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

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

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

Date of Issue:
October 20, 2021

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

Report No.: HCT-RF-2110-FC014

FCC ID:	**A3LSMA136U**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

Model(s):	SM-A136U
Additional Model(s):	SM-A136U1, SM-S136DL
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	8M64G7D	PI/2 BPSK	0.431	26.34
		8M64G7D	QPSK	0.409	26.12
		8M65W7D	16QAM	0.327	25.14
		8M61W7D	64QAM	0.227	23.56
		8M60W7D	256QAM	0.169	22.28
Sub6 n41 (15)	2503.500 – 2682.480	13M0G7D	PI/2 BPSK	0.447	26.50
		13M0G7D	QPSK	0.433	26.36
		12M9W7D	16QAM	0.365	25.62
		13M0W7D	64QAM	0.252	24.02
		13M0W7D	256QAM	0.171	22.34
Sub6 n41 (20)	2506.020 – 2679.990	18M0G7D	PI/2 BPSK	0.445	26.48
		18M0G7D	QPSK	0.428	26.31
		18M0W7D	16QAM	0.355	25.50
		17M9W7D	64QAM	0.251	24.00
		18M0W7D	256QAM	0.167	22.24
Sub6 n41 (30)	2511.000 – 2674.980	27M0G7D	PI/2 BPSK	0.425	26.28
		27M0G7D	QPSK	0.403	26.05
		27M0W7D	16QAM	0.358	25.53
		27M0W7D	64QAM	0.251	23.99
		27M0W7D	256QAM	0.168	22.25
Sub6 n41 (40)	2516.010 – 2670.000	35M9G7D	PI/2 BPSK	0.437	26.40
		35M9G7D	QPSK	0.413	26.16
		35M9W7D	16QAM	0.366	25.64
		35M8W7D	64QAM	0.259	24.13
		35M8W7D	256QAM	0.170	22.31
Sub6 n41 (50)	2521.020 – 2664.990	45M9G7D	PI/2 BPSK	0.424	26.27
		45M8G7D	QPSK	0.410	26.12
		45M9W7D	16QAM	0.348	25.41

		45M8W7D	64QAM	0.254	24.04
		45M8W7D	256QAM	0.165	22.16
Sub6 n41 (60)	2526.000 – 2659.980	57M9G7D	PI/2 BPSK	0.396	25.98
		58M1G7D	QPSK	0.375	25.74
		58M0W7D	16QAM	0.341	25.33
		57M9W7D	64QAM	0.243	23.85
		57M8W7D	256QAM	0.159	22.02
Sub6 n41 (80)	2536.020 – 2649.990	77M3G7D	PI/2 BPSK	0.387	25.88
		77M3G7D	QPSK	0.360	25.56
		77M3W7D	16QAM	0.313	24.95
		77M4W7D	64QAM	0.218	23.39
		77M2W7D	256QAM	0.152	21.82
Sub6 n41 (90)	2541.000 – 2644.980	86M9G7D	PI/2 BPSK	0.404	26.07
		86M7G7D	QPSK	0.384	25.85
		86M7W7D	16QAM	0.348	25.42
		86M8W7D	64QAM	0.244	23.87
		86M8W7D	256QAM	0.158	21.99
Sub6 n41 (100)	2546.010 – 2640.000	96M4G7D	PI/2 BPSK	0.395	25.97
		96M4G7D	QPSK	0.375	25.74
		96M5W7D	16QAM	0.352	25.46
		96M3W7D	64QAM	0.231	23.63
		96M1W7D	256QAM	0.150	21.76

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)

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)

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2110-FC014	October 20, 2021	- 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:	A3LSMA136U
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-A136U
Additional Model(s):	SM-A136U1, SM-S136DL
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:	September 13, 2021 ~ October 19, 2021
Serial number:	Radiated: 420015e6dcbb8865 Conducted: R3CR807K62V

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 (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 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;

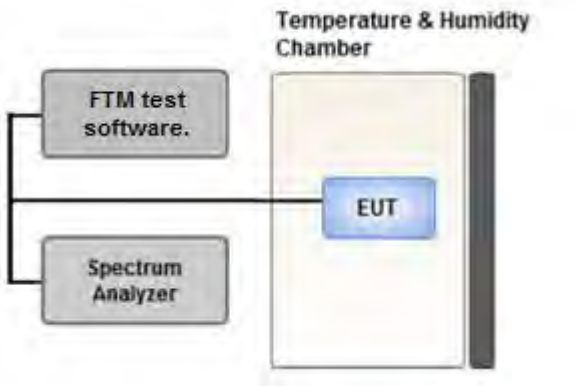
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

   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)

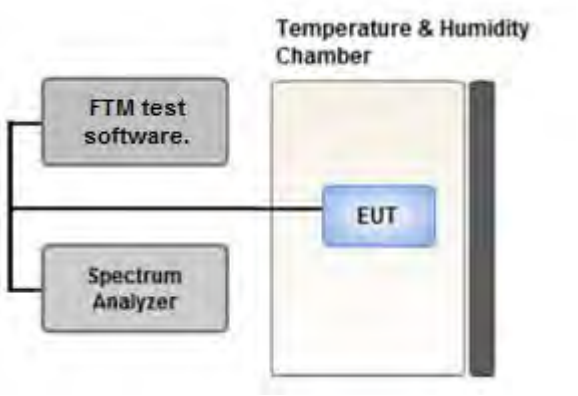
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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.

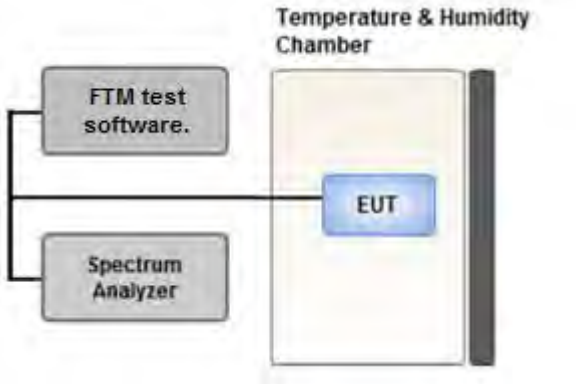
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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

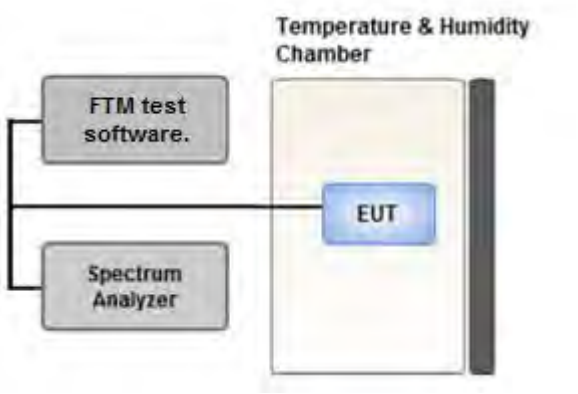
Test Overview

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.

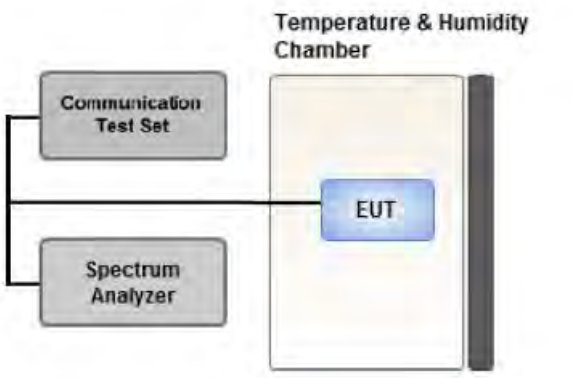
Test Settings

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: Power Class 2(SA), Power Class 3(SA/ NSA)
  Worst case: Power Class 2(SA)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-A136U & additional models were tested and the worst case results are reported.
  (Worst case : SM-A136U)

[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		Z
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 8.2		X

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
  (Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.
  Mode: Power Class 2(SA), Power Class 3(SA/ NSA)
  Worst case: Power Class 2(SA)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-A136U & additional models were tested and the worst case results are reported.
  (Worst case : SM-A136U)

[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	02/11/2022	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	12/04/2021	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.	6262116770	07/12/2022	Annual
Wideband Radio Communication Tester	MT8820C	Anritsu Corp.	6201026545	01/07/2022	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
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	-17.85	18.63	10.20	2.49	V	< 2.00	0.431	26.34	1	23
		QPSK	-18.07	18.41	10.20	2.49	V		0.409	26.12		
		16-QAM	-20.59	15.89	10.20	2.49	V		0.229	23.60		
		64-QAM	-21.21	15.27	10.20	2.49	V		0.199	22.98		
		256-QAM	-21.91	14.57	10.20	2.49	V		0.169	22.28		
2592.990		PI/2 BPSK	-18.48	17.98	10.42	2.56	V		0.384	25.84	1	1
		QPSK	-18.72	17.74	10.42	2.56	V		0.363	25.60		
		16-QAM	-19.18	17.28	10.42	2.56	V		0.327	25.14		
		64-QAM	-20.76	15.70	10.42	2.56	V		0.227	23.56		
		256-QAM	-22.57	13.89	10.42	2.56	V		0.150	21.75		
2685.000		PI/2 BPSK	-21.65	15.94	10.38	2.64	V		0.233	23.68	1	1
		QPSK	-21.90	15.69	10.38	2.64	V		0.220	23.43		
		16-QAM	-22.70	14.89	10.38	2.64	V		0.183	22.63		
		64-QAM	-24.17	13.42	10.38	2.64	V		0.131	21.16		
		256-QAM	-25.91	11.68	10.38	2.64	V		0.087	19.42		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2503.500	Sub6 41/ 15 MHz [30 kHz]	PI/2 BPSK	-17.79	18.76	10.24	2.50	V	< 2.00	0.447	26.50	1	37
		QPSK	-17.93	18.62	10.24	2.50	V		0.433	26.36		
		16-QAM	-20.67	15.88	10.24	2.50	V		0.230	23.62		
		64-QAM	-21.28	15.27	10.24	2.50	V		0.200	23.01		
		256-QAM	-21.95	14.60	10.24	2.50	V		0.171	22.34		
2592.990		PI/2 BPSK	-17.99	18.47	10.42	2.56	V		0.430	26.33	1	1
		QPSK	-18.20	18.26	10.42	2.56	V		0.409	26.12		
		16-QAM	-18.70	17.76	10.42	2.56	V		0.365	25.62		
		64-QAM	-20.30	16.16	10.42	2.56	V		0.252	24.02		
		256-QAM	-22.08	14.38	10.42	2.56	V		0.167	22.24		
2682.480		PI/2 BPSK	-21.63	16.00	10.34	2.64	V		0.234	23.70	1	1
		QPSK	-21.80	15.83	10.34	2.64	V		0.225	23.53		
		16-QAM	-22.57	15.06	10.34	2.64	V		0.189	22.76		
		64-QAM	-24.21	13.42	10.34	2.64	V		0.129	21.12		
		256-QAM	-25.94	11.69	10.34	2.64	V		0.087	19.39		

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	-17.81	18.74	10.24	2.50	V	< 2.00	0.445	26.48	1	26
		QPSK	-17.98	18.57	10.24	2.50	V		0.428	26.31		
		16-QAM	-18.79	17.76	10.24	2.50	V		0.355	25.50		
		64-QAM	-20.29	16.26	10.24	2.50	V		0.251	24.00		
		256-QAM	-22.05	14.50	10.24	2.50	V		0.167	22.24		
2592.990		PI/2 BPSK	-18.31	18.15	10.42	2.56	V		0.399	26.01	1	1
		QPSK	-18.50	17.96	10.42	2.56	V		0.382	25.82		
		16-QAM	-19.30	17.16	10.42	2.56	V		0.318	25.02		
		64-QAM	-20.83	15.63	10.42	2.56	V		0.223	23.49		
		256-QAM	-22.65	13.81	10.42	2.56	V		0.147	21.67		
2679.990		PI/2 BPSK	-21.81	15.97	10.34	2.63	V		0.233	23.68	1	1
		QPSK	-22.01	15.77	10.34	2.63	V		0.223	23.48		
		16-QAM	-22.68	15.10	10.34	2.63	V		0.191	22.81		
		64-QAM	-24.31	13.47	10.34	2.63	V		0.131	21.18		
		256-QAM	-26.03	11.75	10.34	2.63	V		0.088	19.46		

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	-18.10	18.59	10.20	2.51	V	< 2.00	0.425	26.28	1	39
		QPSK	-18.33	18.36	10.20	2.51	V		0.403	26.05		
		16-QAM	-18.85	17.84	10.20	2.51	V		0.358	25.53		
		64-QAM	-20.39	16.30	10.20	2.51	V		0.251	23.99		
		256-QAM	-22.13	14.56	10.20	2.51	V		0.168	22.25		
2592.990		PI/2 BPSK	-18.39	18.07	10.42	2.56	V		0.392	25.93	1	1
		QPSK	-18.62	17.84	10.42	2.56	V		0.372	25.70		
		16-QAM	-19.32	17.14	10.42	2.56	V		0.316	25.00		
		64-QAM	-20.88	15.58	10.42	2.56	V		0.221	23.44		
		256-QAM	-22.64	13.82	10.42	2.56	V		0.147	21.68		
2674.980		PI/2 BPSK	-21.81	15.52	10.30	2.62	V		0.209	23.20	1	1
		QPSK	-21.98	15.35	10.30	2.62	V		0.201	23.03		
		16-QAM	-22.67	14.66	10.30	2.62	V		0.171	22.34		
		64-QAM	-24.28	13.05	10.30	2.62	V		0.118	20.73		
		256-QAM	-25.97	11.36	10.30	2.62	V		0.080	19.04		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2516.010	Sub6 41/ 40 MHz [30 kHz]	PI/2 BPSK	-17.97	18.61	10.32	2.53	V	< 2.00	0.437	26.40	1	53
		QPSK	-18.21	18.37	10.32	2.53	V		0.413	26.16		
		16-QAM	-18.73	17.85	10.32	2.53	V		0.366	25.64		
		64-QAM	-20.24	16.34	10.32	2.53	V		0.259	24.13		
		256-QAM	-22.06	14.52	10.32	2.53	V		0.170	22.31		
2592.990		PI/2 BPSK	-18.86	17.60	10.42	2.56	V		0.352	25.46	1	1
		QPSK	-18.90	17.56	10.42	2.56	V		0.348	25.42		
		16-QAM	-19.74	16.72	10.42	2.56	V		0.287	24.58		
		64-QAM	-21.34	15.12	10.42	2.56	V		0.199	22.98		
		256-QAM	-23.01	13.45	10.42	2.56	V		0.135	21.31		
2670.000		PI/2 BPSK	-21.90	14.97	10.26	2.60	V		0.183	22.63	1	1
		QPSK	-22.08	14.79	10.26	2.60	V		0.176	22.45		
		16-QAM	-23.08	13.79	10.26	2.60	V		0.140	21.45		
		64-QAM	-24.34	12.53	10.26	2.60	V		0.104	20.19		
		256-QAM	-26.32	10.55	10.26	2.60	V		0.066	18.21		

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	-18.08	18.46	10.36	2.55	V	< 2.00	0.424	26.27	1	67
		QPSK	-18.23	18.31	10.36	2.55	V		0.410	26.12		
		16-QAM	-18.94	17.60	10.36	2.55	V		0.348	25.41		
		64-QAM	-20.31	16.23	10.36	2.55	V		0.254	24.04		
		256-QAM	-22.19	14.35	10.36	2.55	V		0.165	22.16		
2592.990		PI/2 BPSK	-18.97	17.49	10.42	2.56	V		0.343	25.35	1	1
		QPSK	-19.14	17.32	10.42	2.56	V		0.330	25.18		
		16-QAM	-19.61	16.85	10.42	2.56	V		0.296	24.71		
		64-QAM	-21.21	15.25	10.42	2.56	V		0.205	23.11		
		256-QAM	-23.06	13.40	10.42	2.56	V		0.134	21.26		
2664.990		PI/2 BPSK	-21.80	15.04	10.22	2.60	V		0.185	22.66	1	1
		QPSK	-22.07	14.77	10.22	2.60	V		0.173	22.39		
		16-QAM	-22.72	14.12	10.22	2.60	V		0.149	21.74		
		64-QAM	-24.15	12.69	10.22	2.60	V		0.107	20.31		
		256-QAM	-25.86	10.98	10.22	2.60	V		0.072	18.60		

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	-18.22	18.14	10.40	2.56	V	< 2.00	0.396	25.98	1	81
		QPSK	-18.46	17.90	10.40	2.56	V		0.375	25.74		
		16-QAM	-18.87	17.49	10.40	2.56	V		0.341	25.33		
		64-QAM	-20.35	16.01	10.40	2.56	V		0.243	23.85		
		256-QAM	-22.18	14.18	10.40	2.56	V		0.159	22.02		
2592.990		PI/2 BPSK	-18.76	17.70	10.42	2.56	V		0.360	25.56	1	1
		QPSK	-18.87	17.59	10.42	2.56	V		0.351	25.45		
		16-QAM	-19.65	16.81	10.42	2.56	V		0.293	24.67		
		64-QAM	-21.17	15.29	10.42	2.56	V		0.207	23.15		
		256-QAM	-23.05	13.41	10.42	2.56	V		0.134	21.27		
2659.980		PI/2 BPSK	-21.51	15.30	10.18	2.60	V		0.194	22.88	1	1
		QPSK	-21.75	15.06	10.18	2.60	V		0.184	22.64		
		16-QAM	-22.13	14.68	10.18	2.60	V		0.168	22.26		
		64-QAM	-23.71	13.10	10.18	2.60	V		0.117	20.68		
		256-QAM	-25.53	11.28	10.18	2.60	V		0.077	18.86		

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	-18.31	17.96	10.48	2.56	V	< 2.00	0.387	25.88	1	109
		QPSK	-18.63	17.64	10.48	2.56	V		0.360	25.56		
		16-QAM	-19.24	17.03	10.48	2.56	V		0.313	24.95		
		64-QAM	-20.80	15.47	10.48	2.56	V		0.218	23.39		
		256-QAM	-22.37	13.90	10.48	2.56	V		0.152	21.82		
2592.990		PI/2 BPSK	-18.81	17.65	10.42	2.56	V		0.356	25.51	1	1
		QPSK	-19.17	17.29	10.42	2.56	V		0.327	25.15		
		16-QAM	-19.86	16.60	10.42	2.56	V		0.279	24.46		
		64-QAM	-21.33	15.13	10.42	2.56	V		0.199	22.99		
		256-QAM	-22.91	13.55	10.42	2.56	V		0.138	21.41		
2649.990		PI/2 BPSK	-20.53	15.84	10.10	2.61	V		0.215	23.33	1	1
		QPSK	-20.82	15.55	10.10	2.61	V		0.201	23.04		
		16-QAM	-21.49	14.88	10.10	2.61	V		0.173	22.37		
		64-QAM	-23.06	13.31	10.10	2.61	V		0.120	20.80		
		256-QAM	-24.55	11.82	10.10	2.61	V		0.085	19.31		

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	-18.27	18.10	10.52	2.55	V	< 2.00	0.404	26.07	1	123
		QPSK	-18.49	17.88	10.52	2.55	V		0.384	25.85		
		16-QAM	-18.92	17.45	10.52	2.55	V		0.348	25.42		
		64-QAM	-20.47	15.90	10.52	2.55	V		0.244	23.87		
		256-QAM	-22.35	14.02	10.52	2.55	V		0.158	21.99		
2592.990		PI/2 BPSK	-18.86	17.60	10.42	2.56	V		0.352	25.46	1	123
		QPSK	-19.01	17.45	10.42	2.56	V		0.340	25.31		
		16-QAM	-19.74	16.72	10.42	2.56	V		0.287	24.58		
		64-QAM	-21.17	15.29	10.42	2.56	V		0.207	23.15		
		256-QAM	-23.11	13.35	10.42	2.56	V		0.132	21.21		
2644.980		PI/2 BPSK	-20.08	16.55	10.13	2.62	V		0.255	24.06	1	1
		QPSK	-20.30	16.33	10.13	2.62	V		0.242	23.84		
		16-QAM	-20.77	15.86	10.13	2.62	V		0.217	23.37		
		64-QAM	-22.37	14.26	10.13	2.62	V		0.150	21.77		
		256-QAM	-24.21	12.42	10.13	2.62	V		0.098	19.93		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
2546.010	Sub6 41/ 100 MHz [30 kHz]	PI/2 BPSK	-18.41	17.97	10.56	2.56	V	< 2.00	0.395	25.97	1	136
		QPSK	-18.64	17.74	10.56	2.56	V		0.375	25.74		
		16-QAM	-18.92	17.46	10.56	2.56	V		0.352	25.46		
		64-QAM	-20.75	15.63	10.56	2.56	V		0.231	23.63		
		256-QAM	-22.62	13.76	10.56	2.56	V		0.150	21.76		
2592.990		PI/2 BPSK	-18.73	17.73	10.42	2.56	V		0.362	25.59	1	136
		QPSK	-18.86	17.60	10.42	2.56	V		0.352	25.46		
		16-QAM	-19.59	16.87	10.42	2.56	V		0.297	24.73		
		64-QAM	-21.05	15.41	10.42	2.56	V		0.212	23.27		
		256-QAM	-22.81	13.65	10.42	2.56	V		0.142	21.51		
2640.000		PI/2 BPSK	-19.54	17.35	10.16	2.63	V		0.307	24.88	1	1
		QPSK	-19.74	17.15	10.16	2.63	V		0.293	24.68		
		16-QAM	-20.26	16.63	10.16	2.63	V		0.260	24.16		
		64-QAM	-21.90	14.99	10.16	2.63	V		0.178	22.52		
		256-QAM	-23.66	13.23	10.16	2.63	V		0.119	20.76		

