74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
TEL: +82-31-645-6300 FAX: +82-31-645-6401

FCC Sub6 REPORT

Class II Permissive Change

Applicant Name:
SAMSUNG Electronics Co., Ltd.

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

Date of Issue:
February 24, 2022

Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

Report No.: HCT-RF-2202-FC032

FCC ID:	**A3LSMS901B**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

Model(s):	SM-S901B/DS
EUT Type:	Mobile phone
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27, §2

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.
HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n41 (10)	2501.010 – 2685.000	8M67G7D	PI/2 BPSK	0.131	21.17
		8M65G7D	QPSK	0.129	21.11
		8M66W7D	16QAM	0.102	20.07
		8M66W7D	64QAM	0.063	17.97
		8M64W7D	256QAM	0.047	16.72
Sub6 n41 (15)	2503.500 – 2682.480	12M9G7D	PI/2 BPSK	0.137	21.37
		13M0G7D	QPSK	0.136	21.34
		13M0W7D	16QAM	0.108	20.34
		12M9W7D	64QAM	0.066	18.20
		13M0W7D	256QAM	0.048	16.77
Sub6 n41 (20)	2506.020 – 2679.990	18M0G7D	PI/2 BPSK	0.135	21.30
		18M0G7D	QPSK	0.135	21.29
		18M0W7D	16QAM	0.108	20.33
		18M0W7D	64QAM	0.068	18.30
		18M0W7D	256QAM	0.047	16.75
Sub6 n41 (30)	2511.000 – 2674.980	26M9G7D	PI/2 BPSK	0.123	20.90
		27M0G7D	QPSK	0.122	20.85
		26M9W7D	16QAM	0.096	19.82
		27M0W7D	64QAM	0.063	18.01
		27M0W7D	256QAM	0.043	16.32
Sub6 n41 (40)	2516.010 – 2670.000	35M9G7D	PI/2 BPSK	0.108	20.32
		35M9G7D	QPSK	0.105	20.22
		35M8W7D	16QAM	0.086	19.32
		35M9W7D	64QAM	0.058	17.67
		35M9W7D	256QAM	0.036	15.62
Sub6 n41 (50)	2521.020 – 2664.990	45M9G7D	PI/2 BPSK	0.103	20.12
		46M0G7D	QPSK	0.100	20.01
		45M8W7D	16QAM	0.079	18.95
		45M8W7D	64QAM	0.054	17.31
		45M7W7D	256QAM	0.036	15.52
Sub6 n41 (60)	2526.000 – 2659.980	57M9G7D	PI/2 BPSK	0.102	20.09
		58M1G7D	QPSK	0.101	20.03
		57M9W7D	16QAM	0.081	19.06
		58M0W7D	64QAM	0.056	17.46
		57M9W7D	256QAM	0.035	15.49
Sub6 n41 (80)	2536.020 – 2649.990	77M3G7D	PI/2 BPSK	0.102	20.08
		77M1G7D	QPSK	0.100	20.01
		77M2W7D	16QAM	0.079	18.98
		77M2W7D	64QAM	0.054	17.36
		77M0W7D	256QAM	0.036	15.52
Sub6 n41 (90)	2541.000 – 2644.980	86M8G7D	PI/2 BPSK	0.107	20.30
		86M7G7D	QPSK	0.106	20.27
		86M6W7D	16QAM	0.084	19.26
		86M7W7D	64QAM	0.058	17.62
		86M6W7D	256QAM	0.037	15.67
Sub6 n41 (100)	2546.010 – 2640.000	96M6G7D	PI/2 BPSK	0.104	20.18
		96M3G7D	QPSK	0.104	20.15
		96M4W7D	16QAM	0.083	19.17
		96M4W7D	64QAM	0.057	17.59
		96M3W7D	256QAM	0.037	15.71

REVIEWED BY

Report prepared by : Jung Ki Lim
Engineer of Telecommunication Testing Center

Report approved by : Kwon Jeong
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)

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2202-FC032	February 24, 2022	- First Approval Report

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

Table of Contents

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:	A3LSMS901B
Application Type:	Class II Permissive Change
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27, §2
EUT Type:	Mobile phone
Model(s):	SM-S901B/DS
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:	January 12, 2022 ~ February 03, 2022
Serial number:	Radiated: R3CR90F2QAK Conducted: R3CR90EYEPF

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS and LTE, Sub6.

It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80), Bluetooth, BT LE, NFC, WPT.

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 1 MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points > 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Note

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

   The power is calculated by the following formula;

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

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

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

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

Test Settings

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

Test Note

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

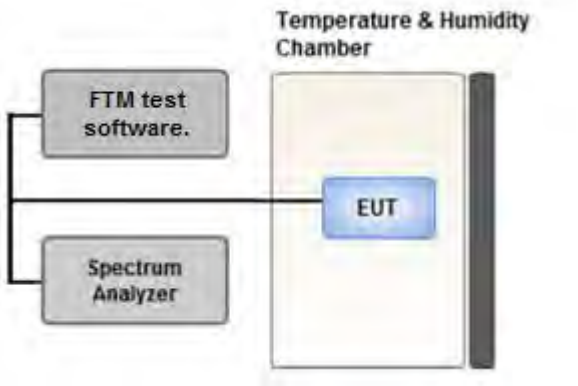
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

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

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

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

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① CCDF Procedure for PAPR

Test Settings

1. Set resolution/measurement bandwidth ≥ 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:

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

Test Settings(Peak Power)

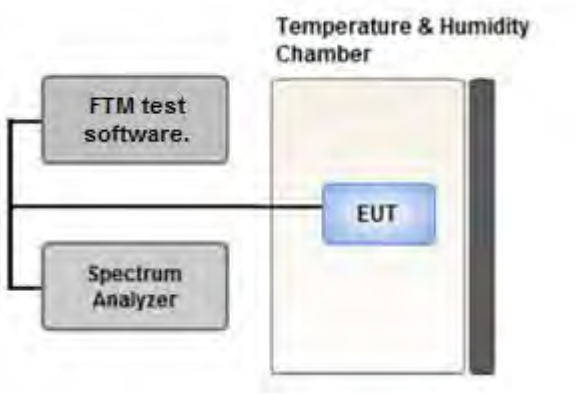
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

1. Set the RBW ≥ OBW.
2. Set VBW ≥ 3 × RBW.
3. Set span ≥ 2 × OBW.
4. Sweep time ≥ 10 × (number of points in sweep) × (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 × to 3 × the OBW.
2. Set RBW ≥ OBW.
3. Set VBW ≥ 3 × RBW.
4. Set number of measurement points in sweep ≥ 2 × span / RBW.
5. Sweep time:
   Set ≥ [10 × (number of points in sweep) × (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/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.

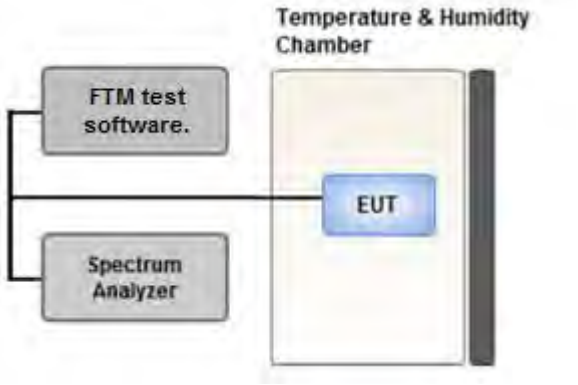
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5 % of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

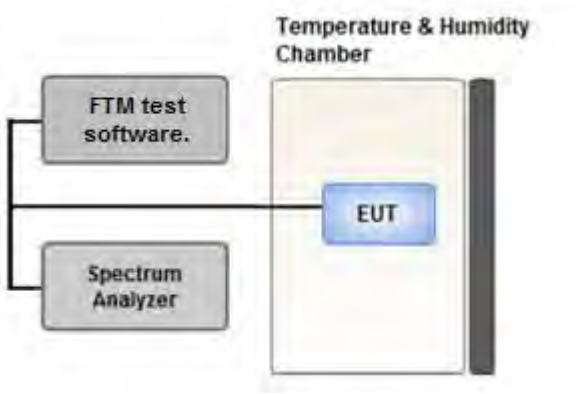
Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = RMS
4. Trace Mode = trace average
5. Sweep time = auto
6. Number of points in sweep ≥ 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.

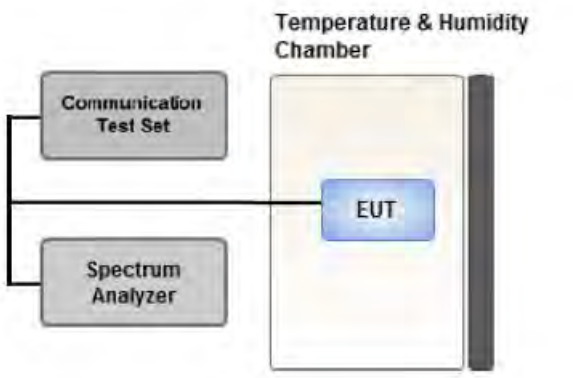
Test Settings

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 1 MHz of the channel edge the RBW should be 2 % of EBW, then 1 MHz after that.
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/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.
  Mode: NSA, SA, SRS
  Worst case: NSA (12A-n41A)
- Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
- We were performed the RSE test in condition of co-location. There has no significant emission raised.
- WWAN + WLAN (2.4 & 5 GHz) + BT (Worst case : Stand alone)
- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation were investigated and the worst case configuration results are reported.
  Worst case: 12A(10 MHz)-n41A(15 MHz)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.

[Worst case]

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

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
  (Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: NSA, SA
  Worst case: NSA (66A-n41A)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth, Peak-To-Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	10, 15, 20, 30, 40, 50, 60, 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

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	05/30/2022	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	05/30/2022	Biennial
Horn Antenna(1~18GHz)	BBHA 9120D	Schwarzbeck	02289	05/08/2022	Biennial
Horn Antenna(1~18GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	05/04/2022	Biennial
Horn Antenna(15~40GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	10/13/2022	Biennial
Horn Antenna(15~40GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	04/12/2023	Biennial
Loop Antenna(9kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	05/18/2022	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/03/2023	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/22/2023	Biennial
High Pass Filter	WHKX10-900-1000-15000-40SS	Wainwright Instruments	15	06/15/2022	Annual
High Pass Filter	WHKX10-2700-3000-18000-40SS	Wainwright Instruments	145	06/15/2022	Annual
High Pass Filter	WHNX6-4740-6000-26500-40CC	Wainwright Instruments	11	06/15/2022	Annual
LOW NOISE AMP (100 MHz ~ 18GHz)	CBLU1183540B-01	CERNEX	26822	06/15/2022	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/02/2022	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/23/2022	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	09/15/2022	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	04/07/2022	Annual
Chamber	SU-642	ESPEC	93008124	03/15/2022	Annual
Signal Analyzer(10Hz~26.5GHz)	N9020A	Agilent	MY51110063	04/22/2022	Annual
ATTENUATOR(20dB)	8493C	Hewlett Packard	17280	06/01/2022	Annual
Spectrum Analyzer(10Hz~40GHz)	FSV40	REOHDE & SCHWARZ	101436	03/02/2022	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/18/2022	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287700	05/25/2022	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/26/2022	Annual
SIGNAL GENERATOR (100kHz~40GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/05/2022	Annual
Signal Analyzer(5Hz~40.0GHz)	N9030B	KEYSIGHT	MY55480167	06/02/2022	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/27/2022	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

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

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{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 (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05 (Confidence level about 95 %, k=2)

6. SUMMARY OF TEST RESULTS

6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§2.1051, §27.53(m)(4)	■ < 40 + 10log10 (P[Watts]) at Channel edges ■ < 43 + 10log10 (P[Watts]) between 5 and X MHz from Channel edges ■ < 55 + 10log10 (P[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	See Note1
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 + 10log10 (P[Watts])	PASS

Note:

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

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

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

ERP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.

2) During the test , the turn table is rotated until the maximum signal is found.

3) Record the field strength meter's level.

4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.

5) Increase the signal generator output till the field strength meter's level is equal to the item (3).

6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

7.2 EIRP Sample Calculation

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

EIRP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.

2) During the test , the turn table is rotated until the maximum signal is found.

3) Record the field strength meter's level.

4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.

5) Increase the signal generator output till the field strength meter's level is equal to the item (3).

6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW
GSM BW = 249 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W
GSM BW = 249 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W
WCDMA BW = 4.17 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

QPSK Modulation

Emission Designator = 4M48G7D
LTE BW = 4.48 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 EQUIVALENT ISOTROPIC RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2501.010	Sub6 41/ 10 MHz [30 kHz]	PI/2 BPSK	-25.29	11.19	10.20	2.49	H	< 2.00	0.078	18.90	1	12
		QPSK	-25.31	11.17	10.20	2.49	H		0.077	18.88		
		16-QAM	-26.38	10.10	10.20	2.49	H		0.060	17.81		
		64-QAM	-28.47	8.01	10.20	2.49	H		0.037	15.72		
		256-QAM	-29.89	6.59	10.20	2.49	H		0.027	14.30		
2592.990		PI/2 BPSK	-24.37	12.09	10.42	2.56	H		0.099	19.95	1	12
		QPSK	-24.40	12.06	10.42	2.56	H		0.098	19.92		
		16-QAM	-25.38	11.08	10.42	2.56	H		0.078	18.94		
		64-QAM	-26.96	9.50	10.42	2.56	H		0.054	17.36		
		256-QAM	-28.92	7.54	10.42	2.56	H		0.035	15.40		
2685.000		PI/2 BPSK	-24.16	13.43	10.38	2.64	H		0.131	21.17	1	12
		QPSK	-24.22	13.37	10.38	2.64	H		0.129	21.11		
		16-QAM	-25.26	12.33	10.38	2.64	H		0.102	20.07		
		64-QAM	-27.36	10.23	10.38	2.64	H		0.063	17.97		
		256-QAM	-28.61	8.98	10.38	2.64	H		0.047	16.72		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2503.500	Sub6 41/ 15 MHz [30 kHz]	PI/2 BPSK	-25.21	11.34	10.24	2.50	H	< 2.00	0.081	19.08	1	19
		QPSK	-25.29	11.26	10.24	2.50	H		0.079	19.00		
		16-QAM	-26.29	10.26	10.24	2.50	H		0.063	18.00		
		64-QAM	-28.14	8.41	10.24	2.50	H		0.041	16.15		
		256-QAM	-29.78	6.77	10.24	2.50	H		0.028	14.51		
2592.990		PI/2 BPSK	-24.31	12.15	10.42	2.56	H		0.100	20.01	1	19
		QPSK	-24.36	12.10	10.42	2.56	H		0.099	19.96		
		16-QAM	-25.41	11.05	10.42	2.56	H		0.078	18.91		
		64-QAM	-26.89	9.57	10.42	2.56	H		0.055	17.43		
		256-QAM	-28.81	7.65	10.42	2.56	H		0.036	15.51		
2682.480		PI/2 BPSK	-23.96	13.67	10.34	2.64	H		0.137	21.37	1	19
		QPSK	-23.99	13.64	10.34	2.64	H		0.136	21.34		
		16-QAM	-24.99	12.64	10.34	2.64	H		0.108	20.34		
		64-QAM	-27.13	10.50	10.34	2.64	H		0.066	18.20		
		256-QAM	-28.56	9.07	10.34	2.64	H		0.048	16.77		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2506.020	Sub6 41/ 20 MHz [30 kHz]	PI/2 BPSK	-24.90	11.65	10.24	2.50	H	< 2.00	0.087	19.39	1	25
		QPSK	-24.91	11.64	10.24	2.50	H		0.087	19.38		
		16-QAM	-26.01	10.54	10.24	2.50	H		0.067	18.28		
		64-QAM	-27.66	8.89	10.24	2.50	H		0.046	16.63		
		256-QAM	-29.46	7.09	10.24	2.50	H		0.030	14.83		
2592.990		PI/2 BPSK	-24.33	12.13	10.42	2.56	H		0.100	19.99	1	25
		QPSK	-24.34	12.12	10.42	2.56	H		0.100	19.98		
		16-QAM	-25.43	11.03	10.42	2.56	H		0.077	18.89		
		64-QAM	-26.90	9.56	10.42	2.56	H		0.055	17.42		
		256-QAM	-28.90	7.56	10.42	2.56	H		0.035	15.42		
2679.990		PI/2 BPSK	-24.19	13.59	10.34	2.63	H		0.135	21.30	1	25
		QPSK	-24.20	13.58	10.34	2.63	H		0.135	21.29		
		16-QAM	-25.16	12.62	10.34	2.63	H		0.108	20.33		
		64-QAM	-27.19	10.59	10.34	2.63	H		0.068	18.30		
		256-QAM	-28.74	9.04	10.34	2.63	H		0.047	16.75		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2511.000	Sub6 41/ 30 MHz [30 kHz]	PI/2 BPSK	-25.21	11.48	10.20	2.51	H	< 2.00	0.083	19.17	1	39
		QPSK	-25.22	11.47	10.20	2.51	H		0.082	19.16		
		16-QAM	-26.19	10.50	10.20	2.51	H		0.066	18.19		
		64-QAM	-27.91	8.78	10.20	2.51	H		0.044	16.47		
		256-QAM	-29.66	7.03	10.20	2.51	H		0.030	14.72		
2592.990		PI/2 BPSK	-24.36	12.10	10.42	2.56	H		0.099	19.96	1	39
		QPSK	-24.37	12.09	10.42	2.56	H		0.099	19.95		
		16-QAM	-25.36	11.10	10.42	2.56	H		0.079	18.96		
		64-QAM	-26.99	9.47	10.42	2.56	H		0.054	17.33		
		256-QAM	-28.86	7.60	10.42	2.56	H		0.035	15.46		
2674.980		PI/2 BPSK	-24.11	13.22	10.30	2.62	H		0.123	20.90	1	39
		QPSK	-24.16	13.17	10.30	2.62	H		0.122	20.85		
		16-QAM	-25.19	12.14	10.30	2.62	H		0.096	19.82		
		64-QAM	-27.00	10.33	10.30	2.62	H		0.063	18.01		
		256-QAM	-28.69	8.64	10.30	2.62	H		0.043	16.32		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2516.010	Sub6 41/ 40 MHz [30 kHz]	PI/2 BPSK	-24.96	11.62	10.32	2.53	H	< 2.00	0.087	19.41	1	53
		QPSK	-25.01	11.57	10.32	2.53	H		0.086	19.36		
		16-QAM	-25.98	10.60	10.32	2.53	H		0.069	18.39		
		64-QAM	-27.61	8.97	10.32	2.53	H		0.047	16.76		
		256-QAM	-29.41	7.17	10.32	2.53	H		0.031	14.96		
2592.990		PI/2 BPSK	-24.30	12.16	10.42	2.56	H		0.100	20.02	1	53
		QPSK	-24.31	12.15	10.42	2.56	H		0.100	20.01		
		16-QAM	-25.55	10.91	10.42	2.56	H		0.075	18.77		
		64-QAM	-26.99	9.47	10.42	2.56	H		0.054	17.33		
		256-QAM	-28.88	7.58	10.42	2.56	H		0.035	15.44		
2670.000		PI/2 BPSK	-24.21	12.66	10.26	2.60	H		0.108	20.32	1	53
		QPSK	-24.31	12.56	10.26	2.60	H		0.105	20.22		
		16-QAM	-25.21	11.66	10.26	2.60	H		0.086	19.32		
		64-QAM	-26.86	10.01	10.26	2.60	H		0.058	17.67		
		256-QAM	-28.91	7.96	10.26	2.60	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		RB	
								W	W	dBm	Size	Offset
2521.020	Sub6 41/ 50 MHz [30 kHz]	PI/2 BPSK	-25.12	11.42	10.36	2.55	H	< 2.00	0.084	19.23	1	66
		QPSK	-25.14	11.40	10.36	2.55	H		0.083	19.21		
		16-QAM	-26.14	10.40	10.36	2.55	H		0.066	18.21		
		64-QAM	-27.81	8.73	10.36	2.55	H		0.045	16.54		
		256-QAM	-29.51	7.03	10.36	2.55	H		0.031	14.84		
2592.990		PI/2 BPSK	-24.30	12.16	10.42	2.56	H		0.100	20.02	1	66
		QPSK	-24.31	12.15	10.42	2.56	H		0.100	20.01		
		16-QAM	-25.41	11.05	10.42	2.56	H		0.078	18.91		
		64-QAM	-27.01	9.45	10.42	2.56	H		0.054	17.31		
		256-QAM	-28.80	7.66	10.42	2.56	H		0.036	15.52		
2664.990		PI/2 BPSK	-24.34	12.50	10.22	2.60	H		0.103	20.12	1	66
		QPSK	-24.54	12.30	10.22	2.60	H		0.098	19.92		
		16-QAM	-25.51	11.33	10.22	2.60	H		0.079	18.95		
		64-QAM	-27.41	9.43	10.22	2.60	H		0.051	17.05		
		256-QAM	-29.11	7.73	10.22	2.60	H		0.034	15.35		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2526.000	Sub6 41/ 60 MHz [30 kHz]	PI/2 BPSK	-25.01	11.35	10.40	2.56	H	< 2.00	0.083	19.19	1	82
		QPSK	-25.03	11.33	10.40	2.56	H		0.083	19.17		
		16-QAM	-26.21	10.15	10.40	2.56	H		0.063	17.99		
		64-QAM	-27.79	8.57	10.40	2.56	H		0.044	16.41		
		256-QAM	-29.64	6.72	10.40	2.56	H		0.029	14.56		
2592.990		PI/2 BPSK	-24.23	12.23	10.42	2.56	H		0.102	20.09	1	82
		QPSK	-24.29	12.17	10.42	2.56	H		0.101	20.03		
		16-QAM	-25.33	11.13	10.42	2.56	H		0.079	18.99		
		64-QAM	-26.86	9.60	10.42	2.56	H		0.056	17.46		
		256-QAM	-28.83	7.63	10.42	2.56	H		0.035	15.49		
2659.980		PI/2 BPSK	-24.36	12.45	10.18	2.60	H		0.101	20.03	1	82
		QPSK	-24.37	12.44	10.18	2.60	H		0.101	20.02		
		16-QAM	-25.33	11.48	10.18	2.60	H		0.081	19.06		
		64-QAM	-27.01	9.80	10.18	2.60	H		0.055	17.38		
		256-QAM	-28.91	7.90	10.18	2.60	H		0.035	15.48		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2536.020	Sub6 41/ 80 MHz [30 kHz]	PI/2 BPSK	-25.06	11.31	10.52	2.55	H	< 2.00	0.085	19.28	1	108
		QPSK	-25.07	11.30	10.52	2.55	H		0.084	19.27		
		16-QAM	-26.01	10.36	10.52	2.55	H		0.068	18.33		
		64-QAM	-28.00	8.37	10.52	2.55	H		0.043	16.34		
		256-QAM	-29.66	6.71	10.52	2.55	H		0.029	14.68		
2592.990		PI/2 BPSK	-24.31	12.15	10.42	2.56	H		0.100	20.01	1	108
		QPSK	-24.32	12.14	10.42	2.56	H		0.100	20.00		
		16-QAM	-25.34	11.12	10.42	2.56	H		0.079	18.98		
		64-QAM	-26.96	9.50	10.42	2.56	H		0.054	17.36		
		256-QAM	-28.80	7.66	10.42	2.56	H		0.036	15.52		
2649.990		PI/2 BPSK	-24.06	12.57	10.13	2.62	H		0.102	20.08	1	1
		QPSK	-24.13	12.50	10.13	2.62	H		0.100	20.01		
		16-QAM	-25.18	11.45	10.13	2.62	H		0.079	18.96		
		64-QAM	-26.89	9.74	10.13	2.62	H		0.053	17.25		
		256-QAM	-28.77	7.86	10.13	2.62	H		0.034	15.37		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2541.000	Sub6 41/ 90 MHz [30 kHz]	PI/2 BPSK	-24.93	11.45	10.56	2.56	H	< 2.00	0.088	19.45	1	122
		QPSK	-24.94	11.44	10.56	2.56	H		0.088	19.44		
		16-QAM	-25.96	10.42	10.56	2.56	H		0.070	18.42		
		64-QAM	-28.06	8.32	10.56	2.56	H		0.043	16.32		
		256-QAM	-29.48	6.90	10.56	2.56	H		0.031	14.90		
2592.990		PI/2 BPSK	-24.21	12.25	10.42	2.56	H		0.103	20.11	1	122
		QPSK	-24.25	12.21	10.42	2.56	H		0.102	20.07		
		16-QAM	-25.32	11.14	10.42	2.56	H		0.079	19.00		
		64-QAM	-26.91	9.55	10.42	2.56	H		0.055	17.41		
		256-QAM	-28.81	7.65	10.42	2.56	H		0.036	15.51		
2644.980		PI/2 BPSK	-24.12	12.77	10.16	2.63	H		0.107	20.30	1	1
		QPSK	-24.15	12.74	10.16	2.63	H		0.106	20.27		
		16-QAM	-25.16	11.73	10.16	2.63	H		0.084	19.26		
		64-QAM	-26.80	10.09	10.16	2.63	H		0.058	17.62		
		256-QAM	-28.75	8.14	10.16	2.63	H		0.037	15.67		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2546.010	Sub6 41/ 100 MHz [30 kHz]	PI/2 BPSK	-25.01	11.37	10.56	2.56	H	< 2.00	0.086	19.37	1	136
		QPSK	-25.03	11.35	10.56	2.56	H		0.086	19.35		
		16-QAM	-25.91	10.47	10.56	2.56	H		0.070	18.47		
		64-QAM	-28.16	8.22	10.56	2.56	H		0.042	16.22		
		256-QAM	-29.64	6.74	10.56	2.56	H		0.030	14.74		
2592.990		PI/2 BPSK	-24.36	12.10	10.42	2.56	H		0.099	19.96	1	136
		QPSK	-24.37	12.09	10.42	2.56	H		0.099	19.95		
		16-QAM	-25.15	11.31	10.42	2.56	H		0.083	19.17		
		64-QAM	-26.93	9.53	10.42	2.56	H		0.055	17.39		
		256-QAM	-28.67	7.79	10.42	2.56	H		0.037	15.65		
2640.000		PI/2 BPSK	-24.24	12.65	10.16	2.63	H		0.104	20.18	1	1
		QPSK	-24.27	12.62	10.16	2.63	H		0.104	20.15		
		16-QAM	-25.51	11.38	10.16	2.63	H		0.078	18.91		
		64-QAM	-26.83	10.06	10.16	2.63	H		0.057	17.59		
		256-QAM	-28.71	8.18	10.16	2.63	H		0.037	15.71		

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
500202 (2501.010)	5 002.02	-54.57	10.90	-54.53	3.78	H	-47.41	-25.00	1	12
	7 503.03	-59.32	11.51	-50.12	4.54	H	-43.15	-25.00		
	10 004.04	-60.33	11.78	-49.24	5.29	V	-42.75	-25.00		
	12 505.05	-58.88	12.99	-47.49	6.03	H	-40.52	-25.00		
	15 006.06	-56.06	14.42	-47.84	6.76	V	-40.18	-25.00		
518598 (2592.990)	5 185.98	-54.69	11.47	-54.34	3.90	H	-46.76	-25.00	1	12
	7 778.97	-58.45	11.28	-49.03	4.66	V	-42.41	-25.00		
	10 371.96	-62.98	11.80	-50.28	5.41	V	-43.89	-25.00		
	12 964.95	-59.63	12.70	-47.35	6.26	V	-40.91	-25.00		
	15 557.94	-61.35	16.22	-52.92	6.86	V	-43.56	-25.00		
537000 (2685.000)	5 370.00	-58.59	11.84	-59.00	3.87	H	-51.03	-25.00	1	12
	8 055.00	-61.26	11.30	-51.87	4.73	V	-45.29	-25.00		
	10 740.00	-64.01	11.70	-50.25	5.48	V	-44.03	-25.00		
	13 425.00	-61.31	12.50	-48.57	6.34	V	-42.41	-25.00		
	16 110.00	-62.81	16.50	-50.55	6.98	V	-41.03	-25.00		

