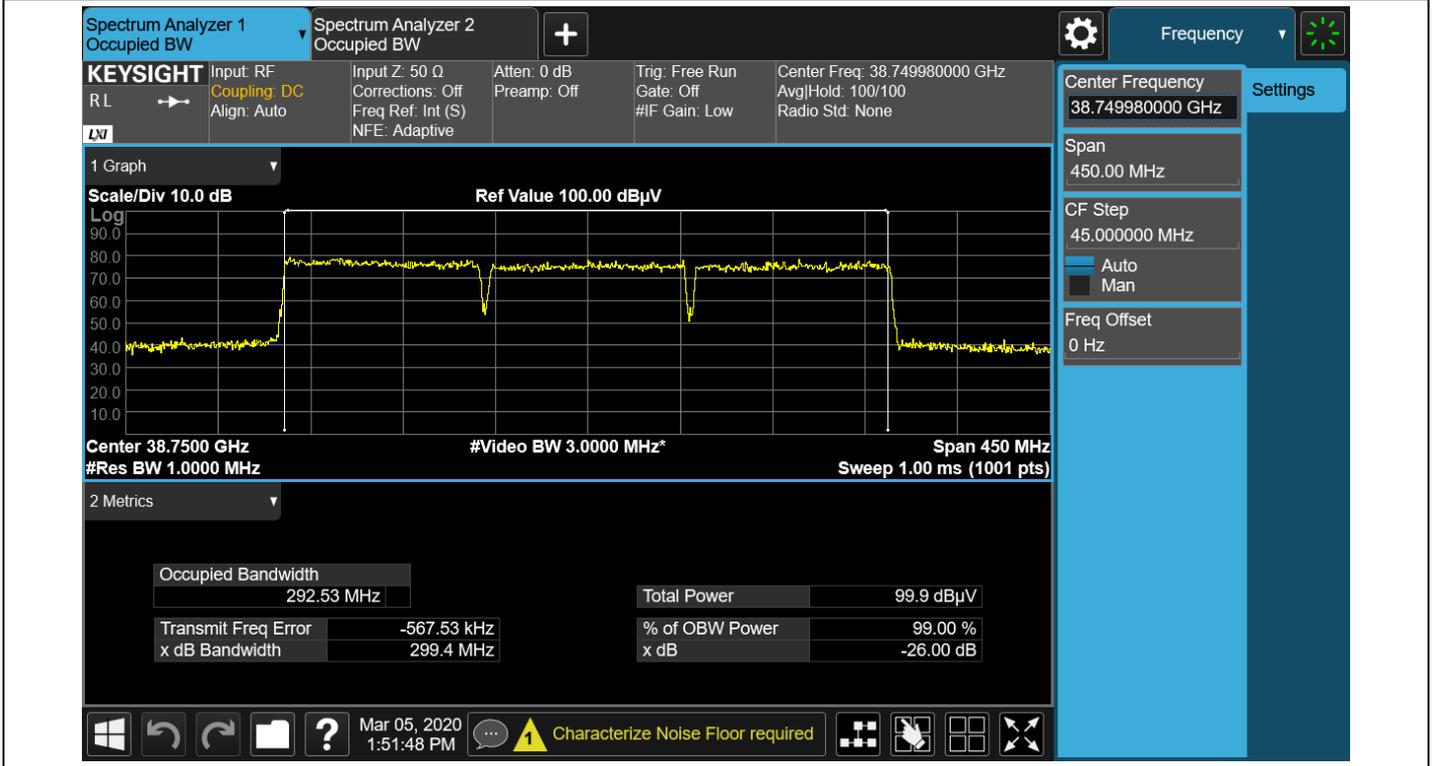
## Antenna B / cc3+1 / 64QAM / Low\_1



