

FCC Sub6 REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

Date of Issue:
March 02, 2021

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

Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
Report No.: HCT-RF-2103-FC001

FCC ID: A3LSMA326U

APPLICANT: SAMSUNG Electronics Co., Ltd.

Model(s): SM-A326U
 Additional Model(s): SM-A326U1/DS, SM-S326DL
 EUT Type: Mobile Phone
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
 FCC Rule Part(s): §27, §2

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n41 (10)	2501.010 – 2685.000	8M62G7D	PI/2 BPSK	0.165	22.18
		8M60G7D	QPSK	0.165	22.17
		8M61W7D	16QAM	0.134	21.28
		8M63W7D	64QAM	0.100	19.99
		8M64W7D	256QAM	0.063	17.99
Sub6 n41 (15)	2503.500 – 2682.480	12M9G7D	PI/2 BPSK	0.164	22.15
		12M9G7D	QPSK	0.162	22.10
		12M9W7D	16QAM	0.133	21.23
		12M9W7D	64QAM	0.091	19.61
		12M9W7D	256QAM	0.065	18.16
Sub6 n41 (20)	2506.020 – 2679.990	18M0G7D	PI/2 BPSK	0.163	22.13
		18M0G7D	QPSK	0.160	22.04
		18M0W7D	16QAM	0.129	21.10
		18M0W7D	64QAM	0.088	19.43
		17M9W7D	256QAM	0.062	17.94
Sub6 n41 (30)	2511.000 – 2674.980	27M0G7D	PI/2 BPSK	0.151	21.79
		27M0G7D	QPSK	0.150	21.77
		27M0W7D	16QAM	0.122	20.87
		27M0W7D	64QAM	0.084	19.26
		27M0W7D	256QAM	0.060	17.78
Sub6 n41 (40)	2516.010 – 2670.000	35M9G7D	PI/2 BPSK	0.139	21.42
		35M9G7D	QPSK	0.138	21.41
		35M9W7D	16QAM	0.112	20.50
		35M9W7D	64QAM	0.077	18.84
		35M9W7D	256QAM	0.055	17.38
Sub6 n41 (50)	2521.020 – 2664.990	45M8G7D	PI/2 BPSK	0.146	21.65
		45M9G7D	QPSK	0.146	21.64
		46M0W7D	16QAM	0.119	20.75
		45M9W7D	64QAM	0.081	19.09

		46M0W7D	256QAM	0.059	17.69
Sub6 n41 (60)	2526.000 – 2659.980	58M0G7D	PI/2 BPSK	0.139	21.43
		58M0G7D	QPSK	0.138	21.39
		58M0W7D	16QAM	0.106	20.24
		57M9W7D	64QAM	0.077	18.89
		58M0W7D	256QAM	0.056	17.49
Sub6 n41 (80)	2536.020 – 2649.990	77M5G7D	PI/2 BPSK	0.123	20.90
		77M4G7D	QPSK	0.123	20.89
		77M5W7D	16QAM	0.097	19.89
		77M4W7D	64QAM	0.068	18.30
		77M6W7D	256QAM	0.048	16.83
Sub6 n41 (90)	2541.000 – 2644.980	87M0G7D	PI/2 BPSK	0.108	20.33
		86M9G7D	QPSK	0.108	20.32
		87M0W7D	16QAM	0.087	19.37
		86M9W7D	64QAM	0.060	17.78
		87M0W7D	256QAM	0.043	16.37
Sub6 n41 (100)	2546.010 – 2640.000	96M5G7D	PI/2 BPSK	0.097	19.88
		96M4G7D	QPSK	0.097	19.89
		96M6W7D	16QAM	0.080	19.04
		96M6W7D	64QAM	0.054	17.33
		96M6W7D	256QAM	0.038	15.84

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)

Report No.: HCT-RF-2103-FC001

REVIEWED BY



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

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)

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2103-FC001	March 02, 2021	- 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

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMA326U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27, §2
EUT Type:	Mobile Phone
Model(s):	SM-A326U
Additional Model(s):	SM-A326U1/DS, SM-S326DL
SCS(kHz):	30
Bandwidth(MHz):	10, 15, 20, 30, 40, 50, 60, 80, 90, 100
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency(SCS 30kHz):	2501.010 – 2685.000 : 10 MHz 2503.500 – 2682.480 : 15 MHz 2506.020 – 2679.990 : 20 MHz 2511.000 – 2674.980 : 30 MHz 2516.010 – 2670.000 : 40 MHz 2521.020 – 2664.990 : 50 MHz 2526.000 – 2659.980 : 60 MHz 2536.020 – 2649.990 : 80 MHz 2541.000 – 2644.980 : 90 MHz 2546.010 – 2640.000 : 100 MHz
Date(s) of Tests:	February 05, 2021 ~ February 26, 2021
Serial number:	Radiated: R3CR10A4ABM Conducted: 4C1B22D9E41C7ECE

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS, CDMA(BC0, 1, 10) and LTE, Sub6. It also supports IEEE 802.11 a/b/g/n/ac (HT20/40/80), Bluetooth, BT LE, NFC.

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
Channel Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- N/A (See SAR Report)
Peak- to- Average Ratio	- KDB 971168 D01 v03r01 – Section 5.7 - ANSI C63.26-2015 – Section 5.2.3.4 - 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 NormalHz
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 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 power is calculated by the following formula;

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

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

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.
These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration
4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA-603-E-2016.

Test Settings

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

Test Note

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

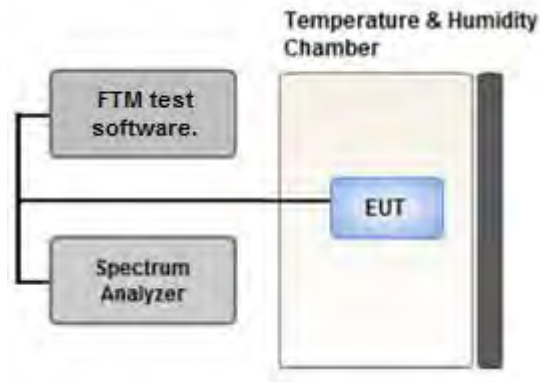
$$\text{Result}_{(\text{dBm})} = P_{g(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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.

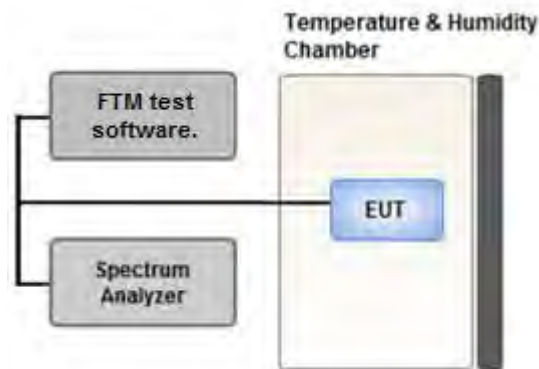
1. Set the RBW \geq OBW.
2. Set VBW $\geq 3 \times$ RBW.
3. Set span $\geq 2 \times$ OBW.
4. Sweep time $\geq 10 \times$ (number of points in sweep) \times (transmission symbol period).
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to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

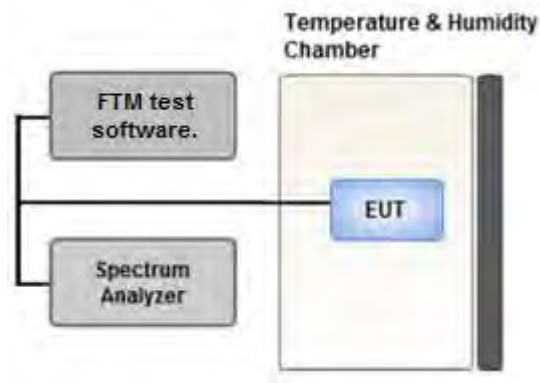
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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 $\geq 3 \times$ 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

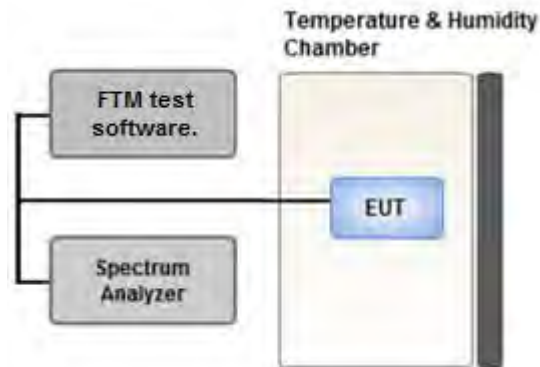
Test Overview

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 = trace average
5. Sweep time = auto
6. Number of points in sweep \geq 2 x Span / RBW

3.7 CHANNEL EDGE



Test setup

Test Overview

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

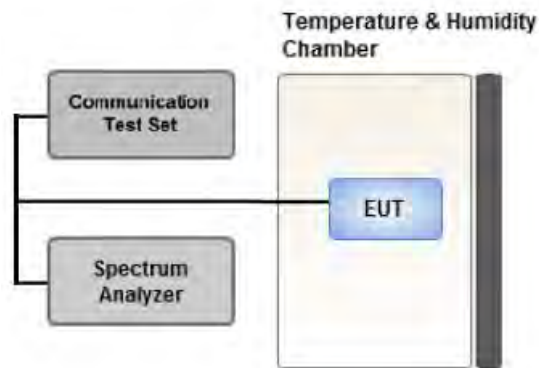
Test Settings

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

Test Notes

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

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

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

The frequency stability of the transmitter is measured by:

1. Temperature:

The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

2. Primary Supply Voltage:

- Unless otherwise specified, vary primary supply voltage from 85% to 115% of the nominal value for other than hand carried battery equipment.
- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.9 WORST CASE(RADIATED TEST)

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

(Worst case: DFT-S-OFDM)

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

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

- All power classes were tested, and the results were reported for the worst case PC2.

- All test are measured while operating in S.A mode.

- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.

Please refer to the table below.

- SM-A326U & additional models were tested and the worst case results are reported.

(Worst case : SM-A326U)

[Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1	1	Z
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	1	1	Z

3.10 WORST CASE(CONDUCTED TEST)

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

(Worst case: DFT-S-OFDM)

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

(Worst case: PI/2 BPSK)

- All power classes were tested, and the results were reported for the worst case PC2.

- All test are measured while operating in S.A mode.

- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.

Please refer to the table below.

- SM-A326U & additional models were tested and the worst case results are reported.

(Worst case : SM-A326U)

[Worst case]

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

4. LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Date	Calibration Interval	Calibration Due
Wainwright Instruments	WHKX10-900-1000-15000-40SS/ High Pass Filter	5	07/13/2020	Annual	07/13/2021
Wainwright Instruments	WHKX10-2700-3000-18000-40SS/ High Pass Filter	145	09/03/2020	Annual	09/03/2021
Wainwright Instruments	WHNX6-4740-6000-26500-40CC/ High Pass Filter	11	09/03/2020	Annual	09/03/2021
Hewlett Packard	11667B / Power Splitter(DC~26.5 GHz)	11275	04/27/2020	Annual	04/27/2021
CERNEX	LOW NOISE AMP (100MHz ~ 18GHz)	26822	06/04/2020	Annual	06/04/2021
CERNEX	CBL18265035 / Power Amplifier	22966	12/04/2020	Annual	12/04/2021
CERNEX	CBL26405040 / Power Amplifier	25956	03/23/2020	Annual	03/23/2021
Hewlett Packard	E3632A/DC Power Supply	MY40004427	09/16/2020	Annual	09/16/2021
Schwarzbeck	UHAP / Precision Dipole Antenna	01273	05/30/2020	Biennial	05/30/2022
Schwarzbeck	UHAP / Precision Dipole Antenna	01274	05/30/2020	Biennial	05/30/2022
ESPEC	SU-642 / Chamber	93008124	03/18/2020	Annual	03/18/2021
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	02289	05/08/2020	Biennial	05/08/2022
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	9120D-1299	05/10/2019	Biennial	05/10/2021
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170342	04/29/2019	Biennial	04/29/2021
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170124	02/11/2020	Biennial	02/11/2022
Agilent	N9020A/Signal Analyzer(10Hz~26.5GHz)	MY51110063	04/27/2020	Annual	04/27/2021
Hewlett Packard	8493C/ATTENUATOR(20dB)	17280	06/04/2020	Annual	06/04/2021
REOHDE & SCHWARZ	FSV40/Spectrum Analyzer(10Hz~40GHz)	101436	03/16/2020	Annual	03/16/2021
Rohde & Schwarz	FMZB1513/ Loop Antenna(9kHz~30MHz)	1513-175	05/18/2020	Biennial	05/18/2022
Schwarzbeck	VULB9160/ Bilog Antenna	3150	03/12/2019	Biennial	03/12/2021
Schwarzbeck	VULB9160/ Hybrid Antenna	760	03/22/2019	Biennial	03/22/2021
Anritsu Corp.	MT8821C/Wideband Radio Communication Tester	6262116770	07/22/2020	Annual	07/22/2021
REOHDE & SCHWARZ	SMB100A/ SIGNAL GENERATOR (100kHz~40GHz)	177633	07/13/2020	Annual	07/13/2021
KEYSIGHT	N9030B / Signal Analyzer(5Hz~40.0GHz)	MY55480167	06/04/2020	Annual	06/04/2021
KEYSIGHT	E7515B / 5G Wireless Tester	MY60101126	05/28/2020	Annual	05/28/2021
Mini-Circuits	ZC4PD-K1844+ / 4-Way Divider	942907	09/14/2020	Annual	09/14/2021
HCT CO., LTD.,	FCC LTE Mobile Conducted RF Automation Test Software	-	-	-	-

Note:

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

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (\pm dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05

6. SUMMARY OF TEST RESULTS

6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§2.1051, §27.53(m)(4)	<ul style="list-style-type: none"> ■ $< 40 + 10\log_{10} (P[\text{Watts}])$ at Channel edges ■ $< 43 + 10\log_{10} (P[\text{Watts}])$ between 5 and X MHz from Channel edges ■ $< 55 + 10\log_{10} (P[\text{Watts}])$ beyond X MHz beyond from Channel edges ■ $< 43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz 	PASS
Conducted Output Power	§2.1046	N/A	<u>See Note1</u>
Frequency stability / variation of ambient temperature	§2.1055, §27.54	Emission must remain in band	PASS

Note:

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

6.2 Test Condition : Radiated Test

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

Note:

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

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

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

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

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

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level(dBm)	Substitute Level(dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
518598	2593.0	-15.75	18.45	9.90	1.76	H	0.456	26.59

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

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

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W

GSM BW = 249 kHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

PSK Modulation

Emission Designator = 4M48G7D

LTE BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D

LTE BW = 4.48 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2501.010	Sub6 41/ 10 MHz [30 kHz]	PI/2 BPSK	-23.88	11.13	10.20	2.29	H	< 2.00	0.080	19.04
		QPSK	-23.85	11.16	10.20	2.29	H		0.081	19.07
		16-QAM	-24.92	10.09	10.20	2.29	H		0.063	18.00
		64-QAM	-26.34	8.67	10.20	2.29	H		0.045	16.58
		256-QAM	-27.88	7.13	10.20	2.29	H		0.032	15.04
2592.990		PI/2 BPSK	-21.25	14.09	10.42	2.33	H		0.165	22.18
		QPSK	-21.26	14.08	10.42	2.33	H		0.165	22.17
		16-QAM	-22.15	13.19	10.42	2.33	H		0.134	21.28
		64-QAM	-23.44	11.90	10.42	2.33	H		0.100	19.99
		256-QAM	-25.44	9.90	10.42	2.33	H		0.063	17.99
2685.000	PI/2 BPSK	-24.67	10.56	10.38	2.39	H	0.072	18.55		
	QPSK	-24.70	10.53	10.38	2.39	H	0.071	18.52		
	16-QAM	-25.59	9.64	10.38	2.39	H	0.058	17.63		
	64-QAM	-27.29	7.94	10.38	2.39	H	0.039	15.93		
	256-QAM	-28.59	6.64	10.38	2.39	H	0.029	14.63		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2503.500	Sub6 41/ 15 MHz [30 kHz]	PI/2 BPSK	-23.82	11.20	10.24	2.30	H	< 2.00	0.082	19.14
		QPSK	-23.86	11.16	10.24	2.30	H		0.081	19.10
		16-QAM	-24.74	10.28	10.24	2.30	H		0.066	18.22
		64-QAM	-26.38	8.64	10.24	2.30	H		0.046	16.58
		256-QAM	-27.88	7.14	10.24	2.30	H		0.032	15.08
2592.990		PI/2 BPSK	-21.28	14.06	10.42	2.33	H		0.164	22.15
		QPSK	-21.33	14.01	10.42	2.33	H		0.162	22.10
		16-QAM	-22.20	13.14	10.42	2.33	H		0.133	21.23
		64-QAM	-23.82	11.52	10.42	2.33	H		0.091	19.61
		256-QAM	-25.27	10.07	10.42	2.33	H		0.065	18.16
2682.480	PI/2 BPSK	-24.41	10.82	10.34	2.40	H	0.075	18.76		
	QPSK	-24.40	10.83	10.34	2.40	H	0.075	18.77		
	16-QAM	-25.29	9.94	10.34	2.40	H	0.061	17.88		
	64-QAM	-26.94	8.29	10.34	2.40	H	0.042	16.23		
	256-QAM	-28.45	6.78	10.34	2.40	H	0.030	14.72		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2506.020	Sub6 41/ 20 MHz [30 kHz]	PI/2 BPSK	-23.96	11.06	10.24	2.30	H	< 2.00	0.079	19.00
		QPSK	-23.91	11.11	10.24	2.30	H		0.080	19.05
		16-QAM	-24.81	10.21	10.24	2.30	H		0.065	18.15
		64-QAM	-26.46	8.56	10.24	2.30	H		0.045	16.50
		256-QAM	-27.93	7.09	10.24	2.30	H		0.032	15.03
2592.990		PI/2 BPSK	-21.30	14.04	10.42	2.33	H		0.163	22.13
		QPSK	-21.39	13.95	10.42	2.33	H		0.160	22.04
		16-QAM	-22.33	13.01	10.42	2.33	H		0.129	21.10
		64-QAM	-24.00	11.34	10.42	2.33	H		0.088	19.43
		256-QAM	-25.49	9.85	10.42	2.33	H		0.062	17.94
2679.990	PI/2 BPSK	-24.32	10.91	10.34	2.40	H	0.077	18.85		
	QPSK	-24.36	10.87	10.34	2.40	H	0.076	18.81		
	16-QAM	-25.24	9.99	10.34	2.40	H	0.062	17.93		
	64-QAM	-26.91	8.32	10.34	2.40	H	0.042	16.26		
	256-QAM	-28.42	6.81	10.34	2.40	H	0.030	14.75		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2511.000	Sub6 41/ 30 MHz [30 kHz]	PI/2 BPSK	-24.19	10.90	10.20	2.30	H	< 2.00	0.076	18.80
		QPSK	-24.20	10.89	10.20	2.30	H		0.076	18.79
		16-QAM	-25.08	10.01	10.20	2.30	H		0.062	17.91
		64-QAM	-26.72	8.37	10.20	2.30	H		0.042	16.27
		256-QAM	-28.16	6.93	10.20	2.30	H		0.030	14.83
2592.990		PI/2 BPSK	-21.64	13.70	10.42	2.33	H		0.151	21.79
		QPSK	-21.66	13.68	10.42	2.33	H		0.150	21.77
		16-QAM	-22.56	12.78	10.42	2.33	H		0.122	20.87
		64-QAM	-24.17	11.17	10.42	2.33	H		0.084	19.26
		256-QAM	-25.65	9.69	10.42	2.33	H		0.060	17.78
2674.980	PI/2 BPSK	-24.19	11.10	10.30	2.37	H	0.080	19.03		
	QPSK	-24.26	11.03	10.30	2.37	H	0.079	18.96		
	16-QAM	-25.13	10.16	10.30	2.37	H	0.064	18.09		
	64-QAM	-26.77	8.52	10.30	2.37	H	0.044	16.45		
	256-QAM	-28.27	7.02	10.30	2.37	H	0.031	14.95		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2516.010	Sub6 41/ 40 MHz [30 kHz]	PI/2 BPSK	-24.51	10.51	10.32	2.30	H	< 2.00	0.071	18.53
		QPSK	-24.43	10.59	10.32	2.30	H		0.073	18.61
		16-QAM	-25.30	9.72	10.32	2.30	H		0.059	17.74
		64-QAM	-26.95	8.07	10.32	2.30	H		0.041	16.09
		256-QAM	-28.38	6.64	10.32	2.30	H		0.029	14.66
2592.990		PI/2 BPSK	-22.01	13.33	10.42	2.33	H		0.139	21.42
		QPSK	-22.02	13.32	10.42	2.33	H		0.138	21.41
		16-QAM	-22.93	12.41	10.42	2.33	H		0.112	20.50
		64-QAM	-24.59	10.75	10.42	2.33	H		0.077	18.84
		256-QAM	-26.05	9.29	10.42	2.33	H		0.055	17.38
2670.000	PI/2 BPSK	-23.73	11.67	10.26	2.37	H	0.090	19.56		
	QPSK	-23.74	11.66	10.26	2.37	H	0.090	19.55		
	16-QAM	-24.63	10.77	10.26	2.37	H	0.073	18.66		
	64-QAM	-26.26	9.14	10.26	2.37	H	0.050	17.03		
	256-QAM	-27.67	7.73	10.26	2.37	H	0.036	15.62		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2521.020	Sub6 41/ 50 MHz [30 kHz]	PI/2 BPSK	-24.14	10.89	10.36	2.30	H	< 2.00	0.078	18.95
		QPSK	-24.16	10.87	10.36	2.30	H		0.078	18.93
		16-QAM	-25.08	9.95	10.36	2.30	H		0.063	18.01
		64-QAM	-26.71	8.32	10.36	2.30	H		0.043	16.38
		256-QAM	-28.15	6.88	10.36	2.30	H		0.031	14.94
2592.990		PI/2 BPSK	-21.78	13.56	10.42	2.33	H		0.146	21.65
		QPSK	-21.79	13.55	10.42	2.33	H		0.146	21.64
		16-QAM	-22.68	12.66	10.42	2.33	H		0.119	20.75
		64-QAM	-24.34	11.00	10.42	2.33	H		0.081	19.09
		256-QAM	-25.74	9.60	10.42	2.33	H		0.059	17.69
2664.990	PI/2 BPSK	-23.01	12.41	10.22	2.37	H	0.106	20.26		
	QPSK	-23.04	12.38	10.22	2.37	H	0.105	20.23		
	16-QAM	-23.93	11.49	10.22	2.37	H	0.086	19.34		
	64-QAM	-25.57	9.85	10.22	2.37	H	0.059	17.70		
	256-QAM	-27.03	8.39	10.22	2.37	H	0.042	16.24		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit		EIRP	
								W	W	dBm	dBm
2526.000	Sub6 41/ 60 MHz [30 kHz]	PI/2 BPSK	-24.21	10.78	10.40	2.30	H	< 2.00	0.077	18.88	
		QPSK	-24.25	10.74	10.40	2.30	H		0.077	18.84	
		16-QAM	-25.15	9.84	10.40	2.30	H		0.062	17.94	
		64-QAM	-26.81	8.18	10.40	2.30	H		0.043	16.28	
		256-QAM	-28.22	6.77	10.40	2.30	H		0.031	14.87	
2592.990		PI/2 BPSK	-22.00	13.34	10.42	2.33	H		0.139	21.43	
		QPSK	-22.04	13.30	10.42	2.33	H		0.138	21.39	
		16-QAM	-23.19	12.15	10.42	2.33	H		0.106	20.24	
		64-QAM	-24.54	10.80	10.42	2.33	H		0.077	18.89	
		256-QAM	-25.94	9.40	10.42	2.33	H		0.056	17.49	
2659.980	PI/2 BPSK	-22.85	12.58	10.18	2.37	H	0.109	20.39			
	QPSK	-22.86	12.57	10.18	2.37	H	0.109	20.38			
	16-QAM	-23.94	11.49	10.18	2.37	H	0.085	19.30			
	64-QAM	-25.31	10.12	10.18	2.37	H	0.062	17.93			
	256-QAM	-26.81	8.62	10.18	2.37	H	0.044	16.43			

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit		EIRP	
								W	W	dBm	dBm
2536.020	Sub6 41/ 80 MHz [30 kHz]	PI/2 BPSK	-24.23	10.71	10.48	2.31	H	< 2.00	0.077	18.88	
		QPSK	-24.24	10.70	10.48	2.31	H		0.077	18.87	
		16-QAM	-25.10	9.84	10.48	2.31	H		0.063	18.01	
		64-QAM	-26.75	8.19	10.48	2.31	H		0.043	16.36	
		256-QAM	-28.18	6.76	10.48	2.31	H		0.031	14.93	
2592.990		PI/2 BPSK	-22.53	12.81	10.42	2.33	H		0.123	20.90	
		QPSK	-22.54	12.80	10.42	2.33	H		0.123	20.89	
		16-QAM	-23.54	11.80	10.42	2.33	H		0.097	19.89	
		64-QAM	-25.13	10.21	10.42	2.33	H		0.068	18.30	
		256-QAM	-26.60	8.74	10.42	2.33	H		0.048	16.83	
2649.990	PI/2 BPSK	-22.66	12.68	10.10	2.34	H	0.111	20.44			
	QPSK	-22.69	12.65	10.10	2.34	H	0.110	20.41			
	16-QAM	-23.53	11.81	10.10	2.34	H	0.090	19.57			
	64-QAM	-25.21	10.13	10.10	2.34	H	0.061	17.89			
	256-QAM	-26.60	8.74	10.10	2.34	H	0.045	16.50			

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2541.000	Sub6 41/ 90 MHz [30 kHz]	PI/2 BPSK	-24.01	10.89	10.52	2.31	H	< 2.00	0.081	19.10
		QPSK	-24.38	10.52	10.52	2.31	H		0.075	18.73
		16-QAM	-25.25	9.65	10.52	2.31	H		0.061	17.86
		64-QAM	-26.91	7.99	10.52	2.31	H		0.042	16.20
		256-QAM	-28.31	6.59	10.52	2.31	H		0.030	14.80
2592.990		PI/2 BPSK	-23.10	12.24	10.42	2.33	H		0.108	20.33
		QPSK	-23.11	12.23	10.42	2.33	H		0.108	20.32
		16-QAM	-24.06	11.28	10.42	2.33	H		0.086	19.37
		64-QAM	-25.65	9.69	10.42	2.33	H		0.060	17.78
		256-QAM	-27.06	8.28	10.42	2.33	H		0.043	16.37
2644.980	PI/2 BPSK	-22.91	12.48	10.13	2.33	H	0.107	20.28		
	QPSK	-22.93	12.46	10.13	2.33	H	0.106	20.26		
	16-QAM	-23.82	11.57	10.13	2.33	H	0.087	19.37		
	64-QAM	-25.51	9.88	10.13	2.33	H	0.059	17.68		
	256-QAM	-26.97	8.42	10.13	2.33	H	0.042	16.22		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit		EIRP	
								W	W	dBm	
2546.010	Sub6 41/ 100 MHz [30 kHz]	PI/2 BPSK	-24.60	10.37	10.56	2.31	H	< 2.00	0.073	18.62	
		QPSK	-24.61	10.36	10.56	2.31	H		0.073	18.61	
		16-QAM	-25.48	9.49	10.56	2.31	H		0.059	17.74	
		64-QAM	-27.14	7.83	10.56	2.31	H		0.041	16.08	
		256-QAM	-28.54	6.43	10.56	2.31	H		0.029	14.68	
2592.990		PI/2 BPSK	-23.61	11.73	10.42	2.33	H		0.096	19.82	
		QPSK	-23.69	11.65	10.42	2.33	H		0.094	19.74	
		16-QAM	-24.64	10.70	10.42	2.33	H		0.076	18.79	
		64-QAM	-26.21	9.13	10.42	2.33	H		0.053	17.22	
		256-QAM	-27.65	7.69	10.42	2.33	H		0.038	15.78	
2640.000	PI/2 BPSK	-23.42	12.05	10.16	2.33	H	0.097	19.88			
	QPSK	-23.41	12.06	10.16	2.33	H	0.097	19.89			
	16-QAM	-24.26	11.21	10.16	2.33	H	0.080	19.04			
	64-QAM	-25.97	9.50	10.16	2.33	H	0.054	17.33			
	256-QAM	-27.46	8.01	10.16	2.33	H	0.038	15.84			

8.2 RADIATED SPURIOUS EMISSIONS

- NR Band: N41
- Bandwidth: 10 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
500202 (2501.010)	5 002.02	-55.48	10.90	-58.35	3.29	H	-50.74	-25.00
	7 503.03	-58.33	11.51	-51.45	4.11	V	-44.05	-25.00
	10 004.04	-55.81	11.78	-47.64	4.75	V	-40.61	-25.00
	12 505.05	-56.07	12.99	-47.46	5.45	H	-39.92	-25.00
	15 006.06	-57.33	14.42	-51.18	6.05	V	-42.81	-25.00
518598 (2592.990)	5 185.98	-51.78	11.47	-53.86	3.39	H	-45.78	-25.00
	7 778.97	-60.34	11.28	-53.34	4.21	V	-46.27	-25.00
	10 371.96	-54.83	11.80	-45.00	4.95	V	-38.15	-25.00
	12 964.95	-55.97	12.70	-45.93	5.41	V	-38.64	-25.00
	15 557.94	-56.80	16.22	-50.80	6.12	V	-40.70	-25.00
537000 (2685.000)	5 370.00	-55.13	11.84	-57.58	3.45	H	-49.19	-25.00
	8 055.00	-52.16	11.30	-44.71	4.31	V	-37.72	-25.00
	10 740.00	-57.04	11.70	-46.24	4.99	V	-39.53	-25.00
	13 425.00	-55.27	12.50	-45.09	5.55	V	-38.14	-25.00
	16 110.00	-63.11	16.50	-55.25	6.28	V	-45.03	-25.00

- NR Band: N41
- Bandwidth: 15 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
500700 (2503.500)	5 007.00	-53.91	10.91	-56.82	3.28	V	-49.19	-25.00
	7 510.50	-63.32	11.52	-56.44	4.12	V	-49.04	-25.00
	10 014.00	-56.96	11.77	-48.60	4.75	V	-41.58	-25.00
	12 517.50	-57.32	12.97	-48.50	5.36	V	-40.89	-25.00
	15 021.00	-56.57	14.48	-50.18	6.03	V	-41.73	-25.00
518598 (2592.990)	5 185.98	-56.30	11.47	-58.38	3.39	V	-50.30	-25.00
	7 778.97	-60.79	11.28	-53.79	4.21	V	-46.72	-25.00
	10 371.96	-54.95	11.80	-45.12	4.95	V	-38.27	-25.00
	12 964.95	-55.18	12.70	-45.14	5.41	V	-37.85	-25.00
	15 557.94	-60.98	16.22	-54.98	6.12	V	-44.88	-25.00
536496 (2682.480)	5 364.96	-57.72	11.83	-60.17	3.45	V	-51.79	-25.00
	8 047.44	-56.25	11.30	-48.96	4.31	V	-41.97	-25.00
	10 729.92	-57.46	11.70	-46.61	4.94	V	-39.85	-25.00
	13 412.40	-59.14	12.50	-49.00	5.64	V	-42.14	-25.00
	16 094.88	-61.68	16.50	-53.92	6.28	V	-43.70	-25.00

- NR Band: N41
- Bandwidth: 20 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
501204 (2506.020)	5 012.04	-54.72	10.92	-57.65	3.28	V	-50.01	-25.00
	7 518.06	-60.50	11.54	-53.55	4.12	V	-46.13	-25.00
	10 024.08	-58.42	11.75	-49.82	4.78	V	-42.85	-25.00
	12 530.10	-58.18	12.94	-48.69	5.23	V	-40.98	-25.00
	15 036.12	-55.74	14.54	-49.48	5.98	V	-40.92	-25.00
518598 (2592.990)	5 185.98	-55.77	11.47	-57.85	3.39	V	-49.77	-25.00
	7 778.97	-59.40	11.28	-52.40	4.21	V	-45.33	-25.00
	10 371.96	-57.19	11.80	-47.36	4.95	V	-40.51	-25.00
	12 964.95	-57.52	12.70	-47.48	5.41	V	-40.19	-25.00
	15 557.94	-60.25	16.22	-54.25	6.12	V	-44.15	-25.00
535998 (2679.990)	5 359.98	-56.79	11.82	-59.25	3.45	V	-50.88	-25.00
	8 039.97	-55.25	11.28	-48.05	4.31	V	-41.08	-25.00
	10 719.96	-55.55	11.70	-44.61	4.91	V	-37.82	-25.00
	13 399.95	-56.51	12.50	-46.33	5.67	V	-39.50	-25.00
	16 079.94	-62.32	16.50	-54.54	6.31	V	-44.35	-25.00

- NR Band: N41
- Bandwidth: 30 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
502200 (2511.000)	5 022.00	-55.02	10.94	-57.29	3.29	V	-49.64	-25.00
	7 533.00	-62.24	11.56	-55.18	4.15	V	-47.77	-25.00
	10 044.00	-58.29	11.71	-49.58	4.87	V	-42.74	-25.00
	12 555.00	-56.52	12.90	-47.09	5.35	V	-39.54	-25.00
	15 066.00	-58.59	14.66	-52.74	5.95	V	-44.03	-25.00
518598 (2592.990)	5 185.98	-56.36	11.47	-58.44	3.39	V	-50.36	-25.00
	7 778.97	-60.30	11.28	-53.30	4.21	V	-46.23	-25.00
	10 371.96	-58.77	11.80	-48.94	4.95	V	-42.09	-25.00
	12 964.95	-56.14	12.70	-46.10	5.41	V	-38.81	-25.00
	15 557.94	-58.20	16.22	-52.20	6.12	V	-42.10	-25.00
534996 (2674.980)	5 349.96	-57.03	11.80	-59.32	3.44	V	-50.96	-25.00
	8 024.94	-56.46	11.25	-49.40	4.30	V	-42.44	-25.00
	10 699.92	-55.79	11.70	-44.71	4.98	V	-37.99	-25.00
	13 374.90	-55.48	12.60	-45.73	5.59	V	-38.72	-25.00
	16 049.88	-61.33	16.50	-53.72	6.29	V	-43.51	-25.00