▣ NR Band: N41

▣ LTE Band B12

▣ 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)	RB	
									Size	Offset
500700 (2503.500)	5 007.00	-53.49	10.91	-53.20	3.78	H	-46.06	-25.00	1	19
	7 510.50	-57.46	11.52	-47.98	4.52	H	-40.98	-25.00		
	10 014.00	-63.16	11.77	-52.30	5.30	H	-45.82	-25.00		
	12 517.50	-60.01	12.97	-48.78	6.06	H	-41.87	-25.00		
	15 021.00	-58.72	14.48	-50.26	6.74	H	-42.52	-25.00		
518598 (2592.990)	5 185.98	-53.52	11.47	-53.17	3.90	H	-45.59	-25.00	1	19
	7 778.97	-61.49	11.28	-52.07	4.66	H	-45.45	-25.00		
	10 371.96	-63.66	11.80	-50.96	5.41	H	-44.57	-25.00		
	12 964.95	-62.72	12.70	-50.44	6.26	H	-44.00	-25.00		
	15 557.94	-61.51	16.22	-53.08	6.86	H	-43.72	-25.00		
536496 (2682.480)	5 364.96	-60.30	11.83	-60.63	3.86	H	-52.65	-25.00	1	19
	8 047.44	-61.12	11.30	-51.81	4.72	H	-45.23	-25.00		
	10 729.92	-63.30	11.70	-49.39	5.47	H	-43.16	-25.00		
	13 412.40	-62.33	12.50	-49.33	6.34	H	-43.17	-25.00		
	16 094.88	-63.44	16.50	-51.63	7.00	H	-42.12	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
501204 (2506.020)	5 012.04	-54.82	10.92	-54.26	3.77	H	-47.11	-25.00	1	25
	7 518.06	-56.83	11.54	-47.47	4.51	H	-40.44	-25.00		
	10 024.08	-59.54	11.75	-48.75	5.30	H	-42.30	-25.00		
	12 530.10	-61.91	12.94	-50.26	6.10	H	-43.42	-25.00		
	15 036.12	-59.41	14.54	-50.51	6.72	H	-42.69	-25.00		
518598 (2592.990)	5 185.98	-56.01	11.47	-55.66	3.90	H	-48.08	-25.00	1	25
	7 778.97	-57.72	11.28	-48.30	4.66	H	-41.68	-25.00		
	10 371.96	-64.17	11.80	-51.47	5.41	H	-45.08	-25.00		
	12 964.95	-61.76	12.70	-49.48	6.26	H	-43.04	-25.00		
	15 557.94	-62.20	16.22	-53.77	6.86	H	-44.41	-25.00		
535998 (2679.990)	5 359.98	-57.32	11.82	-57.57	3.84	H	-49.59	-25.00	1	25
	8 039.97	-61.83	11.28	-52.59	4.71	H	-46.02	-25.00		
	10 719.96	-63.85	11.70	-49.85	5.48	H	-43.63	-25.00		
	13 399.95	-63.11	12.50	-49.67	6.33	H	-43.50	-25.00		
	16 079.94	-62.15	16.50	-50.70	7.00	H	-41.20	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
502200 (2511.000)	5 022.00	-51.79	10.94	-51.63	3.72	H	-44.41	-25.00	1	39
	7 533.00	-56.91	11.56	-48.06	4.56	H	-41.05	-25.00		
	10 044.00	-61.82	11.71	-50.82	5.29	H	-44.40	-25.00		
	12 555.00	-59.64	12.90	-47.72	6.17	H	-40.99	-25.00		
	15 066.00	-57.14	14.66	-49.32	6.76	H	-41.42	-25.00		
518598 (2592.990)	5 185.98	-55.19	11.47	-54.84	3.90	H	-47.26	-25.00	1	39
	7 778.97	-60.95	11.28	-51.53	4.66	H	-44.91	-25.00		
	10 371.96	-64.22	11.80	-51.52	5.41	H	-45.13	-25.00		
	12 964.95	-64.05	12.70	-51.77	6.26	H	-45.33	-25.00		
	15 557.94	-61.82	16.22	-53.39	6.86	H	-44.03	-25.00		
534996 (2674.980)	5 349.96	-59.63	11.80	-59.62	3.79	H	-51.61	-25.00	1	39
	8 024.94	-62.92	11.25	-53.35	4.69	H	-46.79	-25.00		
	10 699.92	-63.26	11.70	-49.65	5.51	H	-43.46	-25.00		
	13 374.90	-62.48	12.60	-49.88	6.29	H	-43.57	-25.00		
	16 049.88	-62.01	16.50	-50.44	6.99	H	-40.93	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
503202 (2516.010)	5 032.02	-57.17	10.96	-57.46	3.66	H	-50.16	-25.00	1	53
	7 548.03	-55.04	11.58	-45.94	4.63	H	-38.99	-25.00		
	10 064.04	-59.74	11.67	-48.89	5.31	H	-42.53	-25.00		
	12 580.05	-59.15	12.90	-47.96	6.12	H	-41.18	-25.00		
	15 096.06	-58.35	14.78	-49.36	6.81	H	-41.39	-25.00		
518598 (2592.990)	5 185.98	-56.88	11.47	-56.53	3.90	H	-48.95	-25.00	1	53
	7 778.97	-57.73	11.28	-48.31	4.66	H	-41.69	-25.00		
	10 371.96	-63.67	11.80	-50.97	5.41	H	-44.58	-25.00		
	12 964.95	-62.57	12.70	-50.29	6.26	H	-43.85	-25.00		
	15 557.94	-62.17	16.22	-53.74	6.86	H	-44.38	-25.00		
534000 (2670.000)	5 340.00	-59.47	11.78	-59.96	3.78	H	-51.96	-25.00	1	53
	8 010.00	-62.43	11.22	-52.67	4.66	H	-46.11	-25.00		
	10 680.00	-63.13	11.70	-48.87	5.56	H	-42.73	-25.00		
	13 350.00	-61.67	12.70	-48.32	6.30	H	-41.92	-25.00		
	16 020.00	-64.34	16.50	-53.93	6.96	H	-44.39	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
504204 (2521.020)	5 042.04	-56.25	10.98	-57.01	3.65	H	-49.68	-25.00	1	66
	7 563.06	-58.89	11.60	-49.69	4.65	H	-42.73	-25.00		
	10 084.08	-58.61	11.63	-47.57	5.35	H	-41.28	-25.00		
	12 605.10	-59.77	12.90	-48.02	6.08	H	-41.20	-25.00		
	15 126.12	-59.01	14.85	-50.93	6.75	H	-42.83	-25.00		
518598 (2592.990)	5 185.98	-56.40	11.47	-56.05	3.90	H	-48.47	-25.00	1	66
	7 778.97	-60.96	11.28	-51.54	4.66	H	-44.92	-25.00		
	10 371.96	-63.60	11.80	-50.90	5.41	H	-44.51	-25.00		
	12 964.95	-61.85	12.70	-49.57	6.26	H	-43.13	-25.00		
	15 557.94	-61.39	16.22	-52.96	6.86	H	-43.60	-25.00		
532998 (2664.990)	5 329.98	-56.49	11.76	-56.88	3.76	H	-48.88	-25.00	1	66
	7 994.97	-61.81	11.19	-52.21	4.64	H	-45.65	-25.00		
	10 659.96	-63.44	11.70	-48.91	5.51	H	-42.72	-25.00		
	13 324.95	-61.82	12.75	-48.17	6.39	H	-41.80	-25.00		
	15 989.94	-64.03	16.50	-53.19	6.96	H	-43.65	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
505200 (2526.000)	5 052.00	-55.58	11.00	-56.01	3.66	H	-48.67	-25.00	1	82
	7 578.00	-58.93	11.60	-50.08	4.60	H	-43.08	-25.00		
	10 104.00	-63.39	11.60	-52.30	5.34	H	-46.03	-25.00		
	12 630.00	-57.94	12.90	-46.83	6.19	H	-40.12	-25.00		
	15 156.00	-58.13	14.91	-49.26	6.76	H	-41.10	-25.00		
518598 (2592.990)	5 185.98	-56.99	11.47	-56.64	3.90	H	-49.06	-25.00	1	82
	7 778.97	-60.76	11.28	-51.34	4.66	H	-44.72	-25.00		
	10 371.96	-62.15	11.80	-49.45	5.41	H	-43.06	-25.00		
	12 964.95	-61.01	12.70	-48.73	6.26	H	-42.29	-25.00		
	15 557.94	-62.13	16.22	-53.70	6.86	H	-44.34	-25.00		
531996 (2659.980)	5 319.96	-56.54	11.74	-57.26	3.80	H	-49.32	-25.00	1	82
	7 979.94	-61.28	11.16	-51.90	4.66	H	-45.40	-25.00		
	10 639.92	-62.32	11.70	-48.47	5.44	H	-42.21	-25.00		
	13 299.90	-62.11	12.80	-49.03	6.31	H	-42.54	-25.00		
	15 959.88	-62.92	16.50	-52.85	6.97	H	-43.32	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
507204 (2536.020)	5 072.04	-56.12	11.08	-55.73	3.73	H	-48.38	-25.00	1	108
	7 608.06	-60.87	11.60	-51.73	4.54	H	-44.67	-25.00		
	10 144.08	-63.78	11.60	-52.24	5.33	H	-45.96	-25.00		
	12 680.10	-59.60	12.78	-47.25	6.16	H	-40.63	-25.00		
	15 216.12	-58.14	15.03	-49.28	6.78	H	-41.03	-25.00		
518598 (2592.990)	5 185.98	-54.51	11.47	-54.16	3.90	H	-46.58	-25.00	1	108
	7 778.97	-60.57	11.28	-51.15	4.66	H	-44.53	-25.00		
	10 371.96	-64.55	11.80	-51.85	5.41	H	-45.46	-25.00		
	12 964.95	-64.56	12.70	-52.28	6.26	H	-45.84	-25.00		
	15 557.94	-62.46	16.22	-54.03	6.86	H	-44.67	-25.00		
529998 (2649.990)	5 299.98	-60.41	11.70	-60.57	3.91	H	-52.78	-25.00	1	1
	7 949.97	-62.01	11.10	-52.10	4.74	H	-45.74	-25.00		
	10 599.96	-62.37	11.70	-49.01	5.53	H	-42.84	-25.00		
	13 249.95	-63.22	12.90	-51.07	6.31	H	-44.48	-25.00		
	15 899.94	-62.66	16.40	-52.16	6.95	H	-42.71	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
508200 (2541.000)	5 082.00	-57.07	11.16	-57.16	3.79	H	-49.79	-25.00	1	122
	7 623.00	-55.97	11.60	-47.14	4.58	H	-40.12	-25.00		
	10 164.00	-63.51	11.60	-51.98	5.38	H	-45.75	-25.00		
	12 705.00	-61.93	12.64	-48.90	6.20	H	-42.46	-25.00		
	15 246.00	-60.12	15.20	-51.52	6.80	H	-43.12	-25.00		
518598 (2592.990)	5 185.98	-53.66	11.47	-53.31	3.90	H	-45.73	-25.00	1	122
	7 778.97	-63.39	11.28	-53.97	4.66	H	-47.35	-25.00		
	10 371.96	-63.48	11.80	-50.78	5.41	H	-44.39	-25.00		
	12 964.95	-61.65	12.70	-49.37	6.26	H	-42.93	-25.00		
	15 557.94	-62.97	16.22	-54.54	6.86	H	-45.18	-25.00		
528996 (2644.980)	5 289.96	-58.31	11.66	-59.01	3.84	H	-51.19	-25.00	1	1
	7 934.94	-61.51	11.04	-51.97	4.64	H	-45.57	-25.00		
	10 579.92	-62.16	11.70	-49.03	5.47	H	-42.80	-25.00		
	13 224.90	-63.39	12.90	-51.19	6.27	H	-44.56	-25.00		
	15 869.88	-62.04	16.40	-51.93	6.90	H	-42.43	-25.00		

▣ NR Band: N41

▣ LTE Band: B12

▣ 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)	RB	
									Size	Offset
509202 (2546.010)	5 092.02	-53.18	11.16	-53.27	3.79	H	-45.90	-25.00	1	136
	7 638.03	-57.20	11.60	-48.37	4.58	H	-41.35	-25.00		
	10 184.04	-63.54	11.60	-52.01	5.38	H	-45.78	-25.00		
	12 730.05	-61.19	12.64	-48.16	6.20	H	-41.72	-25.00		
	15 276.06	-60.72	15.20	-52.12	6.80	H	-43.72	-25.00		
518598 (2592.990)	5 185.98	-53.26	11.47	-52.91	3.90	H	-45.33	-25.00	1	136
	7 778.97	-59.92	11.28	-50.50	4.66	H	-43.88	-25.00		
	10 371.96	-64.83	11.80	-52.13	5.41	H	-45.74	-25.00		
	12 964.95	-61.79	12.70	-49.51	6.26	H	-43.07	-25.00		
	15 557.94	-62.16	16.22	-53.73	6.86	H	-44.37	-25.00		
528000 (2640.000)	5 280.00	-56.95	11.66	-57.65	3.84	H	-49.83	-25.00	1	1
	7 920.00	-59.52	11.04	-49.98	4.64	H	-43.58	-25.00		
	10 560.00	-63.33	11.70	-50.20	5.47	H	-43.97	-25.00		
	13 200.00	-63.99	12.90	-51.79	6.27	H	-45.16	-25.00		
	15 840.00	-64.96	16.40	-54.85	6.90	H	-45.35	-25.00		

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

(Worst case: 12A(10 MHz)-n41A(15 MHz))

▣ NR Band: N41
▣ LTE Band(Anchor): B12
▣ Bandwidth: 10 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 1 meters
▣ SCS: 30 kHz

ENDC-Mode: 12A – n41A

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
23095 (707.5)	1415.00	-61.29	7.61	-67.92	1.87	V	-62.17	-13.00
	2122.50	-61.78	8.98	-67.60	2.31	V	-60.93	-13.00
	2830.00	-62.25	10.52	-66.26	2.73	V	-58.47	-13.00

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	4.46
			QPSK			5.73
			16-QAM			6.01
			64-QAM			6.14
			256-QAM			6.95
	15 MHz		BPSK	36		4.25
			QPSK			5.74
			16-QAM			5.93
			64-QAM			6.06
			256-QAM			6.83
	20 MHz		BPSK	50		4.46
			QPSK			5.68
			16-QAM			5.98
			64-QAM			6.10
			256-QAM			6.81
	30 MHz		BPSK	75		4.42
			QPSK			5.69
			16-QAM			5.98
			64-QAM			6.11
			256-QAM			6.94
	40 MHz		BPSK	100		4.47
			QPSK			5.72
			16-QAM			5.96
			64-QAM			6.09
			256-QAM			6.89
	50 MHz		BPSK	128		4.70
			QPSK			5.70
			16-QAM			6.05
			64-QAM			6.16
			256-QAM			6.82
	60 MHz		BPSK	162		4.34
			QPSK			5.65
			16-QAM			6.01
			64-QAM			6.15
			256-QAM			6.81
	80 MHz		BPSK	216		4.96
			QPSK			5.62
			16-QAM			5.97
			64-QAM			6.09
			256-QAM			6.77
	90 MHz		BPSK	243		4.22
			QPSK			5.61
			16-QAM			5.94
			64-QAM			6.07
			256-QAM			6.76
	100 MHz		BPSK	270		4.94
			QPSK			5.58
			16-QAM			5.93
			64-QAM			6.05
			256-QAM			6.76

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 115 ~ 164.

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	8.6740
			QPSK			8.6539
			16-QAM			8.6596
			64-QAM			8.6593
			256-QAM			8.6384
	15 MHz		BPSK	36		12.912
			QPSK			12.953
			16-QAM			12.961
			64-QAM			12.915
			256-QAM			12.971
	20 MHz		BPSK	50		17.971
			QPSK			17.956
			16-QAM			17.982
			64-QAM			17.951
			256-QAM			17.962
	30 MHz		BPSK	75		26.943
			QPSK			26.993
			16-QAM			26.944
			64-QAM			26.996
			256-QAM			26.954
	40 MHz		BPSK	100		35.896
			QPSK			35.897
			16-QAM			35.823
			64-QAM			35.854
			256-QAM			35.864
	50 MHz		BPSK	128		45.888
			QPSK			45.985
			16-QAM			45.841
			64-QAM			45.818
			256-QAM			45.736
	60 MHz		BPSK	162		57.930
			QPSK			58.070
			16-QAM			57.893
			64-QAM			57.971
			256-QAM			57.885
	80 MHz		BPSK	216		77.305
			QPSK			77.049
			16-QAM			77.215
			64-QAM			77.180
			256-QAM			77.002
	90 MHz		BPSK	243		86.776
			QPSK			86.652
			16-QAM			86.603
			64-QAM			86.687
			256-QAM			86.612
	100 MHz		BPSK	270		96.555
			QPSK			96.316
			16-QAM			96.403
			64-QAM			96.433
			256-QAM			96.261

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 65 ~ 114.

8.5 CONDUCTED SPURIOUS EMISSIONS

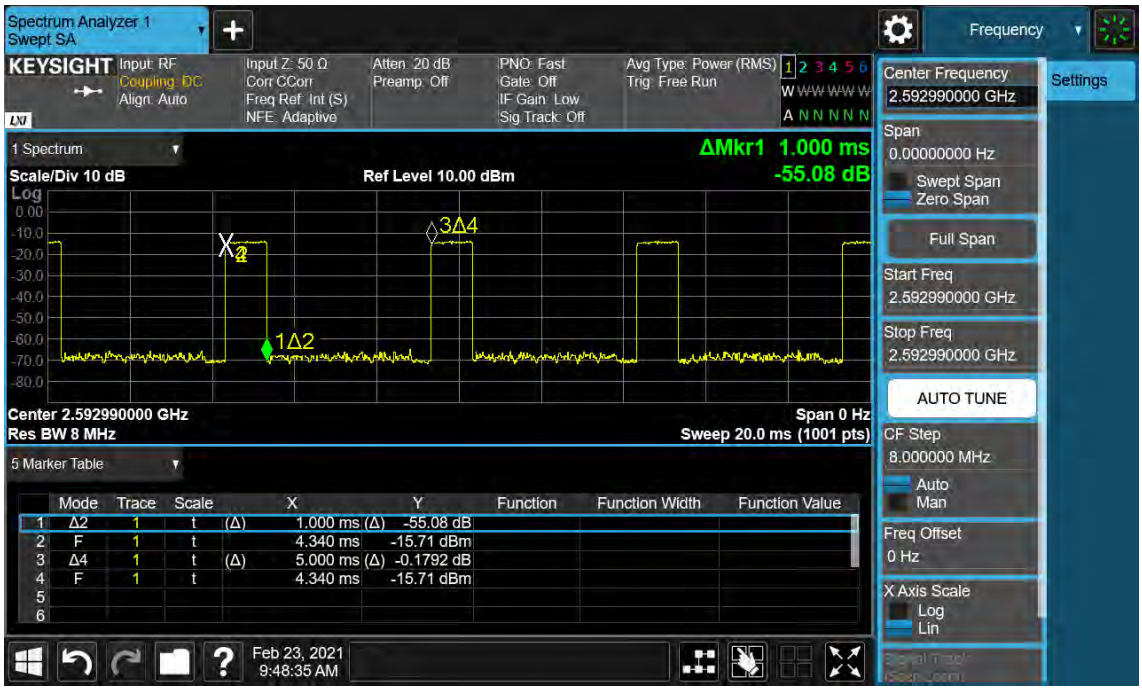
Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n41	10	2501.010	9.9502	37.805	-70.279	-32.474	-25.00
		2592.990	5.9951	37.805	-70.321	-32.516	
		2685.000	8.2503	37.805	-70.091	-32.286	
	15	2503.500	8.2847	37.805	-70.194	-32.389	
		2592.990	4.5479	37.190	-70.007	-32.817	
		2682.480	9.4347	37.805	-70.106	-32.301	
	20	2506.020	4.0494	37.190	-69.955	-32.765	
		2592.990	9.7308	37.805	-70.544	-32.739	
		2679.990	4.0469	37.190	-69.655	-32.465	
	30	2511.000	3.7528	37.190	-70.011	-32.821	
		2592.990	4.5843	37.190	-70.332	-33.142	
		2674.980	8.2548	37.805	-70.017	-32.212	
	40	2516.010	5.2074	37.805	-70.152	-32.347	
		2592.990	8.2607	37.805	-70.587	-32.782	
		2670.000	8.2298	37.805	-70.251	-32.446	
	50	2521.020	4.0594	37.190	-70.224	-33.034	
		2592.990	3.7767	37.190	-70.367	-33.177	
		2664.990	5.7363	37.805	-70.401	-32.596	
	60	2526.000	8.0434	37.805	-69.668	-31.863	
		2592.990	4.0364	37.190	-69.368	-32.178	
		2659.980	9.7149	37.805	-70.027	-32.222	
	80	2536.020	8.2862	37.805	-69.611	-31.806	
		2592.990	4.5838	37.190	-70.454	-33.264	
		2649.990	9.9566	37.805	-69.947	-32.142	
	90	2541.000	3.8186	37.190	-69.334	-32.144	
		2592.990	5.5040	37.805	-70.005	-32.200	
		2644.980	9.1720	37.805	-70.120	-32.315	
	100	2546.010	9.6725	37.805	-69.628	-31.823	
		2592.990	5.2458	37.805	-69.918	-32.113	
		2640.000	8.8654	37.805	-69.694	-31.889	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 235 ~ 294.

2. Duty Cycle factor already applied on the factor.

- Duty Cycle Factor(dB) = 6.990



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

- Result(dBm) = Reading + Factor

3. Factor(dB)

Frequency Range (GHz)	Factor [dB]
0.03 – 1	34.484
1 – 5	37.190
5 – 10	37.805
10 – 15	38.330
15 – 20	38.703
Above 20	39.345

8.6 CHANNEL EDGE

BW (MHz)	Frequency (MHz)	Mod	RB (Size/ Offset)	2 495 MHz ~ 2 496 MHz	C.E ~ (C.E +1MHz)	2 490.5 MHz ~ 2 495 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	(C.E + 5 MHz) ~ (C.E + X MHz)	Above (C.E + X MHz)
				Lower	Upper	Lower	Upper	Lower	Upper	Upper
10	2501.010	BPSK	Full RB	-23.79	-20.20	-26.94	-24.80	-35.32	-27.38	-34.46
15	2503.500	BPSK	Full RB	-22.38	-28.40	-28.23	-29.93	-32.48	-29.39	-42.34
20	2506.020	BPSK	Full RB	-25.05	-27.82	-30.39	-30.21	-36.81	-27.17	-40.51
30	2511.000	BPSK	Full RB	-24.97	-31.64	-31.62	-33.06	-34.02	-30.36	-39.03
40	2520.000	BPSK	Full RB	-25.23	-33.57	-32.69	-33.92	-36.45	-28.99	-41.65
50	2525.010	BPSK	Full RB	-23.88	-32.10	-31.06	-35.56	-36.91	-34.72	-38.90
60	2530.020	BPSK	Full RB	-18.84	-17.23	-28.60	-25.41	-37.18	-32.38	-40.19
80	2540.010	BPSK	Full RB	-22.35	-23.04	-28.70	-28.20	-37.49	-35.77	-41.12
90	2545.020	BPSK	Full RB	-21.15	-25.82	-29.20	-30.20	-38.56	-36.61	-42.09
100	2550.000	BPSK	Full RB	-21.01	-27.34	-29.98	-31.26	-39.41	-38.13	-40.28
Limit				-13.0	-10.0	-13.0	-10.0	-25.0	-13.0	-25.0

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resoure 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	-22.80	-20.76	-26.74	-25.48
	2685.000	BPSK	Full RB	0	-21.49	-21.44	-24.48	-25.33
15 MHz	2592.990	BPSK	Full RB	0	-22.44	-30.51	-28.10	-33.03
	2682.480	BPSK	Full RB	0	-21.41	-31.07	-26.11	-33.60
20 MHz	2592.990	BPSK	Full RB	0	-24.62	-27.75	-29.77	-32.14
	2679.990	BPSK	Full RB	0	-23.21	-28.13	-28.09	-30.91
30 MHz	2592.990	BPSK	Full RB	0	-24.43	-34.42	-31.36	-35.54
	2679.990	BPSK	Full RB	0	-24.36	-33.72	-29.66	-34.92
40 MHz	2592.990	BPSK	Full RB	0	-24.01	-35.27	-31.90	-36.10
	2670.000	BPSK	Full RB	0	-23.13	-35.83	-28.36	-35.78
50 MHz	2592.990	BPSK	Full RB	0	-22.73	-33.66	-30.29	-37.42
	2664.990	BPSK	Full RB	0	-22.69	-34.22	-30.09	-37.15
60 MHz	2592.990	BPSK	Full RB	0	-17.04	-18.30	-26.88	-26.85
	2659.980	BPSK	Full RB	0	-16.95	-18.48	-25.96	-26.90
80 MHz	2592.990	BPSK	Full RB	0	-21.81	-23.83	-27.88	-29.04
	2649.990	BPSK	Full RB	0	-18.92	-25.17	-25.34	-29.66
90 MHz	2592.990	BPSK	Full RB	0	-20.54	-28.16	-28.52	-31.71
	2644.980	BPSK	Full RB	0	-20.09	-27.44	-27.09	-31.32
100 MHz	2592.990	BPSK	Full RB	0	-19.86	-28.66	-27.96	-31.98
	2640.000	BPSK	Full RB	0	-18.21	-27.19	-25.65	-30.82
Limit					-10.0		-10.0	

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resoure 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	0	-33.62	-28.70	-38.53	-36.95
	2685.000	BPSK	Full RB	0	-27.65	-28.20	-35.91	-39.22
15 MHz	2592.990	BPSK	Full RB	0	-33.69	-32.01	-41.92	-41.98
	2682.480	BPSK	Full RB	0	-30.95	-32.46	-40.41	-41.15
20 MHz	2592.990	BPSK	Full RB	0	-35.14	-28.88	-41.31	-40.11
	2679.990	BPSK	Full RB	0	-32.81	-29.95	-39.56	-43.08
30 MHz	2592.990	BPSK	Full RB	0	-32.45	-32.80	-40.63	-40.96
	2679.990	BPSK	Full RB	0	-32.39	-34.61	-40.54	-46.92
40 MHz	2592.990	BPSK	Full RB	0	-32.77	-31.67	-43.60	-42.47
	2670.000	BPSK	Full RB	0	-32.66	-33.31	-40.96	-47.60
50 MHz	2592.990	BPSK	Full RB	0	-36.36	-38.08	-40.74	-40.05
	2664.990	BPSK	Full RB	0	-34.51	-36.33	-39.64	-47.49
60 MHz	2592.990	BPSK	Full RB	0	-34.51	-34.82	-41.71	-42.41
	2659.980	BPSK	Full RB	0	-33.61	-34.41	-40.47	-47.55
80 MHz	2592.990	BPSK	Full RB	0	-36.82	-37.67	-47.24	-45.54
	2649.990	BPSK	Full RB	0	-31.90	-33.49	-38.93	-47.52
90 MHz	2592.990	BPSK	Full RB	0	-37.32	-37.40	-47.59	-47.56
	2644.980	BPSK	Full RB	0	-34.18	-34.86	-42.40	-47.48
100 MHz	2592.990	BPSK	Full RB	0	-37.52	-38.59	-47.63	-47.52
	2640.000	BPSK	Full RB	0	-32.83	-34.45	-41.92	-47.61
Limit					-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6 MHz or the actual emission bandwidth
3. Duty Cycle factor already applied on the factor.
   - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
   - Result(dBm) = Reading + Factor
   - Duty Cycle Factor(dB) = 6.990
4. Plots of the EUT's Channel Edge are shown Page 165 ~ 234. (1RB & Full RB)

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2501.010	100 %	+20(Ref)	2501 010 012	0.0	0.000 000	0.000
	100 %	-30	2501 010 021	8.9	0.000 000	0.004
	100 %	-20	2501 010 021	8.9	0.000 000	0.004
	100 %	-10	2501 010 028	15.6	0.000 001	0.006
	100 %	0	2501 010 026	13.8	0.000 001	0.006
	100 %	+10	2501 010 024	11.7	0.000 000	0.005
	100 %	+30	2501 010 016	3.7	0.000 000	0.001
	100 %	+40	2501 010 018	5.8	0.000 000	0.002
	100 %	+50	2501 010 025	12.9	0.000 001	0.005
	Batt. Endpoint	+20	2501 010 028	15.6	0.000 001	0.006
2685.000	100 %	+20(Ref)	2685 000 017	0.0	0.000 000	0.000
	100 %	-30	2685 000 033	16.0	0.000 001	0.006
	100 %	-20	2685 000 028	11.1	0.000 000	0.004
	100 %	-10	2685 000 027	10.0	0.000 000	0.004
	100 %	0	2685 000 026	9.4	0.000 000	0.004
	100 %	+10	2685 000 033	16.2	0.000 001	0.006
	100 %	+30	2685 000 023	6.8	0.000 000	0.003
	100 %	+40	2685 000 031	14.0	0.000 001	0.005
	100 %	+50	2685 000 030	13.4	0.000 000	0.005
	Batt. Endpoint	+20	2685 000 033	16.0	0.000 001	0.006