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	-51.47	10.90	-51.43	3.78	H	-44.31	-25.00
	7 503.03	-58.17	11.51	-48.97	4.54	H	-42.00	-25.00
	10 004.04	-56.03	11.78	-44.94	5.29	V	-38.45	-25.00
	12 505.05	-59.36	12.99	-47.97	6.03	V	-41.00	-25.00
	15 006.06	-57.61	14.42	-49.39	6.76	V	-41.73	-25.00
518598 (2592.990)	5 185.98	-54.78	11.47	-54.43	3.90	H	-46.85	-25.00
	7 778.97	-54.84	11.28	-45.42	4.66	V	-38.80	-25.00
	10 371.96	-56.02	11.80	-43.32	5.41	V	-36.93	-25.00
	12 964.95	-58.28	12.70	-46.00	6.26	V	-39.56	-25.00
	15 557.94	-62.02	16.22	-53.59	6.86	H	-44.23	-25.00
537000 (2685.000)	5 370.00	-57.78	11.84	-58.19	3.87	V	-50.22	-25.00
	8 055.00	-55.77	11.30	-46.38	4.73	V	-39.80	-25.00
	10 740.00	-58.96	11.70	-45.20	5.48	H	-38.98	-25.00
	13 425.00	-59.06	12.50	-46.32	6.34	V	-40.16	-25.00
	16 110.00	-63.71	16.50	-51.45	6.98	V	-41.93	-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	-55.46	10.91	-55.17	3.78	V	-48.03	-25.00
	7 510.50	-58.10	11.52	-48.62	4.52	V	-41.62	-25.00
	10 014.00	-57.64	11.77	-46.78	5.30	V	-40.30	-25.00
	12 517.50	-59.40	12.97	-48.17	6.06	V	-41.26	-25.00
	15 021.00	-57.08	14.48	-48.62	6.74	V	-40.88	-25.00
518598 (2592.990)	5 185.98	-57.70	11.47	-57.35	3.90	V	-49.77	-25.00
	7 778.97	-55.90	11.28	-46.48	4.66	V	-39.86	-25.00
	10 371.96	-56.18	11.80	-43.48	5.41	V	-37.09	-25.00
	12 964.95	-61.52	12.70	-49.24	6.26	V	-42.80	-25.00
	15 557.94	-61.37	16.22	-52.94	6.86	V	-43.58	-25.00
536496 (2682.480)	5 364.96	-60.13	11.83	-60.46	3.86	V	-52.48	-25.00
	8 047.44	-55.92	11.30	-46.61	4.72	V	-40.03	-25.00
	10 729.92	-59.38	11.70	-45.47	5.47	V	-39.24	-25.00
	13 412.40	-58.99	12.50	-45.99	6.34	V	-39.83	-25.00
	16 094.88	-64.31	16.50	-52.50	7.00	V	-42.99	-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	-53.68	10.92	-53.12	3.77	V	-45.97	-25.00
	7 518.06	-58.28	11.54	-48.92	4.51	V	-41.89	-25.00
	10 024.08	-57.24	11.75	-46.45	5.30	V	-40.00	-25.00
	12 530.10	-58.51	12.94	-46.86	6.10	V	-40.02	-25.00
	15 036.12	-57.75	14.54	-48.85	6.72	V	-41.03	-25.00
518598 (2592.990)	5 185.98	-58.63	11.47	-58.28	3.90	V	-50.70	-25.00
	7 778.97	-54.77	11.28	-45.35	4.66	V	-38.73	-25.00
	10 371.96	-56.75	11.80	-44.05	5.41	V	-37.66	-25.00
	12 964.95	-61.74	12.70	-49.46	6.26	V	-43.02	-25.00
	15 557.94	-61.22	16.22	-52.79	6.86	V	-43.43	-25.00
535998 (2679.990)	5 359.98	-57.17	11.82	-57.42	3.84	V	-49.44	-25.00
	8 039.97	-56.99	11.28	-47.75	4.71	V	-41.18	-25.00
	10 719.96	-59.46	11.70	-45.46	5.48	V	-39.24	-25.00
	13 399.95	-59.84	12.50	-46.40	6.33	V	-40.23	-25.00
	16 079.94	-64.82	16.50	-53.37	7.00	V	-43.87	-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	-54.62	10.94	-54.46	3.72	V	-47.24	-25.00
	7 533.00	-53.48	11.56	-44.63	4.56	V	-37.62	-25.00
	10 044.00	-56.76	11.71	-45.76	5.29	V	-39.34	-25.00
	12 555.00	-59.17	12.90	-47.25	6.17	V	-40.52	-25.00
	15 066.00	-56.35	14.66	-48.53	6.76	V	-40.63	-25.00
518598 (2592.990)	5 185.98	-57.84	11.47	-57.49	3.90	V	-49.91	-25.00
	7 778.97	-56.48	11.28	-47.06	4.66	V	-40.44	-25.00
	10 371.96	-55.07	11.80	-42.37	5.41	V	-35.98	-25.00
	12 964.95	-64.07	12.70	-51.79	6.26	V	-45.35	-25.00
	15 557.94	-61.04	16.22	-52.61	6.86	V	-43.25	-25.00
534996 (2674.980)	5 349.96	-61.15	11.80	-61.14	3.79	V	-53.13	-25.00
	8 024.94	-58.16	11.25	-48.59	4.69	V	-42.03	-25.00
	10 699.92	-60.64	11.70	-47.03	5.51	V	-40.84	-25.00
	13 374.90	-58.49	12.60	-45.89	6.29	V	-39.58	-25.00
	16 049.88	-64.85	16.50	-53.28	6.99	V	-43.77	-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	-55.30	10.96	-55.59	3.66	V	-48.29	-25.00
	7 548.03	-54.37	11.58	-45.27	4.63	V	-38.32	-25.00
	10 064.04	-58.10	11.67	-47.25	5.31	V	-40.89	-25.00
	12 580.05	-59.36	12.90	-48.17	6.12	V	-41.39	-25.00
	15 096.06	-59.82	14.78	-50.83	6.81	V	-42.86	-25.00
518598 (2592.990)	5 185.98	-57.17	11.47	-56.82	3.90	V	-49.24	-25.00
	7 778.97	-57.83	11.28	-48.41	4.66	V	-41.79	-25.00
	10 371.96	-57.57	11.80	-44.87	5.41	V	-38.48	-25.00
	12 964.95	-58.09	12.70	-45.81	6.26	V	-39.37	-25.00
	15 557.94	-60.77	16.22	-52.34	6.86	V	-42.98	-25.00
534000 (2670.000)	5 340.00	-61.03	11.78	-61.52	3.78	V	-53.52	-25.00
	8 010.00	-58.50	11.22	-48.74	4.66	V	-42.18	-25.00
	10 680.00	-63.25	11.70	-48.99	5.56	V	-42.85	-25.00
	13 350.00	-62.29	12.70	-48.94	6.30	V	-42.54	-25.00
	16 020.00	-63.88	16.50	-53.47	6.96	V	-43.93	-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	-57.82	10.98	-58.58	3.65	V	-51.25	-25.00
	7 563.06	-57.83	11.60	-48.63	4.65	V	-41.67	-25.00
	10 084.08	-58.79	11.63	-47.75	5.35	V	-41.46	-25.00
	12 605.10	-61.47	12.90	-49.72	6.08	V	-42.90	-25.00
	15 126.12	-59.94	14.85	-51.86	6.75	V	-43.76	-25.00
518598 (2592.990)	5 185.98	-57.66	11.47	-57.31	3.90	V	-49.73	-25.00
	7 778.97	-58.84	11.28	-49.42	4.66	V	-42.80	-25.00
	10 371.96	-59.29	11.80	-46.59	5.41	V	-40.20	-25.00
	12 964.95	-59.27	12.70	-46.99	6.26	V	-40.55	-25.00
	15 557.94	-61.95	16.22	-53.52	6.86	V	-44.16	-25.00
532998 (2664.990)	5 329.98	-60.88	11.76	-61.27	3.76	V	-53.27	-25.00
	7 994.97	-56.13	11.19	-46.53	4.64	V	-39.97	-25.00
	10 659.96	-63.20	11.70	-48.67	5.51	V	-42.48	-25.00
	13 324.95	-62.15	12.75	-48.50	6.39	V	-42.13	-25.00
	15 989.94	-63.76	16.50	-52.92	6.96	V	-43.38	-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	-55.16	11.00	-55.59	3.66	V	-48.25	-25.00
	7 578.00	-59.38	11.60	-50.53	4.60	V	-43.53	-25.00
	10 104.00	-61.15	11.60	-50.06	5.34	V	-43.79	-25.00
	12 630.00	-60.77	12.90	-49.66	6.19	V	-42.95	-25.00
	15 156.00	-60.65	14.91	-51.78	6.76	V	-43.62	-25.00
518598 (2592.990)	5 185.98	-55.65	11.47	-55.30	3.90	V	-47.72	-25.00
	7 778.97	-55.18	11.28	-45.76	4.66	V	-39.14	-25.00
	10 371.96	-55.20	11.80	-42.50	5.41	V	-36.11	-25.00
	12 964.95	-59.08	12.70	-46.80	6.26	V	-40.36	-25.00
	15 557.94	-59.63	16.22	-51.20	6.86	V	-41.84	-25.00
531996 (2659.980)	5 319.96	-60.89	11.74	-61.61	3.80	V	-53.67	-25.00
	7 979.94	-55.31	11.16	-45.93	4.66	V	-39.43	-25.00
	10 639.92	-64.50	11.70	-50.65	5.44	V	-44.39	-25.00
	13 299.90	-63.40	12.80	-50.32	6.31	V	-43.83	-25.00
	15 959.88	-62.72	16.50	-52.65	6.97	V	-43.12	-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	-57.66	11.08	-57.27	3.73	V	-49.92	-25.00
	7 608.06	-56.44	11.60	-47.30	4.54	V	-40.24	-25.00
	10 144.08	-59.32	11.60	-47.78	5.33	V	-41.50	-25.00
	12 680.10	-60.58	12.78	-48.23	6.16	V	-41.61	-25.00
	15 216.12	-61.14	15.03	-52.28	6.78	V	-44.03	-25.00
518598 (2592.990)	5 185.98	-60.12	11.47	-59.77	3.90	V	-52.19	-25.00
	7 778.97	-56.73	11.28	-47.31	4.66	V	-40.69	-25.00
	10 371.96	-61.10	11.80	-48.40	5.41	V	-42.01	-25.00
	12 964.95	-58.95	12.70	-46.67	6.26	V	-40.23	-25.00
	15 557.94	-61.52	16.22	-53.09	6.86	V	-43.73	-25.00
529998 (2649.990)	5 299.98	-60.00	11.70	-60.16	3.91	V	-52.37	-25.00
	7 949.97	-62.93	11.10	-53.02	4.74	V	-46.66	-25.00
	10 599.96	-60.03	11.70	-46.67	5.53	V	-40.50	-25.00
	13 249.95	-63.89	12.90	-51.74	6.31	V	-45.15	-25.00
	15 899.94	-62.15	16.40	-51.65	6.95	V	-42.20	-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	-56.79	11.12	-56.49	3.74	V	-49.11	-25.00
	7 623.00	-60.64	11.60	-51.19	4.55	V	-44.14	-25.00
	10 164.00	-55.79	11.60	-44.05	5.35	V	-37.79	-25.00
	12 705.00	-63.02	12.69	-49.76	6.17	V	-43.24	-25.00
	15 246.00	-60.97	15.09	-52.64	6.76	V	-44.31	-25.00
518598 (2592.990)	5 185.98	-60.35	11.47	-60.00	3.90	V	-52.42	-25.00
	7 778.97	-53.94	11.28	-44.52	4.66	V	-37.90	-25.00
	10 371.96	-57.80	11.80	-45.10	5.41	V	-38.71	-25.00
	12 964.95	-60.95	12.70	-48.67	6.26	V	-42.23	-25.00
	15 557.94	-61.72	16.22	-53.29	6.86	V	-43.93	-25.00
528996 (2644.980)	5 289.96	-61.32	11.68	-61.47	3.90	V	-53.69	-25.00
	7 934.94	-57.09	11.07	-47.88	4.69	V	-41.50	-25.00
	10 579.92	-62.63	11.70	-49.83	5.51	V	-43.64	-25.00
	13 224.90	-63.77	12.90	-50.55	6.32	V	-43.97	-25.00
	15 869.88	-63.06	16.40	-53.76	6.95	V	-44.31	-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	-55.22	11.16	-55.31	3.79	V	-47.94	-25.00
	7 638.03	-59.48	11.60	-50.65	4.58	V	-43.63	-25.00
	10 184.04	-57.75	11.60	-46.22	5.38	V	-39.99	-25.00
	12 730.05	-61.19	12.64	-48.16	6.20	V	-41.72	-25.00
	15 276.06	-61.40	15.20	-52.80	6.80	V	-44.40	-25.00
518598 (2592.990)	5 185.98	-58.54	11.47	-58.19	3.90	V	-50.61	-25.00
	7 778.97	-55.50	11.28	-46.08	4.66	V	-39.46	-25.00
	10 371.96	-57.92	11.80	-45.22	5.41	V	-38.83	-25.00
	12 964.95	-59.05	12.70	-46.77	6.26	V	-40.33	-25.00
	15 557.94	-62.20	16.22	-53.77	6.86	V	-44.41	-25.00
528000 (2640.000)	5 280.00	-59.41	11.66	-60.11	3.84	V	-52.29	-25.00
	7 920.00	-58.21	11.04	-48.67	4.64	V	-42.27	-25.00
	10 560.00	-56.43	11.70	-43.30	5.47	V	-37.07	-25.00
	13 200.00	-61.48	12.90	-49.28	6.27	V	-42.65	-25.00
	15 840.00	-63.11	16.40	-53.00	6.90	V	-43.50	-25.00

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

(Worst case: 2A(10MHz)-n41A(30MHz))

▣ NR Band: N41
▣ LTE Band(Anchor): B2
▣ Bandwidth: 10 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 1 meters
▣ SCS: 30 kHz

ENDC-Mode: 2A – n41A (PC3)

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
18900 (1880.0)	3760.00	-56.26	11.64	-56.49	3.16	H	-48.01	-13.00
	5640.00	-59.88	12.00	-53.70	3.93	H	-45.63	-13.00
	7520.00	-59.34	11.54	-44.89	4.51	V	-37.86	-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	4.02
			QPSK			4.89
			16-QAM			5.77
			64-QAM			6.10
			256-QAM			6.50
	15 MHz		BPSK	36		4.33
			QPSK			4.84
			16-QAM			5.64
			64-QAM			6.00
			256-QAM			6.61
	20 MHz		BPSK	50		4.01
			QPSK			4.92
			16-QAM			5.69
			64-QAM			5.96
			256-QAM			6.55
	30 MHz		BPSK	75		4.06
			QPSK			4.95
			16-QAM			5.79
			64-QAM			6.01
			256-QAM			6.56
	40 MHz		BPSK	100		4.08
			QPSK			5.03
			16-QAM			5.83
			64-QAM			6.09
			256-QAM			6.61
	50 MHz		BPSK	128		4.33
			QPSK			5.01
			16-QAM			5.79
			64-QAM			6.08
			256-QAM			6.55
	60 MHz		BPSK	162		4.19
			QPSK			5.11
			16-QAM			5.90
			64-QAM			6.17
			256-QAM			6.63
	80 MHz		BPSK	216		4.64
			QPSK			5.25
			16-QAM			5.96
			64-QAM			6.26
			256-QAM			6.65
	90 MHz		BPSK	243		4.36
			QPSK			5.28
			16-QAM			6.03
			64-QAM			6.29
			256-QAM			6.66
	100 MHz		BPSK	270		4.61
			QPSK			5.32
			16-QAM			6.07
			64-QAM			6.35
			256-QAM			6.66

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	8.6357
			QPSK			8.6413
			16-QAM			8.6487
			64-QAM			8.6116
			256-QAM			8.6026
	15 MHz		BPSK	36		12.975
			QPSK			12.990
			16-QAM			12.914
			64-QAM			12.946
			256-QAM			12.967
	20 MHz		BPSK	50		17.951
			QPSK			17.973
			16-QAM			17.951
			64-QAM			17.944
			256-QAM			17.978
	30 MHz		BPSK	75		26.949
			QPSK			26.957
			16-QAM			26.963
			64-QAM			26.978
			256-QAM			27.003
	40 MHz		BPSK	100		35.847
			QPSK			35.857
			16-QAM			35.889
			64-QAM			35.796
			256-QAM			35.804
	50 MHz		BPSK	128		45.868
			QPSK			45.779
			16-QAM			45.854
			64-QAM			45.843
			256-QAM			45.791
	60 MHz		BPSK	162		57.942
			QPSK			58.129
			16-QAM			58.036
			64-QAM			57.865
			256-QAM			57.753
	80 MHz		BPSK	216		77.317
			QPSK			77.315
			16-QAM			77.295
			64-QAM			77.410
			256-QAM			77.196
	90 MHz		BPSK	243		86.866
			QPSK			86.658
			16-QAM			86.720
			64-QAM			86.752
			256-QAM			86.825
	100 MHz		BPSK	270		96.375
			QPSK			96.359
			16-QAM			96.492
			64-QAM			96.300
			256-QAM			96.113

Note:

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

8.5 CONDUCTED SPURIOUS EMISSIONS

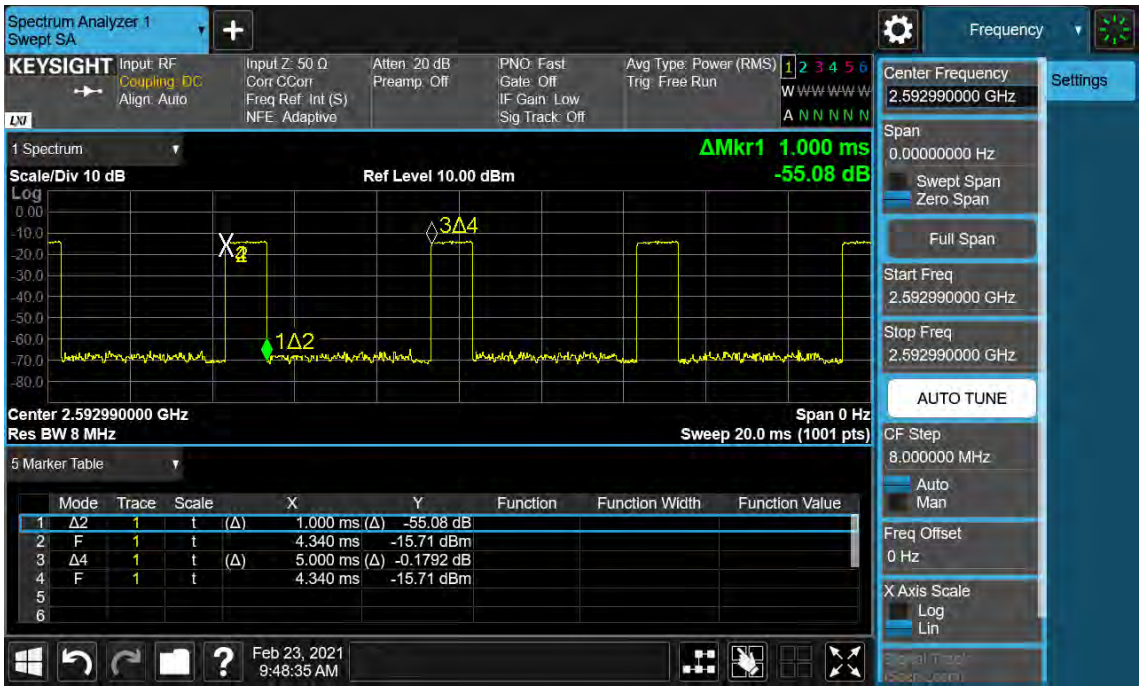
Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n41	10	2501.010	5.2119	37.805	-69.946	-32.141	-25.00
		2592.990	5.7573	37.805	-70.306	-32.501	
		2685.000	6.0250	37.805	-70.525	-32.720	
	15	2503.500	8.0045	37.805	-70.679	-32.874	
		2592.990	9.9392	37.805	-69.689	-31.884	
		2682.480	8.2672	37.805	-70.095	-32.290	
	20	2506.020	3.7354	37.190	-70.702	-33.512	
		2592.990	9.6705	37.805	-70.732	-32.927	
		2679.990	8.2582	37.805	-70.640	-32.835	
	30	2511.000	8.2852	37.805	-70.451	-32.646	
		2592.990	4.9627	37.190	-70.766	-33.576	
		2674.980	4.9098	37.190	-70.310	-33.120	
	40	2516.010	8.8824	37.805	-69.912	-32.107	
		2592.990	3.7478	37.190	-70.678	-33.488	
		2670.000	4.0315	37.190	-71.115	-33.925	
	50	2521.020	4.8630	37.190	-70.158	-32.968	
		2592.990	7.9905	37.805	-70.560	-32.755	
		2664.990	8.2617	37.805	-70.093	-32.288	
	60	2526.000	8.8285	37.805	-69.835	-32.030	
		2592.990	5.4547	37.805	-69.226	-31.421	
		2659.980	6.0265	37.805	-70.606	-32.801	
	80	2536.020	8.8684	37.805	-70.216	-32.411	
		2592.990	8.2582	37.805	-70.857	-33.052	
		2649.990	3.7982	37.190	-69.812	-32.622	
	90	2541.000	4.0589	37.190	-70.840	-33.650	
		2592.990	5.9901	37.805	-70.420	-32.615	
		2644.980	4.0539	37.190	-69.883	-32.693	
	100	2546.010	9.7183	37.805	-70.738	-32.933	
		2592.990	7.1710	37.805	-70.039	-32.234	
		2640.000	9.9960	37.805	-70.386	-32.581	

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

- 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	-28.19	-27.76	-26.01	-26.06	-28.95	-26.37	-38.26
15	2503.500	BPSK	Full RB	-26.36	-29.22	-26.81	-27.12	-27.08	-25.52	-41.39
20	2506.020	BPSK	Full RB	-28.03	-28.44	-28.57	-28.33	-29.21	-27.39	-40.40
30	2511.000	BPSK	Full RB	-26.86	-29.38	-28.84	-29.65	-34.13	-28.77	-44.13
40	2520.000	BPSK	Full RB	-27.64	-28.93	-29.78	-29.85	-33.89	-28.71	-44.11
50	2525.010	BPSK	Full RB	-28.13	-27.55	-31.60	-28.21	-33.66	-28.21	-40.50
60	2530.020	BPSK	Full RB	-20.63	-20.53	-32.13	-27.58	-36.65	-28.19	-45.67
80	2540.010	BPSK	Full RB	-28.07	-26.65	-35.86	-28.87	-36.58	-28.80	-43.82
90	2545.020	BPSK	Full RB	-26.00	-28.37	-35.91	-29.30	-37.04	-29.32	-45.09
100	2550.000	BPSK	Full RB	-26.00	-28.31	-37.63	-29.78	-39.06	-30.42	-43.77
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	-22.48	-22.46	-18.30	-18.47
	2685.000	BPSK	Full RB	0	-26.39	-26.62	-25.71	-26.43
15 MHz	2592.990	BPSK	Full RB	0	-21.19	-24.97	-20.07	-22.61
	2682.480	BPSK	Full RB	0	-24.80	-32.76	-27.51	-30.24
20 MHz	2592.990	BPSK	Full RB	0	-21.82	-24.86	-21.82	-22.96
	2679.990	BPSK	Full RB	0	-26.97	-30.84	-29.34	-32.01
30 MHz	2592.990	BPSK	Full RB	0	-21.97	-24.74	-23.51	-25.43
	2679.990	BPSK	Full RB	0	-25.99	-34.05	-30.21	-33.86
40 MHz	2592.990	BPSK	Full RB	0	-22.39	-27.05	-24.12	-27.21
	2670.000	BPSK	Full RB	0	-25.18	-33.16	-29.47	-33.91
50 MHz	2592.990	BPSK	Full RB	0	-20.67	-22.69	-22.13	-20.73
	2664.990	BPSK	Full RB	0	-24.92	-31.52	-31.78	-30.04
60 MHz	2592.990	BPSK	Full RB	0	-15.63	-18.67	-28.53	-27.57
	2659.980	BPSK	Full RB	0	-17.03	-20.29	-33.13	-32.29
80 MHz	2592.990	BPSK	Full RB	0	-21.52	-26.15	-26.90	-28.91
	2649.990	BPSK	Full RB	0	-23.57	-28.84	-30.29	-32.44
90 MHz	2592.990	BPSK	Full RB	0	-20.67	-28.35	-31.84	-28.59
	2644.980	BPSK	Full RB	0	-21.59	-30.67	-33.00	-31.94
100 MHz	2592.990	BPSK	Full RB	0	-19.94	-29.33	-28.49	-29.12
	2640.000	BPSK	Full RB	0	-20.09	-30.65	-28.14	-31.82
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	-19.43	-19.68	-28.89	-30.38
	2685.000	BPSK	Full RB	0	-26.79	-29.02	-33.82	-36.06
15 MHz	2592.990	BPSK	Full RB	0	-21.33	-20.39	-32.16	-33.12
	2682.480	BPSK	Full RB	0	-28.76	-31.06	-38.15	-39.03
20 MHz	2592.990	BPSK	Full RB	0	-22.82	-24.73	-33.20	-33.88
	2679.990	BPSK	Full RB	0	-31.47	-31.54	-39.89	-41.03
30 MHz	2592.990	BPSK	Full RB	0	-24.93	-26.28	-36.46	-36.20
	2679.990	BPSK	Full RB	0	-33.87	-32.59	-42.46	-47.32
40 MHz	2592.990	BPSK	Full RB	0	-25.28	-26.74	-38.86	-36.69
	2670.000	BPSK	Full RB	0	-33.96	-33.33	-44.67	-47.44
50 MHz	2592.990	BPSK	Full RB	0	-20.77	-20.35	-36.17	-33.48
	2664.990	BPSK	Full RB	0	-29.06	-29.71	-40.30	-47.08
60 MHz	2592.990	BPSK	Full RB	0	-27.80	-26.48	-40.62	-39.12
	2659.980	BPSK	Full RB	0	-33.66	-32.32	-44.67	-47.36
80 MHz	2592.990	BPSK	Full RB	0	-24.06	-23.55	-47.61	-44.75
	2649.990	BPSK	Full RB	0	-28.76	-31.43	-41.08	-47.47
90 MHz	2592.990	BPSK	Full RB	0	-31.33	-25.73	-48.04	-37.32
	2644.980	BPSK	Full RB	0	-32.72	-31.44	-42.54	-47.82
100 MHz	2592.990	BPSK	Full RB	0	-26.87	-26.08	-47.94	-47.89
	2640.000	BPSK	Full RB	0	-27.67	-31.12	-39.51	-47.73
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 Divider
   - 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 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 010 015	0.0	0.000 000	0.000
	100 %	-30	2501 010 020	5.5	0.000 000	0.002
	100 %	-20	2501 010 028	13.2	0.000 001	0.005
	100 %	-10	2501 010 019	4.6	0.000 000	0.002
	100 %	0	2501 010 020	5.7	0.000 000	0.002
	100 %	+10	2501 010 029	14.6	0.000 001	0.006
	100 %	+30	2501 010 018	3.4	0.000 000	0.001
	100 %	+40	2501 010 024	9.3	0.000 000	0.004
	100 %	+50	2501 010 025	10.1	0.000 000	0.004
	Batt. Endpoint	+20	2501 010 027	12.1	0.000 000	0.005
2685.000	100 %	+20(Ref)	2685 000 016	0.0	0.000 000	0.000
	100 %	-30	2685 000 029	13.6	0.000 001	0.005
	100 %	-20	2685 000 032	16.8	0.000 001	0.006
	100 %	-10	2685 000 026	10.2	0.000 000	0.004
	100 %	0	2685 000 032	16.5	0.000 001	0.006
	100 %	+10	2685 000 032	16.9	0.000 001	0.006
	100 %	+30	2685 000 029	13.9	0.000 001	0.005
	100 %	+40	2685 000 024	8.3	0.000 000	0.003
	100 %	+50	2685 000 026	10.1	0.000 000	0.004
	Batt. Endpoint	+20	2685 000 023	7.7	0.000 000	0.003