- NR Band: N41
- Bandwidth: 40 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
503202 (2516.010)	5 032.02	-54.30	10.96	-56.41	3.33	V	-48.78	-25.00
	7 548.03	-60.12	11.58	-53.05	4.17	V	-45.64	-25.00
	10 064.04	-57.27	11.67	-49.04	4.89	V	-42.26	-25.00
	12 580.05	-58.71	12.90	-49.45	5.49	V	-42.04	-25.00
	15 096.06	-58.94	14.78	-52.18	6.06	V	-43.46	-25.00
518598 (2592.990)	5 185.98	-55.21	11.47	-57.29	3.39	V	-49.21	-25.00
	7 778.97	-61.59	11.28	-54.59	4.21	V	-47.52	-25.00
	10 371.96	-59.23	11.80	-49.40	4.95	V	-42.55	-25.00
	12 964.95	-57.14	12.70	-47.10	5.41	V	-39.81	-25.00
	15 557.94	-57.19	16.22	-51.19	6.12	V	-41.09	-25.00
534000 (2670.000)	5 340.00	-56.39	11.78	-58.84	3.43	V	-50.49	-25.00
	8 010.00	-55.94	11.22	-48.75	4.26	V	-41.79	-25.00
	10 680.00	-55.93	11.70	-45.20	5.02	V	-38.52	-25.00
	13 350.00	-58.31	12.70	-47.75	5.52	V	-40.57	-25.00
	16 020.00	-62.11	16.50	-54.80	6.28	V	-44.58	-25.00

- NR Band: N41
- Bandwidth: 50 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
504204 (2521.020)	5 042.04	-54.24	10.98	-56.24	3.34	V	-48.60	-25.00
	7 563.06	-58.38	11.60	-51.76	4.16	V	-44.32	-25.00
	10 084.08	-55.99	11.63	-47.66	4.83	V	-40.86	-25.00
	12 605.10	-58.84	12.90	-49.21	5.50	V	-41.81	-25.00
	15 126.12	-58.41	14.85	-52.40	6.10	V	-43.65	-25.00
518598 (2592.990)	5 185.98	-54.73	11.47	-56.81	3.39	V	-48.73	-25.00
	7 778.97	-60.68	11.28	-53.68	4.21	V	-46.61	-25.00
	10 371.96	-55.08	11.80	-45.25	4.95	V	-38.40	-25.00
	12 964.95	-56.91	12.70	-46.87	5.41	V	-39.58	-25.00
	15 557.94	-57.11	16.22	-51.11	6.12	V	-41.01	-25.00
532998 (2664.990)	5 329.98	-56.02	11.76	-58.40	3.42	V	-50.06	-25.00
	7 994.97	-52.29	11.19	-45.13	4.23	V	-38.17	-25.00
	10 659.96	-55.82	11.70	-45.29	5.04	V	-38.63	-25.00
	13 324.95	-56.33	12.75	-46.20	5.59	V	-39.04	-25.00
	15 989.94	-62.04	16.50	-54.93	6.23	V	-44.66	-25.00

- NR Band: N41
- Bandwidth: 60 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
505200 (2526.000)	5 052.00	-54.51	11.00	-56.67	3.34	V	-49.01	-25.00
	7 578.00	-63.78	11.60	-57.28	4.13	V	-49.81	-25.00
	10 104.00	-56.05	11.60	-47.22	4.79	V	-40.41	-25.00
	12 630.00	-59.69	12.90	-50.55	5.44	V	-43.09	-25.00
	15 156.00	-59.67	14.91	-53.20	6.03	V	-44.32	-25.00
518598 (2592.990)	5 185.98	-53.77	11.47	-55.85	3.39	V	-47.77	-25.00
	7 778.97	-60.57	11.28	-53.57	4.21	V	-46.50	-25.00
	10 371.96	-56.62	11.80	-46.79	4.95	V	-39.94	-25.00
	12 964.95	-58.86	12.70	-48.82	5.41	V	-41.53	-25.00
	15 557.94	-60.45	16.22	-54.45	6.12	V	-44.35	-25.00
531996 (2659.980)	5 319.96	-53.64	11.74	-56.53	3.41	V	-48.20	-25.00
	7 979.94	-56.10	11.16	-48.71	4.23	V	-41.78	-25.00
	10 639.92	-54.77	11.70	-44.35	4.96	V	-37.61	-25.00
	13 299.90	-54.96	12.80	-45.00	5.66	V	-37.86	-25.00
	15 959.88	-61.04	16.50	-53.95	6.22	V	-43.67	-25.00

- NR Band: N41
- Bandwidth: 80 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
507204 (2536.020)	5 072.04	-55.62	11.08	-57.89	3.34	V	-50.15	-25.00
	7 608.06	-58.47	11.60	-51.51	4.14	V	-44.05	-25.00
	10 144.08	-56.02	11.60	-47.22	4.85	V	-40.47	-25.00
	12 680.10	-56.89	12.78	-46.77	5.43	V	-39.42	-25.00
	15 216.12	-58.42	15.03	-52.15	6.12	V	-43.24	-25.00
518598 (2592.990)	5 185.98	-53.12	11.47	-55.20	3.39	V	-47.12	-25.00
	7 778.97	-60.74	11.28	-53.74	4.21	V	-46.67	-25.00
	10 371.96	-55.17	11.80	-45.34	4.95	V	-38.49	-25.00
	12 964.95	-58.26	12.70	-48.22	5.41	V	-40.93	-25.00
	15 557.94	-60.85	16.22	-54.85	6.12	V	-44.75	-25.00
529998 (2649.990)	5 299.98	-55.49	11.70	-58.37	3.41	V	-50.08	-25.00
	7 949.97	-52.60	11.10	-45.76	4.29	V	-38.95	-25.00
	10 599.96	-57.22	11.70	-46.36	4.89	V	-39.55	-25.00
	13 249.95	-56.96	12.90	-46.82	5.53	V	-39.45	-25.00
	15 899.94	-60.26	16.40	-52.60	6.25	V	-42.45	-25.00

- NR Band: N41
- Bandwidth: 90 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
508200 (2541.000)	5 082.00	-53.29	11.12	-55.58	3.34	V	-47.80	-25.00
	7 623.00	-61.52	11.60	-54.83	4.16	V	-47.39	-25.00
	10 164.00	-57.27	11.60	-48.48	4.91	V	-41.79	-25.00
	12 705.00	-58.56	12.69	-48.78	5.46	V	-41.55	-25.00
	15 246.00	-58.42	15.09	-52.63	6.10	V	-43.64	-25.00
518598 (2592.990)	5 185.98	-52.24	11.47	-54.32	3.39	V	-46.24	-25.00
	7 778.97	-59.05	11.28	-52.05	4.21	V	-44.98	-25.00
	10 371.96	-50.42	11.80	-40.59	4.95	V	-33.74	-25.00
	12 964.95	-56.29	12.70	-46.25	5.41	V	-38.96	-25.00
	15 557.94	-57.82	16.22	-51.82	6.12	V	-41.72	-25.00
528996 (2644.980)	5 289.96	-56.45	11.68	-58.97	3.40	V	-50.69	-25.00
	7 934.94	-60.84	11.07	-53.70	4.27	V	-46.90	-25.00
	10 579.92	-55.32	11.70	-44.95	4.98	V	-38.23	-25.00
	13 224.90	-58.82	12.90	-48.24	5.54	V	-40.88	-25.00
	15 869.88	-61.52	16.40	-54.68	6.18	V	-44.46	-25.00

- NR Band: N41
- Bandwidth: 100 MHz
- Modulation: PI/2 BPSK
- Distance: 1 meters
- SCS: 30 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
509202 (2546.010)	5 092.02	-55.75	11.16	-57.90	3.33	V	-50.07	-25.00
	7 638.03	-61.87	11.60	-55.42	4.19	V	-48.01	-25.00
	10 184.04	-58.62	11.60	-49.75	4.86	V	-43.01	-25.00
	12 730.05	-59.84	12.64	-49.65	5.36	V	-42.37	-25.00
	15 276.06	-58.13	15.20	-52.11	6.03	V	-42.94	-25.00
518598 (2592.990)	5 185.98	-55.33	11.47	-57.41	3.39	V	-49.33	-25.00
	7 778.97	-60.08	11.28	-53.08	4.21	V	-46.01	-25.00
	10 371.96	-55.64	11.80	-45.81	4.95	V	-38.96	-25.00
	12 964.95	-58.76	12.70	-48.72	5.41	V	-41.43	-25.00
	15 557.94	-62.42	16.22	-56.42	6.12	V	-46.32	-25.00
528000 (2640.000)	5 280.00	-57.95	11.66	-60.62	3.41	V	-52.37	-25.00
	7 920.00	-63.85	11.04	-56.34	4.26	V	-49.56	-25.00
	10 560.00	-58.84	11.70	-48.46	5.00	V	-41.76	-25.00
	13 200.00	-63.57	12.90	-53.33	5.60	V	-46.03	-25.00
	15 840.00	-62.95	16.40	-55.62	6.23	V	-45.45	-25.00

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n41	10 MHz	2592.990	BPSK	24	0	4.62
			QPSK			5.91
			16-QAM			6.89
			64-QAM			6.92
			256-QAM			7.16
	15 MHz		BPSK	38		4.62
			QPSK			5.89
			16-QAM			6.74
			64-QAM			6.99
			256-QAM			6.91
	20 MHz		BPSK	51		4.62
			QPSK			5.96
			16-QAM			6.72
			64-QAM			6.85
			256-QAM			7.06
	30 MHz		BPSK	78		4.61
			QPSK			5.84
			16-QAM			6.68
			64-QAM			6.81
			256-QAM			6.87
	40 MHz		BPSK	106		4.60
			QPSK			5.96
			16-QAM			6.70
			64-QAM			6.94
			256-QAM			6.91
	50 MHz		BPSK	133		4.98
			QPSK			5.84
			16-QAM			6.69
			64-QAM			6.79
			256-QAM			6.90
	60 MHz		BPSK	162		4.58
			QPSK			5.79
			16-QAM			6.60
			64-QAM			6.87
			256-QAM			6.91
	80 MHz		BPSK	217		5.26
			QPSK			5.96
			16-QAM			6.76
			64-QAM			6.82
			256-QAM			6.92
90 MHz	BPSK	245	4.69			
	QPSK		5.94			
	16-QAM		6.71			
	64-QAM		6.96			
	256-QAM		6.90			
100 MHz	BPSK	273	5.29			
	QPSK		5.87			
	16-QAM		6.67			
	64-QAM		6.78			
	256-QAM		6.84			

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 114 ~ 163.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n41	10 MHz	2592.990	BPSK	24	0	8.6224
			QPSK			8.5998
			16-QAM			8.6131
			64-QAM			8.6327
			256-QAM			8.6408
	15 MHz		BPSK	38		12.928
			QPSK			12.923
			16-QAM			12.921
			64-QAM			12.944
			256-QAM			12.908
	20 MHz		BPSK	51		17.994
			QPSK			17.945
			16-QAM			17.962
			64-QAM			17.946
			256-QAM			17.925
	30 MHz		BPSK	78		26.950
			QPSK			26.985
			16-QAM			26.987
			64-QAM			26.998
			256-QAM			26.960
	40 MHz		BPSK	106		35.875
			QPSK			35.883
			16-QAM			35.861
			64-QAM			35.912
			256-QAM			35.906
	50 MHz		BPSK	133		45.839
			QPSK			45.869
			16-QAM			45.965
			64-QAM			45.896
			256-QAM			45.954
	60 MHz		BPSK	162		57.983
			QPSK			58.020
16-QAM		57.987				
64-QAM		57.943				
256-QAM		57.977				
80 MHz	BPSK	217	77.503			
	QPSK		77.361			
	16-QAM		77.499			
	64-QAM		77.444			
	256-QAM		77.560			
90 MHz	BPSK	245	87.016			
	QPSK		86.928			
	16-QAM		87.025			
	64-QAM		86.944			
	256-QAM		86.947			
100 MHz	BPSK	273	96.483			
	QPSK		96.398			
	16-QAM		96.614			
	64-QAM		96.593			
			256-QAM			96.632

Note:

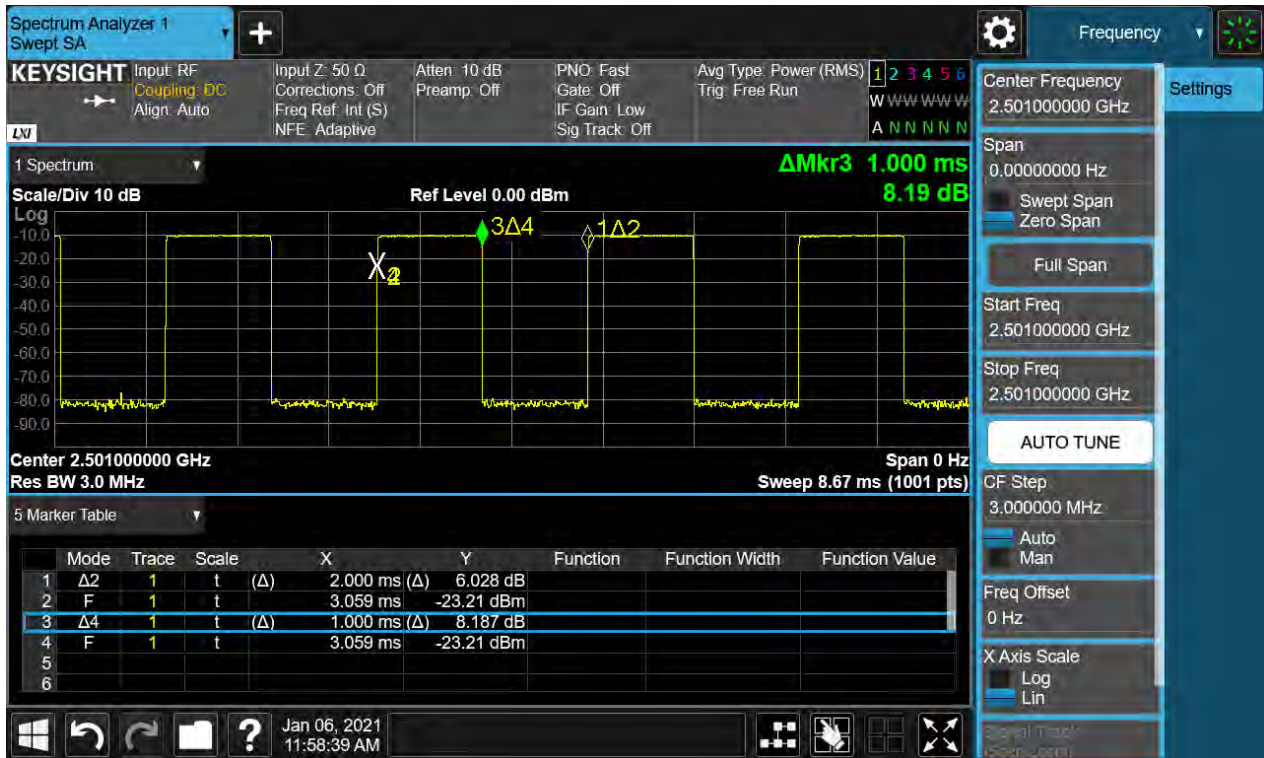
1. Plots of the EUT's Occupied Bandwidth are shown Page 64 ~ 113.

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 n41	10	2501.010	6.0564	36.701	-72.866	-36.165	-25.00
		2592.990	7.9771	36.701	-72.585	-35.884	
		2685.000	8.0299	36.701	-71.612	-34.911	
	15	2503.500	6.0200	36.701	-72.594	-35.893	
		2592.990	7.9995	36.701	-70.537	-33.836	
		2682.480	6.0344	36.701	-72.046	-35.345	
	20	2506.020	8.3206	36.701	-72.563	-35.862	
		2592.990	9.7318	36.701	-71.685	-34.984	
		2679.990	3.7573	36.091	-72.131	-36.040	
	30	2511.000	9.4606	36.701	-72.744	-36.043	
		2592.990	5.2508	36.701	-71.743	-35.042	
		2674.980	8.8729	36.701	-71.993	-35.292	
	40	2516.010	9.1545	36.701	-72.011	-35.310	
		2592.990	6.0324	36.701	-70.846	-34.145	
		2670.000	9.6770	36.701	-72.625	-35.924	
	50	2521.020	8.6067	36.701	-71.627	-34.926	
		2592.990	8.0274	36.701	-72.100	-35.399	
		2664.990	3.8515	36.091	-72.376	-36.285	
	60	2526.000	7.9836	36.701	-72.522	-35.821	
		2592.990	9.9387	36.701	-71.920	-35.219	
		2659.980	9.9526	36.701	-72.096	-35.395	
	80	2536.020	8.0529	36.701	-71.313	-34.612	
		2592.990	3.2149	36.091	-72.248	-36.157	
		2649.990	3.2373	36.091	-72.325	-36.234	
	90	2541.000	8.0015	36.701	-71.937	-35.236	
		2592.990	7.1880	36.701	-72.412	-35.711	
		2644.980	4.0095	36.091	-72.686	-36.595	
	100	2546.010	6.0035	36.701	-71.629	-34.928	
		2592.990	8.0185	36.701	-72.227	-35.526	
		2640.000	4.0399	36.091	-71.563	-35.472	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 234 ~ 293.
2. Duty Cycle factor already applied on the factor.
 - Duty Cycle Factor(dB) = 3.010



- Factor(dB) = Duty Cycle factor + Cable Loss + Power Splitter + Ext. Attenuator

- Result(dBm) = Reading + Factor

3. Factor(dB)

Frequency Range (GHz)	Factor [dB]
0.03 – 1	26.613
1 – 5	29.101
5 – 10	29.711
10 – 15	30.236
15 – 20	30.609
Above 20	31.251

8.6 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/Offset)	2 495 MHz ~ 2 496 MHz	C.E ~ (C.E +NormalHz)	2 490.5 MHz ~ 2 495 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	(C.E + 5 MHz) ~ (C.E + X MHz)	Above (C.E + X MHz)
				Lower	Upper	Lower	Upper	Lower	Upper	Upper
10	2501.010	BPSK	Full RB	-27.00	-25.58	-24.90	-25.63	-29.86	-25.19	-36.88
15	2503.500	BPSK	Full RB	-24.40	-29.20	-26.11	-24.49	-26.30	-25.80	-39.73
20	2506.020	BPSK	Full RB	-26.23	-27.83	-27.78	-29.24	-28.60	-26.94	-41.28
30	2511.000	BPSK	Full RB	-25.80	-29.05	-28.03	-30.11	-31.72	-30.08	-44.80
40	2520.000	BPSK	Full RB	-25.68	-29.91	-28.51	-31.70	-33.47	-30.77	-45.51
50	2525.010	BPSK	Full RB	-23.70	-29.37	-29.16	-30.03	-31.20	-32.22	-42.75
60	2530.020	BPSK	Full RB	-17.69	-19.30	-29.49	-29.29	-32.84	-31.66	-46.65
80	2540.010	BPSK	Full RB	-24.84	-27.82	-30.49	-31.56	-31.63	-31.86	-46.28
90	2545.020	BPSK	Full RB	-22.72	-30.39	-30.18	-31.70	-31.63	-31.04	-46.80
100	2550.000	BPSK	Full RB	-22.03	-31.74	-30.14	-32.48	-31.31	-33.61	-45.88
Limit				-13.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	C.E ~ (C.E ± 1 MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
					Lower	Upper	Lower	Upper
10 MHz	2592.990	BPSK	Full RB	0	-26.10	-26.09	-23.41	-24.96
	2685.000	BPSK	Full RB	0	-25.97	-25.47	-23.32	-24.30
15 MHz	2592.990	BPSK	Full RB	0	-23.44	-28.74	-24.94	-25.24
	2682.480	BPSK	Full RB	0	-23.53	-28.03	-23.24	-23.90
20 MHz	2592.990	BPSK	Full RB	0	-24.87	-27.92	-26.02	-28.96
	2679.990	BPSK	Full RB	0	-25.23	-27.10	-26.04	-27.95
30 MHz	2592.990	BPSK	Full RB	0	-23.63	-29.26	-26.79	-30.05
	2679.990	BPSK	Full RB	0	-24.48	-29.60	-26.09	-29.02
40 MHz	2592.990	BPSK	Full RB	0	-23.98	-30.74	-27.16	-32.03
	2670.000	BPSK	Full RB	0	-24.84	-30.06	-26.18	-31.16
50 MHz	2592.990	BPSK	Full RB	0	-22.76	-30.41	-27.63	-30.61
	2664.990	BPSK	Full RB	0	-22.42	-29.68	-26.86	-29.89
60 MHz	2592.990	BPSK	Full RB	0	-17.09	-19.67	-27.73	-29.70
	2659.980	BPSK	Full RB	0	-16.88	-19.64	-27.10	-29.37
80 MHz	2592.990	BPSK	Full RB	0	-22.45	-28.65	-28.77	-31.79
	2649.990	BPSK	Full RB	0	-22.78	-28.62	-28.32	-30.82
90 MHz	2592.990	BPSK	Full RB	0	-21.80	-30.26	-28.79	-31.07
	2644.980	BPSK	Full RB	0	-21.81	-30.15	-28.70	-31.53
100 MHz	2592.990	BPSK	Full RB	0	-20.59	-31.91	-28.54	-32.05
	2640.000	BPSK	Full RB	0	-20.24	-31.47	-28.50	-32.37
Limit					-10.0		-10.0	

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
					Lower	Upper	Lower	Upper
					10 MHz	2592.990	BPSK	Full RB
	2685.000	BPSK	Full RB	0	-24.48	-24.49	-33.40	-32.82
15 MHz	2592.990	BPSK	Full RB	0	-23.28	-25.85	-39.04	-39.60
	2682.480	BPSK	Full RB	0	-23.14	-24.19	-35.66	-33.45
20 MHz	2592.990	BPSK	Full RB	0	-25.53	-27.85	-40.03	-39.38
	2679.990	BPSK	Full RB	0	-25.13	-25.38	-36.54	-35.57
30 MHz	2592.990	BPSK	Full RB	0	-28.17	-30.62	-43.44	-44.62
	2679.990	BPSK	Full RB	0	-26.92	-28.40	-41.62	-45.32
40 MHz	2592.990	BPSK	Full RB	0	-28.97	-31.31	-43.92	-45.24
	2670.000	BPSK	Full RB	0	-27.82	-28.56	-41.72	-46.94
50 MHz	2592.990	BPSK	Full RB	0	-28.19	-31.72	-40.01	-42.55
	2664.990	BPSK	Full RB	0	-27.39	-29.90	-38.43	-47.04
60 MHz	2592.990	BPSK	Full RB	0	-27.61	-32.13	-45.84	-46.59
	2659.980	BPSK	Full RB	0	-26.63	-31.67	-44.30	-47.47
80 MHz	2592.990	BPSK	Full RB	0	-28.98	-31.75	-47.56	-46.18
	2649.990	BPSK	Full RB	0	-28.07	-30.74	-41.97	-47.55
90 MHz	2592.990	BPSK	Full RB	0	-29.10	-31.95	-47.64	-47.46
	2644.980	BPSK	Full RB	0	-27.53	-31.45	-46.00	-47.54
100 MHz	2592.990	BPSK	Full RB	0	-29.37	-33.46	-47.71	-47.47
	2640.000	BPSK	Full RB	0	-29.31	-32.66	-44.74	-47.57
Limit					-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
 - Factor(dB) = Duty Cycle factor + Cable Loss + Power Splitter + Ext. Attenuator
 - Result(dBm) = Reading + Factor
 - Duty Cycle Factor(dB) = 3.01
4. Plots of the EUT's Channel Edge are shown Page 164 ~ 233. (1RB & Full RB)

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

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

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2501.010	100%	+20(Ref)	2501 010 004	0.0	0.000 000	0.000
	100%	-30	2501 010 016	12.0	0.000 000	0.005
	100%	-20	2501 010 016	11.7	0.000 000	0.005
	100%	-10	2501 010 016	11.6	0.000 000	0.005
	100%	0	2501 010 015	11.0	0.000 000	0.004
	100%	+10	2501 010 010	6.0	0.000 000	0.002
	100%	+30	2501 010 012	7.4	0.000 000	0.003
	100%	+40	2501 010 016	12.0	0.000 000	0.005
	100%	+50	2501 010 010	5.4	0.000 000	0.002
	Batt. Endpoint	+20	2501 010 013	9.3	0.000 000	0.004
2685.000	100%	+20(Ref)	2685 000 007	0.0	0.000 000	0.000
	100%	-30	2685 000 015	7.4	0.000 000	0.003
	100%	-20	2685 000 013	5.6	0.000 000	0.002
	100%	-10	2685 000 016	9.3	0.000 000	0.003
	100%	0	2685 000 020	12.6	0.000 000	0.005
	100%	+10	2685 000 018	10.8	0.000 000	0.004
	100%	+30	2685 000 020	12.8	0.000 000	0.005
	100%	+40	2685 000 024	16.5	0.000 001	0.006
	100%	+50	2685 000 019	12.0	0.000 000	0.004
	Batt. Endpoint	+20	2685 000 024	16.7	0.000 001	0.006

- ▣ BandWidth: 15 MHz
- ▣ Voltage(100%): 3.860 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
2503.500	100%	+20(Ref)	2503 500 016	0.0	0.000 000	0.000
	100%	-30	2503 500 030	14.9	0.000 001	0.006
	100%	-20	2503 500 019	3.1	0.000 000	0.001
	100%	-10	2503 500 026	10.8	0.000 000	0.004
	100%	0	2503 500 032	16.6	0.000 001	0.007
	100%	+10	2503 500 027	11.8	0.000 000	0.005
	100%	+30	2503 500 023	7.2	0.000 000	0.003
	100%	+40	2503 500 031	15.3	0.000 001	0.006
	100%	+50	2503 500 022	6.7	0.000 000	0.003
	Batt. Endpoint	+20	2503 500 026	10.5	0.000 000	0.004
2682.480	100%	+20(Ref)	2682 480 011	0.0	0.000 000	0.000
	100%	-30	2682 480 027	16.3	0.000 001	0.006
	100%	-20	2682 480 023	12.3	0.000 000	0.005
	100%	-10	2682 480 023	12.0	0.000 000	0.004
	100%	0	2682 480 027	16.2	0.000 001	0.006
	100%	+10	2682 480 015	3.9	0.000 000	0.001
	100%	+30	2682 480 027	15.9	0.000 001	0.006
	100%	+40	2682 480 018	6.9	0.000 000	0.003
	100%	+50	2682 480 015	3.9	0.000 000	0.001
	Batt. Endpoint	+20	2682 480 023	12.2	0.000 000	0.005

- ▣ BandWidth: 20 MHz
- ▣ Voltage(100%): 3.860 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
2506.020	100%	+20(Ref)	2506 020 014	0.0	0.000 000	0.000
	100%	-30	2506 020 020	6.3	0.000 000	0.003
	100%	-20	2506 020 023	9.5	0.000 000	0.004
	100%	-10	2506 020 030	15.9	0.000 001	0.006
	100%	0	2506 020 017	3.3	0.000 000	0.001
	100%	+10	2506 020 021	6.7	0.000 000	0.003
	100%	+30	2506 020 024	10.5	0.000 000	0.004
	100%	+40	2506 020 020	6.4	0.000 000	0.003
	100%	+50	2506 020 023	8.6	0.000 000	0.003
	Batt. Endpoint	+20	2506 020 017	3.1	0.000 000	0.001
2679.990	100%	+20(Ref)	2679 990 013	0.0	0.000 000	0.000
	100%	-30	2679 990 022	9.1	0.000 000	0.003
	100%	-20	2679 990 019	6.5	0.000 000	0.002
	100%	-10	2679 990 027	14.0	0.000 001	0.005
	100%	0	2679 990 025	11.8	0.000 000	0.004
	100%	+10	2679 990 016	3.3	0.000 000	0.001
	100%	+30	2679 990 027	14.4	0.000 001	0.005
	100%	+40	2679 990 027	13.9	0.000 001	0.005
	100%	+50	2679 990 024	11.4	0.000 000	0.004
	Batt. Endpoint	+20	2679 990 020	6.8	0.000 000	0.003

- ▣ BandWidth: 30 MHz
- ▣ Voltage(100%): 3.860 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
2511.000	100%	+20(Ref)	2511 000 010	0.0	0.000 000	0.000
	100%	-30	2511 000 021	11.1	0.000 000	0.004
	100%	-20	2511 000 023	12.4	0.000 000	0.005
	100%	-10	2511 000 013	3.2	0.000 000	0.001
	100%	0	2511 000 017	6.9	0.000 000	0.003
	100%	+10	2511 000 023	12.9	0.000 001	0.005
	100%	+30	2511 000 027	16.9	0.000 001	0.007
	100%	+40	2511 000 015	5.1	0.000 000	0.002
	100%	+50	2511 000 025	15.2	0.000 001	0.006
	Batt. Endpoint	+20	2511 000 025	14.7	0.000 001	0.006
2674.980	100%	+20(Ref)	2674 980 004	0.0	0.000 000	0.000
	100%	-30	2674 980 010	6.8	0.000 000	0.003
	100%	-20	2674 980 007	3.4	0.000 000	0.001
	100%	-10	2674 980 019	15.3	0.000 001	0.006
	100%	0	2674 980 010	6.0	0.000 000	0.002
	100%	+10	2674 980 010	6.8	0.000 000	0.003
	100%	+30	2674 980 011	7.6	0.000 000	0.003
	100%	+40	2674 980 017	13.2	0.000 000	0.005
	100%	+50	2674 980 014	10.2	0.000 000	0.004
	Batt. Endpoint	+20	2674 980 015	11.2	0.000 000	0.004

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100%): 3.860 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
2516.010	100%	+20(Ref)	2516 010 010	0.0	0.000 000	0.000
	100%	-30	2516 010 023	13.8	0.000 001	0.005
	100%	-20	2516 010 024	14.5	0.000 001	0.006
	100%	-10	2516 010 025	15.6	0.000 001	0.006
	100%	0	2516 010 013	3.1	0.000 000	0.001
	100%	+10	2516 010 013	3.4	0.000 000	0.001
	100%	+30	2516 010 019	9.2	0.000 000	0.004
	100%	+40	2516 010 024	14.3	0.000 001	0.006
	100%	+50	2516 010 016	6.1	0.000 000	0.002
	Batt. Endpoint	+20	2516 010 013	3.1	0.000 000	0.001
2670.000	100%	+20(Ref)	2670 000 008	0.0	0.000 000	0.000
	100%	-30	2670 000 017	9.0	0.000 000	0.003
	100%	-20	2670 000 012	4.6	0.000 000	0.002
	100%	-10	2670 000 012	4.0	0.000 000	0.001
	100%	0	2670 000 024	15.9	0.000 001	0.006
	100%	+10	2670 000 017	9.8	0.000 000	0.004
	100%	+30	2670 000 013	4.9	0.000 000	0.002
	100%	+40	2670 000 018	10.2	0.000 000	0.004
	100%	+50	2670 000 021	13.1	0.000 000	0.005
	Batt. Endpoint	+20	2670 000 020	12.5	0.000 000	0.005

- ▣ BandWidth: 50 MHz
- ▣ Voltage(100%): 3.860 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
2521.020	100%	+20(Ref)	2521 020 015	0.0	0.000 000	0.000
	100%	-30	2521 020 019	3.9	0.000 000	0.002
	100%	-20	2521 020 028	13.2	0.000 001	0.005
	100%	-10	2521 020 032	16.8	0.000 001	0.007
	100%	0	2521 020 019	3.8	0.000 000	0.002
	100%	+10	2521 020 019	3.5	0.000 000	0.001
	100%	+30	2521 020 030	14.8	0.000 001	0.006
	100%	+40	2521 020 028	12.8	0.000 001	0.005
	100%	+50	2521 020 022	6.4	0.000 000	0.003
	Batt. Endpoint	+20	2521 020 030	14.7	0.000 001	0.006
2664.990	100%	+20(Ref)	2664 990 006	0.0	0.000 000	0.000
	100%	-30	2664 990 021	15.1	0.000 001	0.006
	100%	-20	2664 990 016	10.5	0.000 000	0.004
	100%	-10	2664 990 010	3.8	0.000 000	0.001
	100%	0	2664 990 019	13.6	0.000 001	0.005
	100%	+10	2664 990 021	15.0	0.000 001	0.006
	100%	+30	2664 990 017	11.3	0.000 000	0.004
	100%	+40	2664 990 021	15.6	0.000 001	0.006
	100%	+50	2664 990 022	16.3	0.000 001	0.006
	Batt. Endpoint	+20	2664 990 019	13.4	0.000 001	0.005

- ▣ BandWidth: 60 MHz
- ▣ Voltage(100%): 3.860 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
2526.000	100%	+20(Ref)	2526 000 009	0.0	0.000 000	0.000
	100%	-30	2526 000 013	4.0	0.000 000	0.002
	100%	-20	2526 000 024	14.9	0.000 001	0.006
	100%	-10	2526 000 017	7.7	0.000 000	0.003
	100%	0	2526 000 015	5.6	0.000 000	0.002
	100%	+10	2526 000 025	16.4	0.000 001	0.006
	100%	+30	2526 000 019	9.9	0.000 000	0.004
	100%	+40	2526 000 018	8.8	0.000 000	0.003
	100%	+50	2526 000 017	7.7	0.000 000	0.003
	Batt. Endpoint	+20	2526 000 015	6.3	0.000 000	0.002
2659.980	100%	+20(Ref)	2659 980 016	0.0	0.000 000	0.000
	100%	-30	2659 980 019	3.4	0.000 000	0.001
	100%	-20	2659 980 027	11.1	0.000 000	0.004
	100%	-10	2659 980 029	12.6	0.000 000	0.005
	100%	0	2659 980 029	12.6	0.000 000	0.005
	100%	+10	2659 980 026	9.6	0.000 000	0.004
	100%	+30	2659 980 031	15.4	0.000 001	0.006
	100%	+40	2659 980 024	8.3	0.000 000	0.003
	100%	+50	2659 980 020	4.2	0.000 000	0.002
	Batt. Endpoint	+20	2659 980 030	13.7	0.000 001	0.005

- ▣ BandWidth: 80 MHz
- ▣ Voltage(100%): 3.860 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
2536.020	100%	+20(Ref)	2536 020 015	0.0	0.000 000	0.000
	100%	-30	2536 020 032	16.8	0.000 001	0.007
	100%	-20	2536 020 020	4.9	0.000 000	0.002
	100%	-10	2536 020 021	5.8	0.000 000	0.002
	100%	0	2536 020 018	3.2	0.000 000	0.001
	100%	+10	2536 020 024	9.1	0.000 000	0.004
	100%	+30	2536 020 026	10.4	0.000 000	0.004
	100%	+40	2536 020 031	15.9	0.000 001	0.006
	100%	+50	2536 020 031	15.3	0.000 001	0.006
	Batt. Endpoint	+20	2536 020 026	11.1	0.000 000	0.004
2649.990	100%	+20(Ref)	2649 990 008	0.0	0.000 000	0.000
	100%	-30	2649 990 024	15.7	0.000 001	0.006
	100%	-20	2649 990 025	16.3	0.000 001	0.006
	100%	-10	2649 990 014	5.8	0.000 000	0.002
	100%	0	2649 990 015	6.4	0.000 000	0.002
	100%	+10	2649 990 018	9.4	0.000 000	0.004
	100%	+30	2649 990 013	4.2	0.000 000	0.002
	100%	+40	2649 990 025	16.2	0.000 001	0.006
	100%	+50	2649 990 012	3.7	0.000 000	0.001
	Batt. Endpoint	+20	2649 990 020	11.2	0.000 000	0.004