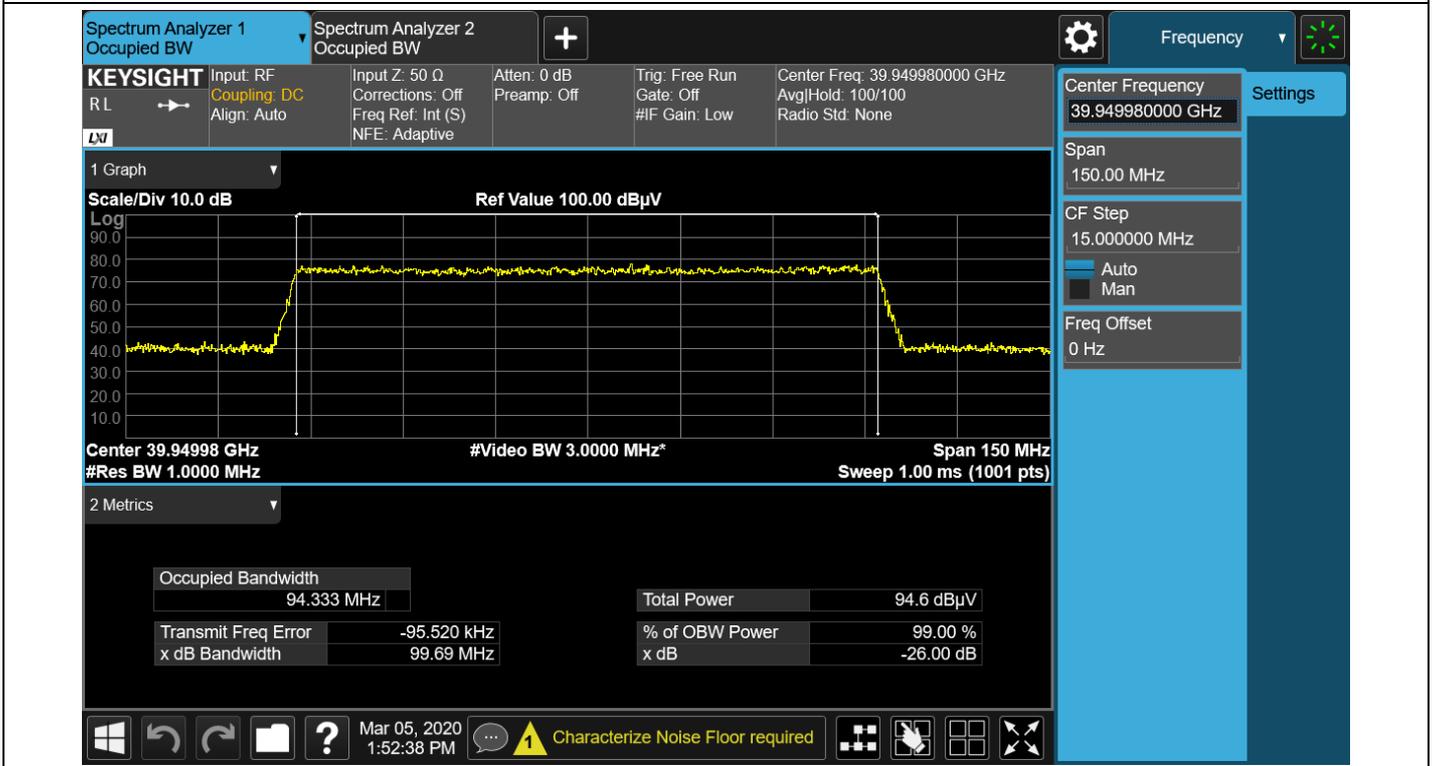
## Antenna B / cc3+1 / 64QAM / Low\_2



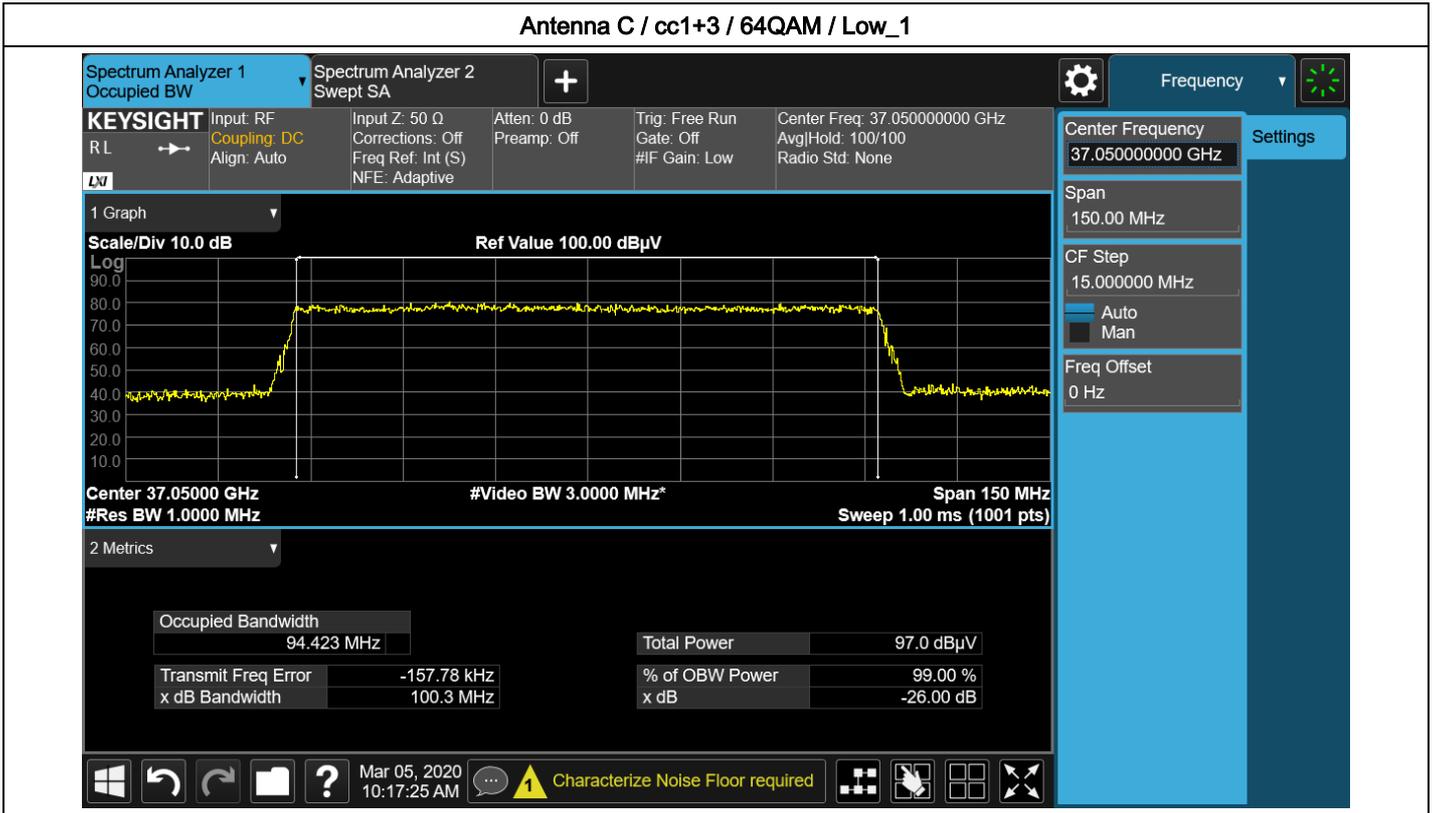