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 500 008	0.0	0.000 000	0.000
	100 %	-30	2503 500 021	12.2	0.000 000	0.005
	100 %	-20	2503 500 024	15.9	0.000 001	0.006
	100 %	-10	2503 500 024	16.1	0.000 001	0.006
	100 %	0	2503 500 020	11.5	0.000 000	0.005
	100 %	+10	2503 500 020	11.8	0.000 000	0.005
	100 %	+30	2503 500 017	8.8	0.000 000	0.004
	100 %	+40	2503 500 013	4.4	0.000 000	0.002
	100 %	+50	2503 500 018	10.0	0.000 000	0.004
	Batt. Endpoint	+20	2503 500 021	12.3	0.000 000	0.005
2682.480	100 %	+20(Ref)	2682 480 008	0.0	0.000 000	0.000
	100 %	-30	2682 480 019	11.7	0.000 000	0.004
	100 %	-20	2682 480 012	4.0	0.000 000	0.001
	100 %	-10	2682 480 021	13.8	0.000 001	0.005
	100 %	0	2682 480 013	5.4	0.000 000	0.002
	100 %	+10	2682 480 024	16.7	0.000 001	0.006
	100 %	+30	2682 480 017	9.2	0.000 000	0.003
	100 %	+40	2682 480 013	5.3	0.000 000	0.002
	100 %	+50	2682 480 022	14.6	0.000 001	0.005
	Batt. Endpoint	+20	2682 480 014	6.6	0.000 000	0.002

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 020 010	0.0	0.000 000	0.000
	100 %	-30	2506 020 018	8.4	0.000 000	0.003
	100 %	-20	2506 020 023	12.9	0.000 001	0.005
	100 %	-10	2506 020 024	13.7	0.000 001	0.005
	100 %	0	2506 020 017	7.1	0.000 000	0.003
	100 %	+10	2506 020 025	15.3	0.000 001	0.006
	100 %	+30	2506 020 017	6.8	0.000 000	0.003
	100 %	+40	2506 020 016	5.6	0.000 000	0.002
	100 %	+50	2506 020 027	16.8	0.000 001	0.007
	Batt. Endpoint	+20	2506 020 026	16.0	0.000 001	0.006
2679.990	100 %	+20(Ref)	2679 990 012	0.0	0.000 000	0.000
	100 %	-30	2679 990 026	13.8	0.000 001	0.005
	100 %	-20	2679 990 024	12.3	0.000 000	0.005
	100 %	-10	2679 990 019	7.4	0.000 000	0.003
	100 %	0	2679 990 015	3.1	0.000 000	0.001
	100 %	+10	2679 990 025	13.3	0.000 000	0.005
	100 %	+30	2679 990 022	10.4	0.000 000	0.004
	100 %	+40	2679 990 021	9.0	0.000 000	0.003
	100 %	+50	2679 990 024	12.3	0.000 000	0.005
	Batt. Endpoint	+20	2679 990 020	8.3	0.000 000	0.003

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 000 015	0.0	0.000 000	0.000
	100 %	-30	2511 000 023	7.7	0.000 000	0.003
	100 %	-20	2511 000 021	5.8	0.000 000	0.002
	100 %	-10	2511 000 019	4.4	0.000 000	0.002
	100 %	0	2511 000 024	8.7	0.000 000	0.003
	100 %	+10	2511 000 025	9.9	0.000 000	0.004
	100 %	+30	2511 000 028	12.6	0.000 001	0.005
	100 %	+40	2511 000 030	14.8	0.000 001	0.006
	100 %	+50	2511 000 023	8.3	0.000 000	0.003
	Batt. Endpoint	+20	2511 000 026	11.0	0.000 000	0.004
2674.980	100 %	+20(Ref)	2674 980 012	0.0	0.000 000	0.000
	100 %	-30	2674 980 016	4.4	0.000 000	0.002
	100 %	-20	2674 980 027	15.2	0.000 001	0.006
	100 %	-10	2674 980 017	5.2	0.000 000	0.002
	100 %	0	2674 980 017	5.3	0.000 000	0.002
	100 %	+10	2674 980 015	3.3	0.000 000	0.001
	100 %	+30	2674 980 026	14.4	0.000 001	0.005
	100 %	+40	2674 980 024	12.9	0.000 000	0.005
	100 %	+50	2674 980 024	12.9	0.000 000	0.005
	Batt. Endpoint	+20	2674 980 026	14.5	0.000 001	0.005

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 010 007	0.0	0.000 000	0.000
	100 %	-30	2516 010 018	11.5	0.000 000	0.005
	100 %	-20	2516 010 024	16.9	0.000 001	0.007
	100 %	-10	2516 010 023	16.1	0.000 001	0.006
	100 %	0	2516 010 012	5.3	0.000 000	0.002
	100 %	+10	2516 010 019	12.1	0.000 000	0.005
	100 %	+30	2516 010 011	4.8	0.000 000	0.002
	100 %	+40	2516 010 012	5.1	0.000 000	0.002
	100 %	+50	2516 010 016	9.1	0.000 000	0.004
	Batt. Endpoint	+20	2516 010 021	14.2	0.000 001	0.006
2670.000	100 %	+20(Ref)	2670 000 012	0.0	0.000 000	0.000
	100 %	-30	2670 000 018	6.1	0.000 000	0.002
	100 %	-20	2670 000 021	9.2	0.000 000	0.003
	100 %	-10	2670 000 023	11.1	0.000 000	0.004
	100 %	0	2670 000 023	11.5	0.000 000	0.004
	100 %	+10	2670 000 016	4.6	0.000 000	0.002
	100 %	+30	2670 000 024	12.2	0.000 000	0.005
	100 %	+40	2670 000 028	16.0	0.000 001	0.006
	100 %	+50	2670 000 024	12.3	0.000 000	0.005
	Batt. Endpoint	+20	2670 000 021	9.1	0.000 000	0.003

▣ BandWidth: 50 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 020 013	0.0	0.000 000	0.000
	100 %	-30	2521 020 028	15.1	0.000 001	0.006
	100 %	-20	2521 020 019	5.6	0.000 000	0.002
	100 %	-10	2521 020 019	5.4	0.000 000	0.002
	100 %	0	2521 020 027	13.4	0.000 001	0.005
	100 %	+10	2521 020 027	14.1	0.000 001	0.006
	100 %	+30	2521 020 028	14.4	0.000 001	0.006
	100 %	+40	2521 020 020	7.1	0.000 000	0.003
	100 %	+50	2521 020 025	11.5	0.000 000	0.005
	Batt. Endpoint	+20	2521 020 028	14.8	0.000 001	0.006
2664.990	100 %	+20(Ref)	2664 990 015	0.0	0.000 000	0.000
	100 %	-30	2664 990 023	8.0	0.000 000	0.003
	100 %	-20	2664 990 028	13.2	0.000 000	0.005
	100 %	-10	2664 990 018	3.2	0.000 000	0.001
	100 %	0	2664 990 020	5.1	0.000 000	0.002
	100 %	+10	2664 990 028	12.9	0.000 000	0.005
	100 %	+30	2664 990 030	14.7	0.000 001	0.006
	100 %	+40	2664 990 025	10.2	0.000 000	0.004
	100 %	+50	2664 990 025	10.0	0.000 000	0.004
	Batt. Endpoint	+20	2664 990 022	6.9	0.000 000	0.003

▣ BandWidth: 60 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 000 014	0.0	0.000 000	0.000
	100 %	-30	2526 000 019	5.1	0.000 000	0.002
	100 %	-20	2526 000 028	14.6	0.000 001	0.006
	100 %	-10	2526 000 027	13.6	0.000 001	0.005
	100 %	0	2526 000 025	11.6	0.000 000	0.005
	100 %	+10	2526 000 018	3.8	0.000 000	0.001
	100 %	+30	2526 000 022	8.0	0.000 000	0.003
	100 %	+40	2526 000 031	17.0	0.000 001	0.007
	100 %	+50	2526 000 024	10.6	0.000 000	0.004
	Batt. Endpoint	+20	2526 000 026	12.4	0.000 000	0.005
2659.980	100 %	+20(Ref)	2659 980 005	0.0	0.000 000	0.000
	100 %	-30	2659 980 015	10.0	0.000 000	0.004
	100 %	-20	2659 980 008	3.7	0.000 000	0.001
	100 %	-10	2659 980 011	6.6	0.000 000	0.002
	100 %	0	2659 980 017	12.7	0.000 000	0.005
	100 %	+10	2659 980 019	14.3	0.000 001	0.005
	100 %	+30	2659 980 020	15.2	0.000 001	0.006
	100 %	+40	2659 980 019	14.5	0.000 001	0.005
	100 %	+50	2659 980 020	15.1	0.000 001	0.006
	Batt. Endpoint	+20	2659 980 017	12.5	0.000 000	0.005

▣ BandWidth: 80 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 020 004	0.0	0.000 000	0.000
	100 %	-30	2536 020 018	14.3	0.000 001	0.006
	100 %	-20	2536 020 020	16.1	0.000 001	0.006
	100 %	-10	2536 020 019	15.1	0.000 001	0.006
	100 %	0	2536 020 020	15.9	0.000 001	0.006
	100 %	+10	2536 020 012	7.9	0.000 000	0.003
	100 %	+30	2536 020 011	7.1	0.000 000	0.003
	100 %	+40	2536 020 011	7.3	0.000 000	0.003
	100 %	+50	2536 020 017	13.4	0.000 001	0.005
	Batt. Endpoint	+20	2536 020 014	9.6	0.000 000	0.004
2649.990	100 %	+20(Ref)	2649 990 006	0.0	0.000 000	0.000
	100 %	-30	2649 990 018	12.7	0.000 000	0.005
	100 %	-20	2649 990 017	11.3	0.000 000	0.004
	100 %	-10	2649 990 010	4.4	0.000 000	0.002
	100 %	0	2649 990 011	5.3	0.000 000	0.002
	100 %	+10	2649 990 010	4.1	0.000 000	0.002
	100 %	+30	2649 990 020	14.6	0.000 001	0.006
	100 %	+40	2649 990 010	4.7	0.000 000	0.002
	100 %	+50	2649 990 010	4.4	0.000 000	0.002
	Batt. Endpoint	+20	2649 990 017	11.0	0.000 000	0.004

▣ BandWidth: 90 MHz

▣ Voltage(100 %): 3.850 VDC

▣ Batt. Endpoint: 3.400 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 000 008	0.0	0.000 000	0.000
	100 %	-30	2541 000 018	10.2	0.000 000	0.004
	100 %	-20	2541 000 017	8.3	0.000 000	0.003
	100 %	-10	2541 000 022	13.4	0.000 001	0.005
	100 %	0	2541 000 024	15.7	0.000 001	0.006
	100 %	+10	2541 000 021	12.3	0.000 000	0.005
	100 %	+30	2541 000 013	4.4	0.000 000	0.002
	100 %	+40	2541 000 023	14.5	0.000 001	0.006
	100 %	+50	2541 000 020	11.3	0.000 000	0.004
	Batt. Endpoint	+20	2541 000 025	16.5	0.000 001	0.007
2644.980	100 %	+20(Ref)	2644 980 015	0.0	0.000 000	0.000
	100 %	-30	2644 980 022	6.8	0.000 000	0.003
	100 %	-20	2644 980 028	13.4	0.000 001	0.005
	100 %	-10	2644 980 030	14.5	0.000 001	0.005
	100 %	0	2644 980 018	3.3	0.000 000	0.001
	100 %	+10	2644 980 031	15.5	0.000 001	0.006
	100 %	+30	2644 980 031	16.2	0.000 001	0.006
	100 %	+40	2644 980 018	3.2	0.000 000	0.001
	100 %	+50	2644 980 031	15.9	0.000 001	0.006
	Batt. Endpoint	+20	2644 980 031	16.1	0.000 001	0.006

▣ BandWidth: 100 MHz

▣ Voltage(100 %): 3.850 VDC

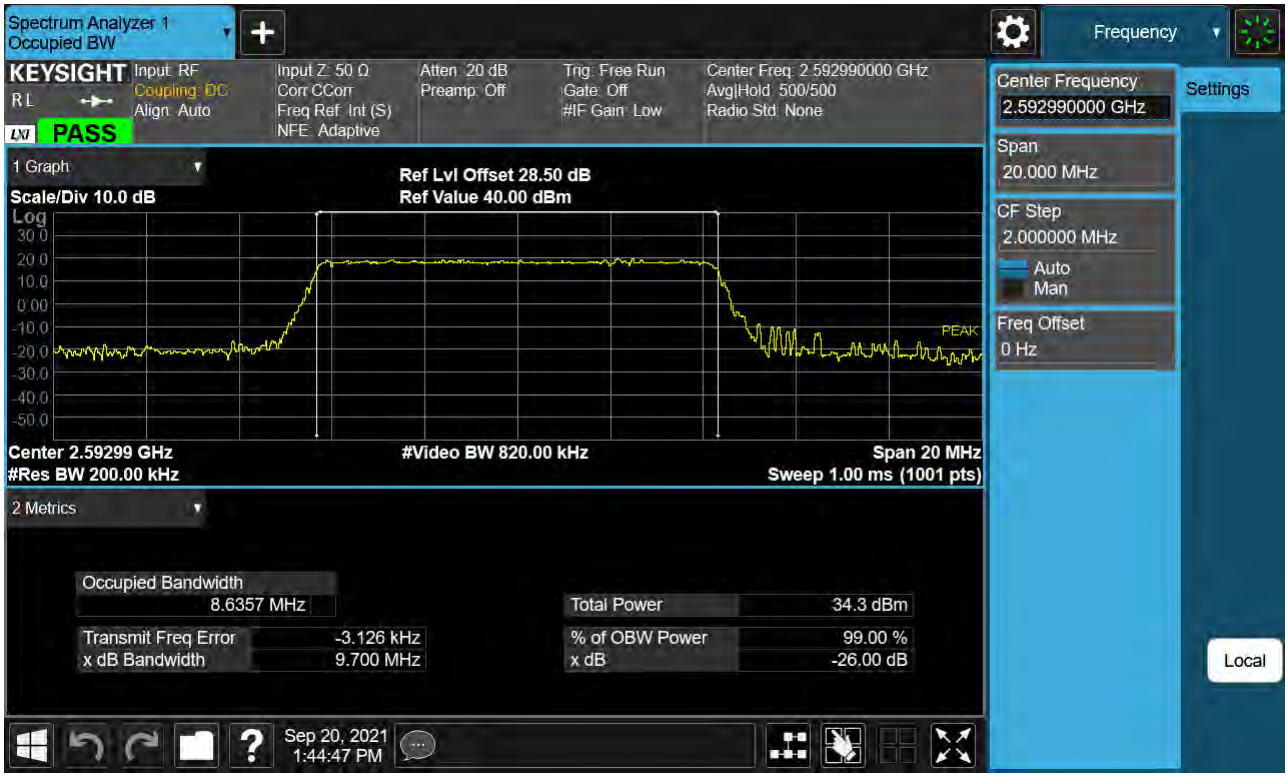
▣ Batt. Endpoint: 3.400 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
2546.010	100 %	+20(Ref)	2546 010 004	0.0	0.000 000	0.000
	100 %	-30	2546 010 018	14.3	0.000 001	0.006
	100 %	-20	2546 010 008	4.3	0.000 000	0.002
	100 %	-10	2546 010 013	9.0	0.000 000	0.004
	100 %	0	2546 010 014	10.2	0.000 000	0.004
	100 %	+10	2546 010 013	9.9	0.000 000	0.004
	100 %	+30	2546 010 019	15.2	0.000 001	0.006
	100 %	+40	2546 010 010	6.7	0.000 000	0.003
	100 %	+50	2546 010 016	12.0	0.000 000	0.005
	Batt. Endpoint	+20	2546 010 019	15.3	0.000 001	0.006
2640.000	100 %	+20(Ref)	2640 000 008	0.0	0.000 000	0.000
	100 %	-30	2640 000 012	4.6	0.000 000	0.002
	100 %	-20	2640 000 012	4.1	0.000 000	0.002
	100 %	-10	2640 000 017	9.7	0.000 000	0.004
	100 %	0	2640 000 013	5.1	0.000 000	0.002
	100 %	+10	2640 000 023	15.0	0.000 001	0.006
	100 %	+30	2640 000 011	3.3	0.000 000	0.001
	100 %	+40	2640 000 021	13.3	0.000 001	0.005
	100 %	+50	2640 000 014	6.5	0.000 000	0.002
	Batt. Endpoint	+20	2640 000 017	9.6	0.000 000	0.004

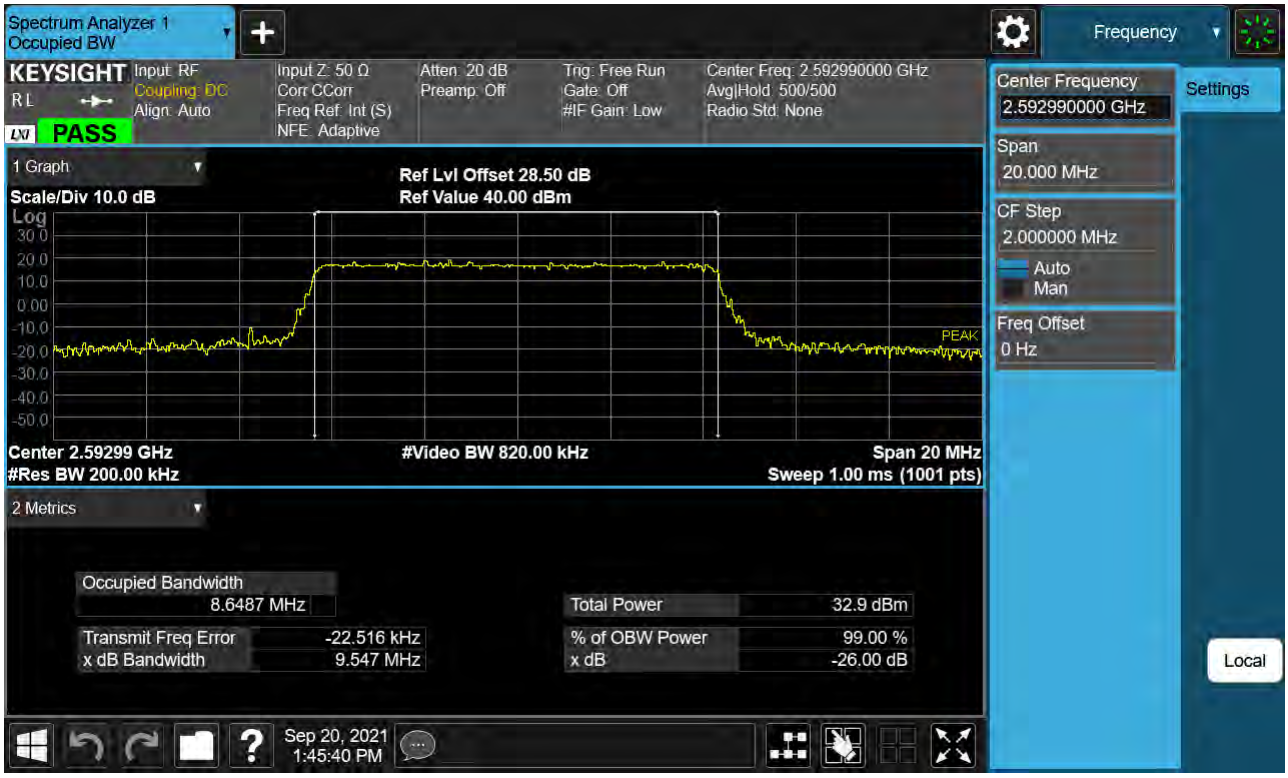
9. TEST PLOTS

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



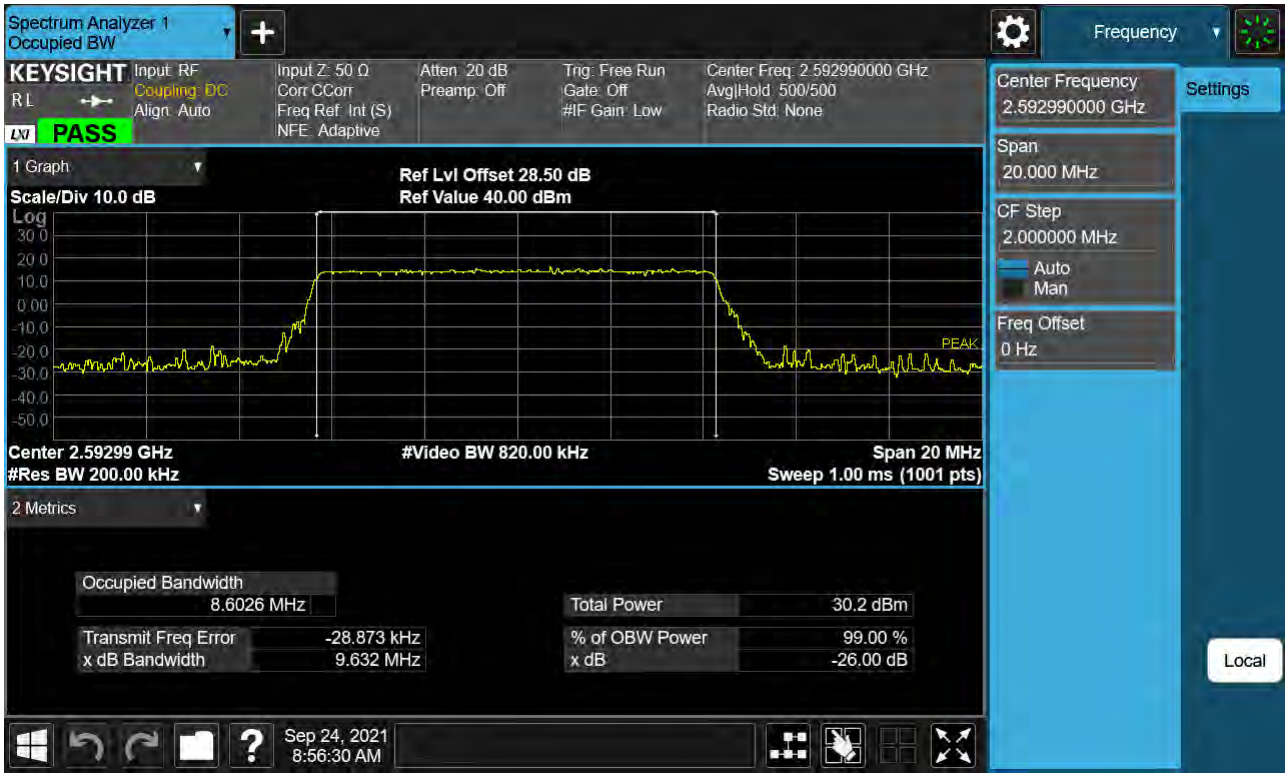
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 QPSK)