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

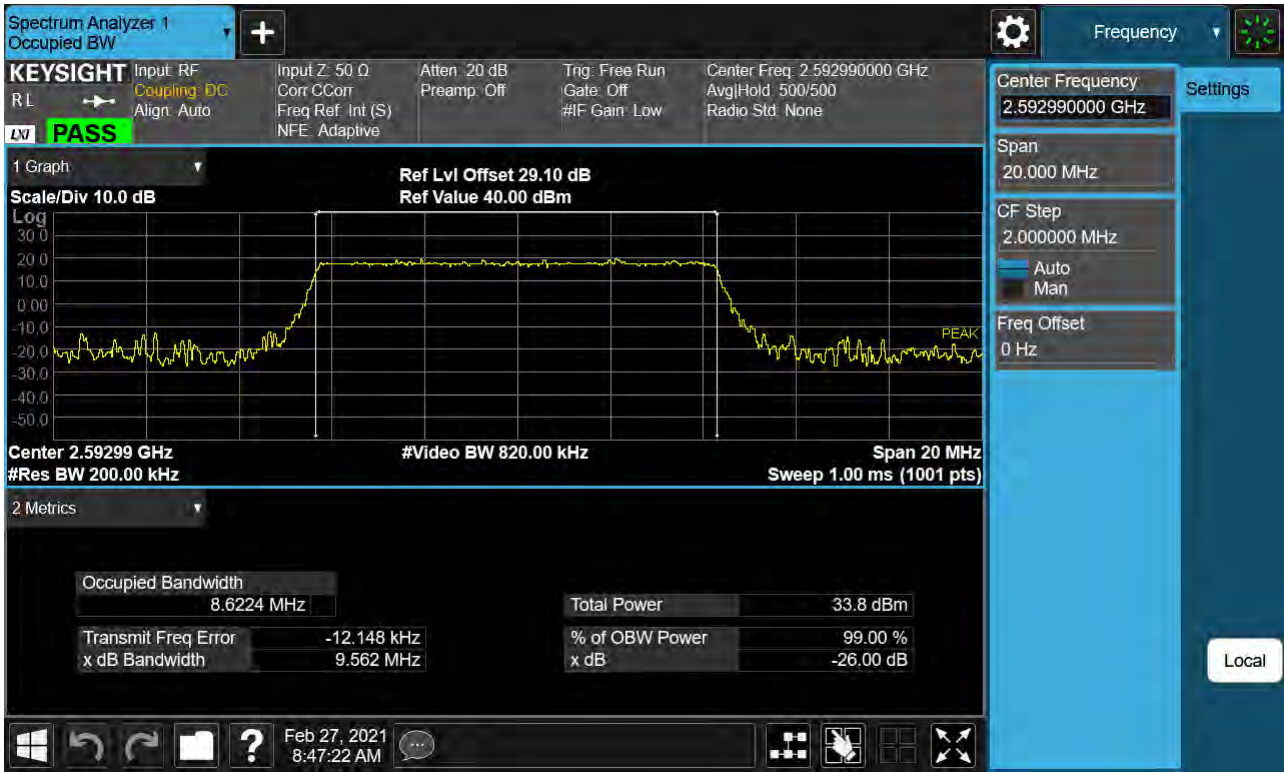
Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2541.000	100%	+20(Ref)	2541 000 006	0.0	0.000 000	0.000
	100%	-30	2541 000 016	9.9	0.000 000	0.004
	100%	-20	2541 000 017	10.3	0.000 000	0.004
	100%	-10	2541 000 013	6.5	0.000 000	0.003
	100%	0	2541 000 017	11.1	0.000 000	0.004
	100%	+10	2541 000 019	12.4	0.000 000	0.005
	100%	+30	2541 000 020	13.7	0.000 001	0.005
	100%	+40	2541 000 023	16.8	0.000 001	0.007
	100%	+50	2541 000 017	10.3	0.000 000	0.004
	Batt. Endpoint	+20	2541 000 019	12.5	0.000 000	0.005
2644.980	100%	+20(Ref)	2644 980 009	0.0	0.000 000	0.000
	100%	-30	2644 980 023	14.7	0.000 001	0.006
	100%	-20	2644 980 023	14.3	0.000 001	0.005
	100%	-10	2644 980 014	5.6	0.000 000	0.002
	100%	0	2644 980 013	4.2	0.000 000	0.002
	100%	+10	2644 980 012	3.8	0.000 000	0.001
	100%	+30	2644 980 015	6.5	0.000 000	0.002
	100%	+40	2644 980 019	10.9	0.000 000	0.004
	100%	+50	2644 980 024	15.8	0.000 001	0.006
	Batt. Endpoint	+20	2644 980 020	11.1	0.000 000	0.004

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

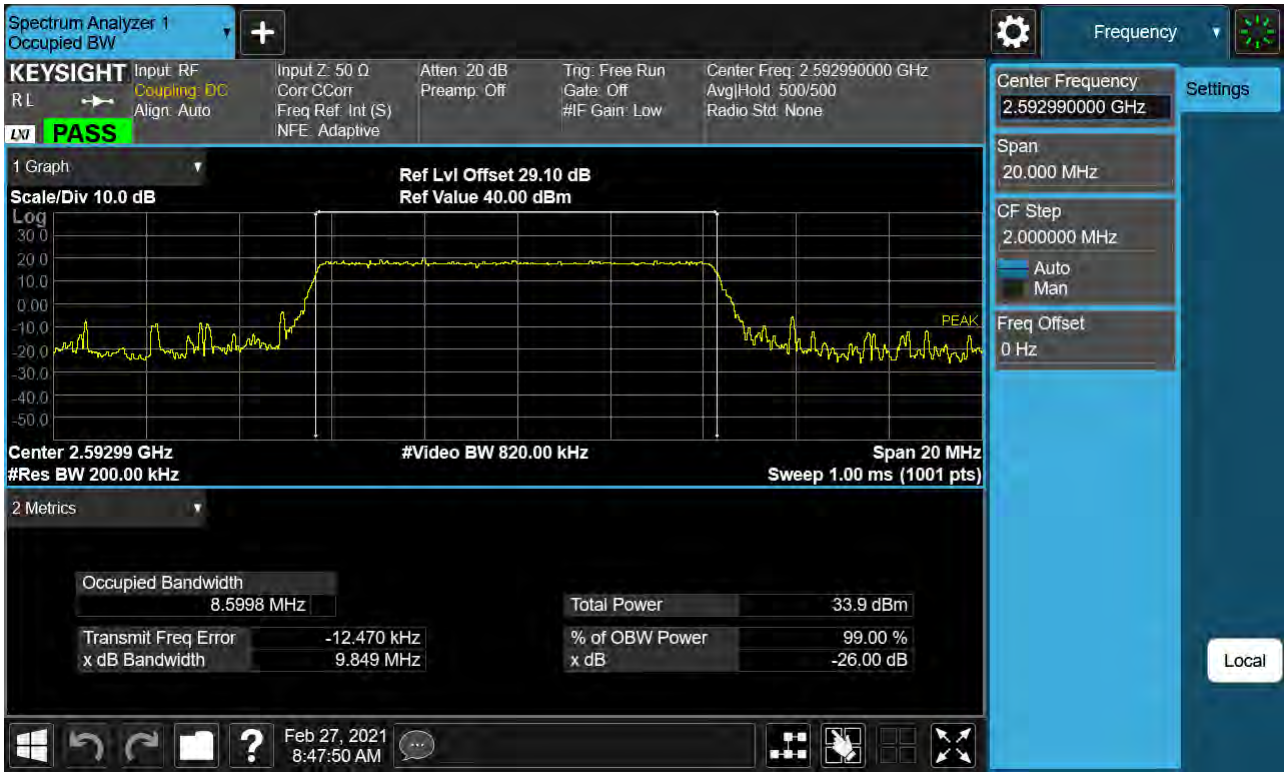
Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2546.010	100%	+20(Ref)	2546 010 006	0.0	0.000 000	0.000
	100%	-30	2546 010 020	14.6	0.000 001	0.006
	100%	-20	2546 010 011	5.6	0.000 000	0.002
	100%	-10	2546 010 019	13.2	0.000 001	0.005
	100%	0	2546 010 012	6.6	0.000 000	0.003
	100%	+10	2546 010 018	12.8	0.000 001	0.005
	100%	+30	2546 010 013	7.6	0.000 000	0.003
	100%	+40	2546 010 010	4.5	0.000 000	0.002
	100%	+50	2546 010 017	11.8	0.000 000	0.005
	Batt. Endpoint	+20	2546 010 013	7.4	0.000 000	0.003
2640.000	100%	+20(Ref)	2640 000 009	0.0	0.000 000	0.000
	100%	-30	2640 000 014	4.9	0.000 000	0.002
	100%	-20	2640 000 015	5.9	0.000 000	0.002
	100%	-10	2640 000 026	16.9	0.000 001	0.006
	100%	0	2640 000 014	4.7	0.000 000	0.002
	100%	+10	2640 000 016	6.3	0.000 000	0.002
	100%	+30	2640 000 026	16.3	0.000 001	0.006
	100%	+40	2640 000 021	11.2	0.000 000	0.004
	100%	+50	2640 000 013	3.2	0.000 000	0.001
	Batt. Endpoint	+20	2640 000 014	4.7	0.000 000	0.002

9. TEST PLOTS

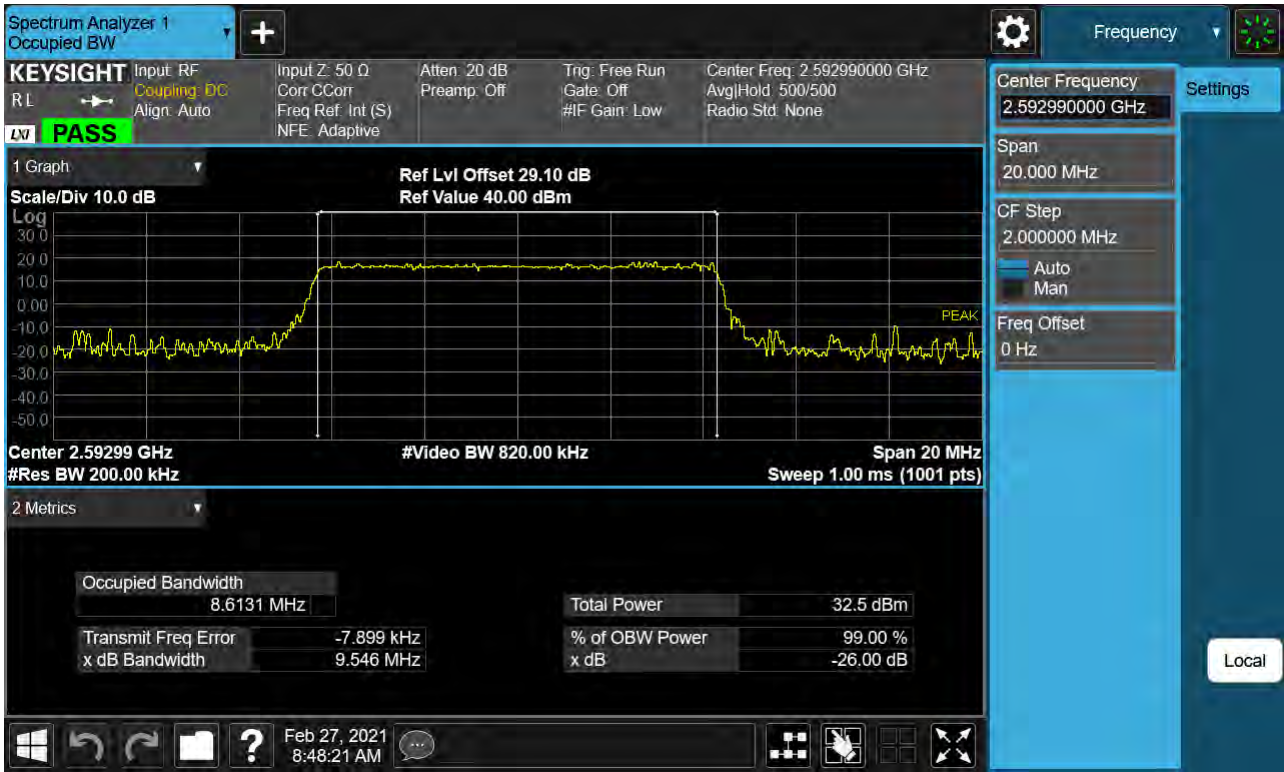
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 BPSK)



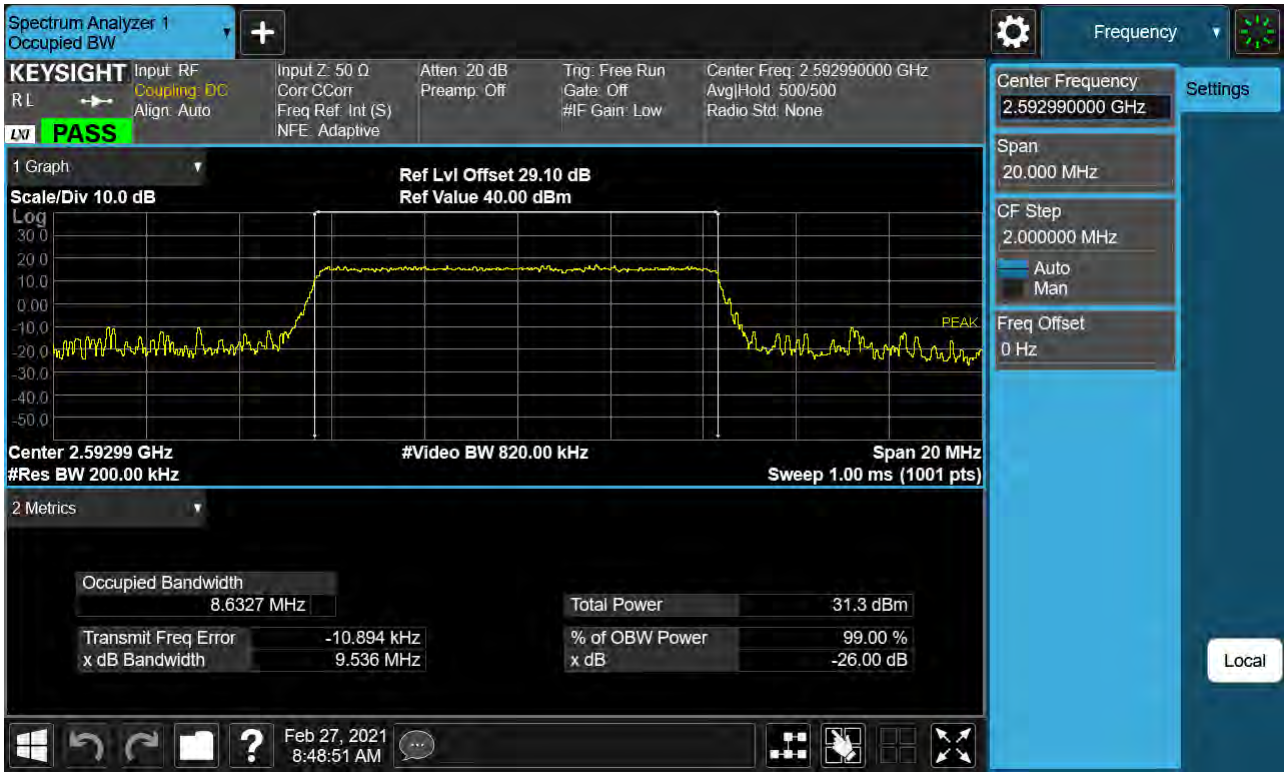
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 QPSK)



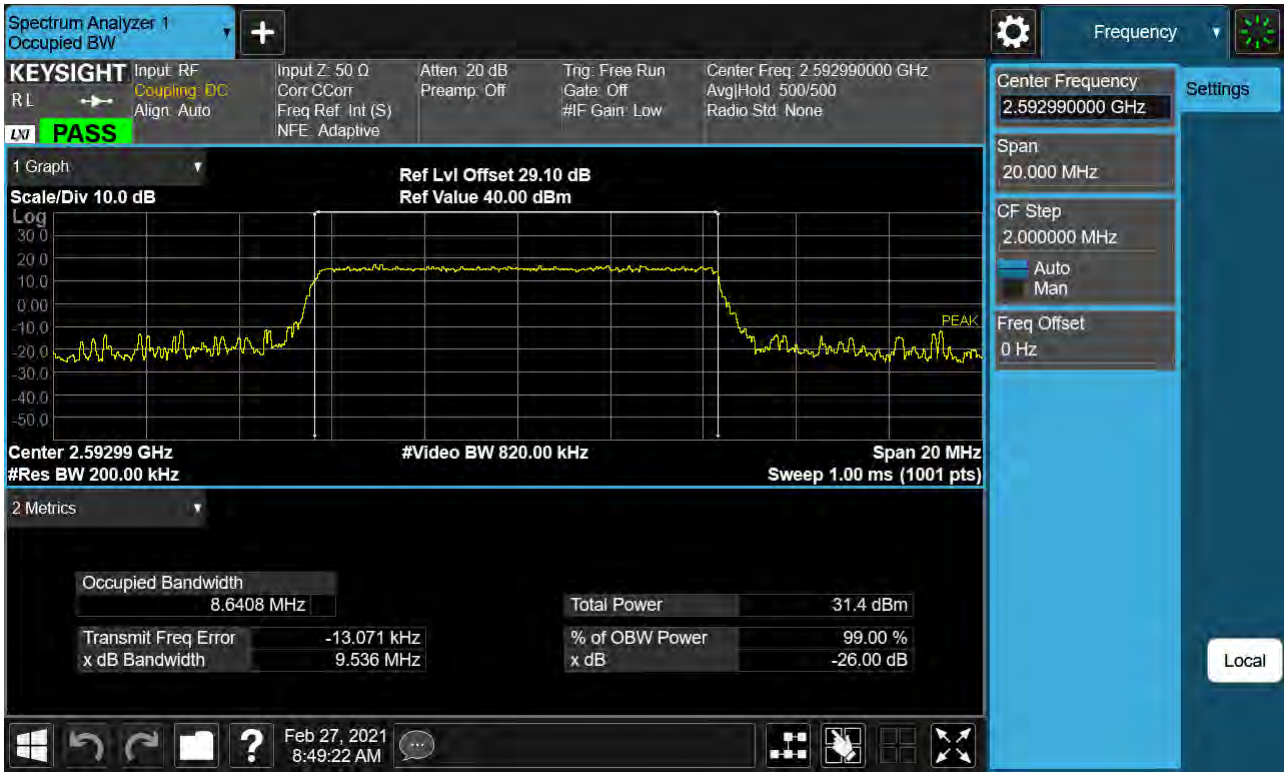
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 16-QAM)



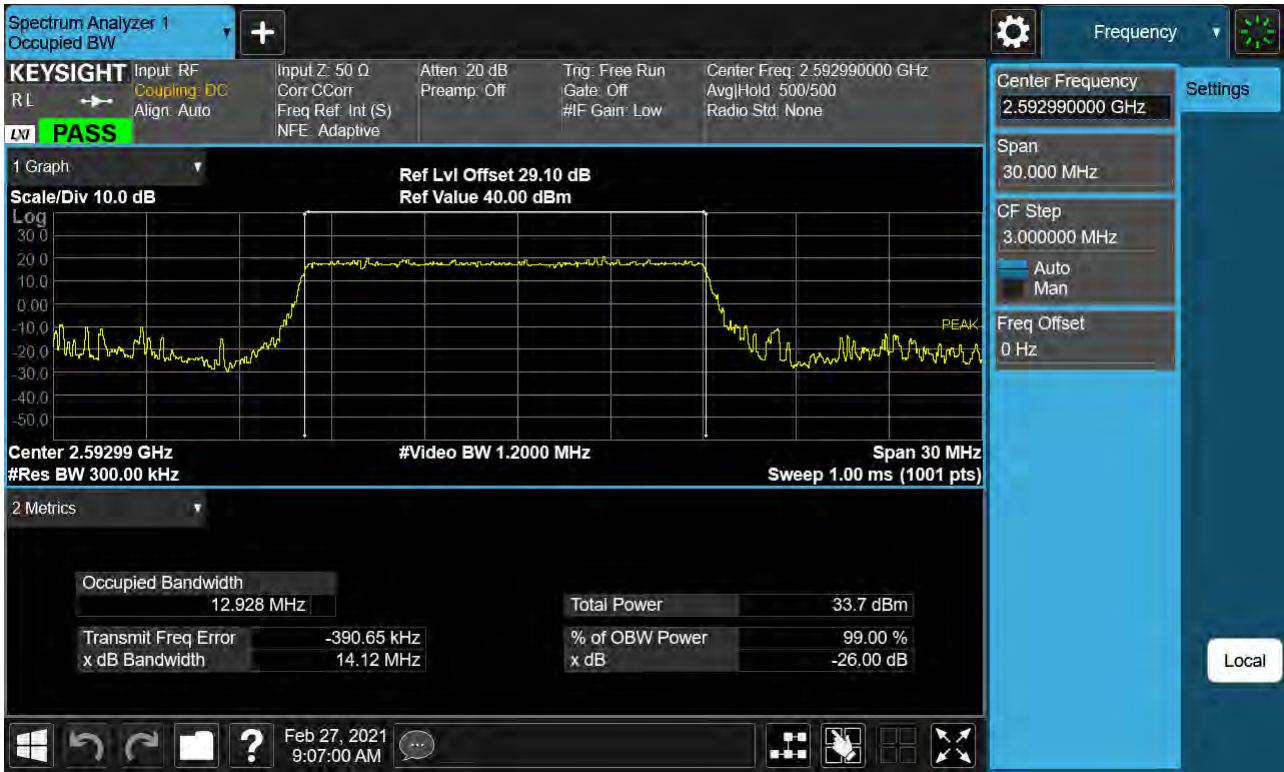
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 64-QAM)



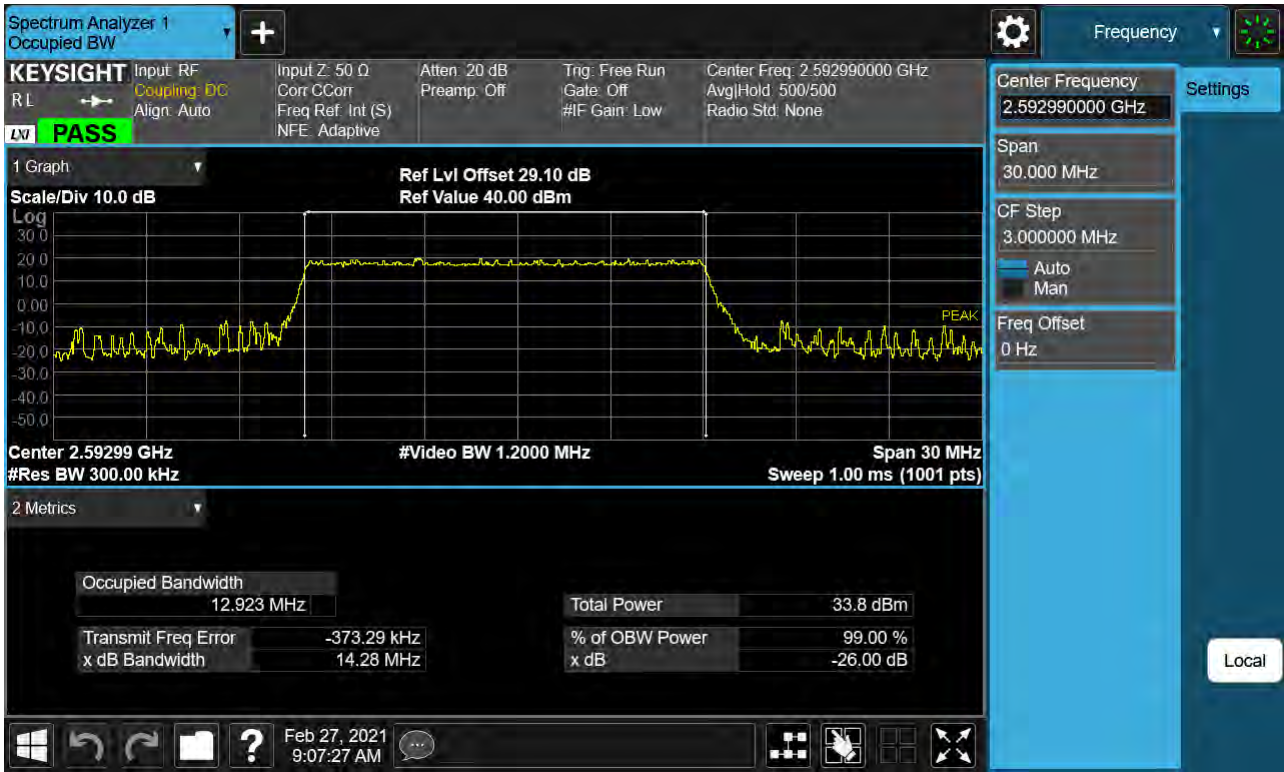
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 256-QAM)



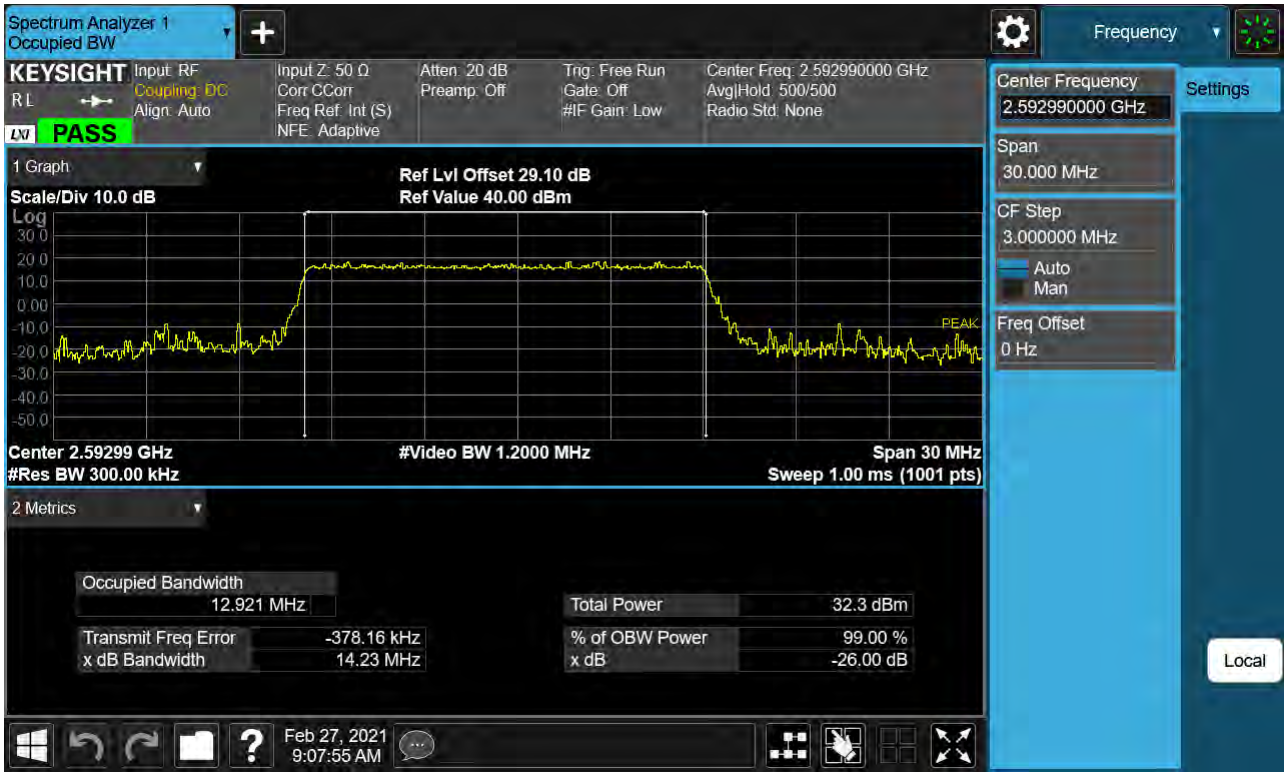
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 BPSK)



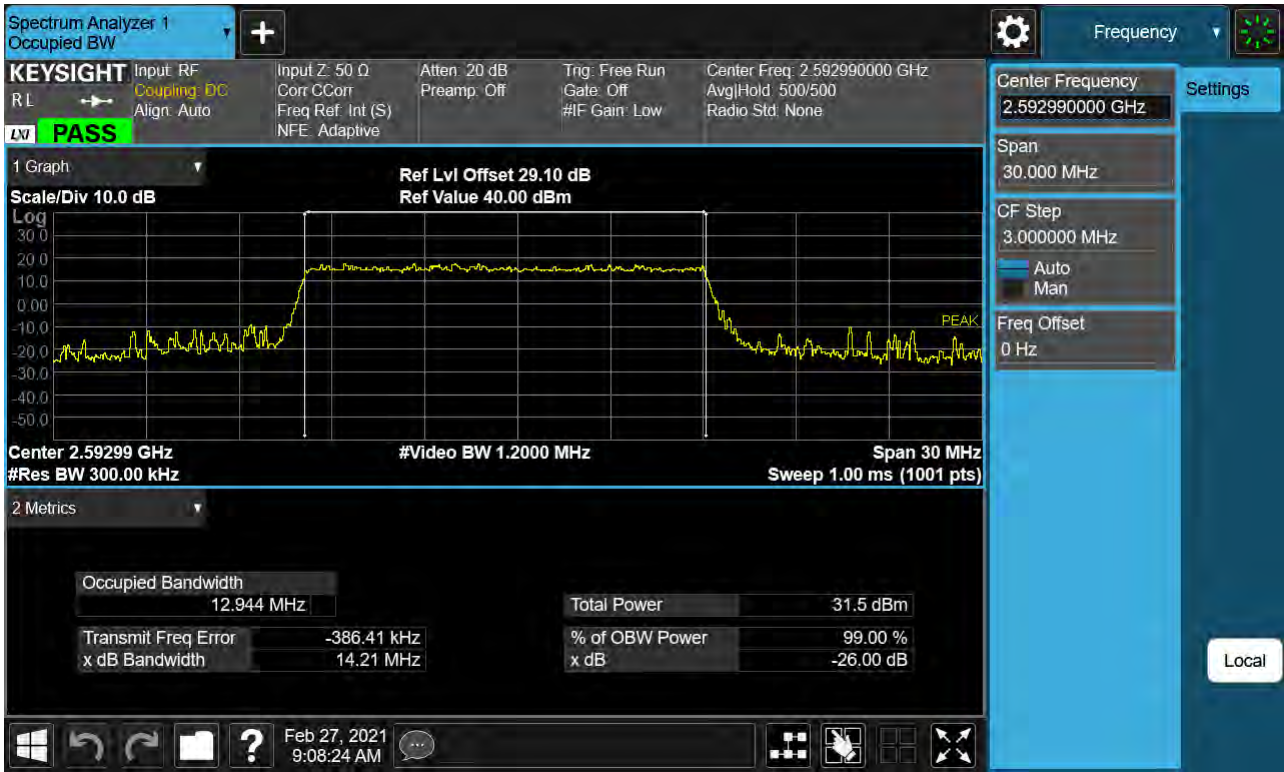
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 QPSK)



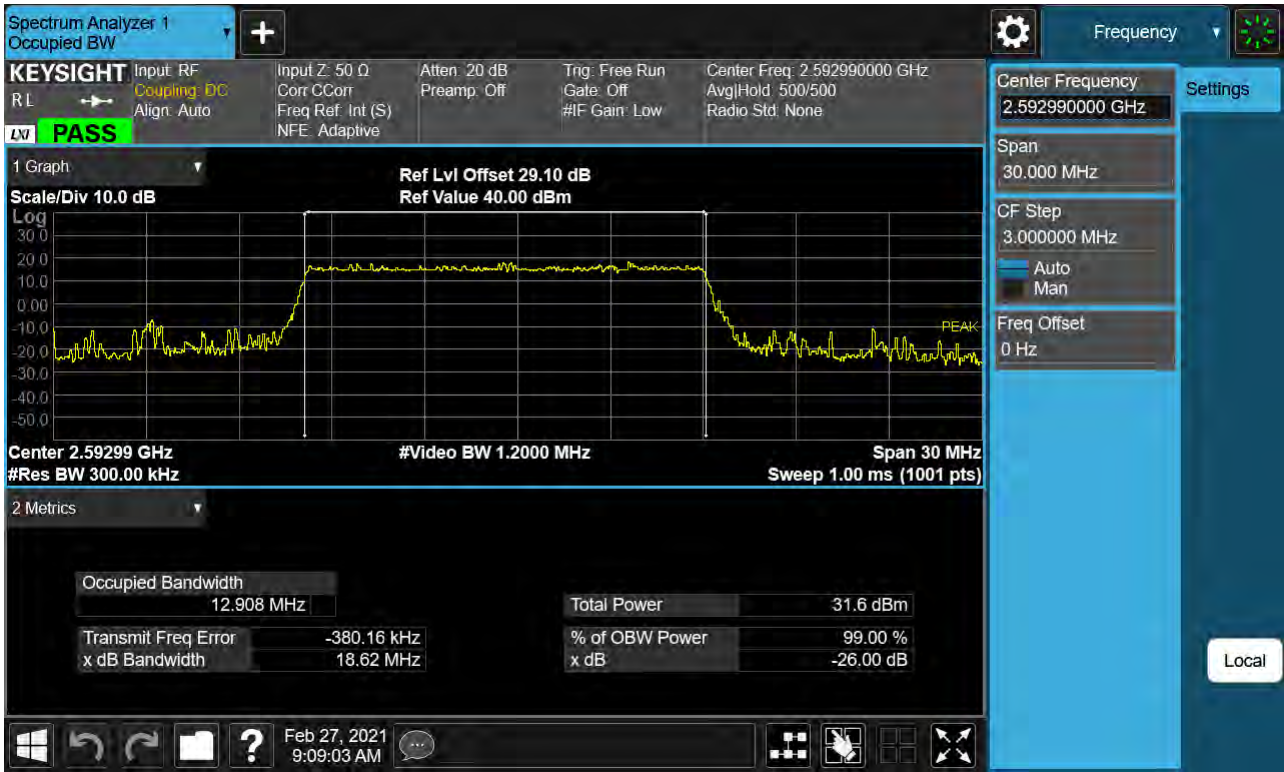
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 16-QAM)