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2503.500	100 %	+20(Ref)	2503 500 005	0.0	0.000 000	0.000
	100 %	-30	2503 500 011	6.4	0.000 000	0.003
	100 %	-20	2503 500 015	10.9	0.000 000	0.004
	100 %	-10	2503 500 016	11.2	0.000 000	0.004
	100 %	0	2503 500 015	10.6	0.000 000	0.004
	100 %	+10	2503 500 011	6.1	0.000 000	0.002
	100 %	+30	2503 500 011	6.2	0.000 000	0.002
	100 %	+40	2503 500 014	9.7	0.000 000	0.004
	100 %	+50	2503 500 009	4.7	0.000 000	0.002
	Batt. Endpoint	+20	2503 500 021	16.0	0.000 001	0.006
2682.480	100 %	+20(Ref)	2682 480 003	0.0	0.000 000	0.000
	100 %	-30	2682 480 013	9.6	0.000 000	0.004
	100 %	-20	2682 480 013	9.5	0.000 000	0.004
	100 %	-10	2682 480 012	8.8	0.000 000	0.003
	100 %	0	2682 480 016	12.3	0.000 000	0.005
	100 %	+10	2682 480 013	9.6	0.000 000	0.004
	100 %	+30	2682 480 012	8.7	0.000 000	0.003
	100 %	+40	2682 480 020	16.2	0.000 001	0.006
	100 %	+50	2682 480 013	9.4	0.000 000	0.004
	Batt. Endpoint	+20	2682 480 014	10.4	0.000 000	0.004

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2506.020	100 %	+20(Ref)	2506 020 005	0.0	0.000 000	0.000
	100 %	-30	2506 020 016	11.4	0.000 000	0.005
	100 %	-20	2506 020 008	3.2	0.000 000	0.001
	100 %	-10	2506 020 020	15.3	0.000 001	0.006
	100 %	0	2506 020 012	7.2	0.000 000	0.003
	100 %	+10	2506 020 013	8.7	0.000 000	0.003
	100 %	+30	2506 020 009	4.5	0.000 000	0.002
	100 %	+40	2506 020 008	3.5	0.000 000	0.001
	100 %	+50	2506 020 013	8.2	0.000 000	0.003
	Batt. Endpoint	+20	2506 020 020	15.8	0.000 001	0.006
2679.990	100 %	+20(Ref)	2679 990 009	0.0	0.000 000	0.000
	100 %	-30	2679 990 019	10.1	0.000 000	0.004
	100 %	-20	2679 990 020	11.1	0.000 000	0.004
	100 %	-10	2679 990 019	9.6	0.000 000	0.004
	100 %	0	2679 990 013	3.8	0.000 000	0.001
	100 %	+10	2679 990 016	6.7	0.000 000	0.003
	100 %	+30	2679 990 013	3.6	0.000 000	0.001
	100 %	+40	2679 990 014	4.9	0.000 000	0.002
	100 %	+50	2679 990 013	4.3	0.000 000	0.002
	Batt. Endpoint	+20	2679 990 020	10.4	0.000 000	0.004

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2511.000	100 %	+20(Ref)	2511 000 014	0.0	0.000 000	0.000
	100 %	-30	2511 000 023	9.7	0.000 000	0.004
	100 %	-20	2511 000 026	12.1	0.000 000	0.005
	100 %	-10	2511 000 030	16.7	0.000 001	0.007
	100 %	0	2511 000 021	7.6	0.000 000	0.003
	100 %	+10	2511 000 020	6.4	0.000 000	0.003
	100 %	+30	2511 000 021	7.6	0.000 000	0.003
	100 %	+40	2511 000 030	16.4	0.000 001	0.007
	100 %	+50	2511 000 027	13.0	0.000 001	0.005
	Batt. Endpoint	+20	2511 000 017	3.1	0.000 000	0.001
2674.980	100 %	+20(Ref)	2674 980 009	0.0	0.000 000	0.000
	100 %	-30	2674 980 023	14.5	0.000 001	0.005
	100 %	-20	2674 980 021	11.7	0.000 000	0.004
	100 %	-10	2674 980 025	16.2	0.000 001	0.006
	100 %	0	2674 980 015	6.0	0.000 000	0.002
	100 %	+10	2674 980 025	16.4	0.000 001	0.006
	100 %	+30	2674 980 023	13.6	0.000 001	0.005
	100 %	+40	2674 980 023	14.1	0.000 001	0.005
	100 %	+50	2674 980 016	7.2	0.000 000	0.003
	Batt. Endpoint	+20	2674 980 020	11.3	0.000 000	0.004

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2516.010	100 %	+20(Ref)	2516 010 014	0.0	0.000 000	0.000
	100 %	-30	2516 010 017	3.4	0.000 000	0.001
	100 %	-20	2516 010 024	10.1	0.000 000	0.004
	100 %	-10	2516 010 017	3.6	0.000 000	0.001
	100 %	0	2516 010 031	16.8	0.000 001	0.007
	100 %	+10	2516 010 024	10.3	0.000 000	0.004
	100 %	+30	2516 010 020	6.5	0.000 000	0.003
	100 %	+40	2516 010 022	8.2	0.000 000	0.003
	100 %	+50	2516 010 026	12.2	0.000 000	0.005
	Batt. Endpoint	+20	2516 010 025	10.7	0.000 000	0.004
2670.000	100 %	+20(Ref)	2670 000 016	0.0	0.000 000	0.000
	100 %	-30	2670 000 022	5.5	0.000 000	0.002
	100 %	-20	2670 000 020	4.2	0.000 000	0.002
	100 %	-10	2670 000 026	9.8	0.000 000	0.004
	100 %	0	2670 000 023	6.5	0.000 000	0.002
	100 %	+10	2670 000 026	10.4	0.000 000	0.004
	100 %	+30	2670 000 021	4.9	0.000 000	0.002
	100 %	+40	2670 000 033	16.9	0.000 001	0.006
	100 %	+50	2670 000 032	15.6	0.000 001	0.006
	Batt. Endpoint	+20	2670 000 029	12.5	0.000 000	0.005

▣ BandWidth: 50 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2521.020	100 %	+20(Ref)	2521 020 011	0.0	0.000 000	0.000
	100 %	-30	2521 020 015	3.2	0.000 000	0.001
	100 %	-20	2521 020 027	15.5	0.000 001	0.006
	100 %	-10	2521 020 021	10.0	0.000 000	0.004
	100 %	0	2521 020 024	13.0	0.000 001	0.005
	100 %	+10	2521 020 018	6.1	0.000 000	0.002
	100 %	+30	2521 020 027	15.2	0.000 001	0.006
	100 %	+40	2521 020 015	3.9	0.000 000	0.002
	100 %	+50	2521 020 022	11.0	0.000 000	0.004
	Batt. Endpoint	+20	2521 020 025	13.1	0.000 001	0.005
2664.990	100 %	+20(Ref)	2664 990 017	0.0	0.000 000	0.000
	100 %	-30	2664 990 025	8.1	0.000 000	0.003
	100 %	-20	2664 990 022	5.0	0.000 000	0.002
	100 %	-10	2664 990 024	6.8	0.000 000	0.003
	100 %	0	2664 990 026	9.3	0.000 000	0.003
	100 %	+10	2664 990 032	15.5	0.000 001	0.006
	100 %	+30	2664 990 022	4.8	0.000 000	0.002
	100 %	+40	2664 990 031	14.4	0.000 001	0.005
	100 %	+50	2664 990 032	15.4	0.000 001	0.006
	Batt. Endpoint	+20	2664 990 032	15.5	0.000 001	0.006

▣ BandWidth: 60 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2526.000	100 %	+20(Ref)	2526 000 015	0.0	0.000 000	0.000
	100 %	-30	2526 000 025	10.3	0.000 000	0.004
	100 %	-20	2526 000 026	11.0	0.000 000	0.004
	100 %	-10	2526 000 026	10.7	0.000 000	0.004
	100 %	0	2526 000 021	5.7	0.000 000	0.002
	100 %	+10	2526 000 021	6.2	0.000 000	0.002
	100 %	+30	2526 000 027	11.4	0.000 000	0.005
	100 %	+40	2526 000 024	8.6	0.000 000	0.003
	100 %	+50	2526 000 026	11.2	0.000 000	0.004
	Batt. Endpoint	+20	2526 000 029	13.5	0.000 001	0.005
2659.980	100 %	+20(Ref)	2659 980 006	0.0	0.000 000	0.000
	100 %	-30	2659 980 013	6.9	0.000 000	0.003
	100 %	-20	2659 980 018	12.5	0.000 000	0.005
	100 %	-10	2659 980 013	7.5	0.000 000	0.003
	100 %	0	2659 980 020	14.6	0.000 001	0.005
	100 %	+10	2659 980 018	12.7	0.000 000	0.005
	100 %	+30	2659 980 016	10.3	0.000 000	0.004
	100 %	+40	2659 980 017	11.5	0.000 000	0.004
	100 %	+50	2659 980 016	10.5	0.000 000	0.004
	Batt. Endpoint	+20	2659 980 021	15.8	0.000 001	0.006

▣ BandWidth: 80 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2536.020	100 %	+20(Ref)	2536 020 012	0.0	0.000 000	0.000
	100 %	-30	2536 020 022	9.9	0.000 000	0.004
	100 %	-20	2536 020 028	16.3	0.000 001	0.006
	100 %	-10	2536 020 025	13.2	0.000 001	0.005
	100 %	0	2536 020 017	5.6	0.000 000	0.002
	100 %	+10	2536 020 017	5.5	0.000 000	0.002
	100 %	+30	2536 020 020	8.1	0.000 000	0.003
	100 %	+40	2536 020 015	3.5	0.000 000	0.001
	100 %	+50	2536 020 023	11.7	0.000 000	0.005
	Batt. Endpoint	+20	2536 020 024	12.8	0.000 001	0.005
2649.990	100 %	+20(Ref)	2649 990 011	0.0	0.000 000	0.000
	100 %	-30	2649 990 018	7.1	0.000 000	0.003
	100 %	-20	2649 990 022	11.3	0.000 000	0.004
	100 %	-10	2649 990 020	9.5	0.000 000	0.004
	100 %	0	2649 990 023	11.9	0.000 000	0.004
	100 %	+10	2649 990 015	3.5	0.000 000	0.001
	100 %	+30	2649 990 025	14.2	0.000 001	0.005
	100 %	+40	2649 990 026	15.1	0.000 001	0.006
	100 %	+50	2649 990 019	7.6	0.000 000	0.003
	Batt. Endpoint	+20	2649 990 020	8.9	0.000 000	0.003

▣ BandWidth: 90 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2541.000	100 %	+20(Ref)	2541 000 014	0.0	0.000 000	0.000
	100 %	-30	2541 000 027	12.2	0.000 000	0.005
	100 %	-20	2541 000 024	10.2	0.000 000	0.004
	100 %	-10	2541 000 018	3.3	0.000 000	0.001
	100 %	0	2541 000 031	16.6	0.000 001	0.007
	100 %	+10	2541 000 019	4.2	0.000 000	0.002
	100 %	+30	2541 000 019	4.2	0.000 000	0.002
	100 %	+40	2541 000 028	14.2	0.000 001	0.006
	100 %	+50	2541 000 030	15.4	0.000 001	0.006
	Batt. Endpoint	+20	2541 000 023	8.5	0.000 000	0.003
2644.980	100 %	+20(Ref)	2644 980 014	0.0	0.000 000	0.000
	100 %	-30	2644 980 025	11.3	0.000 000	0.004
	100 %	-20	2644 980 022	7.4	0.000 000	0.003
	100 %	-10	2644 980 029	14.7	0.000 001	0.006
	100 %	0	2644 980 025	11.0	0.000 000	0.004
	100 %	+10	2644 980 030	16.2	0.000 001	0.006
	100 %	+30	2644 980 019	5.3	0.000 000	0.002
	100 %	+40	2644 980 028	14.0	0.000 001	0.005
	100 %	+50	2644 980 027	12.4	0.000 000	0.005
	Batt. Endpoint	+20	2644 980 025	10.9	0.000 000	0.004

▣ BandWidth: 100 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.350 VDC

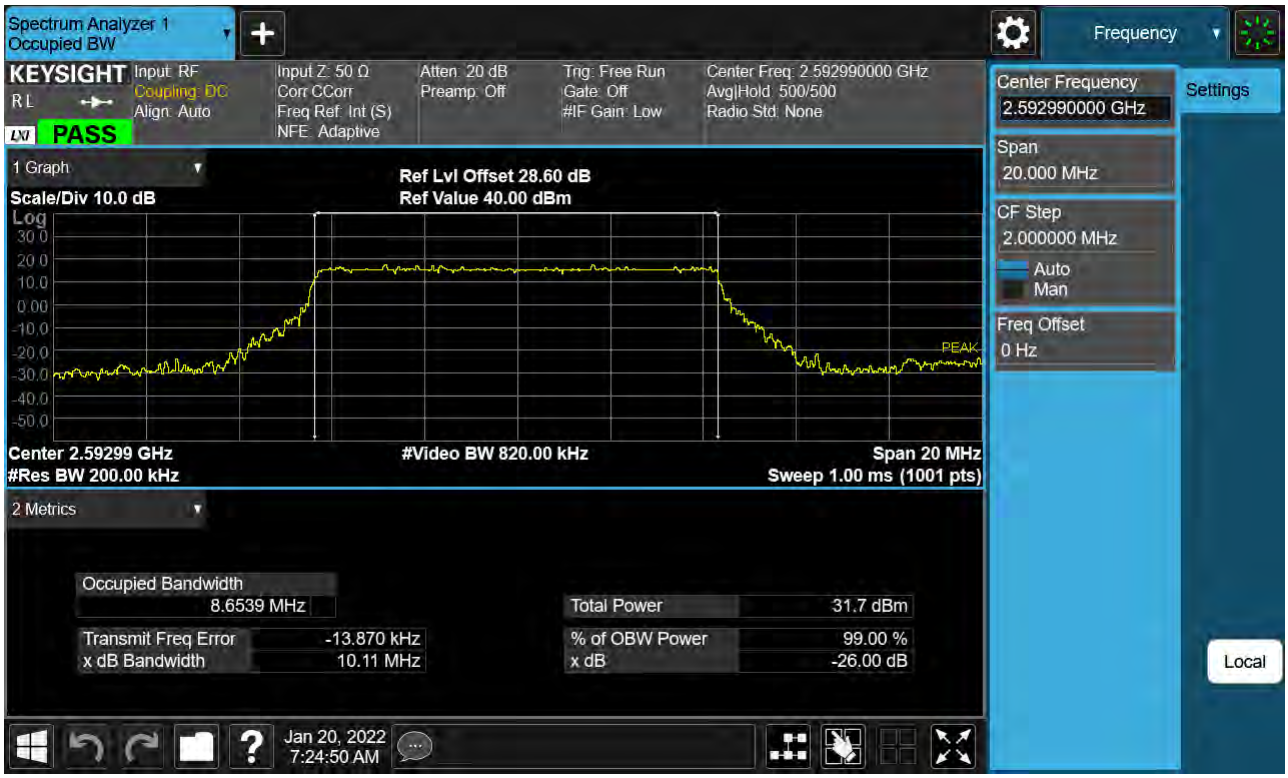
▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2546.010	100 %	+20(Ref)	2546 010 008	0.0	0.000 000	0.000
	100 %	-30	2546 010 024	16.2	0.000 001	0.006
	100 %	-20	2546 010 015	7.1	0.000 000	0.003
	100 %	-10	2546 010 016	8.2	0.000 000	0.003
	100 %	0	2546 010 024	16.6	0.000 001	0.007
	100 %	+10	2546 010 016	8.4	0.000 000	0.003
	100 %	+30	2546 010 023	15.5	0.000 001	0.006
	100 %	+40	2546 010 017	9.0	0.000 000	0.004
	100 %	+50	2546 010 014	6.1	0.000 000	0.002
	Batt. Endpoint	+20	2546 010 017	9.4	0.000 000	0.004
2640.000	100 %	+20(Ref)	2640 000 016	0.0	0.000 000	0.000
	100 %	-30	2640 000 026	10.3	0.000 000	0.004
	100 %	-20	2640 000 028	12.3	0.000 000	0.005
	100 %	-10	2640 000 019	3.5	0.000 000	0.001
	100 %	0	2640 000 023	6.8	0.000 000	0.003
	100 %	+10	2640 000 031	15.0	0.000 001	0.006
	100 %	+30	2640 000 029	12.6	0.000 000	0.005
	100 %	+40	2640 000 025	9.4	0.000 000	0.004
	100 %	+50	2640 000 033	16.8	0.000 001	0.006
	Batt. Endpoint	+20	2640 000 028	12.0	0.000 000	0.005

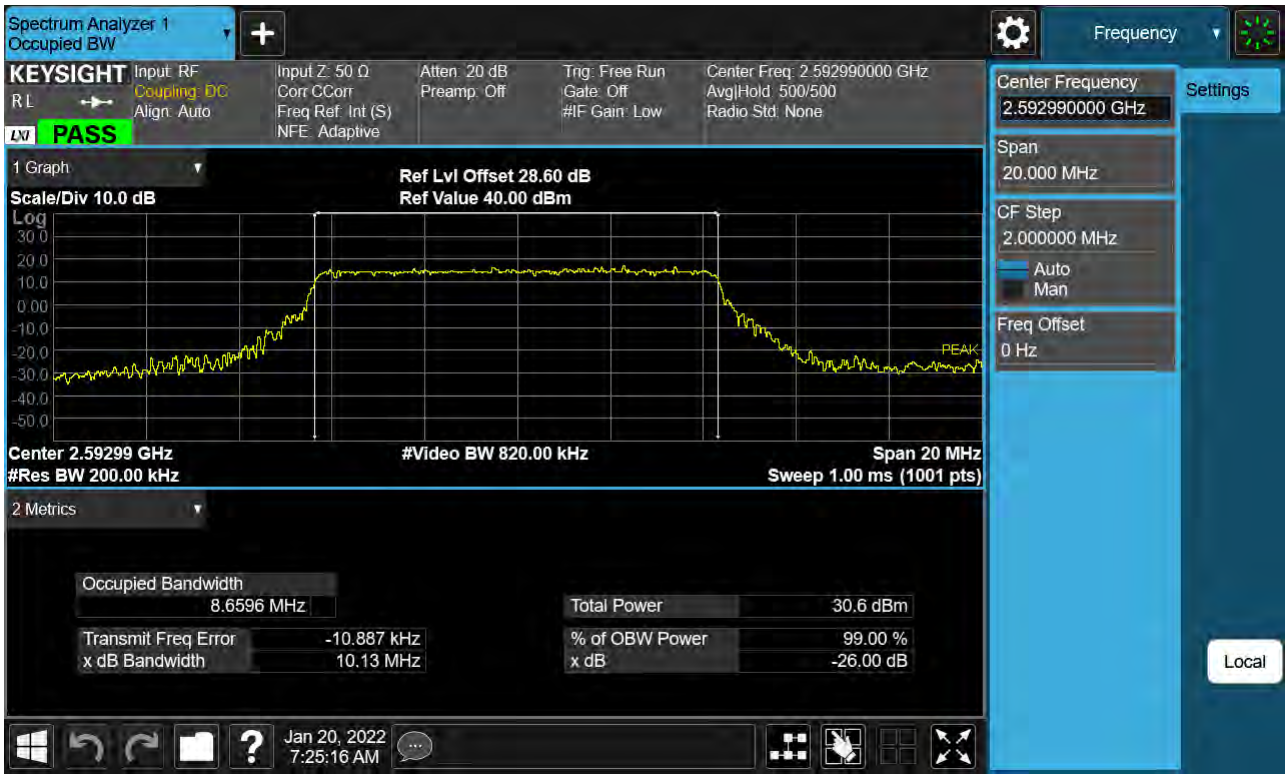
9. TEST PLOTS

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

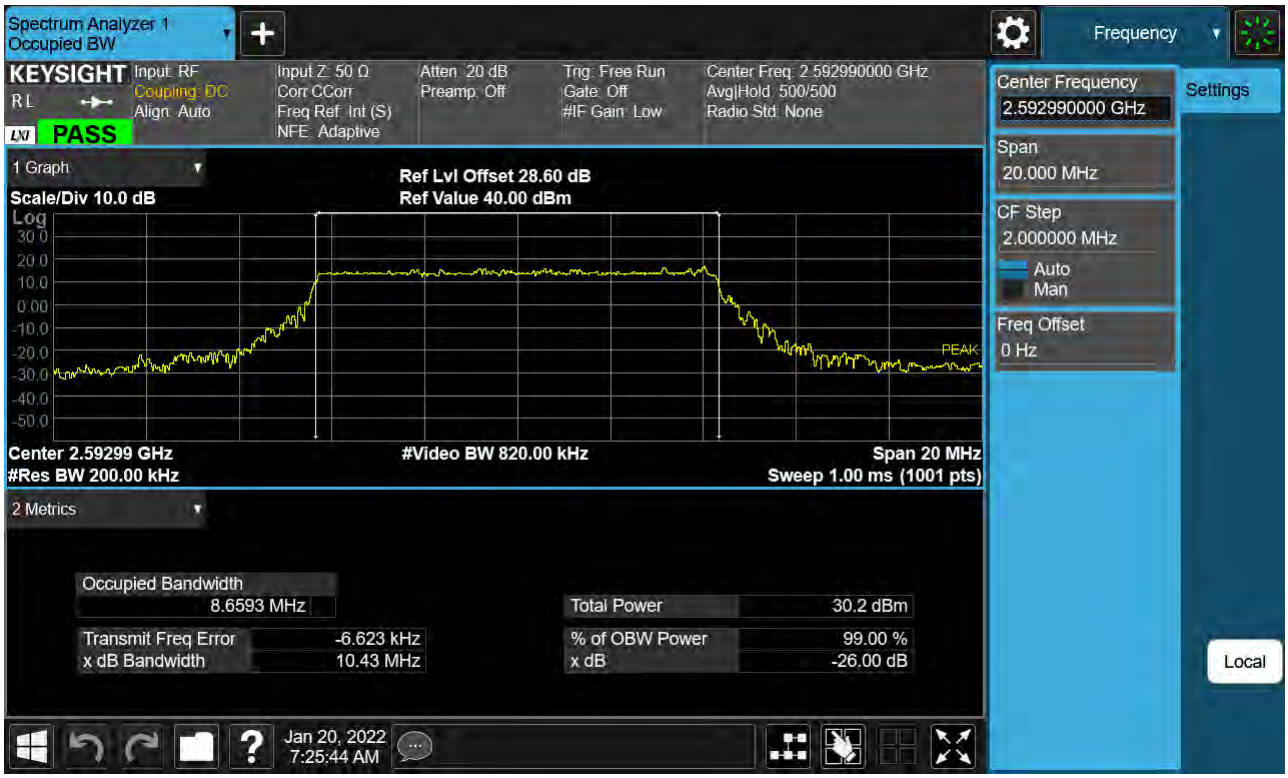
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 QPSK)



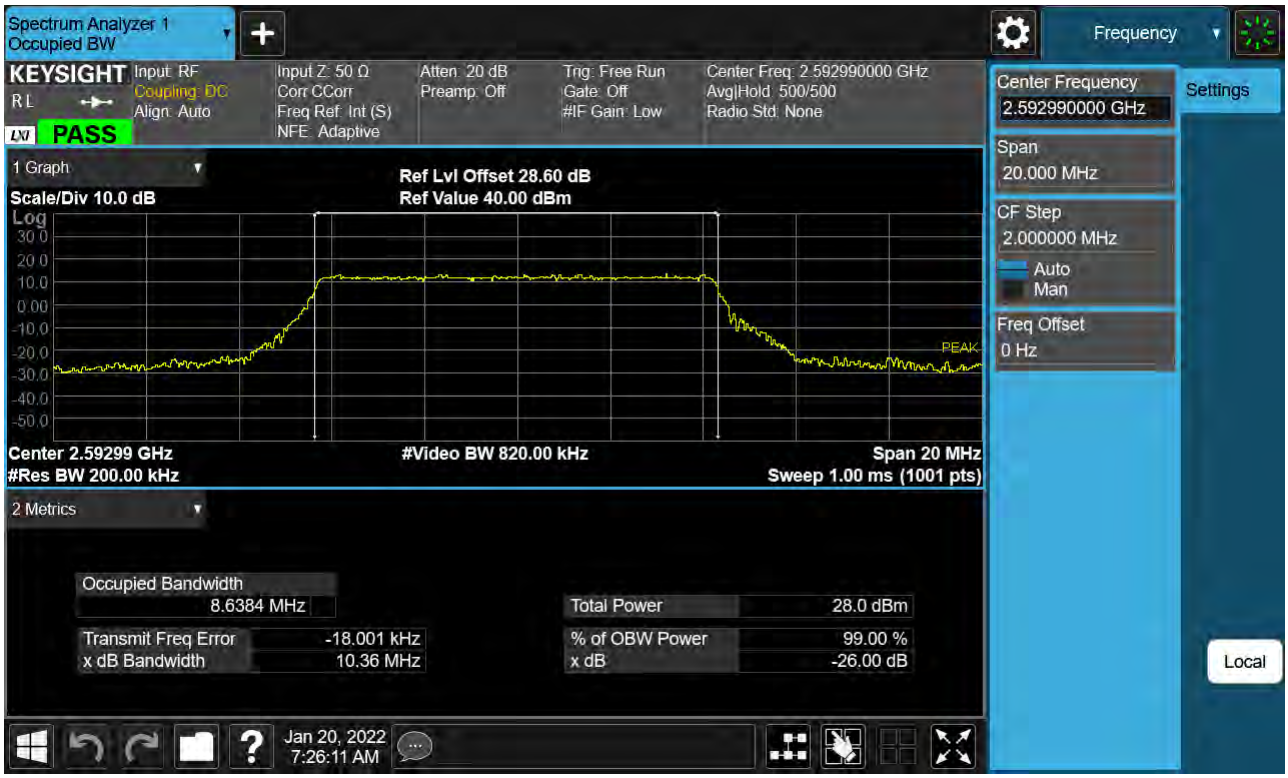
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 16-QAM)



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



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

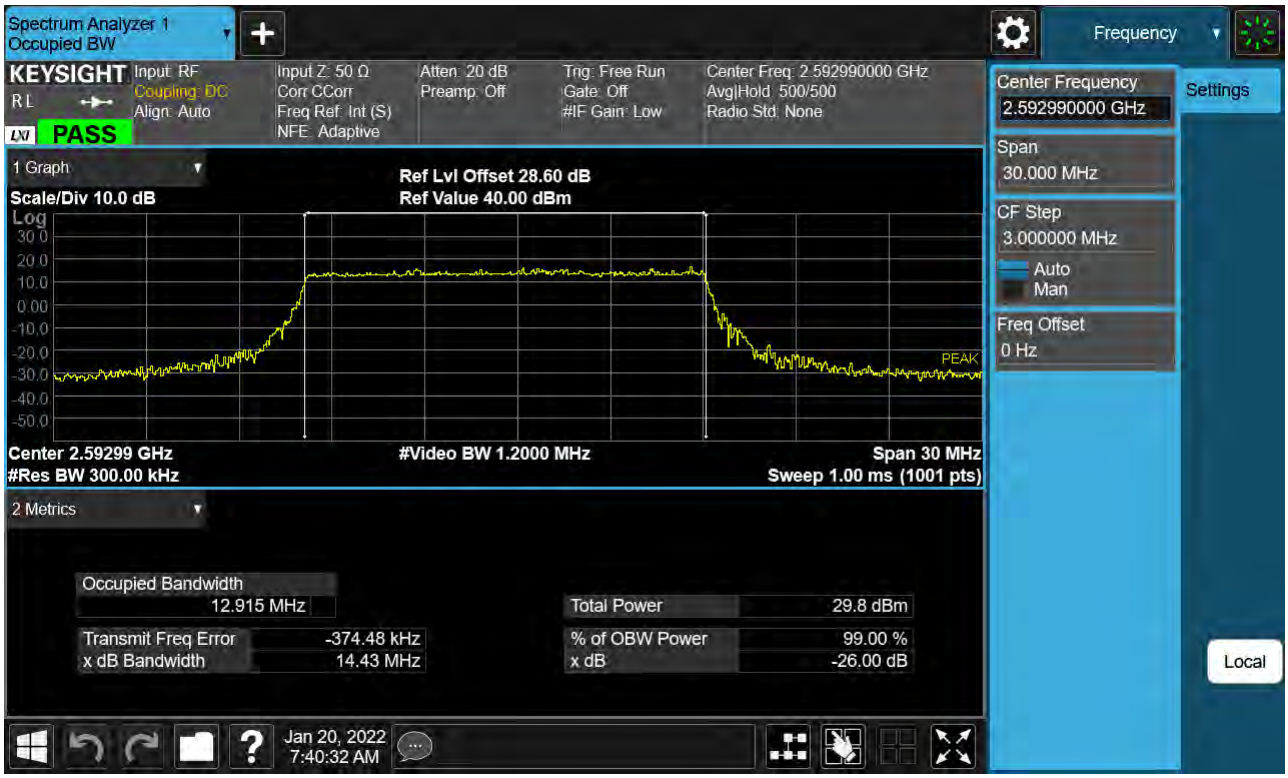


Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 BPSK)