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



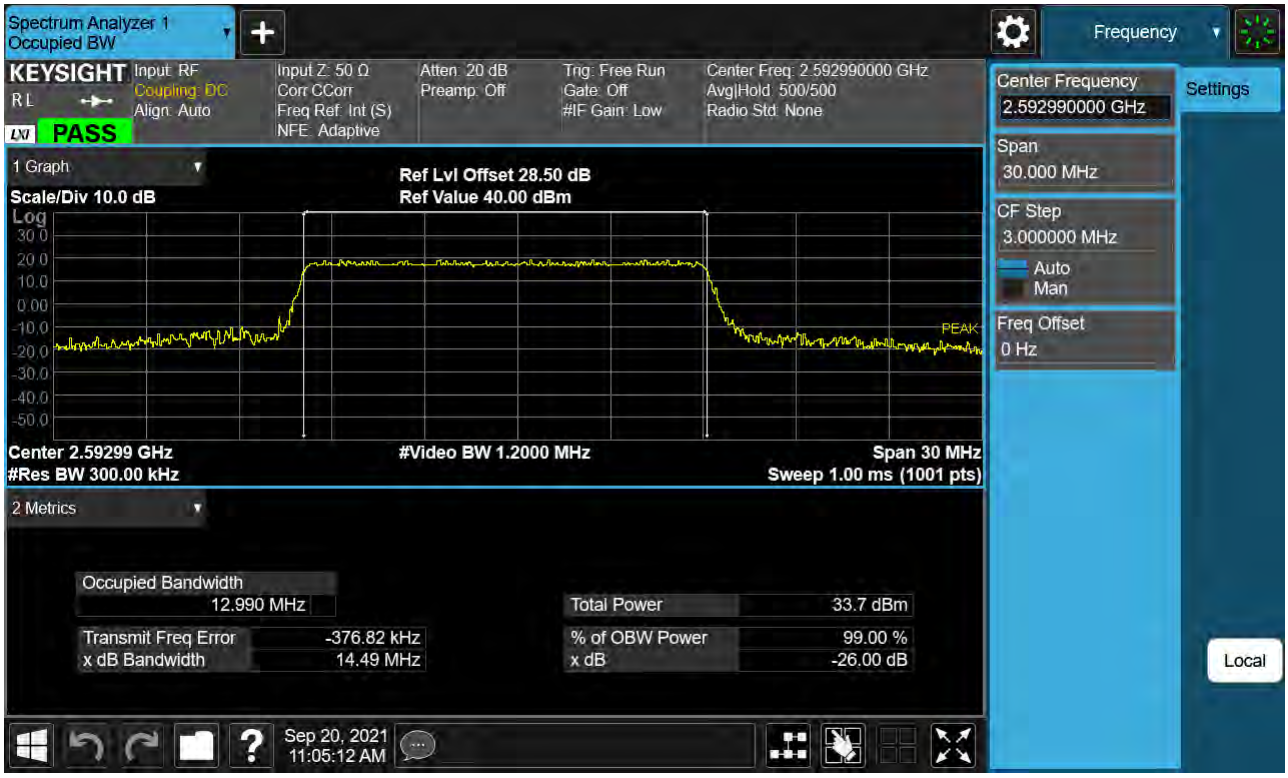
Sub6 n41. Occupied Bandwidth Plot (10 MHz Ch.518598 64-QAM)

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

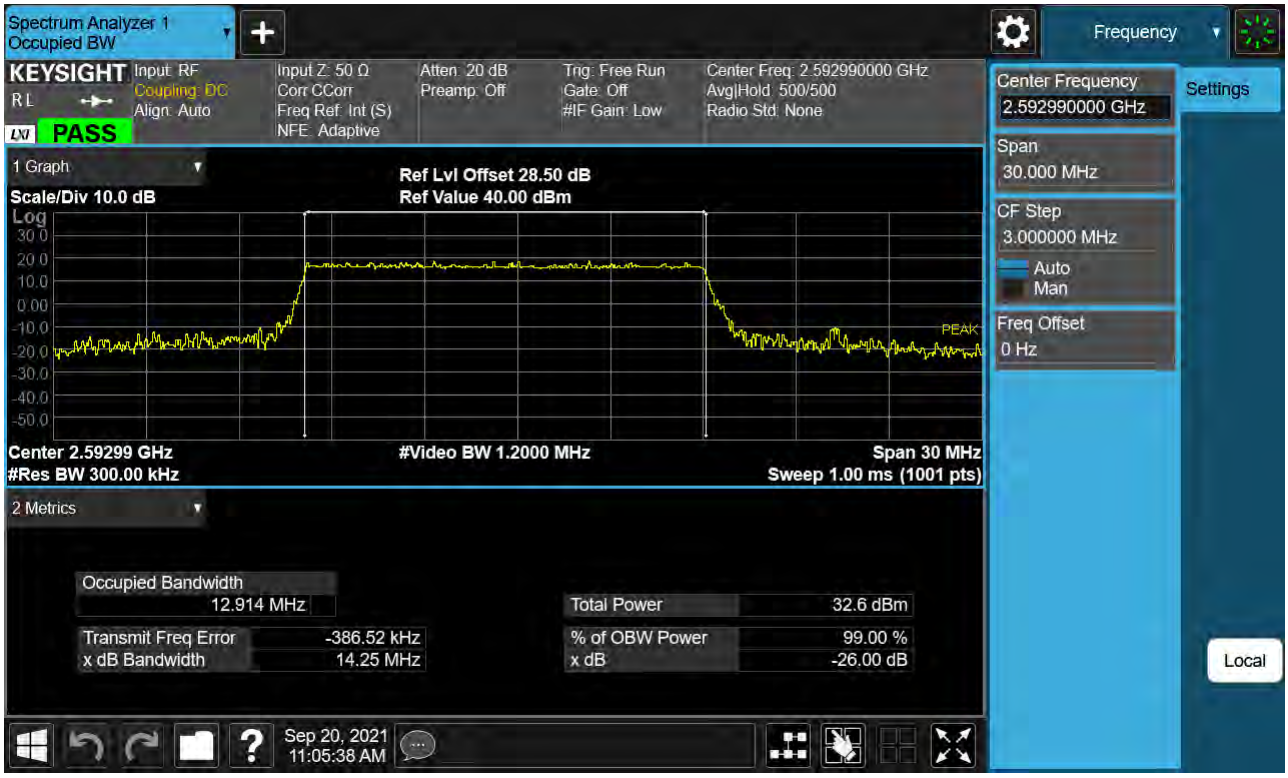


Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 BPSK)

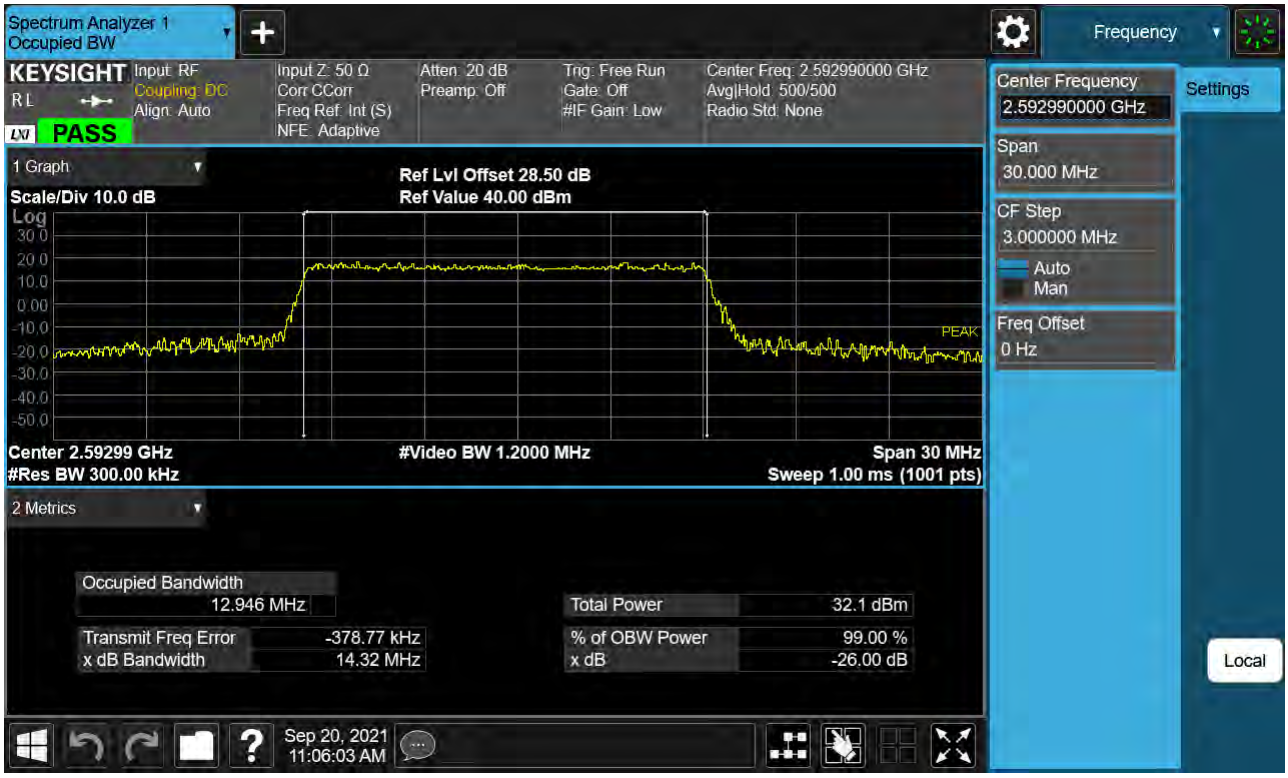
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 QPSK)



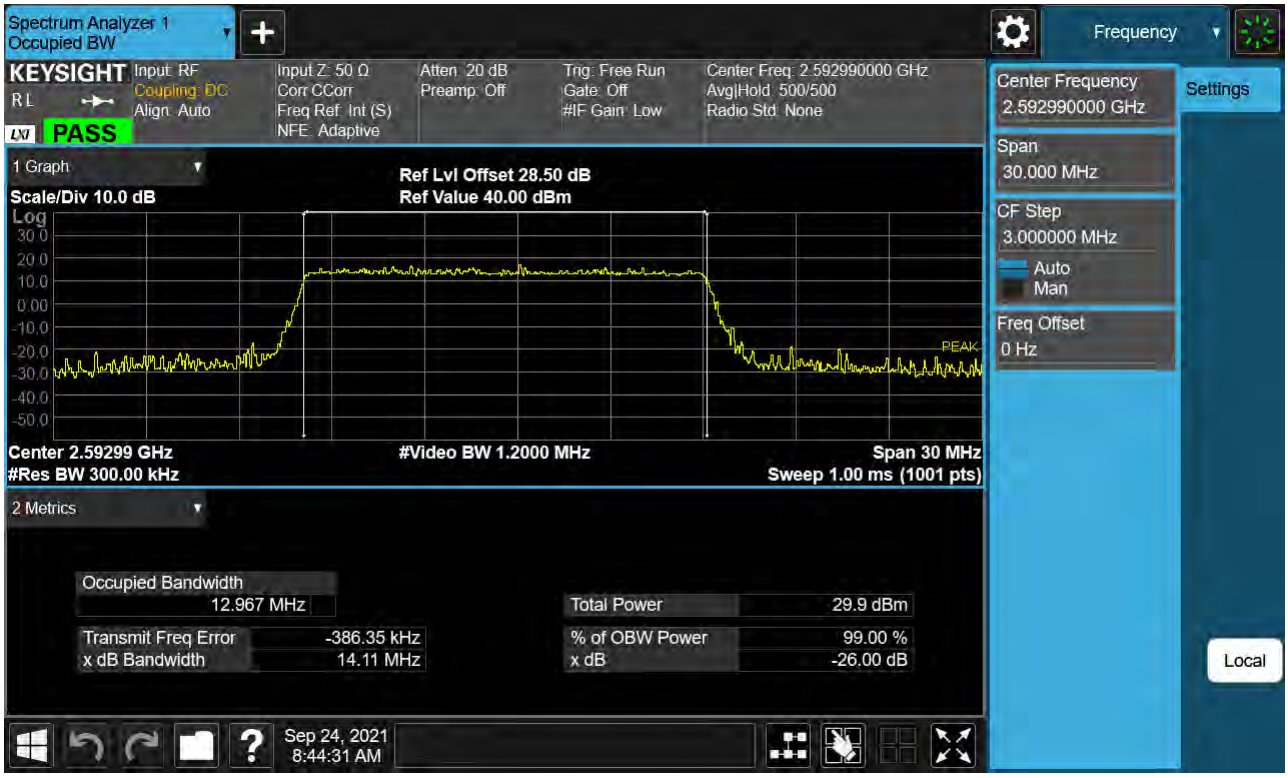
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 16-QAM)



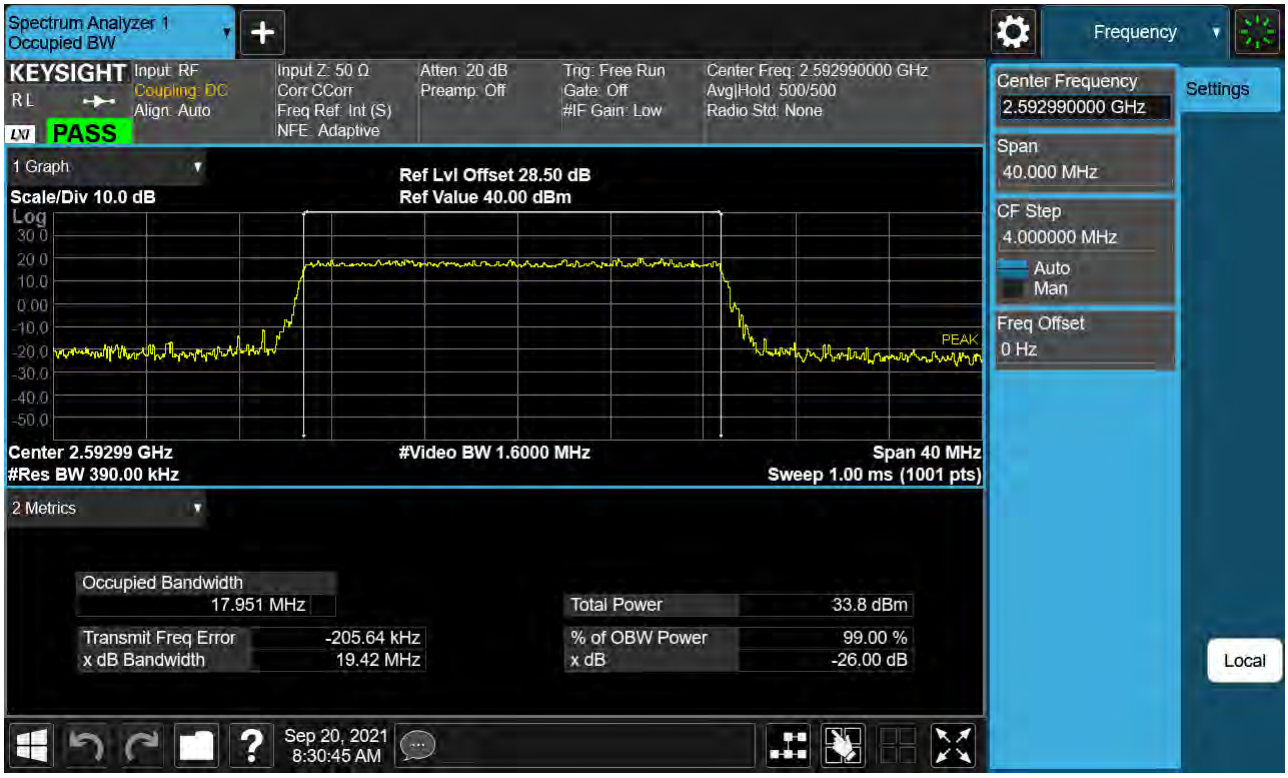
Sub6 n41. Occupied Bandwidth Plot (15 MHz Ch.518598 64-QAM)



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



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

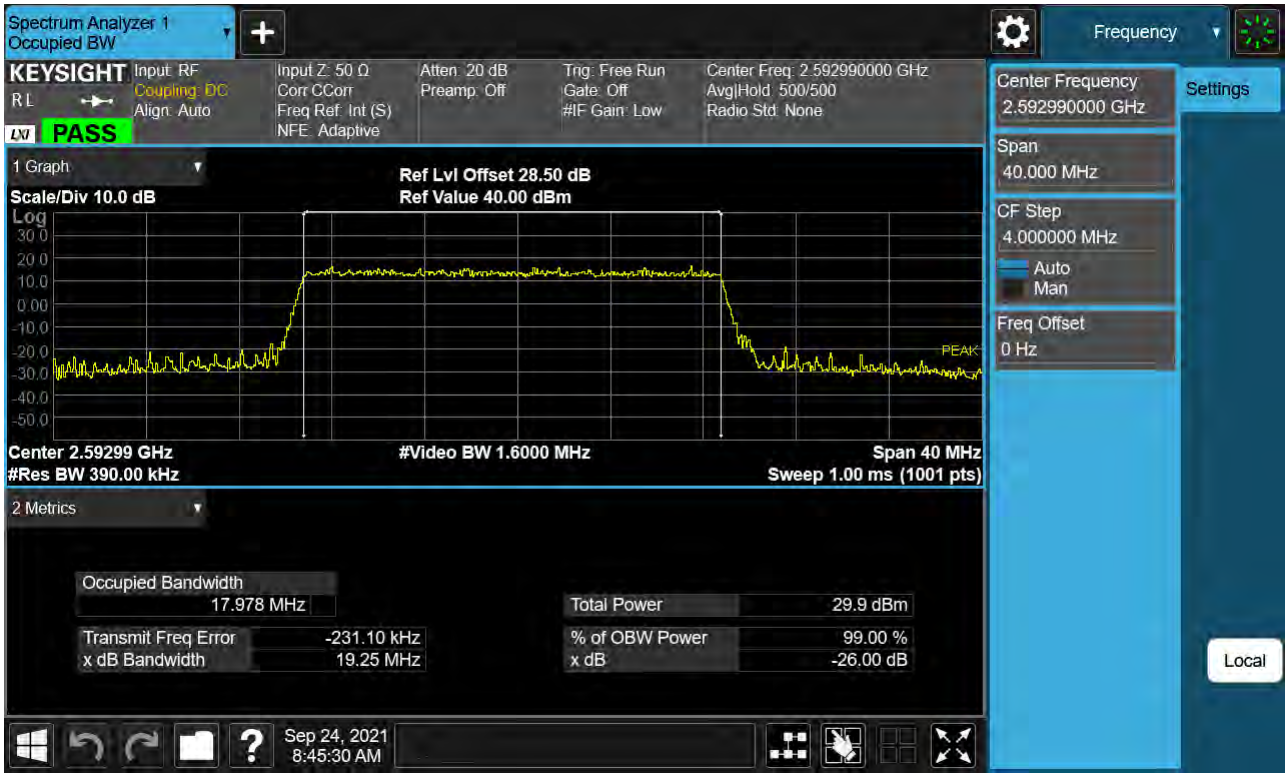


Sub6 n41. Occupied Bandwidth Plot (20 MHz Ch.518598 QPSK)

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)

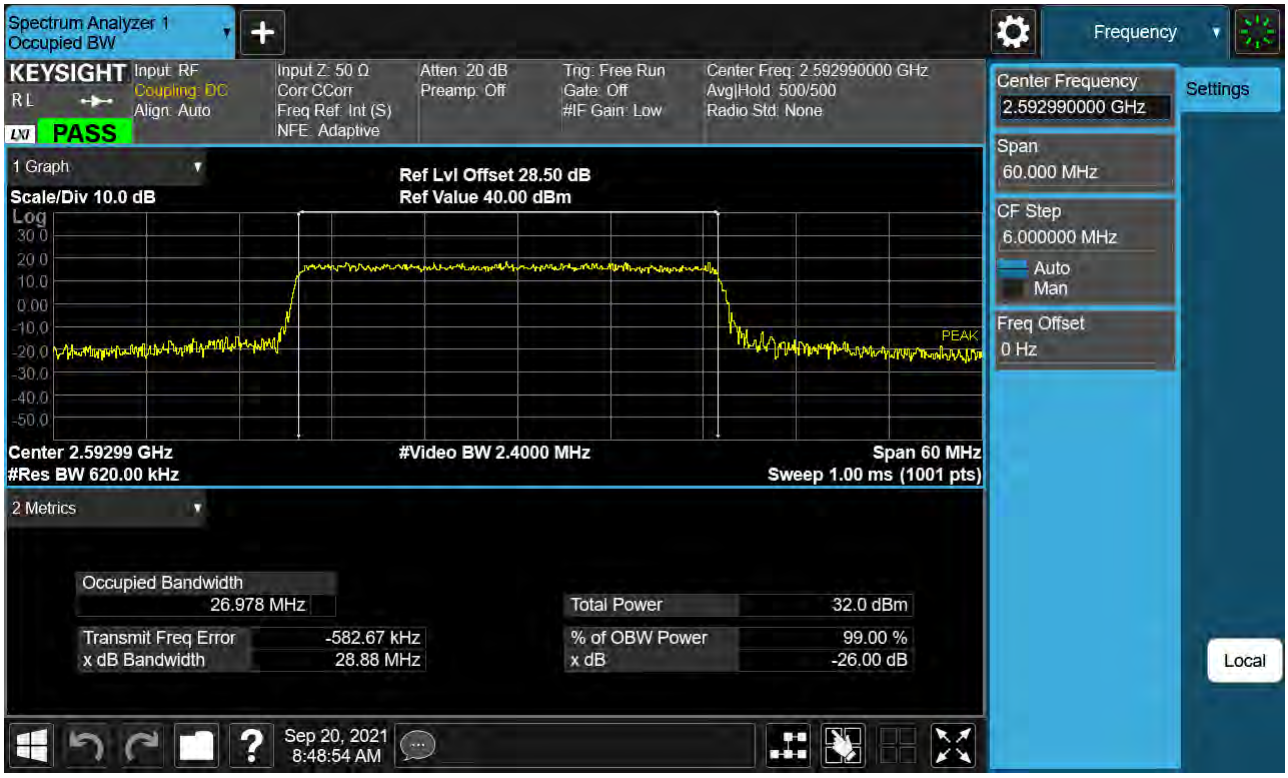


Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 BPSK)

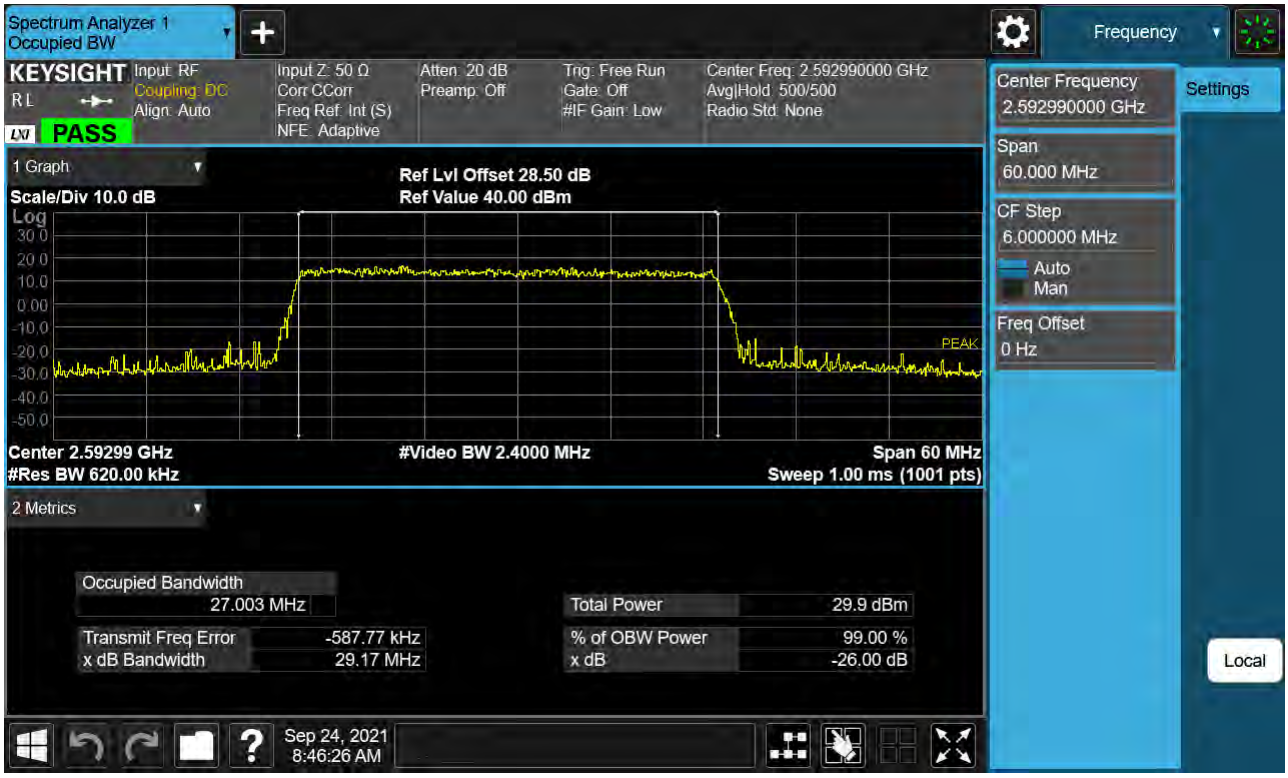
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 QPSK)

