74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA
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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 16, 2023

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

Report No.: HCT-RF-2310-FC047

FCC ID:	**A3LSMS926U**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**

Model(s):	SM-S926U
Additional Model(s):	SM-S926U1
EUT Type:	Mobile phone
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27

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)

Ant A

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M53G7D	PI/2 BPSK	0.204	23.10
		4M55G7D	QPSK	0.201	23.04
		4M50W7D	16QAM	0.155	21.91
		4M51W7D	64QAM	0.113	20.53
		4M51W7D	256QAM	0.063	17.99
Sub6 n66 (10)	1715.0 – 1775.0	9M00G7D	PI/2 BPSK	0.219	23.41
		8M97G7D	QPSK	0.210	23.22
		8M97W7D	16QAM	0.166	22.19
		8M98W7D	64QAM	0.121	20.82
		8M94W7D	256QAM	0.067	18.23
Sub6 n66 (15)	1717.5 – 1772.5	13M5G7D	PI/2 BPSK	0.209	23.21
		13M5G7D	QPSK	0.207	23.16
		13M5W7D	16QAM	0.165	22.17
		13M5W7D	64QAM	0.116	20.64
		13M5W7D	256QAM	0.065	18.14
Sub6 n66 (20)	1720.0 – 1770.0	17M9G7D	PI/2 BPSK	0.212	23.26
		17M9G7D	QPSK	0.205	23.11
		17M9W7D	16QAM	0.160	22.05
		17M9W7D	64QAM	0.115	20.61
		17M9W7D	256QAM	0.066	18.17
Sub6 n66 (25)	1722.5 – 1767.5	23M0G7D	PI/2 BPSK	0.219	23.41
		22M9G7D	QPSK	0.214	23.31
		22M9W7D	16QAM	0.171	22.32
		22M9W7D	64QAM	0.123	20.89
		22M9W7D	256QAM	0.068	18.35
Sub6 n66 (30)	1725.0 – 1765.0	28M7G7D	PI/2 BPSK	0.220	23.43
		28M6G7D	QPSK	0.217	23.37
		28M7W7D	16QAM	0.167	22.22
		28M6W7D	64QAM	0.118	20.73
		28M6W7D	256QAM	0.067	18.27
Sub6 n66 (35)	1727.5 – 1762.5	32M2G7D	PI/2 BPSK	0.221	23.45
		32M3G7D	QPSK	0.217	23.36
		32M2W7D	16QAM	0.173	22.37
		32M2W7D	64QAM	0.122	20.85
		32M2W7D	256QAM	0.068	18.34
Sub6 n66 (40)	1730.0 – 1760.0	38M7G7D	PI/2 BPSK	0.222	23.46
		38M8G7D	QPSK	0.220	23.43
		38M7W7D	16QAM	0.172	22.36
		38M6W7D	64QAM	0.125	20.97
		38M7W7D	256QAM	0.068	18.34

Ant F

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M59G7D	PI/2 BPSK	0.151	21.79
		4M60G7D	QPSK	0.148	21.71
		4M60W7D	16QAM	0.118	20.72
		4M57W7D	64QAM	0.085	19.29
		4M61W7D	256QAM	0.046	16.67
Sub6 n66 (10)	1715.0 – 1775.0	8M98G7D	PI/2 BPSK	0.156	21.93
		9M02G7D	QPSK	0.152	21.83
		9M01W7D	16QAM	0.120	20.78
		8M96W7D	64QAM	0.086	19.34
		8M98W7D	256QAM	0.046	16.63
Sub6 n66 (15)	1717.5 – 1772.5	13M5G7D	PI/2 BPSK	0.161	22.06
		13M5G7D	QPSK	0.155	21.89
		13M5W7D	16QAM	0.123	20.89
		13M5W7D	64QAM	0.086	19.37
		13M5W7D	256QAM	0.046	16.65
Sub6 n66 (20)	1720.0 – 1770.0	17M9G7D	PI/2 BPSK	0.157	21.95
		18M0G7D	QPSK	0.154	21.87
		17M9W7D	16QAM	0.118	20.73
		17M9W7D	64QAM	0.088	19.46
		17M9W7D	256QAM	0.047	16.75
Sub6 n66 (25)	1722.5 – 1767.5	23M1G7D	PI/2 BPSK	0.167	22.23
		23M0G7D	QPSK	0.161	22.06
		23M0W7D	16QAM	0.123	20.90
		22M9W7D	64QAM	0.097	19.87
		23M0W7D	256QAM	0.053	17.25
Sub6 n66 (30)	1725.0 – 1765.0	28M6G7D	PI/2 BPSK	0.166	22.20
		28M7G7D	QPSK	0.161	22.08
		28M7W7D	16QAM	0.121	20.84
		28M7W7D	64QAM	0.090	19.55
		28M6W7D	256QAM	0.049	16.86
Sub6 n66 (35)	1727.5 – 1762.5	32M3G7D	PI/2 BPSK	0.158	21.98
		32M2G7D	QPSK	0.152	21.83
		32M2W7D	16QAM	0.123	20.89
		32M2W7D	64QAM	0.088	19.43
		32M2W7D	256QAM	0.048	16.79
Sub6 n66 (40)	1730.0 – 1760.0	38M7G7D	PI/2 BPSK	0.160	22.04
		38M8G7D	QPSK	0.158	21.98
		38M7W7D	16QAM	0.123	20.90
		38M8W7D	64QAM	0.091	19.57
		38M7W7D	256QAM	0.048	16.84

REVIEWED BY

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

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

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

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-2310-FC047	October 16, 2023	- First Approval Report

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:	A3LSMS926U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27
EUT Type:	Mobile phone
Model(s):	SM-S926U
Additional Model(s):	SM-S926U1
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20, 25, 30, 35, 40
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:	1712.5 MHz – 1777.5 MHz (Sub6 n66(5 MHz)) 1715.0 MHz – 1775.0 MHz (Sub6 n66(10 MHz)) 1717.5 MHz – 1772.5 MHz (Sub6 n66(15 MHz)) 1720.0 MHz – 1770.0 MHz (Sub6 n66(20 MHz)) 1722.5 MHz – 1767.5 MHz (Sub6 n66(25 MHz)) 1725.0 MHz – 1765.0 MHz (Sub6 n66(30 MHz)) 1727.5 MHz – 1762.5 MHz (Sub6 n66(35 MHz)) 1730.0 MHz – 1760.0 MHz (Sub6 n66(40 MHz))
Date(s) of Tests:	August 31, 2023 ~ October 12, 2023
Serial number:	Radiated: R3CW80MAMQT (Ant A), R3CW90B4EDB (Ant F) Conducted: R3CW80MAK7Y (Ant A), 741c314dee0f7ece (Ant F)

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

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

It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160 MHz), WIFI 6E, Bluetooth, BT LE, NFC, UWB, 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
Band Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- N/A (See SAR Report)
Peak- to- Average Ratio	- KDB 971168 D01 v03r01 – Section 5.7 - ANSI C63.26-2015 – Section 5.2.3.4 - ANSI C63.26-2015 – Section 5.2.6(only GSM)
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Effective Radiated Power/ Effective Isotropic Radiated Power	- KDB 971168 D01 v03r01 – Section 5.2 & 5.8 - ANSI/TIA-603-E-2016 – Section 2.2.17
Radiated Spurious and Harmonic Emissions	- KDB 971168 D01 v03r01 – Section 6.2 - ANSI/TIA-603-E-2016 – Section 2.2.12

3.2 RADIATED POWER

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna in accordance with ANSI/TIA-603-E-2016 Clause 2.2.17.

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW ≥ 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 = 100kHz 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;

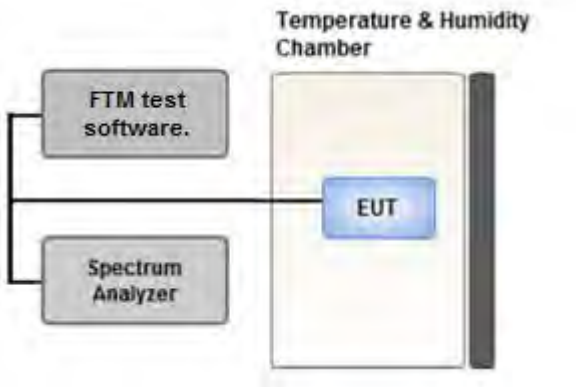
$$\text{Result}_{(dBm)} = \text{Pg}_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dBi)}$$

   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.

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

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:

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

Test Settings(Peak Power)

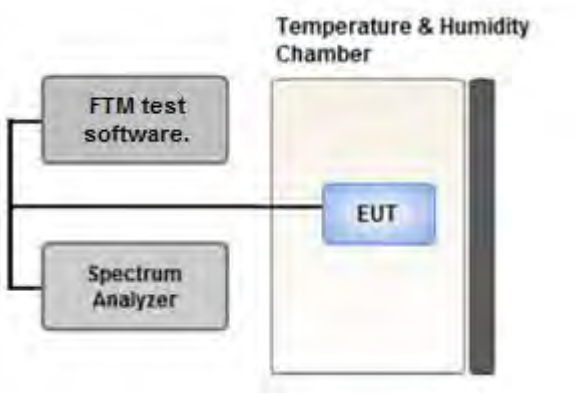
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

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.

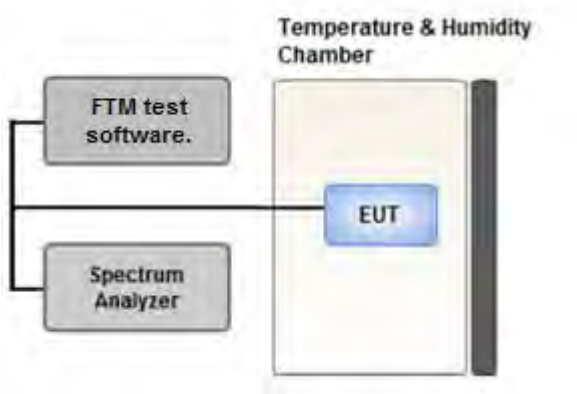
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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.

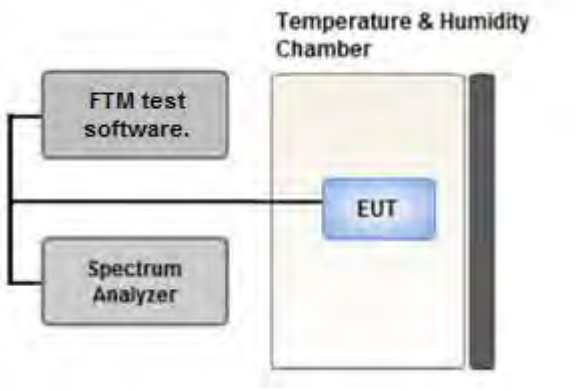
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

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 BAND EDGE



Test setup

Test Overview

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

Test Settings

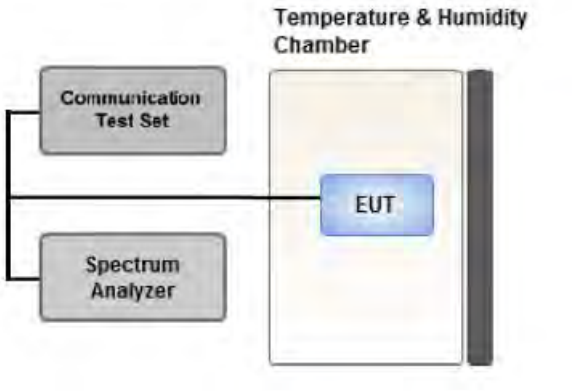
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1 % of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Notes

According to FCC 22.917, 24.238, 27.53 specified that power of any emission outside of The authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.
All measurements were done at 2 channels(low and high operational frequency range.
The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

Where Margin < 1 dB the emission level is either corrected by 10 log(1 MHz/ RB) or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge.

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

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

The frequency stability of the transmitter is measured by:

1. Temperature:

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

2. Primary Supply Voltage:

   .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.

   .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

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

3.9 WORST CASE(RADIATED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- 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 : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)

  Worst case : Stand alone

  Mode : NSA, SA

  Worst case: SA
- We were performed the RSE test in condition of co-location.

  Mode : Stand alone, Simultaneous transmission scenarios

  Worst case : Stand alone
- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation (=anchor) were investigated and the test results were measured No Peak Found.
  The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- In the case of radiated spurious emissions, all bandwidth of operation was investigated and the worst case bandwidth results are reported. (Worst case : 40 MHz(Ant A), 25 MHz(Ant F))
- SM-S926U & additional models were tested and the worst case results are reported.
  (Worst case : SM-S926U)

[Ant A 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		Z

[Ant F 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		Z

3.10 WORST CASE(CONDUCTED TEST)

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

  (Worst case: DFT-S-OFDM)

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

  (Worst case: PI/2 BPSK)

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

  Mode : NSA, SA

  Worst case: SA

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

  Please refer to the table below.

- SM-S926U & additional models were tested and the worst case results are reported.

  (Worst case : SM-S926U)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth, Peak-To-Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	5, 10, 15, 20, 25, 30, 35, 40	Mid	Full RB	0
Band Edge	PI/2 BPSK	5	Low	1	0
			High	1	24
		10	Low	1	0
			High	1	51
		15	Low	1	0
			High	1	78
		20	Low	1	0
			High	1	105
		25	Low	1	0
			High	1	132
		30	Low	1	0
			High	1	159
		35	Low	1	0
			High	1	187
		40	Low	1	0
			High	1	215
		5, 10, 15, 20, 25, 30, 35, 40	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20, 25, 30, 35, 40	Low, Mid, High	1	1

4. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	03/27/2024	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/27/2024	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	03/21/2024	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/29/2024	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/16/2025	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/22/2024	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/22/2024	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/22/2024	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/22/2024	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/01/2023	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/02/2024	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/25/2024	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	03/02/2024	Annual
Chamber	SU-642	ESPEC	93008124	02/22/2024	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/11/2024	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/19/2024	Annual
Spectrum Analyzer(10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/22/2024	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/10/2024	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/22/2024	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/23/2024	Annual
SIGNAL GENERATOR (100 kHz~40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	06/22/2024	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/24/2024	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/19/2024	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)	1.90 (Confidence level about 95 %, k=2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.14 (Confidence level about 95 %, k=2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.16 (Confidence level about 95 %, k=2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.57 (Confidence level about 95 %, k=2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.76 (Confidence level about 95 %, k=2)
Radiated Disturbance (Above 40 GHz)	5.52 (Confidence level about 95 %, k=2)

6. SUMMARY OF TEST RESULTS

6.1 Test Condition: Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§2.1051, §27.53(h)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§2.1046	N/A	**See Note1**
Peak- to- Average Ratio	§27.50(d)(5)	< 13 dB	PASS
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(d)(4)	< 1 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§2.1053, §27.53(h)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	PASS

Note:

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

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

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

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

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

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level(dBm)	Substitute Level(dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
349000	1,732.50	-15.75	18.45	9.90	1.76	H	0.456	26.59

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

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

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W

GSM BW = 249 kHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

PSK Modulation

Emission Designator = 4M48G7D

LTE BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D

LTE BW = 4.48 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

8. TEST DATA(Ant A)

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
1712.5	Sub6 n66/ 5 MHz [15 kHz]	PI/2 BPSK	-17.86	15.50	9.60	2.00	V	< 1.00	0.204	23.10	1	12
		QPSK	-17.92	15.44	9.60	2.00	V		0.201	23.04		
		16-QAM	-19.06	14.30	9.60	2.00	V		0.155	21.90		
		64-QAM	-20.53	12.83	9.60	2.00	V		0.110	20.43		
		256-QAM	-23.02	10.34	9.60	2.00	V		0.062	17.94		
1745.0		PI/2 BPSK	-18.23	15.37	9.75	2.04	V		0.203	23.08	1	23
		QPSK	-18.41	15.19	9.75	2.04	V		0.195	22.90		
		16-QAM	-19.40	14.20	9.75	2.04	V		0.155	21.91		
		64-QAM	-20.78	12.82	9.75	2.04	V		0.113	20.53		
		256-QAM	-23.32	10.28	9.75	2.04	V		0.063	17.99		
1777.5		PI/2 BPSK	-19.19	14.35	9.90	2.08	V		0.165	22.17	1	12
		QPSK	-19.24	14.30	9.90	2.08	V		0.163	22.12		
		16-QAM	-20.36	13.18	9.90	2.08	V		0.126	21.00		
		64-QAM	-21.84	11.70	9.90	2.08	V		0.090	19.52		
		256-QAM	-24.38	9.16	9.90	2.08	V		0.050	16.98		

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
1715.0	Sub6 n66/ 10 MHz [15 kHz]	PI/2 BPSK	-17.76	15.60	9.60	2.00	V	< 1.00	0.209	23.20	1	50
		QPSK	-17.87	15.49	9.60	2.00	V		0.204	23.09		
		16-QAM	-19.06	14.30	9.60	2.00	V		0.155	21.90		
		64-QAM	-20.45	12.91	9.60	2.00	V		0.113	20.51		
		256-QAM	-22.97	10.39	9.60	2.00	V		0.063	17.99		
1745.0		PI/2 BPSK	-17.90	15.70	9.75	2.04	V		0.219	23.41	1	1
		QPSK	-18.09	15.51	9.75	2.04	V		0.210	23.22		
		16-QAM	-19.12	14.48	9.75	2.04	V		0.166	22.19		
		64-QAM	-20.49	13.11	9.75	2.04	V		0.121	20.82		
		256-QAM	-23.08	10.52	9.75	2.04	V		0.067	18.23		
1775.0		PI/2 BPSK	-19.15	14.39	9.90	2.08	V		0.166	22.21	1	1
		QPSK	-19.25	14.29	9.90	2.08	V		0.163	22.11		
		16-QAM	-20.37	13.17	9.90	2.08	V		0.126	20.99		
		64-QAM	-21.91	11.63	9.90	2.08	V		0.088	19.45		
		256-QAM	-24.28	9.26	9.90	2.08	V		0.051	17.08		

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
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	-17.87	15.49	9.60	2.00	V	< 1.00	0.204	23.09	1	77
		QPSK	-18.02	15.34	9.60	2.00	V		0.197	22.94		
		16-QAM	-18.95	14.41	9.60	2.00	V		0.159	22.01		
		64-QAM	-20.51	12.85	9.60	2.00	V		0.111	20.45		
		256-QAM	-22.96	10.40	9.60	2.00	V		0.063	18.00		
1745.0		PI/2 BPSK	-18.10	15.50	9.75	2.04	V		0.209	23.21	1	1
		QPSK	-18.15	15.45	9.75	2.04	V		0.207	23.16		
		16-QAM	-19.14	14.46	9.75	2.04	V		0.165	22.17		
		64-QAM	-20.67	12.93	9.75	2.04	V		0.116	20.64		
		256-QAM	-23.17	10.43	9.75	2.04	V		0.065	18.14		
1772.5		PI/2 BPSK	-19.20	14.34	9.90	2.08	V		0.164	22.16	1	1
		QPSK	-19.38	14.16	9.90	2.08	V		0.158	21.98		
		16-QAM	-20.23	13.31	9.90	2.08	V		0.130	21.13		
		64-QAM	-21.68	11.86	9.90	2.08	V		0.093	19.68		
		256-QAM	-24.19	9.35	9.90	2.08	V		0.052	17.17		