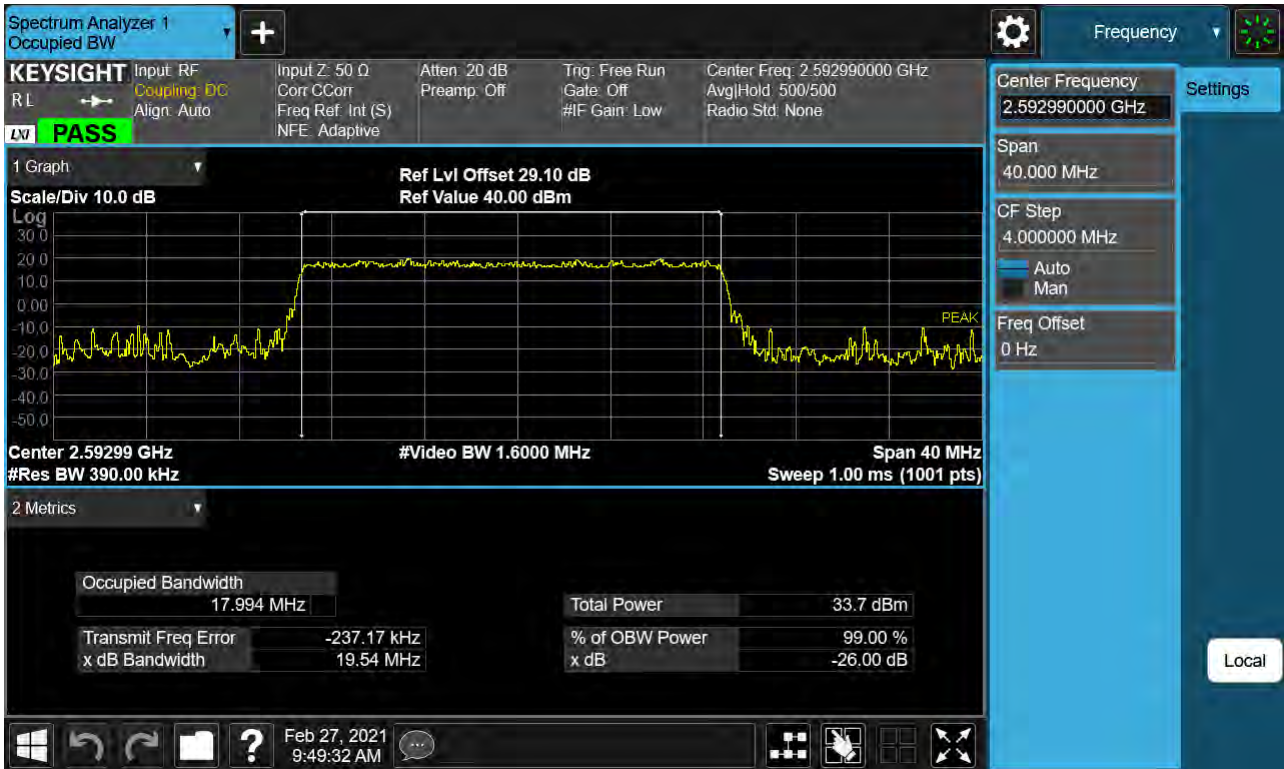
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 64-QAM)



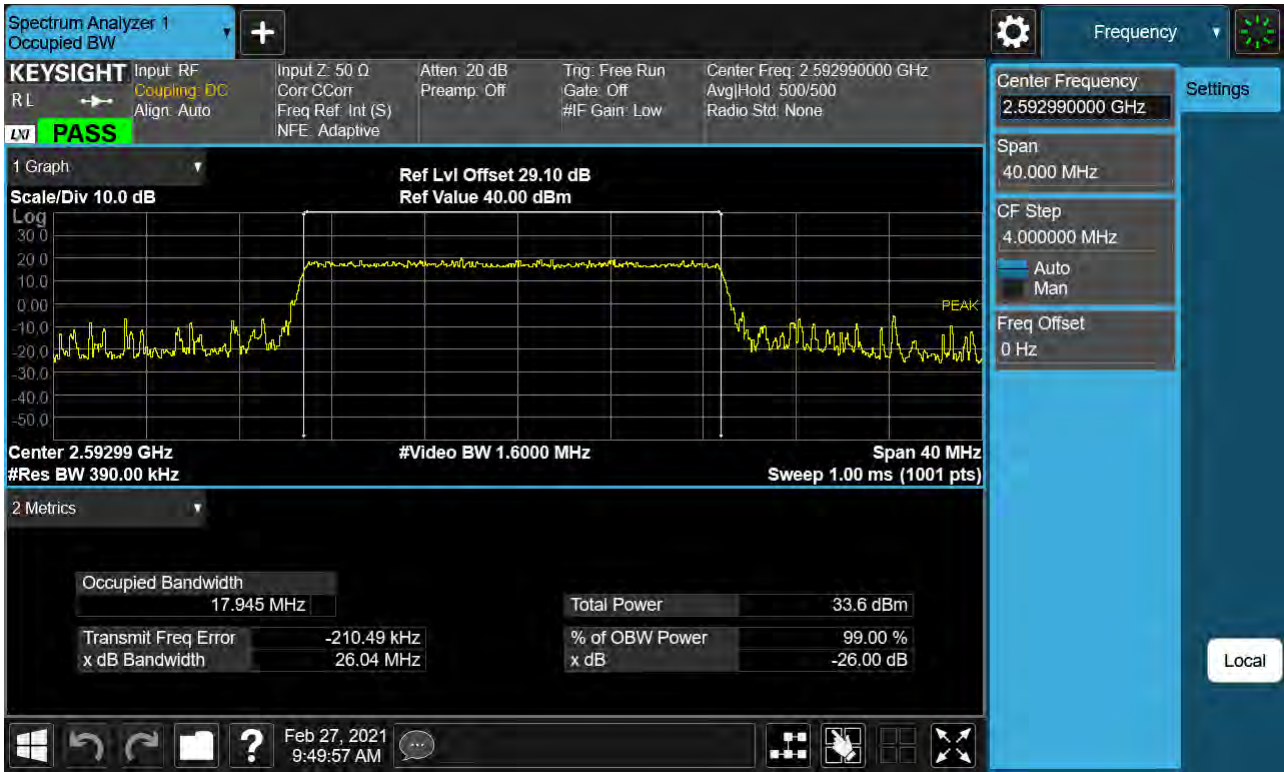
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 256-QAM)



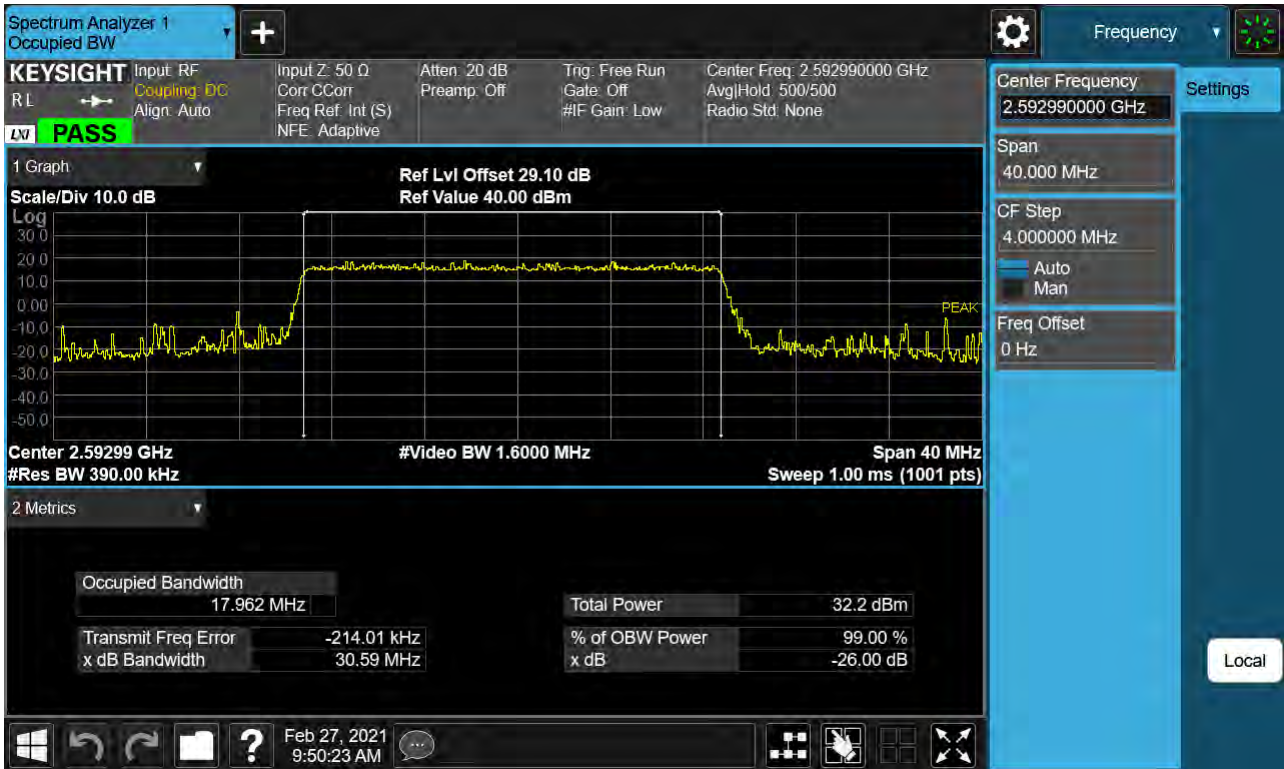
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 BPSK)



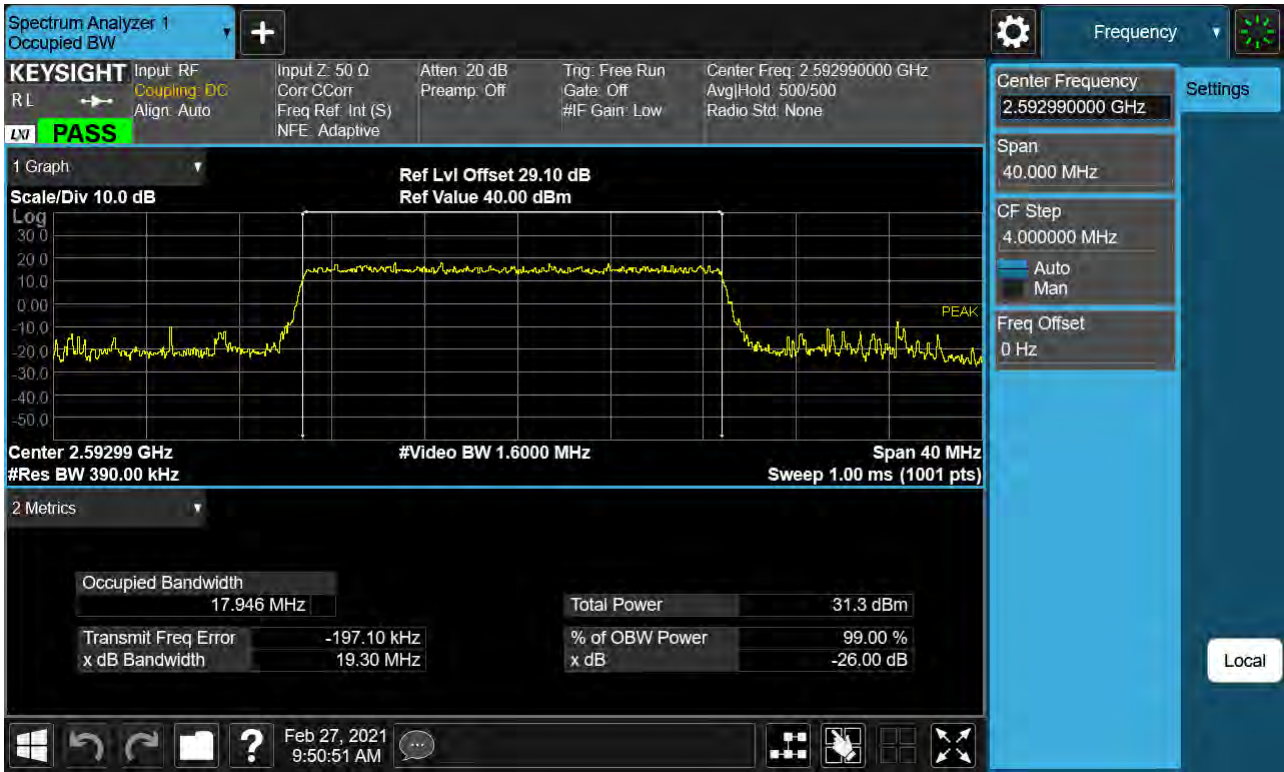
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 QPSK)



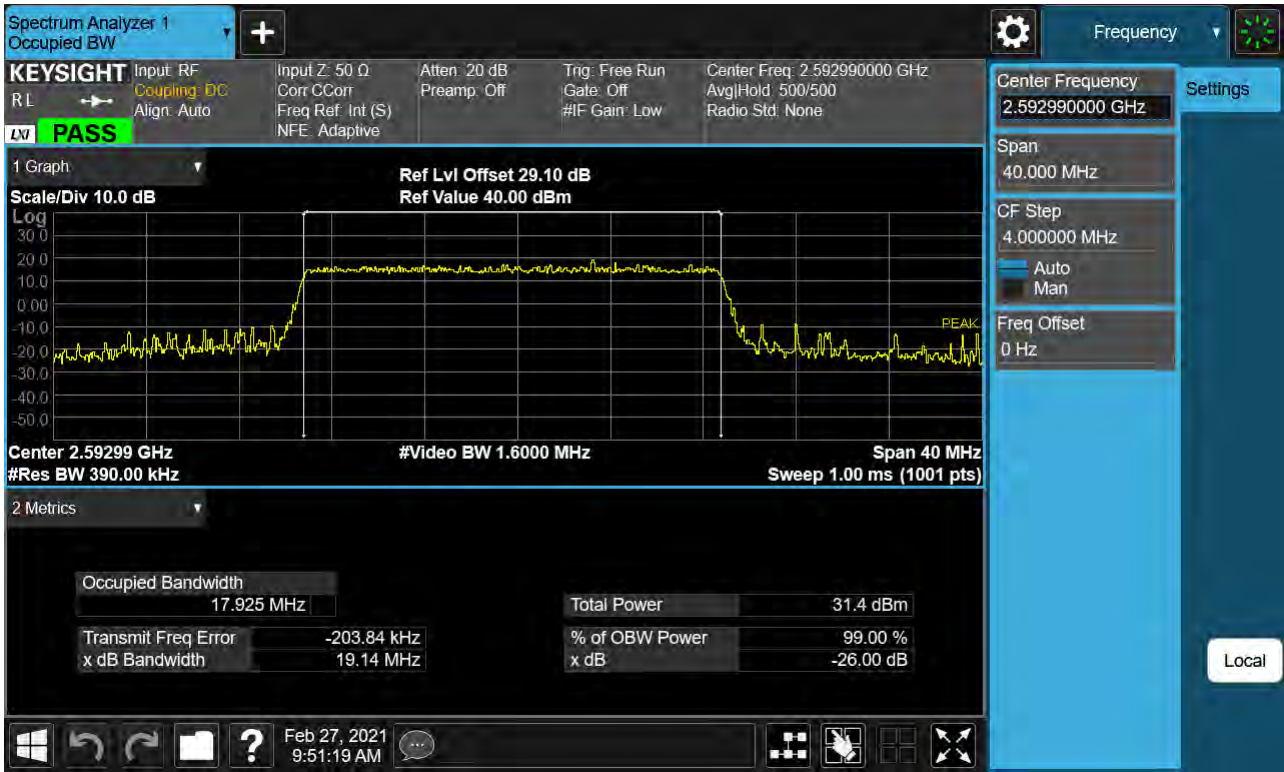
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 16-QAM)



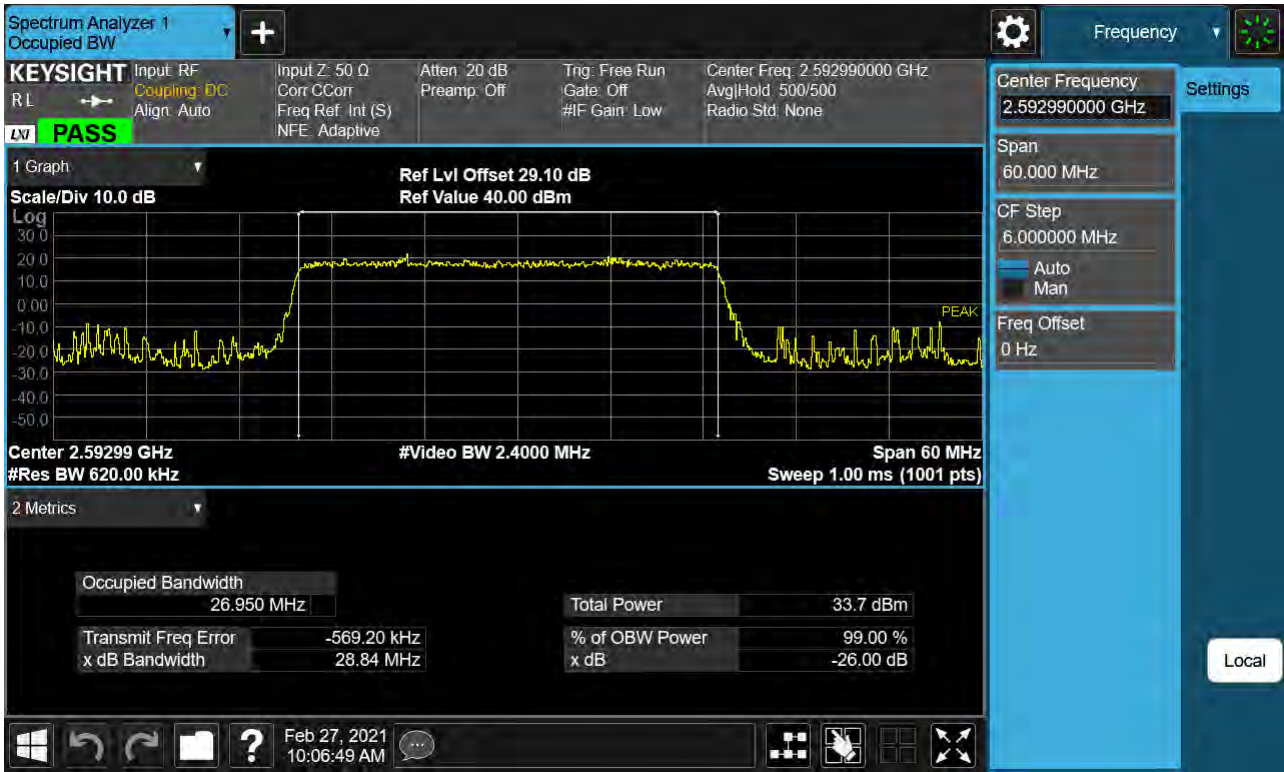
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 64-QAM)



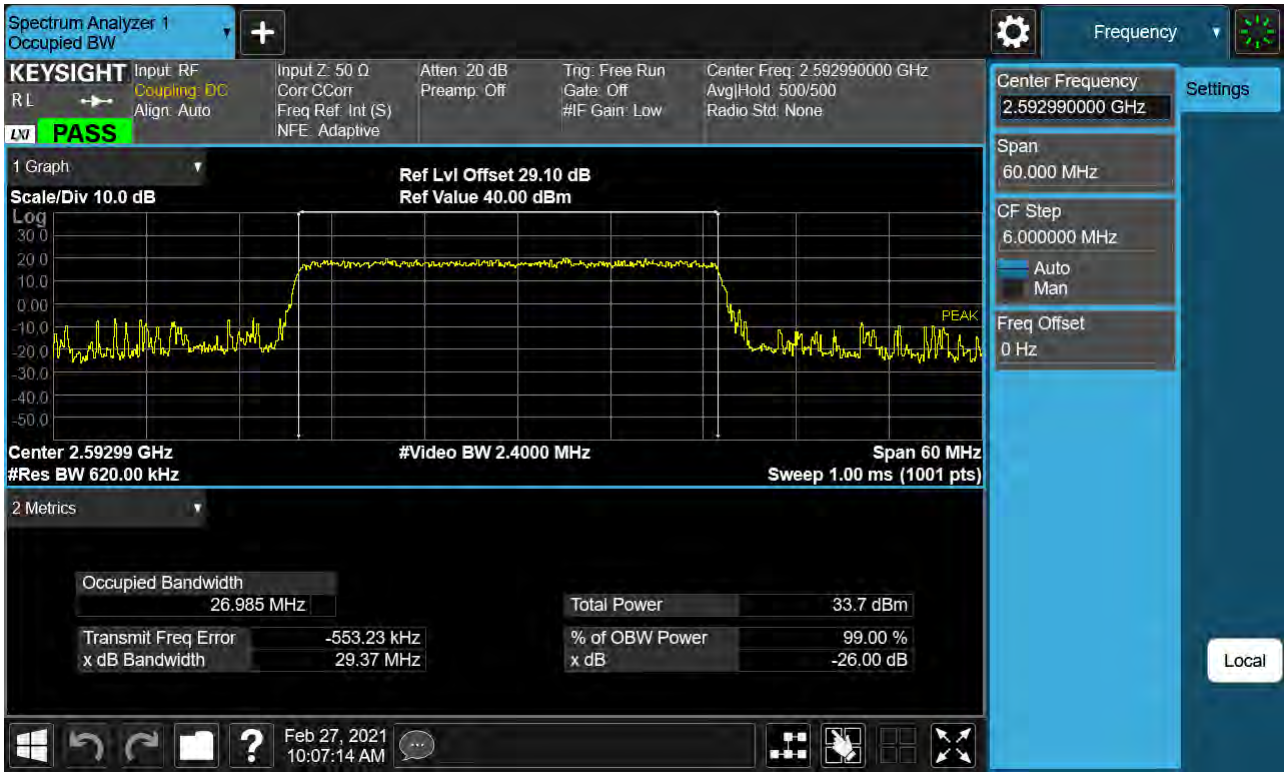
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 256-QAM)



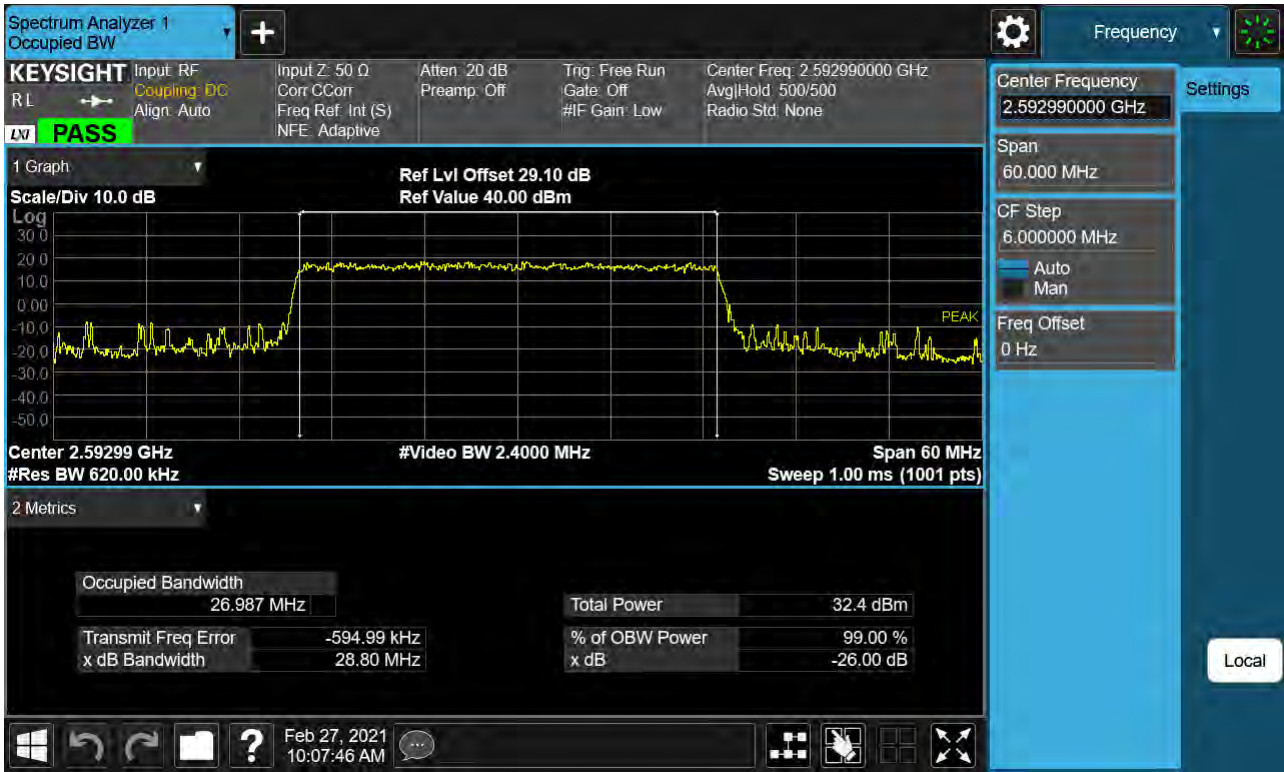
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 BPSK)



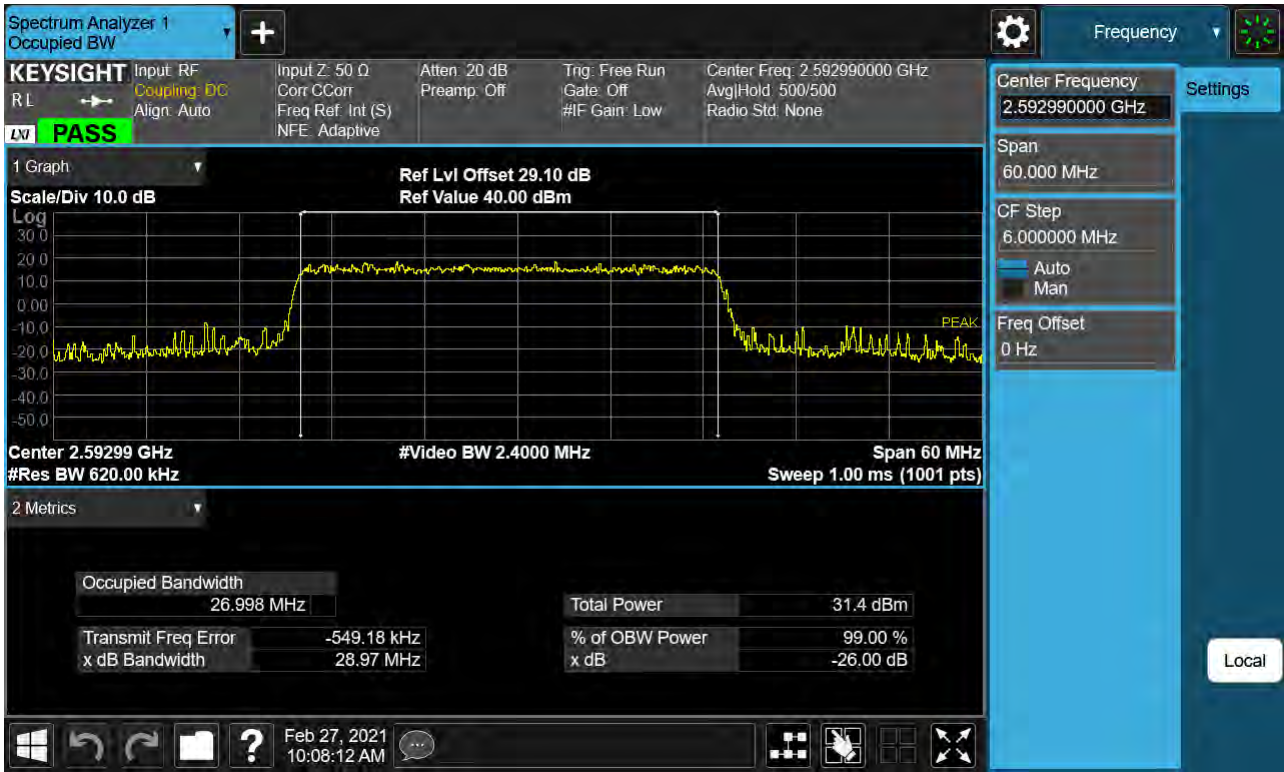
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 QPSK)



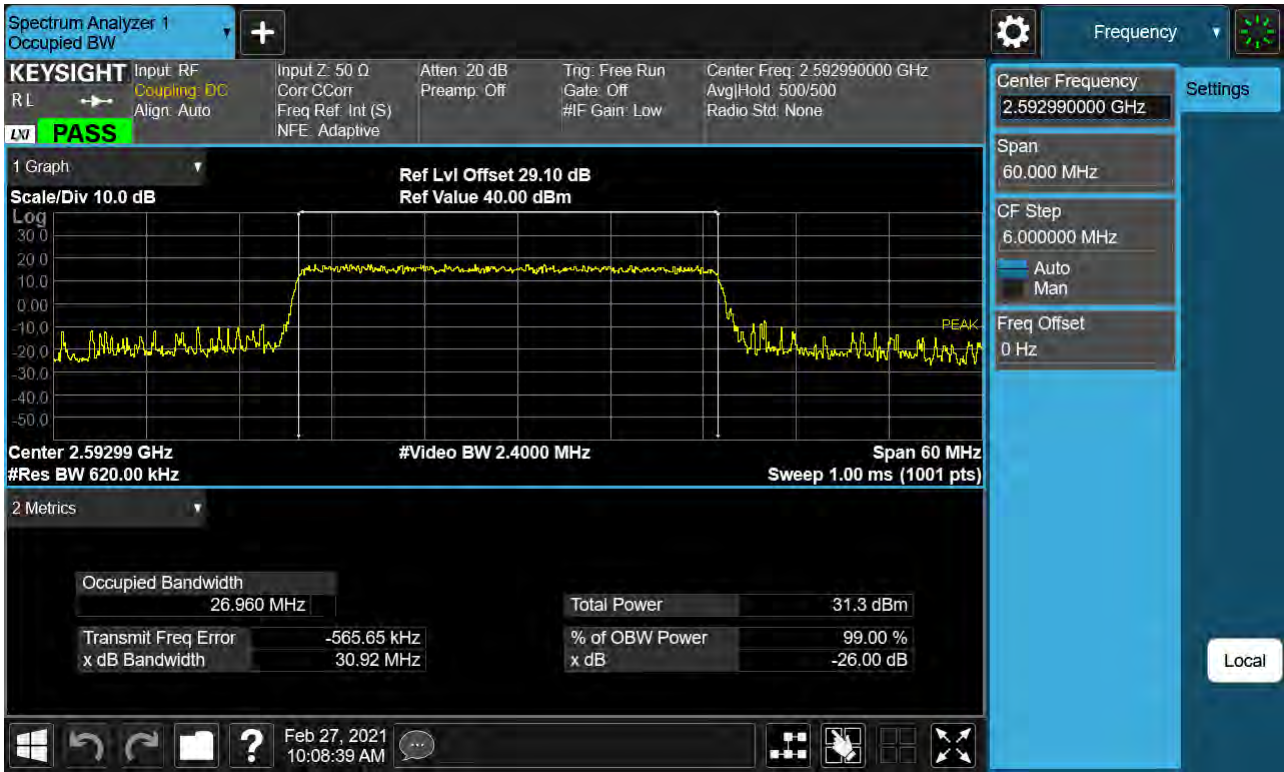
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 16-QAM)



Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 64-QAM)



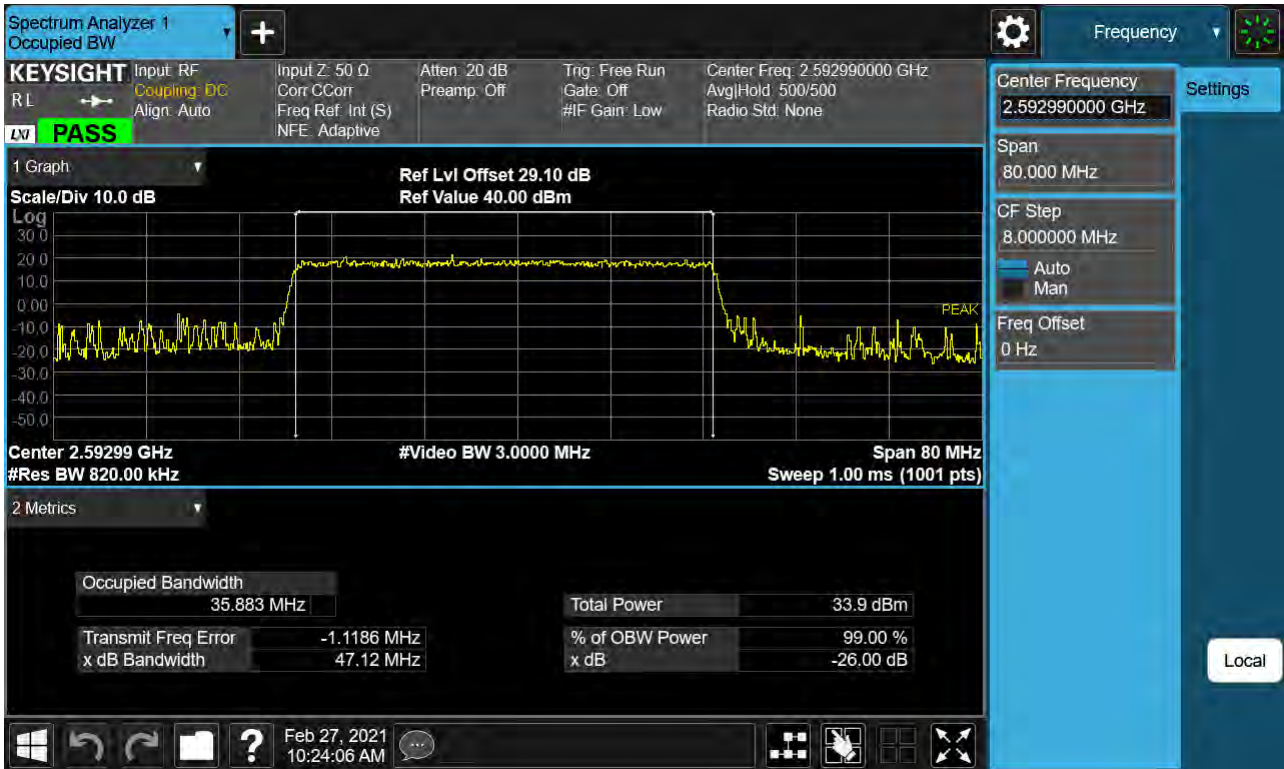
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 256-QAM)