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

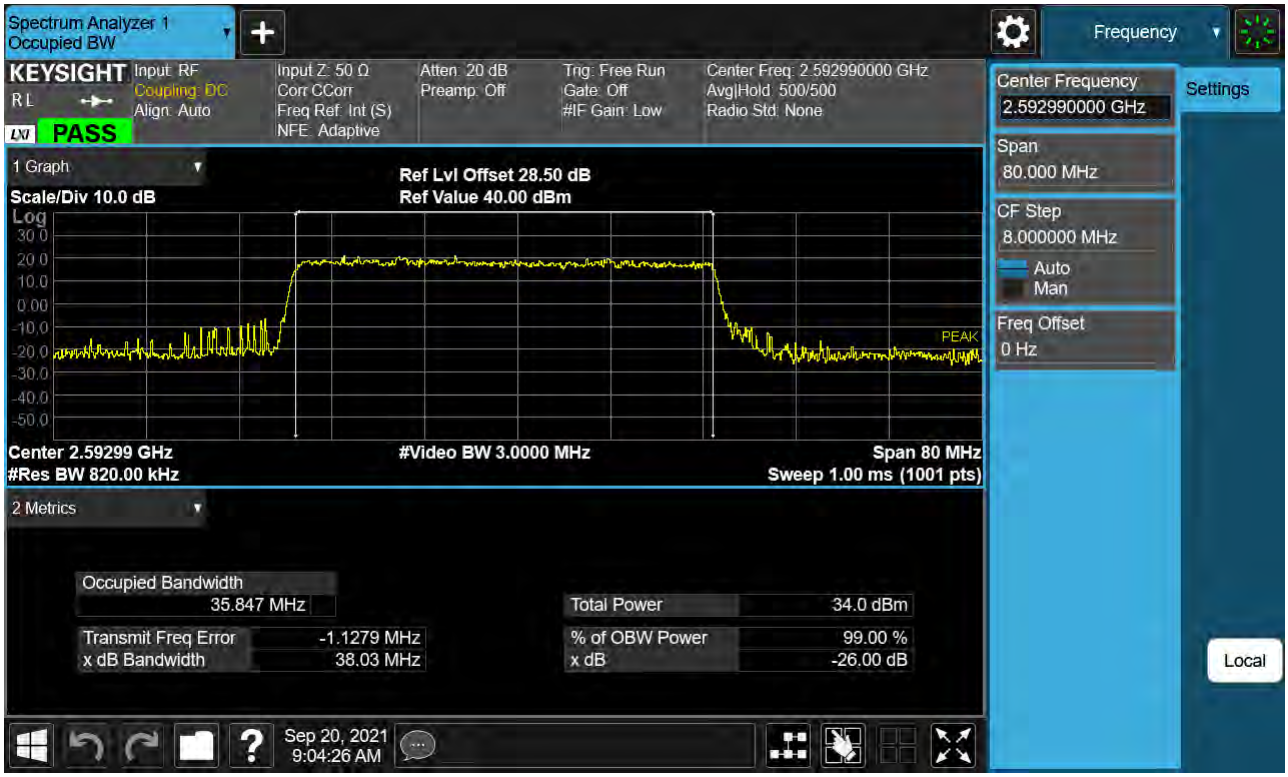
Sub6 n41. Occupied Bandwidth Plot (30 MHz Ch.518598 64-QAM)



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



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

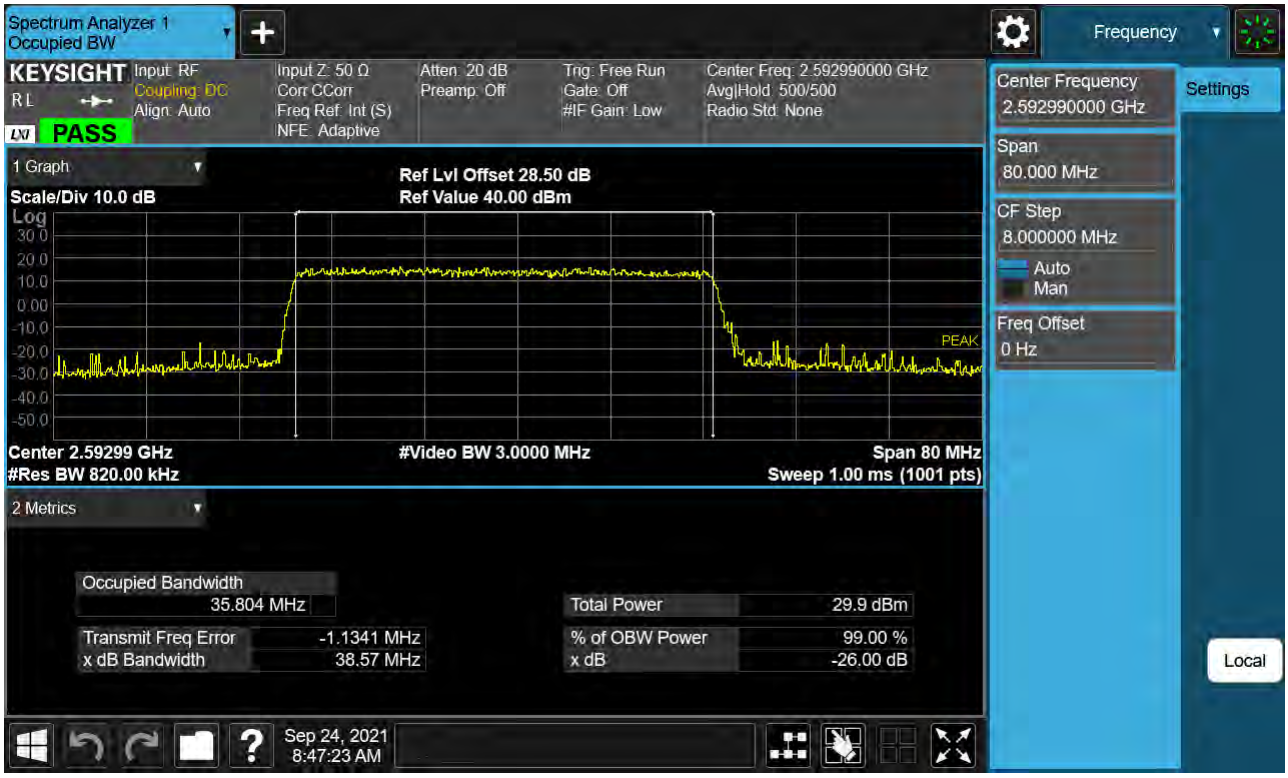


Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 QPSK)

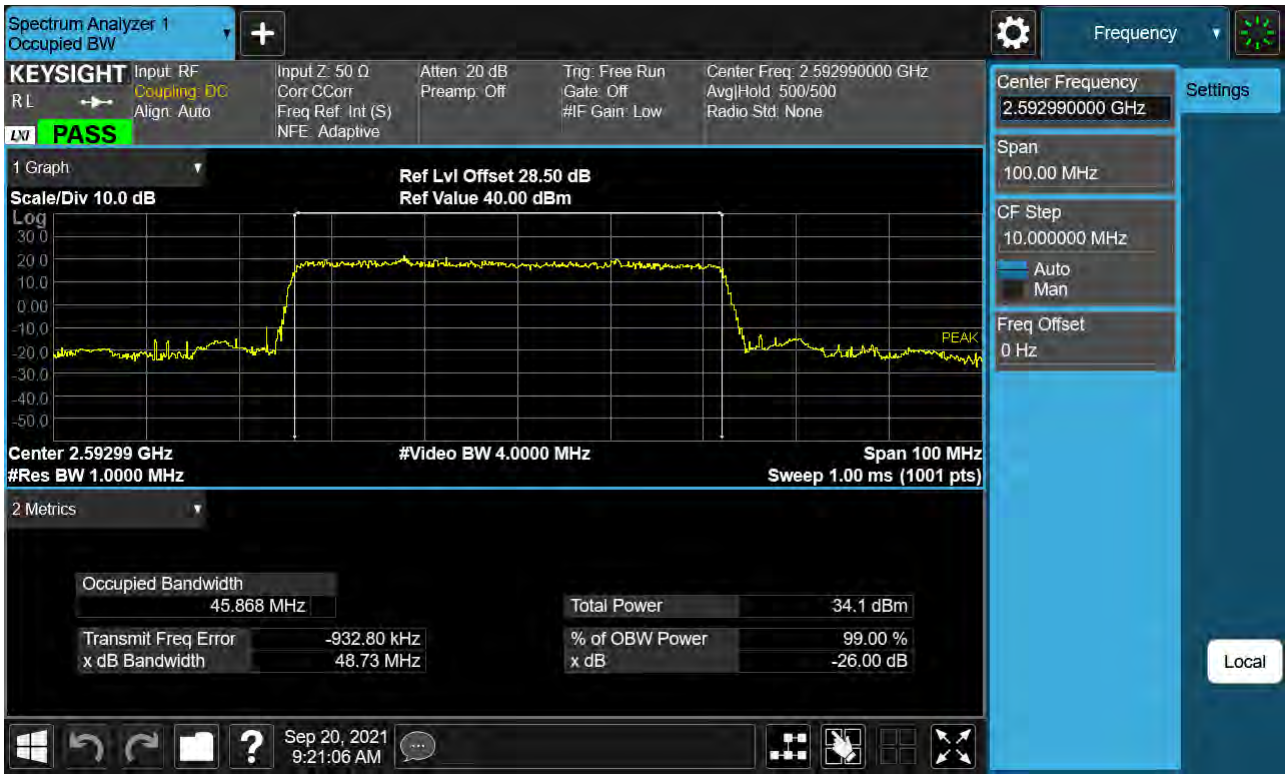
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 16-QAM)

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

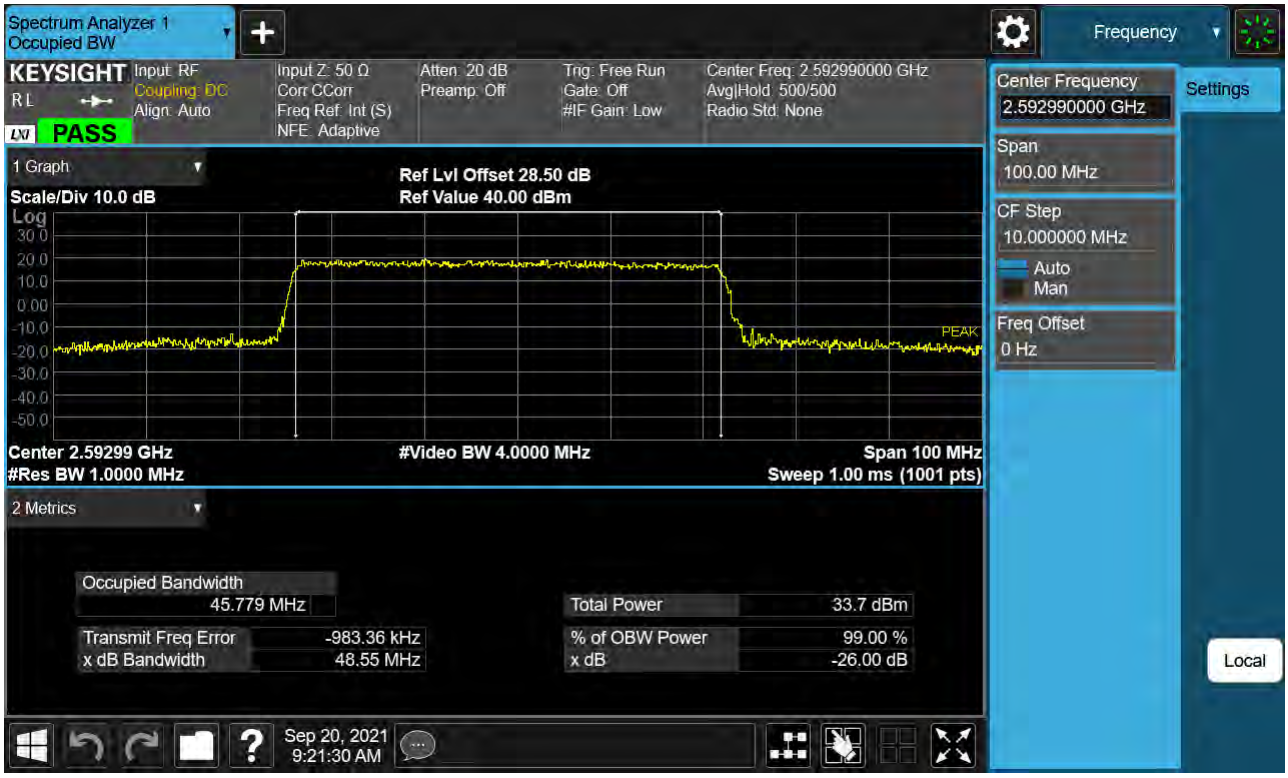
Sub6 n41. Occupied Bandwidth Plot (40 MHz Ch.518598 256-QAM)



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



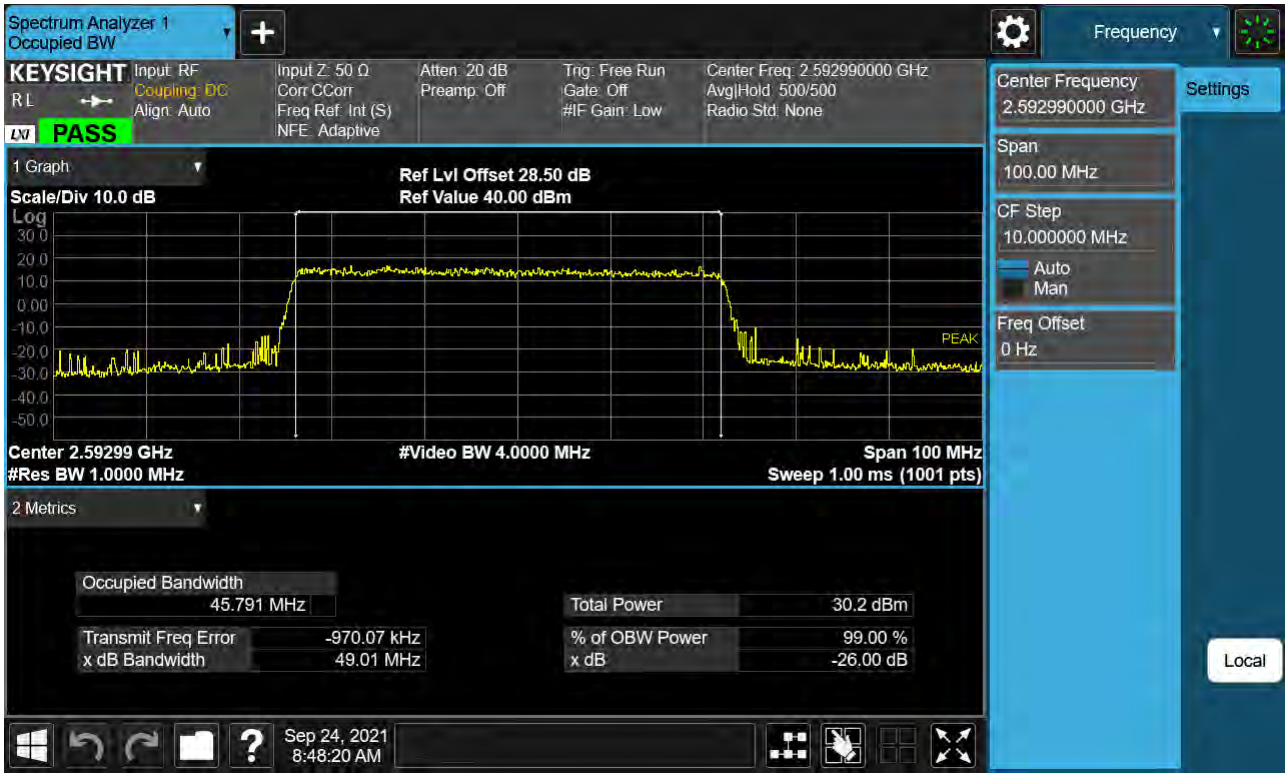
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 QPSK)



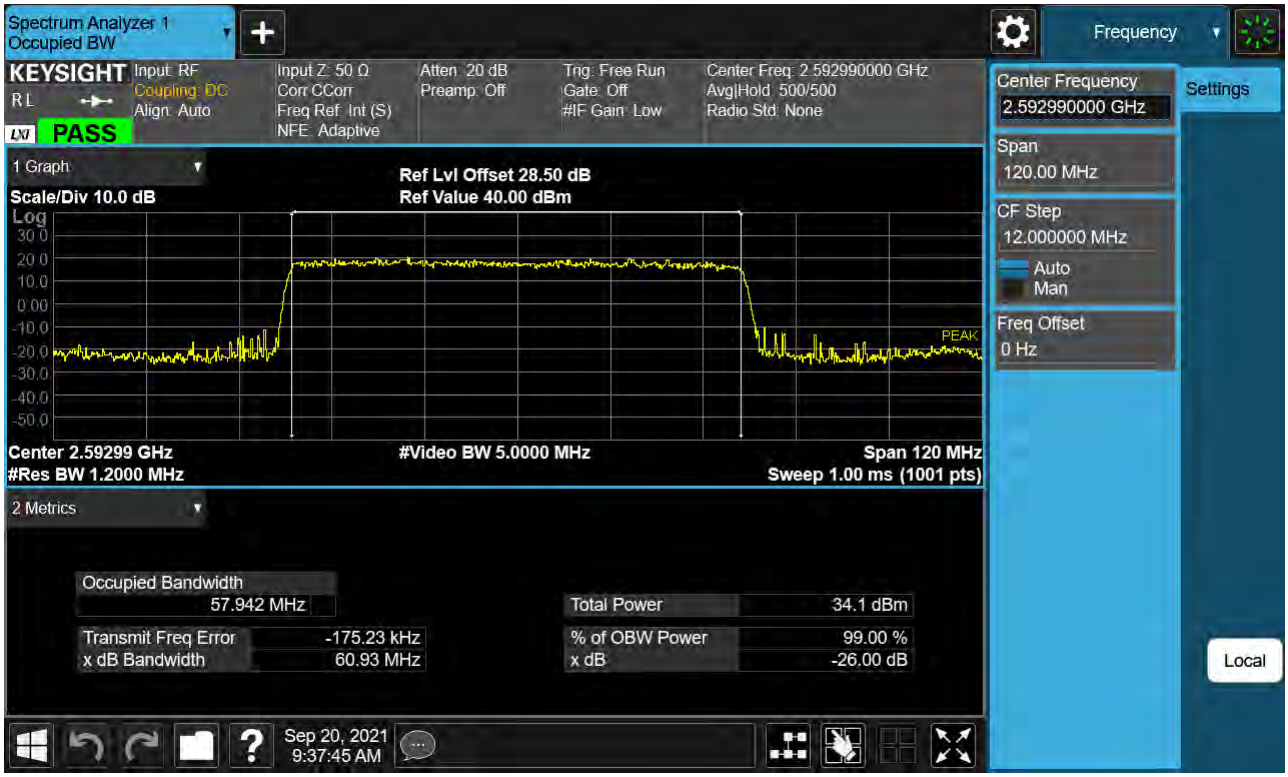
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 16-QAM)

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

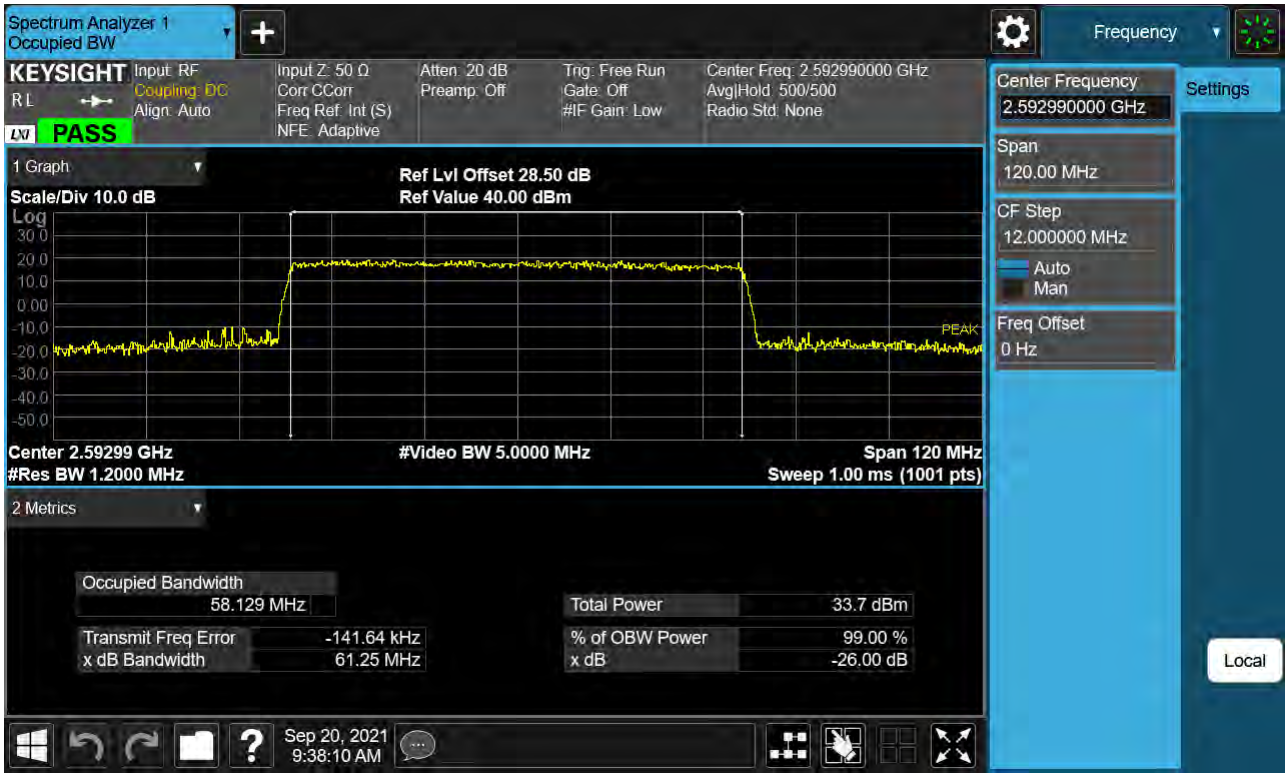
Sub6 n41. Occupied Bandwidth Plot (50 MHz Ch.518598 256-QAM)



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



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



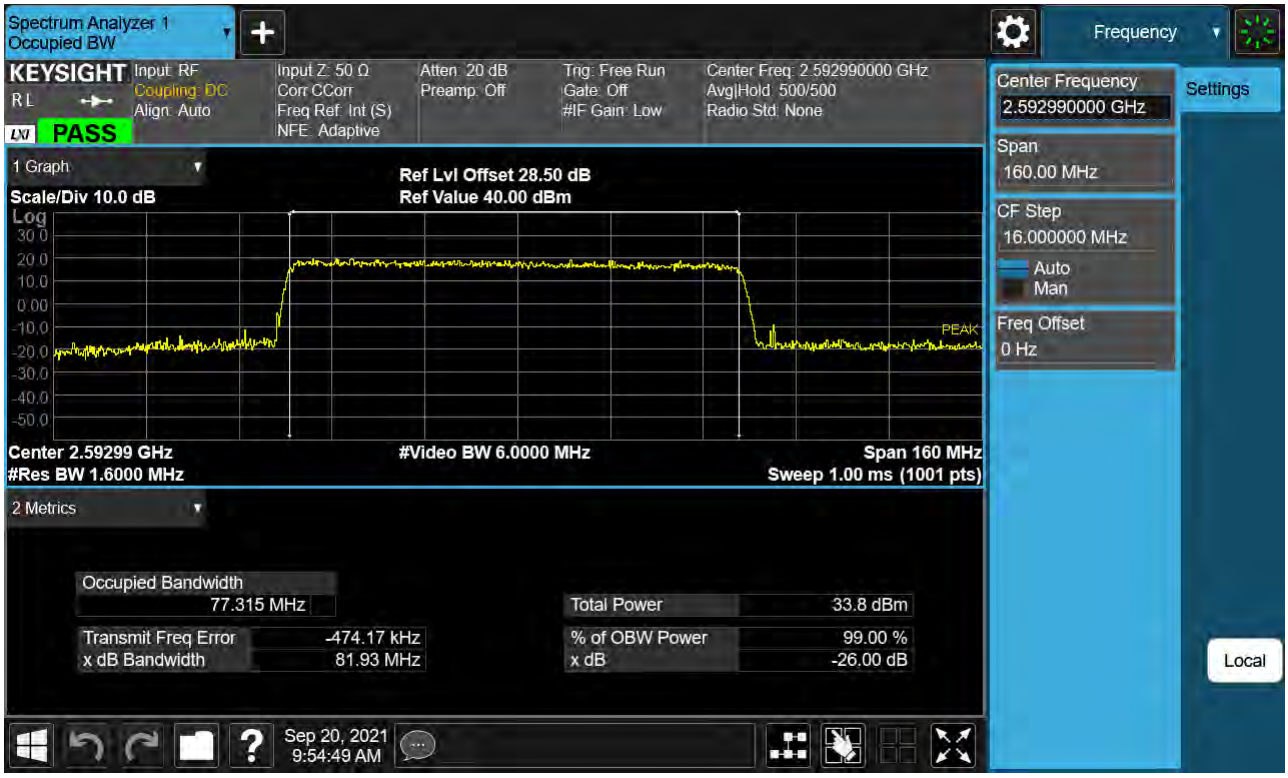
Sub6 n41. Occupied Bandwidth Plot (60 MHz Ch.518598 16-QAM)