## Antenna B / cc3+1 / 64QAM / High\_1



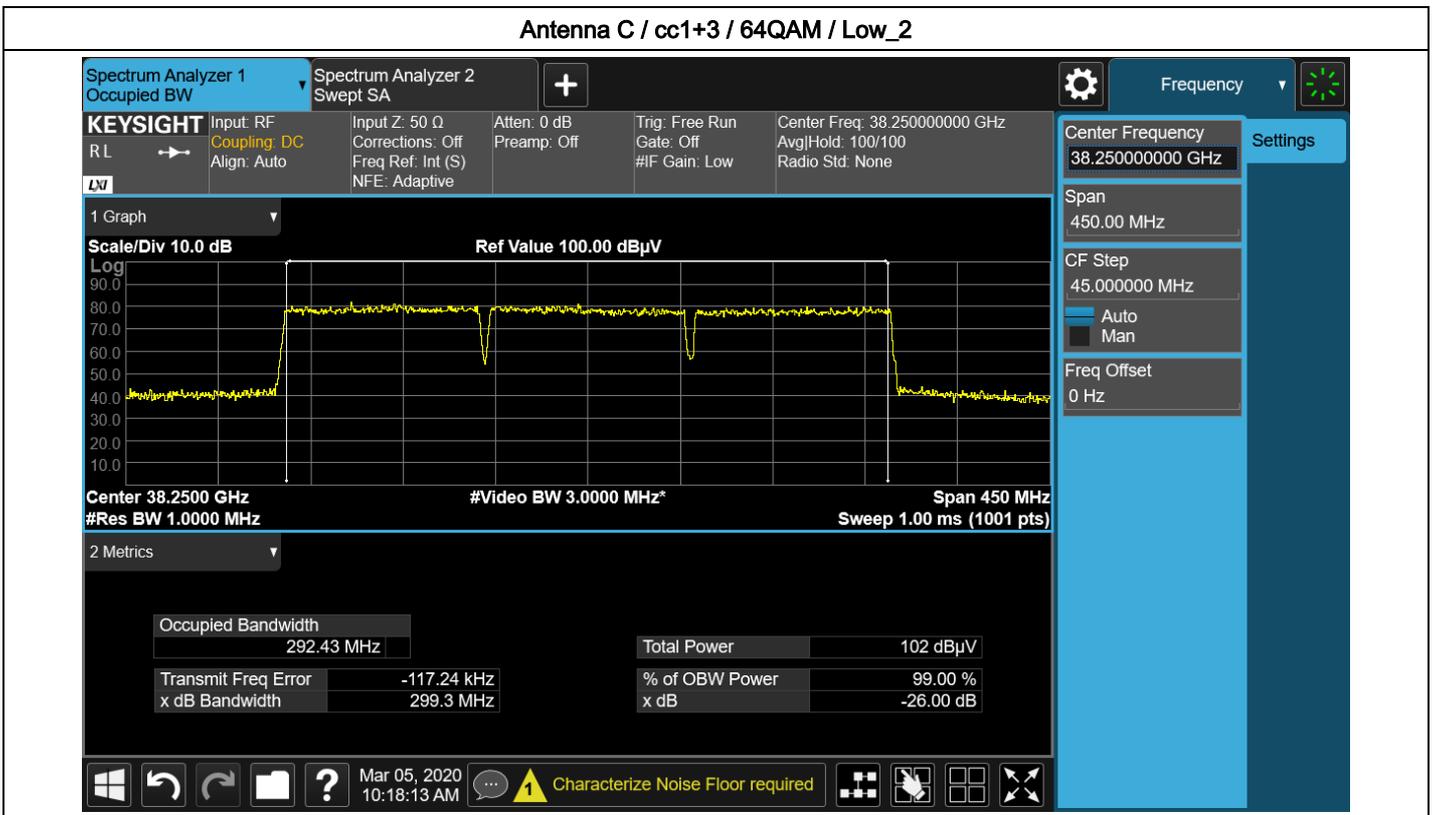