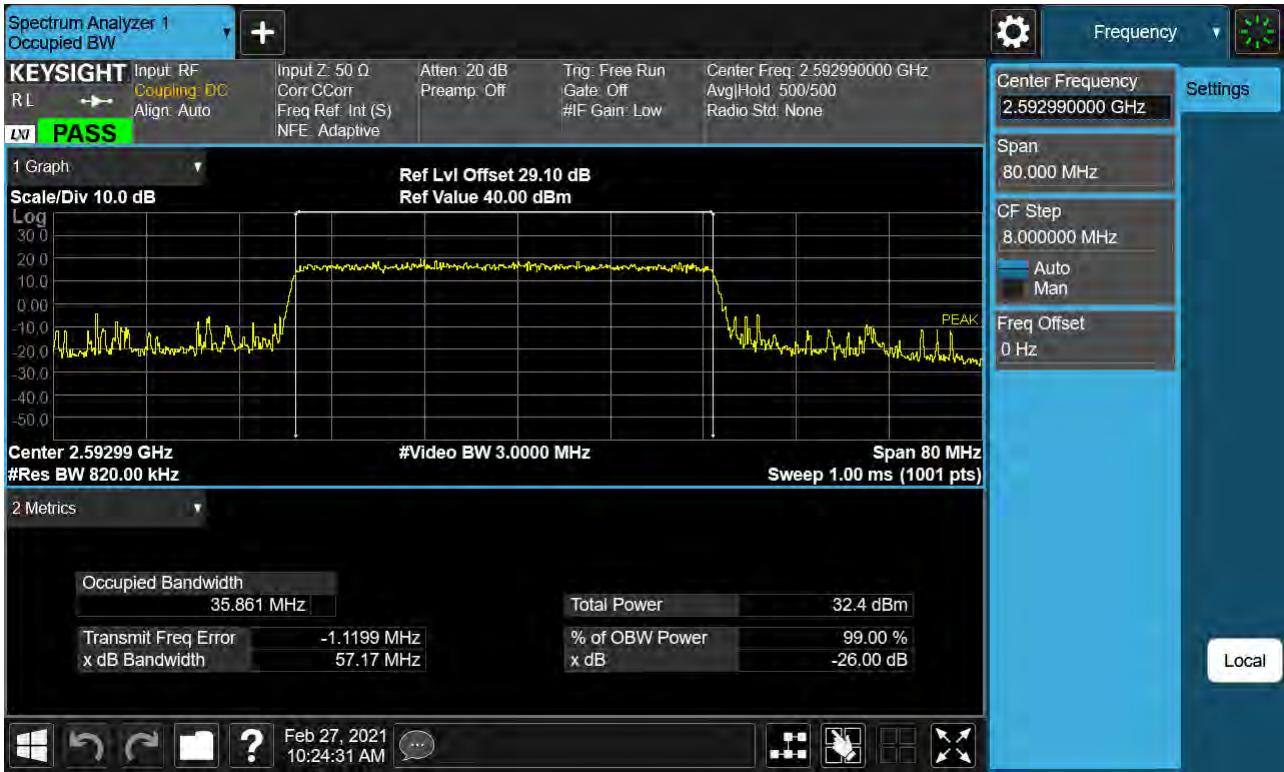
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 BPSK)



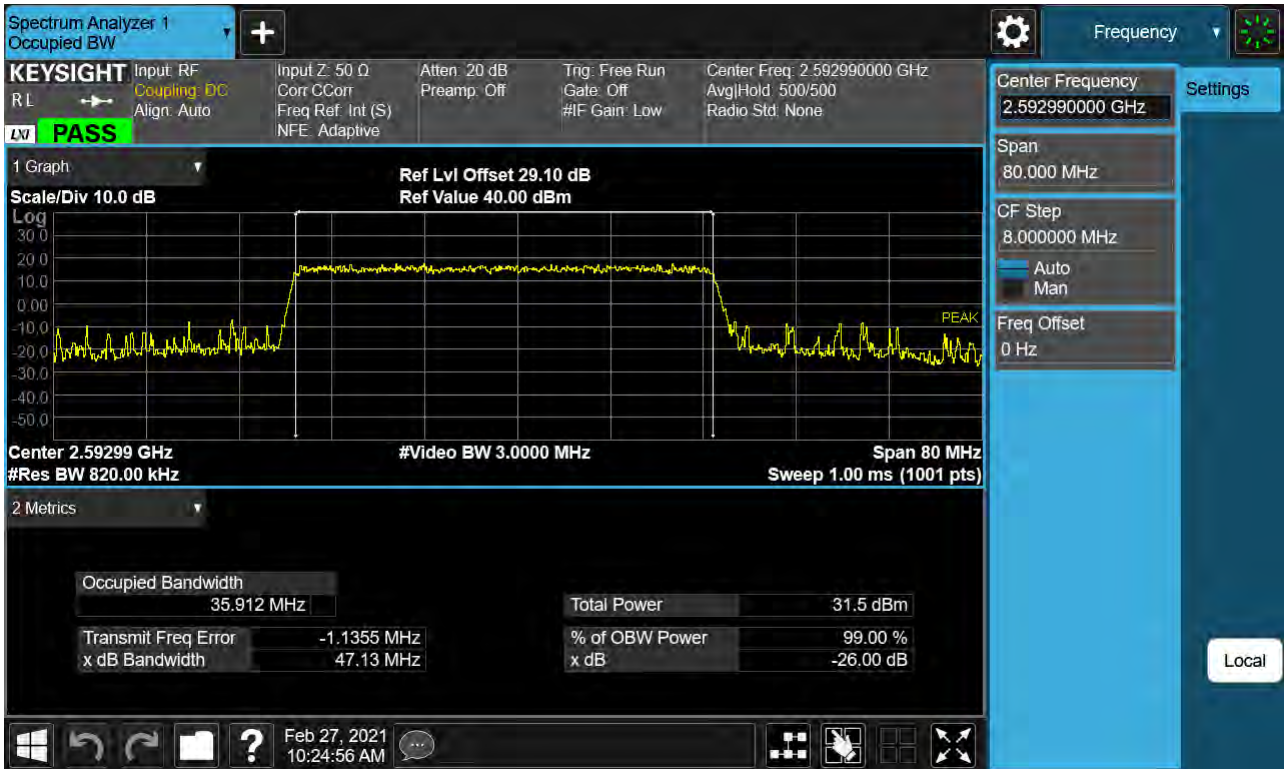
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 QPSK)



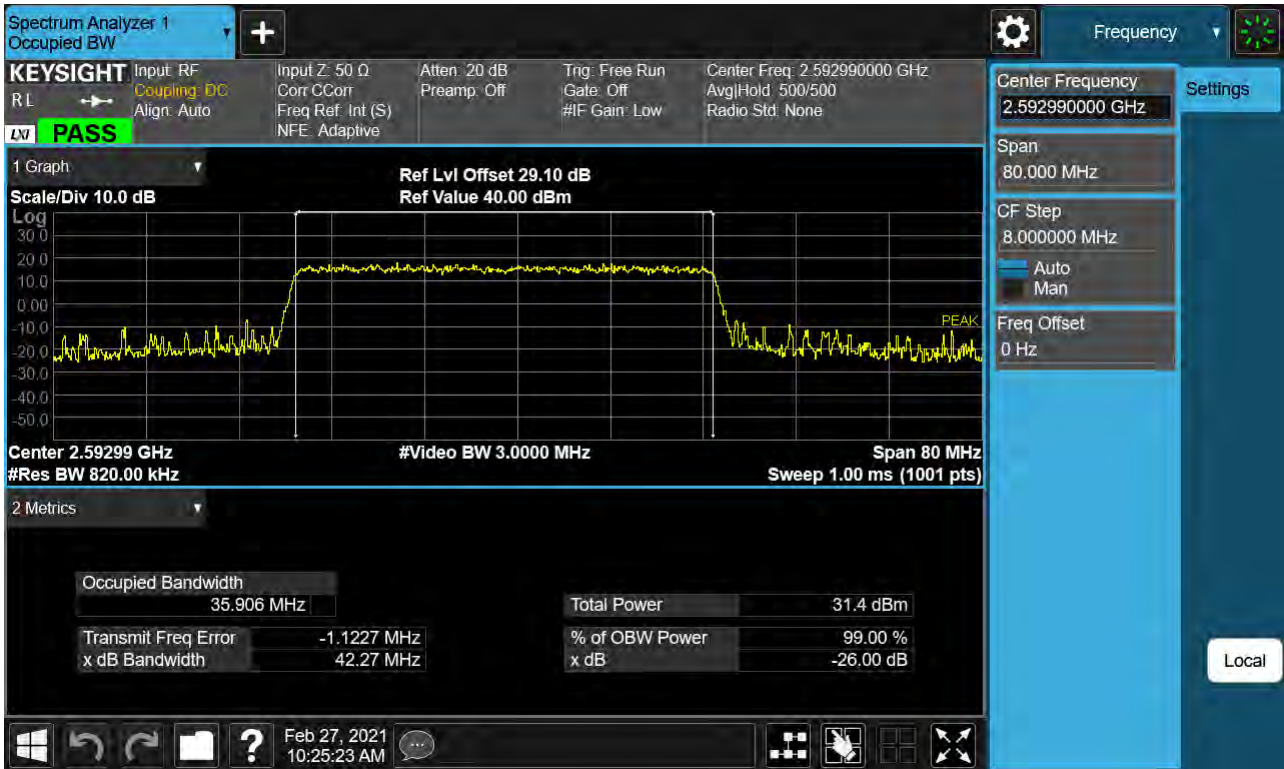
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 16-QAM)



Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 64-QAM)



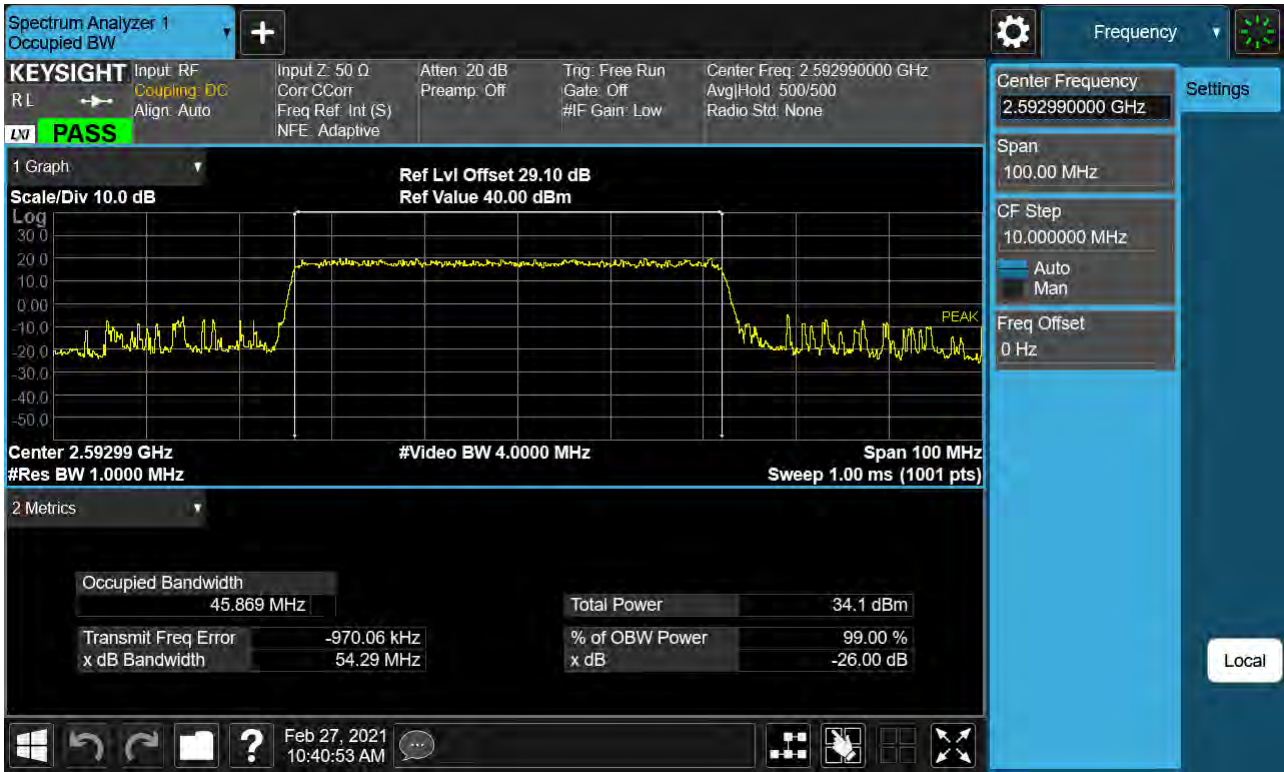
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 256-QAM)



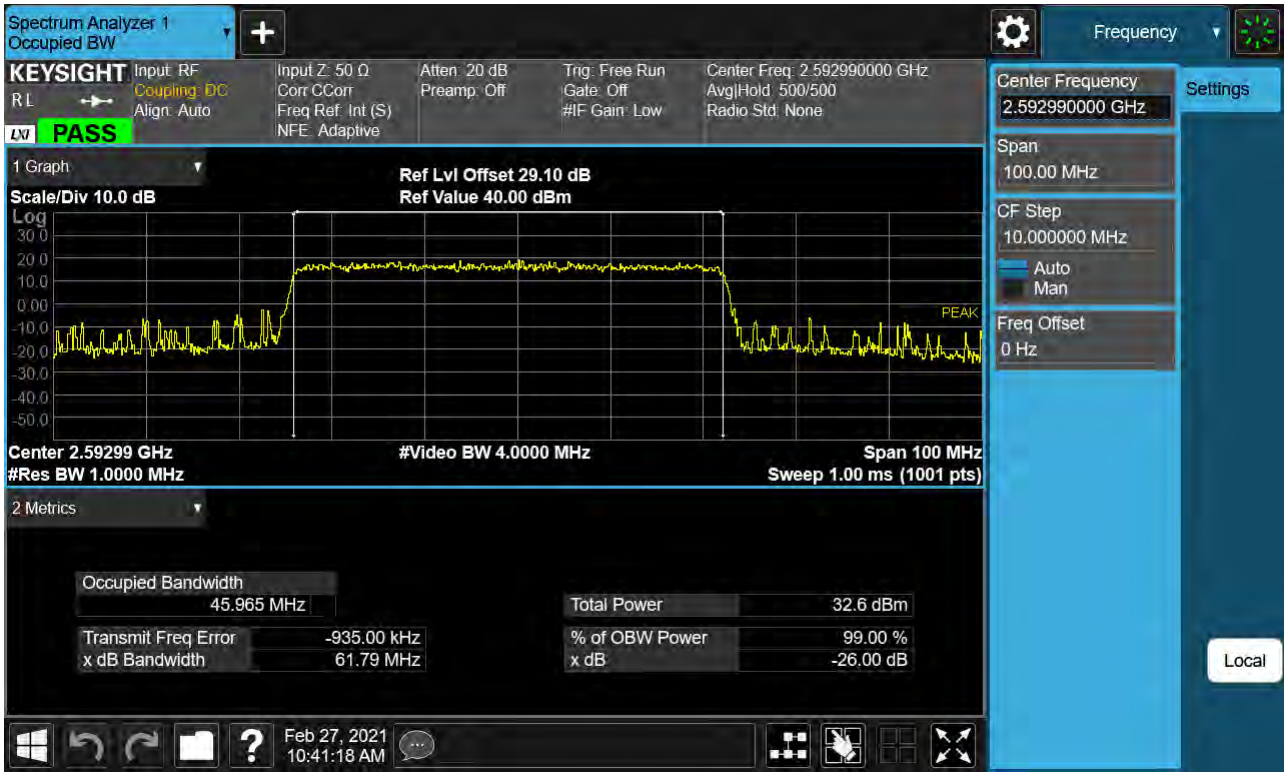
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 BPSK)



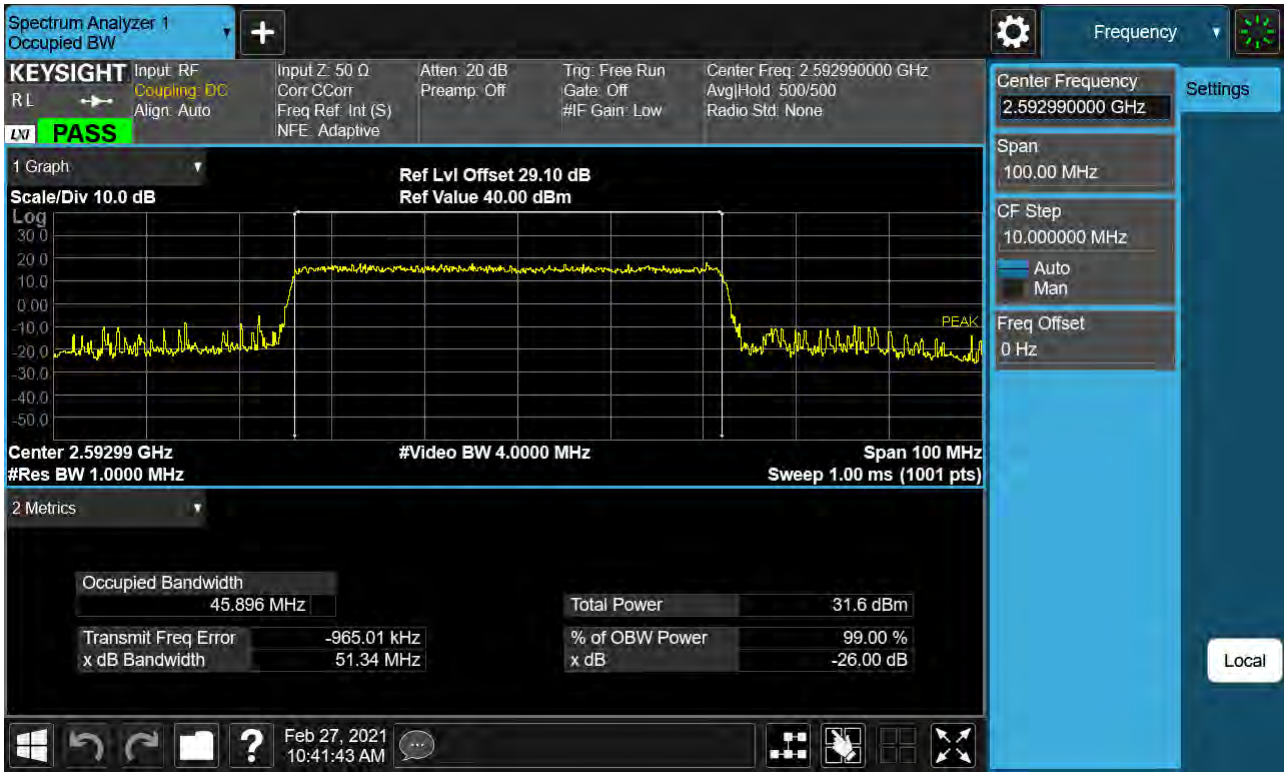
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 QPSK)



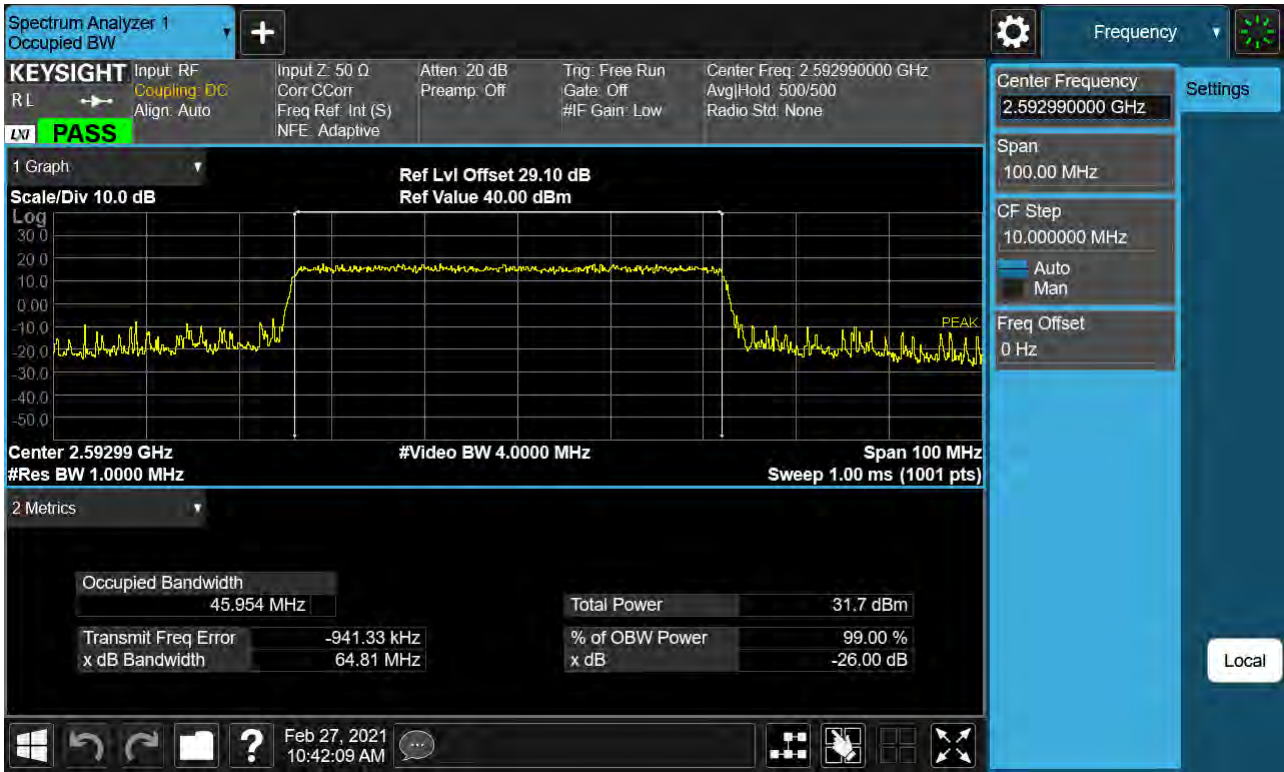
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 16-QAM)



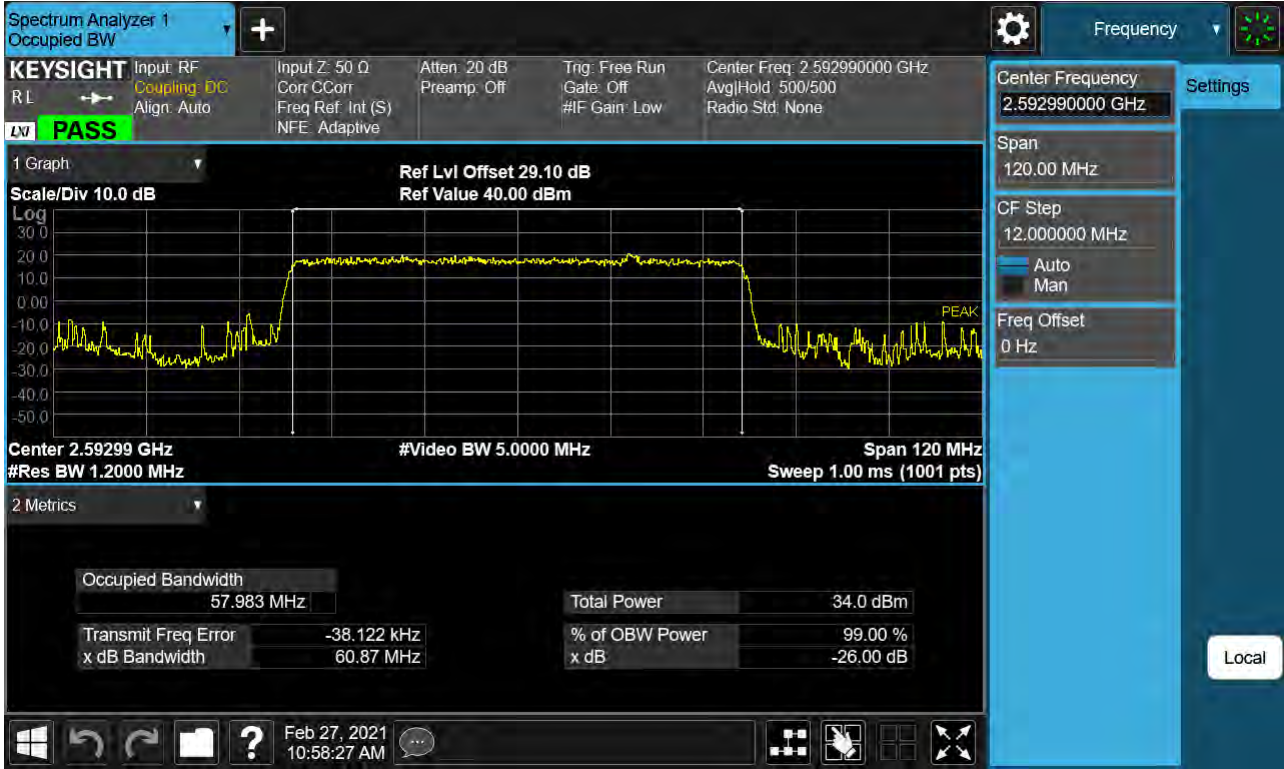
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 64-QAM)



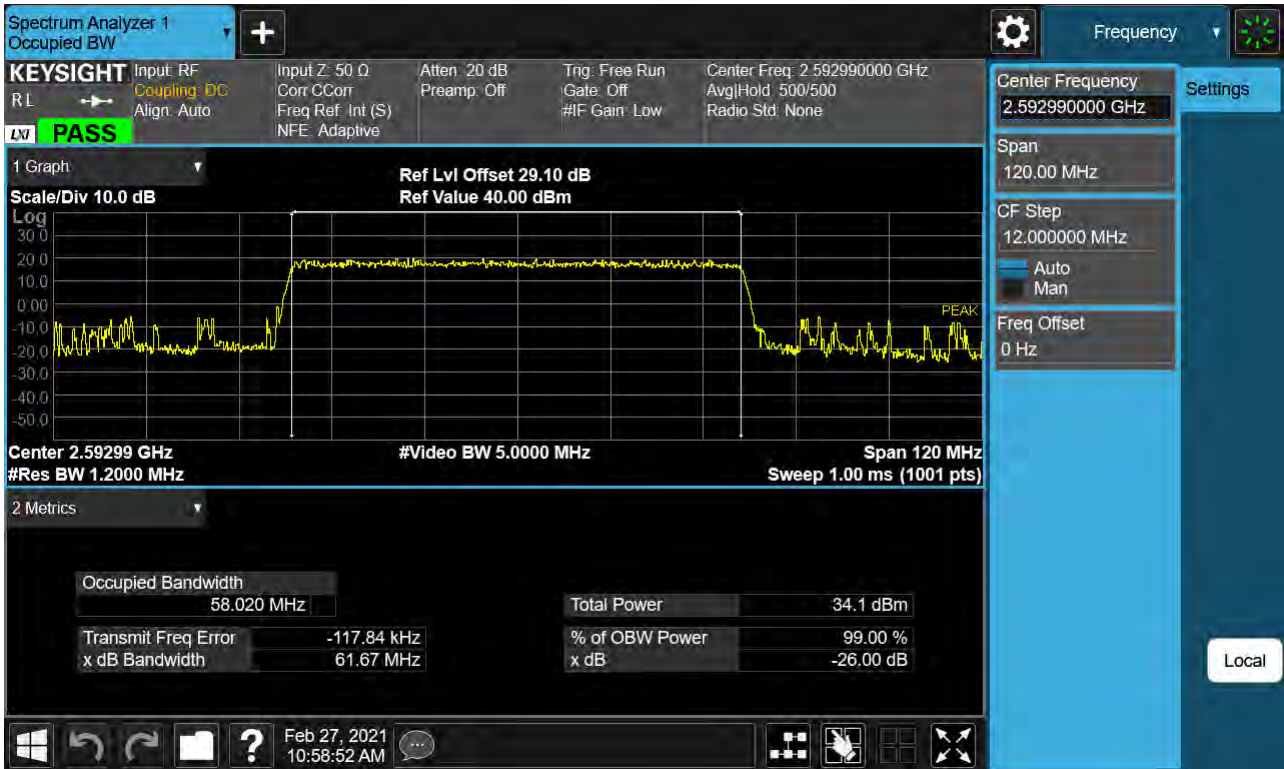
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 256-QAM)



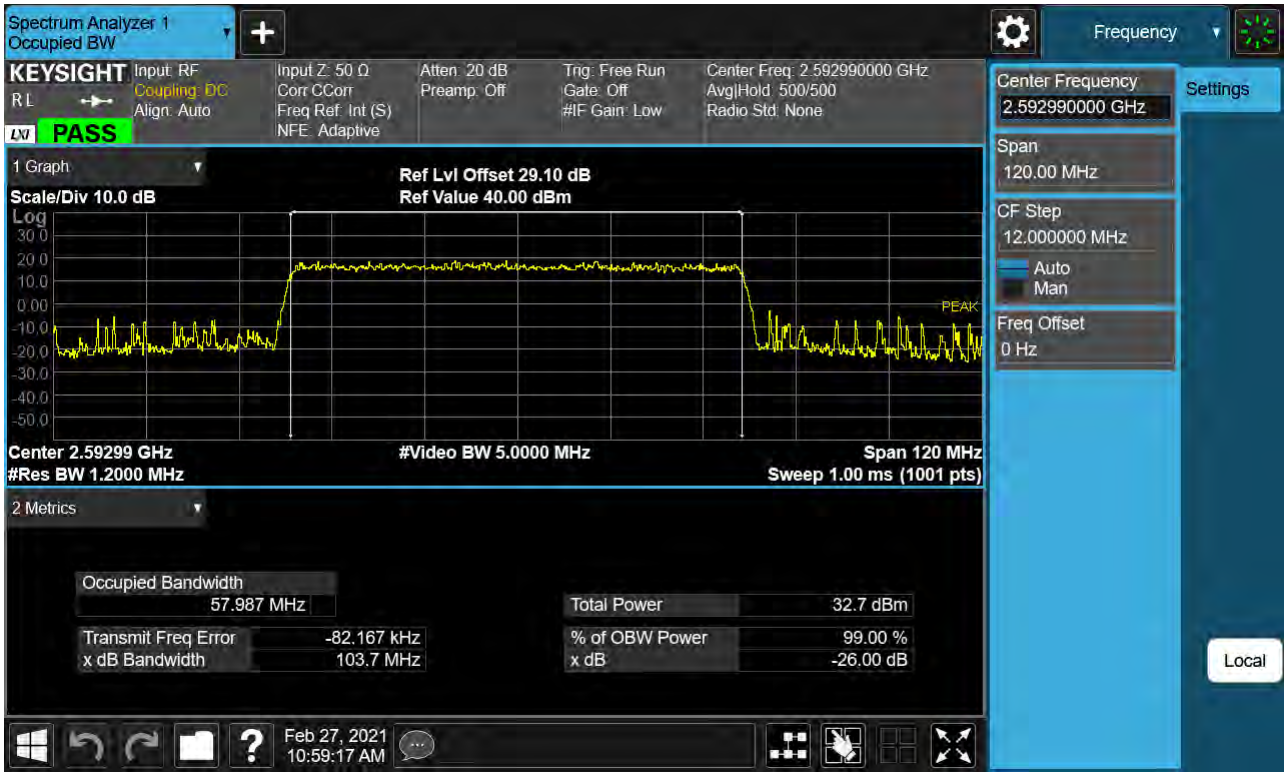
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 BPSK)



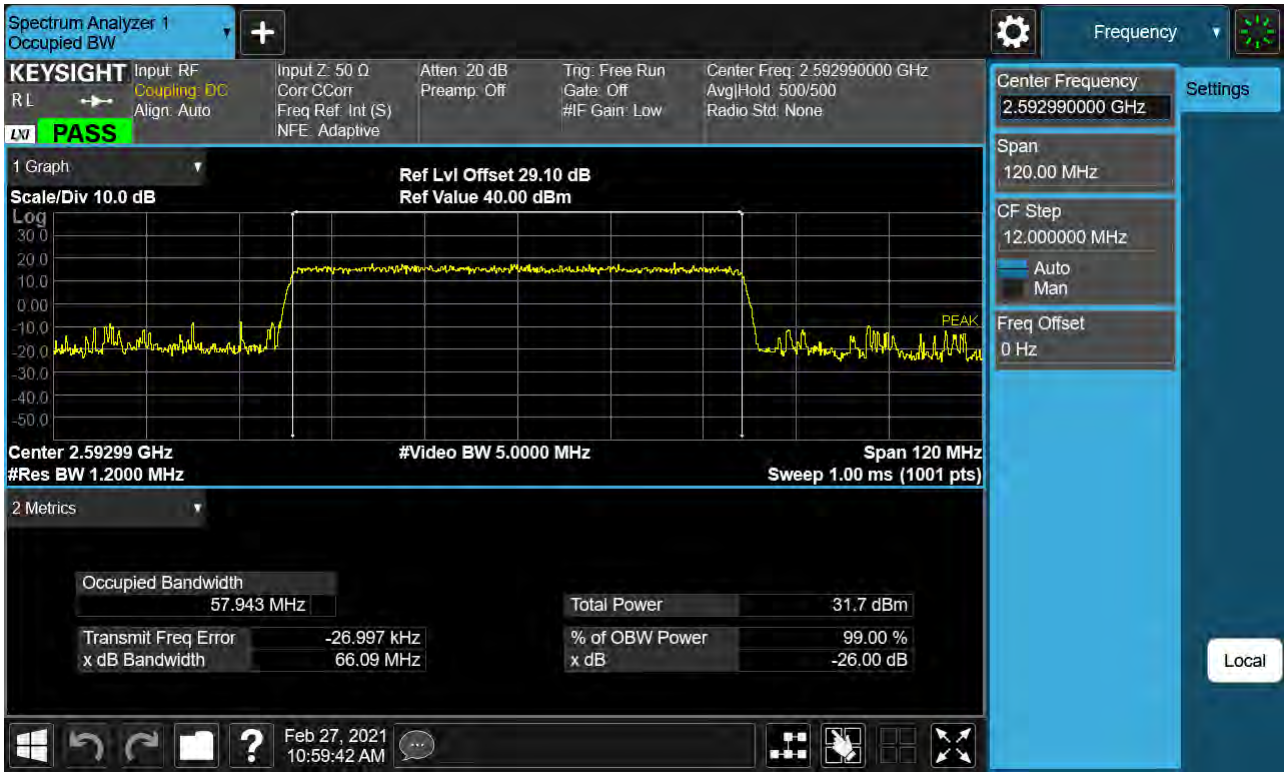
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 QPSK)