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

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

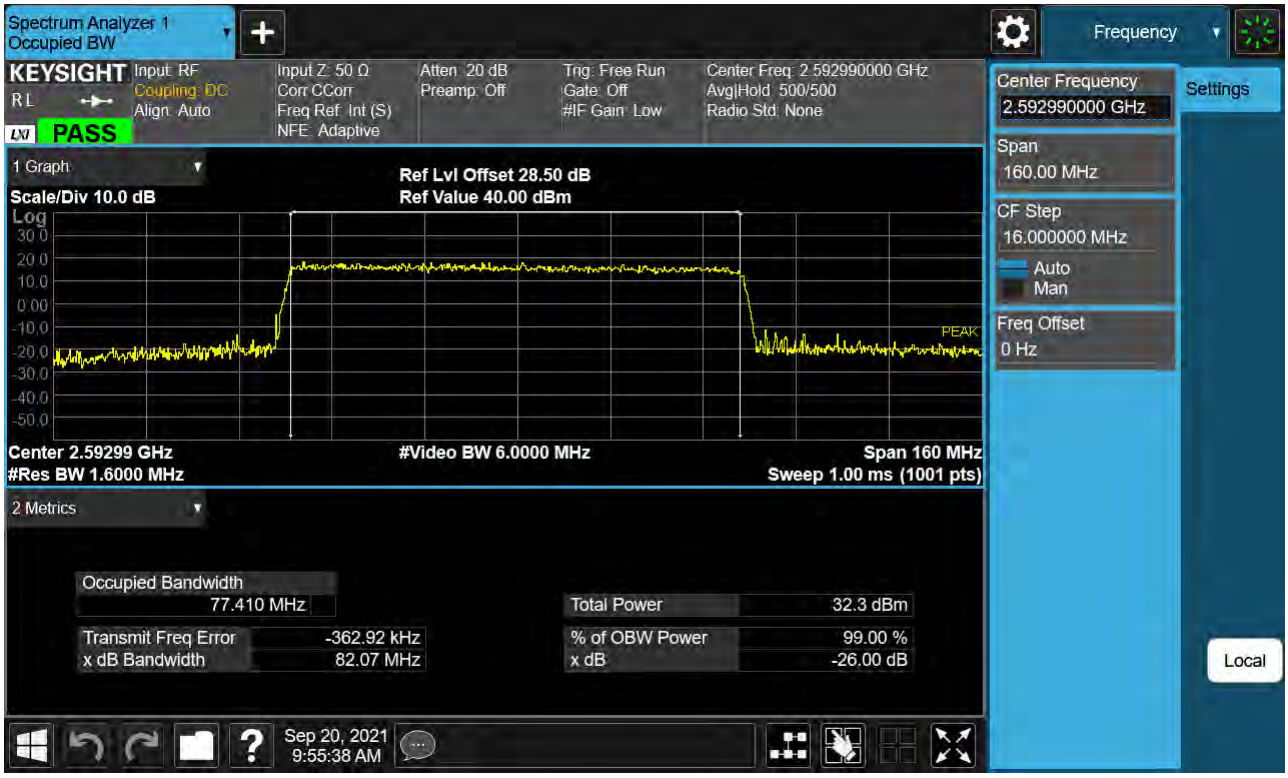
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 BPSK)

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



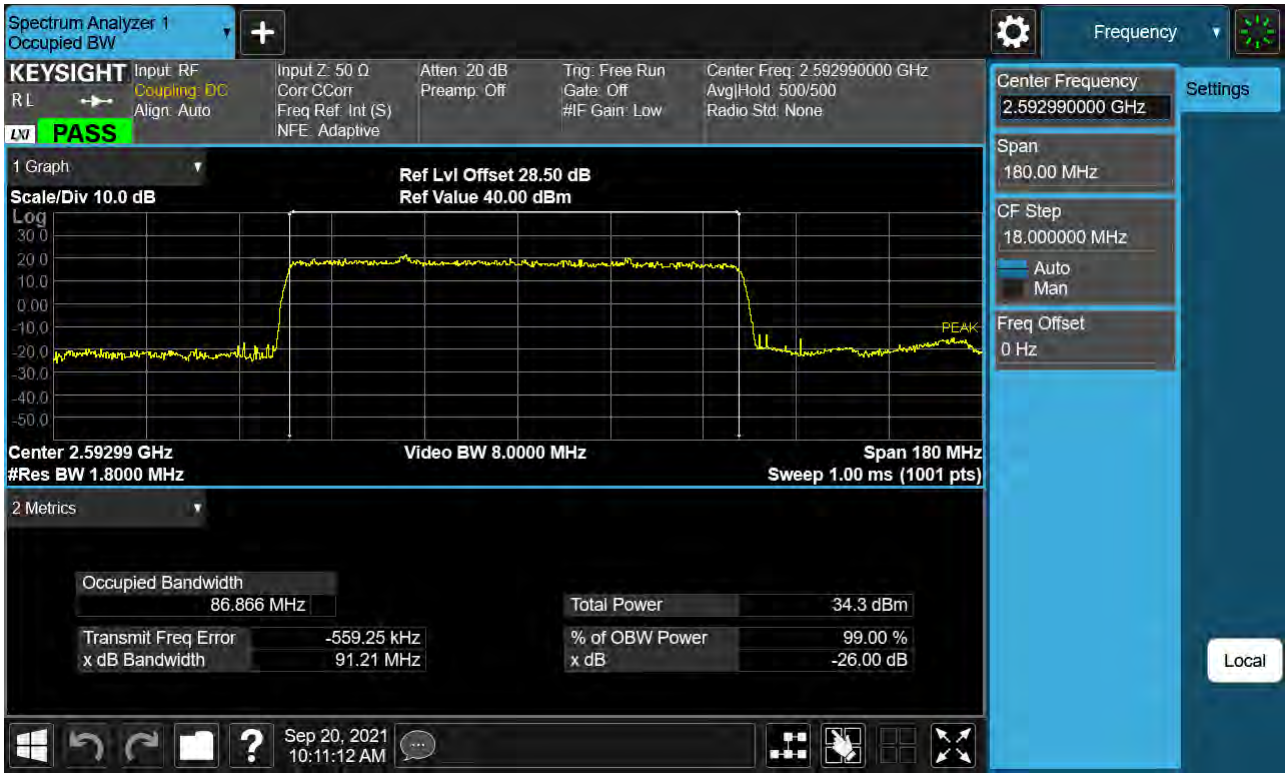
Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 16-QAM)

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

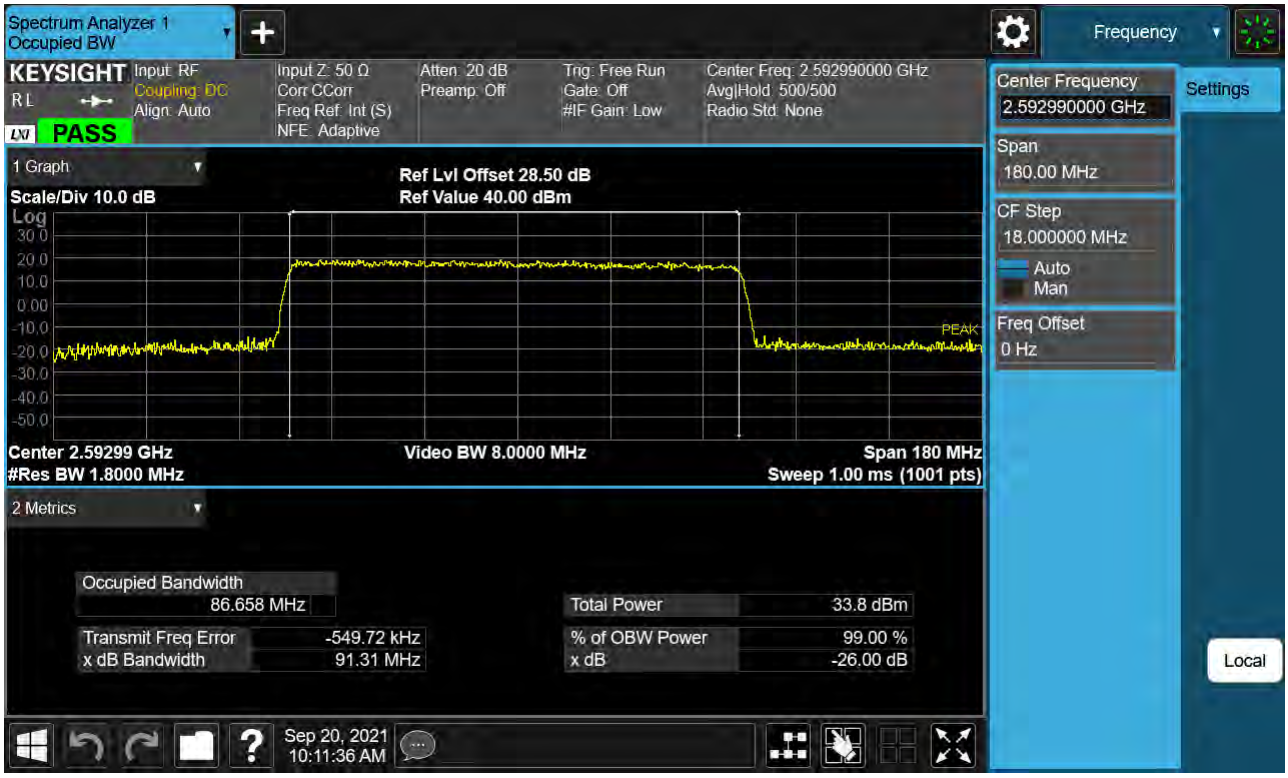


Sub6 n41. Occupied Bandwidth Plot (80 MHz Ch.518598 256-QAM)

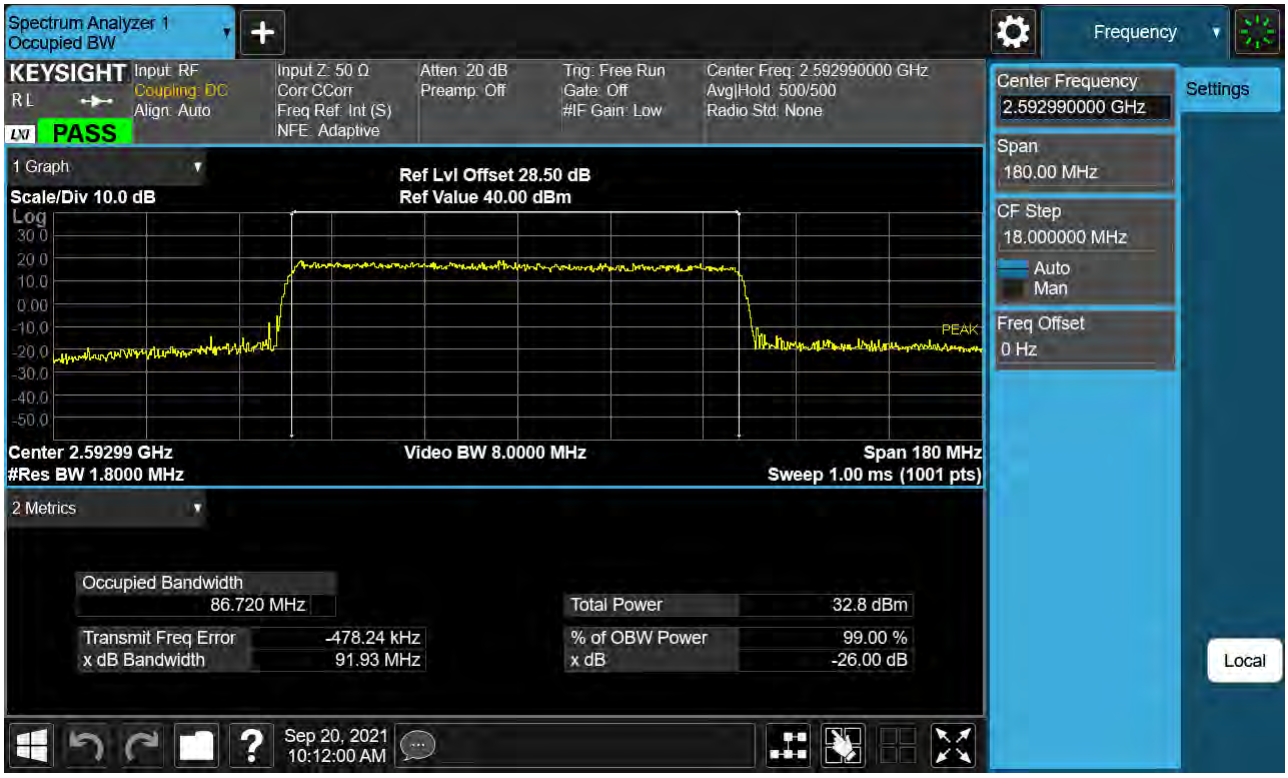
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 BPSK)



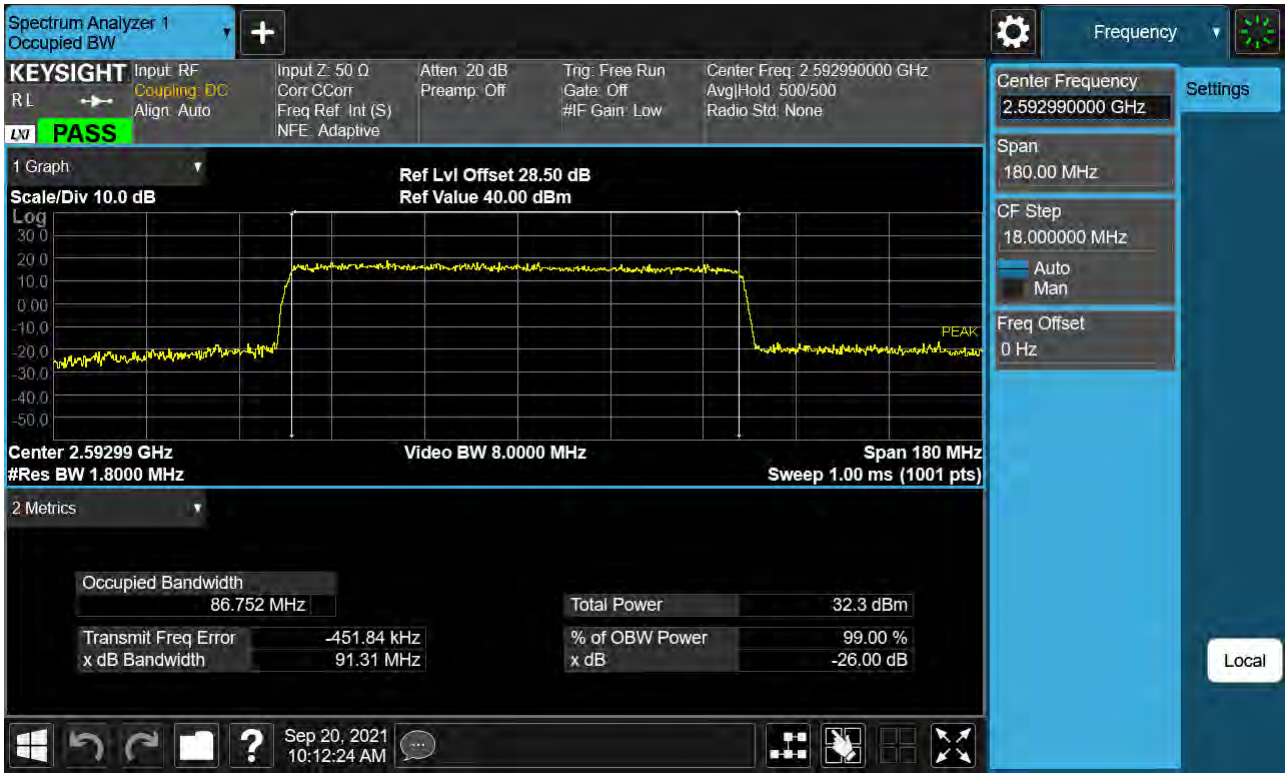
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 QPSK)



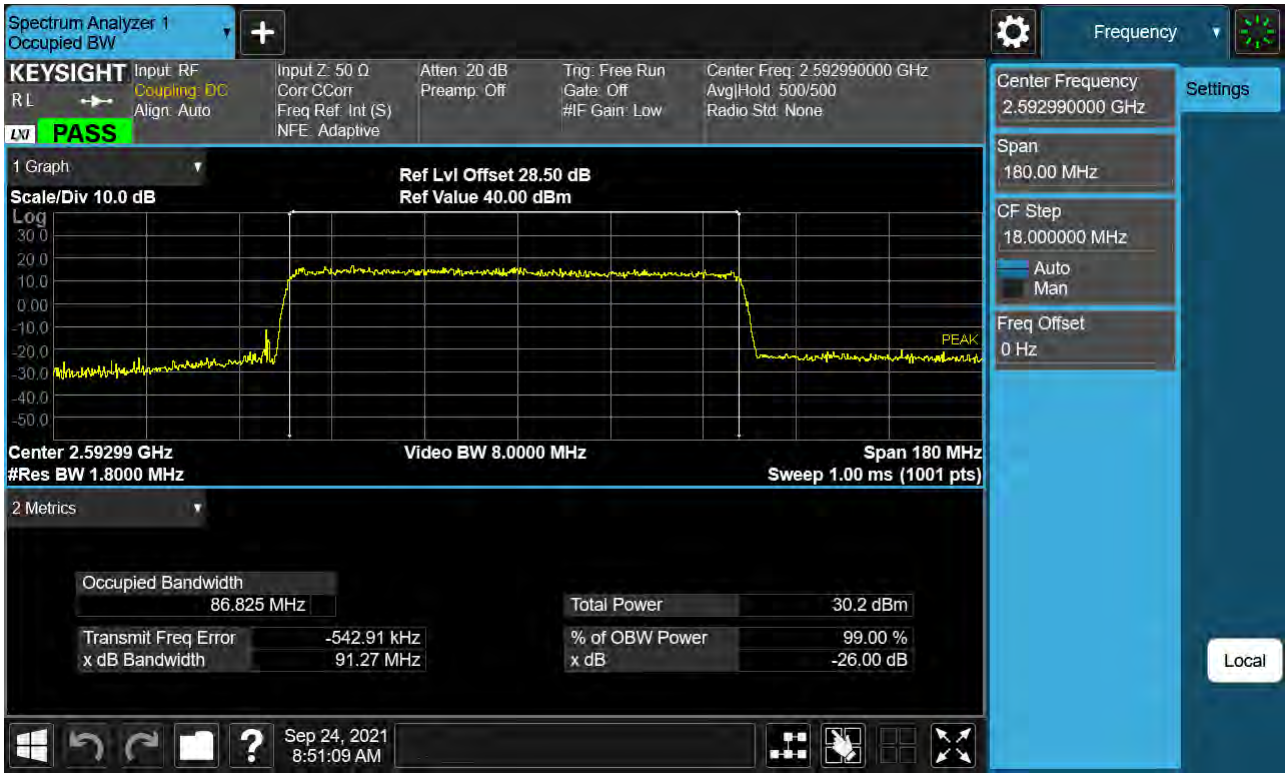
Sub6 n41. Occupied Bandwidth Plot (90 MHz Ch.518598 16-QAM)



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)

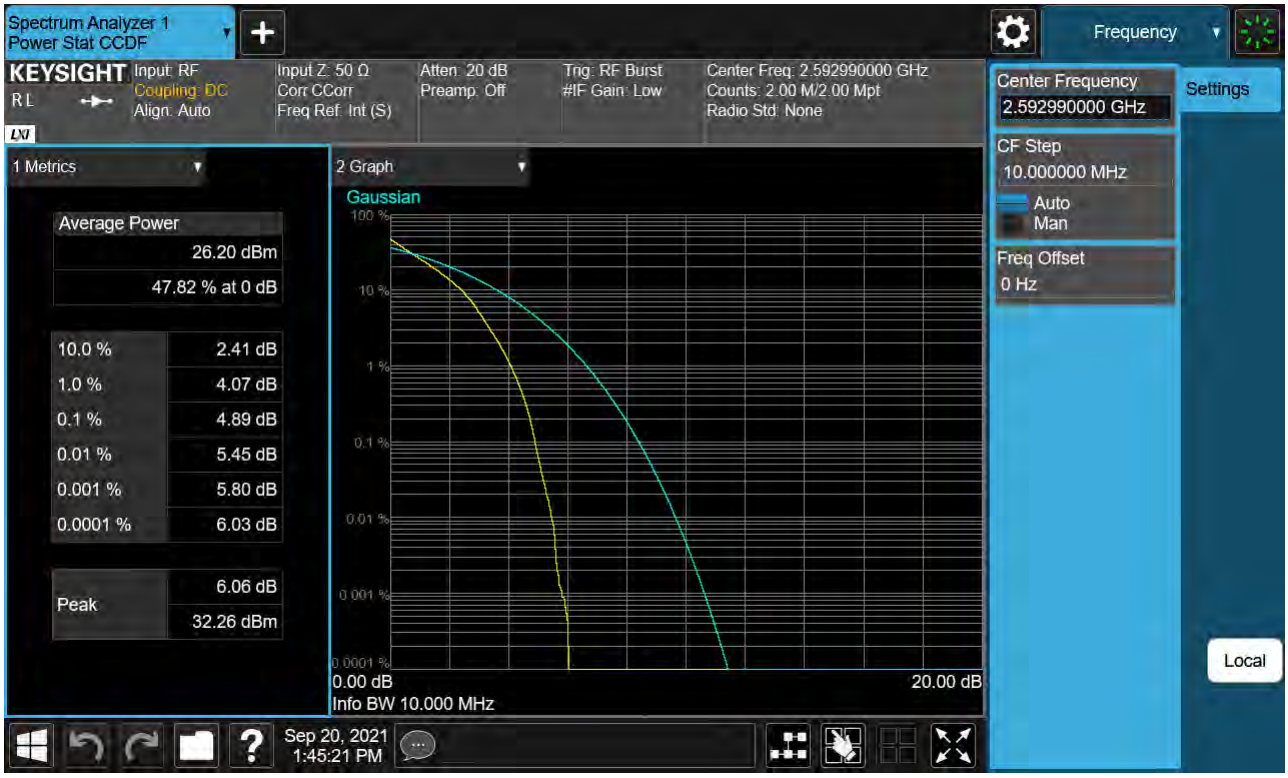
Sub6 n41. Occupied Bandwidth Plot (100 MHz Ch.518598 16-QAM)

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)

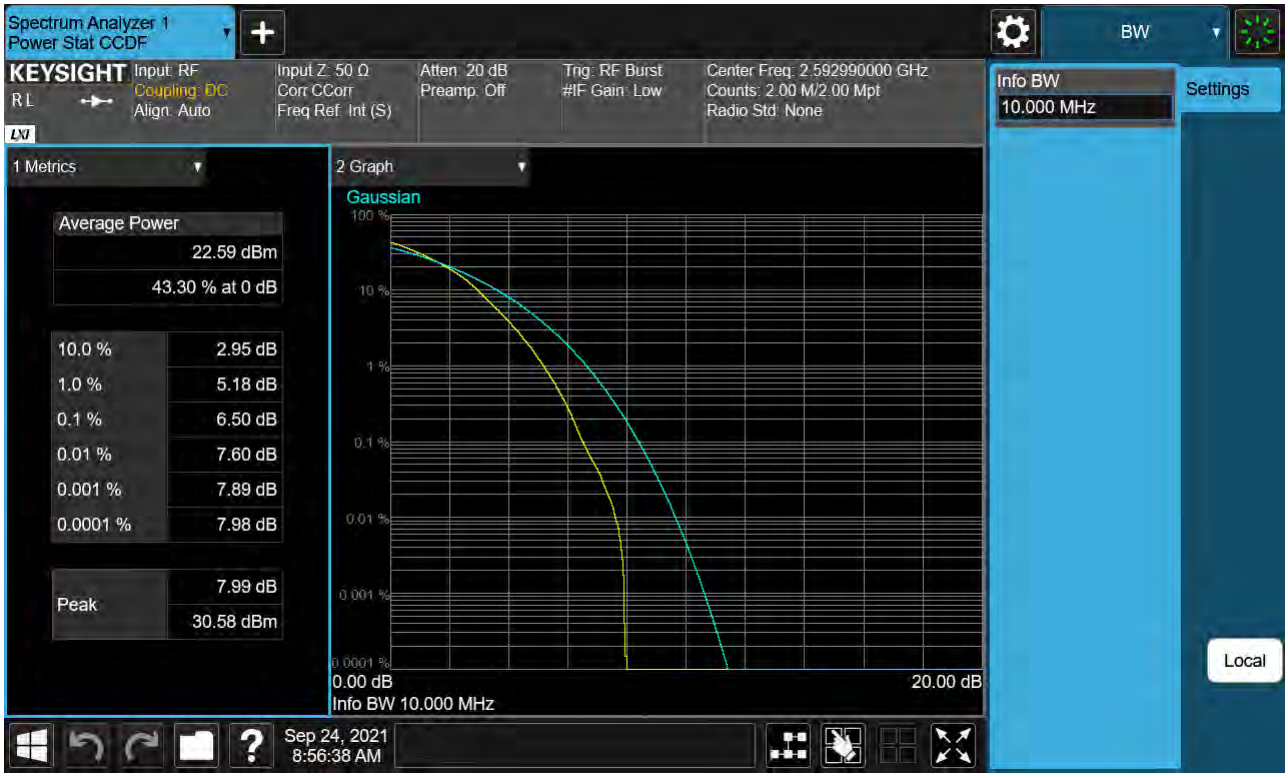
Sub6 n41. PAR Plot (10 M BW_Ch.518598_QPSK)