## Antenna B / cc3+1 / 64QAM / High\_2



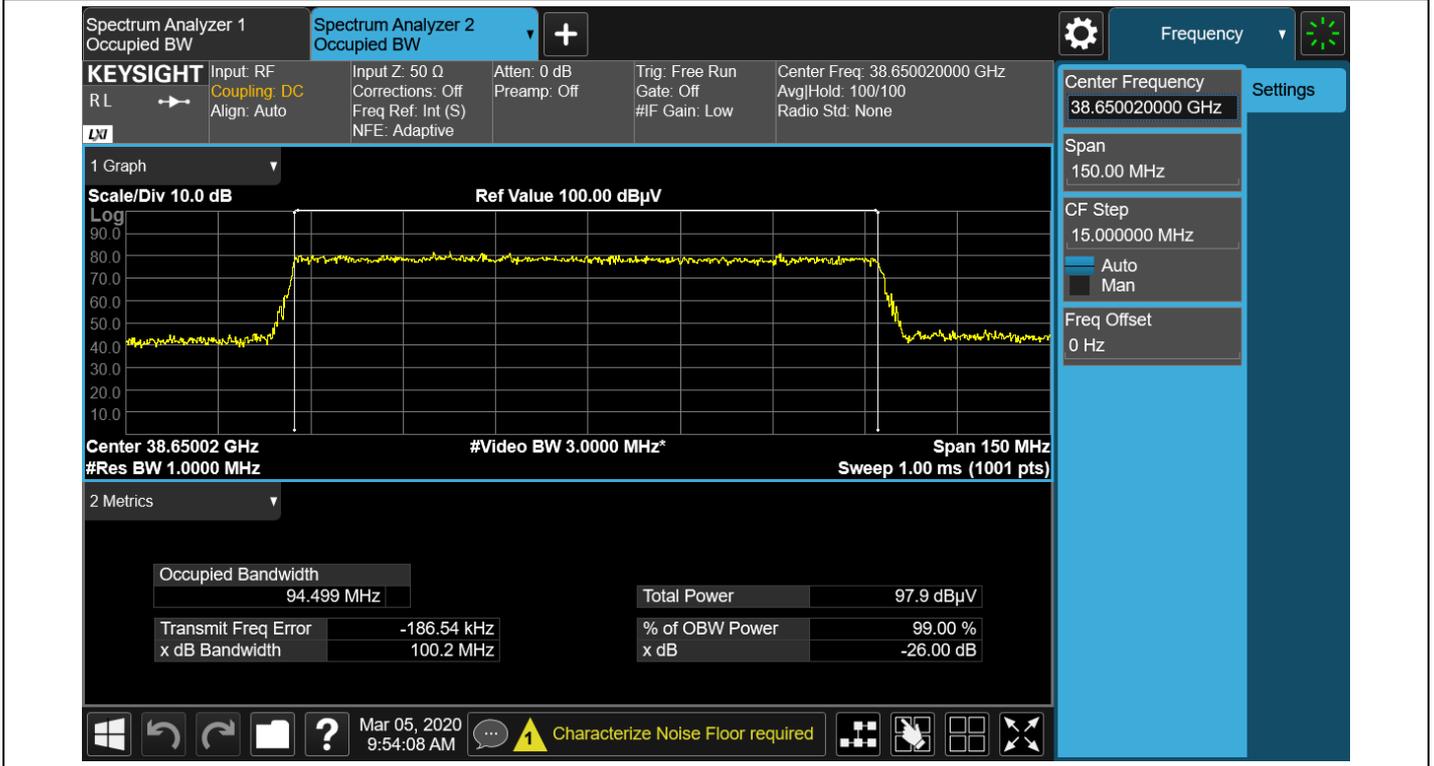
## Antenna C / cc1+3 / 64QAM / Low\_1



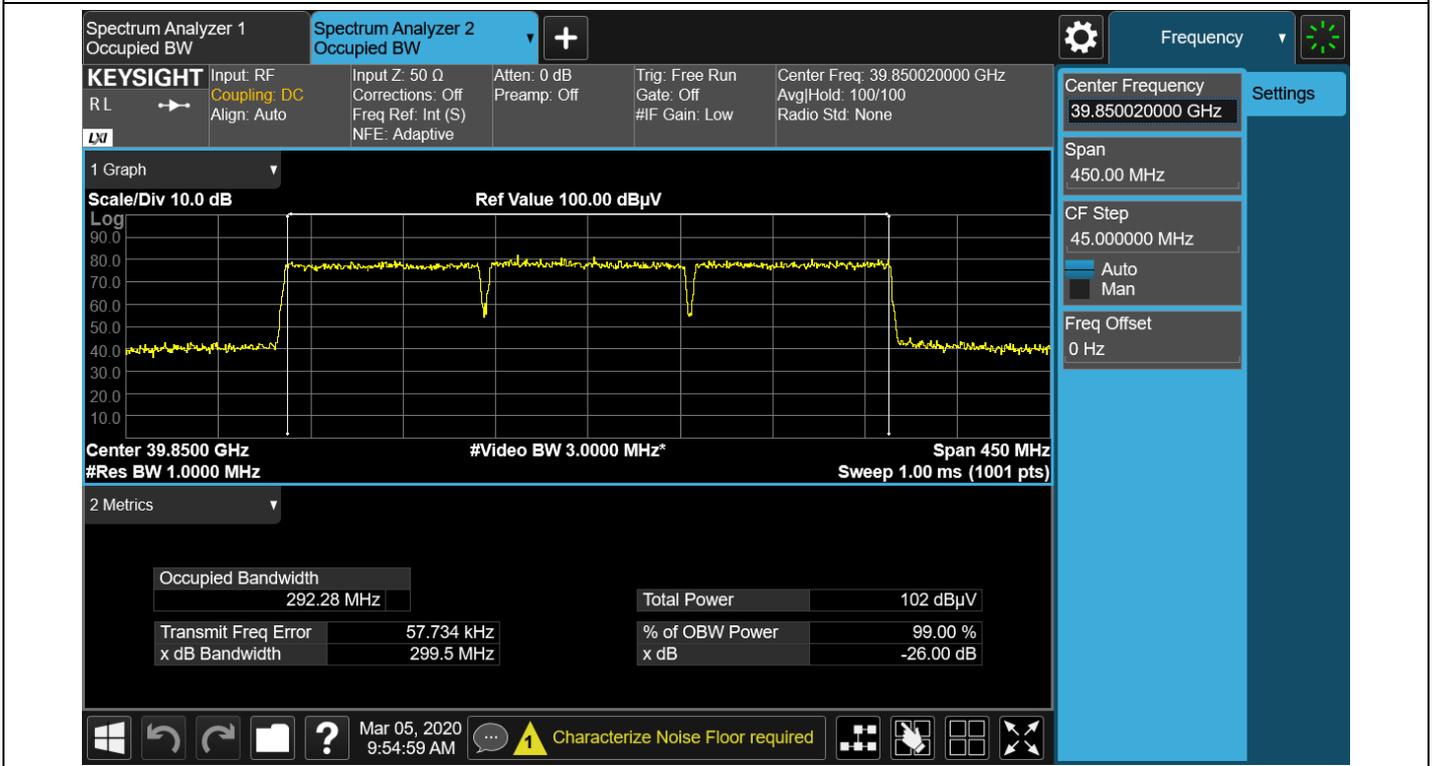
## Antenna C / cc1+3 / 64QAM / Low\_2