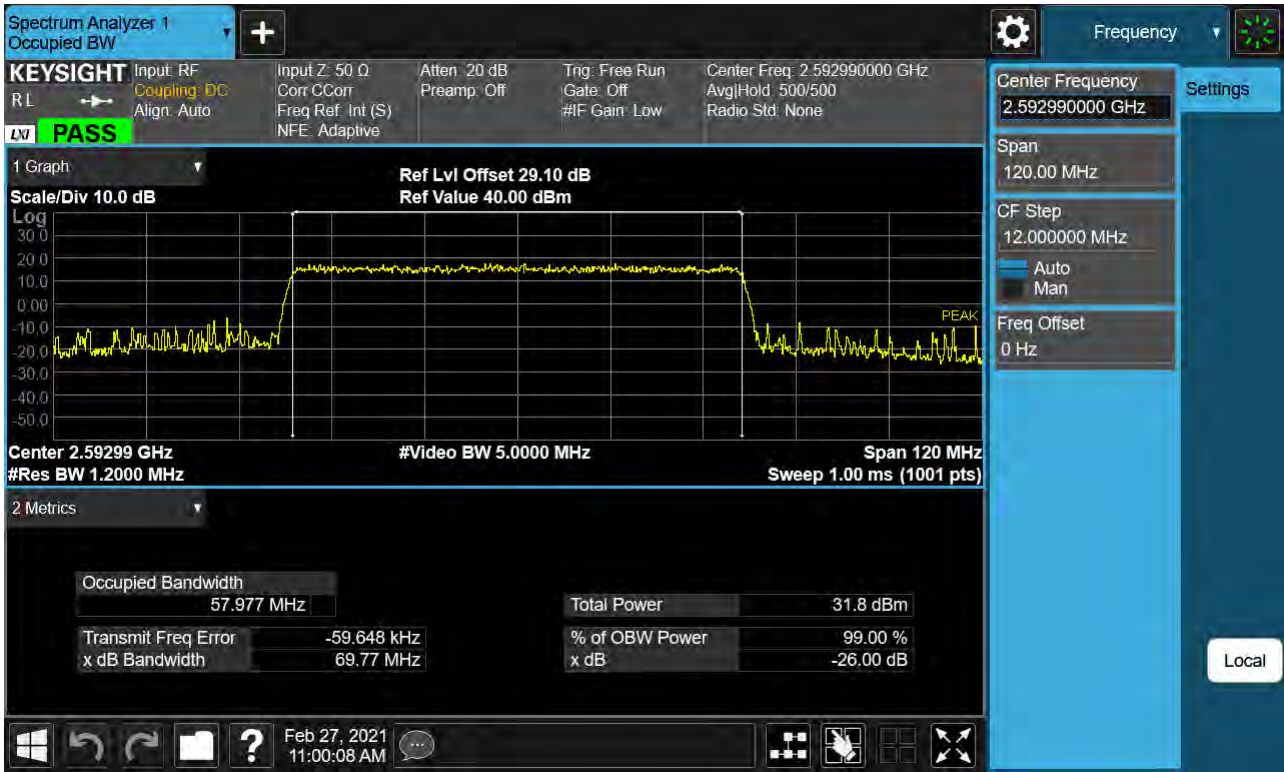
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 16-QAM)



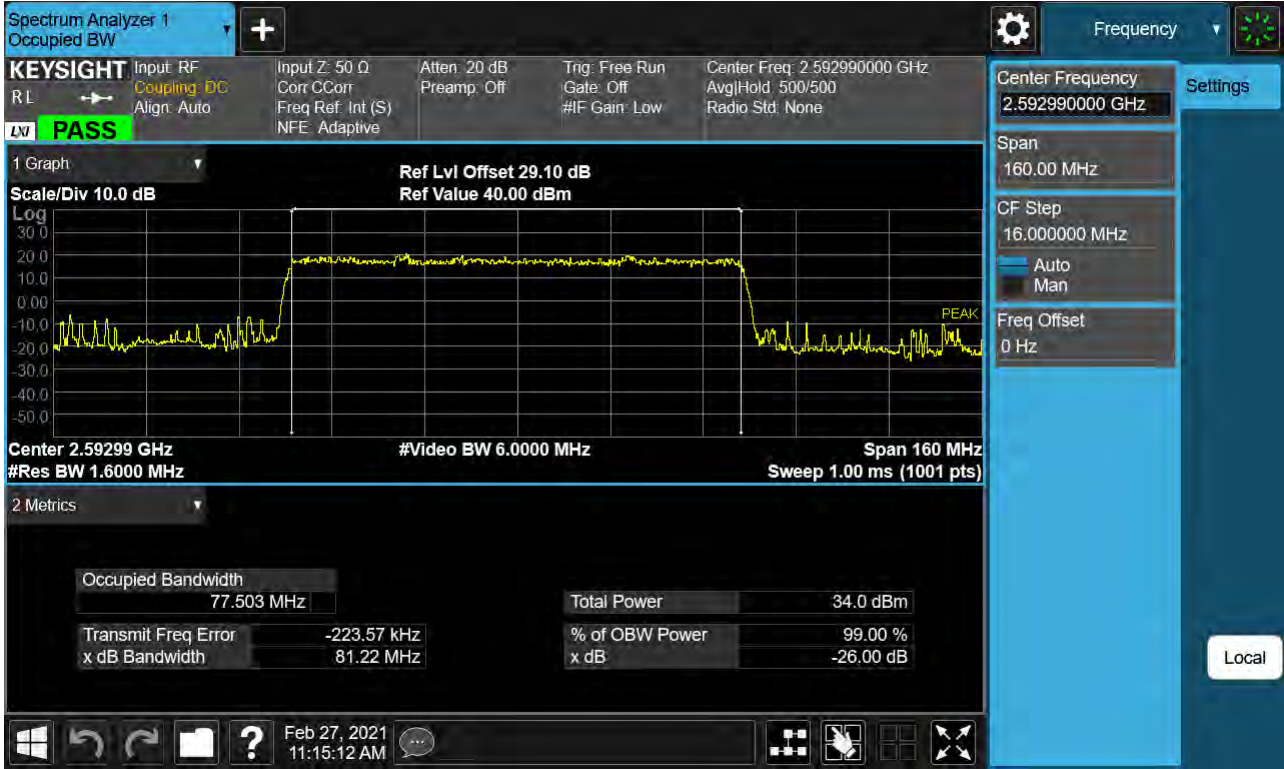
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 64-QAM)



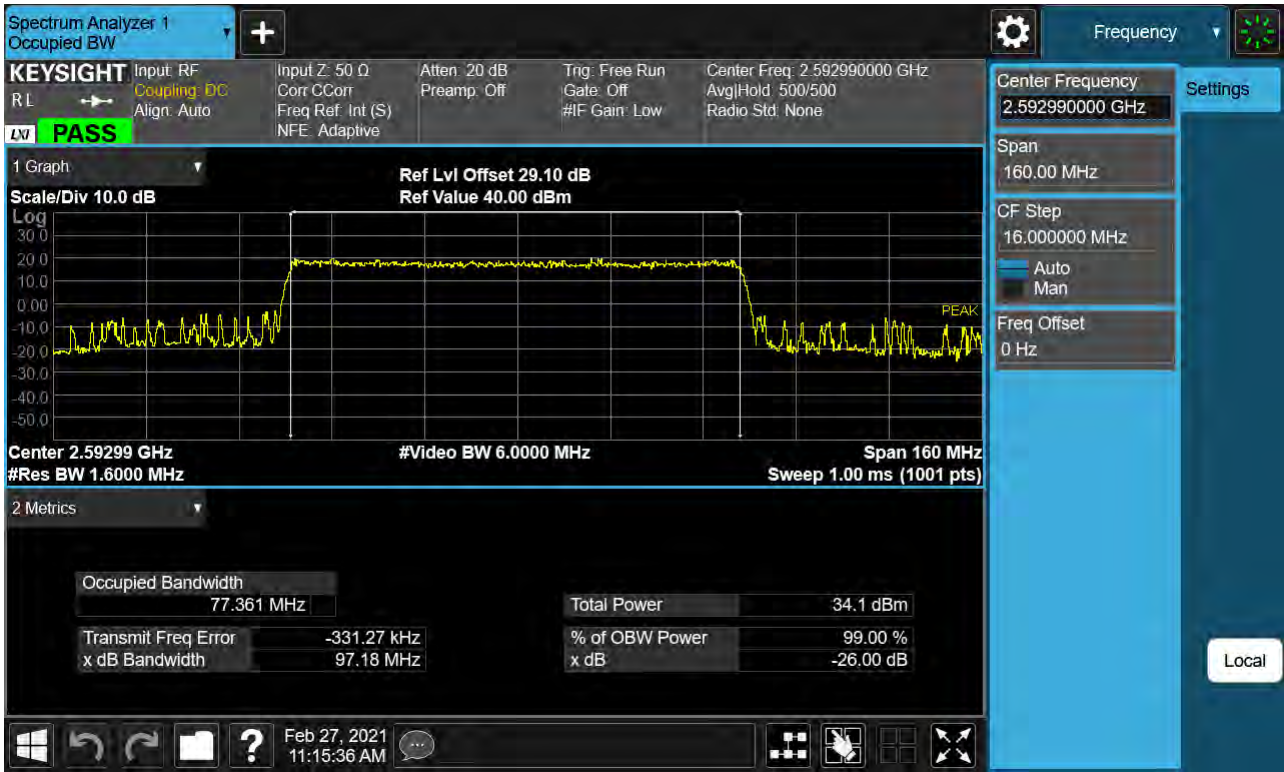
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 256-QAM)



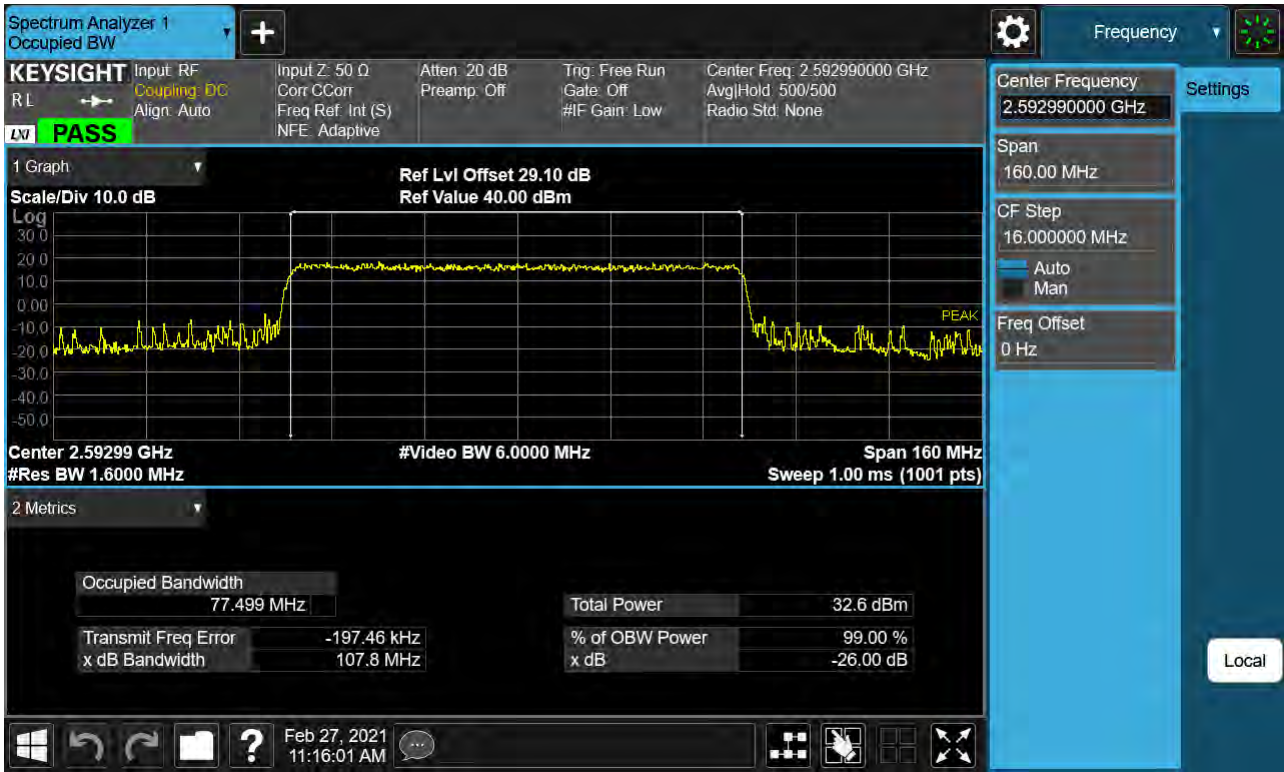
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 BPSK)



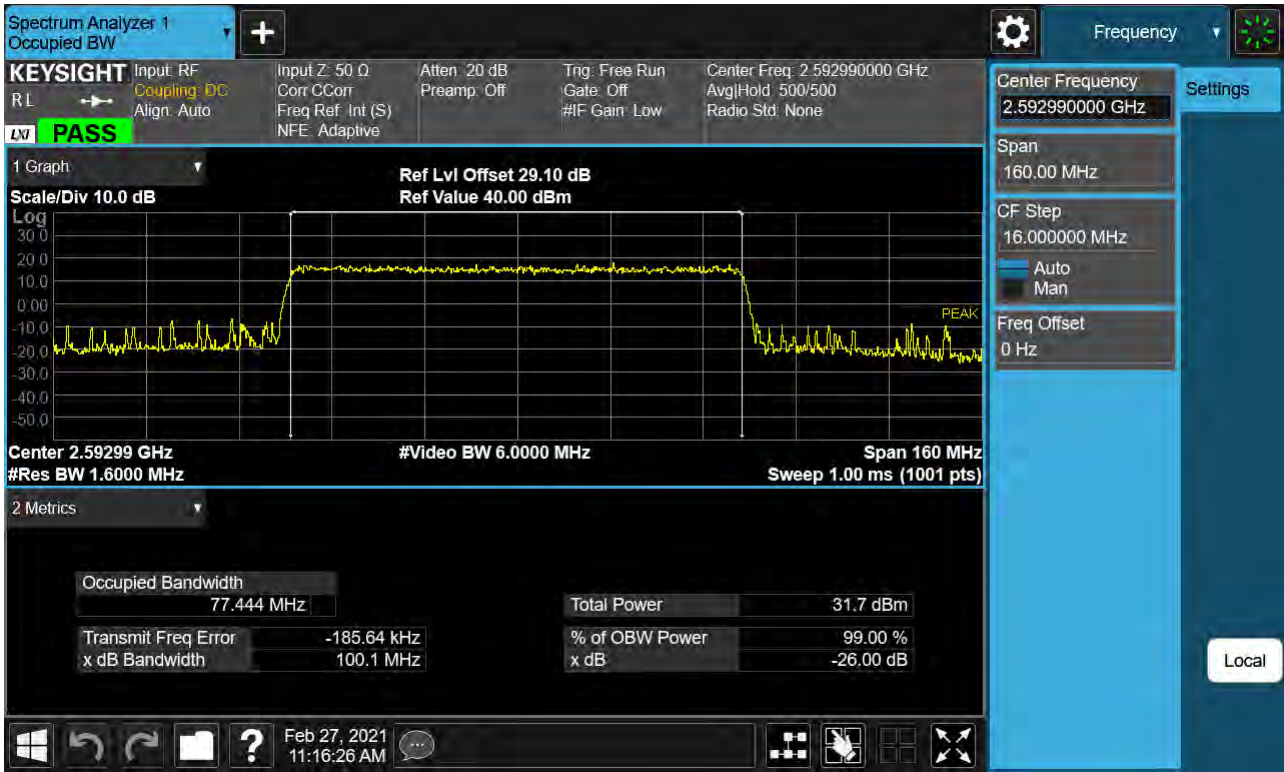
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 QPSK)



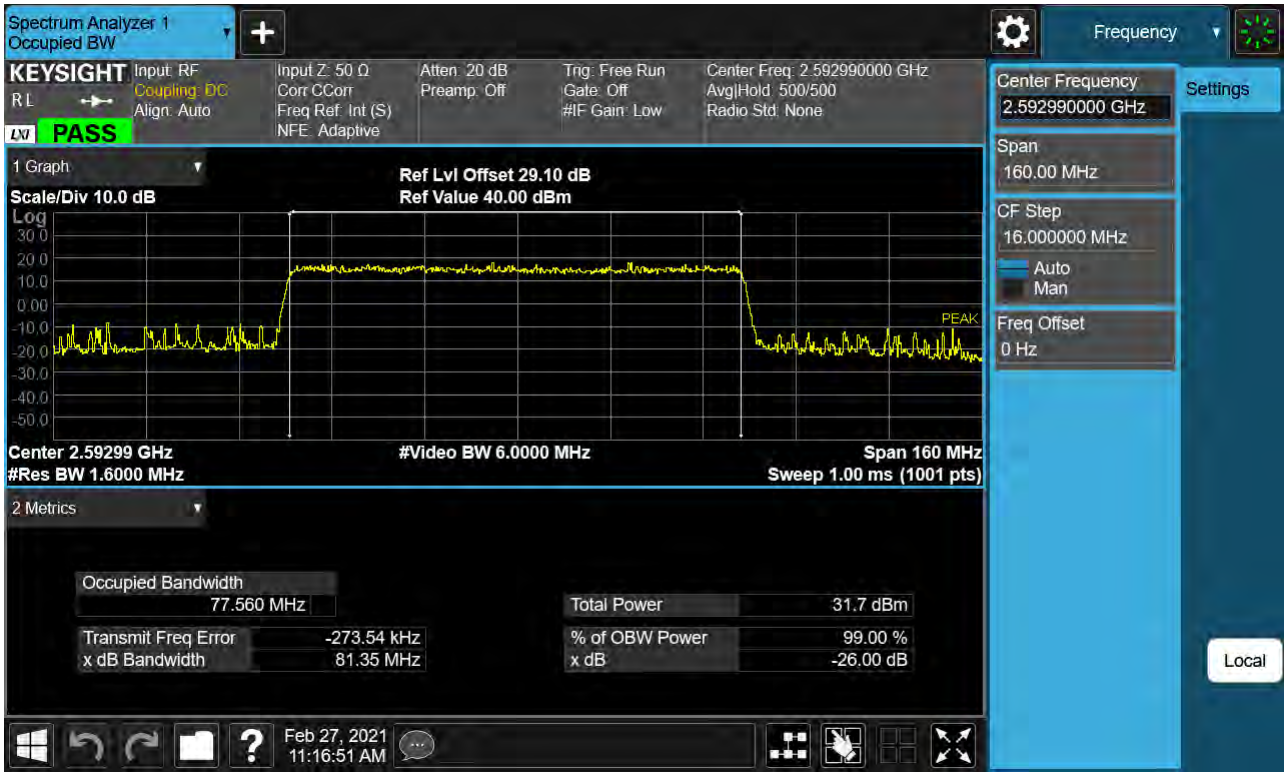
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 16-QAM)



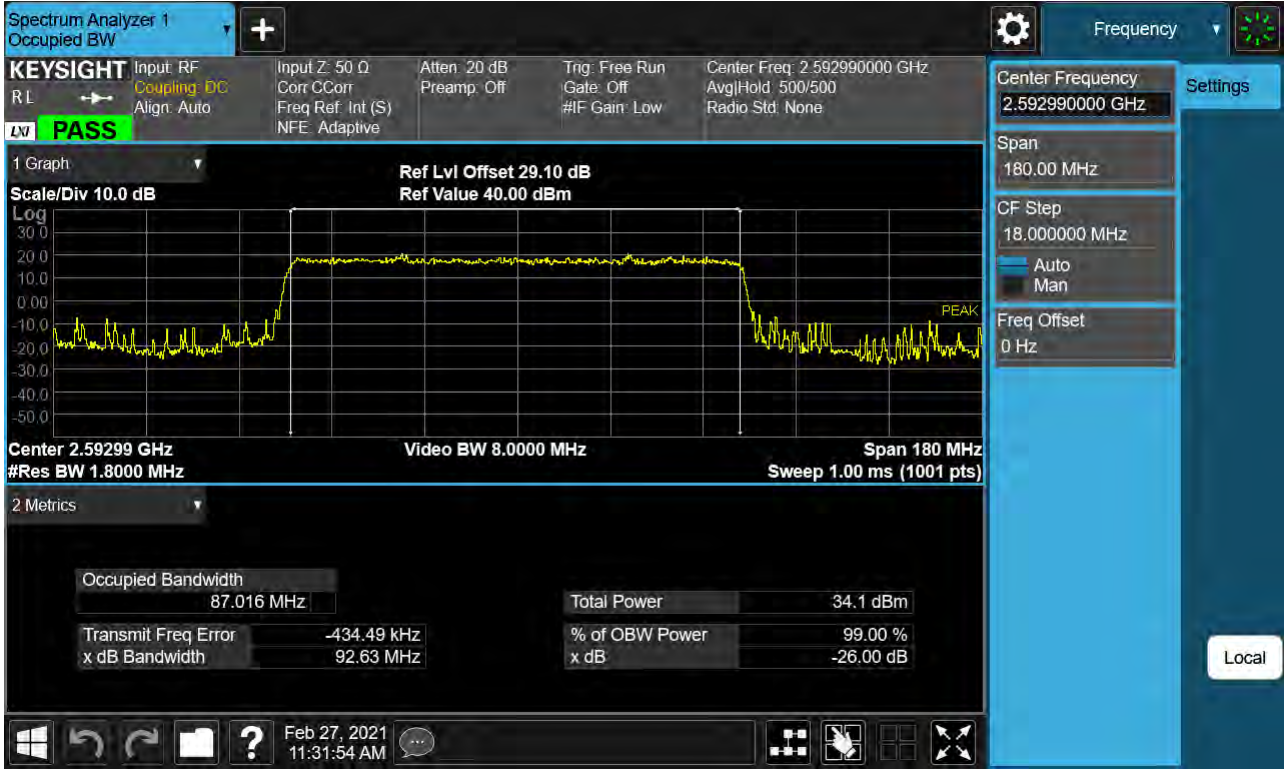
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 64-QAM)



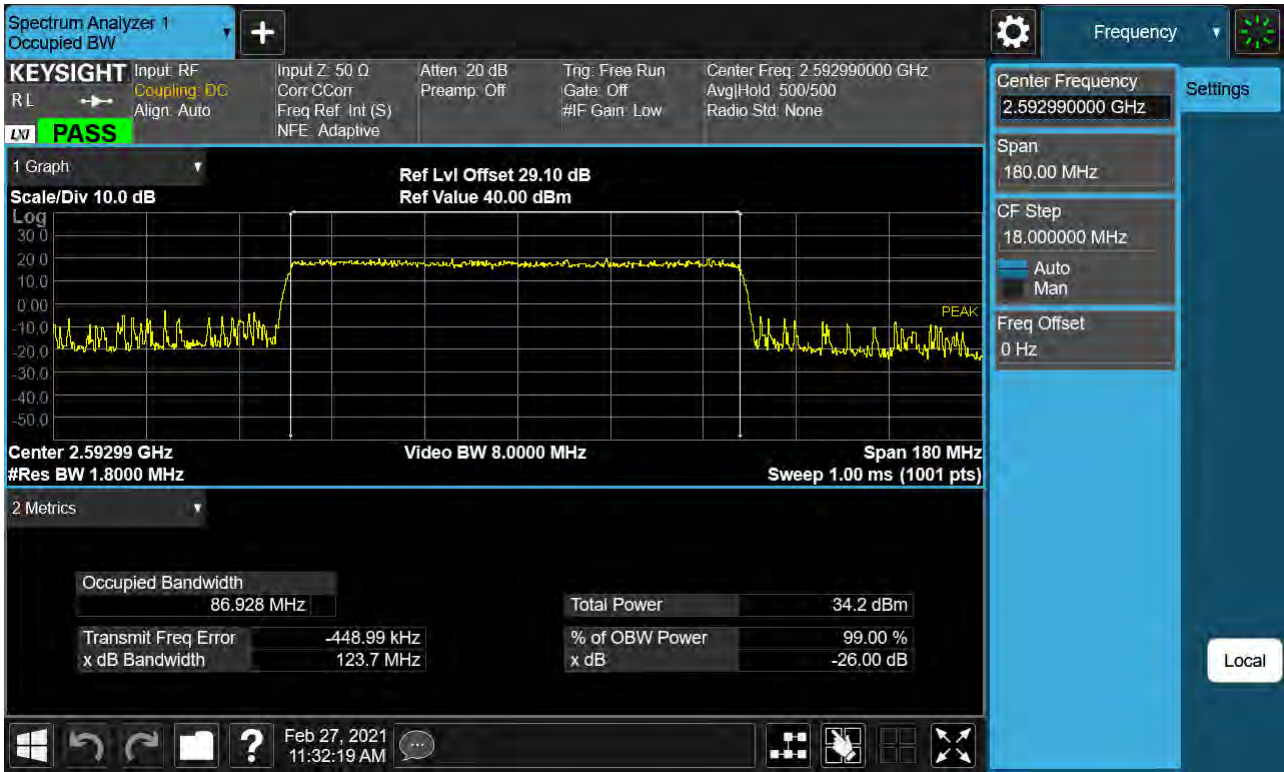
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 256-QAM)



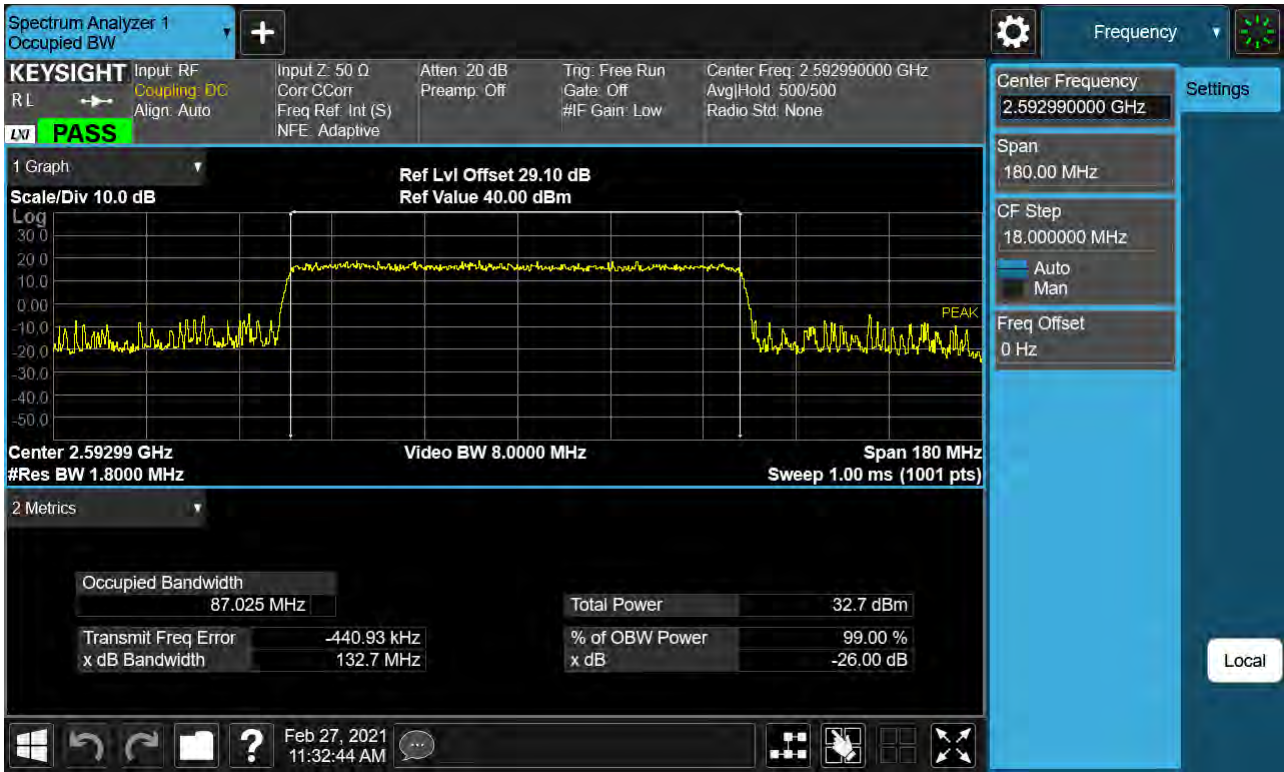
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 BPSK)



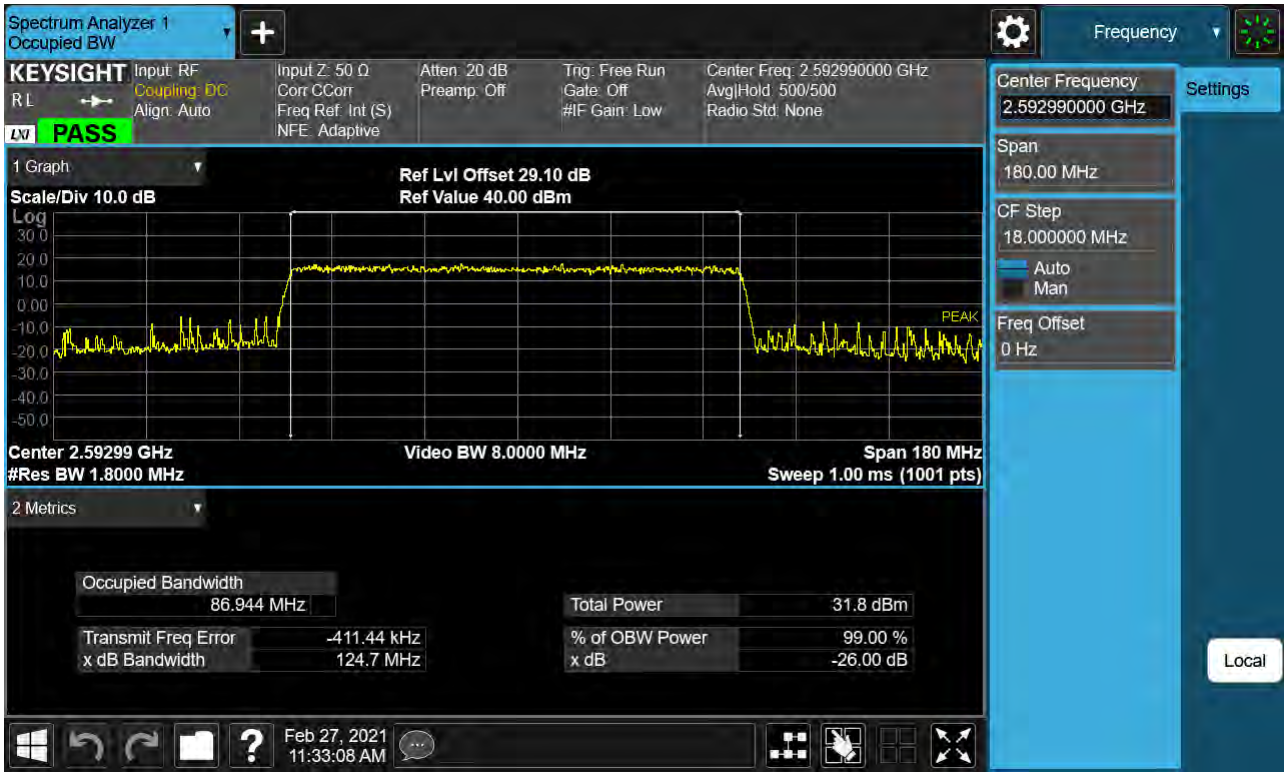
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 QPSK)



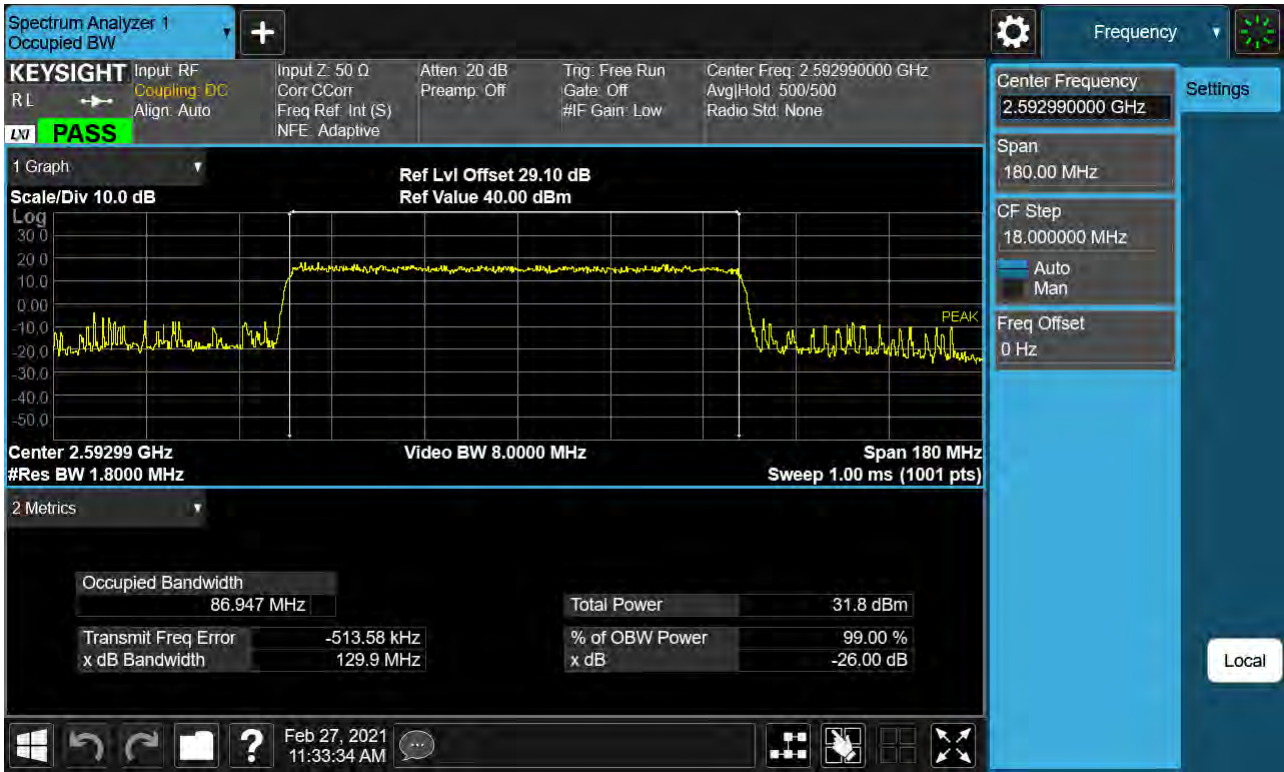
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 16-QAM)