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

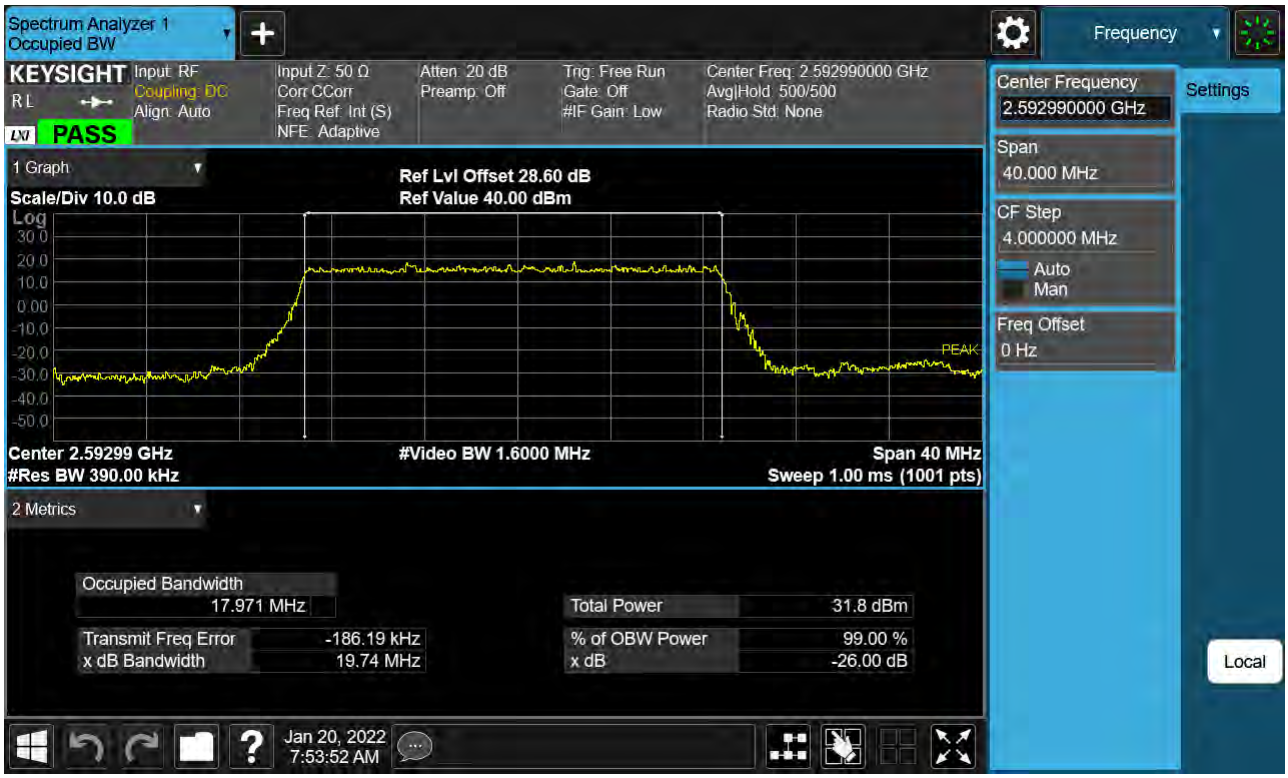
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 16-QAM)

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



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

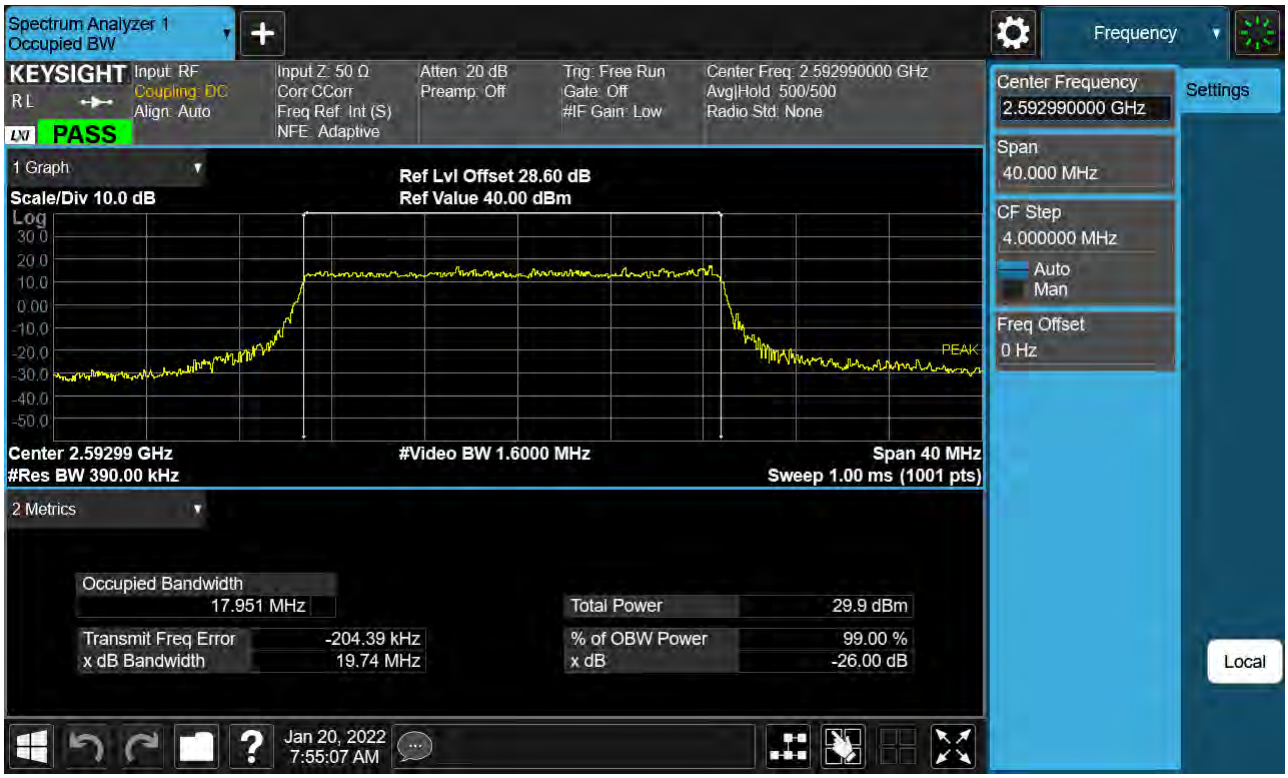
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 BPSK)



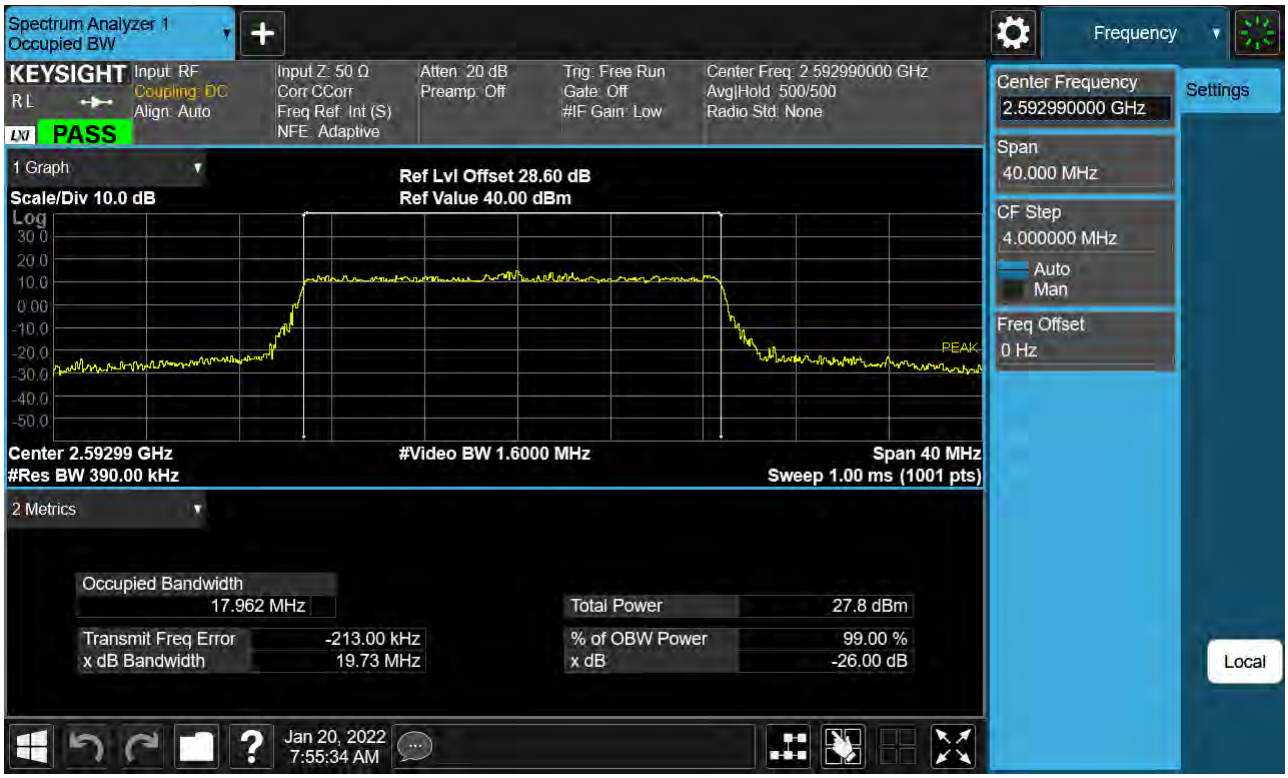
Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 QPSK)

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

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

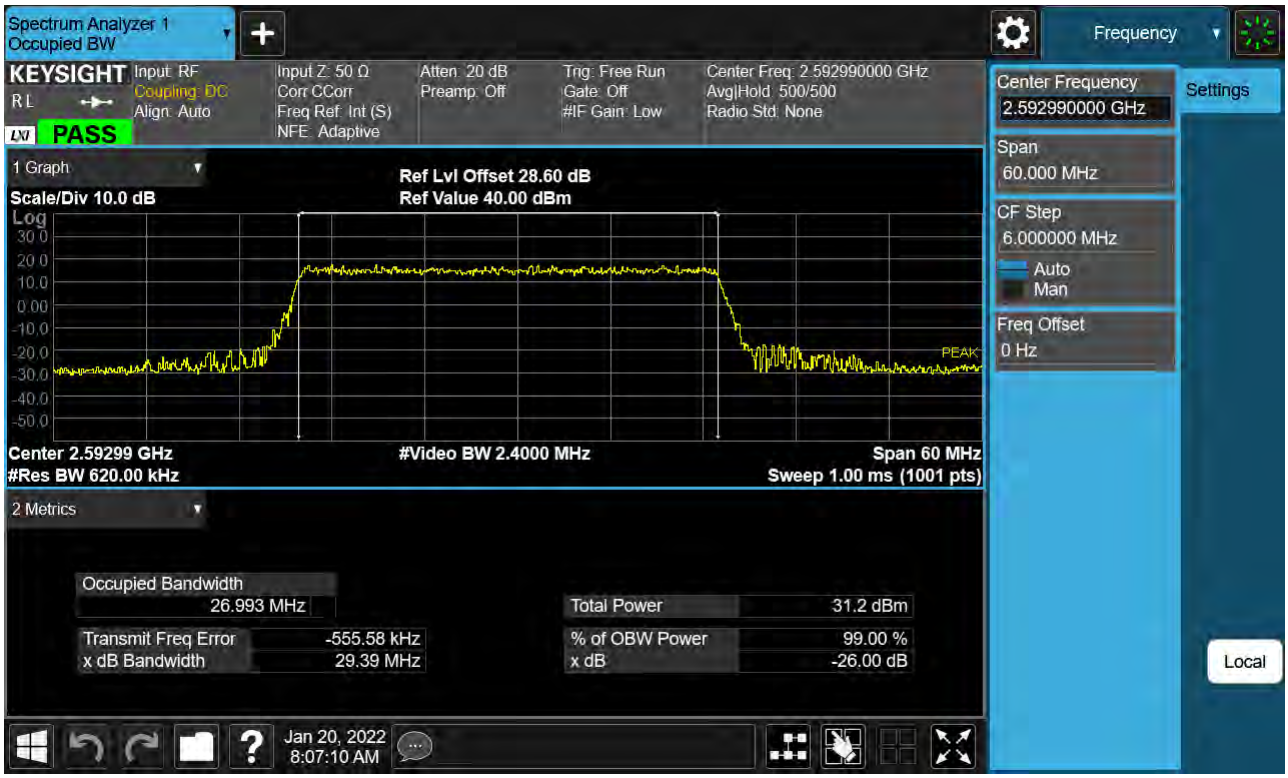


Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 256-QAM)



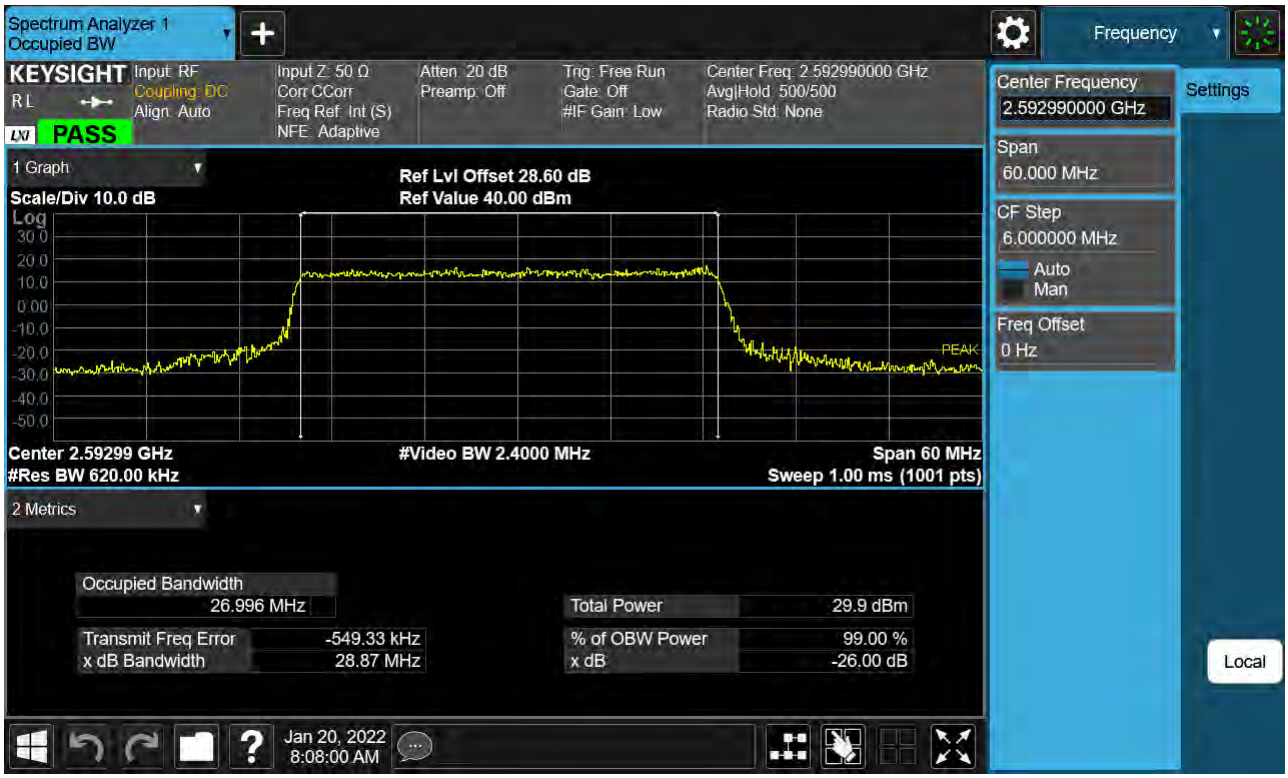
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 BPSK)

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



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

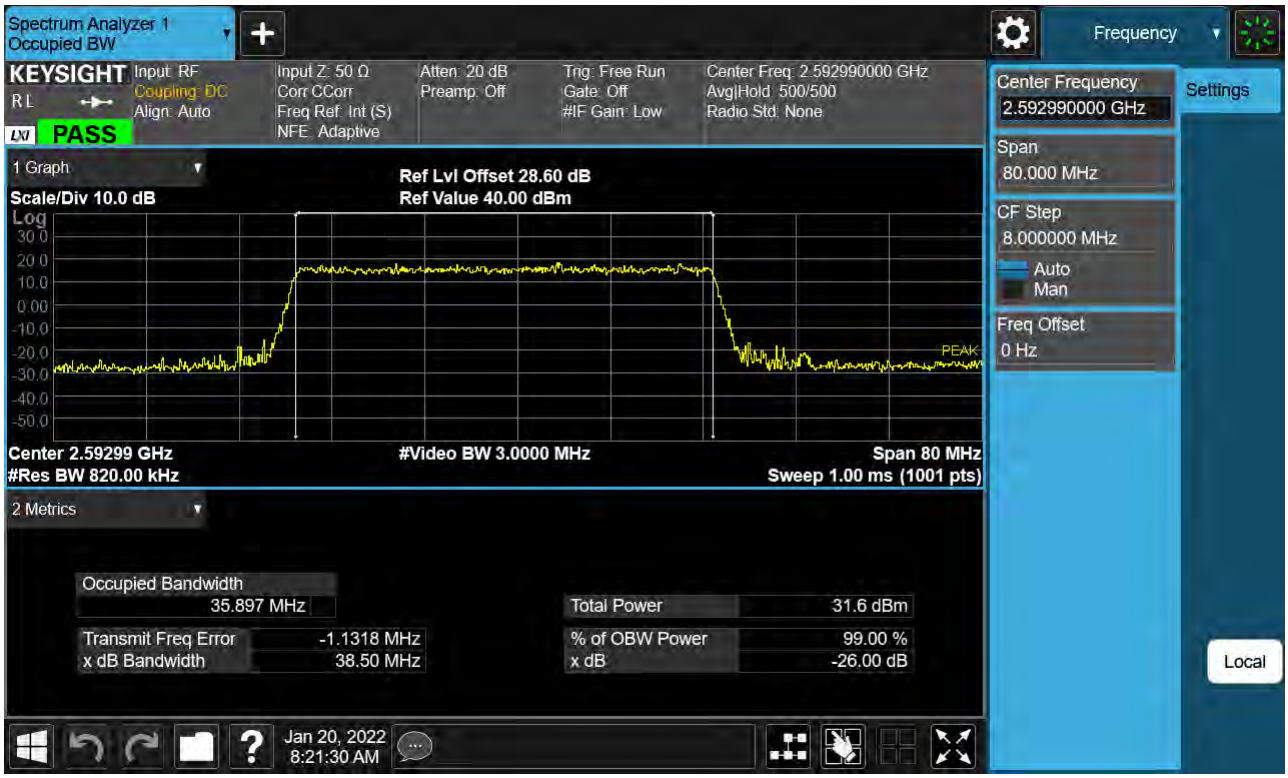
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 64-QAM)



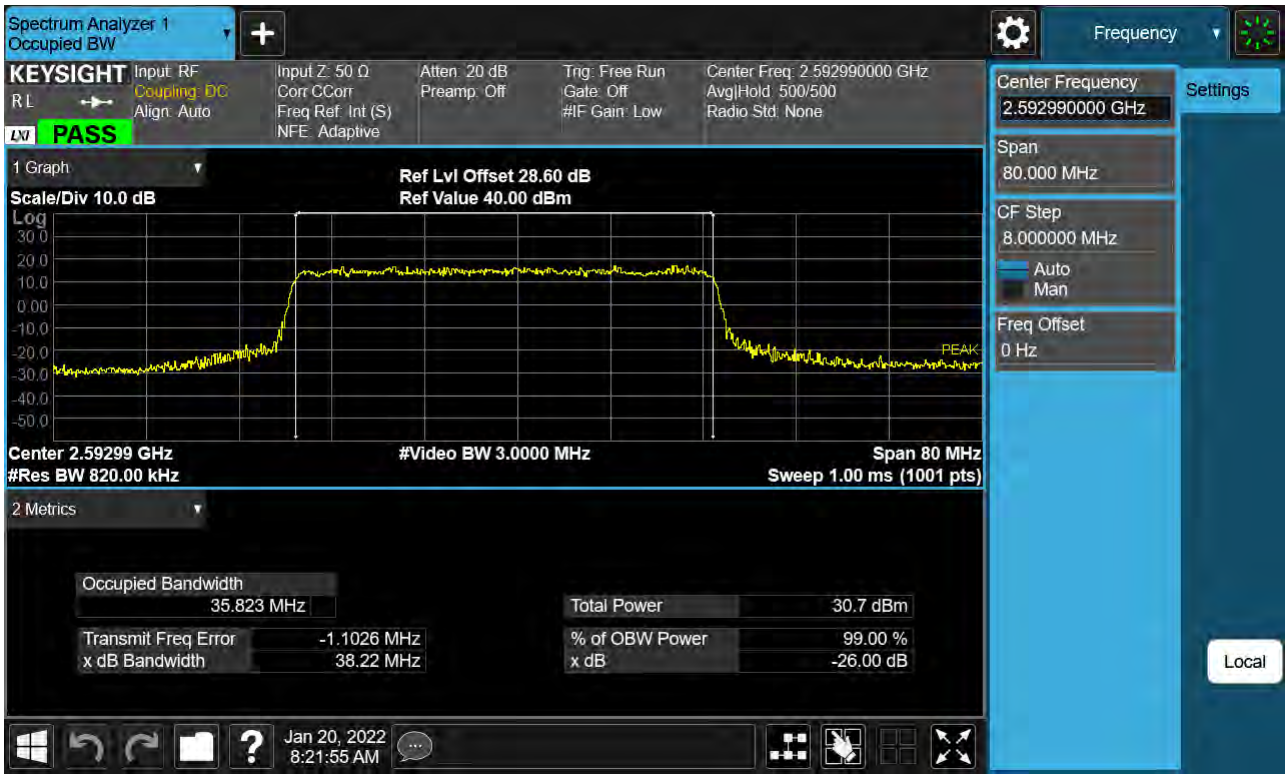
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 256-QAM)

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

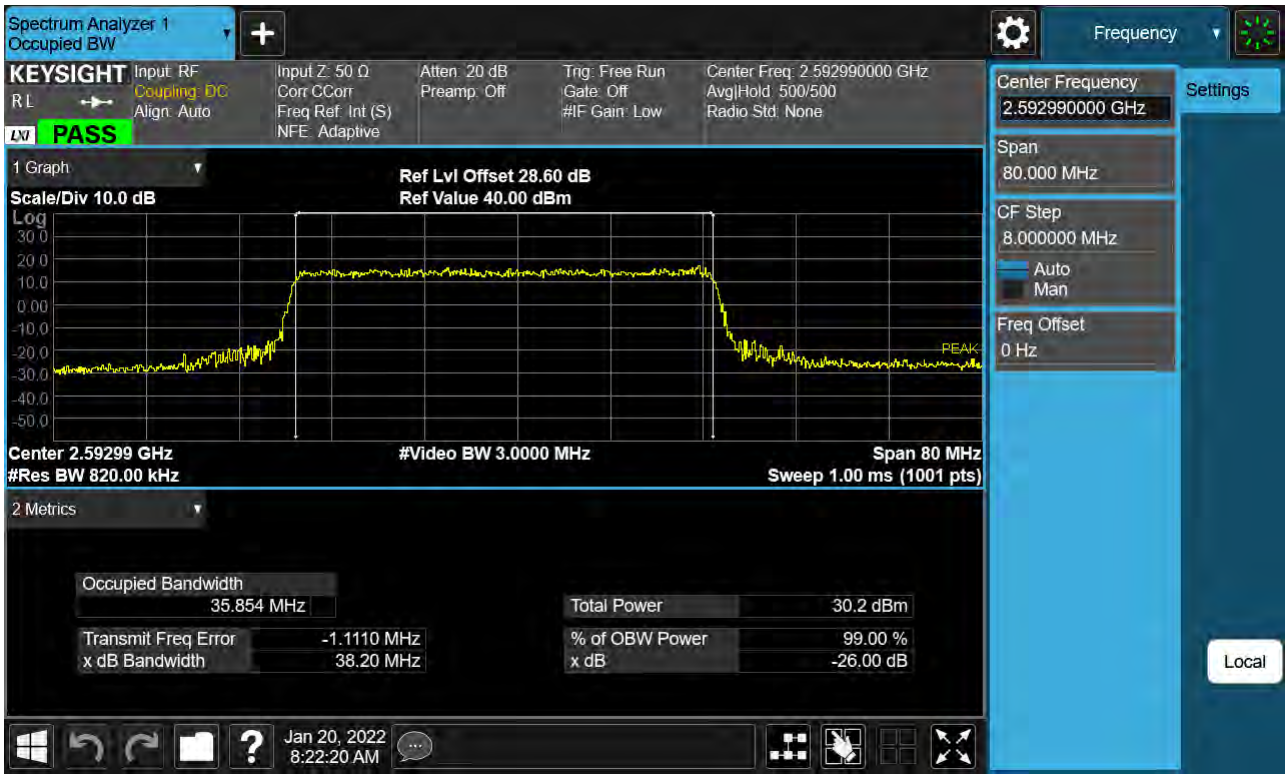
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 QPSK)



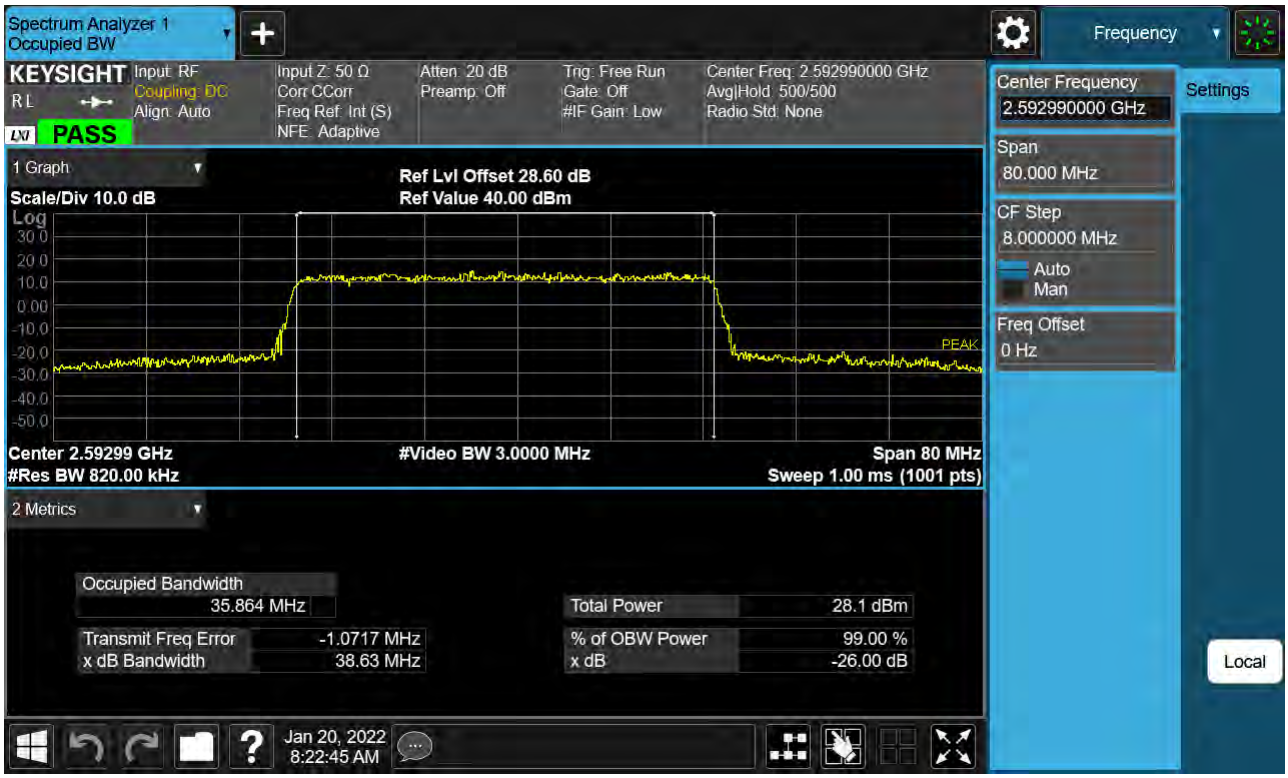
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 16-QAM)