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
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	-17.97	15.53	9.60	2.00	V	< 1.00	0.206	23.13	1	104
		QPSK	-18.06	15.44	9.60	2.00	V		0.201	23.04		
		16-QAM	-19.12	14.38	9.60	2.00	V		0.158	21.98		
		64-QAM	-20.57	12.93	9.60	2.00	V		0.113	20.53		
		256-QAM	-23.02	10.48	9.60	2.00	V		0.064	18.08		
1745.0		PI/2 BPSK	-18.05	15.55	9.75	2.04	V		0.212	23.26	1	1
		QPSK	-18.20	15.40	9.75	2.04	V		0.205	23.11		
		16-QAM	-19.26	14.34	9.75	2.04	V		0.160	22.05		
		64-QAM	-20.70	12.90	9.75	2.04	V		0.115	20.61		
		256-QAM	-23.14	10.46	9.75	2.04	V		0.066	18.17		
1770.0		PI/2 BPSK	-19.12	14.52	9.90	2.09	V		0.171	22.33	1	1
		QPSK	-19.20	14.44	9.90	2.09	V		0.168	22.25		
		16-QAM	-20.28	13.36	9.90	2.09	V		0.131	21.17		
		64-QAM	-21.64	12.00	9.90	2.09	V		0.096	19.81		
		256-QAM	-24.24	9.40	9.90	2.09	V		0.053	17.21		

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
1722.5	Sub6 n66/ 25 MHz [15 kHz]	PI/2 BPSK	-17.99	15.57	9.60	2.01	V	< 1.00	0.207	23.16	1	131
		QPSK	-18.06	15.50	9.60	2.01	V		0.204	23.09		
		16-QAM	-18.97	14.59	9.60	2.01	V		0.165	22.18		
		64-QAM	-20.47	13.09	9.60	2.01	V		0.117	20.68		
		256-QAM	-22.97	10.59	9.60	2.01	V		0.066	18.18		
1745.0		PI/2 BPSK	-17.90	15.70	9.75	2.04	V		0.219	23.41	1	1
		QPSK	-18.00	15.60	9.75	2.04	V		0.214	23.31		
		16-QAM	-18.99	14.61	9.75	2.04	V		0.171	22.32		
		64-QAM	-20.42	13.18	9.75	2.04	V		0.123	20.89		
		256-QAM	-22.96	10.64	9.75	2.04	V		0.068	18.35		
1767.5		PI/2 BPSK	-18.35	15.13	9.90	2.09	V		0.197	22.94	1	1
		QPSK	-18.50	14.98	9.90	2.09	V		0.190	22.79		
		16-QAM	-19.53	13.95	9.90	2.09	V		0.150	21.76		
		64-QAM	-20.90	12.58	9.90	2.09	V		0.109	20.39		
		256-QAM	-23.37	10.11	9.90	2.09	V		0.062	17.92		

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
1725.0	Sub6 n66/ 30 MHz [15 kHz]	PI/2 BPSK	-17.84	15.72	9.60	2.01	V	< 1.00	0.214	23.31	1	158
		QPSK	-17.96	15.60	9.60	2.01	V		0.209	23.19		
		16-QAM	-19.06	14.50	9.60	2.01	V		0.162	22.09		
		64-QAM	-20.53	13.03	9.60	2.01	V		0.115	20.62		
		256-QAM	-23.11	10.45	9.60	2.01	V		0.064	18.04		
1745.0		PI/2 BPSK	-17.88	15.72	9.75	2.04	V		0.220	23.43	1	1
		QPSK	-17.94	15.66	9.75	2.04	V		0.217	23.37		
		16-QAM	-19.09	14.51	9.75	2.04	V		0.167	22.22		
		64-QAM	-20.58	13.02	9.75	2.04	V		0.118	20.73		
		256-QAM	-23.04	10.56	9.75	2.04	V		0.067	18.27		
1765.0		PI/2 BPSK	-18.20	15.28	9.90	2.09	V		0.204	23.09	1	1
		QPSK	-18.32	15.16	9.90	2.09	V		0.198	22.97		
		16-QAM	-19.48	14.00	9.90	2.09	V		0.152	21.81		
		64-QAM	-20.88	12.60	9.90	2.09	V		0.110	20.41		
		256-QAM	-23.34	10.14	9.90	2.09	V		0.062	17.95		

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
1727.5	Sub6 n66/ 35 MHz [15 kHz]	PI/2 BPSK	-18.14	15.42	9.60	2.01	V	< 1.00	0.200	23.01	1	186
		QPSK	-18.22	15.34	9.60	2.01	V		0.196	22.93		
		16-QAM	-19.27	14.29	9.60	2.01	V		0.154	21.88		
		64-QAM	-20.62	12.94	9.60	2.01	V		0.113	20.53		
		256-QAM	-23.20	10.36	9.60	2.01	V		0.062	17.95		
1745.0		PI/2 BPSK	-17.86	15.74	9.75	2.04	V		0.221	23.45	1	1
		QPSK	-17.95	15.65	9.75	2.04	V		0.217	23.36		
		16-QAM	-18.94	14.66	9.75	2.04	V		0.173	22.37		
		64-QAM	-20.46	13.14	9.75	2.04	V		0.122	20.85		
		256-QAM	-22.97	10.63	9.75	2.04	V		0.068	18.34		
1762.5		PI/2 BPSK	-18.12	15.20	9.90	2.09	V		0.200	23.01	1	1
		QPSK	-18.31	15.01	9.90	2.09	V		0.191	22.82		
		16-QAM	-19.25	14.07	9.90	2.09	V		0.154	21.88		
		64-QAM	-20.74	12.58	9.90	2.09	V		0.109	20.39		
		256-QAM	-23.23	10.09	9.90	2.09	V		0.062	17.90		

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
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	-18.12	15.49	9.60	2.01	V	< 1.00	0.203	23.08	1	214
		QPSK	-18.15	15.46	9.60	2.01	V		0.202	23.05		
		16-QAM	-19.32	14.29	9.60	2.01	V		0.154	21.88		
		64-QAM	-20.64	12.97	9.60	2.01	V		0.114	20.56		
		256-QAM	-23.26	10.35	9.60	2.01	V		0.062	17.94		
1745.0		PI/2 BPSK	-17.85	15.75	9.75	2.04	V		0.222	23.46	1	1
		QPSK	-17.88	15.72	9.75	2.04	V		0.220	23.43		
		16-QAM	-18.95	14.65	9.75	2.04	V		0.172	22.36		
		64-QAM	-20.34	13.26	9.75	2.04	V		0.125	20.97		
		256-QAM	-22.97	10.63	9.75	2.04	V		0.068	18.34		
1760.0		PI/2 BPSK	-17.94	15.38	9.90	2.09	V		0.208	23.19	1	1
		QPSK	-18.04	15.28	9.90	2.09	V		0.204	23.09		
		16-QAM	-19.07	14.25	9.90	2.09	V		0.161	22.06		
		64-QAM	-20.45	12.87	9.90	2.09	V		0.117	20.68		
		256-QAM	-23.00	10.32	9.90	2.09	V		0.065	18.13		

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N66
▣ Bandwidth: 40 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 3 meters
▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
346000 (1730.0)	3 460.00	-56.25	11.20	-57.97	2.95	H	-49.72	-13.00	1	214
	5 190.00	-50.56	11.00	-45.55	3.70	V	-38.25	-13.00		
	6 920.00	-64.23	10.90	-52.16	4.33	H	-45.59	-13.00		
	8 650.00	-59.65	10.40	-46.30	4.89	H	-40.79	-13.00		
	10 380.00	-63.46	11.20	-45.72	5.40	H	-39.92	-13.00		
349000 (1745.0)	3 490.00	-57.67	11.20	-59.11	3.00	H	-50.91	-13.00	1	1
	5 235.00	-51.92	11.10	-46.99	3.70	V	-39.59	-13.00		
	6 980.00	-63.31	10.90	-50.60	4.30	V	-44.00	-13.00		
	8 725.00	-59.83	10.30	-45.47	4.88	V	-40.05	-13.00		
	10 470.00	-61.89	11.30	-44.16	5.43	V	-38.29	-13.00		
352000 (1760.0)	3 520.00	-55.98	11.30	-58.57	2.97	H	-50.24	-13.00	1	1
	5 280.00	-51.10	11.30	-45.94	3.75	V	-38.39	-13.00		
	7 040.00	-62.91	10.90	-49.21	4.34	V	-42.65	-13.00		
	8 800.00	-62.14	10.50	-48.29	4.89	V	-42.68	-13.00		
	10 560.00	-63.61	11.20	-46.28	5.45	V	-40.53	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.25
			QPSK			4.82
			16-QAM			5.63
			64-QAM			6.35
			256-QAM			6.75
	10 MHz		BPSK	50		3.98
			QPSK			4.53
			16-QAM			5.44
			64-QAM			5.82
			256-QAM			6.65
	15 MHz		BPSK	75		3.90
			QPSK			4.42
			16-QAM			5.34
			64-QAM			5.83
			256-QAM			6.66
	20 MHz		BPSK	100		3.96
			QPSK			4.50
			16-QAM			5.46
			64-QAM			5.89
			256-QAM			6.67
	25 MHz		BPSK	128		3.96
			QPSK			4.51
			16-QAM			5.55
			64-QAM			6.01
			256-QAM			6.64
	30 MHz		BPSK	160		3.68
			QPSK			4.37
			16-QAM			5.30
			64-QAM			5.84
			256-QAM			6.62
	35 MHz		BPSK	180		4.11
			QPSK			4.59
			16-QAM			5.38
			64-QAM			5.88
			256-QAM			6.61
	40 MHz		BPSK	216		3.80
			QPSK			4.47
			16-QAM			5.42
			64-QAM			5.89
			256-QAM			6.58

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 109 ~ 148.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.5310
			QPSK			4.5532
			16-QAM			4.4975
			64-QAM			4.5101
			256-QAM			4.5047
	10 MHz		BPSK	50		8.9969
			QPSK			8.9747
			16-QAM			8.9673
			64-QAM			8.9839
			256-QAM			8.9386
	15 MHz		BPSK	75		13.514
			QPSK			13.458
			16-QAM			13.454
			64-QAM			13.456
			256-QAM			13.460
	20 MHz		BPSK	100		17.929
			QPSK			17.943
			16-QAM			17.924
			64-QAM			17.867
			256-QAM			17.898
	25 MHz		BPSK	128		22.963
			QPSK			22.930
			16-QAM			22.920
			64-QAM			22.898
			256-QAM			22.912
	30 MHz		BPSK	160		28.645
			QPSK			28.640
			16-QAM			28.685
			64-QAM			28.574
			256-QAM			28.639
	35 MHz		BPSK	180		32.168
			QPSK			32.287
			16-QAM			32.204
			64-QAM			32.189
			256-QAM			32.208
	40 MHz		BPSK	216		38.661
			QPSK			38.769
			16-QAM			38.723
			64-QAM			38.639
			256-QAM			38.647

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 69 ~ 108.

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 n66	5	1712.5	8.8619	30.815	-71.280	-40.465	-13.00
		1745.0	4.0245	30.200	-71.055	-40.855	
		1777.5	8.2742	30.815	-70.557	-39.742	
	10	1715.0	4.0075	30.200	-69.709	-39.509	
		1745.0	9.7034	30.815	-70.815	-40.000	
		1775.0	5.1880	30.815	-71.094	-40.279	
	15	1717.5	4.0235	30.200	-71.393	-41.193	
		1745.0	8.2642	30.815	-70.199	-39.384	
		1772.5	4.5863	30.200	-70.462	-40.262	
	20	1720.0	5.2004	30.815	-69.983	-39.168	
		1745.0	8.0180	30.815	-70.915	-40.100	
		1770.0	4.0095	30.200	-70.786	-40.586	
	25	1722.5	4.0743	30.200	-70.392	-40.192	
		1745.0	7.1650	30.815	-70.762	-39.947	
		1767.5	8.3141	30.815	-70.880	-40.065	
	30	1725.0	4.0060	30.200	-70.475	-40.275	
		1745.0	4.9263	30.200	-70.523	-40.323	
		1765.0	4.8844	30.200	-71.117	-40.917	
	35	1727.5	4.9342	30.200	-71.468	-41.268	
		1745.0	4.5898	30.200	-71.123	-40.923	
		1762.5	8.2408	30.815	-70.810	-39.995	
	40	1730.0	9.4467	30.200	-70.716	-40.516	
		1745.0	9.1770	30.200	-70.773	-40.573	
		1760.0	8.2787	30.200	-70.582	-40.382	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 197 ~ 244.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 149 ~ 196.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 5 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1712.5	100 %	+20(Ref)	1712 499 997	0.0	0.000 000	0.000
	100 %	-30	1712 499 996	-0.6	0.000 000	0.000
	100 %	-20	1712 499 996	-0.8	0.000 000	0.000
	100 %	-10	1712 499 993	-4.0	0.000 000	-0.002
	100 %	0	1712 499 995	-1.8	0.000 000	-0.001
	100 %	+10	1712 499 994	-2.4	0.000 000	-0.001
	100 %	+30	1712 499 995	-2.3	0.000 000	-0.001
	100 %	+40	1712 499 994	-3.0	0.000 000	-0.002
	100 %	+50	1712 499 994	-3.1	0.000 000	-0.002
	Batt. Endpoint	+20	1712 499 996	-0.4	0.000 000	0.000
1777.5	100 %	+20(Ref)	1777 500 001	0.0	0.000 000	0.000
	100 %	-30	1777 500 000	-0.3	0.000 000	0.000
	100 %	-20	1777 500 003	2.7	0.000 000	0.002
	100 %	-10	1777 500 002	1.6	0.000 000	0.001
	100 %	0	1777 500 001	0.7	0.000 000	0.000
	100 %	+10	1777 500 000	-0.7	0.000 000	0.000
	100 %	+30	1777 499 998	-2.5	0.000 000	-0.001
	100 %	+40	1777 500 002	1.1	0.000 000	0.001
	100 %	+50	1777 500 000	-0.2	0.000 000	0.000
	Batt. Endpoint	+20	1777 500 001	0.7	0.000 000	0.000

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1715.0	100 %	+20(Ref)	1714 999 995	0.0	0.000 000	0.000
	100 %	-30	1714 999 991	-4.0	0.000 000	-0.002
	100 %	-20	1714 999 993	-1.7	0.000 000	-0.001
	100 %	-10	1714 999 992	-2.3	0.000 000	-0.001
	100 %	0	1714 999 992	-3.0	0.000 000	-0.002
	100 %	+10	1714 999 993	-1.3	0.000 000	-0.001
	100 %	+30	1714 999 993	-1.3	0.000 000	-0.001
	100 %	+40	1714 999 993	-1.9	0.000 000	-0.001
	100 %	+50	1714 999 992	-2.2	0.000 000	-0.001
	Batt. Endpoint	+20	1714 999 991	-3.2	0.000 000	-0.002
1775.0	100 %	+20(Ref)	1774 999 998	0.0	0.000 000	0.000
	100 %	-30	1774 999 995	-2.5	0.000 000	-0.001
	100 %	-20	1774 999 997	-0.8	0.000 000	0.000
	100 %	-10	1774 999 997	-1.1	0.000 000	-0.001
	100 %	0	1774 999 994	-4.0	0.000 000	-0.002
	100 %	+10	1774 999 993	-4.6	0.000 000	-0.003
	100 %	+30	1774 999 995	-2.5	0.000 000	-0.001
	100 %	+40	1774 999 995	-2.6	0.000 000	-0.001
	100 %	+50	1774 999 995	-3.0	0.000 000	-0.002
	Batt. Endpoint	+20	1774 999 994	-3.4	0.000 000	-0.002

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1717.5	100 %	+20(Ref)	1717 500 003	0.0	0.000 000	0.000
	100 %	-30	1717 500 005	1.9	0.000 000	0.001
	100 %	-20	1717 500 007	3.5	0.000 000	0.002
	100 %	-10	1717 500 006	2.9	0.000 000	0.002
	100 %	0	1717 500 005	2.2	0.000 000	0.001
	100 %	+10	1717 500 004	1.2	0.000 000	0.001
	100 %	+30	1717 500 006	3.1	0.000 000	0.002
	100 %	+40	1717 500 005	2.3	0.000 000	0.001
	100 %	+50	1717 500 005	1.9	0.000 000	0.001
	Batt. Endpoint	+20	1717 500 006	3.3	0.000 000	0.002
1772.5	100 %	+20(Ref)	1772 499 998	0.0	0.000 000	0.000
	100 %	-30	1772 499 997	-1.8	0.000 000	-0.001
	100 %	-20	1772 499 997	-1.6	0.000 000	-0.001
	100 %	-10	1772 499 995	-3.2	0.000 000	-0.002
	100 %	0	1772 499 995	-3.6	0.000 000	-0.002
	100 %	+10	1772 499 997	-1.4	0.000 000	-0.001
	100 %	+30	1772 499 997	-1.7	0.000 000	-0.001
	100 %	+40	1772 499 997	-1.5	0.000 000	-0.001
	100 %	+50	1772 499 996	-1.9	0.000 000	-0.001
	Batt. Endpoint	+20	1772 499 996	-2.1	0.000 000	-0.001

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1720.0	100 %	+20(Ref)	1719 999 998	0.0	0.000 000	0.000
	100 %	-30	1719 999 996	-2.1	0.000 000	-0.001
	100 %	-20	1719 999 999	1.0	0.000 000	0.001
	100 %	-10	1719 999 998	-0.3	0.000 000	0.000
	100 %	0	1719 999 992	-6.3	0.000 000	-0.004
	100 %	+10	1719 999 997	-1.3	0.000 000	-0.001
	100 %	+30	1719 999 994	-4.1	0.000 000	-0.002
	100 %	+40	1719 999 996	-1.5	0.000 000	-0.001
	100 %	+50	1719 999 997	-1.3	0.000 000	-0.001
	Batt. Endpoint	+20	1719 999 996	-1.7	0.000 000	-0.001
1770.0	100 %	+20(Ref)	1770 000 003	0.0	0.000 000	0.000
	100 %	-30	1770 000 007	3.8	0.000 000	0.002
	100 %	-20	1770 000 006	3.0	0.000 000	0.002
	100 %	-10	1770 000 005	1.9	0.000 000	0.001
	100 %	0	1770 000 005	2.4	0.000 000	0.001
	100 %	+10	1770 000 001	-2.0	0.000 000	-0.001
	100 %	+30	1770 000 007	4.4	0.000 000	0.002
	100 %	+40	1770 000 007	3.7	0.000 000	0.002
	100 %	+50	1770 000 007	4.0	0.000 000	0.002
	Batt. Endpoint	+20	1770 000 006	2.8	0.000 000	0.002

▣ BandWidth: 25 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1722.5	100 %	+20(Ref)	1722 499 999	0.0	0.000 000	0.000
	100 %	-30	1722 499 998	-1.1	0.000 000	-0.001
	100 %	-20	1722 499 997	-1.6	0.000 000	-0.001
	100 %	-10	1722 499 996	-2.6	0.000 000	-0.001
	100 %	0	1722 499 995	-3.6	0.000 000	-0.002
	100 %	+10	1722 499 998	-1.1	0.000 000	-0.001
	100 %	+30	1722 499 996	-3.3	0.000 000	-0.002
	100 %	+40	1722 499 994	-4.7	0.000 000	-0.003
	100 %	+50	1722 499 997	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	1722 499 996	-3.3	0.000 000	-0.002
1767.5	100 %	+20(Ref)	1767 499 997	0.0	0.000 000	0.000
	100 %	-30	1767 499 996	-1.0	0.000 000	-0.001
	100 %	-20	1767 499 995	-1.5	0.000 000	-0.001
	100 %	-10	1767 499 992	-4.3	0.000 000	-0.002
	100 %	0	1767 499 996	-1.0	0.000 000	-0.001
	100 %	+10	1767 499 992	-4.4	0.000 000	-0.003
	100 %	+30	1767 499 996	-0.9	0.000 000	0.000
	100 %	+40	1767 499 996	-1.0	0.000 000	-0.001
	100 %	+50	1767 499 995	-1.3	0.000 000	-0.001
	Batt. Endpoint	+20	1767 499 995	-2.0	0.000 000	-0.001