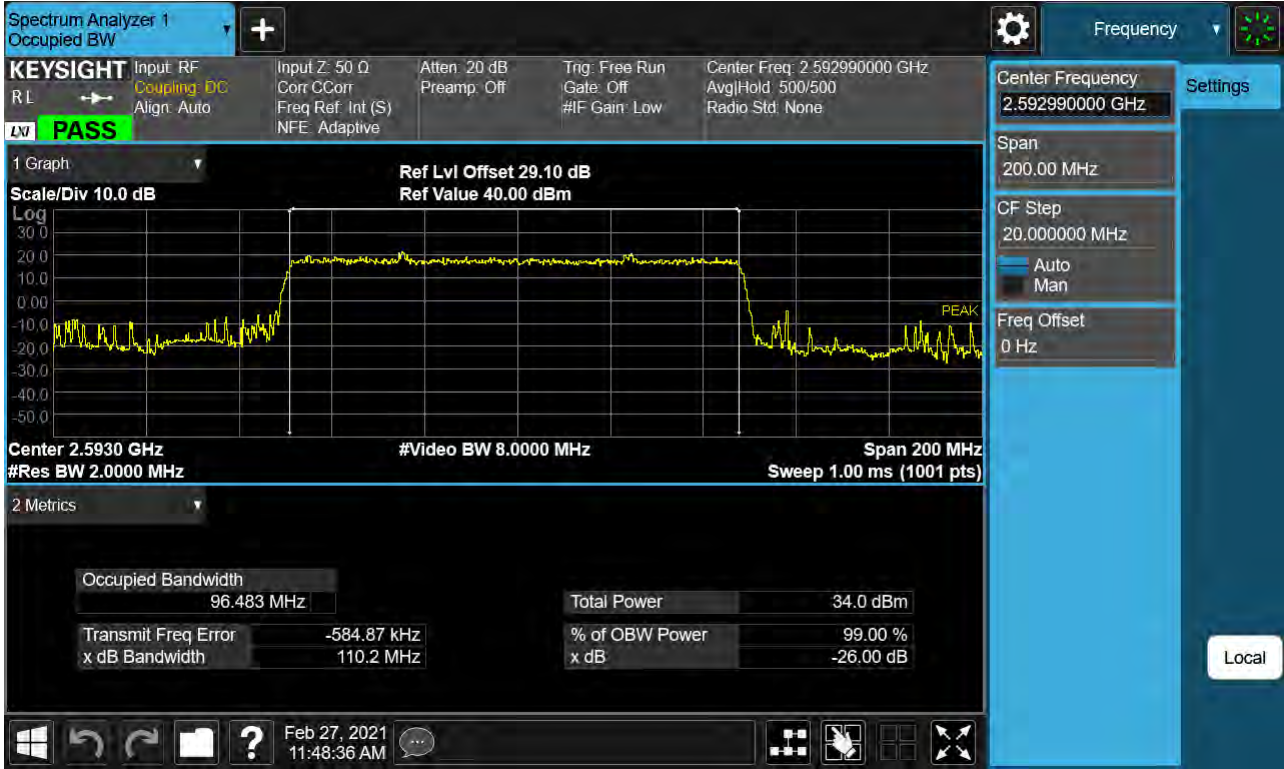
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 64-QAM)



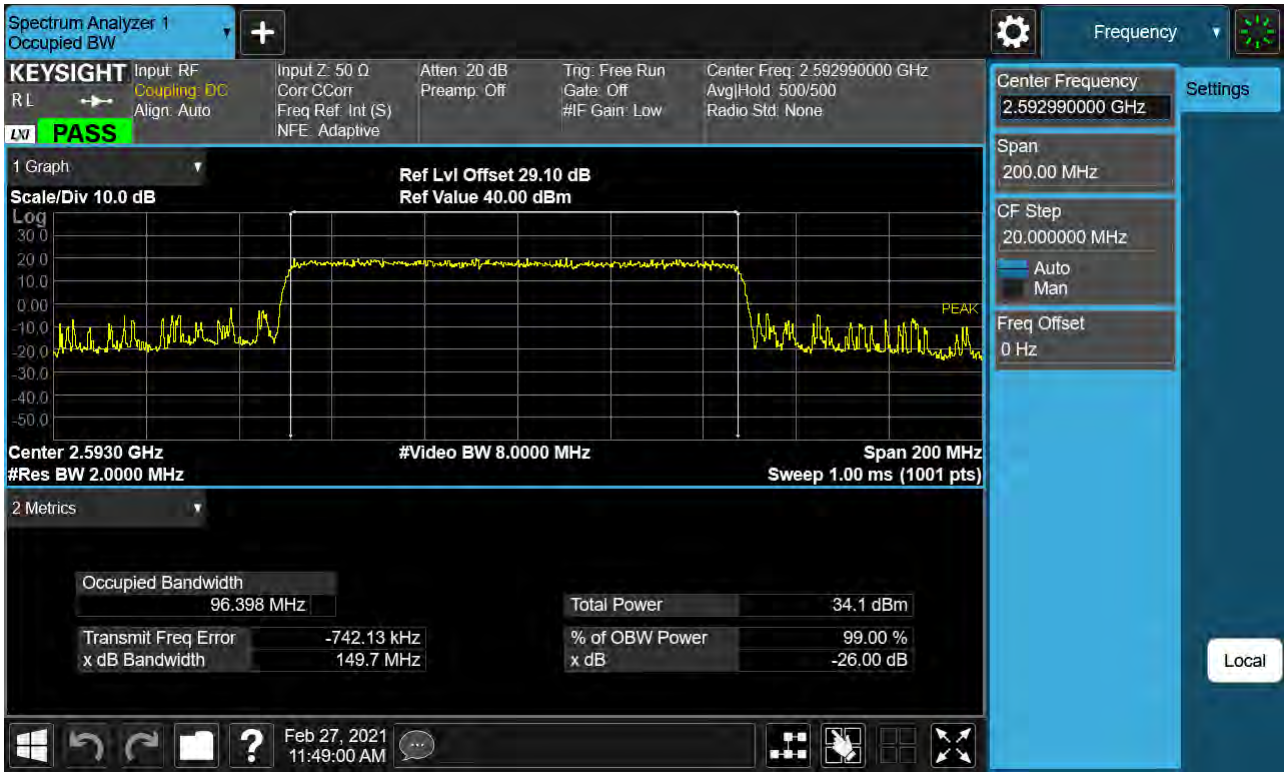
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 256-QAM)



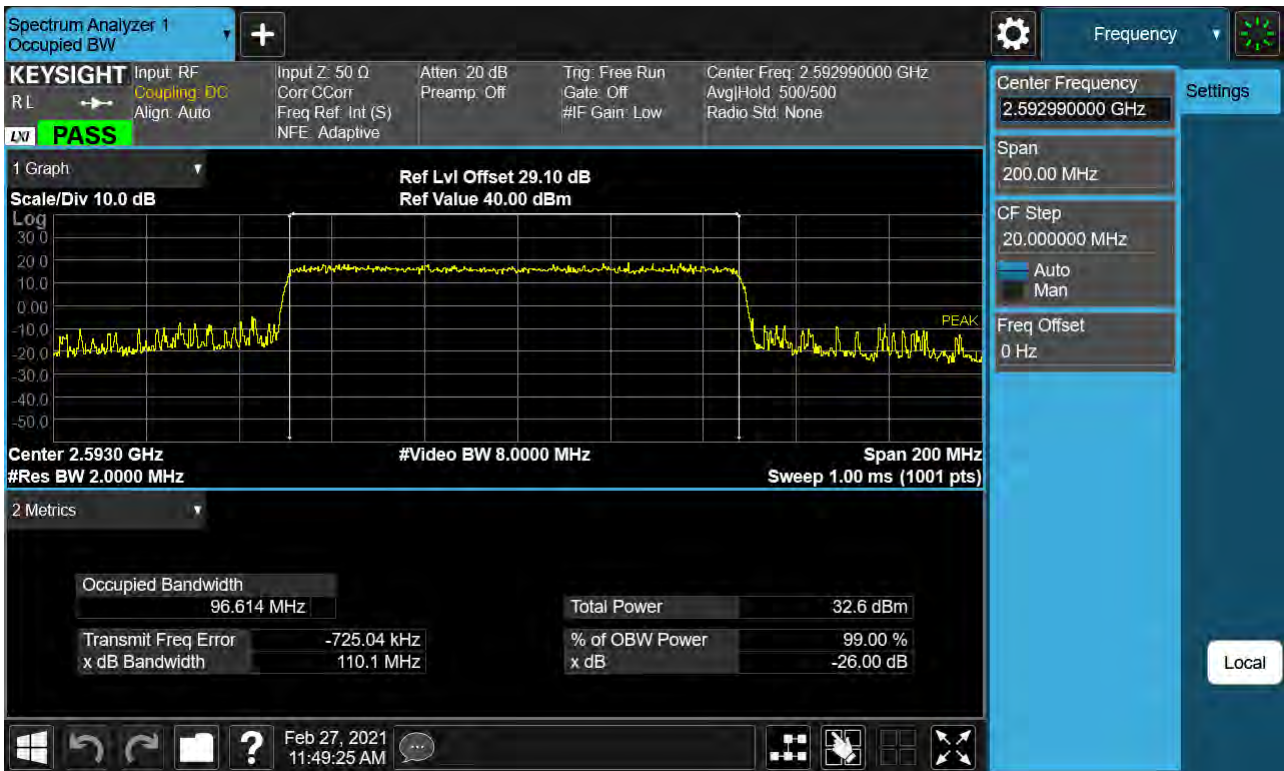
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 BPSK)



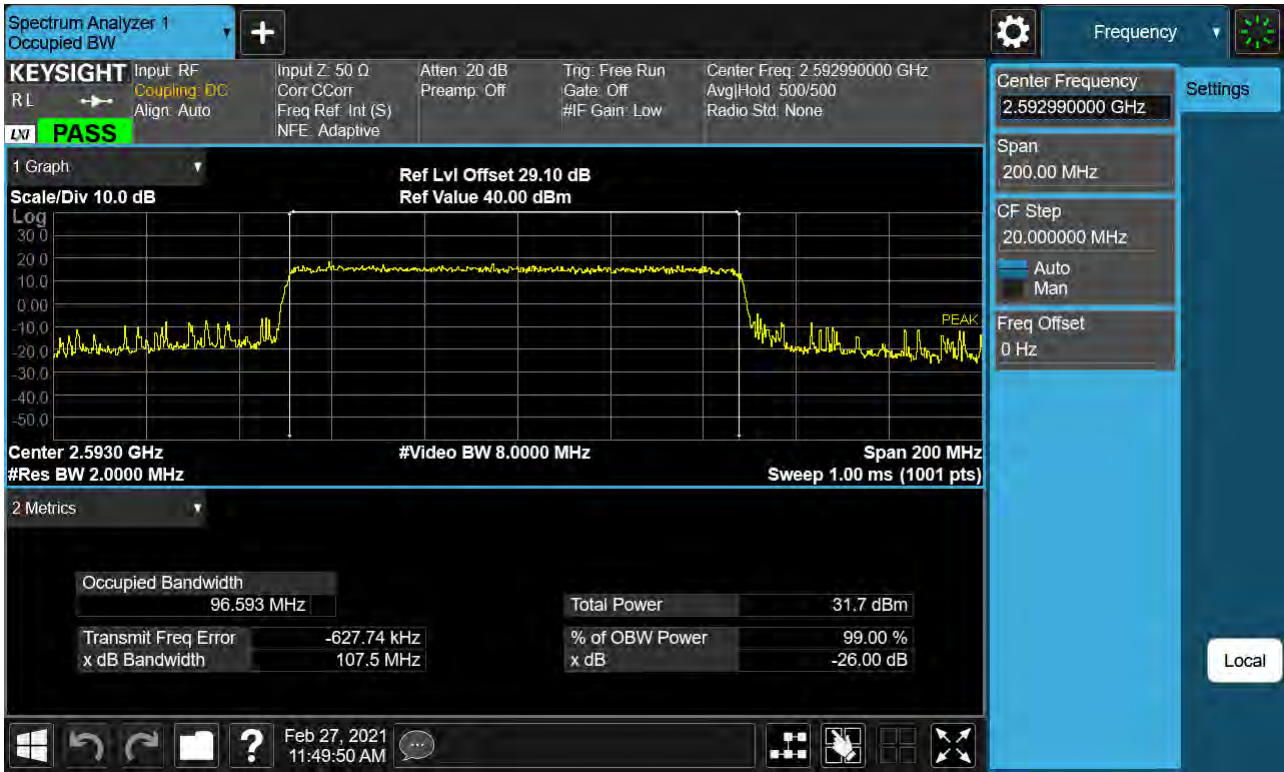
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 QPSK)



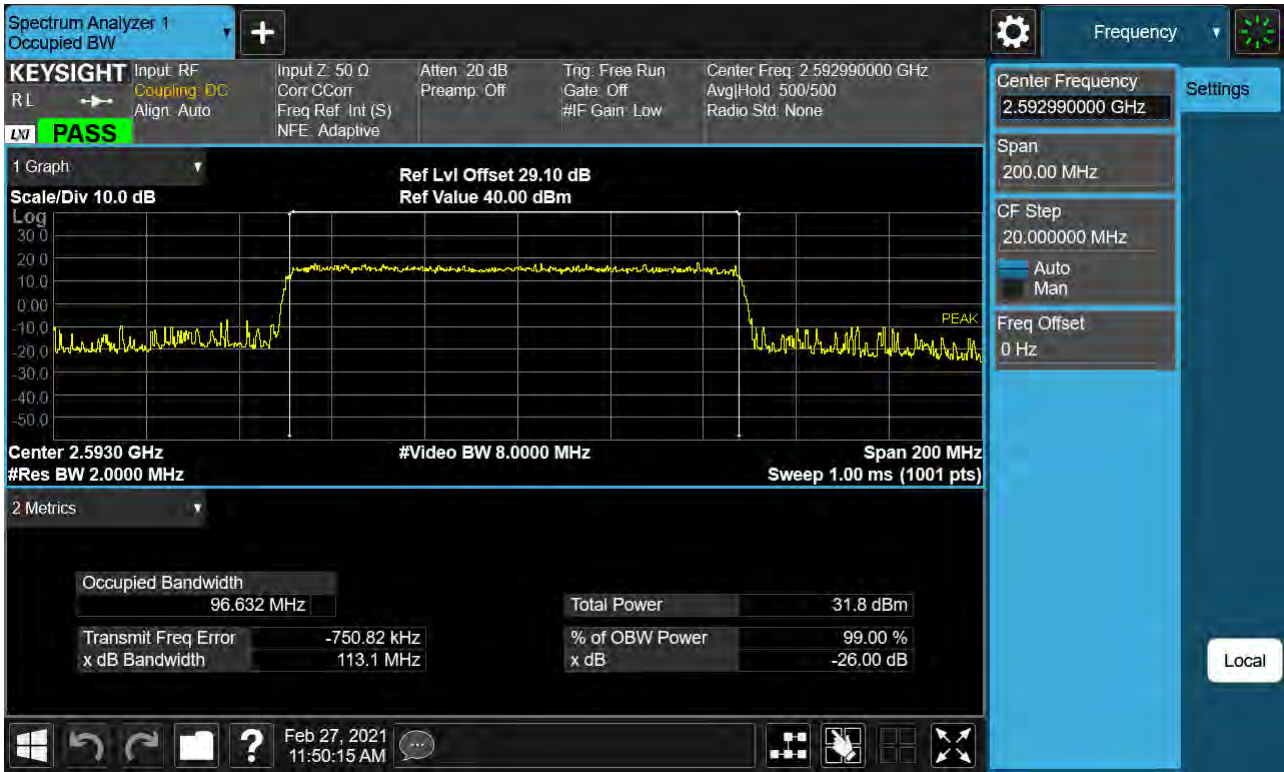
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 16-QAM)



Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 64-QAM)



Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 256-QAM)



Sub6 n41. PAR Plot (10M BW_Ch.518598_BPSK)



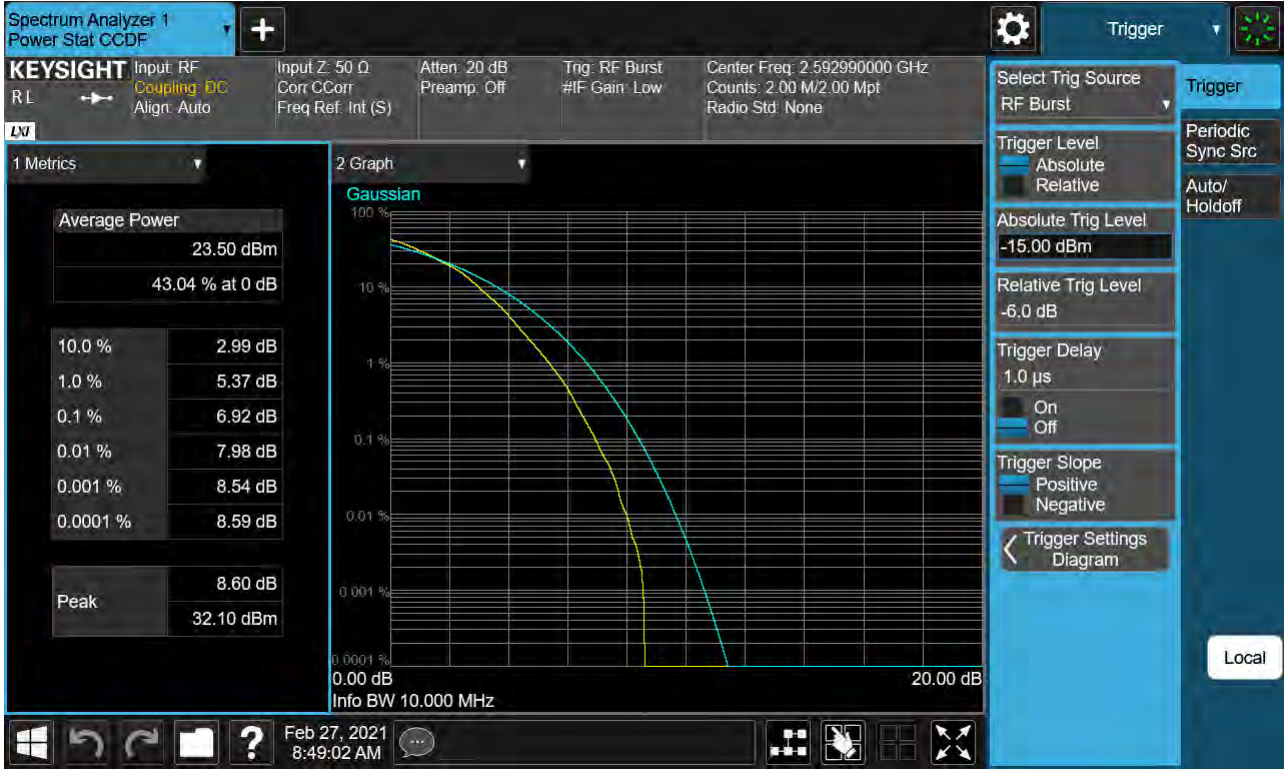
Sub6 n41. PAR Plot (10M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (10M BW_Ch.518598_16QAM)



Sub6 n41. PAR Plot (10M BW_Ch.518598_64QAM)



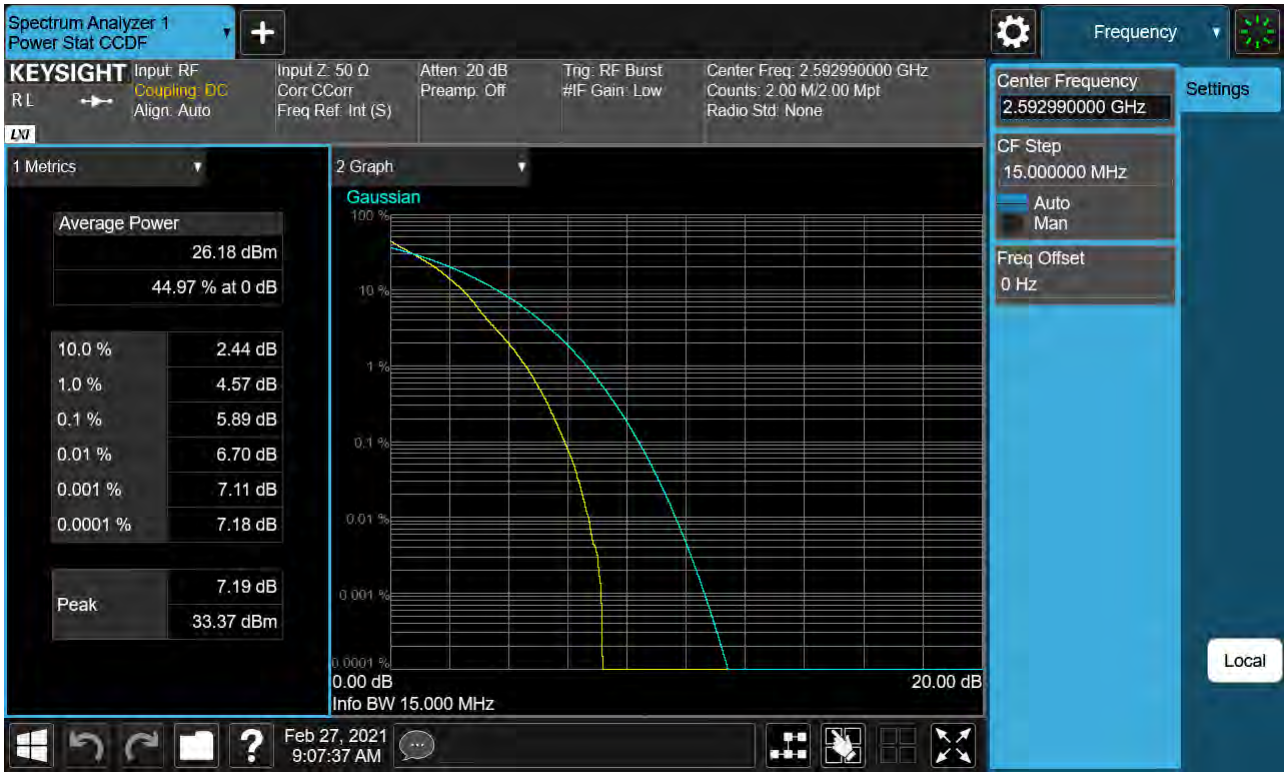
Sub6 n41. PAR Plot (10M BW_Ch.518598_256QAM)



Sub6 n41. PAR Plot (15M BW_Ch.518598_BPSK)



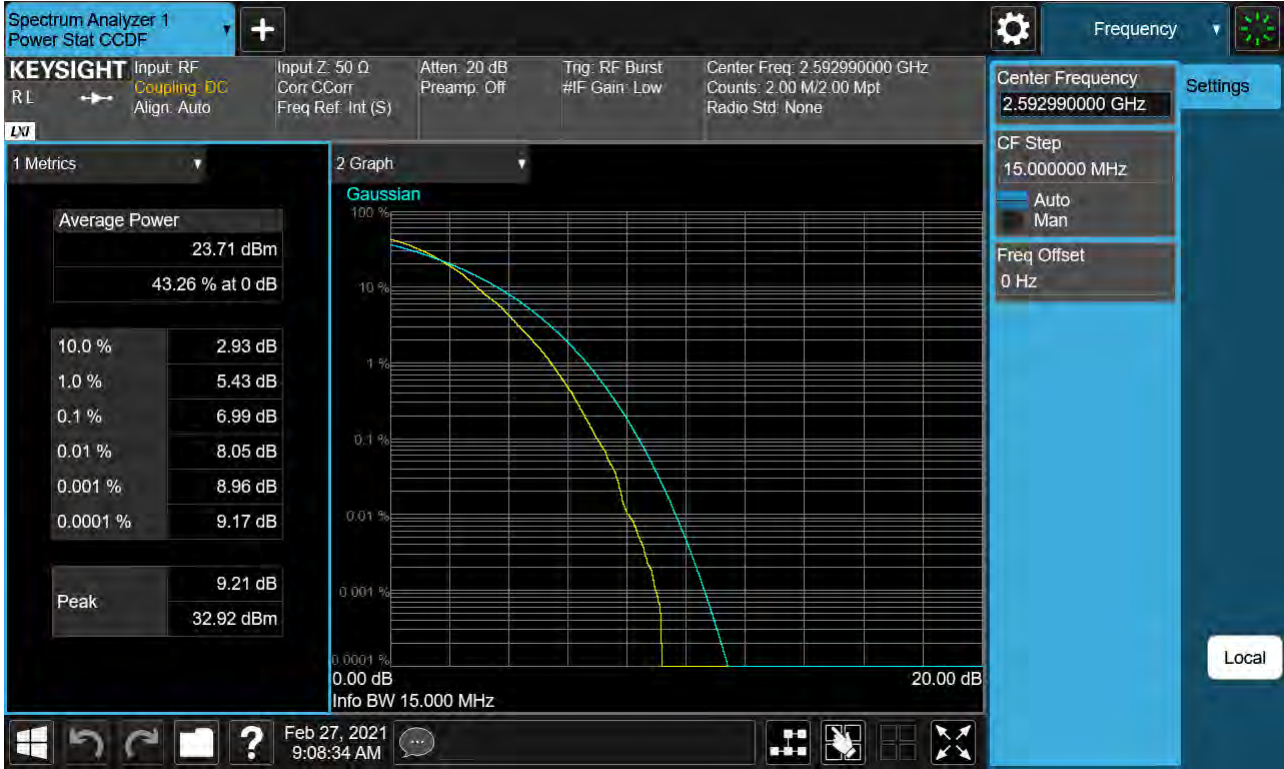
Sub6 n41. PAR Plot (15M BW_Ch.518598_QPSK)



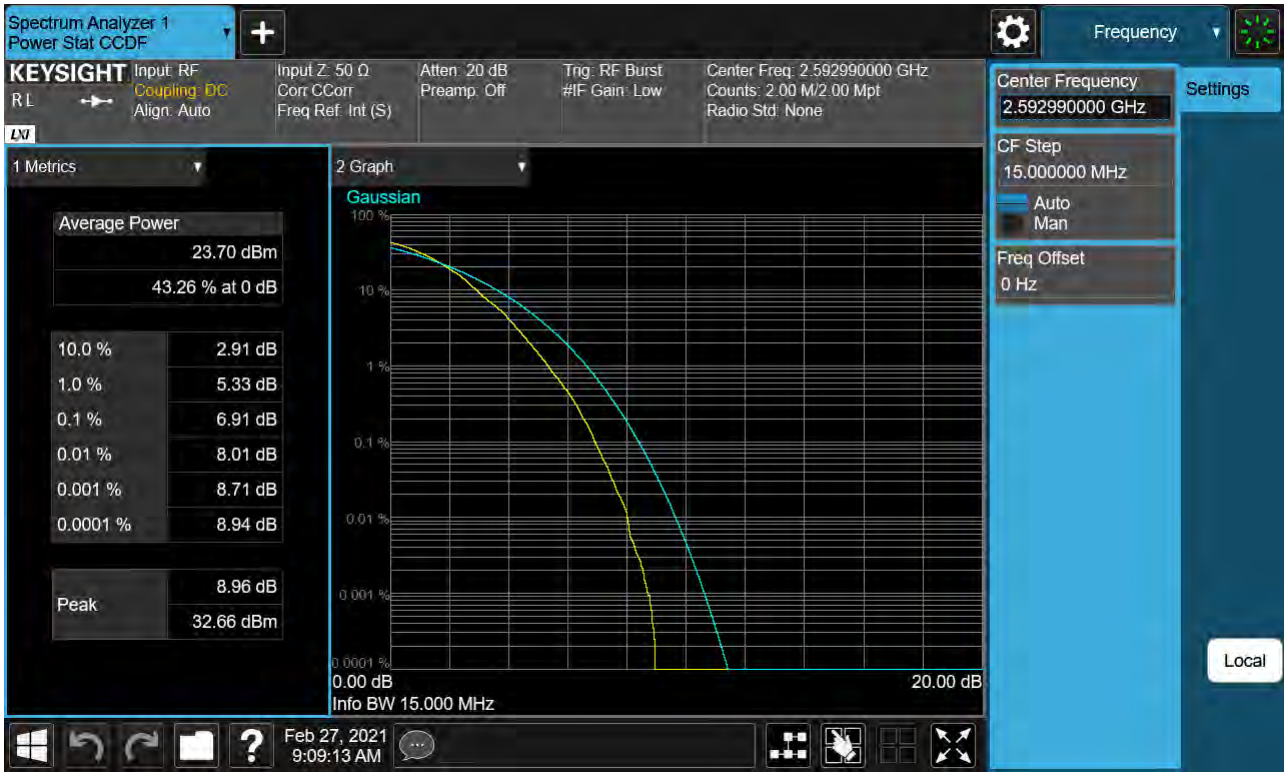
Sub6 n41. PAR Plot (15M BW_Ch.518598_16QAM)



Sub6 n41. PAR Plot (15M BW_Ch.518598_64QAM)



Sub6 n41. PAR Plot (15M BW_Ch.518598_256QAM)



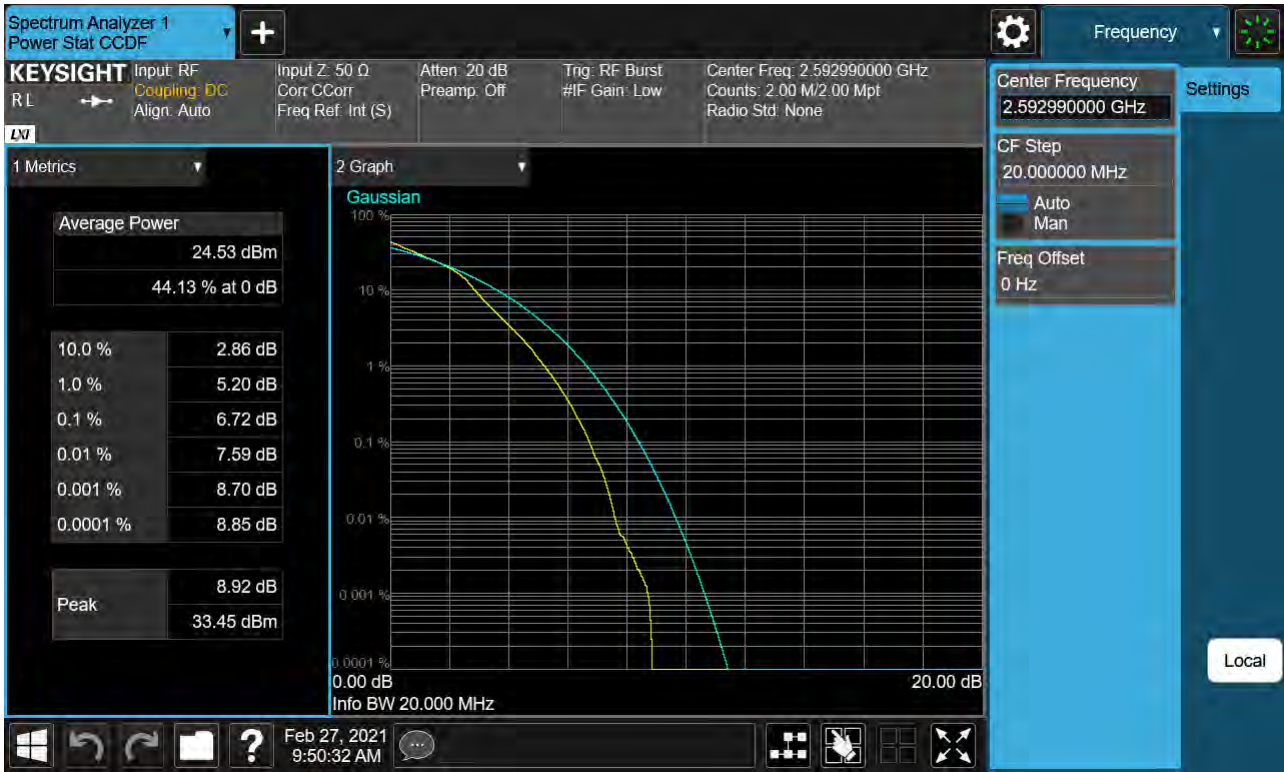
Sub6 n41. PAR Plot (20M BW_Ch.518598_BPSK)



Sub6 n41. PAR Plot (20M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (20M BW_Ch.518598_16QAM)



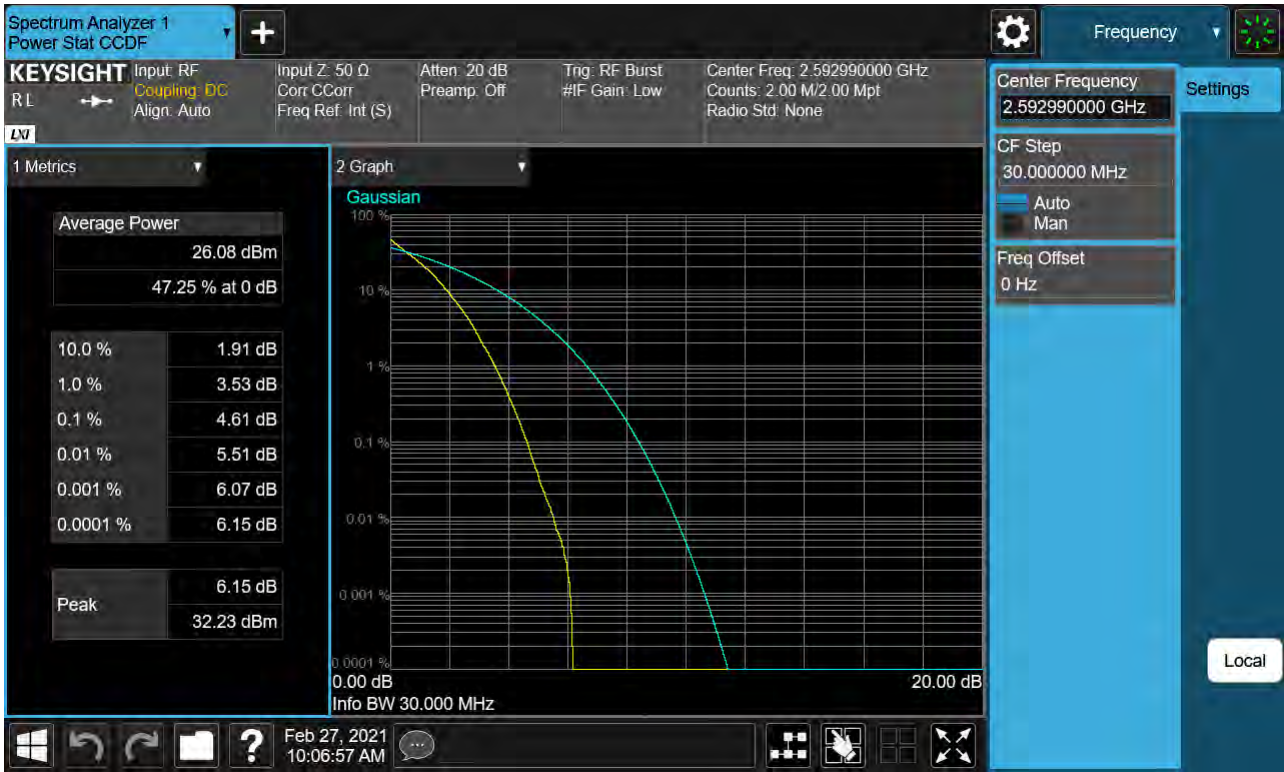
Sub6 n41. PAR Plot (20M BW_Ch.518598_64QAM)