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)

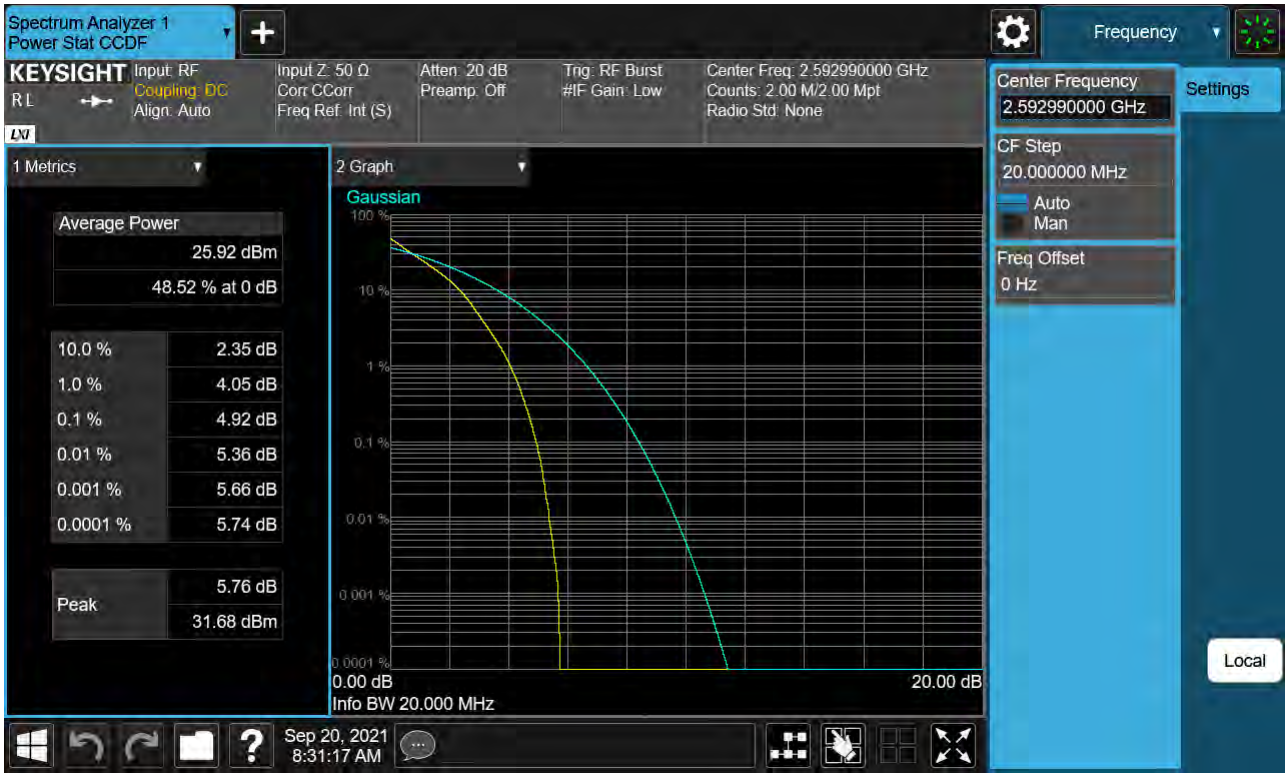
Sub6 n41. PAR Plot (15 M BW_Ch.518598_16QAM)

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)



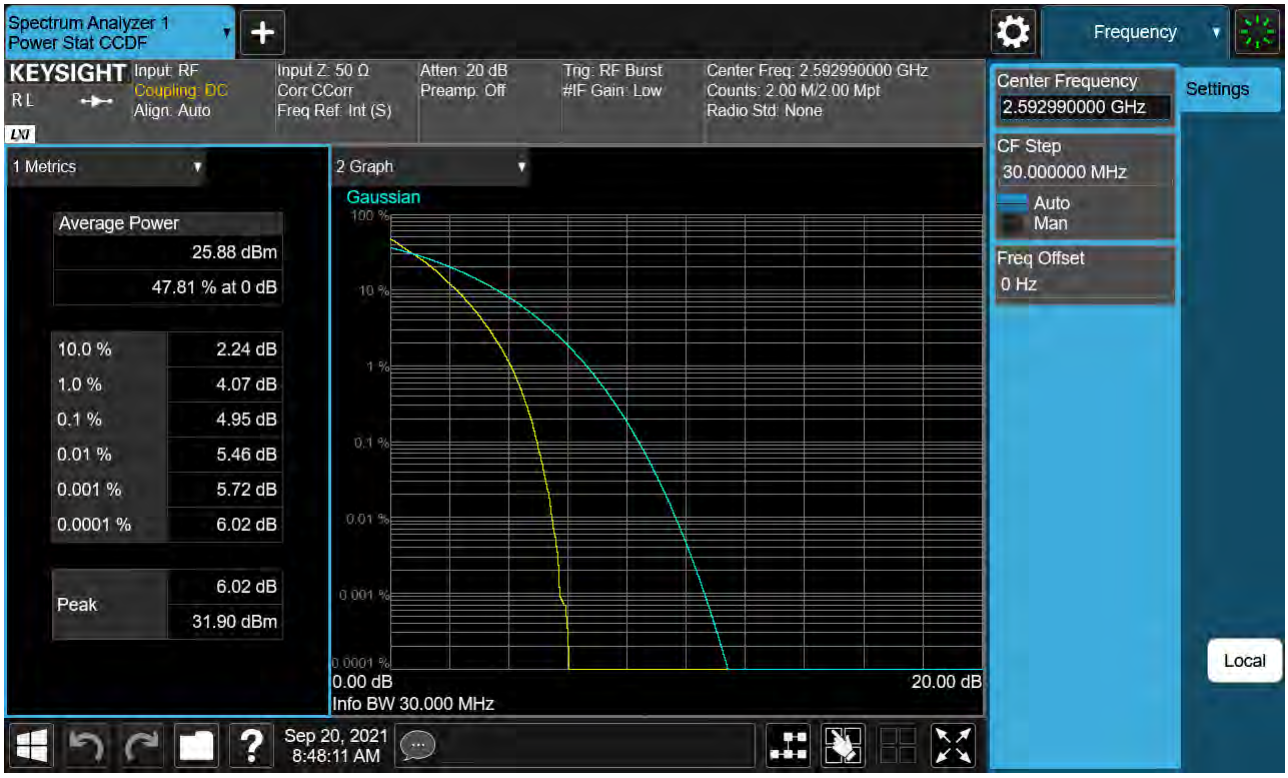
Sub6 n41. PAR Plot (20 M BW_Ch.518598_16QAM)

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

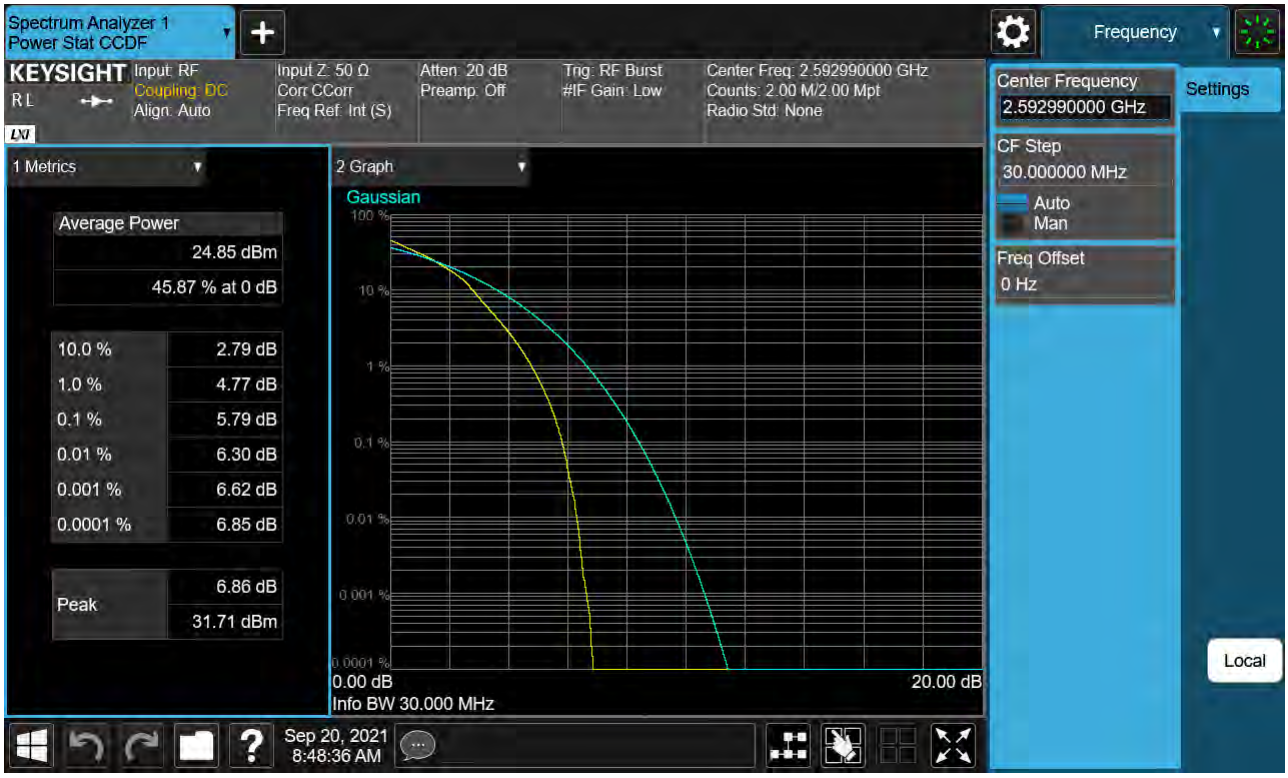
Sub6 n41. PAR Plot (20 M BW_Ch.518598_256QAM)

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

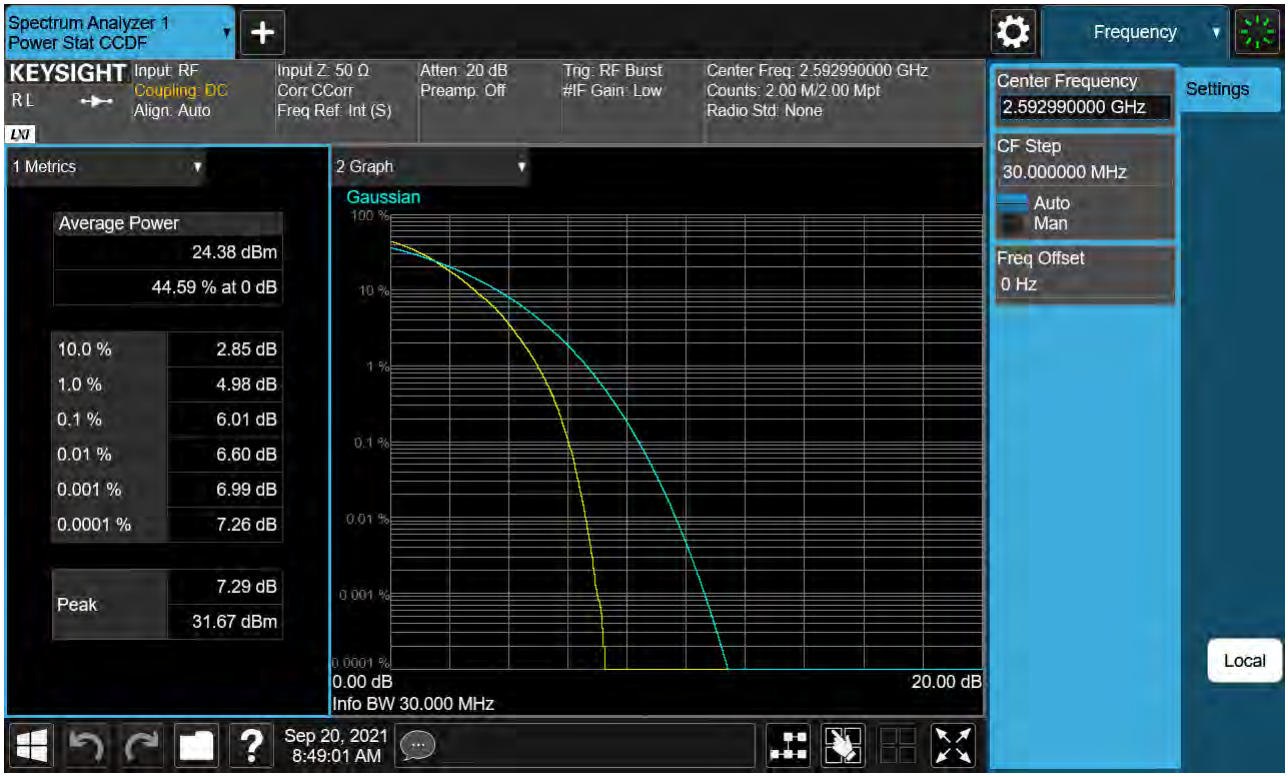
Sub6 n41. PAR Plot (30 M BW_Ch.518598_QPSK)



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

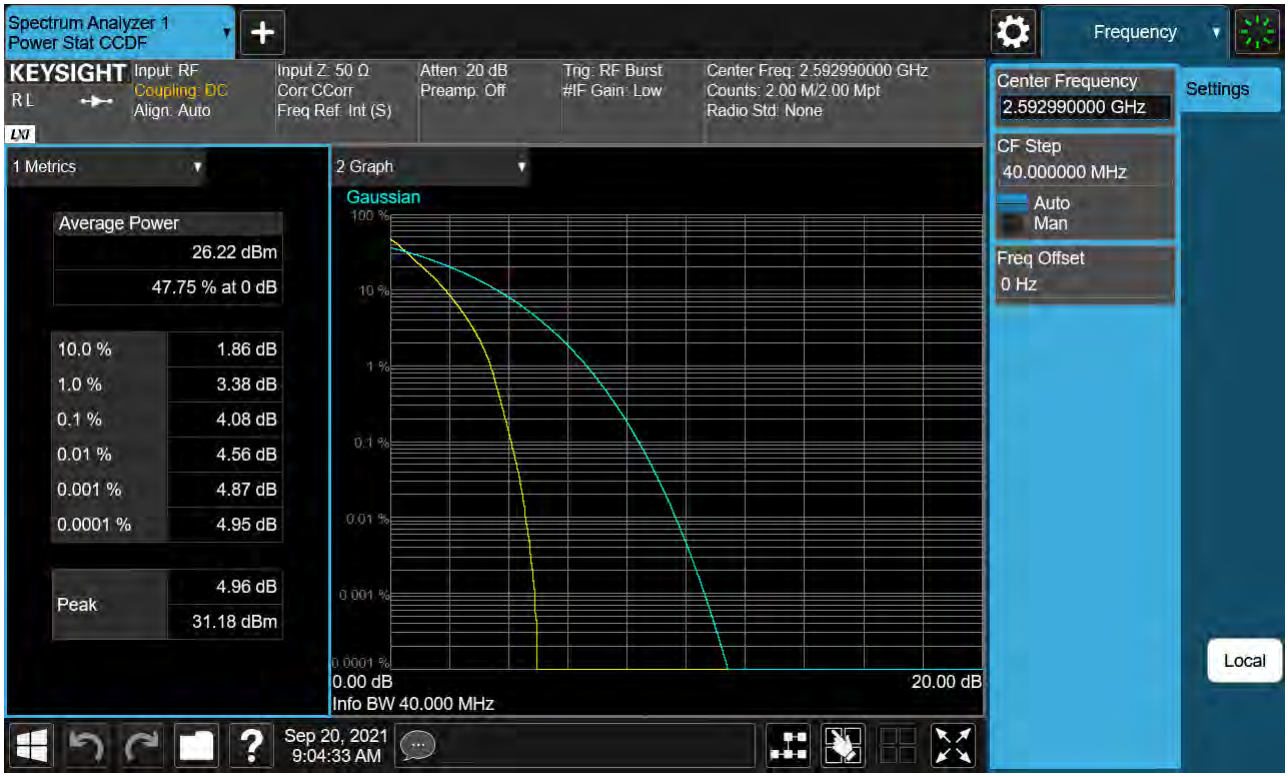


Sub6 n41. PAR Plot (30 M BW_Ch.518598_64QAM)

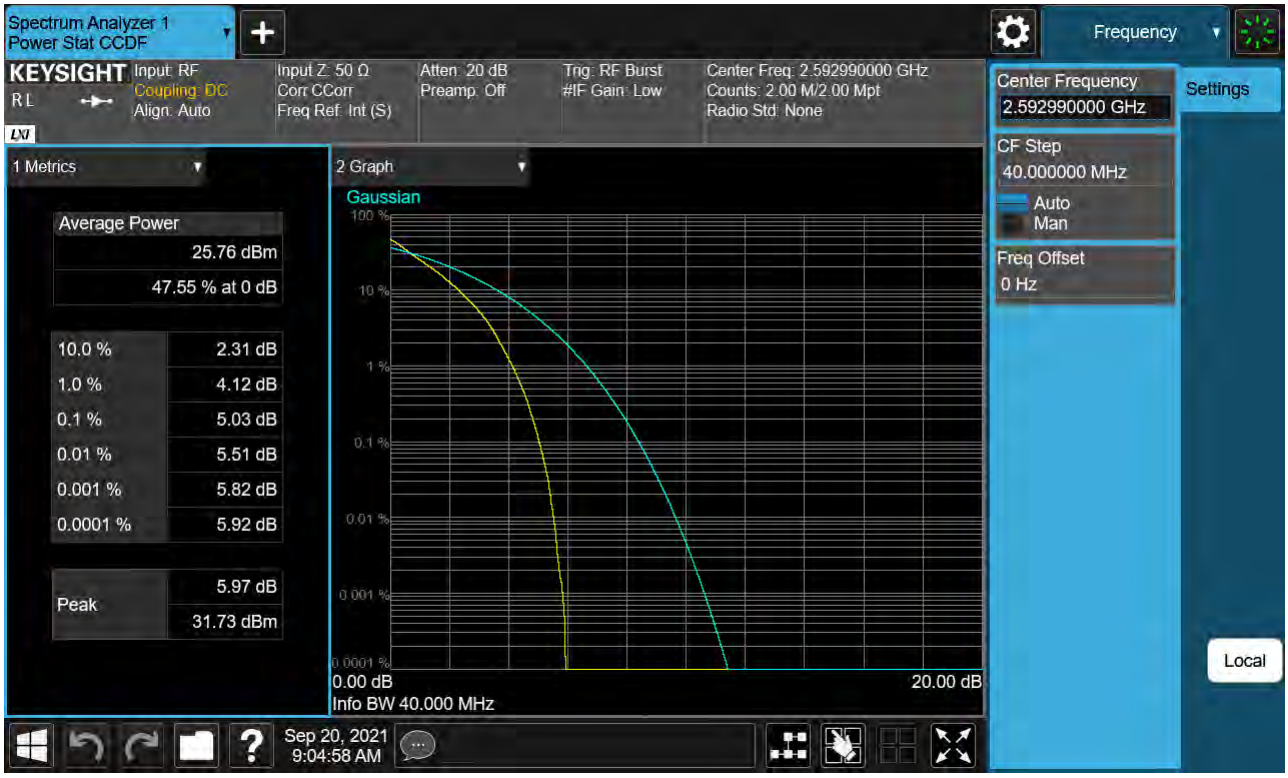


Sub6 n41. PAR Plot (30 M BW_Ch.518598_256QAM)

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



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

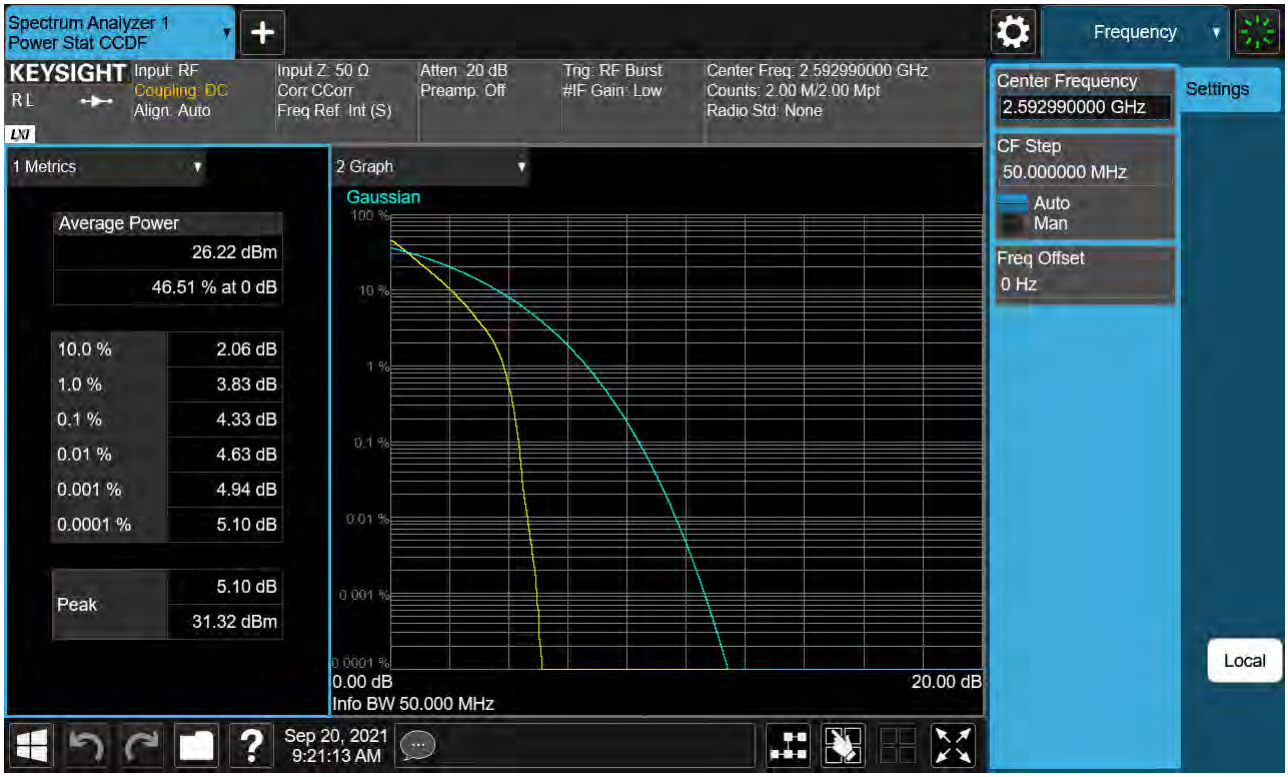


Sub6 n41. PAR Plot (40 M BW_Ch.518598_16QAM)