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1725.0	100 %	+20(Ref)	1725 000 009	0.0	0.000 000	0.000
	100 %	-30	1725 000 020	11.0	0.000 001	0.006
	100 %	-20	1725 000 016	7.4	0.000 000	0.004
	100 %	-10	1725 000 018	9.8	0.000 001	0.006
	100 %	0	1725 000 018	9.1	0.000 001	0.005
	100 %	+10	1725 000 014	5.3	0.000 000	0.003
	100 %	+30	1725 000 017	8.3	0.000 000	0.005
	100 %	+40	1725 000 017	8.1	0.000 000	0.005
	100 %	+50	1725 000 017	8.2	0.000 000	0.005
	Batt. Endpoint	+20	1725 000 019	10.6	0.000 001	0.006
1765.0	100 %	+20(Ref)	1765 000 003	0.0	0.000 000	0.000
	100 %	-30	1765 000 007	4.0	0.000 000	0.002
	100 %	-20	1765 000 007	3.8	0.000 000	0.002
	100 %	-10	1765 000 008	4.5	0.000 000	0.003
	100 %	0	1765 000 008	5.0	0.000 000	0.003
	100 %	+10	1765 000 008	5.0	0.000 000	0.003
	100 %	+30	1765 000 009	5.7	0.000 000	0.003
	100 %	+40	1765 000 006	3.0	0.000 000	0.002
	100 %	+50	1765 000 008	4.6	0.000 000	0.003
	Batt. Endpoint	+20	1765 000 007	4.0	0.000 000	0.002

▣ BandWidth: 35 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1727.5	100 %	+20(Ref)	1727 499 999	0.0	0.000 000	0.000
	100 %	-30	1727 499 998	-1.0	0.000 000	-0.001
	100 %	-20	1727 499 998	-1.1	0.000 000	-0.001
	100 %	-10	1727 499 998	-1.2	0.000 000	-0.001
	100 %	0	1727 499 997	-2.1	0.000 000	-0.001
	100 %	+10	1727 499 998	-1.1	0.000 000	-0.001
	100 %	+30	1727 499 996	-2.9	0.000 000	-0.002
	100 %	+40	1727 499 995	-3.6	0.000 000	-0.002
	100 %	+50	1727 499 997	-2.1	0.000 000	-0.001
	Batt. Endpoint	+20	1727 499 997	-1.5	0.000 000	-0.001
1762.5	100 %	+20(Ref)	1762 499 999	0.0	0.000 000	0.000
	100 %	-30	1762 499 998	-0.8	0.000 000	0.000
	100 %	-20	1762 499 997	-1.5	0.000 000	-0.001
	100 %	-10	1762 499 997	-1.5	0.000 000	-0.001
	100 %	0	1762 499 997	-2.4	0.000 000	-0.001
	100 %	+10	1762 499 996	-3.2	0.000 000	-0.002
	100 %	+30	1762 499 996	-2.9	0.000 000	-0.002
	100 %	+40	1762 499 995	-4.1	0.000 000	-0.002
	100 %	+50	1762 499 999	-0.3	0.000 000	0.000
	Batt. Endpoint	+20	1762 499 997	-2.1	0.000 000	-0.001

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1730.0	100 %	+20(Ref)	1730 000 003	0.0	0.000 000	0.000
	100 %	-30	1730 000 007	4.9	0.000 000	0.003
	100 %	-20	1730 000 004	1.8	0.000 000	0.001
	100 %	-10	1730 000 007	4.7	0.000 000	0.003
	100 %	0	1730 000 007	4.7	0.000 000	0.003
	100 %	+10	1730 000 006	3.9	0.000 000	0.002
	100 %	+30	1730 000 006	3.9	0.000 000	0.002
	100 %	+40	1730 000 005	3.0	0.000 000	0.002
	100 %	+50	1730 000 002	-0.4	0.000 000	0.000
	Batt. Endpoint	+20	1730 000 008	5.7	0.000 000	0.003
1760.0	100 %	+20(Ref)	1760 000 004	0.0	0.000 000	0.000
	100 %	-30	1760 000 011	6.4	0.000 000	0.004
	100 %	-20	1760 000 010	6.2	0.000 000	0.004
	100 %	-10	1760 000 007	2.7	0.000 000	0.002
	100 %	0	1760 000 010	5.5	0.000 000	0.003
	100 %	+10	1760 000 010	5.7	0.000 000	0.003
	100 %	+30	1760 000 010	5.3	0.000 000	0.003
	100 %	+40	1760 000 010	5.7	0.000 000	0.003
	100 %	+50	1760 000 008	3.9	0.000 000	0.002
	Batt. Endpoint	+20	1760 000 008	3.7	0.000 000	0.002

9. TEST DATA(Ant F)

9.1 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
1712.5	Sub6 n66/ 5 MHz [15 kHz]	PI/2 BPSK	-19.56	13.80	9.60	2.00	V	< 1.00	0.138	21.40	1	12
		QPSK	-19.64	13.72	9.60	2.00	V		0.136	21.32		
		16-QAM	-20.83	12.53	9.60	2.00	V		0.103	20.13		
		64-QAM	-22.13	11.23	9.60	2.00	V		0.076	18.83		
		256-QAM	-24.70	8.66	9.60	2.00	V		0.042	16.26		
1745.0		PI/2 BPSK	-19.52	14.08	9.75	2.04	V		0.151	21.79	1	1
		QPSK	-19.60	14.00	9.75	2.04	V		0.148	21.71		
		16-QAM	-20.59	13.01	9.75	2.04	V		0.118	20.72		
		64-QAM	-22.17	11.43	9.75	2.04	V		0.082	19.14		
		256-QAM	-24.74	8.86	9.75	2.04	V		0.045	16.57		
1777.5		PI/2 BPSK	-19.69	13.85	9.90	2.08	V		0.147	21.67	1	23
		QPSK	-19.96	13.58	9.90	2.08	V		0.138	21.40		
		16-QAM	-20.83	12.71	9.90	2.08	V		0.113	20.53		
		64-QAM	-22.07	11.47	9.90	2.08	V		0.085	19.29		
		256-QAM	-24.69	8.85	9.90	2.08	V		0.046	16.67		

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
1715.0	Sub6 n66/ 10 MHz [15 kHz]	PI/2 BPSK	-19.48	13.88	9.60	2.00	V	< 1.00	0.141	21.48	1	50
		QPSK	-19.60	13.76	9.60	2.00	V		0.137	21.36		
		16-QAM	-20.85	12.51	9.60	2.00	V		0.103	20.11		
		64-QAM	-22.21	11.15	9.60	2.00	V		0.075	18.75		
		256-QAM	-25.00	8.36	9.60	2.00	V		0.040	15.96		
1745.0		PI/2 BPSK	-19.38	14.22	9.75	2.04	V		0.156	21.93	1	1
		QPSK	-19.48	14.12	9.75	2.04	V		0.152	21.83		
		16-QAM	-20.53	13.07	9.75	2.04	V		0.120	20.78		
		64-QAM	-22.01	11.59	9.75	2.04	V		0.085	19.30		
		256-QAM	-24.71	8.89	9.75	2.04	V		0.046	16.60		
1775.0		PI/2 BPSK	-19.58	13.96	9.90	2.08	V		0.151	21.78	1	50
		QPSK	-19.69	13.85	9.90	2.08	V		0.147	21.67		
		16-QAM	-20.91	12.63	9.90	2.08	V		0.111	20.45		
		64-QAM	-22.02	11.52	9.90	2.08	V		0.086	19.34		
		256-QAM	-24.73	8.81	9.90	2.08	V		0.046	16.63		

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
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	-19.51	13.85	9.60	2.00	V	< 1.00	0.140	21.45	1	1
		QPSK	-19.65	13.71	9.60	2.00	V		0.135	21.31		
		16-QAM	-20.53	12.83	9.60	2.00	V		0.110	20.43		
		64-QAM	-22.11	11.25	9.60	2.00	V		0.077	18.85		
		256-QAM	-24.54	8.82	9.60	2.00	V		0.044	16.42		
1745.0		PI/2 BPSK	-19.25	14.35	9.75	2.04	V		0.161	22.06	1	1
		QPSK	-19.42	14.18	9.75	2.04	V		0.155	21.89		
		16-QAM	-20.42	13.18	9.75	2.04	V		0.123	20.89		
		64-QAM	-21.94	11.66	9.75	2.04	V		0.086	19.37		
		256-QAM	-24.66	8.94	9.75	2.04	V		0.046	16.65		
1772.5		PI/2 BPSK	-19.53	14.01	9.90	2.08	V		0.152	21.83	1	1
		QPSK	-19.58	13.96	9.90	2.08	V		0.151	21.78		
		16-QAM	-20.75	12.79	9.90	2.08	V		0.115	20.61		
		64-QAM	-22.09	11.45	9.90	2.08	V		0.085	19.27		
		256-QAM	-24.75	8.79	9.90	2.08	V		0.046	16.61		

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
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	-19.50	14.00	9.60	2.00	V	< 1.00	0.145	21.60	1	1
		QPSK	-19.64	13.86	9.60	2.00	V		0.140	21.46		
		16-QAM	-20.70	12.80	9.60	2.00	V		0.110	20.40		
		64-QAM	-21.98	11.52	9.60	2.00	V		0.082	19.12		
		256-QAM	-24.66	8.84	9.60	2.00	V		0.044	16.44		
1745.0		PI/2 BPSK	-19.38	14.22	9.75	2.04	V		0.156	21.93	1	1
		QPSK	-19.61	13.99	9.75	2.04	V		0.148	21.70		
		16-QAM	-20.76	12.84	9.75	2.04	V		0.114	20.55		
		64-QAM	-22.05	11.55	9.75	2.04	V		0.084	19.26		
		256-QAM	-24.56	9.04	9.75	2.04	V		0.047	16.75		
1770.0		PI/2 BPSK	-19.50	14.14	9.90	2.09	V		0.157	21.95	1	104
		QPSK	-19.58	14.06	9.90	2.09	V		0.154	21.87		
		16-QAM	-20.72	12.92	9.90	2.09	V		0.118	20.73		
		64-QAM	-21.99	11.65	9.90	2.09	V		0.088	19.46		
		256-QAM	-24.74	8.90	9.90	2.09	V		0.047	16.71		

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
1722.5	Sub6 n66/ 25 MHz [15 kHz]	PI/2 BPSK	-19.03	14.53	9.60	2.01	V	< 1.00	0.163	22.12	1	131
		QPSK	-19.15	14.41	9.60	2.01	V		0.159	22.00		
		16-QAM	-20.25	13.31	9.60	2.01	V		0.123	20.90		
		64-QAM	-21.60	11.96	9.60	2.01	V		0.090	19.55		
		256-QAM	-24.36	9.20	9.60	2.01	V		0.048	16.79		
1745.0		PI/2 BPSK	-19.09	14.51	9.75	2.04	V		0.167	22.22	1	131
		QPSK	-19.25	14.35	9.75	2.04	V		0.161	22.06		
		16-QAM	-20.50	13.10	9.75	2.04	V		0.121	20.81		
		64-QAM	-21.68	11.92	9.75	2.04	V		0.092	19.63		
		256-QAM	-24.22	9.38	9.75	2.04	V		0.051	17.09		
1767.5		PI/2 BPSK	-19.06	14.42	9.90	2.09	V		0.167	22.23	1	1
		QPSK	-19.27	14.21	9.90	2.09	V		0.159	22.02		
		16-QAM	-20.40	13.08	9.90	2.09	V		0.123	20.89		
		64-QAM	-21.42	12.06	9.90	2.09	V		0.097	19.87		
		256-QAM	-24.04	9.44	9.90	2.09	V		0.053	17.25		

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
1725.0	Sub6 n66/ 30 MHz [15 kHz]	PI/2 BPSK	-19.27	14.29	9.60	2.01	V	< 1.00	0.154	21.88	1	80
		QPSK	-19.35	14.21	9.60	2.01	V		0.151	21.80		
		16-QAM	-20.71	12.85	9.60	2.01	V		0.111	20.44		
		64-QAM	-21.96	11.60	9.60	2.01	V		0.083	19.19		
		256-QAM	-24.47	9.09	9.60	2.01	V		0.047	16.68		
1745.0		PI/2 BPSK	-19.11	14.49	9.75	2.04	V		0.166	22.20	1	15
		QPSK	-19.23	14.37	9.75	2.04	V		0.161	22.08		
		16-QAM	-20.47	13.13	9.75	2.04	V		0.121	20.84		
		64-QAM	-21.76	11.84	9.75	2.04	V		0.090	19.55		
		256-QAM	-24.57	9.03	9.75	2.04	V		0.047	16.74		
1765.0		PI/2 BPSK	-19.28	14.20	9.90	2.09	V		0.159	22.01	1	1
		QPSK	-19.36	14.12	9.90	2.09	V		0.156	21.93		
		16-QAM	-20.45	13.03	9.90	2.09	V		0.121	20.84		
		64-QAM	-22.00	11.48	9.90	2.09	V		0.085	19.29		
		256-QAM	-24.43	9.05	9.90	2.09	V		0.049	16.86		

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
1727.5	Sub6 n66/ 35 MHz [15 kHz]	PI/2 BPSK	-19.30	14.26	9.60	2.01	V	< 1.00	0.153	21.85	1	94
		QPSK	-19.58	13.98	9.60	2.01	V		0.144	21.57		
		16-QAM	-20.70	12.86	9.60	2.01	V		0.111	20.45		
		64-QAM	-21.97	11.59	9.60	2.01	V		0.083	19.18		
		256-QAM	-24.53	9.03	9.60	2.01	V		0.046	16.62		
1745.0		PI/2 BPSK	-19.33	14.27	9.75	2.04	V		0.158	21.98	1	1
		QPSK	-19.48	14.12	9.75	2.04	V		0.152	21.83		
		16-QAM	-20.42	13.18	9.75	2.04	V		0.123	20.89		
		64-QAM	-21.88	11.72	9.75	2.04	V		0.088	19.43		
		256-QAM	-24.52	9.08	9.75	2.04	V		0.048	16.79		
1762.5		PI/2 BPSK	-19.30	14.02	9.90	2.09	V		0.152	21.83	1	186
		QPSK	-19.57	13.75	9.90	2.09	V		0.143	21.56		
		16-QAM	-20.50	12.82	9.90	2.09	V		0.116	20.63		
		64-QAM	-21.86	11.46	9.90	2.09	V		0.085	19.27		
		256-QAM	-24.63	8.69	9.90	2.09	V		0.045	16.50		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	-19.16	14.45	9.60	2.01	V	< 1.00	0.160	22.04	1	214
		QPSK	-19.26	14.35	9.60	2.01	V		0.156	21.94		
		16-QAM	-20.30	13.31	9.60	2.01	V		0.123	20.90		
		64-QAM	-21.89	11.72	9.60	2.01	V		0.085	19.31		
		256-QAM	-24.47	9.14	9.60	2.01	V		0.047	16.73		
1745.0		PI/2 BPSK	-19.27	14.33	9.75	2.04	V		0.160	22.04	1	1
		QPSK	-19.33	14.27	9.75	2.04	V		0.158	21.98		
		16-QAM	-20.53	13.07	9.75	2.04	V		0.120	20.78		
		64-QAM	-21.74	11.86	9.75	2.04	V		0.091	19.57		
		256-QAM	-24.54	9.06	9.75	2.04	V		0.048	16.77		
1760.0		PI/2 BPSK	-19.43	13.89	9.90	2.09	V		0.148	21.70	1	1
		QPSK	-19.51	13.81	9.90	2.09	V		0.145	21.62		
		16-QAM	-20.26	13.06	9.90	2.09	V		0.122	20.87		
		64-QAM	-21.77	11.55	9.90	2.09	V		0.086	19.36		
		256-QAM	-24.29	9.03	9.90	2.09	V		0.048	16.84		

9.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band: N66
▣ Bandwidth: 25 MHz
▣ Modulation: PI/2 BPSK
▣ Distance: 3 meters
▣ SCS: 15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
344500 (1722.5)	3 445.00	-61.17	11.15	-62.37	2.97	H	-54.19	-13.00	1	131
	5 167.50	-62.64	11.00	-57.50	3.70	H	-50.20	-13.00		
	6 890.00	-64.51	10.80	-52.88	4.29	H	-46.37	-13.00		
	8 612.50	-62.30	10.40	-48.36	4.80	H	-42.76	-13.00		
	10 335.00	-63.97	11.10	-46.65	5.34	H	-40.89	-13.00		
349000 (1745.0)	3 490.00	-60.78	11.20	-62.22	3.00	V	-54.02	-13.00	1	131
	5 235.00	-57.06	11.10	-52.13	3.70	V	-44.73	-13.00		
	6 980.00	-63.52	10.90	-50.81	4.30	V	-44.21	-13.00		
	8 725.00	-63.48	10.30	-49.12	4.88	V	-43.70	-13.00		
	10 470.00	-64.31	11.30	-46.58	5.43	V	-40.71	-13.00		
353500 (1767.5)	3 535.00	-61.12	11.30	-63.09	3.00	H	-54.79	-13.00	1	1
	5 302.50	-63.35	11.40	-58.73	3.67	H	-51.00	-13.00		
	7 070.00	-65.05	10.70	-51.21	4.34	H	-44.85	-13.00		
	8 837.50	-62.62	10.50	-48.58	4.91	H	-42.99	-13.00		
	10 605.00	-63.31	11.20	-44.57	5.40	H	-38.77	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.11
			QPSK			4.61
			16-QAM			5.36
			64-QAM			5.86
			256-QAM			6.24
	10 MHz		BPSK	50		3.99
			QPSK			4.52
			16-QAM			5.31
			64-QAM			5.82
			256-QAM			6.71
	15 MHz		BPSK	75		3.97
			QPSK			4.49
			16-QAM			5.30
			64-QAM			5.82
			256-QAM			6.52
	20 MHz		BPSK	100		3.86
			QPSK			4.46
			16-QAM			5.46
			64-QAM			5.86
			256-QAM			6.47
	25 MHz		BPSK	128		4.06
			QPSK			4.57
			16-QAM			5.67
			64-QAM			5.97
			256-QAM			6.52
	30 MHz		BPSK	160		4.09
			QPSK			4.57
			16-QAM			5.52
			64-QAM			6.00
			256-QAM			6.57
	35 MHz		BPSK	180		4.16
			QPSK			4.56
			16-QAM			5.43
			64-QAM			5.94
			256-QAM			6.48
	40 MHz		BPSK	216		4.03
			QPSK			4.55
			16-QAM			5.46
			64-QAM			5.99
			256-QAM			6.62

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 286 ~ 325.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n66	5 MHz	1745.0	BPSK	25	0	4.5891
			QPSK			4.5989
			16-QAM			4.5966
			64-QAM			4.5700
			256-QAM			4.6133
	10 MHz		BPSK	50		8.9817
			QPSK			9.0170
			16-QAM			9.0118
			64-QAM			8.9604
			256-QAM			8.9796
	15 MHz		BPSK	75		13.474
			QPSK			13.456
			16-QAM			13.459
			64-QAM			13.468
			256-QAM			13.477
	20 MHz		BPSK	100		17.941
			QPSK			17.951
			16-QAM			17.926
			64-QAM			17.888
			256-QAM			17.892
	25 MHz		BPSK	128		23.048
			QPSK			22.971
			16-QAM			23.008
			64-QAM			22.914
			256-QAM			22.967
	30 MHz		BPSK	160		28.605
			QPSK			28.655
			16-QAM			28.680
			64-QAM			28.719
			256-QAM			28.623
	35 MHz		BPSK	180		32.282
			QPSK			32.237
			16-QAM			32.229
			64-QAM			32.233
			256-QAM			32.223
	40 MHz		BPSK	216		38.679
			QPSK			38.769
			16-QAM			38.665
			64-QAM			38.789
			256-QAM			38.671

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 246 ~ 285.