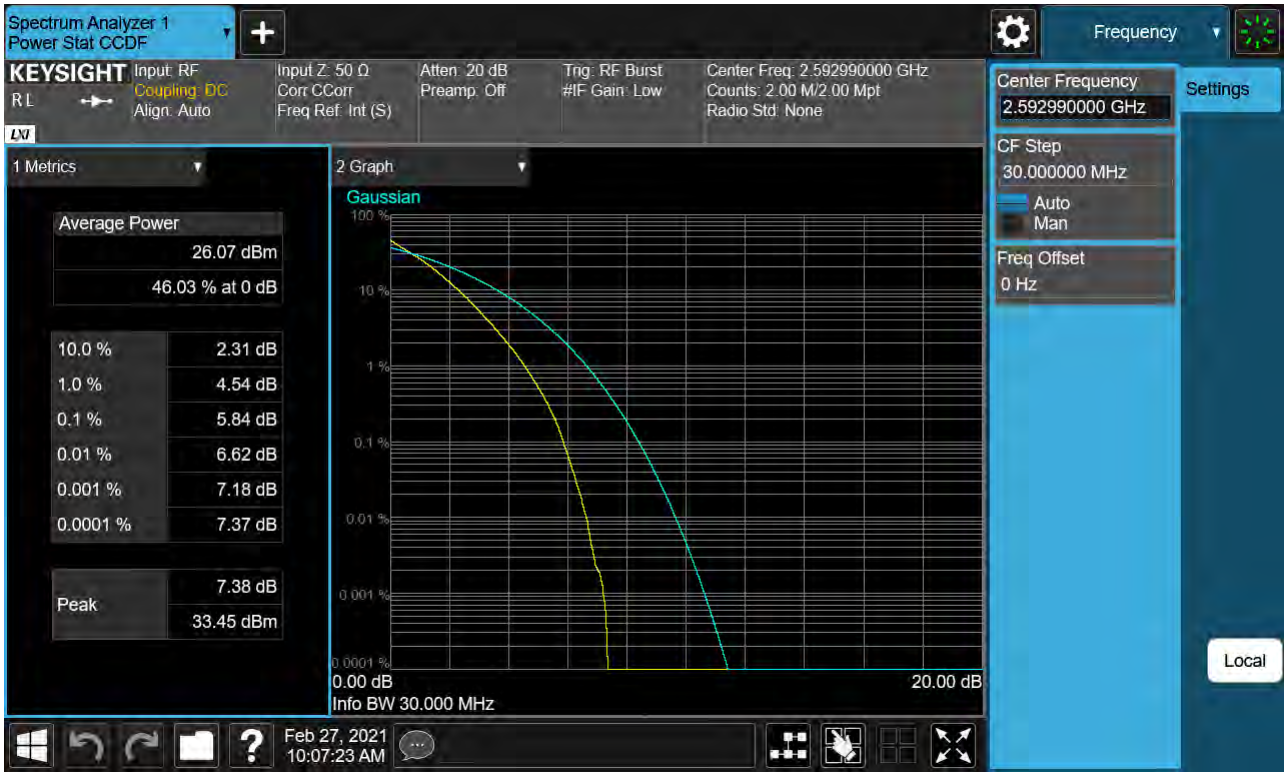
Sub6 n41. PAR Plot (20M BW_Ch.518598_256QAM)



Sub6 n41. PAR Plot (30M BW_Ch.518598_BPSK)



Sub6 n41. PAR Plot (30M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (30M BW_Ch.518598_16QAM)



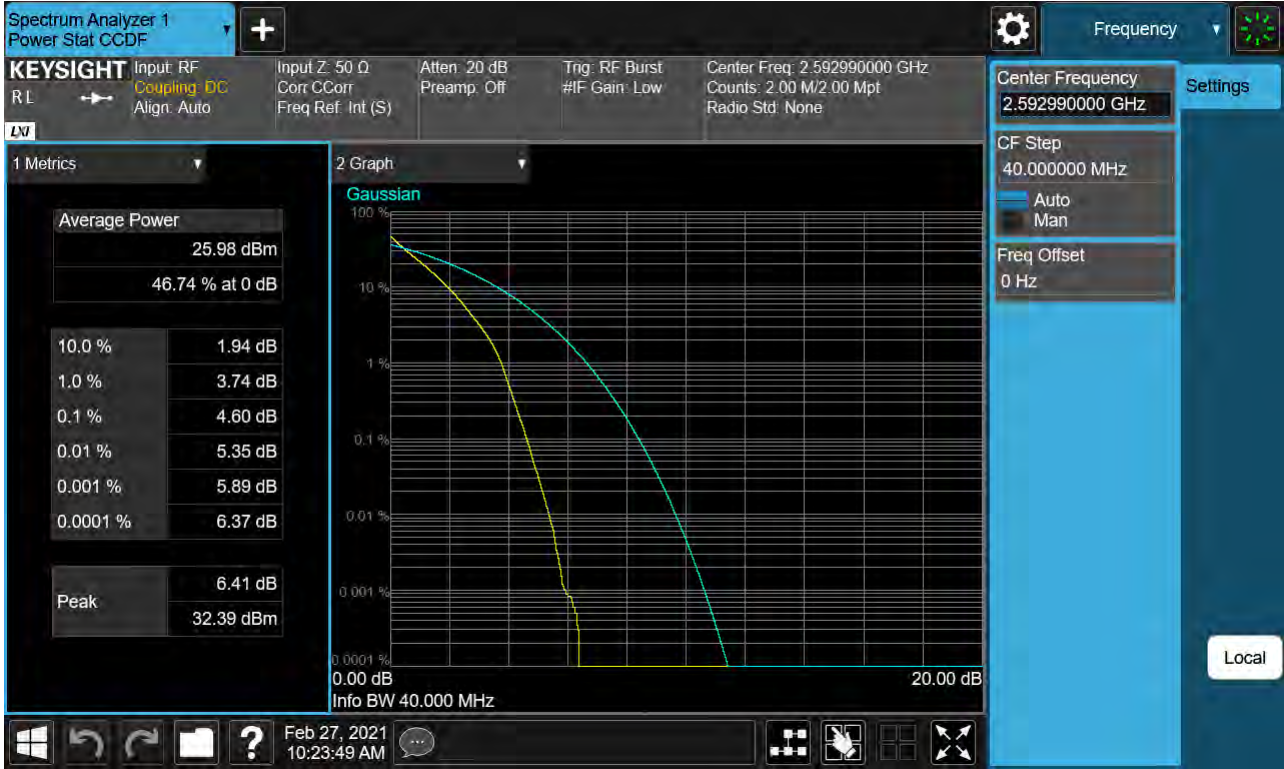
Sub6 n41. PAR Plot (30M BW_Ch.518598_64QAM)



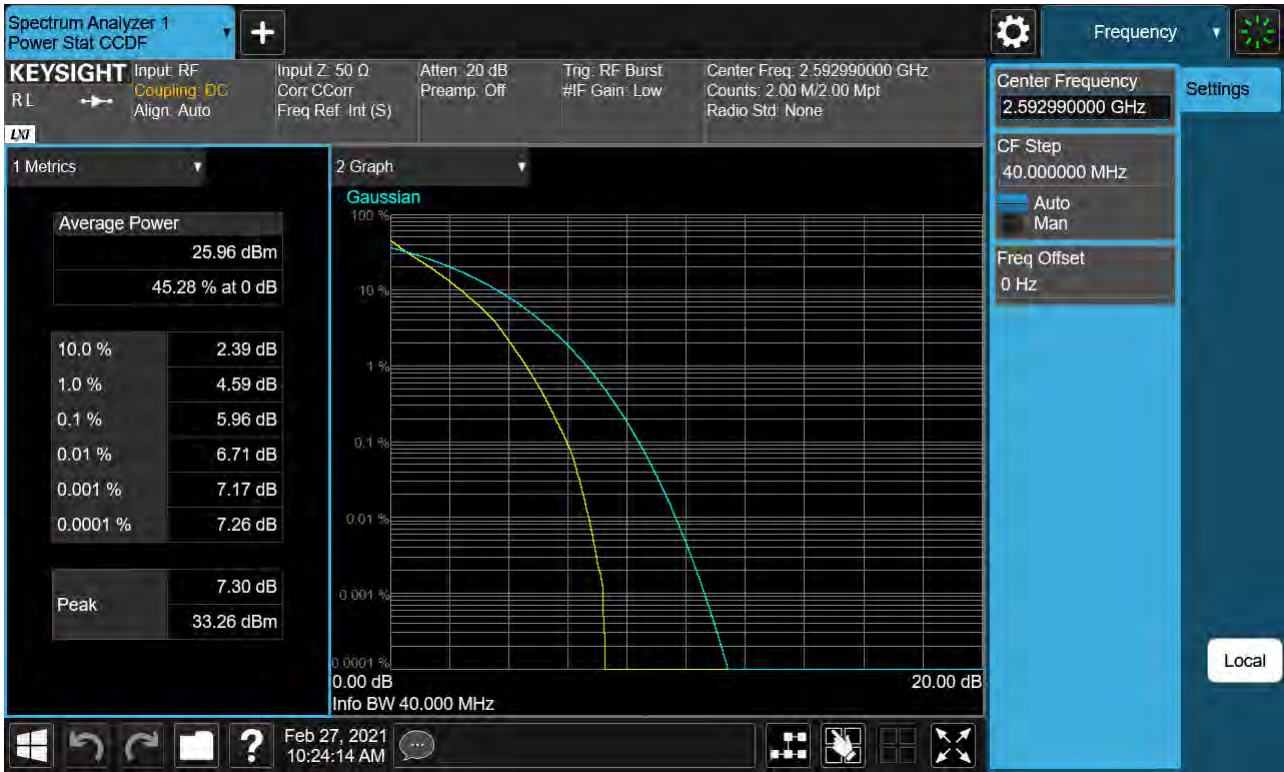
Sub6 n41. PAR Plot (30M BW_Ch.518598_256QAM)



Sub6 n41. PAR Plot (40M BW_Ch.518598_BPSK)



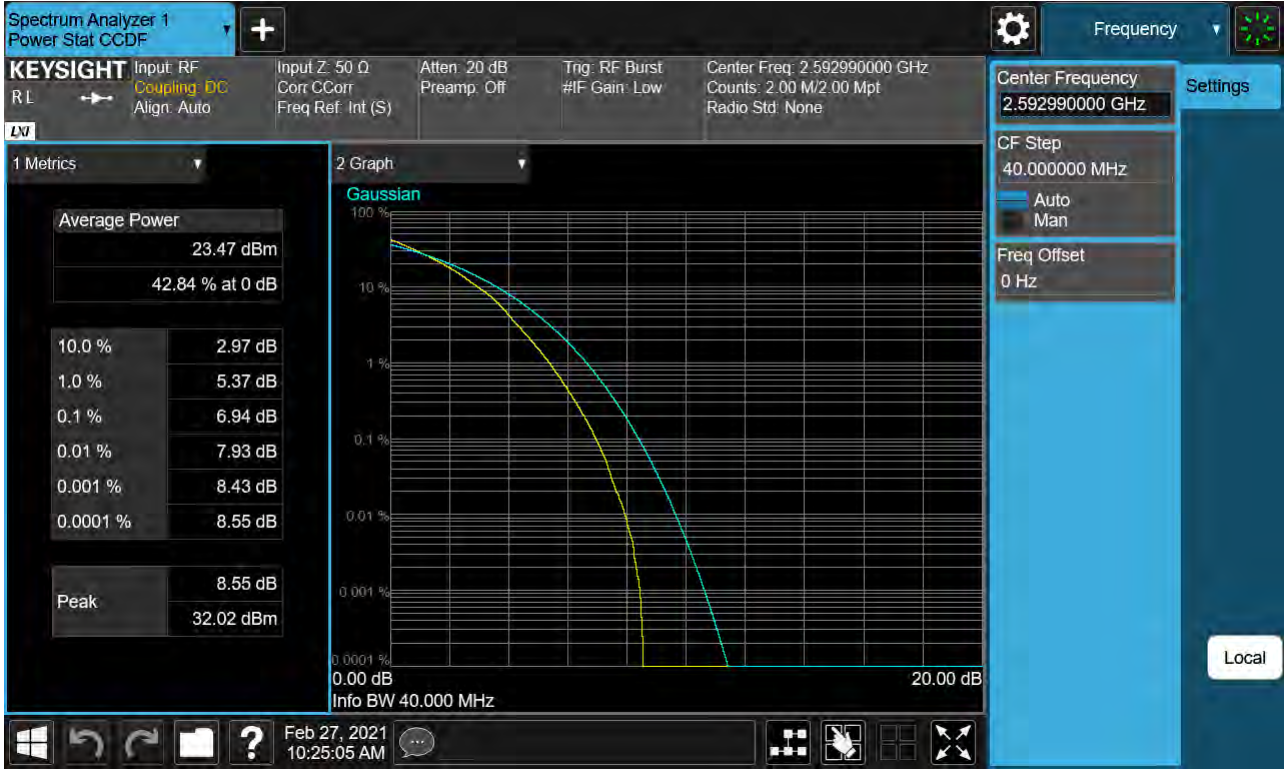
Sub6 n41. PAR Plot (40M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (40M BW_Ch.518598_16QAM)



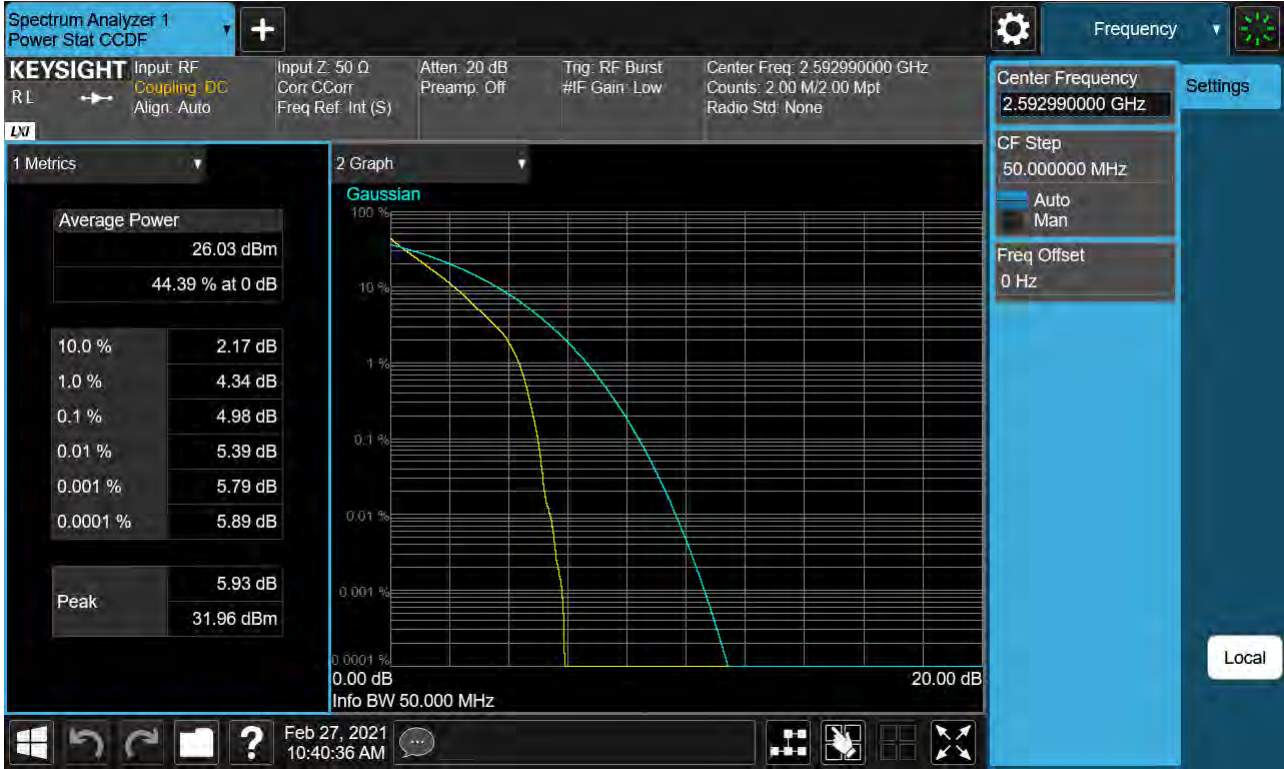
Sub6 n41. PAR Plot (40M BW_Ch.518598_64QAM)



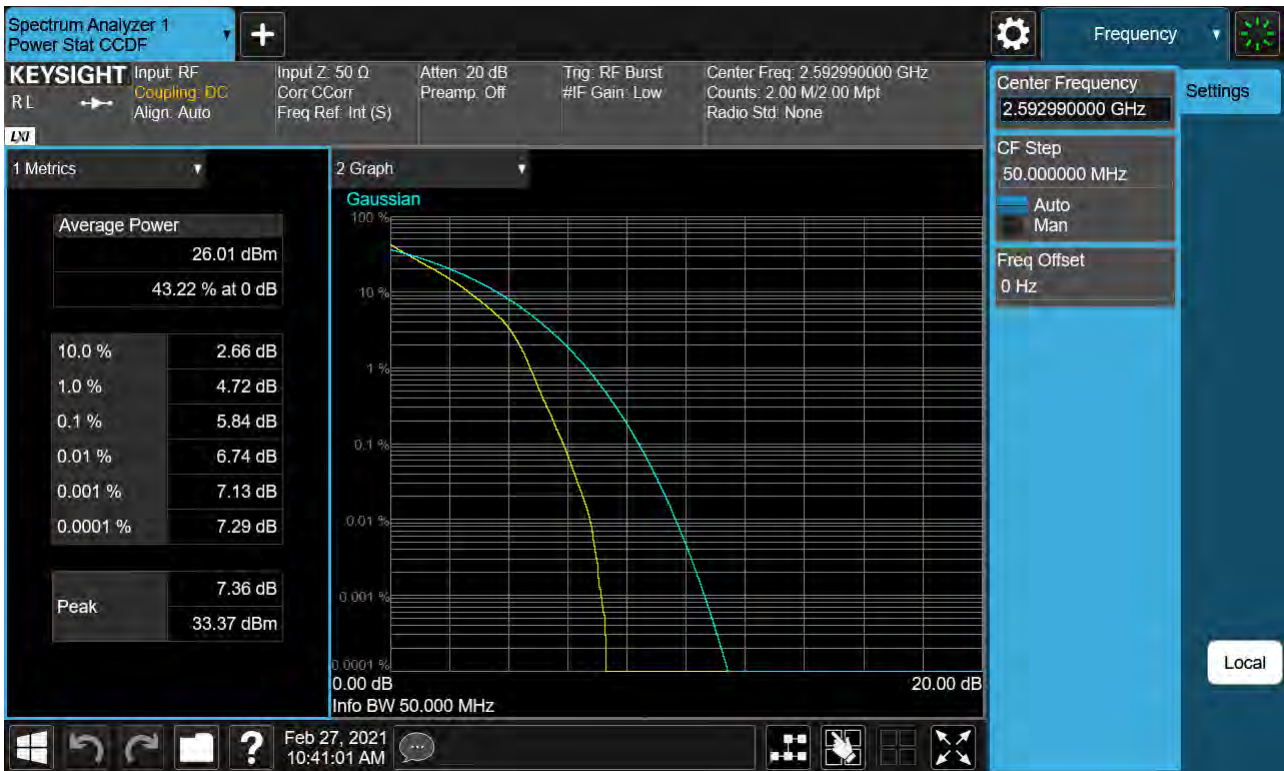
Sub6 n41. PAR Plot (40M BW_Ch.518598_256QAM)



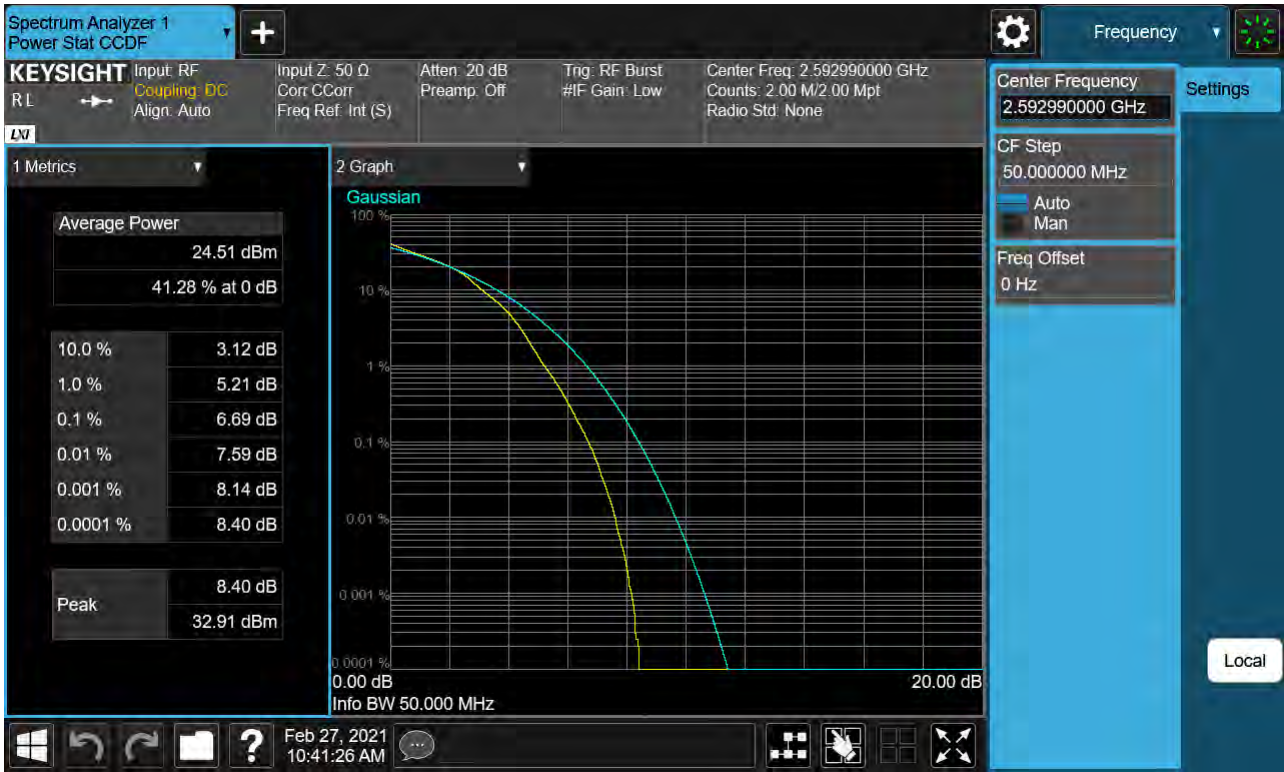
Sub6 n41. PAR Plot (50M BW_Ch.518598_BPSK)



Sub6 n41. PAR Plot (50M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (50M BW_Ch.518598_16QAM)



Sub6 n41. PAR Plot (50M BW_Ch.518598_64QAM)



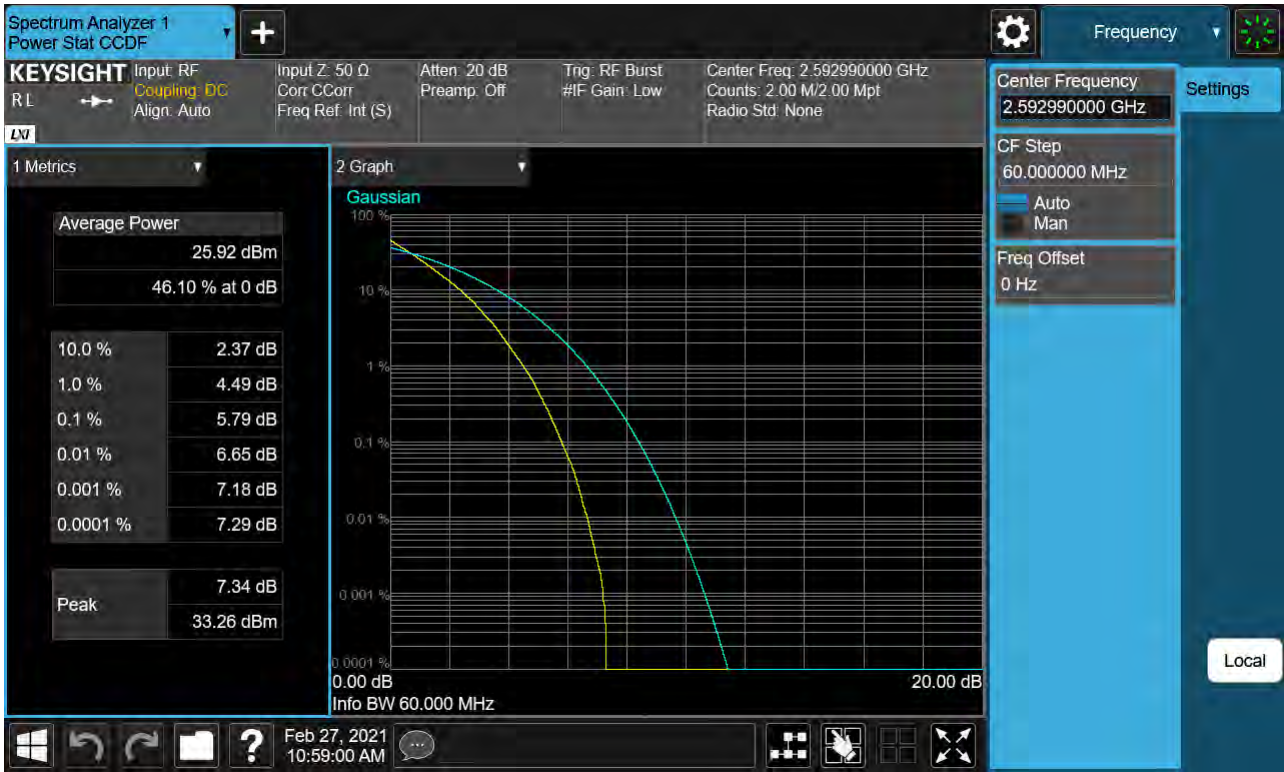
Sub6 n41. PAR Plot (50M BW_Ch.518598_256QAM)



Sub6 n41. PAR Plot (60M BW_Ch.518598_BPSK)



Sub6 n41. PAR Plot (60M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (60M BW_Ch.518598_16QAM)



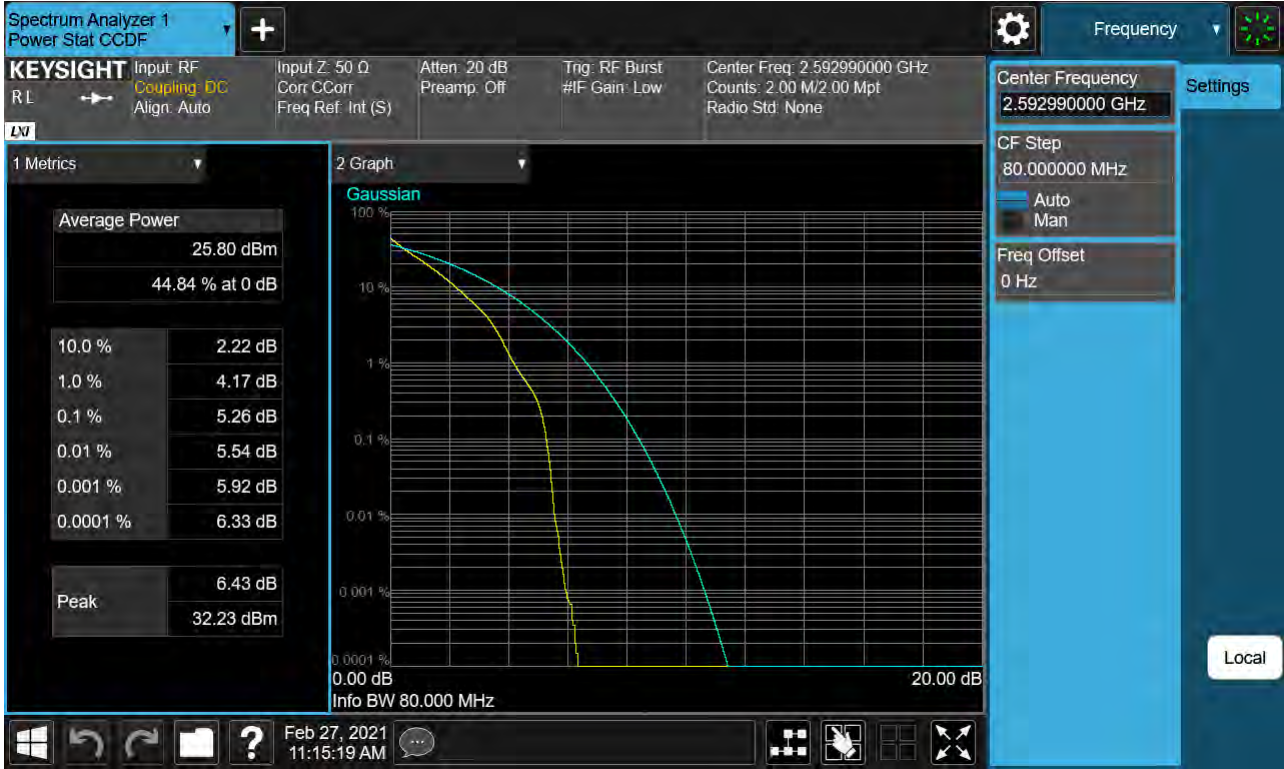
Sub6 n41. PAR Plot (60M BW_Ch.518598_64QAM)



Sub6 n41. PAR Plot (60M BW_Ch.518598_256QAM)



Sub6 n41. PAR Plot (80M BW_Ch.518598_BPSK)



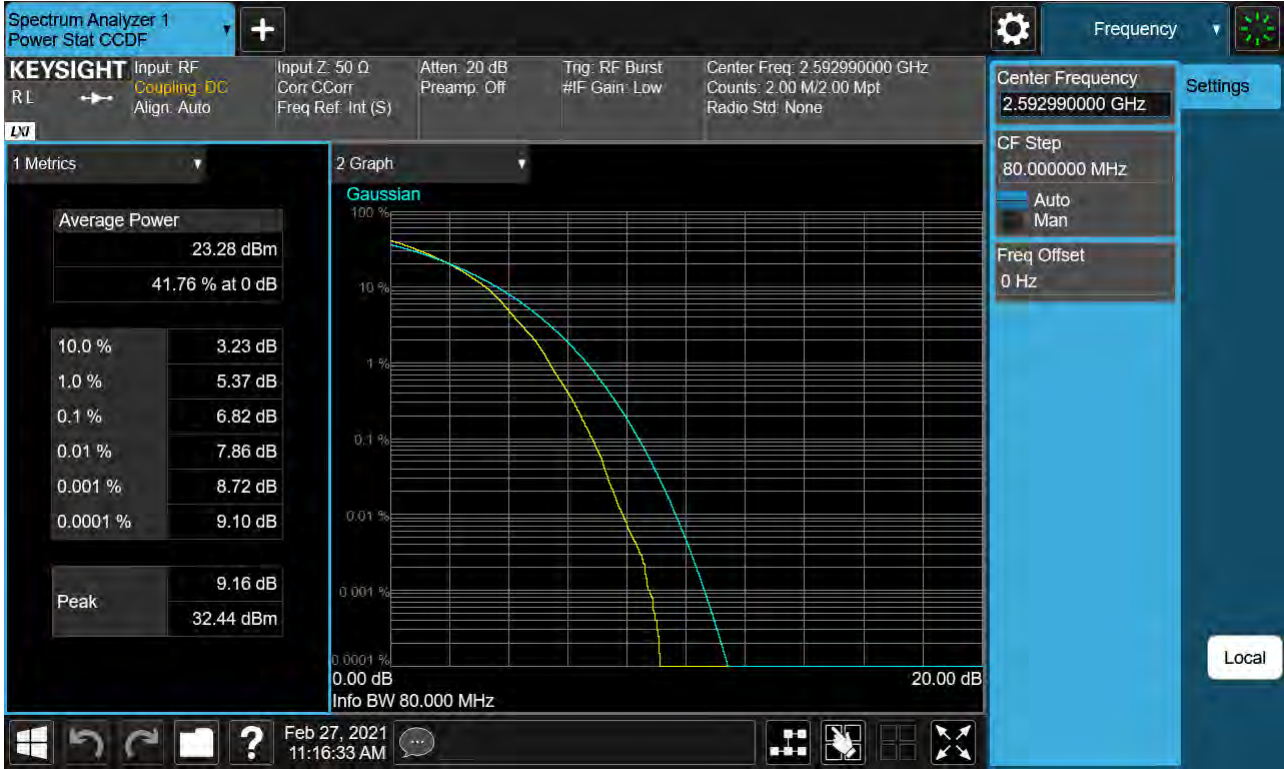
Sub6 n41. PAR Plot (80M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (80M BW_Ch.518598_16QAM)



Sub6 n41. PAR Plot (80M BW_Ch.518598_64QAM)



Sub6 n41. PAR Plot (80M BW_Ch.518598_256QAM)



Sub6 n41. PAR Plot (90M BW_Ch.518598_BPSK)



Sub6 n41. PAR Plot (90M BW_Ch.518598_QPSK)