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



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

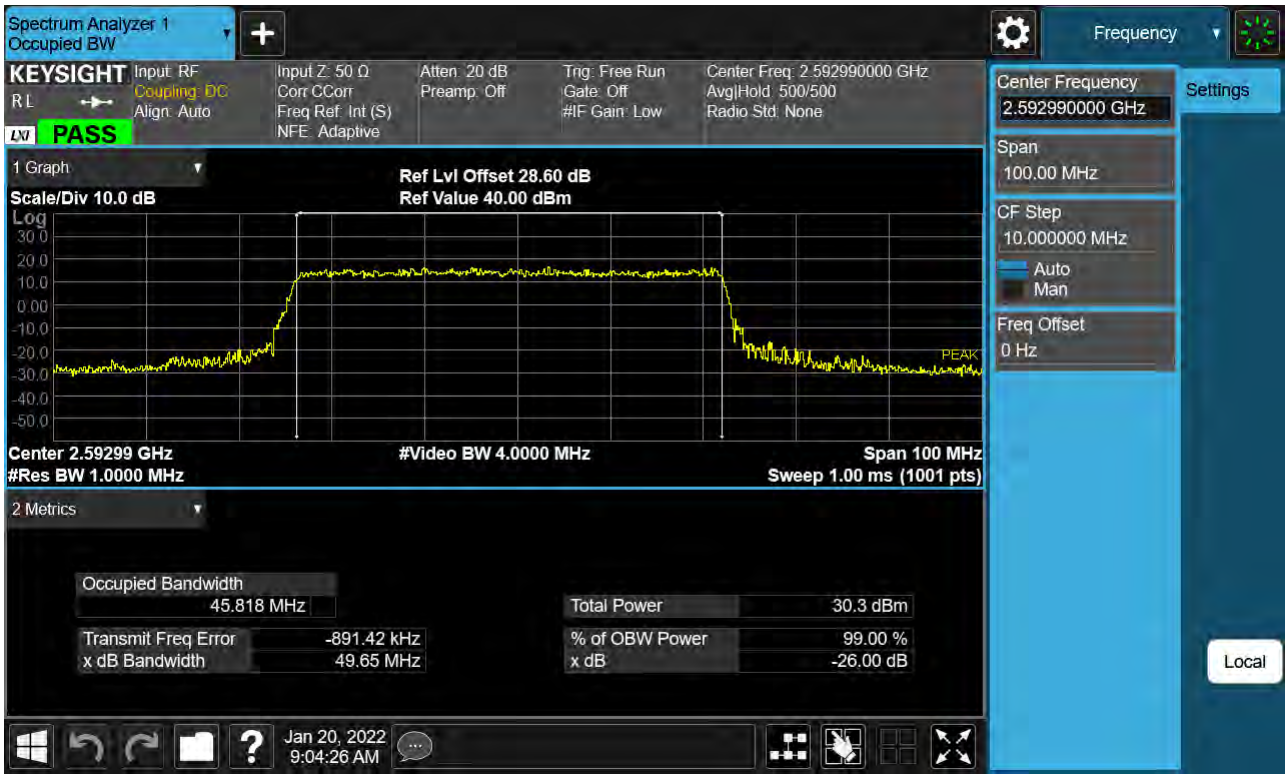


Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 BPSK)

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)

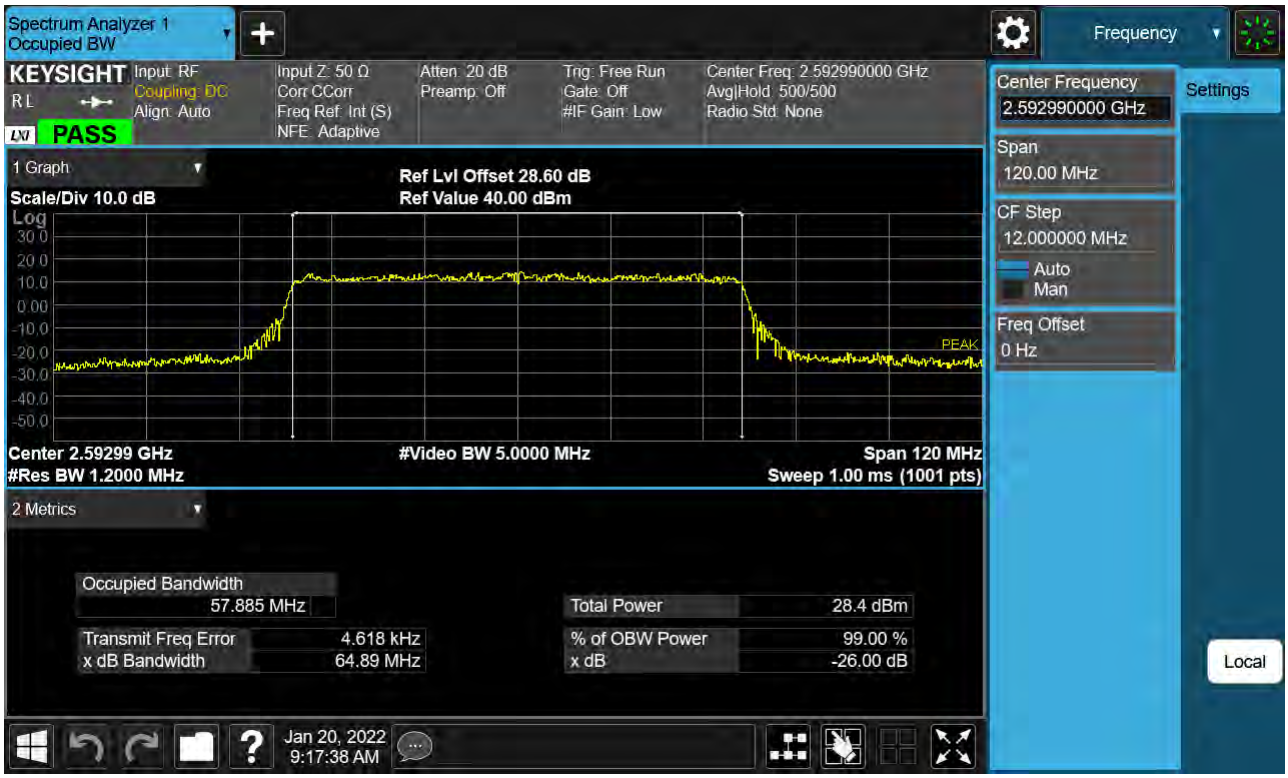
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 BPSK)

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)

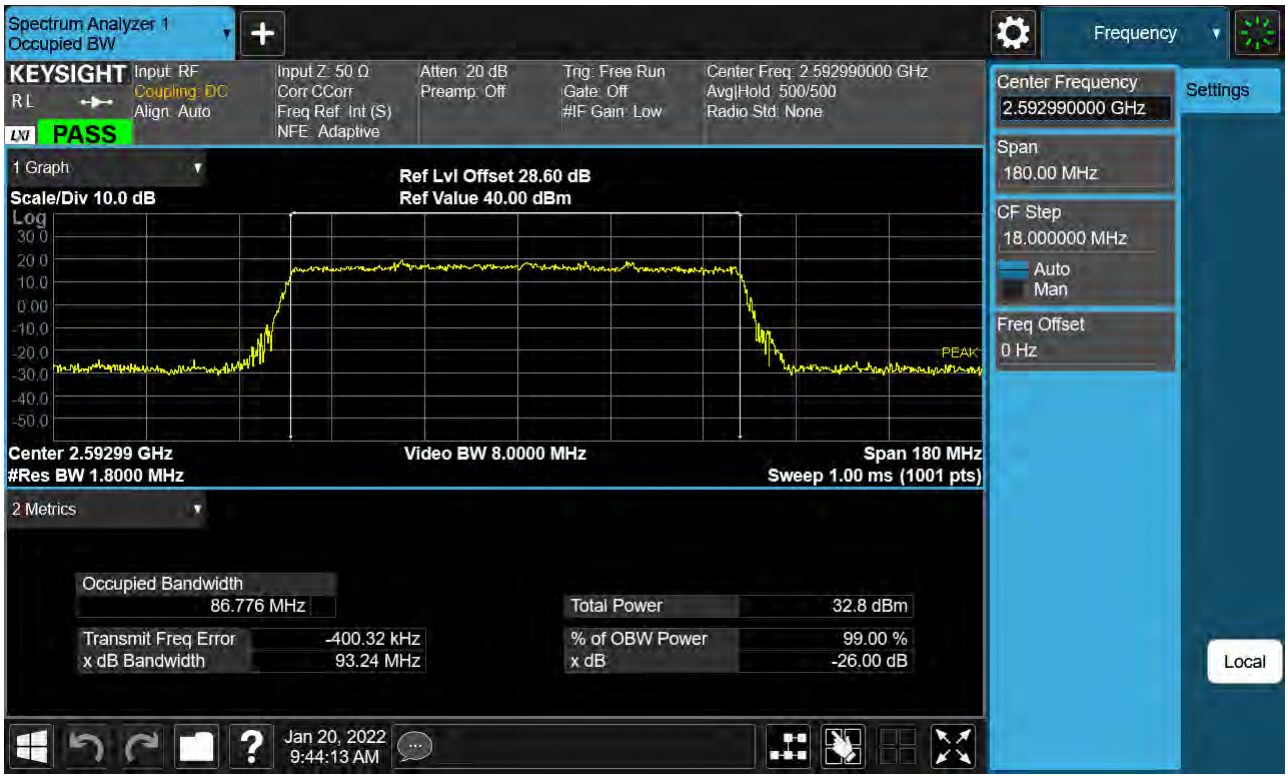
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 QPSK)

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

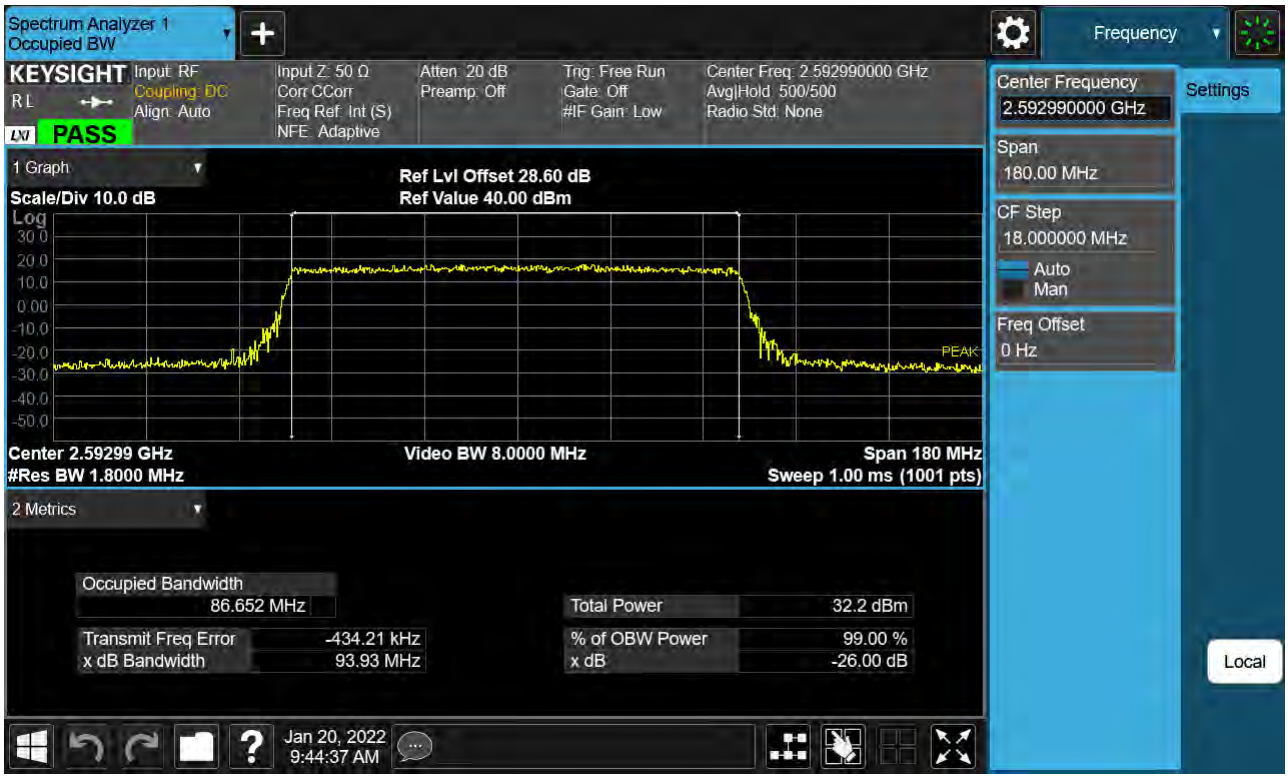
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 64-QAM)

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

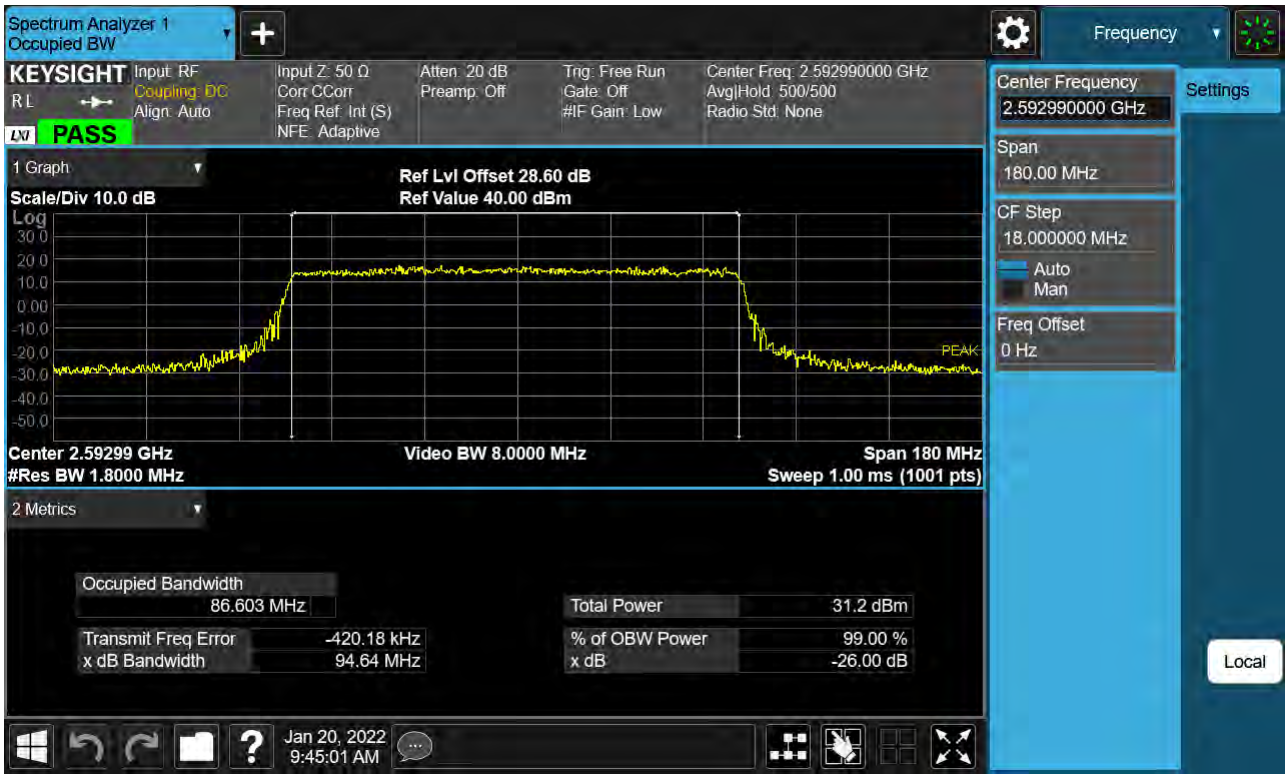
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 BPSK)



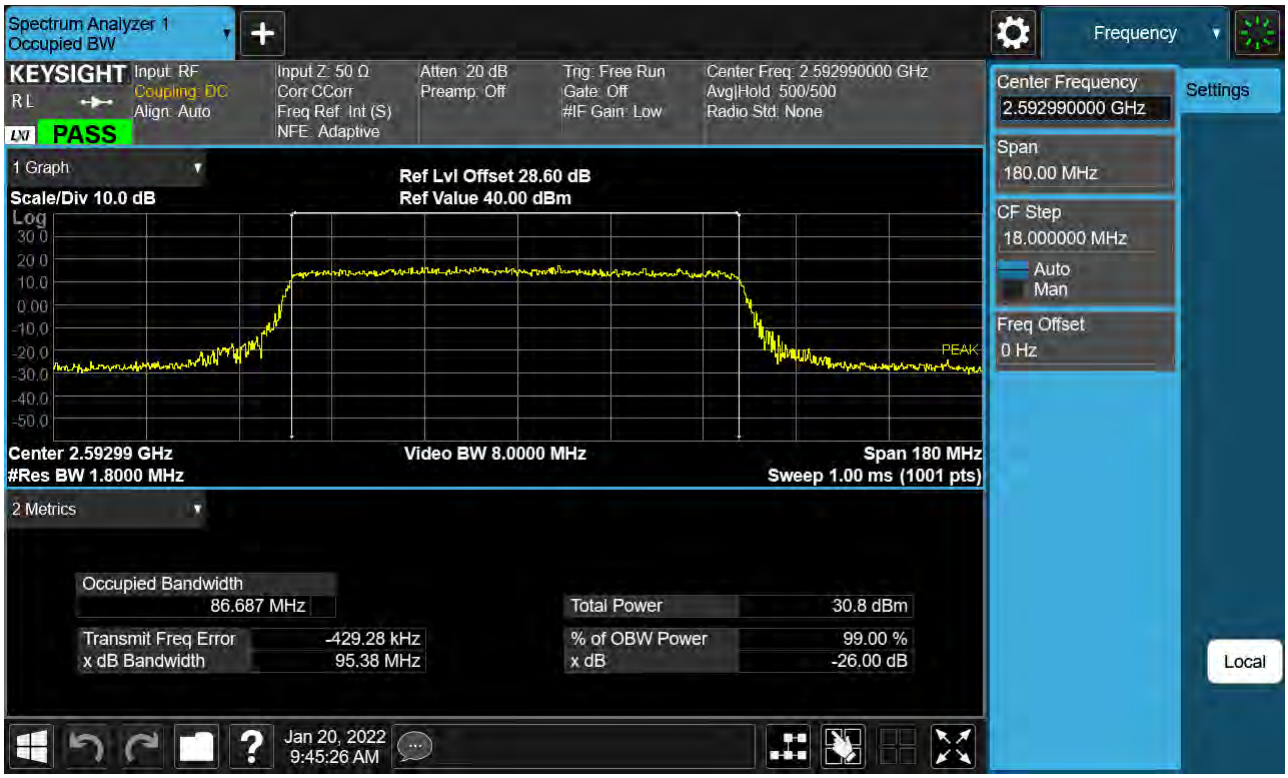
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 QPSK)



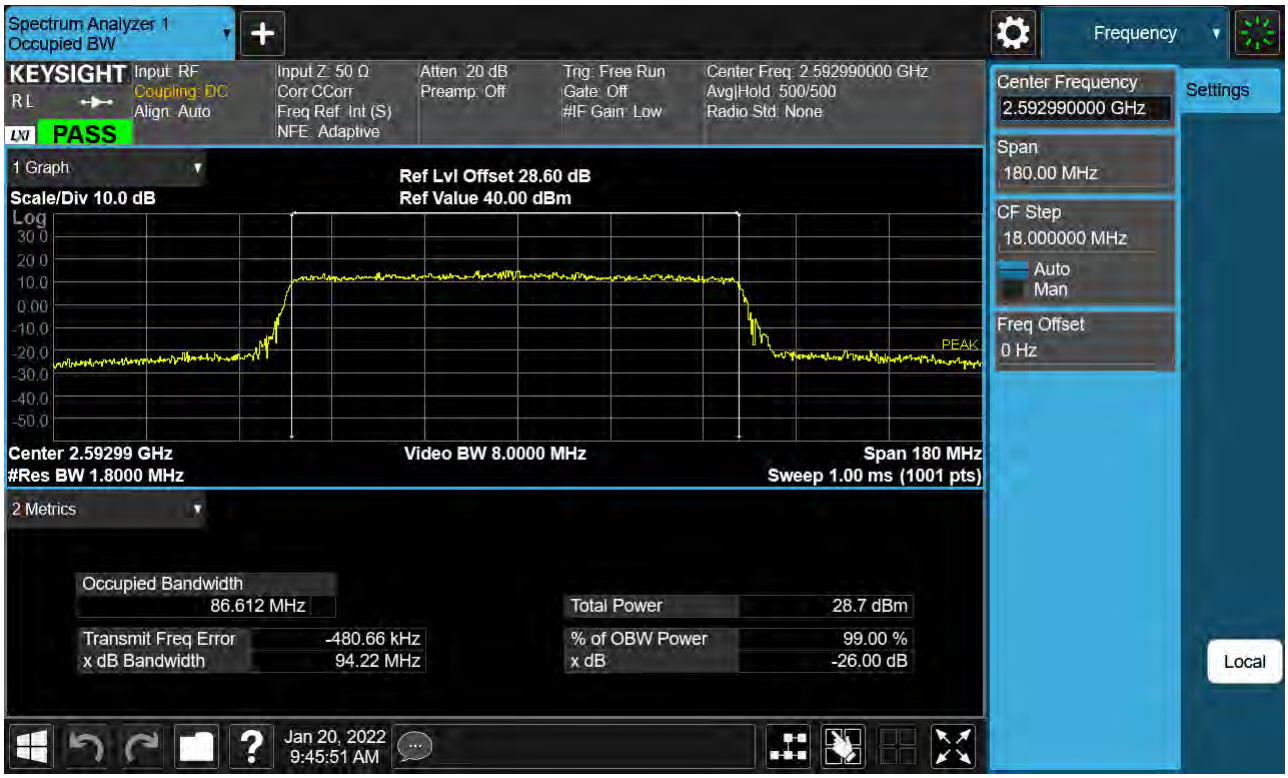
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 16-QAM)



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)

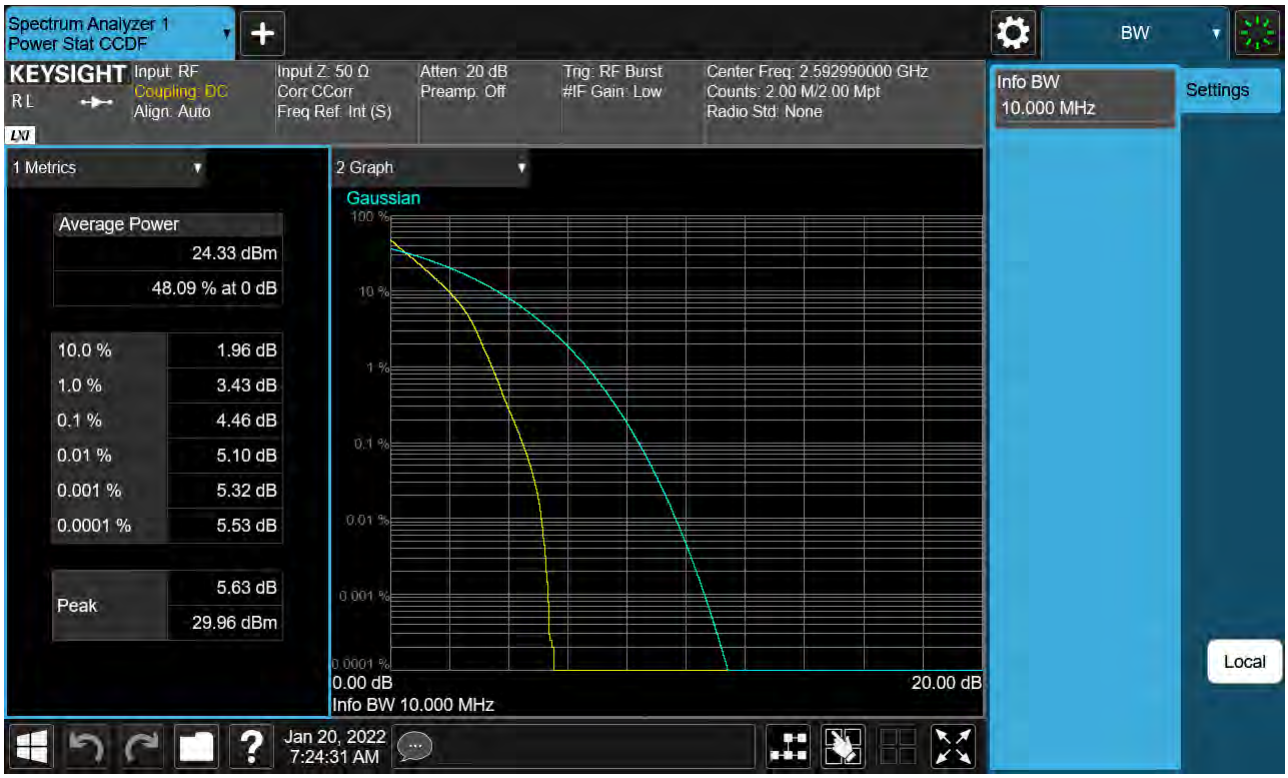
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 QPSK)

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

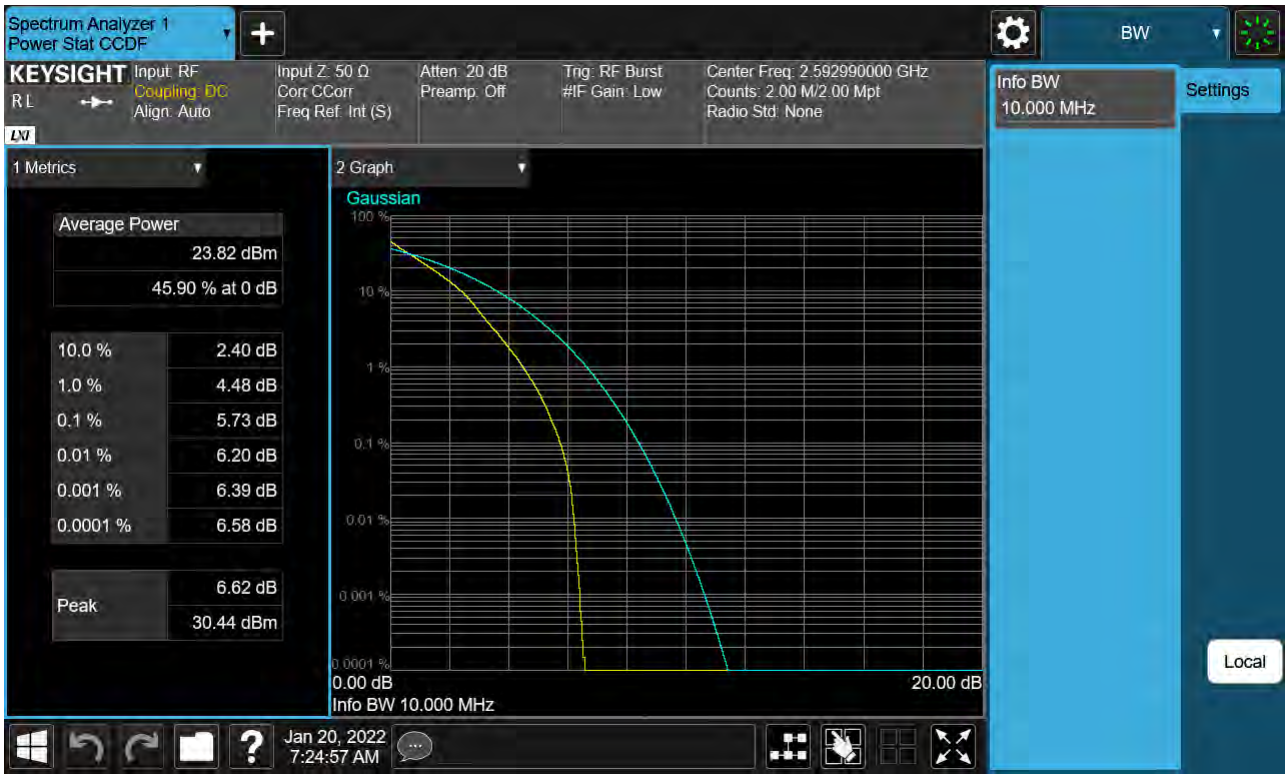
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 64-QAM)