9.5 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 n66	5	1712.5	9.9387	30.815	-70.460	-39.645	-13.00
		1745.0	3.8291	30.200	-71.112	-40.912	
		1777.5	4.0484	30.200	-71.154	-40.954	
	10	1715.0	6.0110	30.815	-71.000	-40.185	
		1745.0	4.8759	30.200	-71.396	-41.196	
		1775.0	9.9751	30.815	-70.779	-39.964	
	15	1717.5	3.7902	30.200	-71.120	-40.920	
		1745.0	8.8888	30.815	-70.295	-39.480	
		1772.5	8.0723	30.815	-70.981	-40.166	
	20	1720.0	9.6924	30.815	-70.787	-39.972	
		1745.0	3.8031	30.200	-70.353	-40.153	
		1770.0	5.8041	30.815	-70.789	-39.974	
	25	1722.5	5.1935	30.815	-70.519	-39.704	
		1745.0	9.1256	30.815	-70.976	-40.161	
		1767.5	3.7937	30.200	-70.533	-40.333	
	30	1720.0	7.1730	30.815	-71.325	-40.510	
		1745.0	4.0220	30.200	-70.495	-40.295	
		1770.0	4.0529	30.200	-70.456	-40.256	
	35	1727.5	9.6914	30.815	-70.698	-39.883	
		1745.0	9.6840	30.815	-70.746	-39.931	
		1762.5	6.0324	30.815	-70.174	-39.359	
	40	1730.0	8.6042	30.815	-70.883	-40.068	
		1745.0	4.0384	30.200	-70.588	-40.388	
		1760.0	8.5793	30.200	-70.530	-40.330	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 374 ~ 421.

2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)

3. Factor(dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	27.494
1 – 5	30.200
5 – 10	30.815
10 – 15	31.340
15 – 20	31.713
Above 20	32.355

9.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 326 ~ 373.

9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth: 5 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1712.5	100 %	+20(Ref)	1712 500 000	0.0	0.000 000	0.000
	100 %	-30	1712 499 999	-0.9	0.000 000	0.000
	100 %	-20	1712 499 998	-2.0	0.000 000	-0.001
	100 %	-10	1712 499 998	-2.4	0.000 000	-0.001
	100 %	0	1712 499 996	-3.9	0.000 000	-0.002
	100 %	+10	1712 499 999	-0.9	0.000 000	-0.001
	100 %	+30	1712 500 000	-0.1	0.000 000	0.000
	100 %	+40	1712 499 997	-2.8	0.000 000	-0.002
	100 %	+50	1712 499 999	-1.0	0.000 000	-0.001
	Batt. Endpoint	+20	1712 499 999	-1.4	0.000 000	-0.001
1777.5	100 %	+20(Ref)	1777 500 005	0.0	0.000 000	0.000
	100 %	-30	1777 500 007	2.8	0.000 000	0.002
	100 %	-20	1777 500 006	1.3	0.000 000	0.001
	100 %	-10	1777 500 007	2.7	0.000 000	0.002
	100 %	0	1777 500 005	0.8	0.000 000	0.000
	100 %	+10	1777 500 008	3.1	0.000 000	0.002
	100 %	+30	1777 500 006	1.1	0.000 000	0.001
	100 %	+40	1777 500 006	1.6	0.000 000	0.001
	100 %	+50	1777 500 006	1.5	0.000 000	0.001
	Batt. Endpoint	+20	1777 500 006	1.7	0.000 000	0.001

▣ BandWidth: 10 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1715.0	100 %	+20(Ref)	1714 999 997	0.0	0.000 000	0.000
	100 %	-30	1714 999 994	-2.9	0.000 000	-0.002
	100 %	-20	1714 999 991	-5.2	0.000 000	-0.003
	100 %	-10	1714 999 993	-3.5	0.000 000	-0.002
	100 %	0	1714 999 991	-5.9	0.000 000	-0.003
	100 %	+10	1714 999 992	-4.2	0.000 000	-0.002
	100 %	+30	1714 999 994	-3.0	0.000 000	-0.002
	100 %	+40	1714 999 992	-4.5	0.000 000	-0.003
	100 %	+50	1714 999 997	0.0	0.000 000	0.000
	Batt. Endpoint	+20	1714 999 994	-2.3	0.000 000	-0.001
1775.0	100 %	+20(Ref)	1774 999 995	0.0	0.000 000	0.000
	100 %	-30	1774 999 991	-4.9	0.000 000	-0.003
	100 %	-20	1774 999 993	-2.4	0.000 000	-0.001
	100 %	-10	1774 999 991	-4.3	0.000 000	-0.002
	100 %	0	1774 999 993	-2.1	0.000 000	-0.001
	100 %	+10	1774 999 993	-2.1	0.000 000	-0.001
	100 %	+30	1774 999 994	-1.9	0.000 000	-0.001
	100 %	+40	1774 999 991	-4.3	0.000 000	-0.002
	100 %	+50	1774 999 991	-4.7	0.000 000	-0.003
	Batt. Endpoint	+20	1774 999 993	-2.2	0.000 000	-0.001

▣ BandWidth: 15 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1717.5	100 %	+20(Ref)	1717 500 003	0.0	0.000 000	0.000
	100 %	-30	1717 500 004	0.6	0.000 000	0.000
	100 %	-20	1717 500 005	1.5	0.000 000	0.001
	100 %	-10	1717 500 006	2.3	0.000 000	0.001
	100 %	0	1717 500 007	3.4	0.000 000	0.002
	100 %	+10	1717 500 005	1.8	0.000 000	0.001
	100 %	+30	1717 500 006	2.7	0.000 000	0.002
	100 %	+40	1717 500 004	1.3	0.000 000	0.001
	100 %	+50	1717 500 006	2.4	0.000 000	0.001
	Batt. Endpoint	+20	1717 500 005	1.4	0.000 000	0.001
1772.5	100 %	+20(Ref)	1772 499 998	0.0	0.000 000	0.000
	100 %	-30	1772 499 998	0.0	0.000 000	0.000
	100 %	-20	1772 499 996	-1.9	0.000 000	-0.001
	100 %	-10	1772 499 994	-3.6	0.000 000	-0.002
	100 %	0	1772 499 996	-1.9	0.000 000	-0.001
	100 %	+10	1772 499 994	-3.5	0.000 000	-0.002
	100 %	+30	1772 499 996	-1.1	0.000 000	-0.001
	100 %	+40	1772 499 996	-1.3	0.000 000	-0.001
	100 %	+50	1772 499 994	-3.7	0.000 000	-0.002
	Batt. Endpoint	+20	1772 499 994	-3.9	0.000 000	-0.002

▣ BandWidth: 20 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1720.0	100 %	+20(Ref)	1719 999 996	0.0	0.000 000	0.000
	100 %	-30	1719 999 992	-4.1	0.000 000	-0.002
	100 %	-20	1719 999 993	-3.1	0.000 000	-0.002
	100 %	-10	1719 999 995	-1.6	0.000 000	-0.001
	100 %	0	1719 999 995	-1.6	0.000 000	-0.001
	100 %	+10	1719 999 993	-3.1	0.000 000	-0.002
	100 %	+30	1719 999 994	-2.3	0.000 000	-0.001
	100 %	+40	1719 999 996	-0.6	0.000 000	0.000
	100 %	+50	1719 999 992	-3.8	0.000 000	-0.002
	Batt. Endpoint	+20	1719 999 996	-0.7	0.000 000	0.000
1770.0	100 %	+20(Ref)	1770 000 003	0.0	0.000 000	0.000
	100 %	-30	1770 000 006	2.9	0.000 000	0.002
	100 %	-20	1770 000 004	0.5	0.000 000	0.000
	100 %	-10	1770 000 003	0.4	0.000 000	0.000
	100 %	0	1770 000 003	-0.2	0.000 000	0.000
	100 %	+10	1770 000 007	3.9	0.000 000	0.002
	100 %	+30	1770 000 006	2.9	0.000 000	0.002
	100 %	+40	1770 000 006	3.1	0.000 000	0.002
	100 %	+50	1770 000 003	0.3	0.000 000	0.000
	Batt. Endpoint	+20	1770 000 006	2.9	0.000 000	0.002

▣ BandWidth: 25 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1722.5	100 %	+20(Ref)	1719 999 997	0.0	0.000 000	0.000
	100 %	-30	1719 999 994	-2.9	0.000 000	-0.002
	100 %	-20	1719 999 996	-1.3	0.000 000	-0.001
	100 %	-10	1719 999 994	-2.8	0.000 000	-0.002
	100 %	0	1719 999 993	-4.0	0.000 000	-0.002
	100 %	+10	1719 999 996	-1.0	0.000 000	-0.001
	100 %	+30	1719 999 996	-1.5	0.000 000	-0.001
	100 %	+40	1719 999 995	-2.5	0.000 000	-0.001
	100 %	+50	1719 999 997	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	1719 999 996	-1.6	0.000 000	-0.001
1767.5	100 %	+20(Ref)	1767 499 996	0.0	0.000 000	0.000
	100 %	-30	1767 499 994	-1.8	0.000 000	-0.001
	100 %	-20	1767 499 992	-3.6	0.000 000	-0.002
	100 %	-10	1767 499 994	-2.0	0.000 000	-0.001
	100 %	0	1767 499 992	-4.1	0.000 000	-0.002
	100 %	+10	1767 499 994	-2.5	0.000 000	-0.001
	100 %	+30	1767 499 992	-3.6	0.000 000	-0.002
	100 %	+40	1767 499 995	-0.6	0.000 000	0.000
	100 %	+50	1767 499 993	-2.8	0.000 000	-0.002
	Batt. Endpoint	+20	1767 499 995	-0.7	0.000 000	0.000

▣ BandWidth: 30 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1725.0	100 %	+20(Ref)	1725 000 007	0.0	0.000 000	0.000
	100 %	-30	1725 000 019	11.8	0.000 001	0.007
	100 %	-20	1725 000 014	6.7	0.000 000	0.004
	100 %	-10	1725 000 011	4.3	0.000 000	0.002
	100 %	0	1725 000 013	6.0	0.000 000	0.003
	100 %	+10	1725 000 014	6.8	0.000 000	0.004
	100 %	+30	1725 000 016	8.9	0.000 001	0.005
	100 %	+40	1725 000 013	6.1	0.000 000	0.004
	100 %	+50	1725 000 016	9.3	0.000 001	0.005
	Batt. Endpoint	+20	1725 000 014	7.0	0.000 000	0.004
1765.0	100 %	+20(Ref)	1765 000 003	0.0	0.000 000	0.000
	100 %	-30	1765 000 003	0.0	0.000 000	0.000
	100 %	-20	1765 000 005	2.0	0.000 000	0.001
	100 %	-10	1765 000 005	2.2	0.000 000	0.001
	100 %	0	1765 000 005	2.3	0.000 000	0.001
	100 %	+10	1765 000 005	1.7	0.000 000	0.001
	100 %	+30	1765 000 008	4.9	0.000 000	0.003
	100 %	+40	1765 000 008	4.5	0.000 000	0.003
	100 %	+50	1765 000 007	3.8	0.000 000	0.002
	Batt. Endpoint	+20	1765 000 005	2.0	0.000 000	0.001

▣ BandWidth: 35 MHz

▣ Voltage(100 %): 3.880 VDC

▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1727.5	100 %	+20(Ref)	1727 499 999	0.0	0.000 000	0.000
	100 %	-30	1727 499 998	-0.9	0.000 000	-0.001
	100 %	-20	1727 499 997	-1.5	0.000 000	-0.001
	100 %	-10	1727 499 997	-2.4	0.000 000	-0.001
	100 %	0	1727 499 995	-3.9	0.000 000	-0.002
	100 %	+10	1727 499 998	-1.0	0.000 000	-0.001
	100 %	+30	1727 499 995	-3.9	0.000 000	-0.002
	100 %	+40	1727 499 995	-4.1	0.000 000	-0.002
	100 %	+50	1727 499 997	-1.8	0.000 000	-0.001
	Batt. Endpoint	+20	1727 499 996	-3.2	0.000 000	-0.002
1762.5	100 %	+20(Ref)	1762 499 999	0.0	0.000 000	0.000
	100 %	-30	1762 499 998	-1.0	0.000 000	-0.001
	100 %	-20	1762 499 997	-1.8	0.000 000	-0.001
	100 %	-10	1762 499 996	-3.4	0.000 000	-0.002
	100 %	0	1762 499 997	-2.2	0.000 000	-0.001
	100 %	+10	1762 499 995	-4.0	0.000 000	-0.002
	100 %	+30	1762 499 997	-1.9	0.000 000	-0.001
	100 %	+40	1762 499 997	-2.0	0.000 000	-0.001
	100 %	+50	1762 499 996	-3.0	0.000 000	-0.002
	Batt. Endpoint	+20	1762 499 998	-1.1	0.000 000	-0.001

▣ BandWidth: 40 MHz

▣ Voltage(100 %): 3.880 VDC

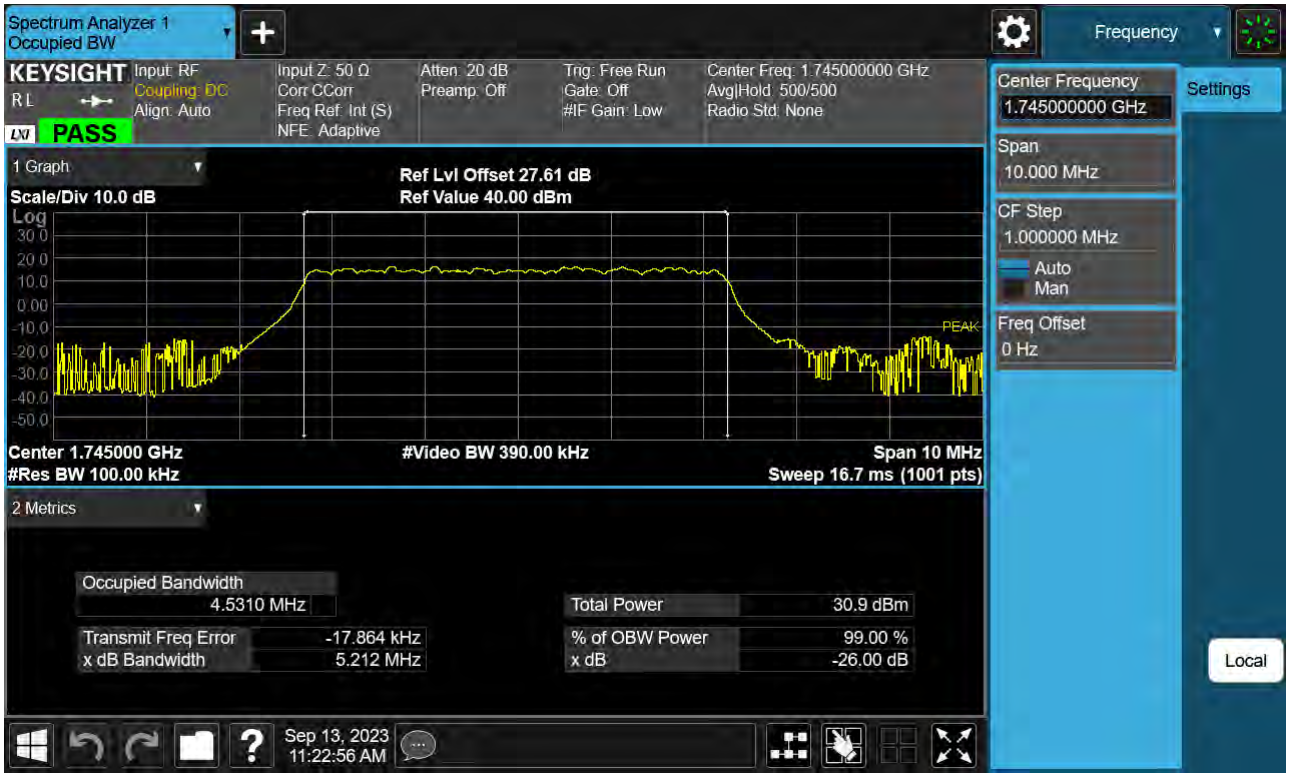
▣ Batt. Endpoint: 3.300 VDC

▣ LIMIT: Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1730.0	100 %	+20(Ref)	1730 000 001	0.0	0.000 000	0.000
	100 %	-30	1730 000 007	5.4	0.000 000	0.003
	100 %	-20	1730 000 002	1.2	0.000 000	0.001
	100 %	-10	1730 000 006	5.1	0.000 000	0.003
	100 %	0	1730 000 003	2.0	0.000 000	0.001
	100 %	+10	1730 000 003	1.9	0.000 000	0.001
	100 %	+30	1730 000 002	0.9	0.000 000	0.001
	100 %	+40	1730 000 005	3.4	0.000 000	0.002
	100 %	+50	1730 000 004	2.9	0.000 000	0.002
	Batt. Endpoint	+20	1730 000 004	2.5	0.000 000	0.001
1760.0	100 %	+20(Ref)	1760 000 004	0.0	0.000 000	0.000
	100 %	-30	1760 000 009	5.0	0.000 000	0.003
	100 %	-20	1760 000 006	2.0	0.000 000	0.001
	100 %	-10	1760 000 009	4.3	0.000 000	0.002
	100 %	0	1760 000 010	5.9	0.000 000	0.003
	100 %	+10	1760 000 005	1.2	0.000 000	0.001
	100 %	+30	1760 000 008	4.1	0.000 000	0.002
	100 %	+40	1760 000 007	2.4	0.000 000	0.001
	100 %	+50	1760 000 006	1.5	0.000 000	0.001
	Batt. Endpoint	+20	1760 000 008	4.2	0.000 000	0.002