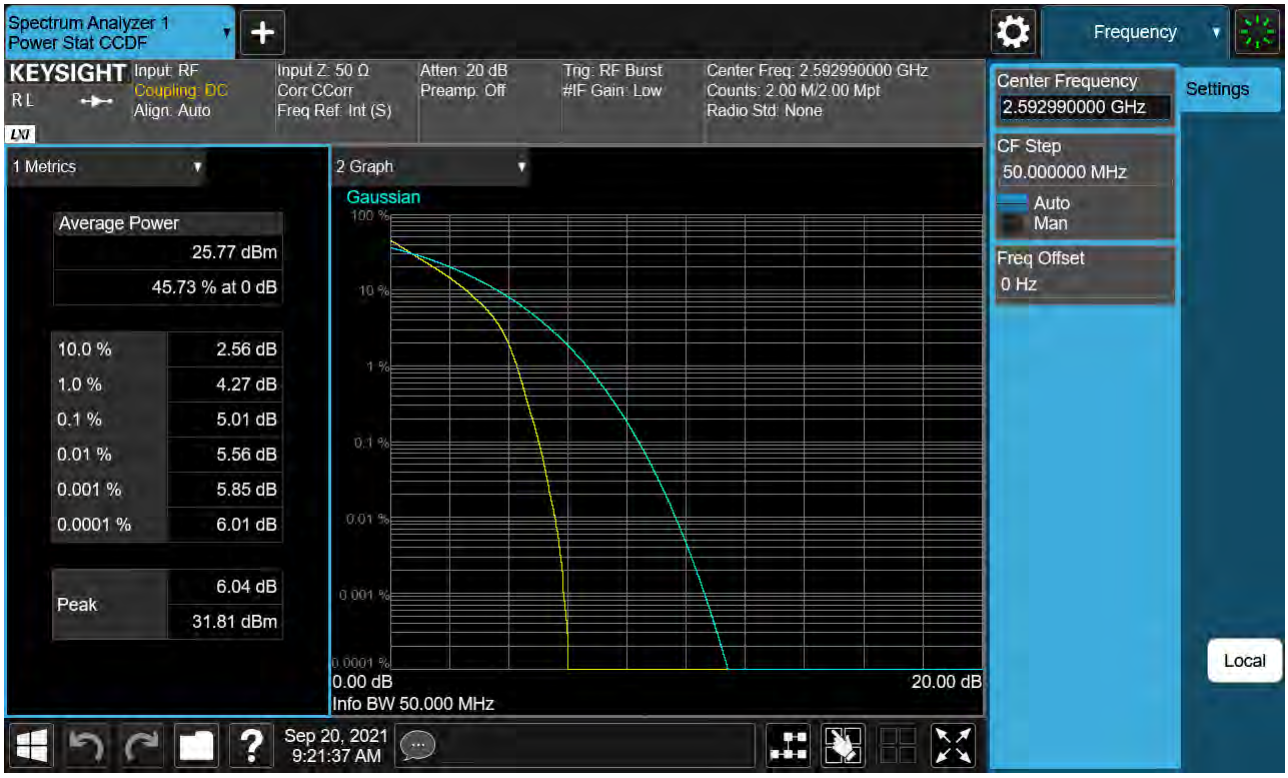
Sub6 n41. PAR Plot (40 M BW_Ch.518598_64QAM)

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

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

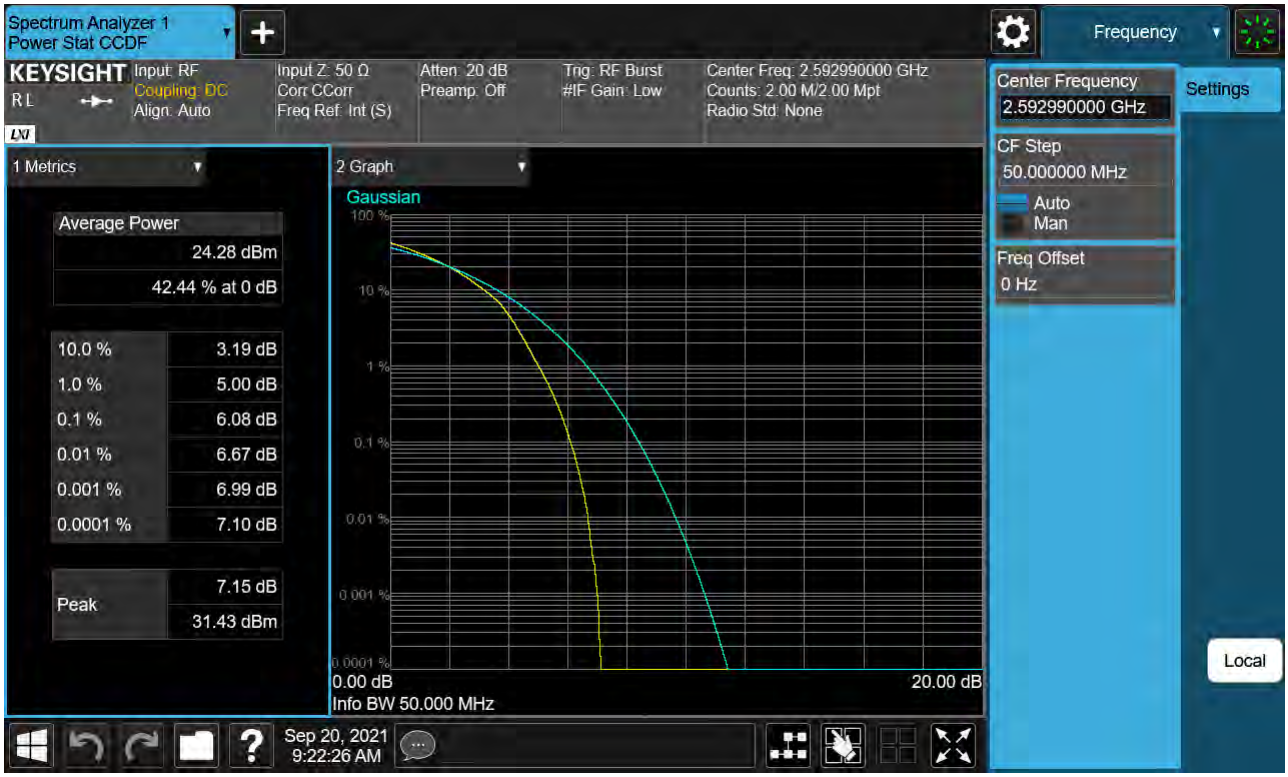


Sub6 n41. PAR Plot (50 M BW_Ch.518598_QPSK)



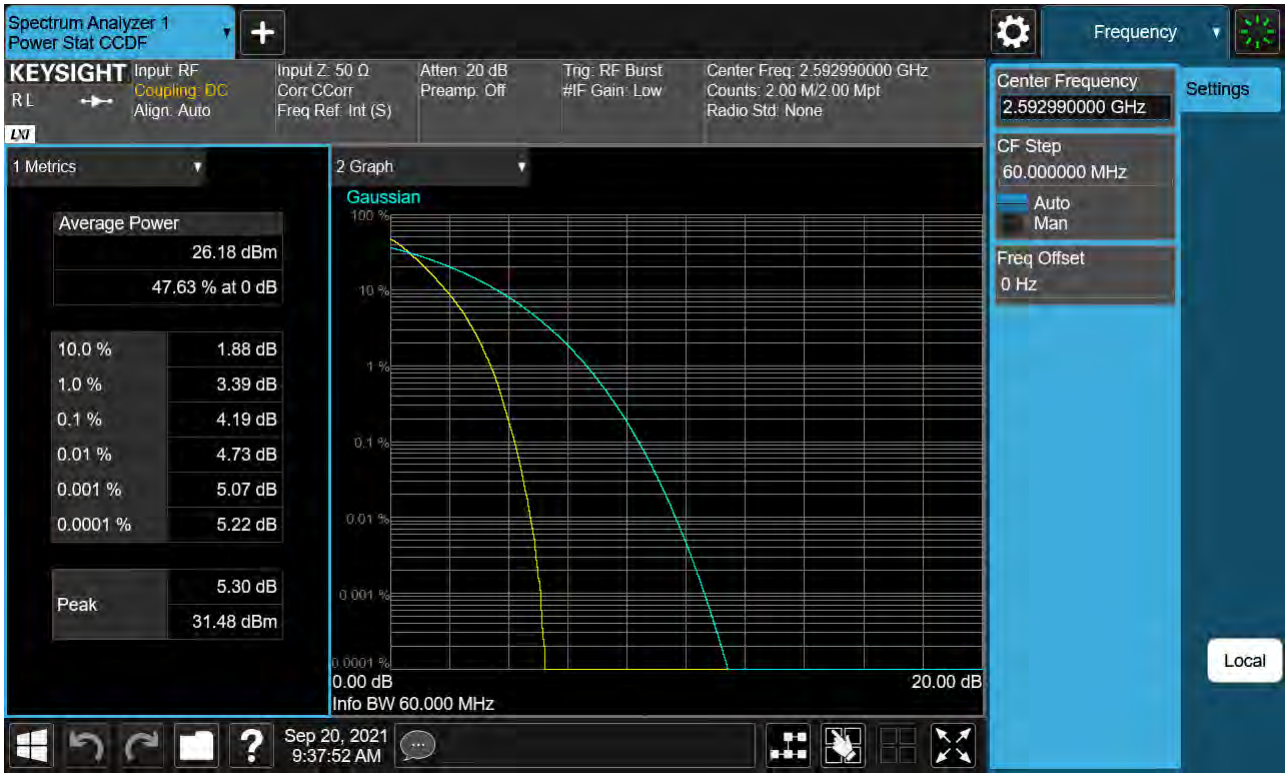
Sub6 n41. PAR Plot (50 M BW_Ch.518598_16QAM)

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



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

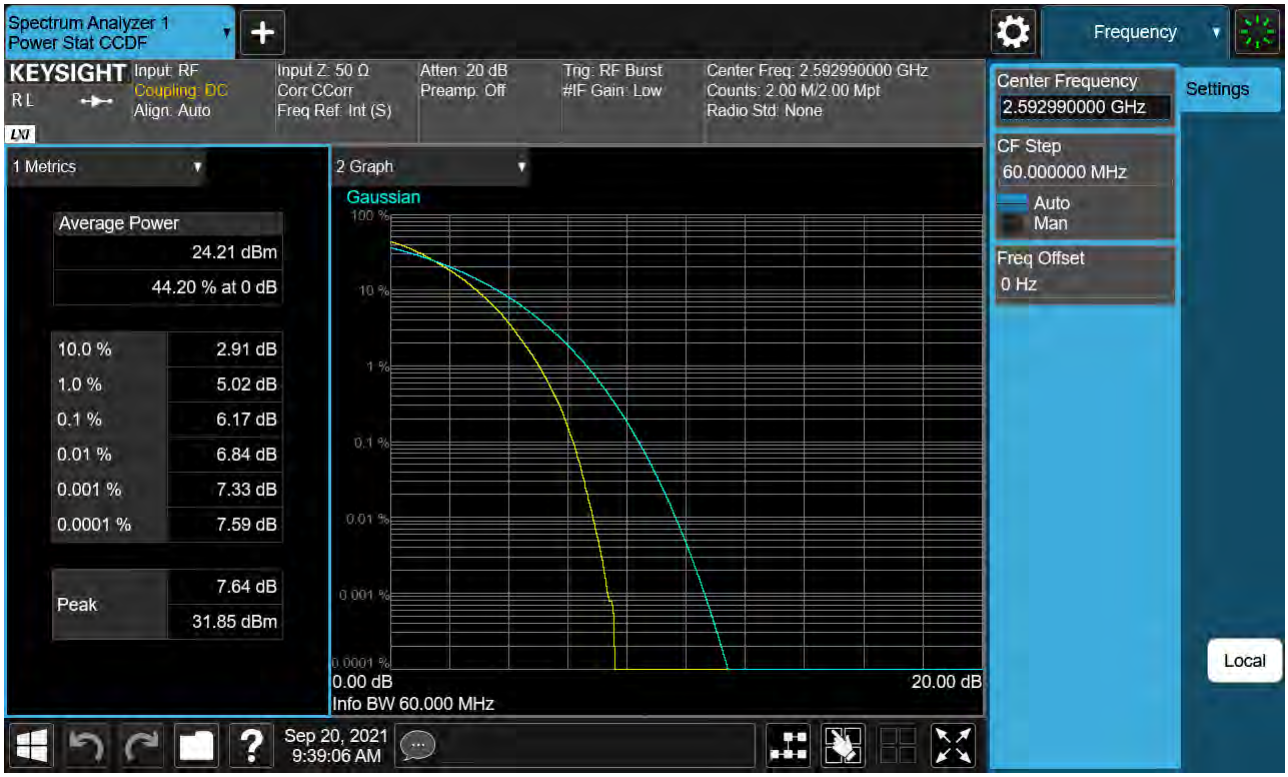
Sub6 n41. PAR Plot (60 M BW_Ch.518598_BPSK)



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

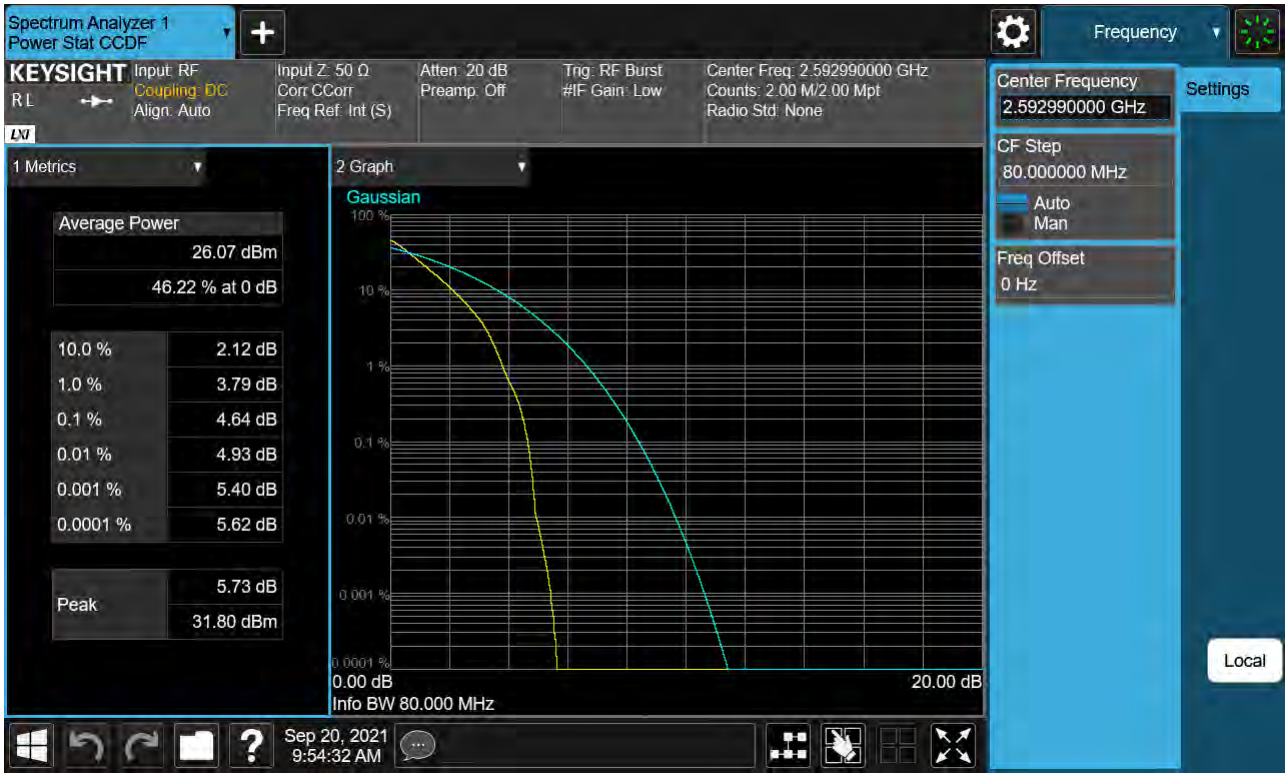
Sub6 n41. PAR Plot (60 M BW_Ch.518598_16QAM)

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



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

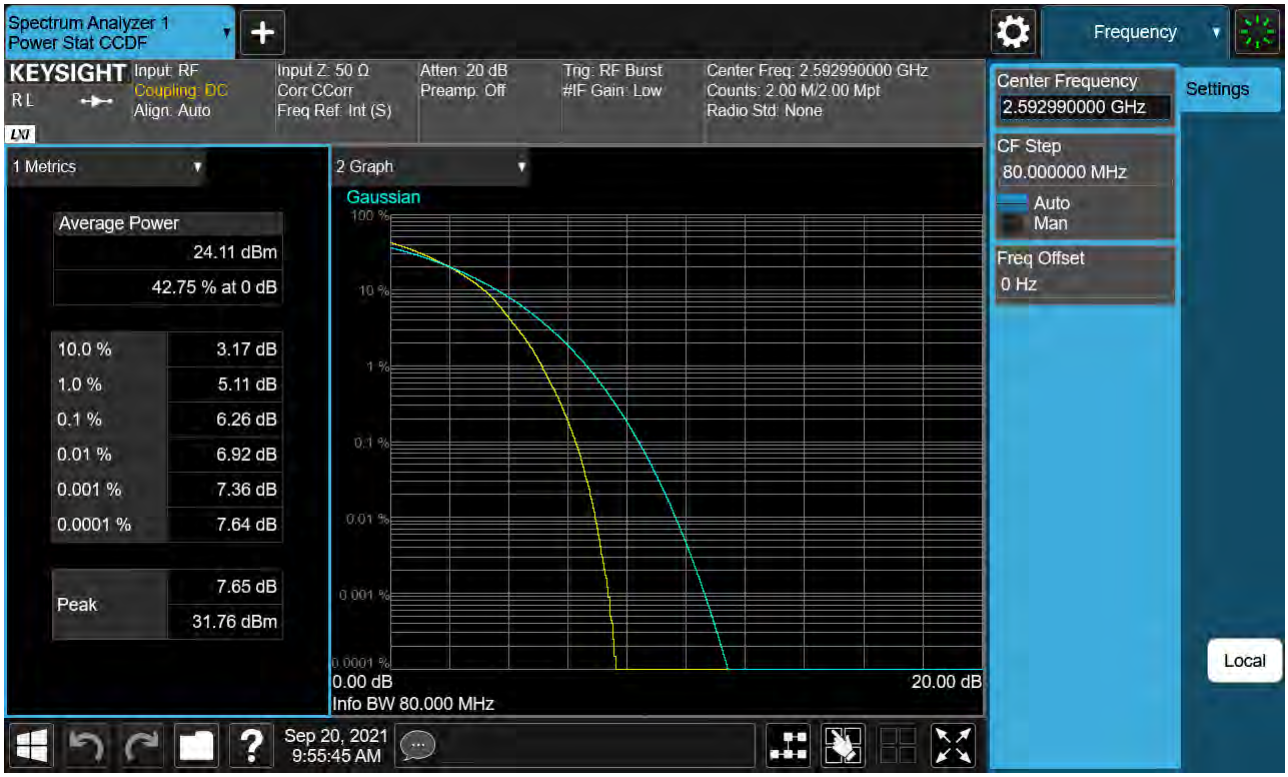
Sub6 n41. PAR Plot (80 M BW_Ch.518598_BPSK)



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

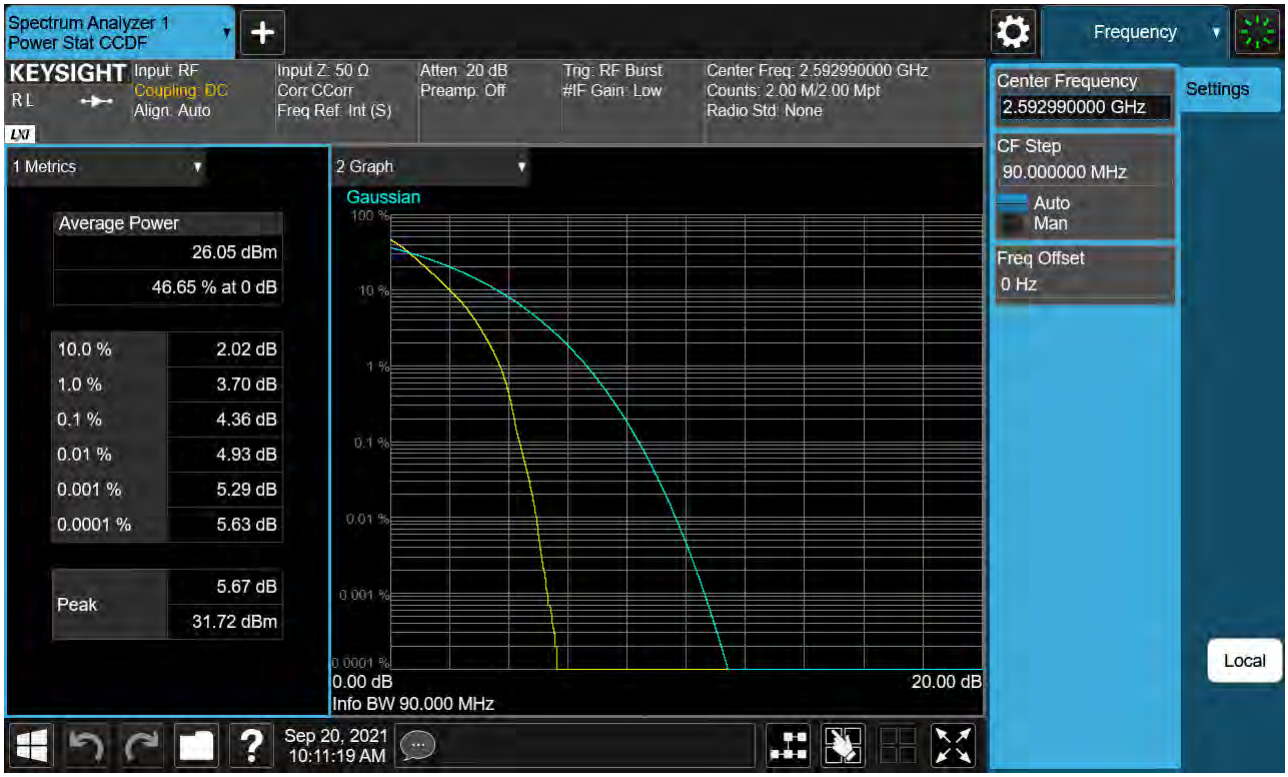
Sub6 n41. PAR Plot (80 M BW_Ch.518598_16QAM)

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

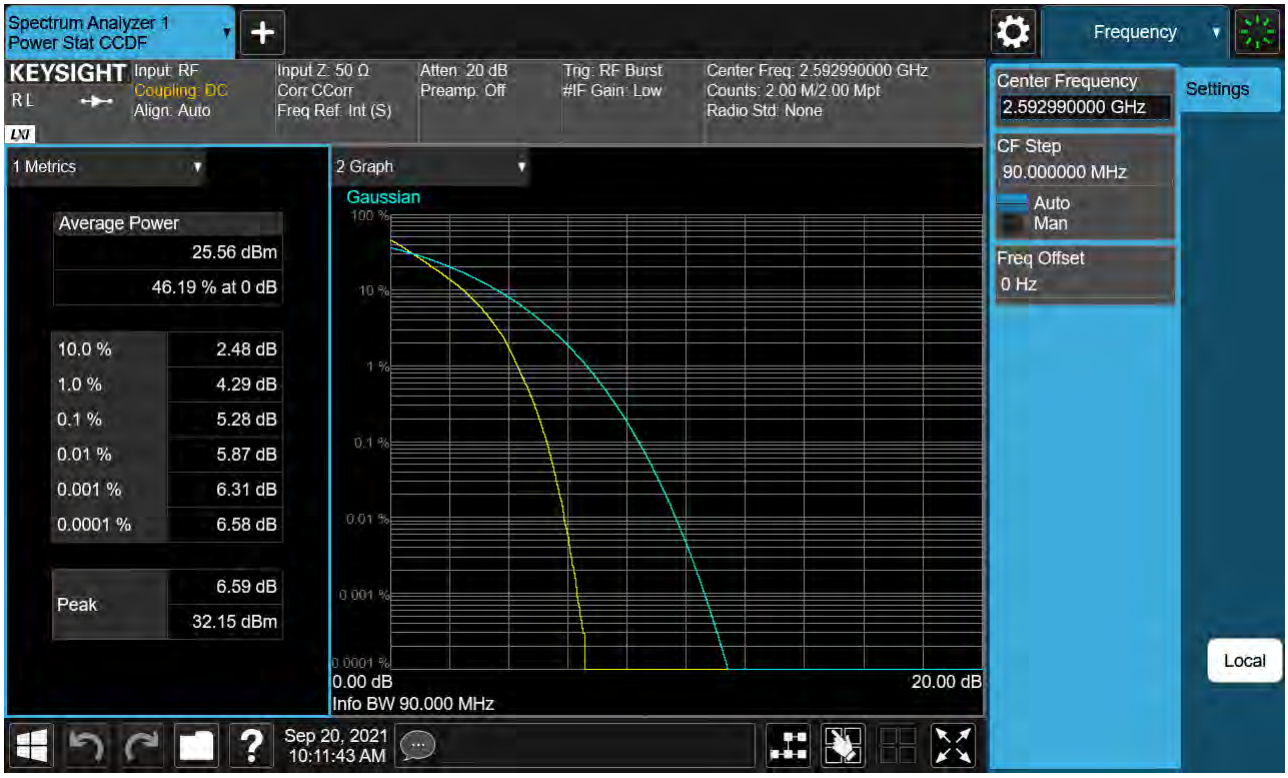


Sub6 n41. PAR Plot (80 M BW_Ch.518598_256QAM)

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)