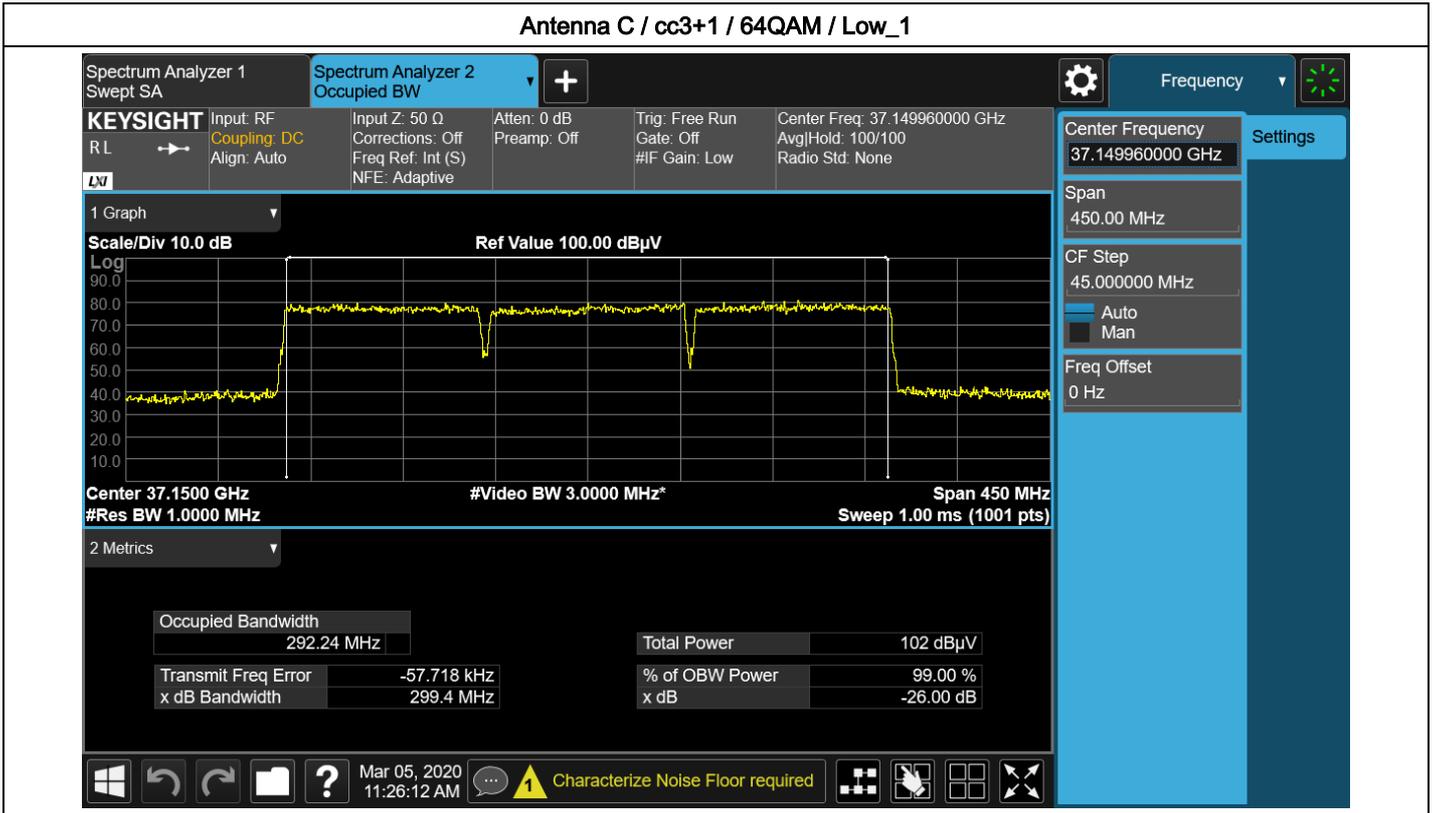
## Antenna C / cc1+3 / 64QAM / High\_1



## Antenna C / cc1+3 / 64QAM / High\_2



## Antenna C / cc3+1 / 64QAM / Low\_1



## Antenna C / cc3+1 / 64QAM / Low\_2