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

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



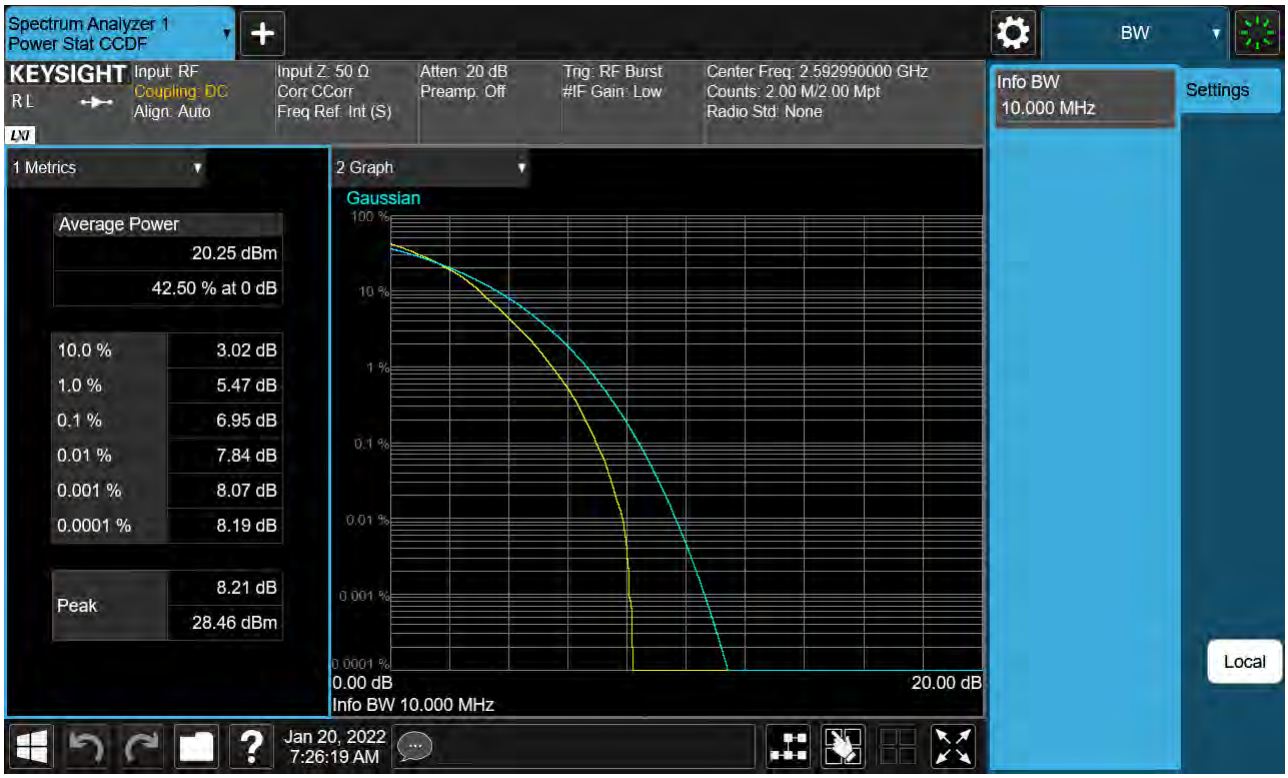
Sub6 n41. PAR Plot (10 M BW_Ch.518598_QPSK)



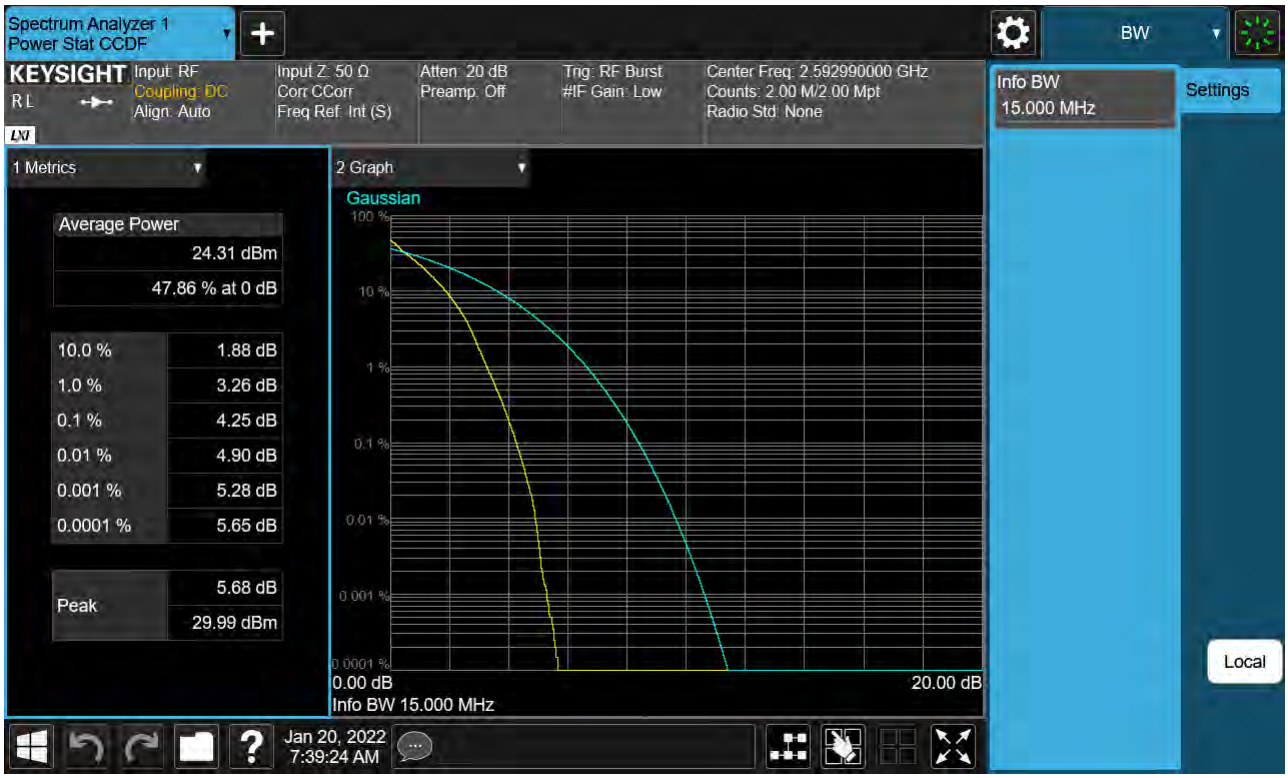
Sub6 n41. PAR Plot (10 M BW_Ch.518598_16QAM)

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

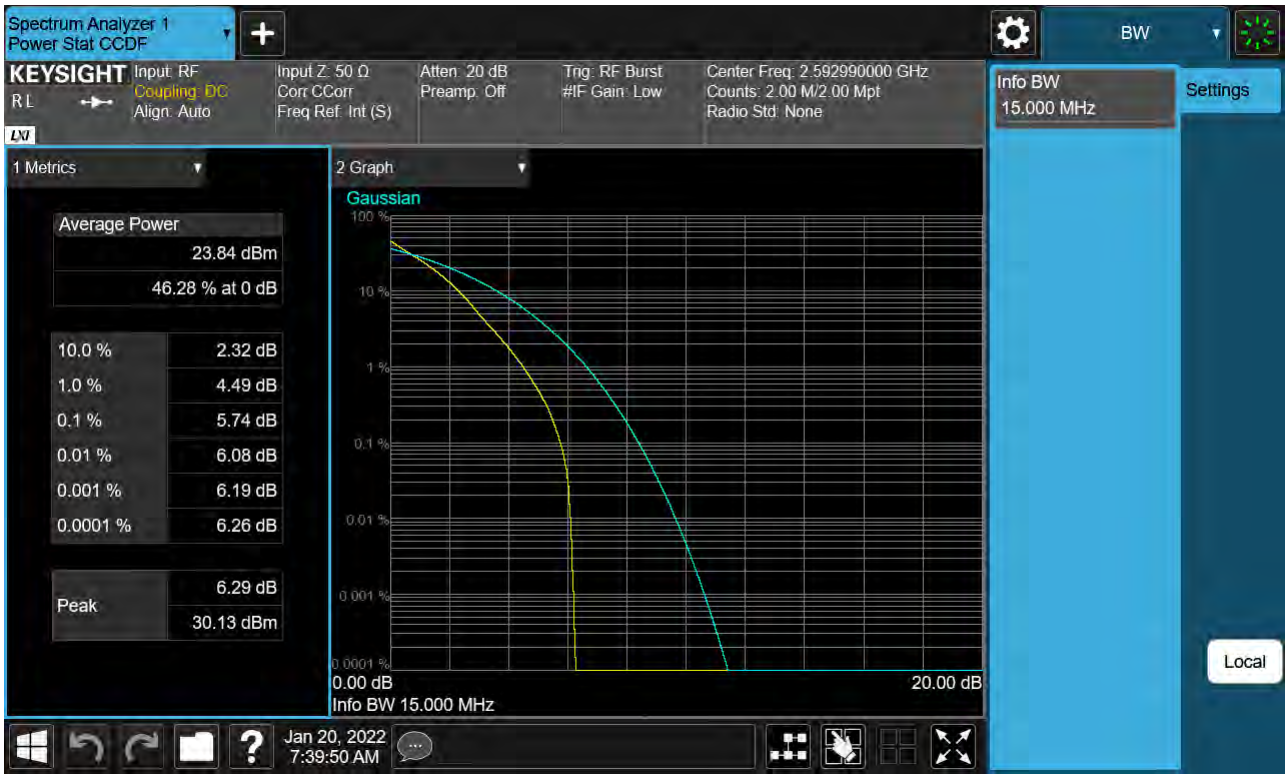
Sub6 n41. PAR Plot (10 M BW_Ch.518598_256QAM)



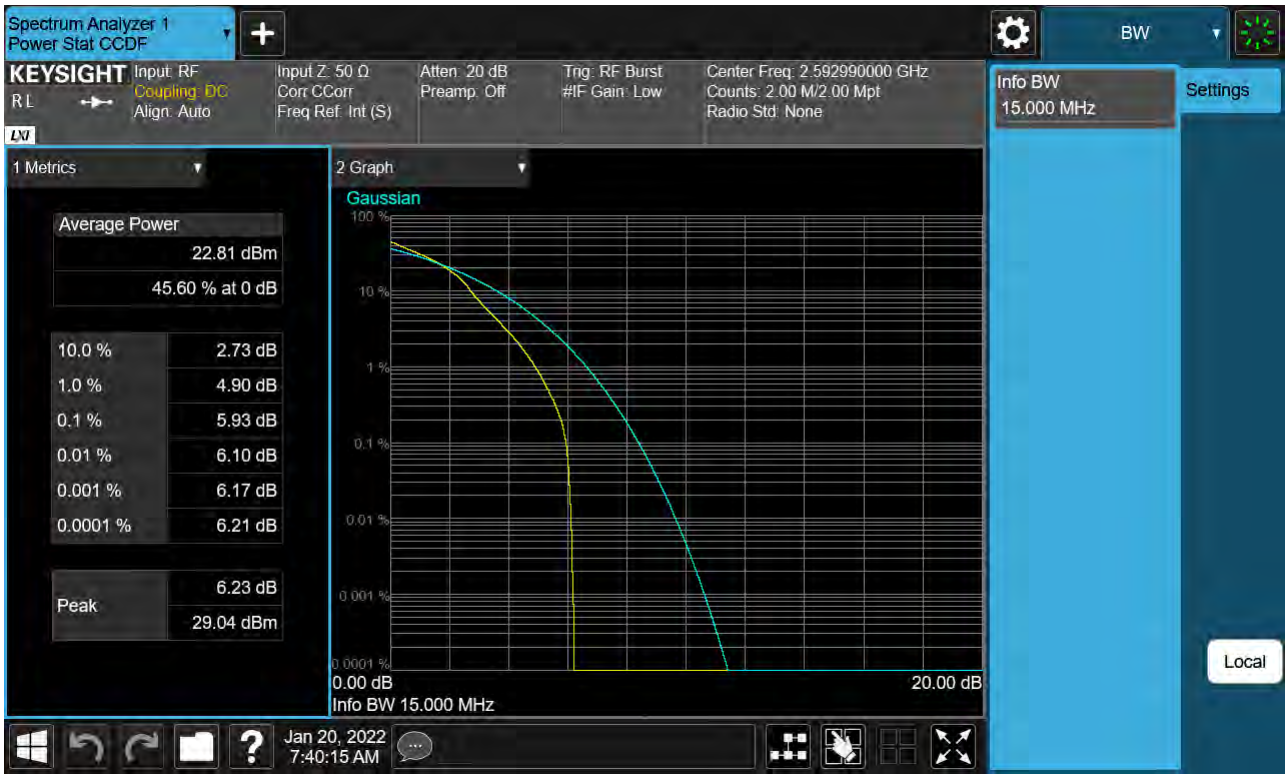
Sub6 n41. PAR Plot (15 M BW_Ch.518598_BPSK)



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



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

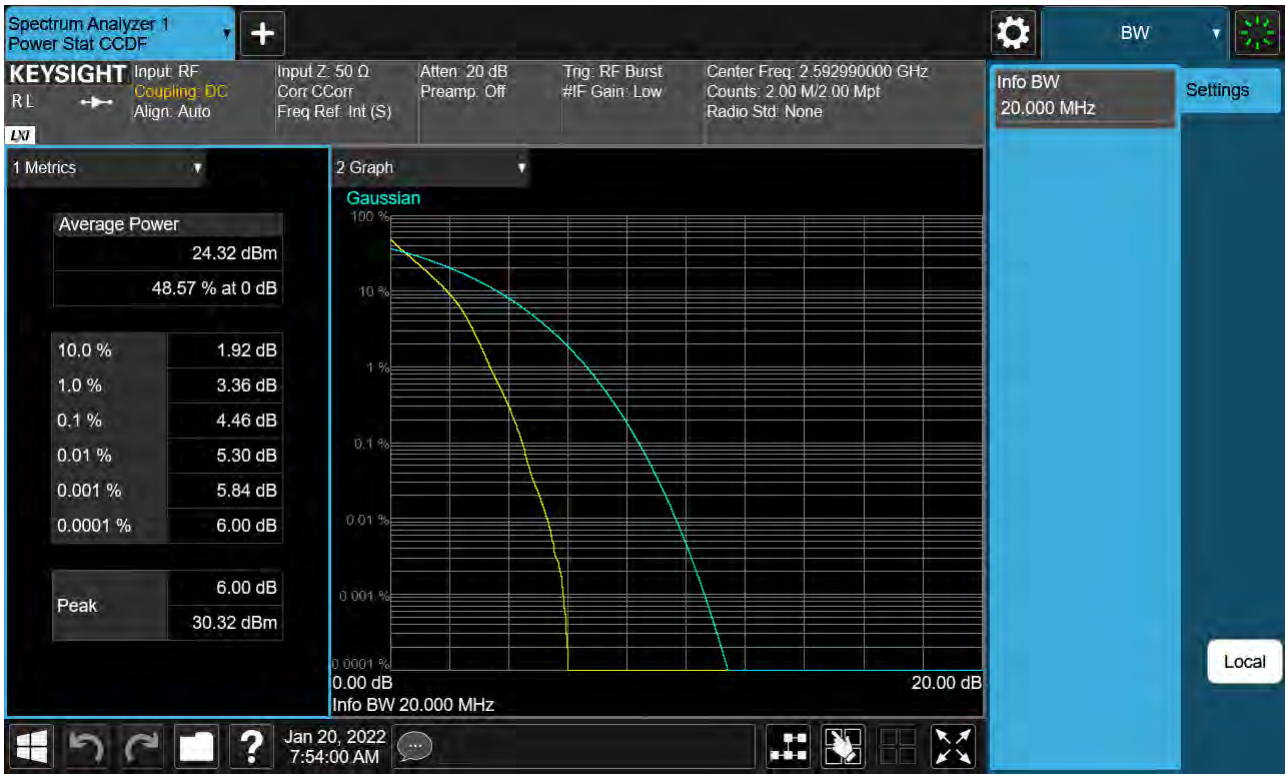


Sub6 n41. PAR Plot (15 M BW

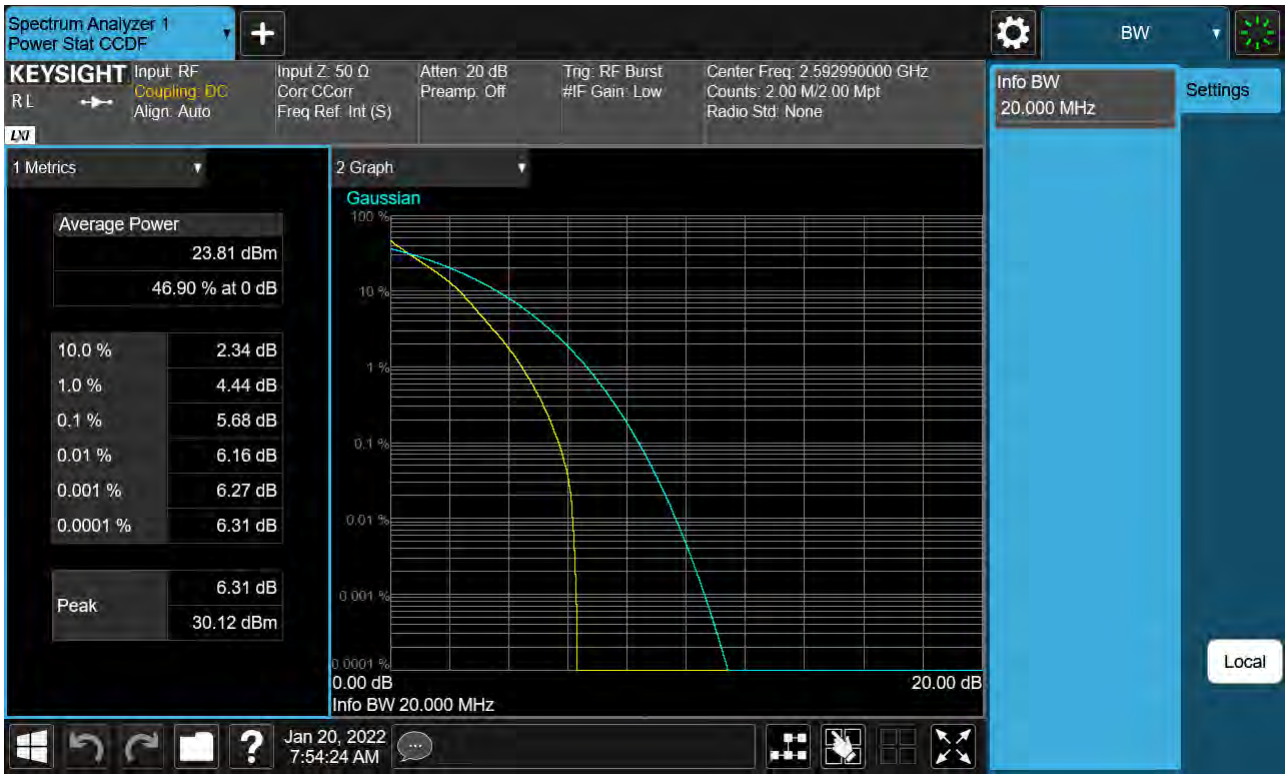
_Ch.518598_64QAM)

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

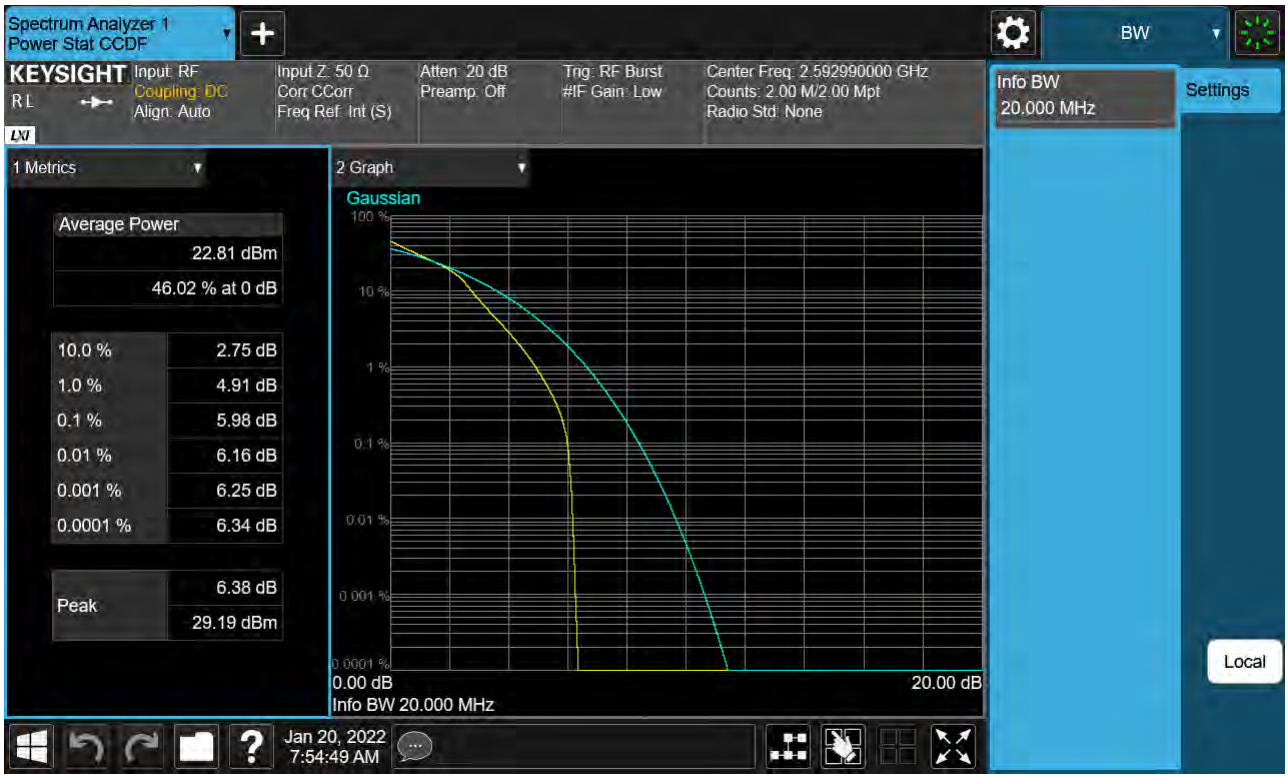
Sub6 n41. PAR Plot (20 M BW_Ch.518598_BPSK)



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



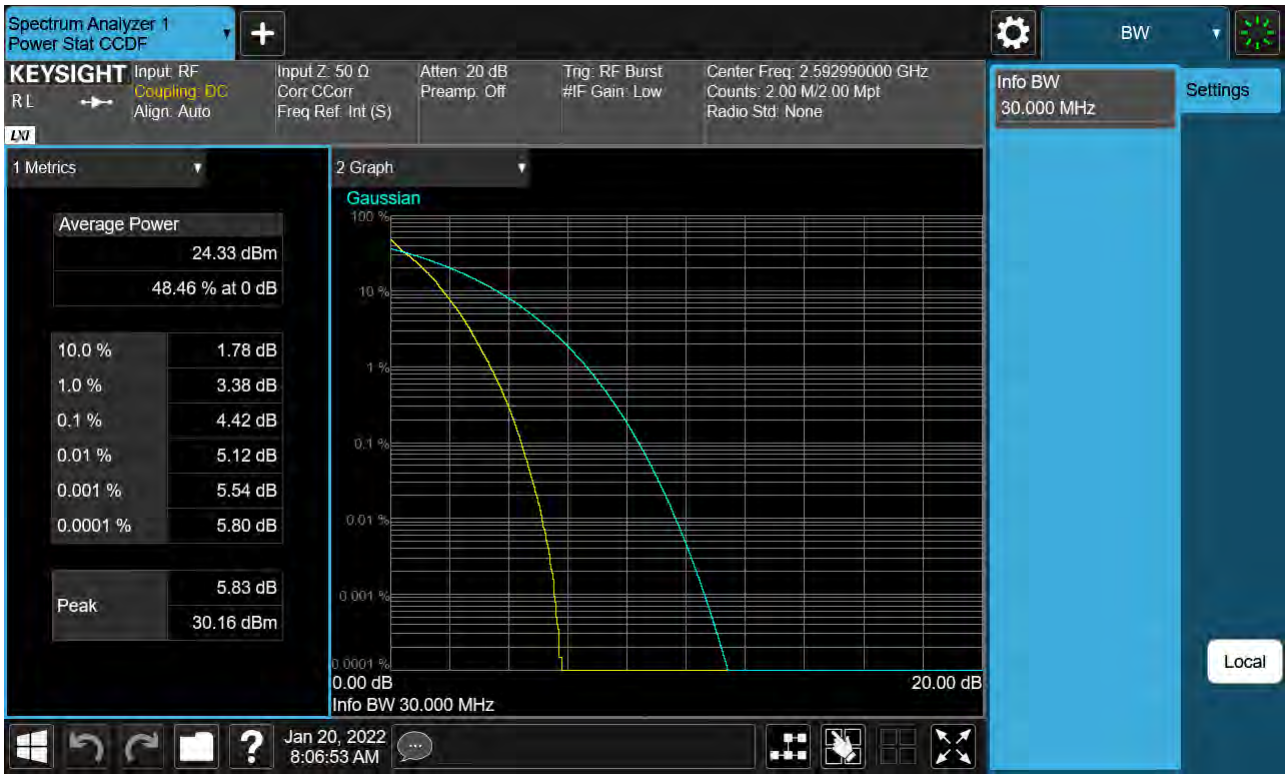
Sub6 n41. PAR Plot (20 M BW_Ch.518598_16QAM)



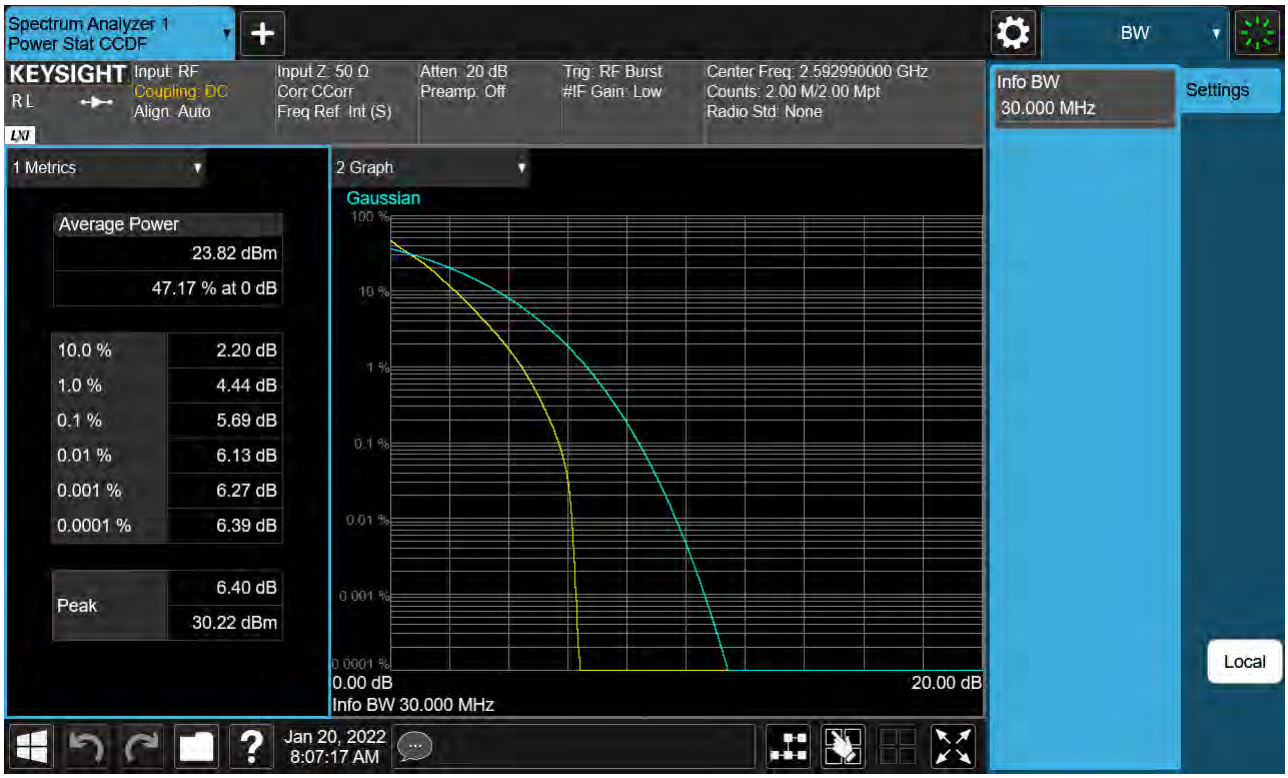
Sub6 n41. PAR Plot (20 M BW_Ch.518598_64QAM)