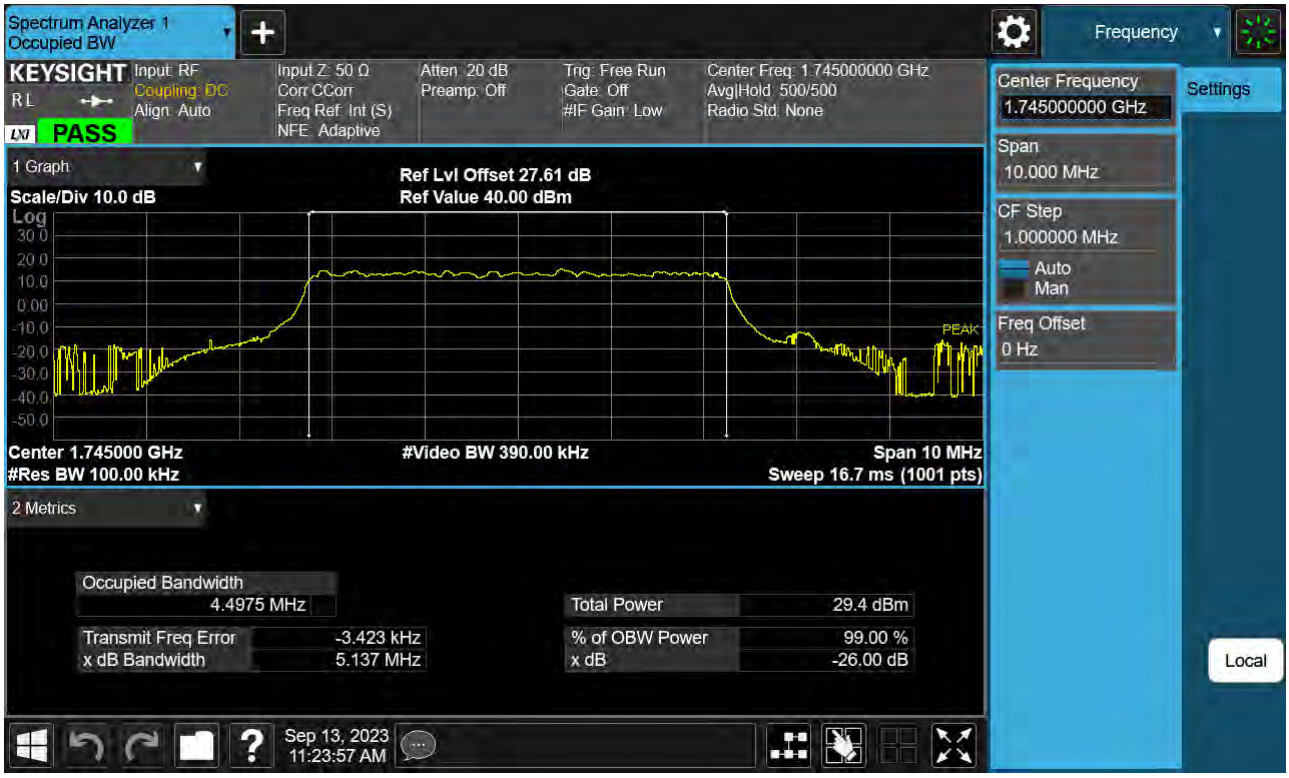
10. TEST PLOTS(Ant A)

Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 BPSK Full RB)



Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 QPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 16QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 64QAM Full RB)

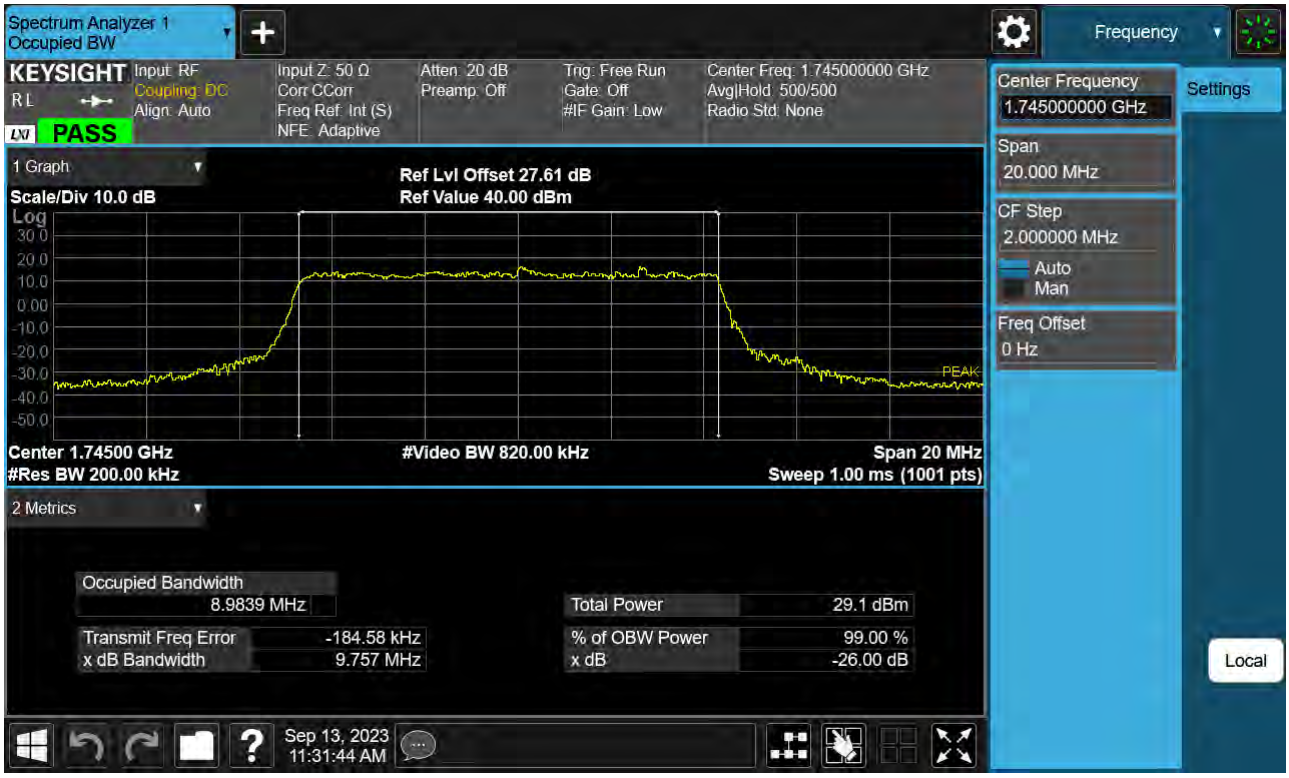
Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 256QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 BPSK Full RB)

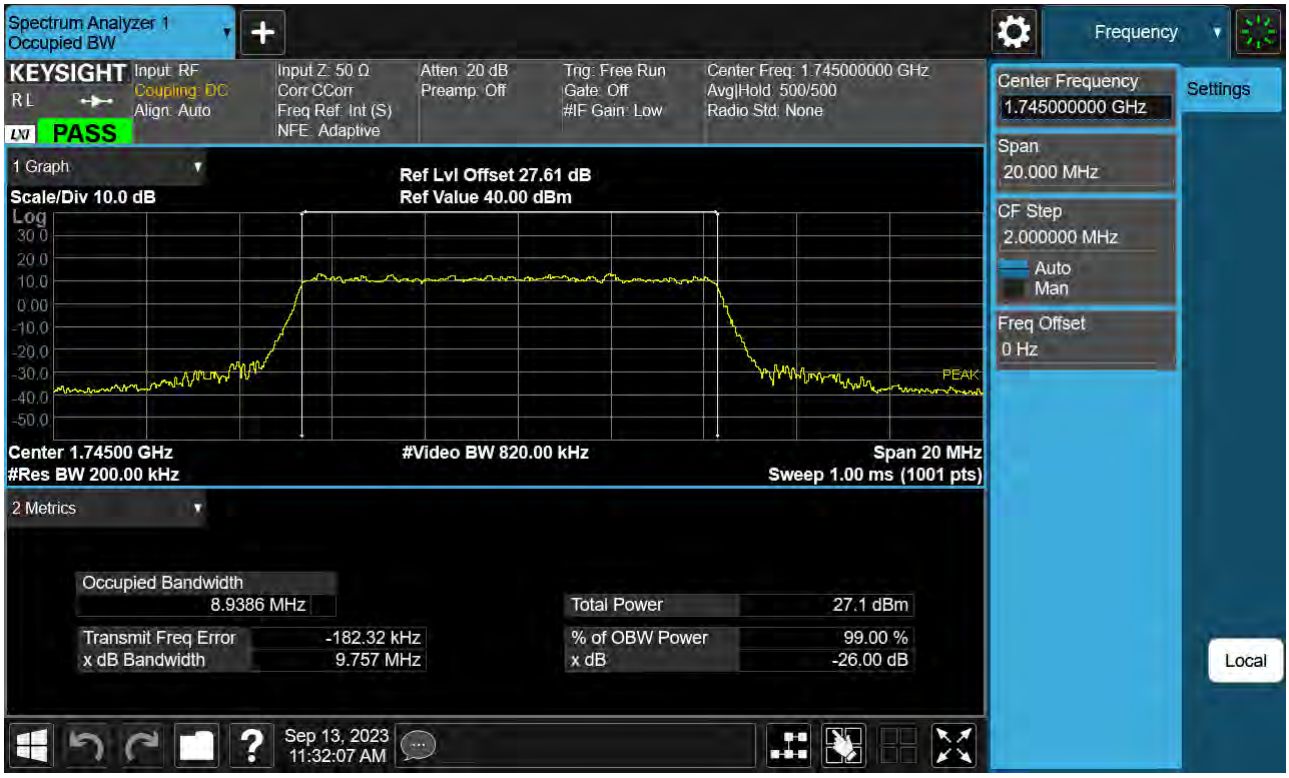
Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 QPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 16QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 64QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 256QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (15 M BW Ch.349000 BPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (15 M BW Ch.349000 QPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (15 M BW Ch.349000 16QAM Full RB)

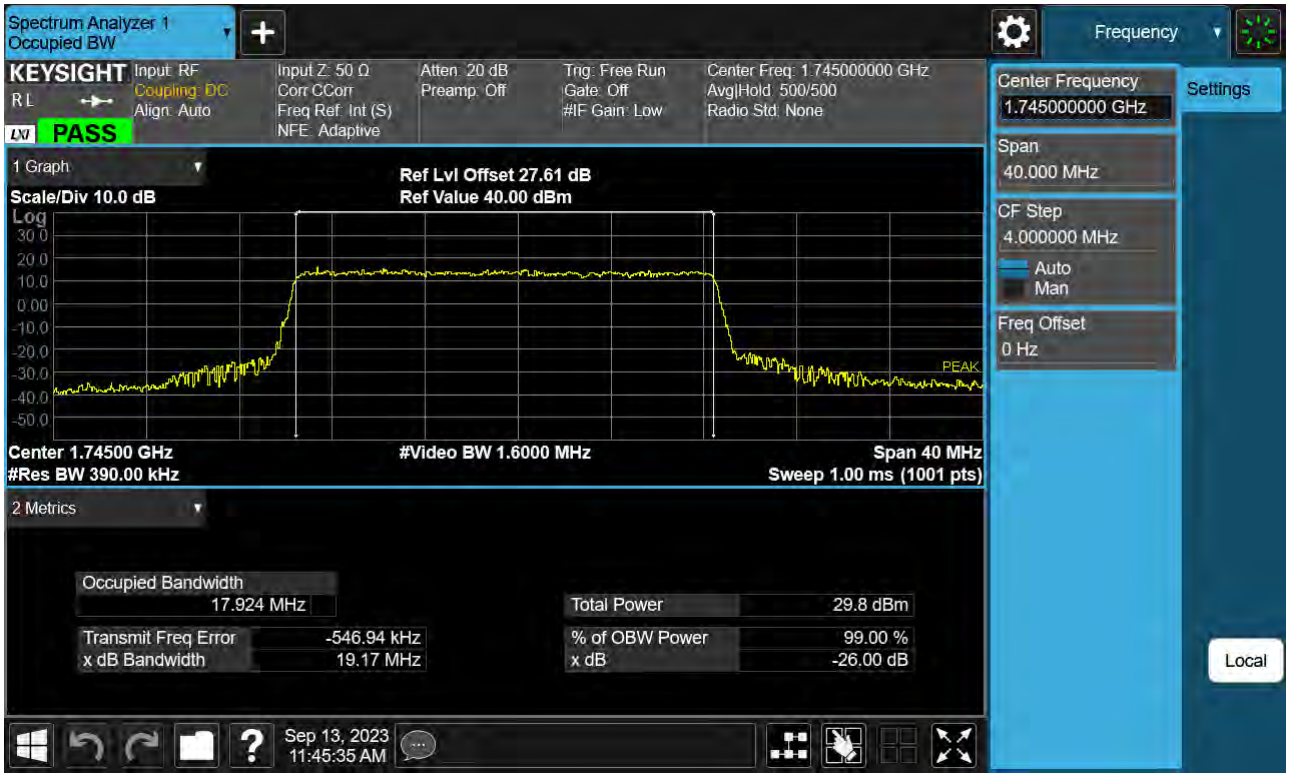
Sub6 n66. Occupied Bandwidth Plot (15 M BW Ch.349000 64QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (15 M BW Ch.349000 256QAM Full RB)

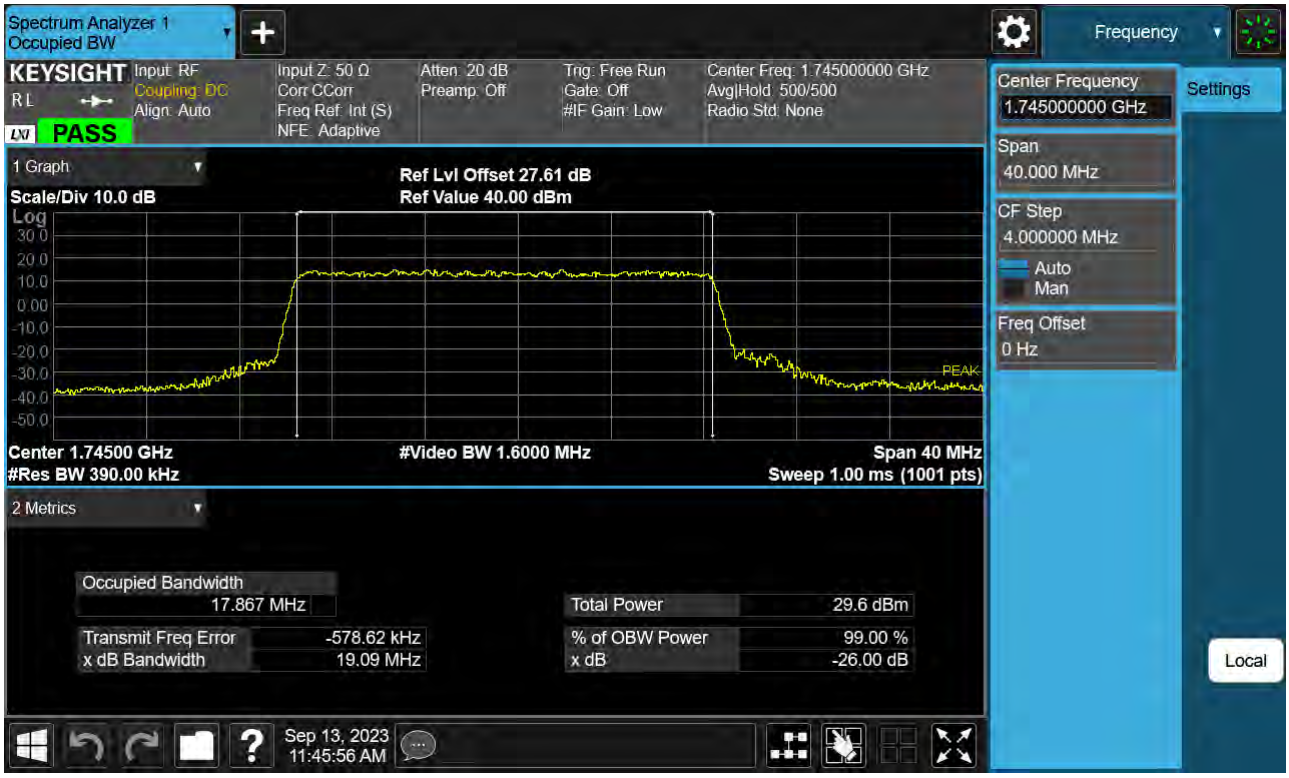
Sub6 n66. Occupied Bandwidth Plot (20 M BW Ch.349000 BPSK Full RB)

Sub6 n66. Occupied Bandw idth Plot (20 M BW Ch.349000 QPSK Full RB)

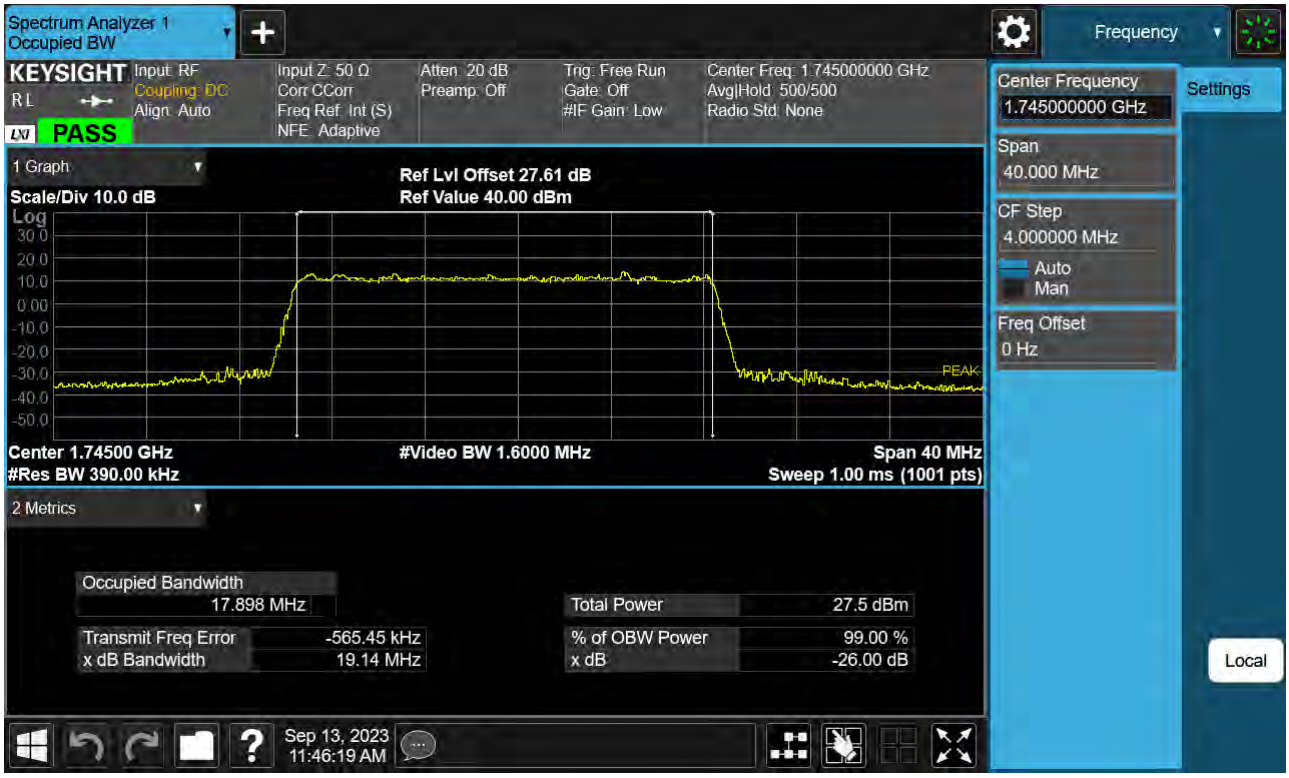
Sub6 n66. Occupied Bandwidth Plot (20 M BW Ch.349000 16QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (20 M BW Ch.349000 64QAM Full RB)