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

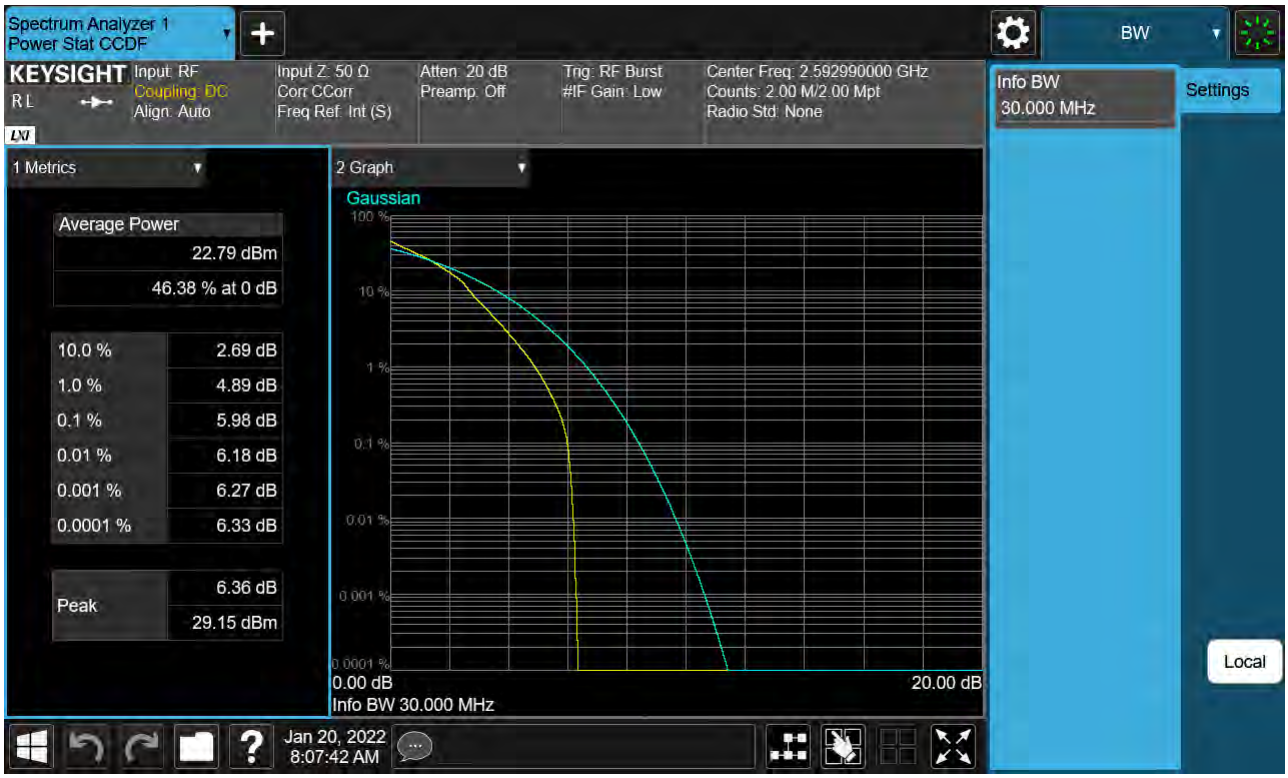
Sub6 n41. PAR Plot (30 M BW_Ch.518598_BPSK)



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



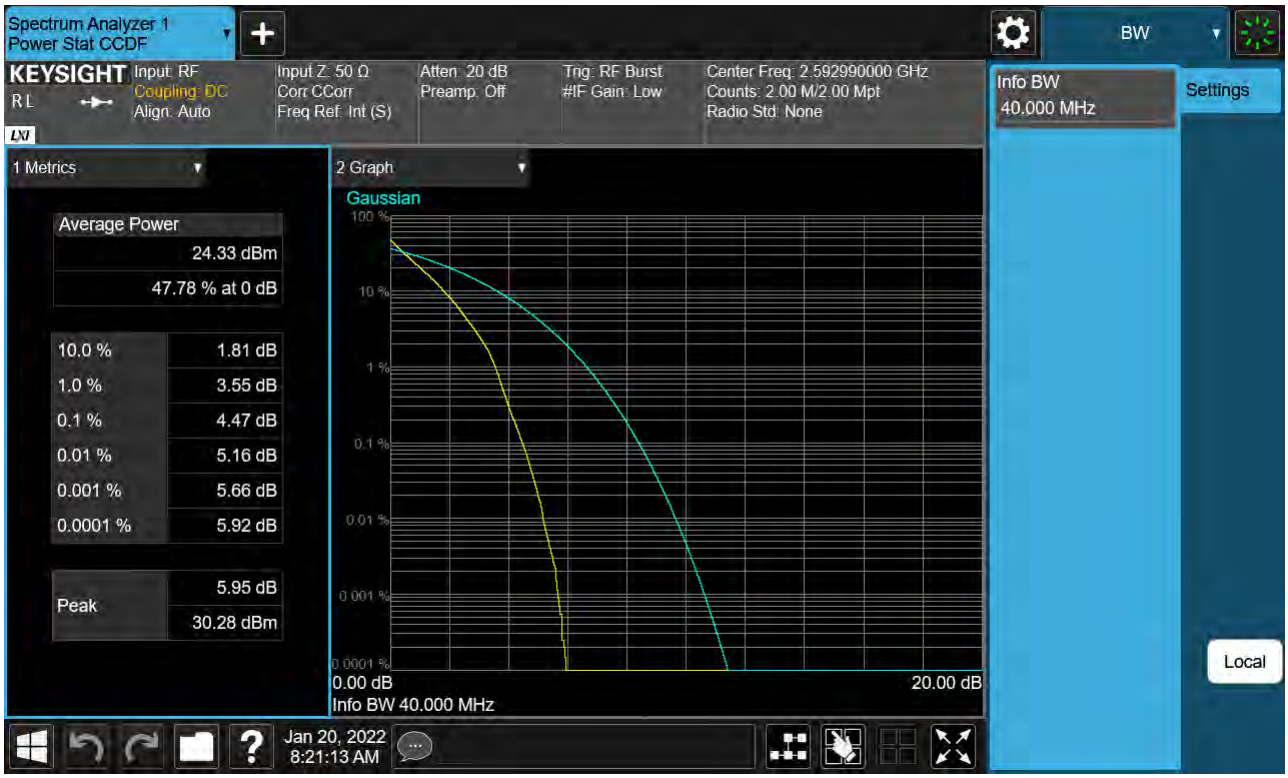
Sub6 n41. PAR Plot (30 M BW_Ch.518598_16QAM)



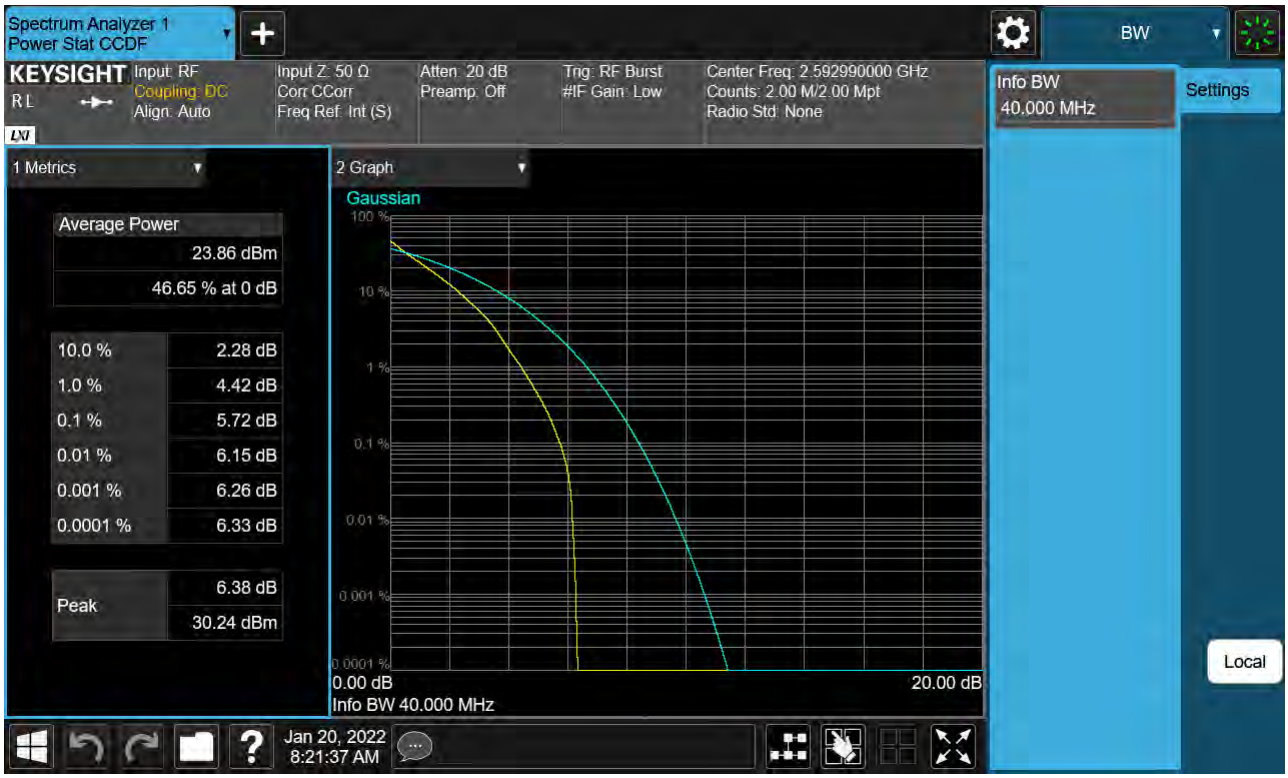
Sub6 n41. PAR Plot (30 M BW_Ch.518598_64QAM)

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

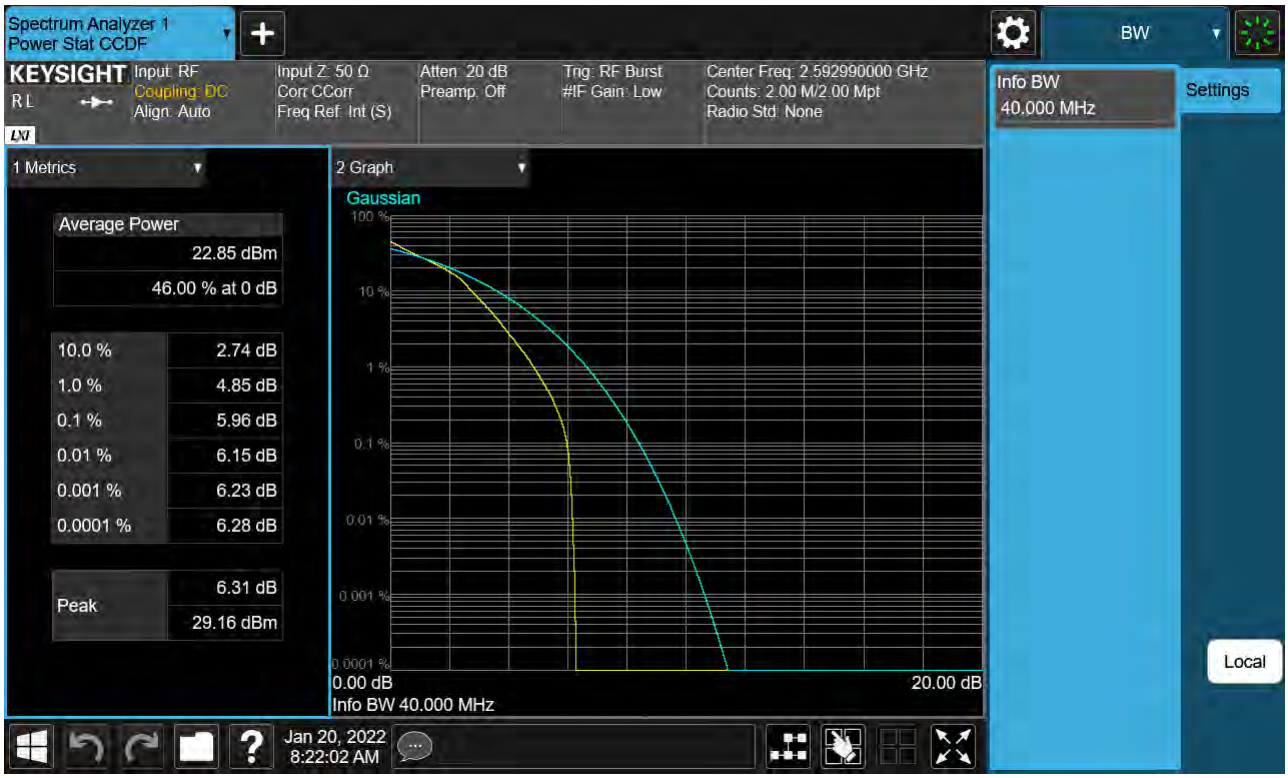
Sub6 n41. PAR Plot (40 M BW_Ch.518598_BPSK)



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



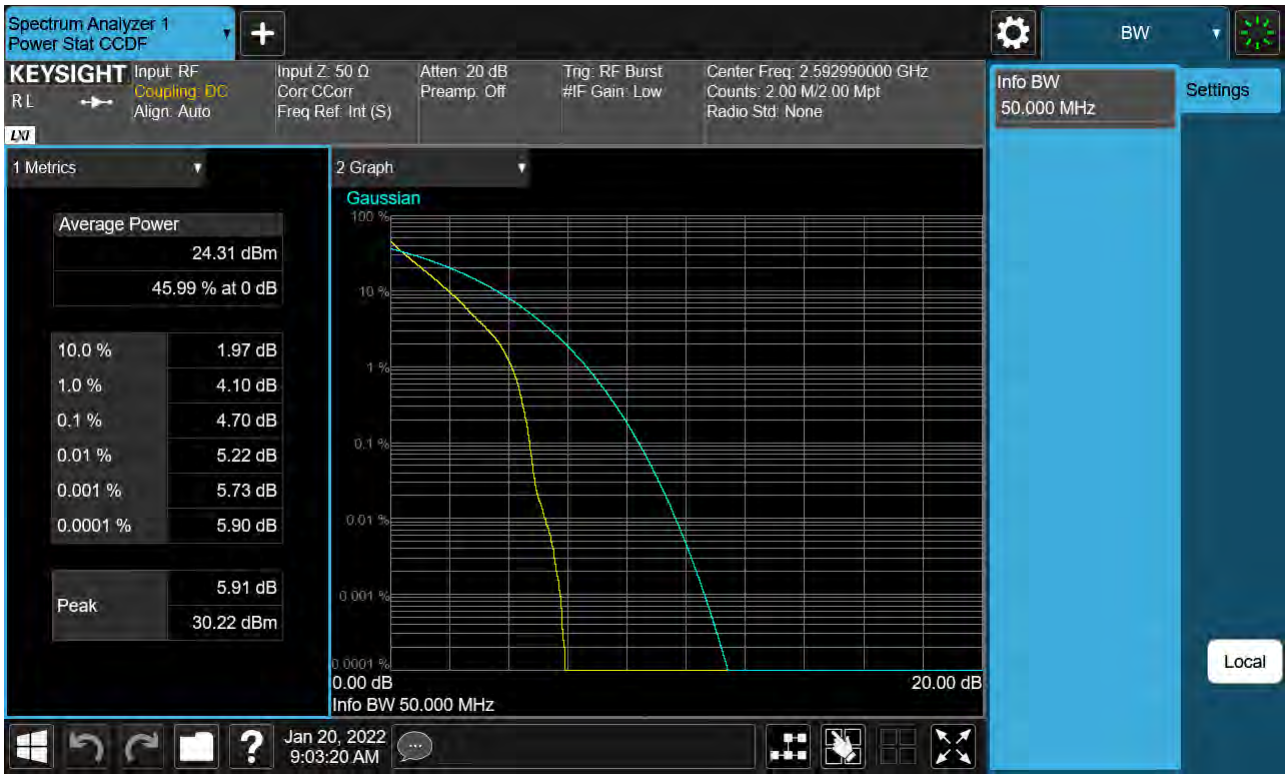
Sub6 n41. PAR Plot (40 M BW_Ch.518598_16QAM)



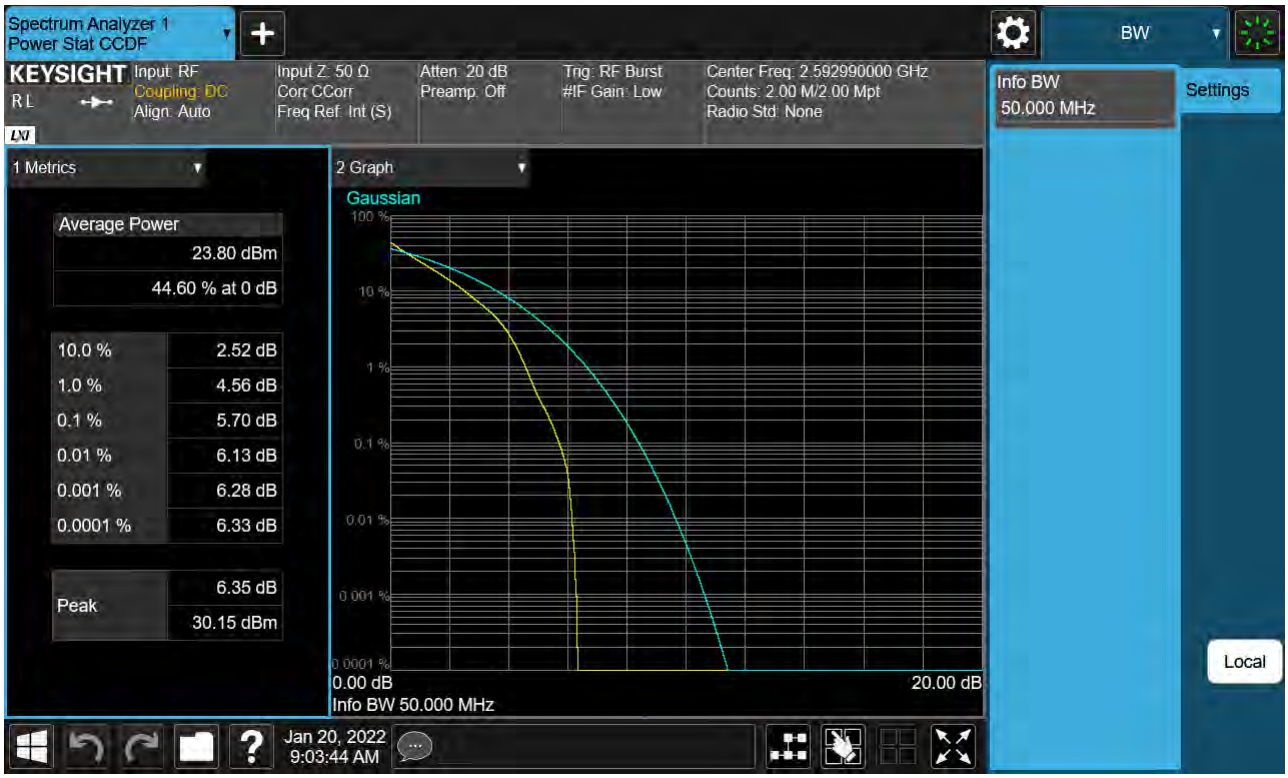
Sub6 n41. PAR Plot (40 M BW_Ch.518598_64QAM)

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

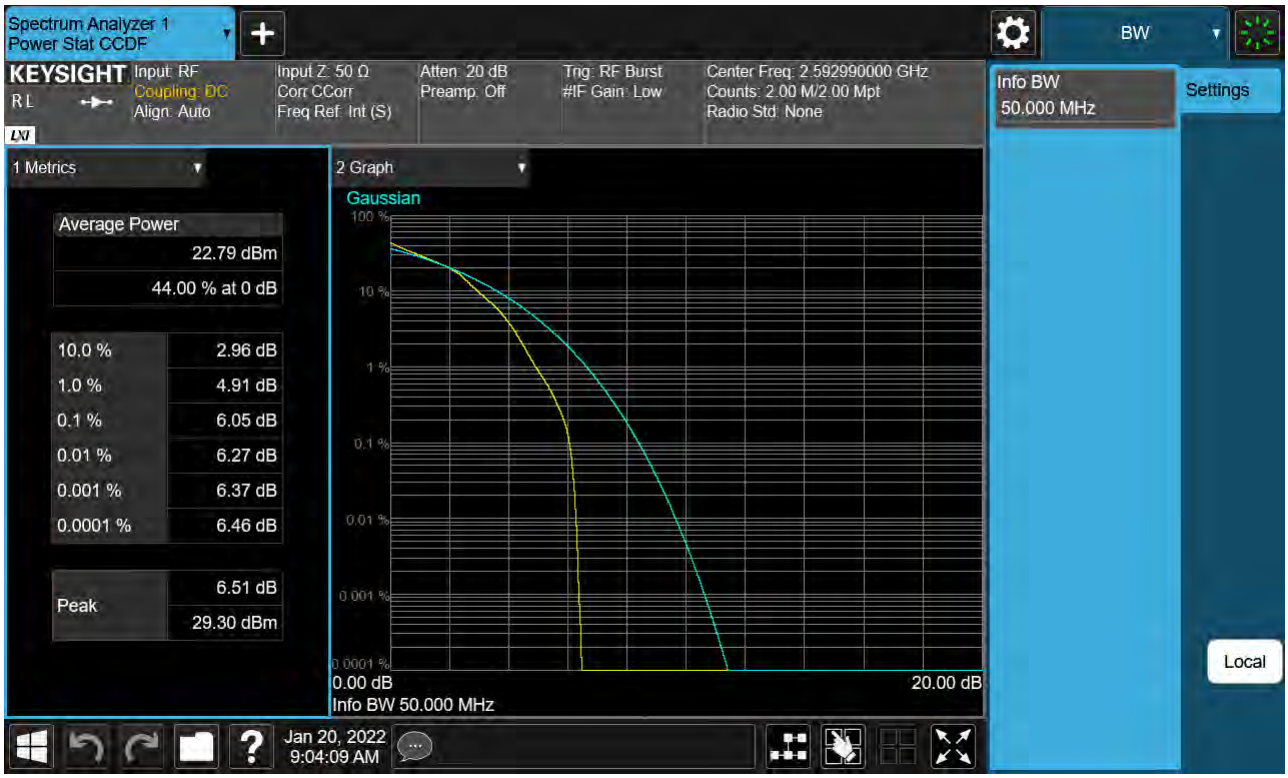
Sub6 n41. PAR Plot (50 M BW_Ch.518598_BPSK)



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



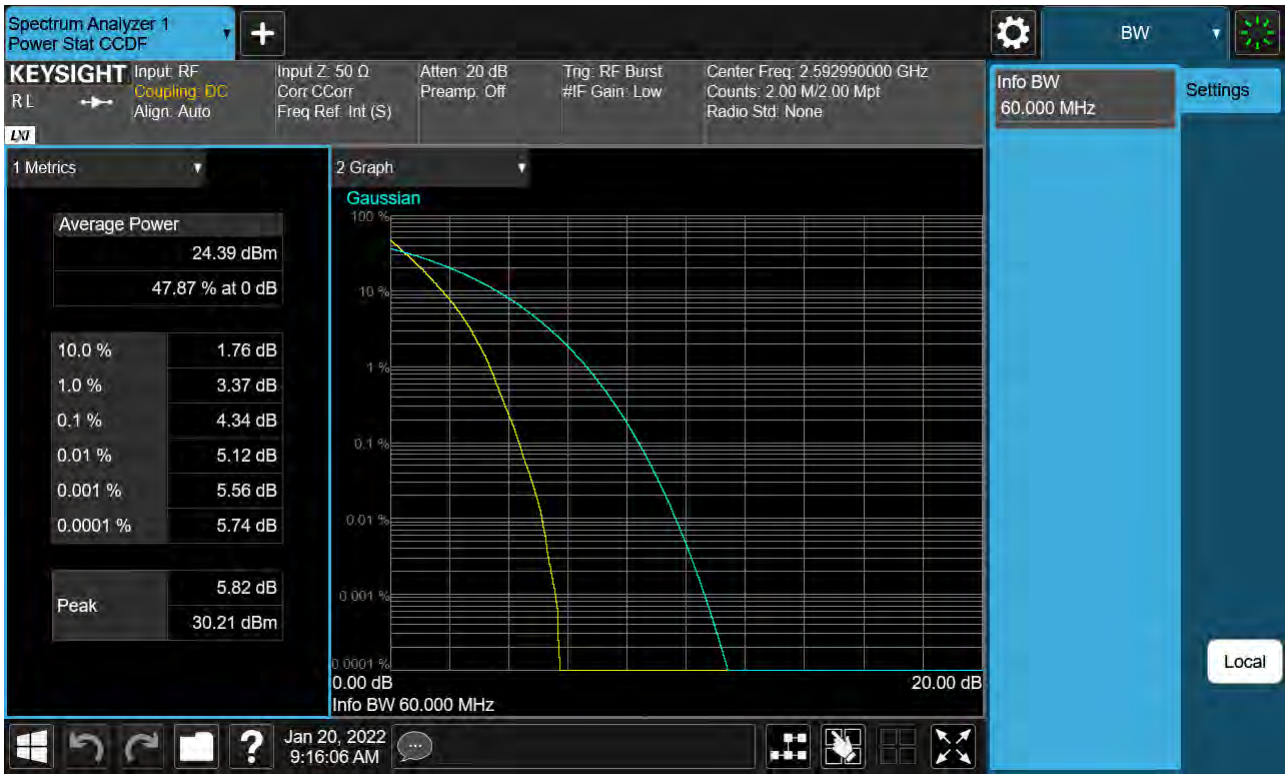
Sub6 n41. PAR Plot (50 M BW_Ch.518598_16QAM)



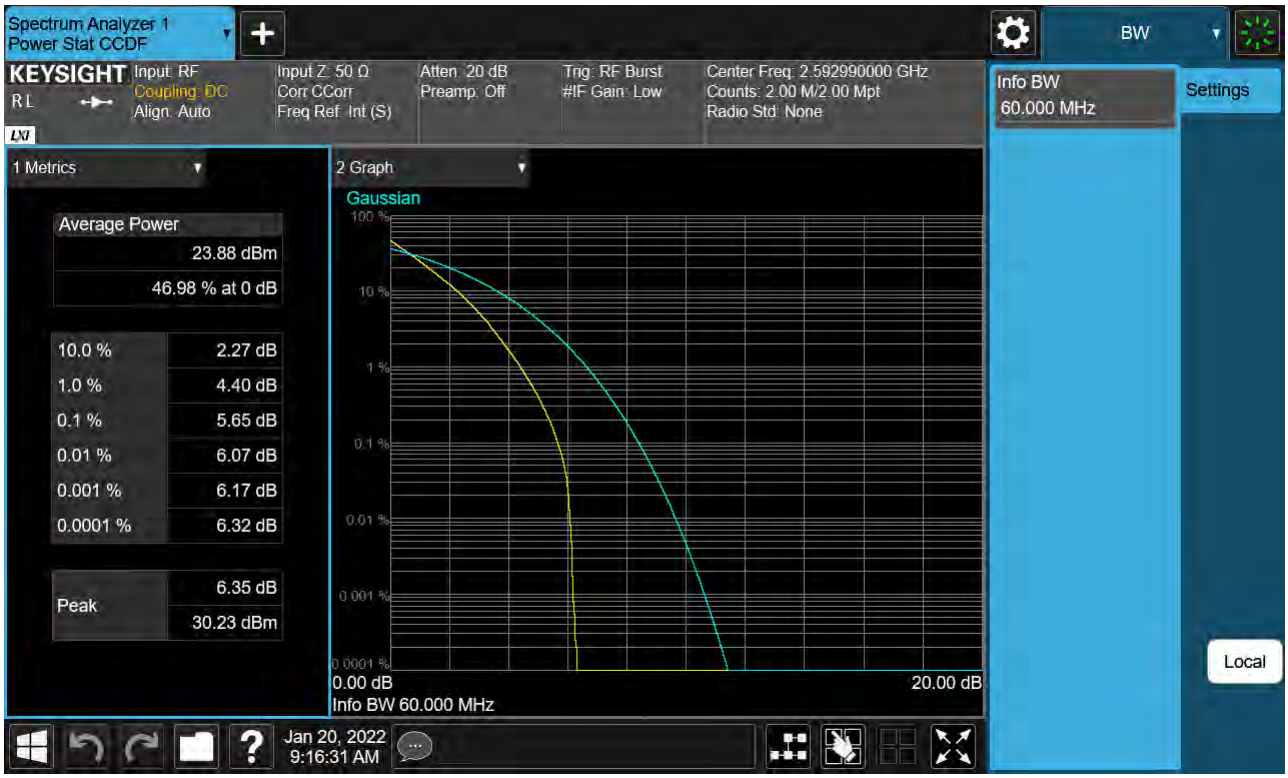
Sub6 n41. PAR Plot (50 M BW_Ch.518598_64QAM)