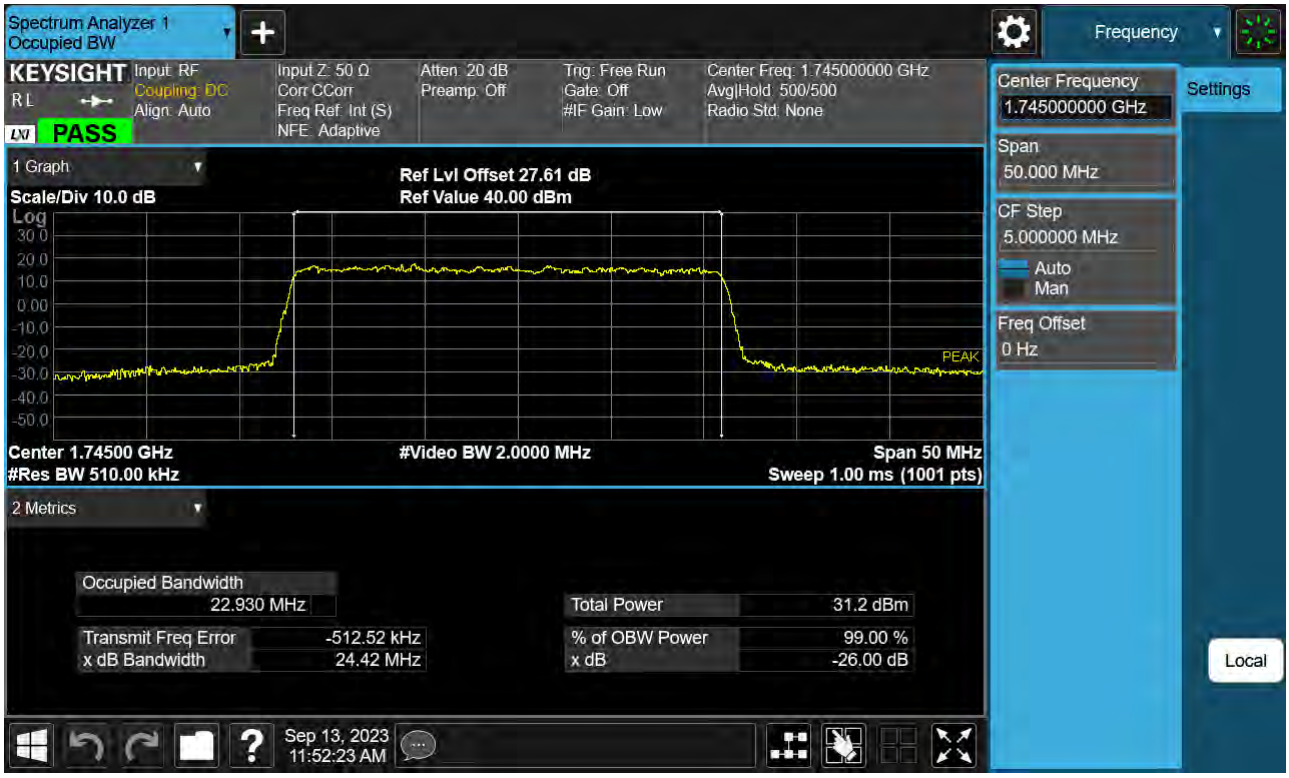


Sub6 n66. Occupied Bandwidth Plot (20 M BW Ch.349000 256QAM Full RB)

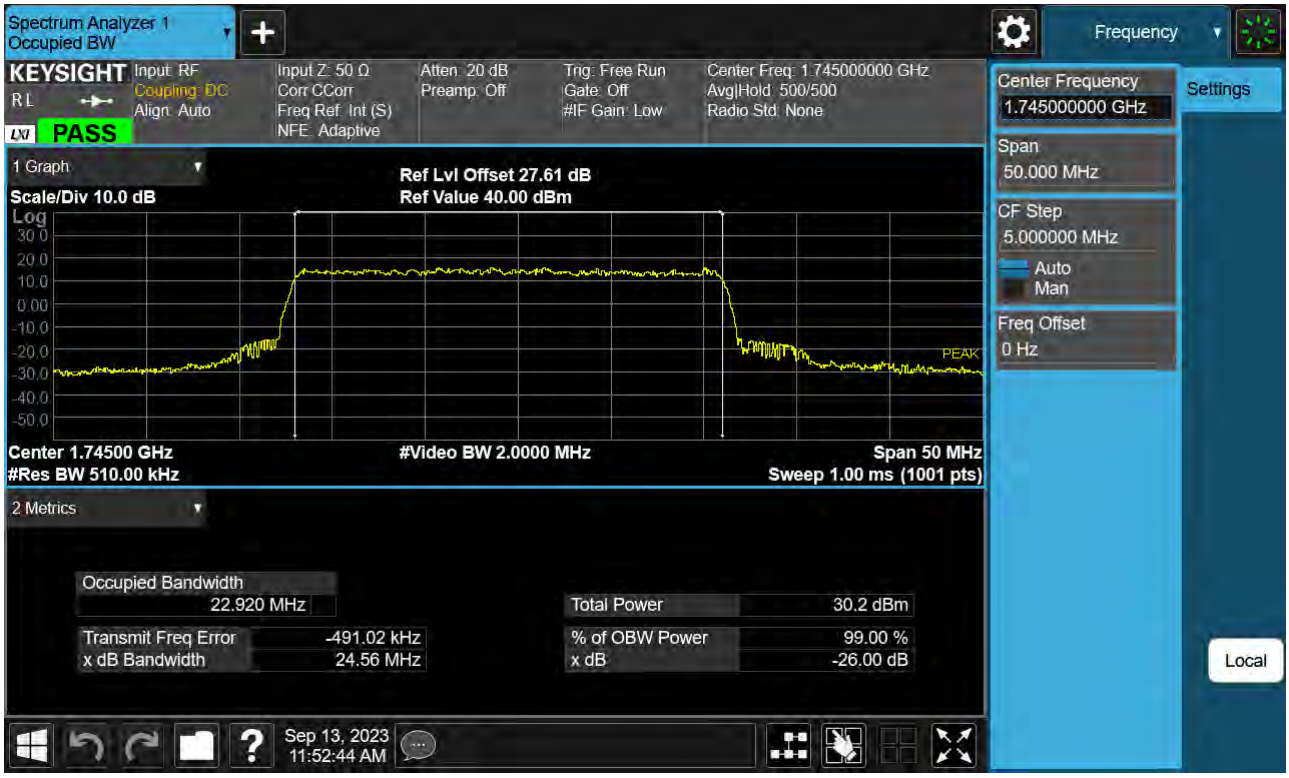


Sub6 n66. Occupied Bandwidth Plot (25 M BW Ch.349000 BPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (25 M BW Ch.349000 QPSK Full RB)

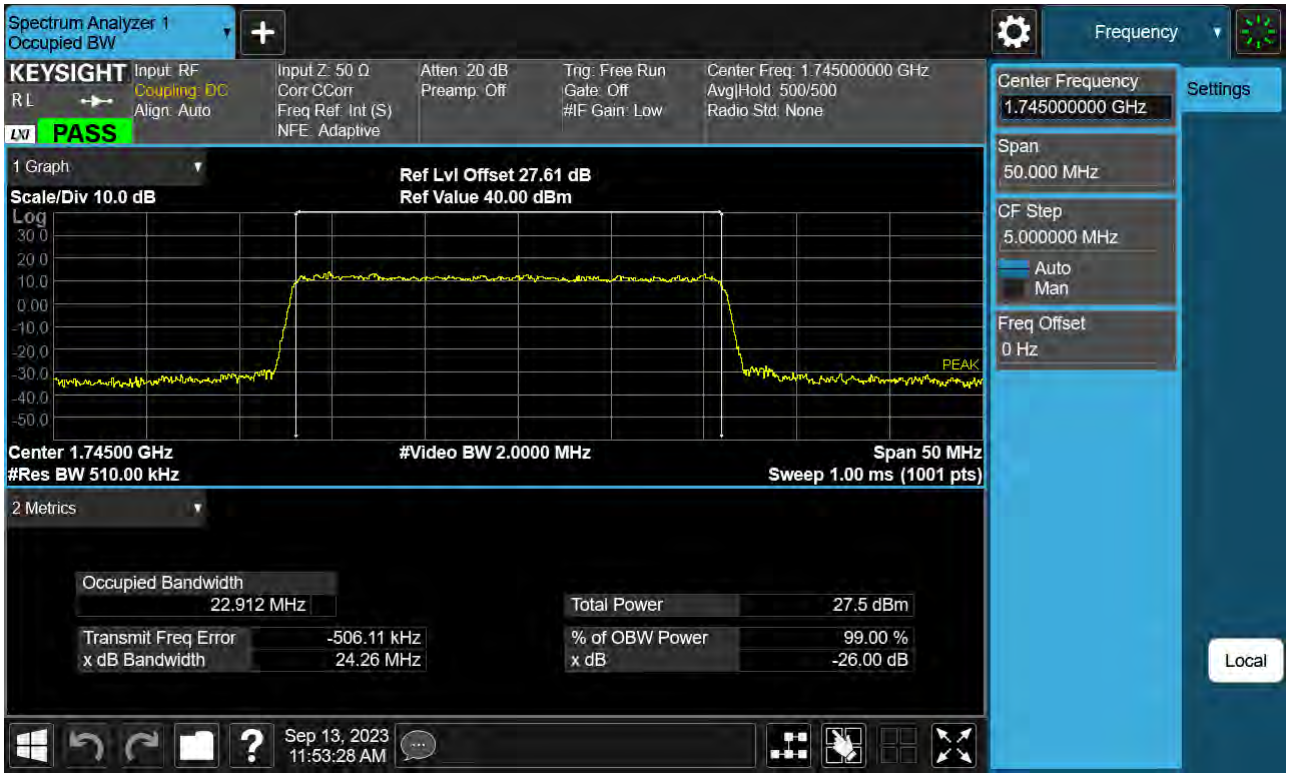


Sub6 n66. Occupied Bandwidth Plot (25 M BW Ch.349000 16QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (25 M BW Ch.349000 64QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (25 M BW Ch.349000 256QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 BPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 QPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 16QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 64QAM Full RB)

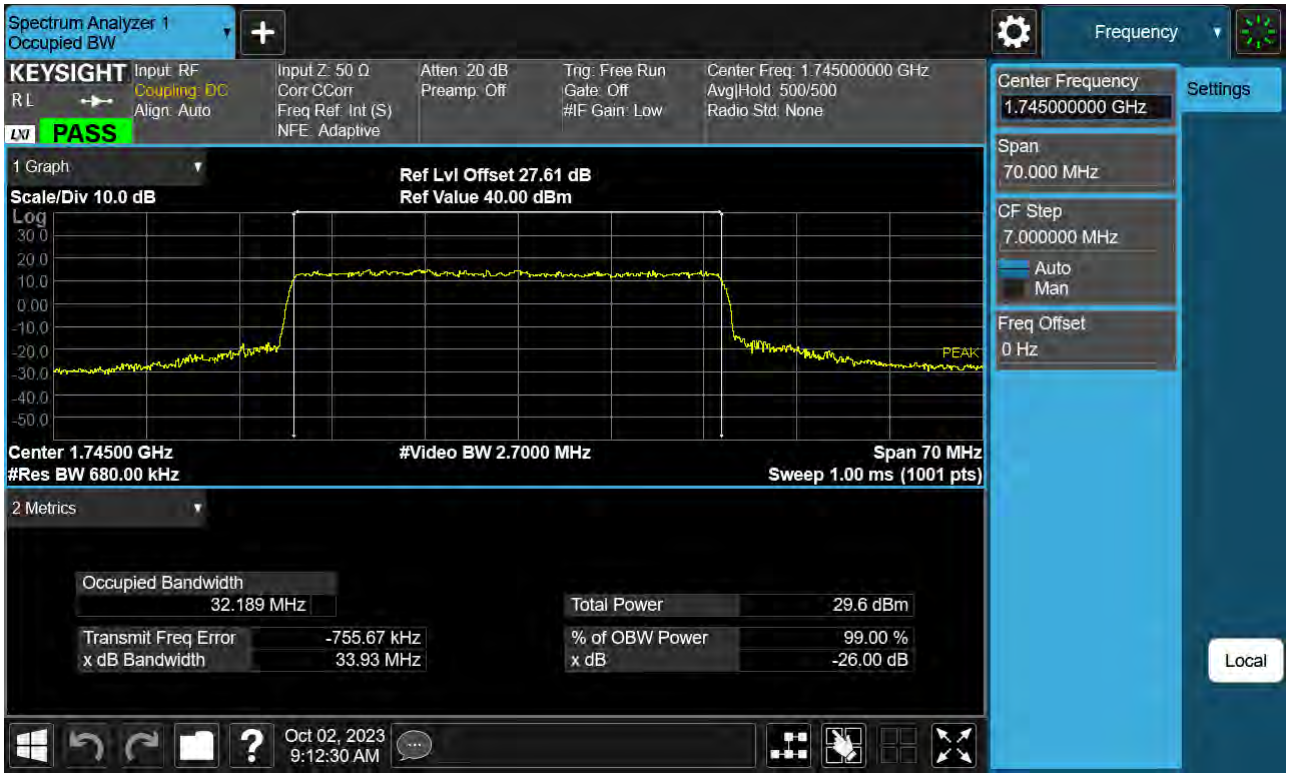
Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 256QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (35 M BW Ch.349000 BPSK Full RB)

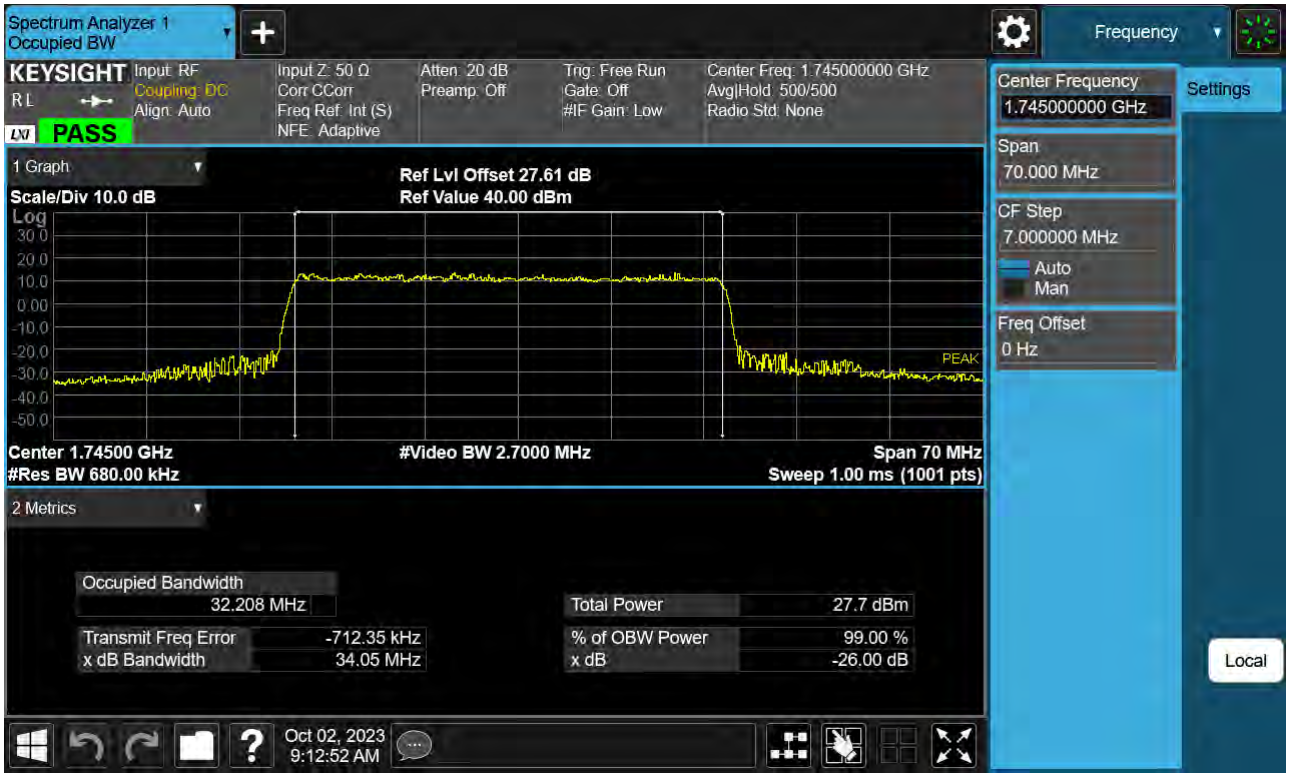
Sub6 n66. Occupied Bandwidth Plot (35 M BW Ch.349000 QPSK Full RB)

Sub6 n66. Occupied Bandwidth Plot (35 M BW Ch.349000 16QAM Full RB)

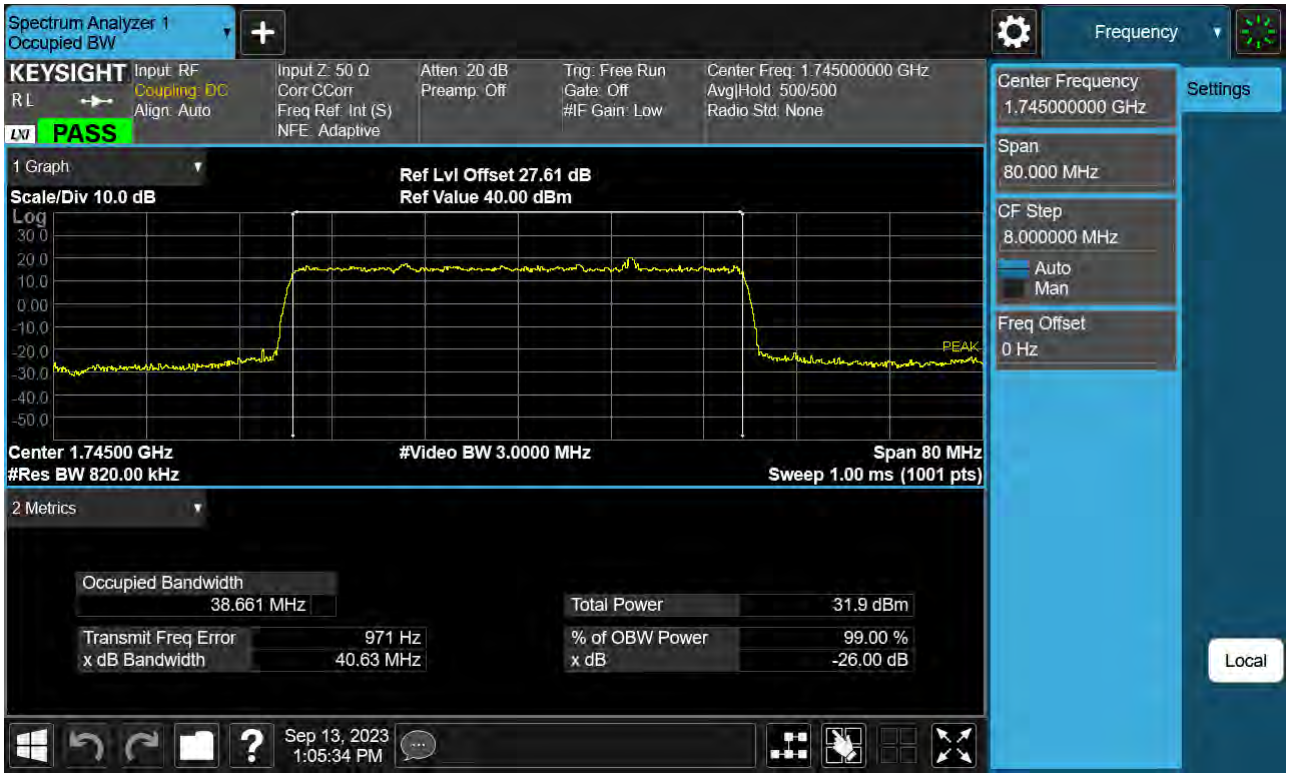
Sub6 n66. Occupied Bandwidth Plot (35 M BW Ch.349000 64QAM Full RB)



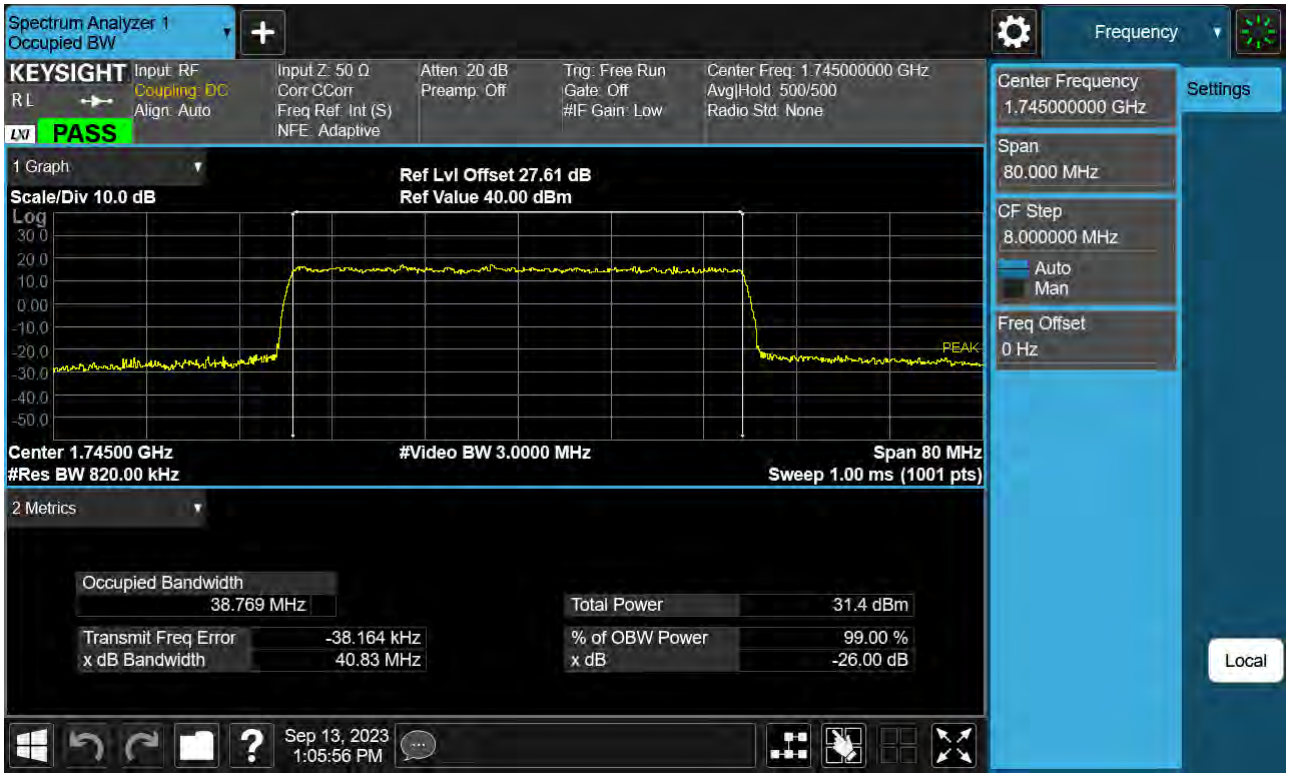
Sub6 n66. Occupied Bandwidth Plot (35 M BW Ch.349000 256QAM Full RB)



Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 BPSK Full RB)



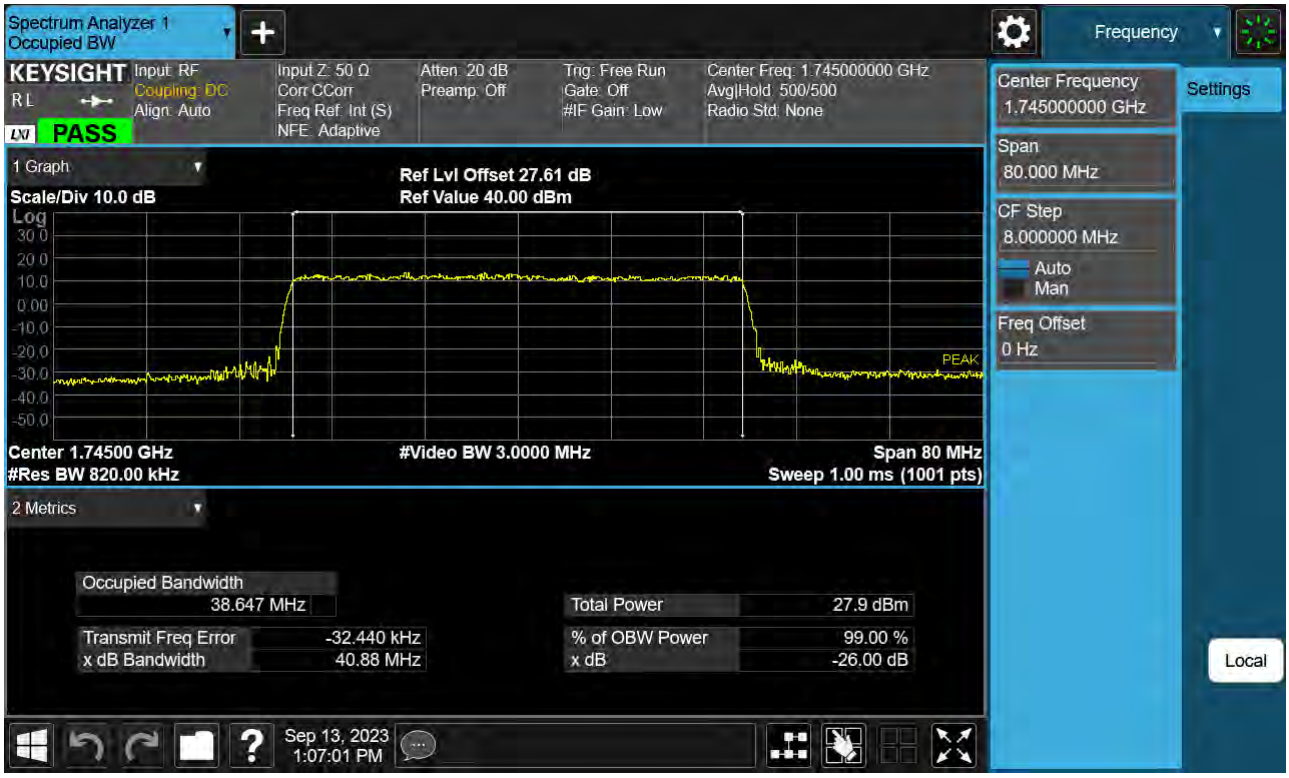
Sub6 n66. Occupied Bandw idth Plot (40 M BW Ch.349000 QPSK Full RB)



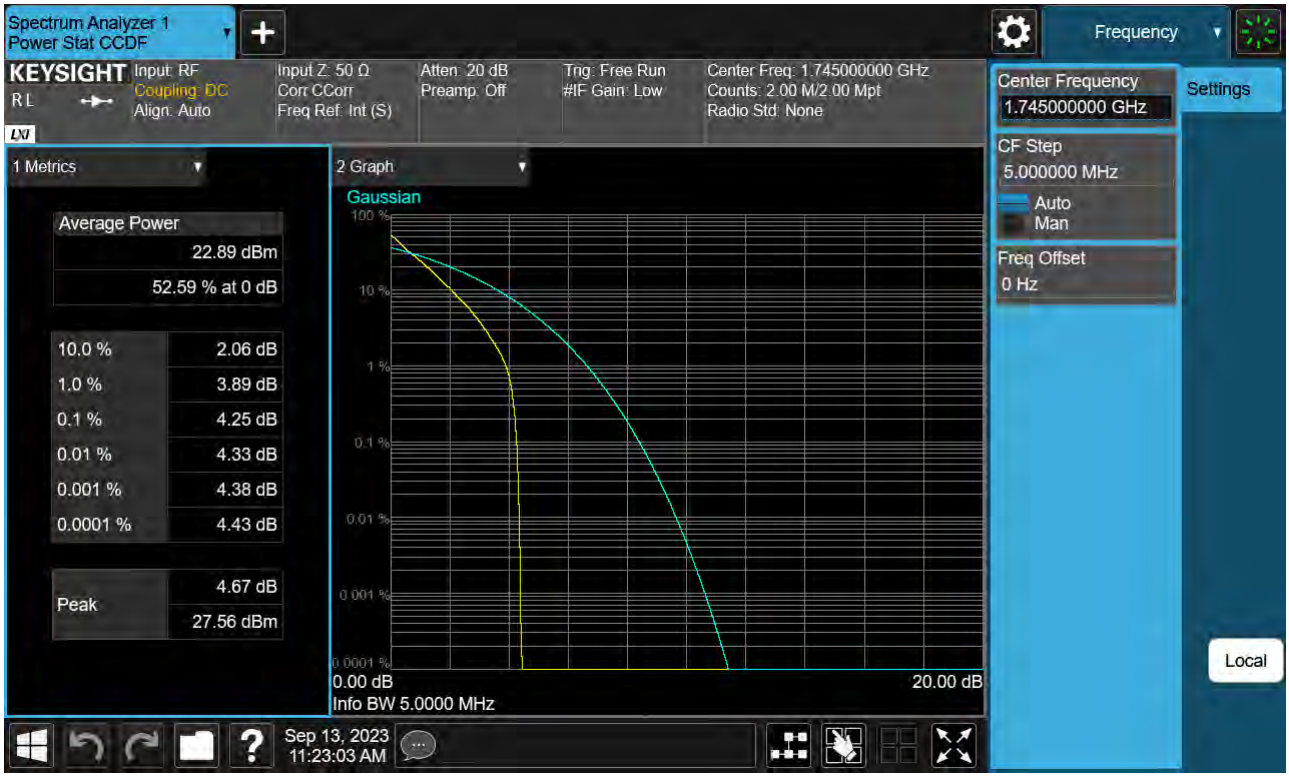
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 16QAM Full RB)

Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 64QAM Full RB)

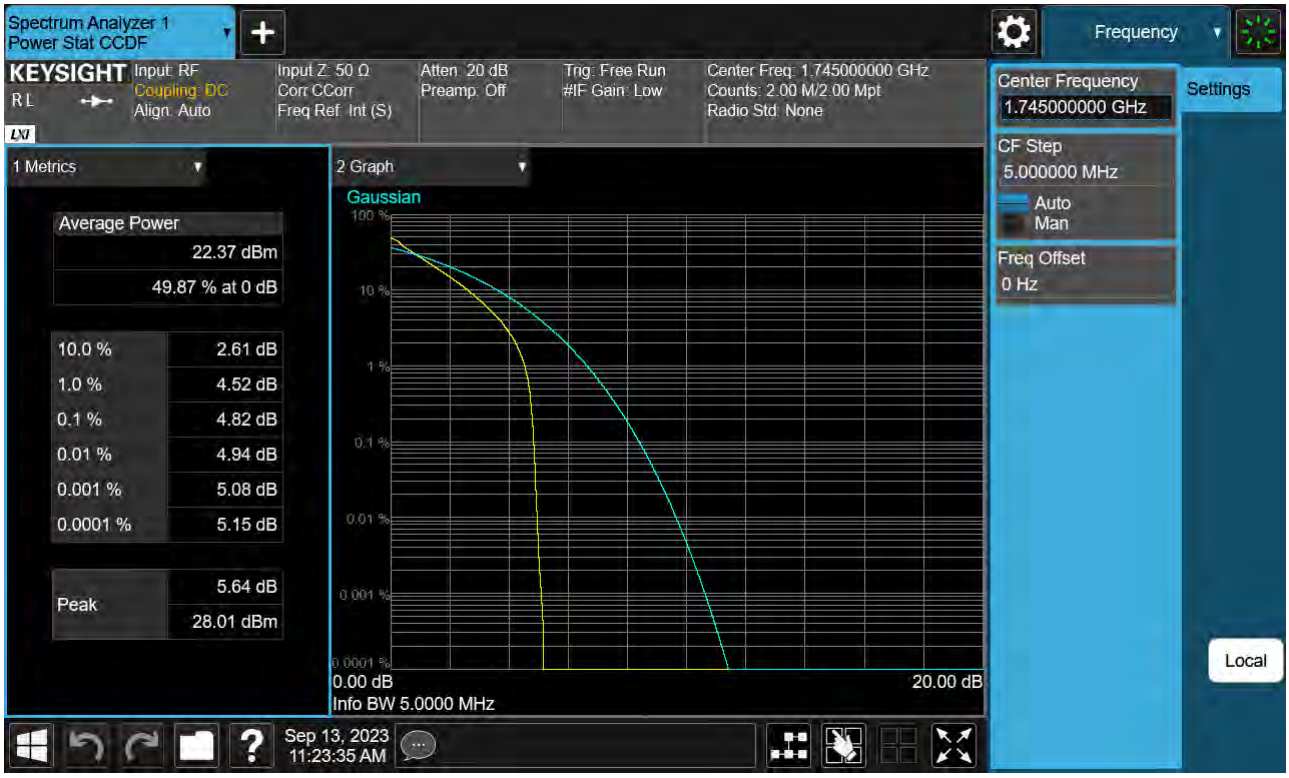
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 256QAM Full RB)



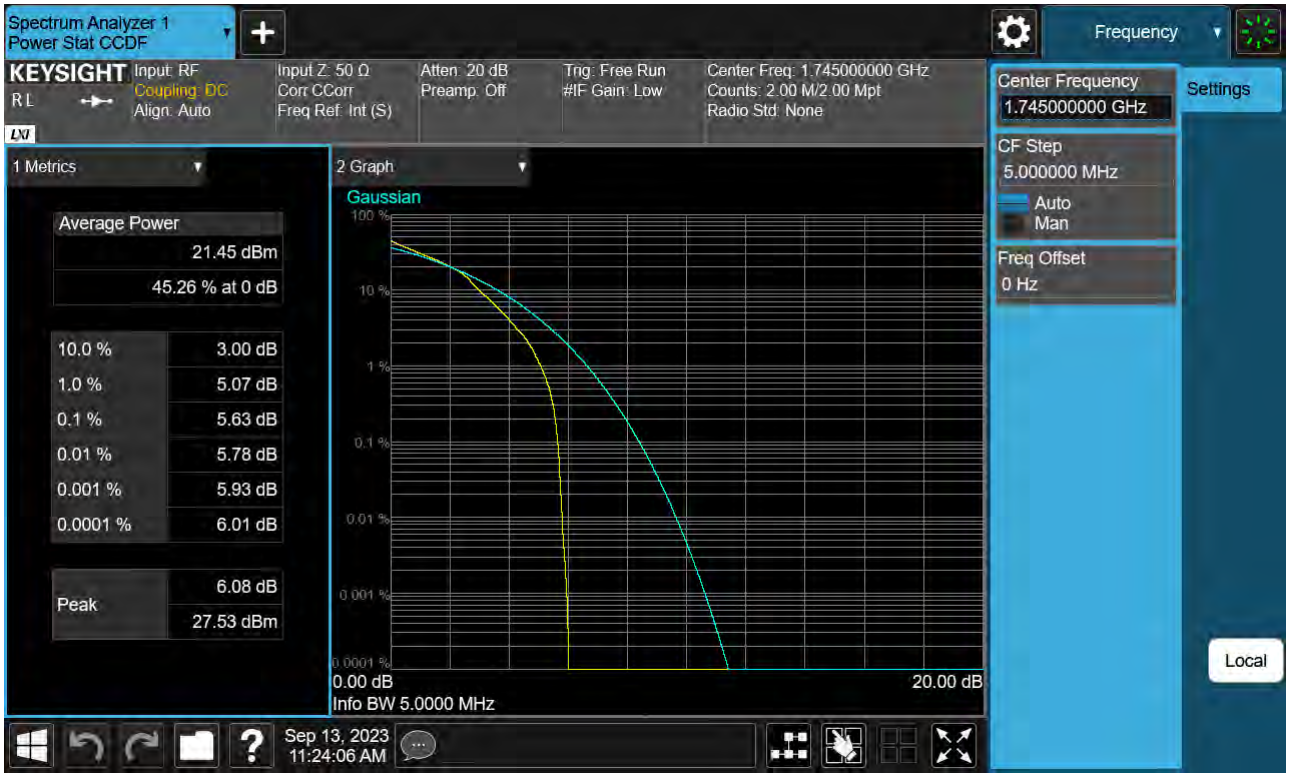
Sub6 n66. PAR Plot (5 M BW_Ch.349000_ BPSK_ Full RB)



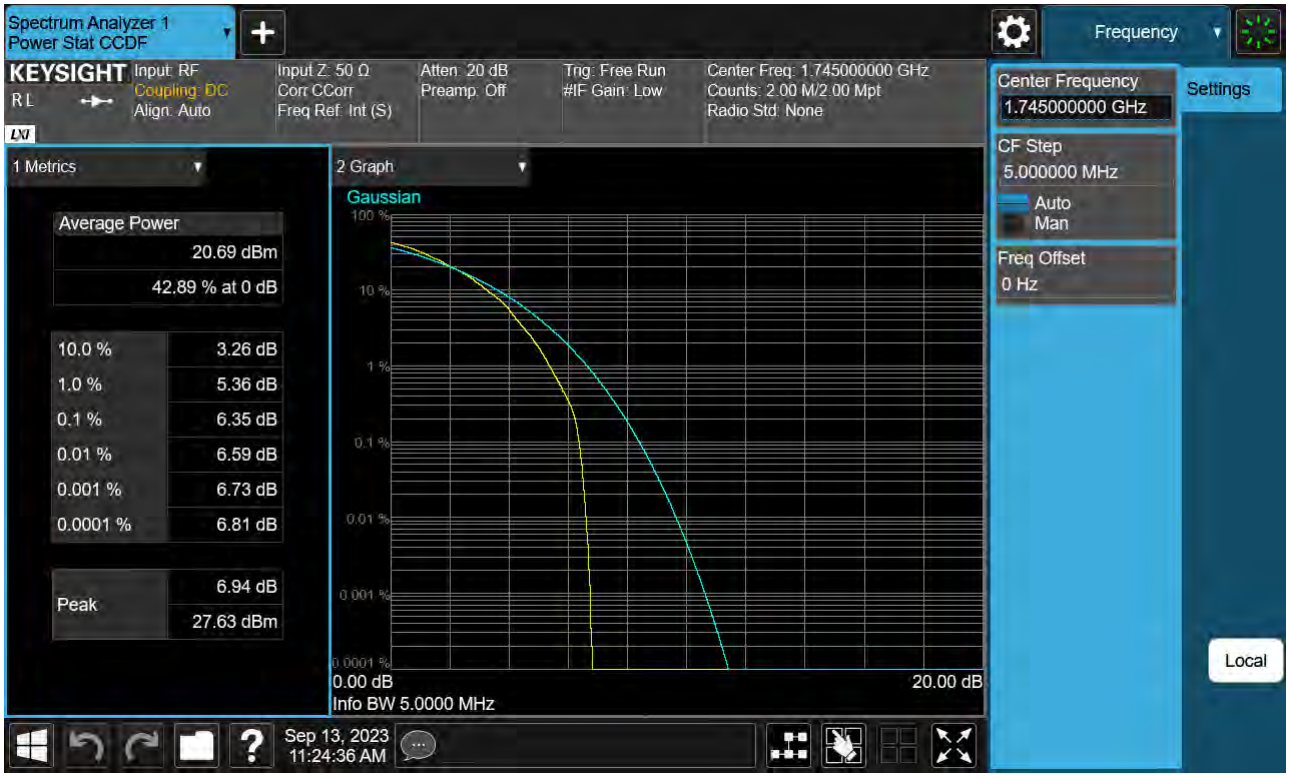
Sub6 n66. PAR Plot (5 M BW_Ch.349000_QPSK_ Full RB)