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

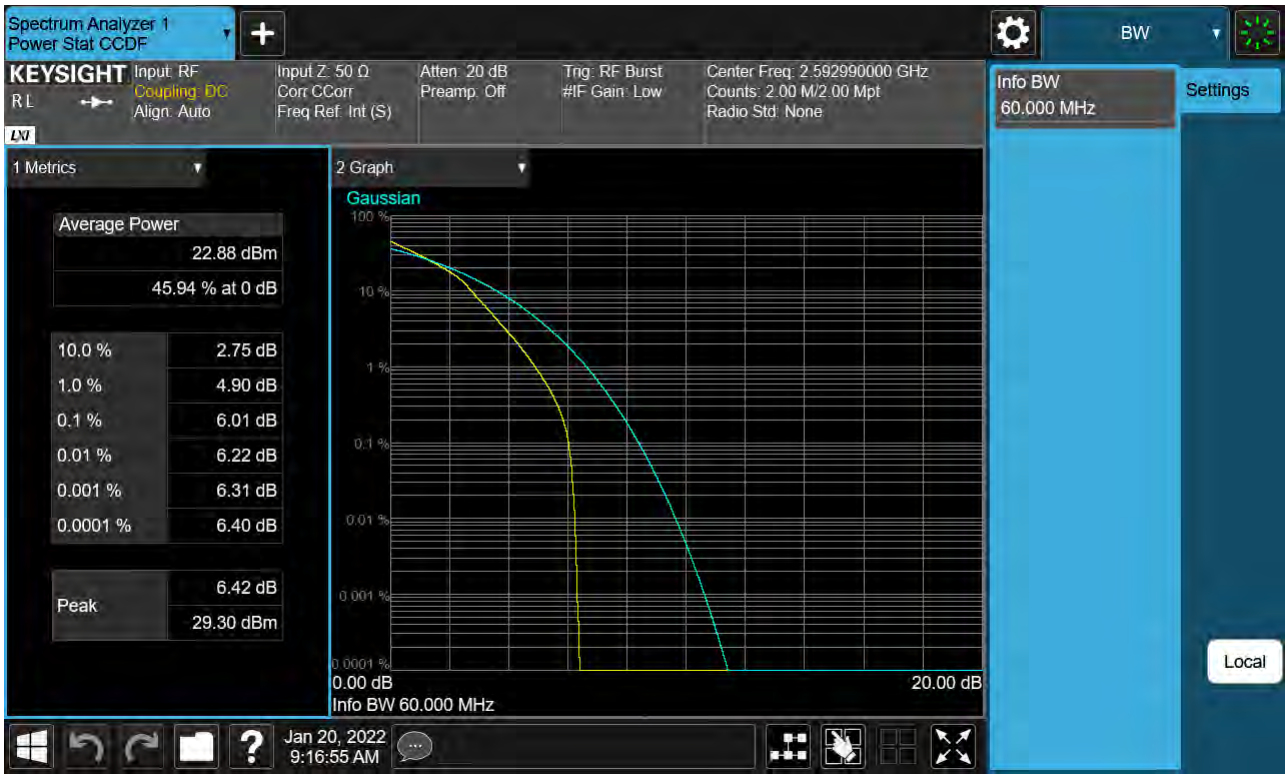
Sub6 n41. PAR Plot (60 M BW_Ch.518598_BPSK)



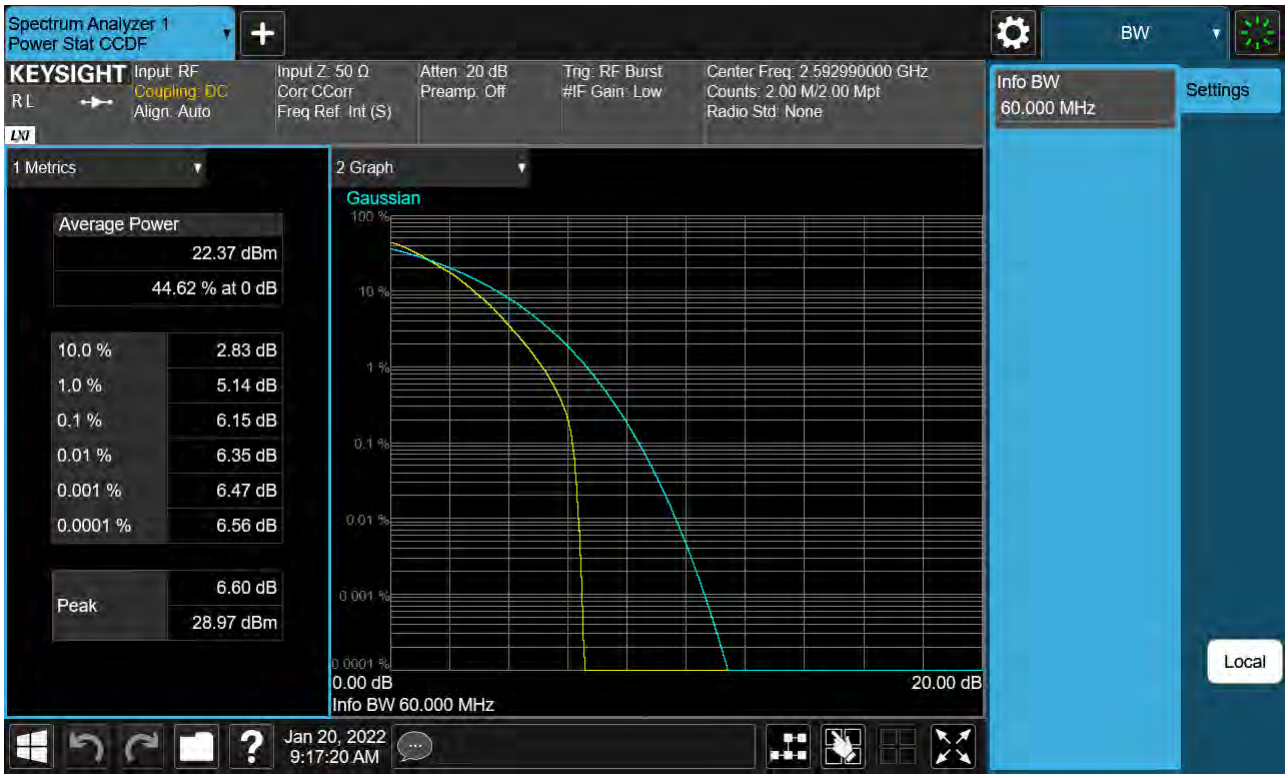
Sub6 n41. PAR Plot (60 M BW_Ch.518598_QPSK)



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

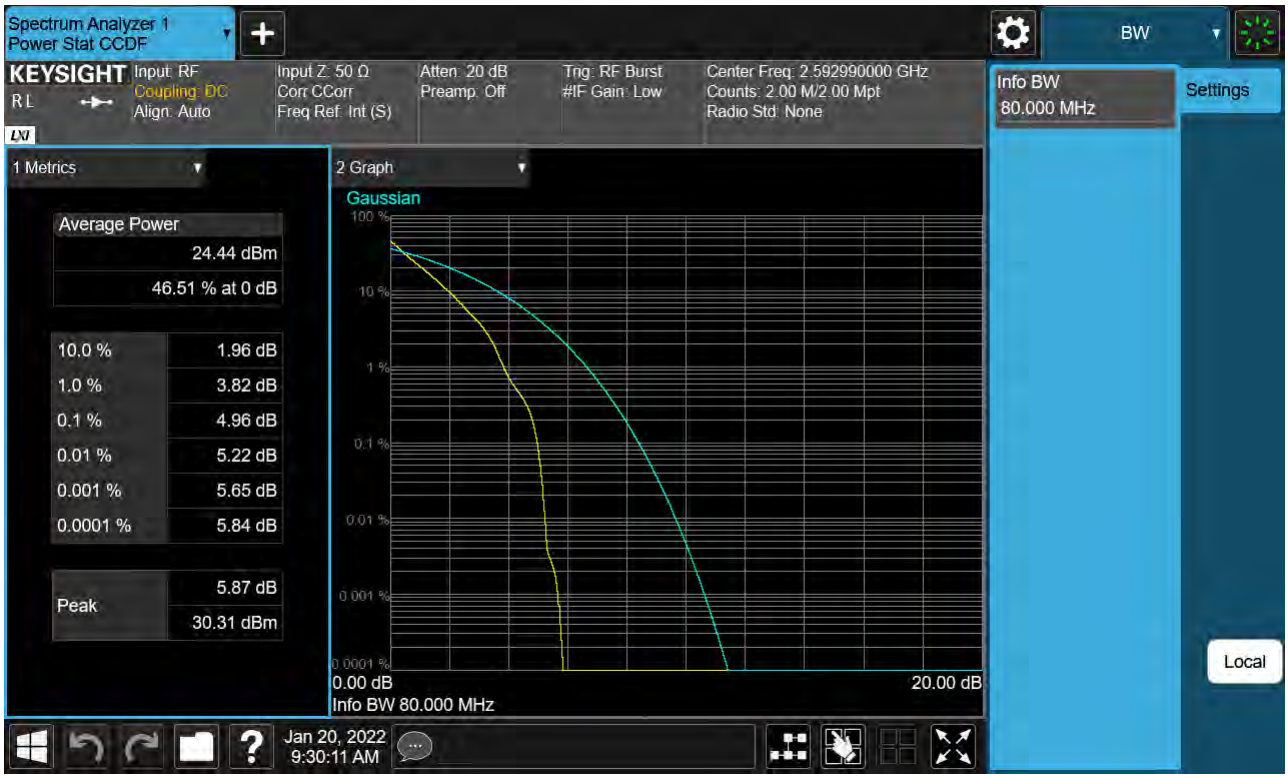


Sub6 n41. PAR Plot (60 M BW_Ch.518598_64QAM)

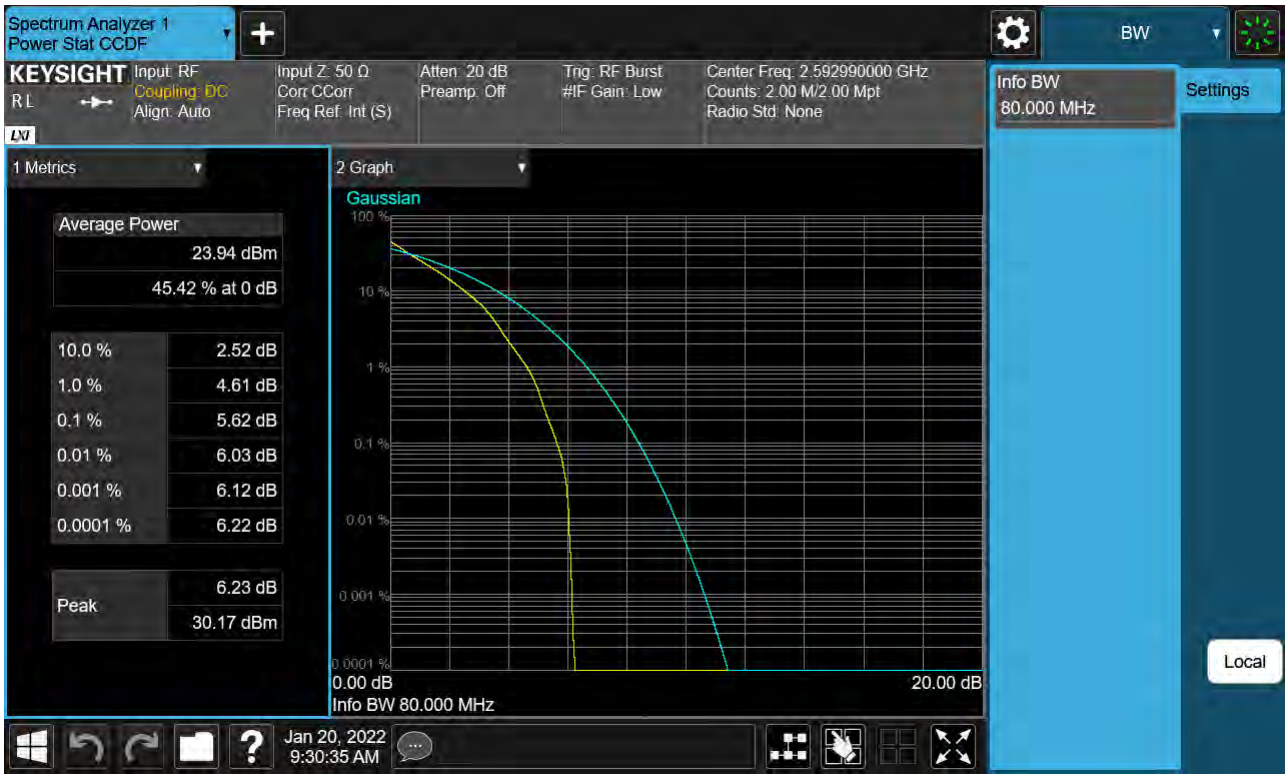


Sub6 n41. PAR Plot (60 M BW_Ch.518598_256QAM)

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



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

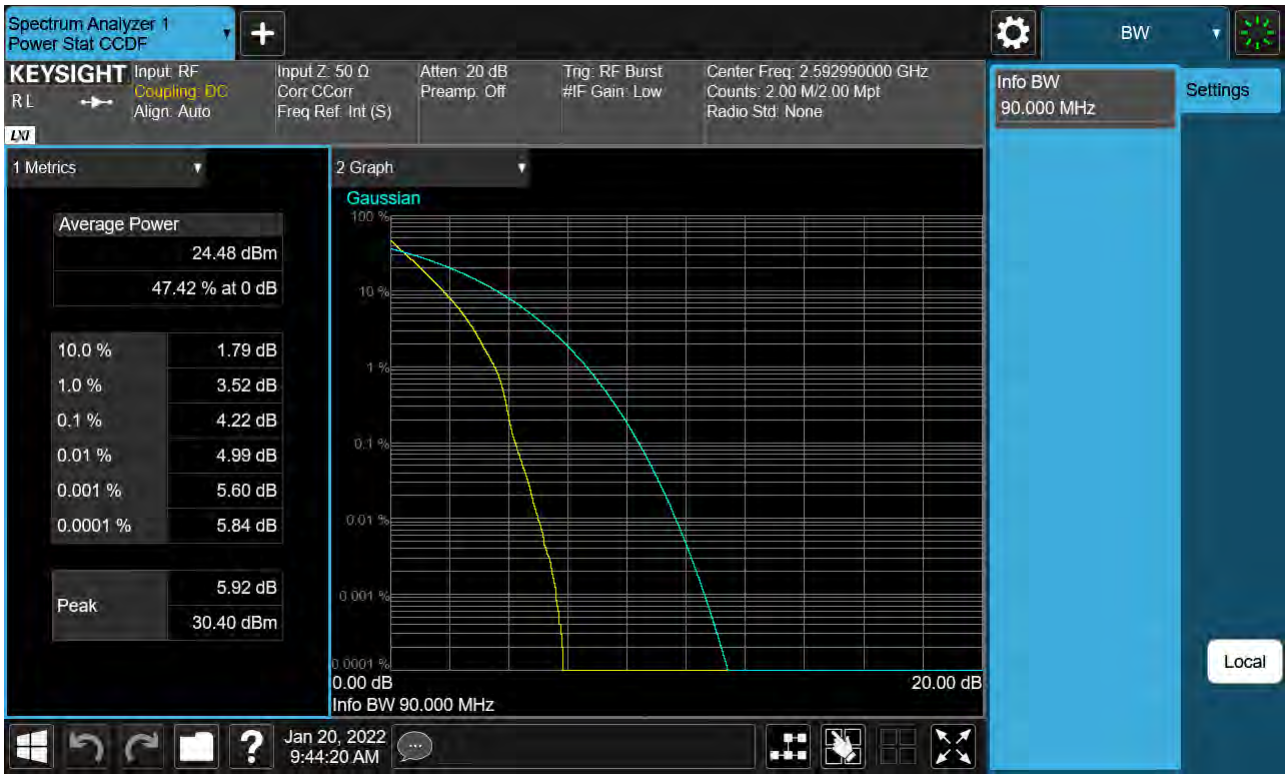


Sub6 n41. PAR Plot (80 M BW_Ch.518598_16QAM)

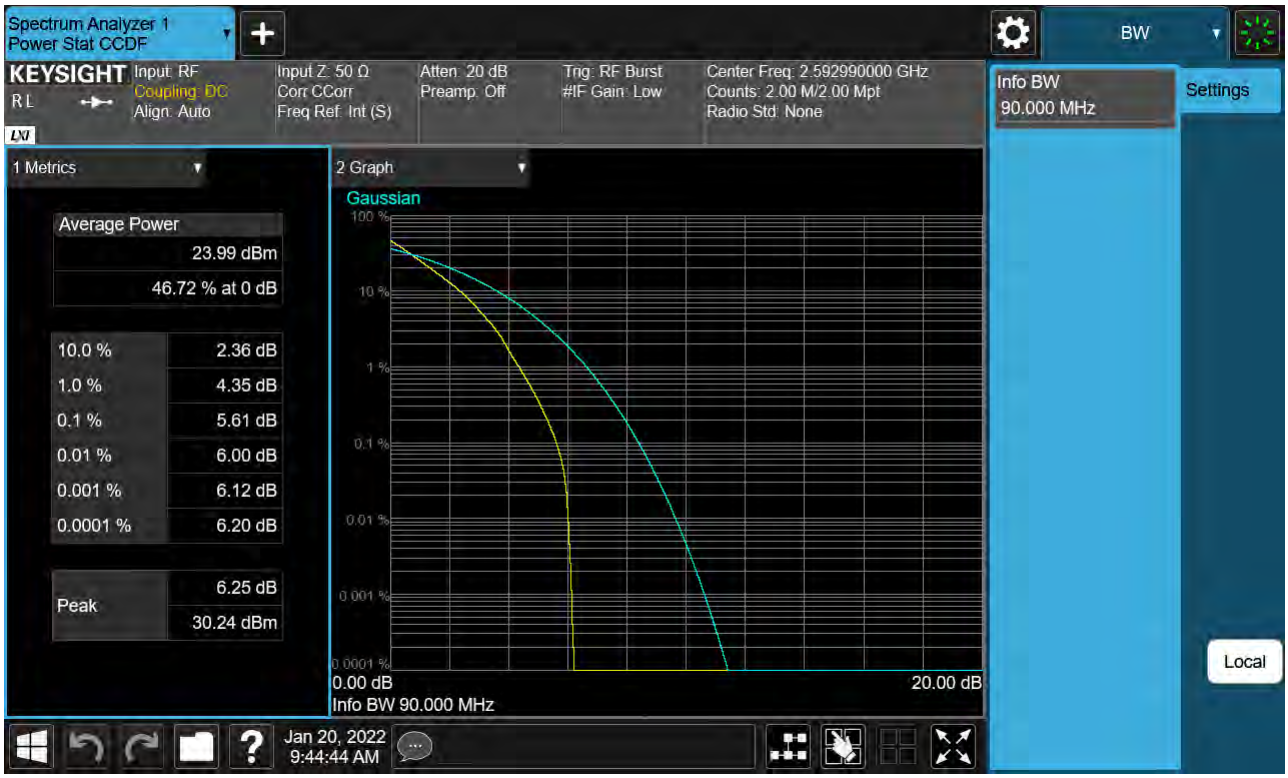
Sub6 n41. PAR Plot (80 M BW_Ch.518598_64QAM)

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

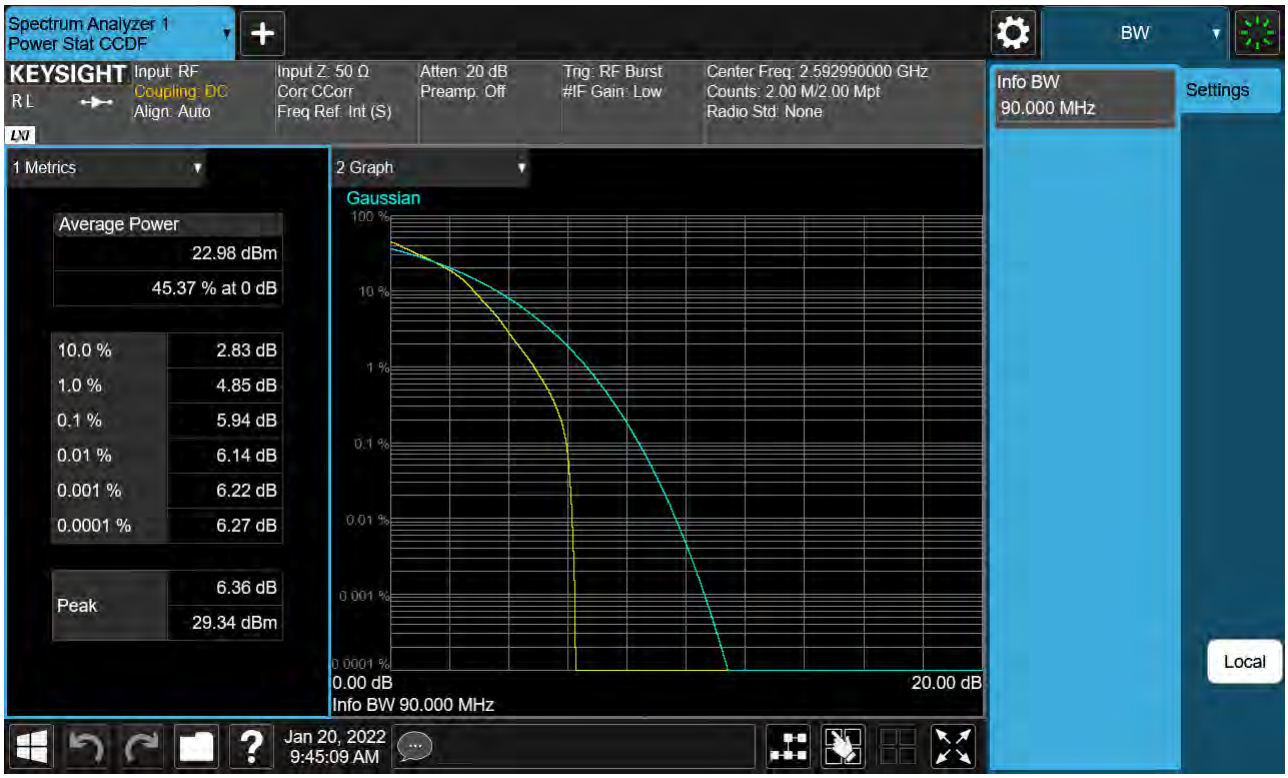
Sub6 n41. PAR Plot (90 M BW_Ch.518598_BPSK)



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



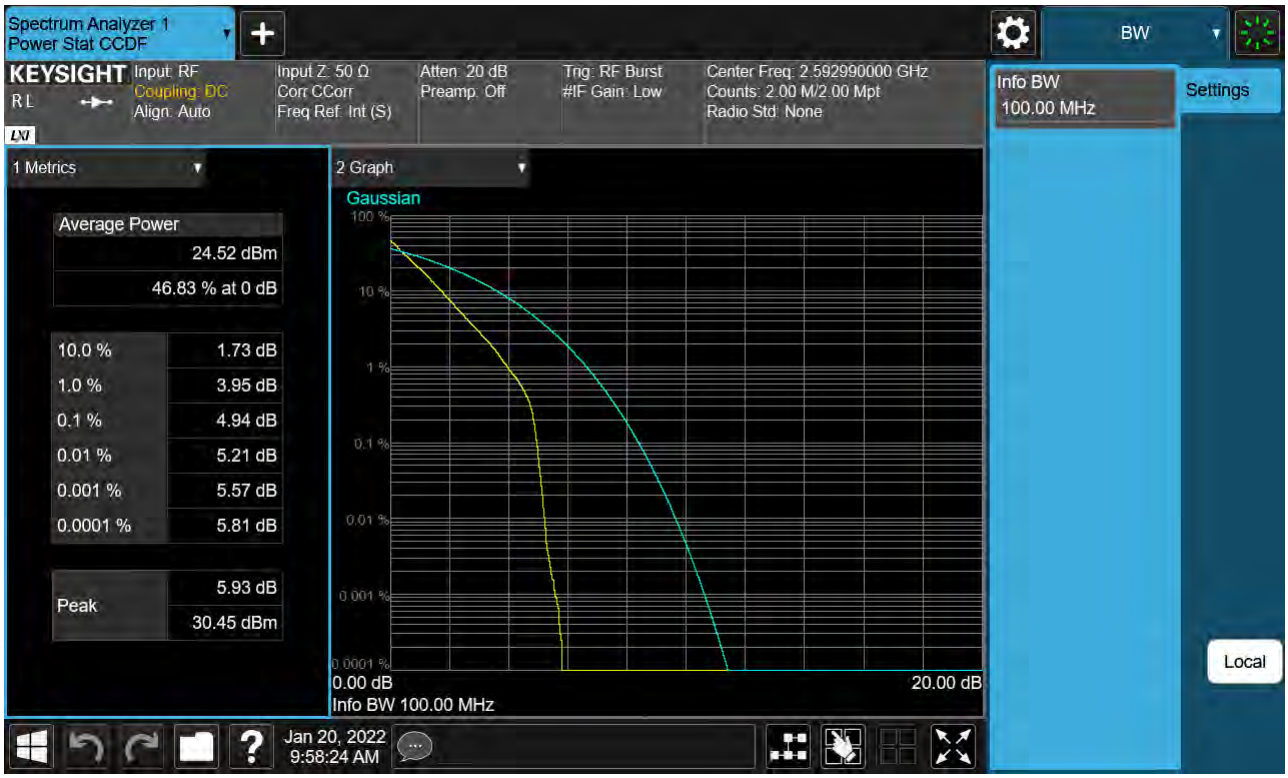
Sub6 n41. PAR Plot (90 M BW_Ch.518598_16QAM)



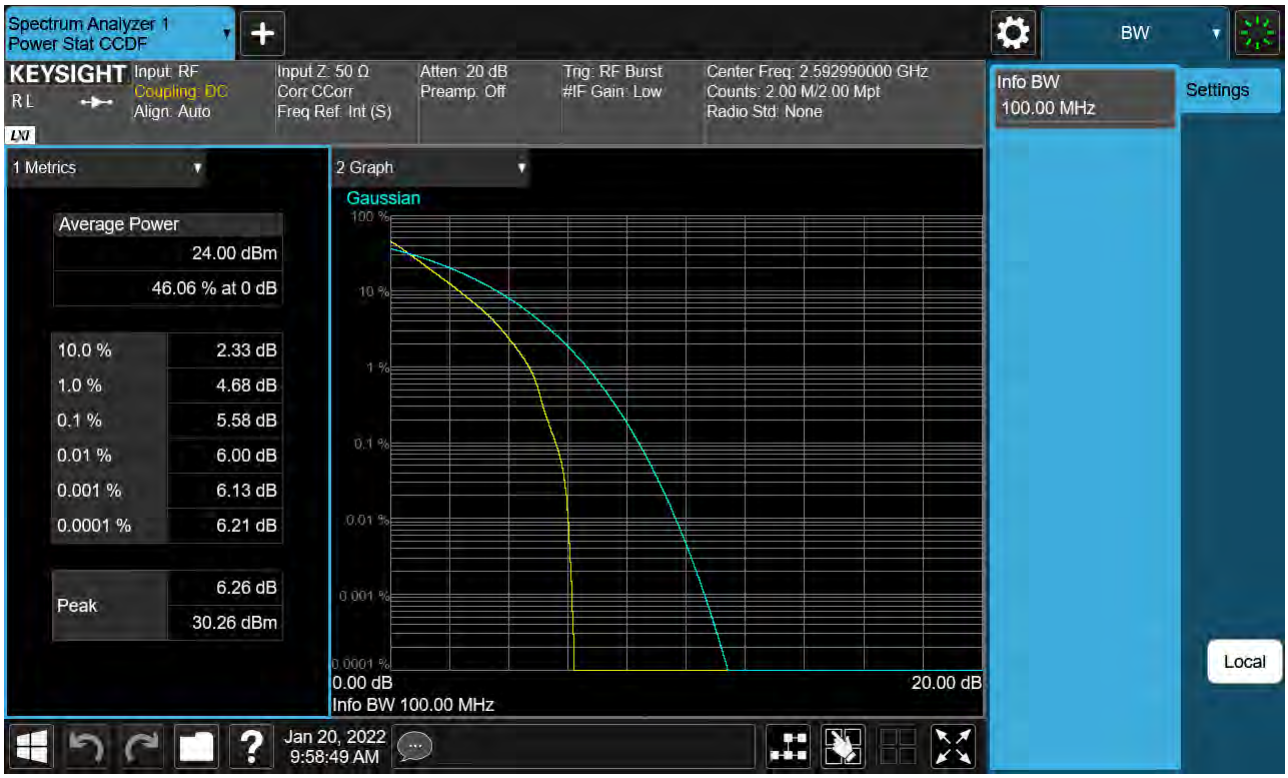
Sub6 n41. PAR Plot (90 M BW_Ch.518598_64QAM)

Sub6 n41. PAR Plot (90 M BW_Ch.518598_256QAM)

Sub6 n41. PAR Plot (100 M BW_Ch.518598_BPSK)



Sub6 n41. PAR Plot (100 M BW_Ch.518598_QPSK)



Sub6 n41. PAR Plot (100 M BW_Ch.518598_16QAM)

Sub6 n41. PAR Plot (100 M BW_Ch.518598_64QAM)

Sub6 n41. PAR Plot (100 M BW_Ch.518598_256QAM)