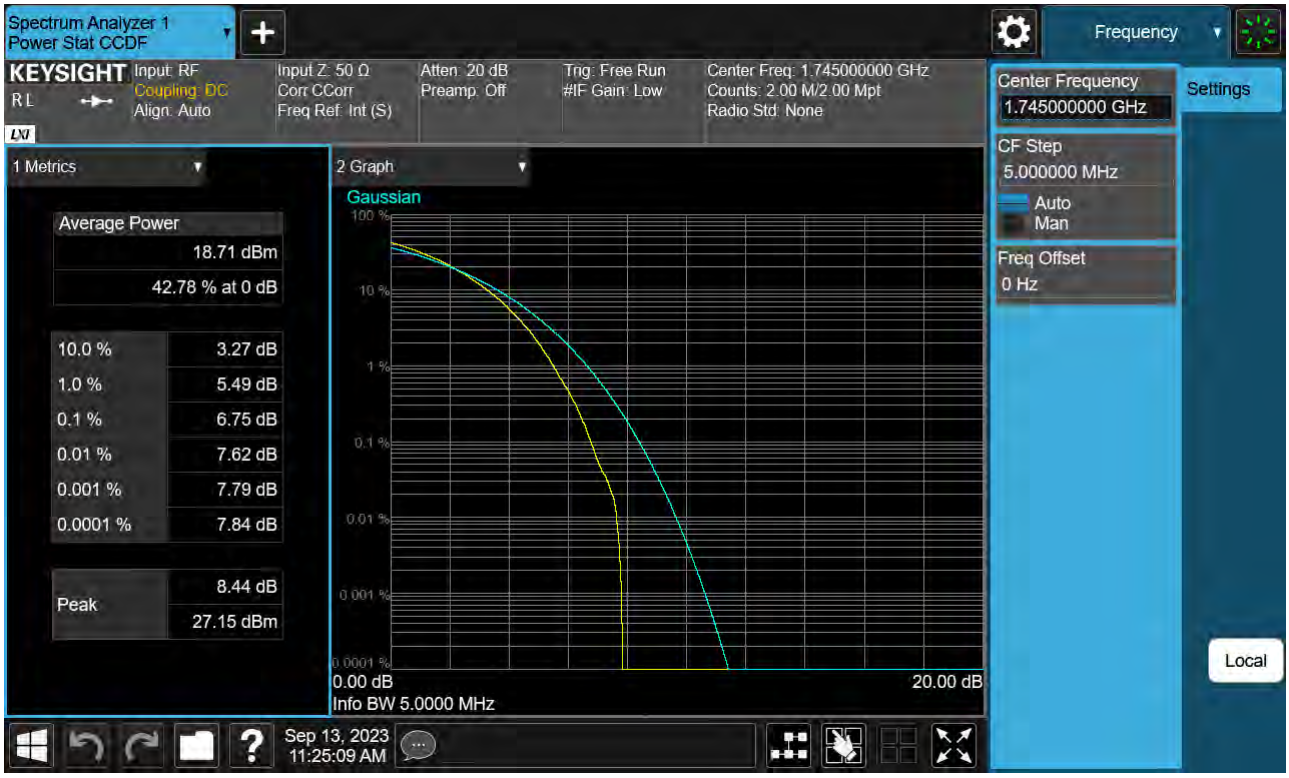
Sub6 n66. PAR Plot (5 M BW_Ch.349000_16QAM_ Full RB)



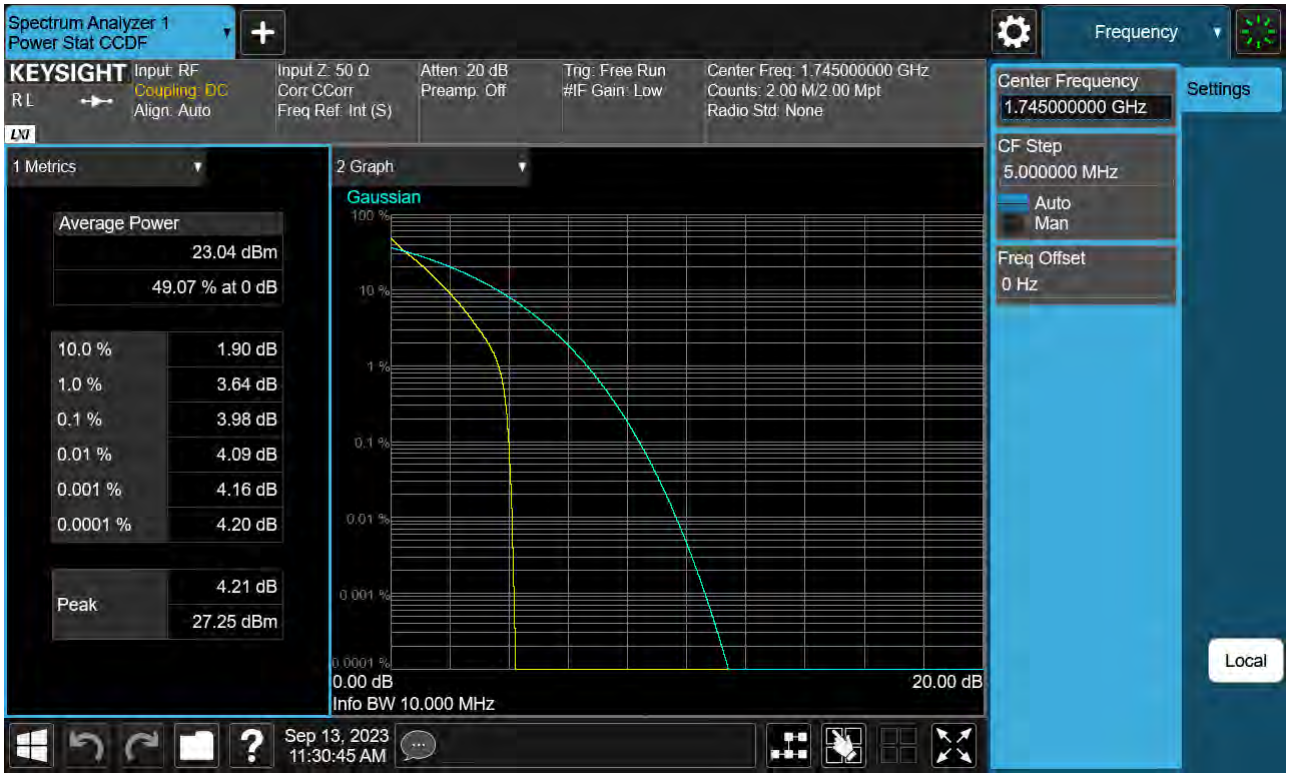
Sub6 n66. PAR Plot (5 M BW_Ch.349000_64QAM_ Full RB)



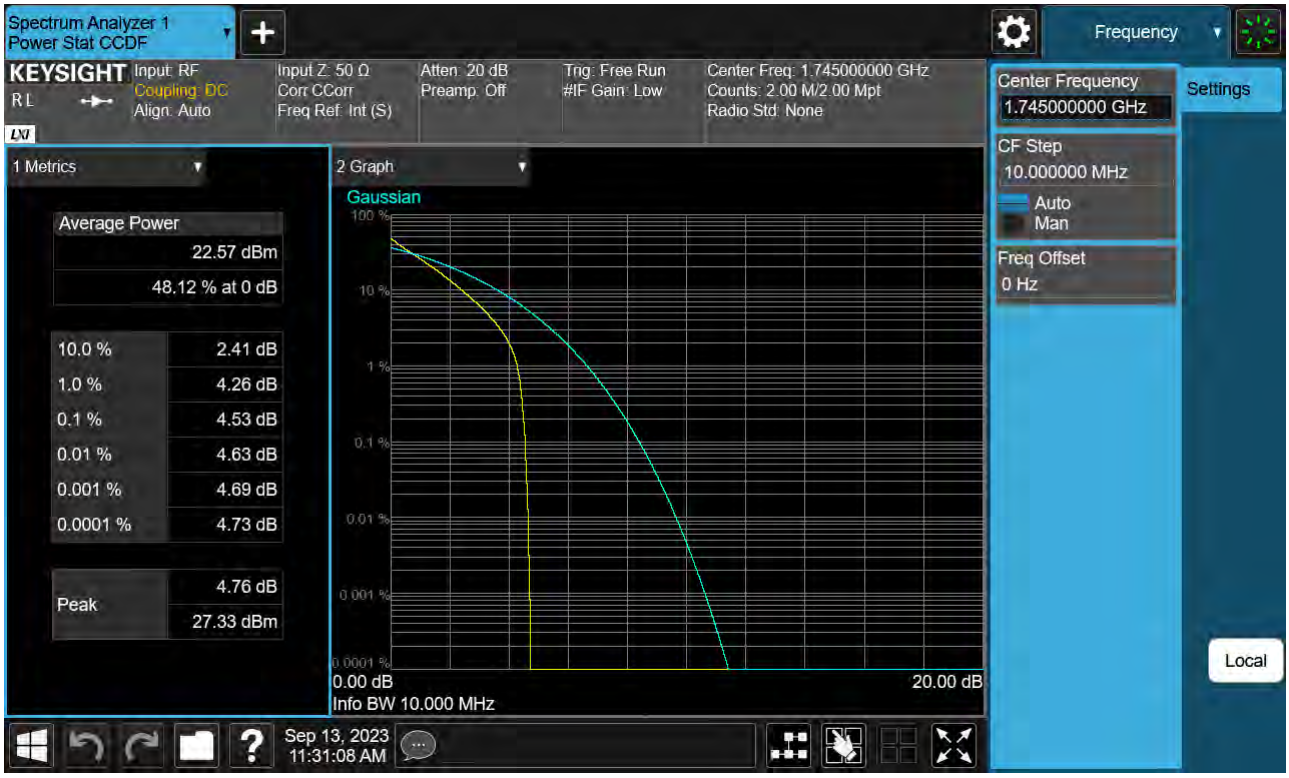
Sub6 n66. PAR Plot (5 M BW_Ch.349000_256QAM_ Full RB)



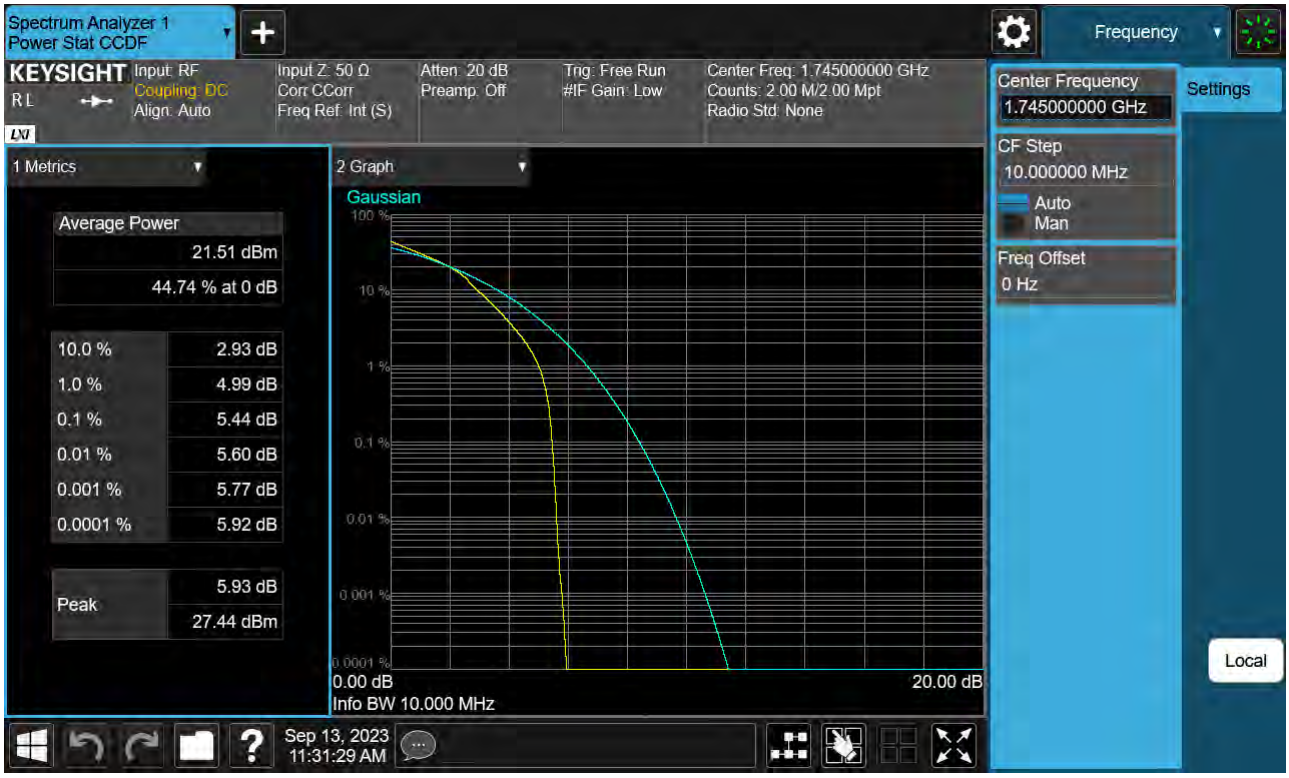
Sub6 n66. PAR Plot (10 M BW_Ch.349000_ BPSK_ Full RB)



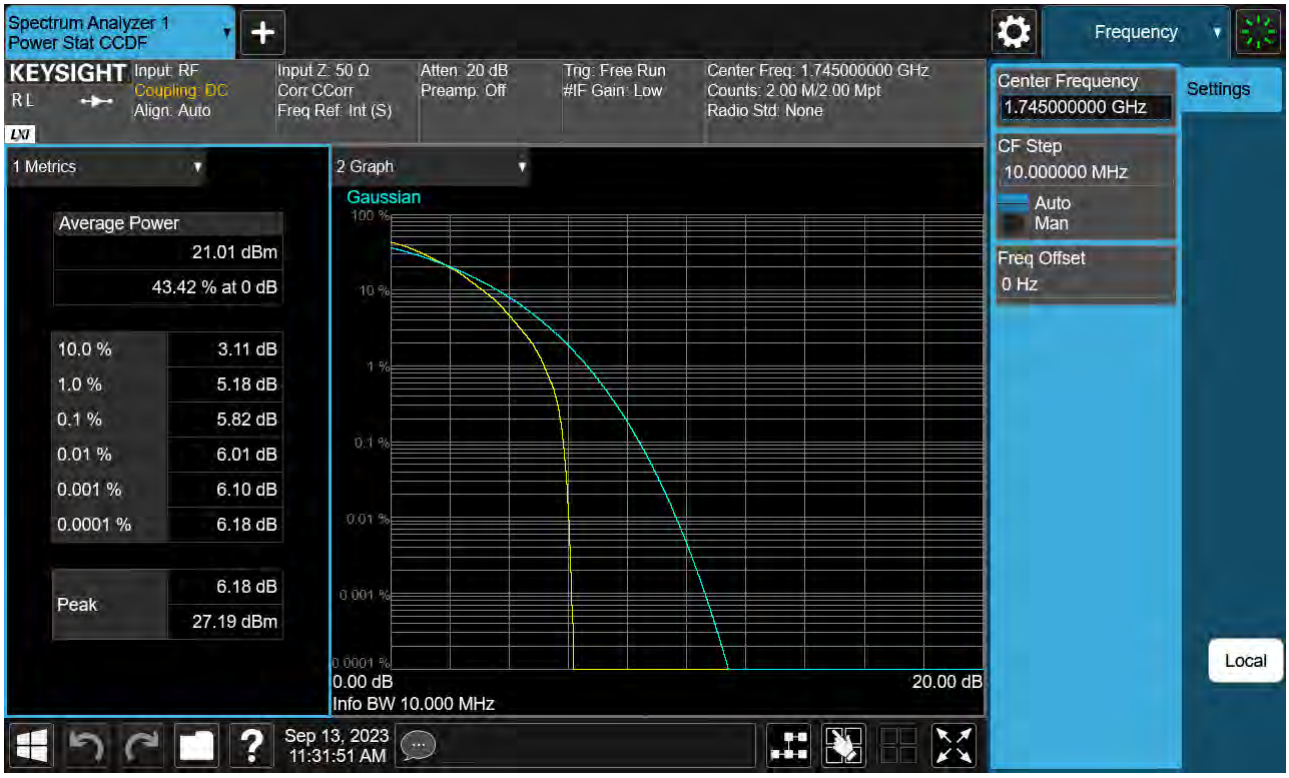
Sub6 n66. PAR Plot (10 M BW_Ch.349000_QPSK_ Full RB)



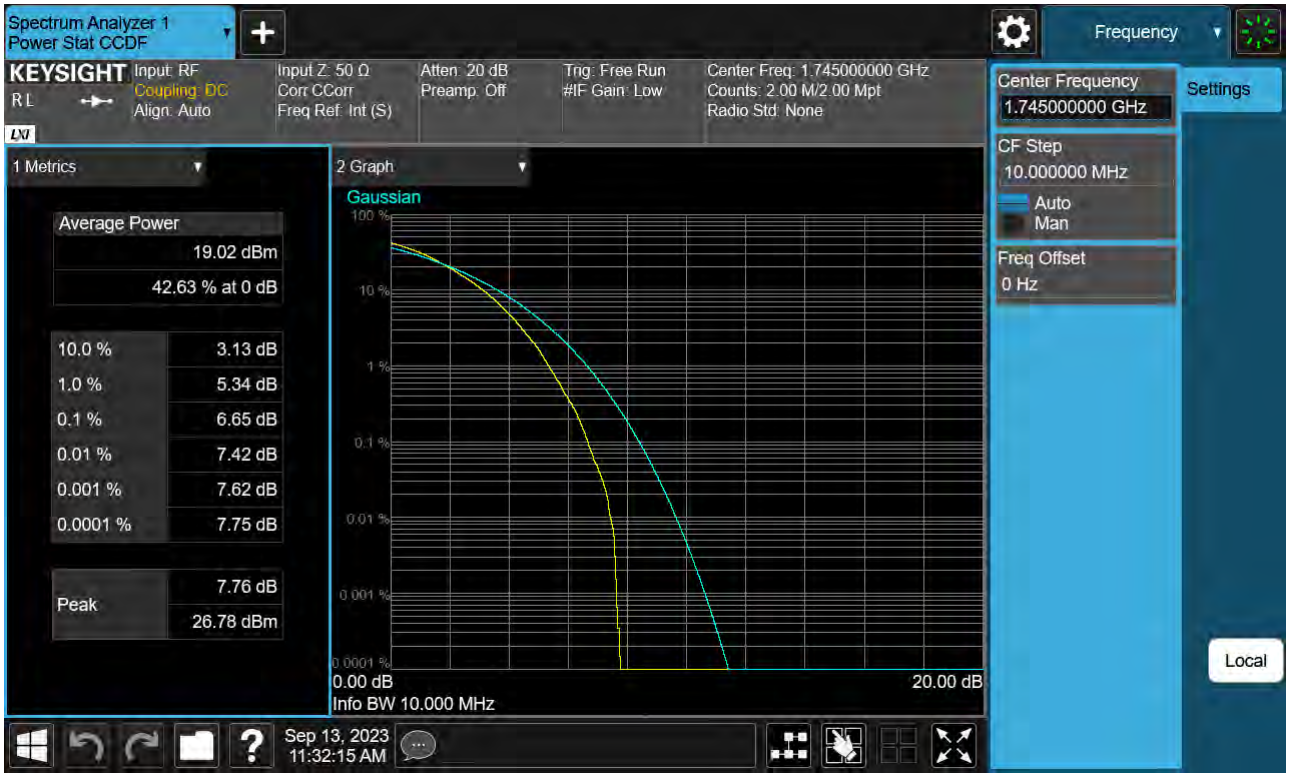
Sub6 n66. PAR Plot (10 M BW_Ch.349000_16QAM_ Full RB)



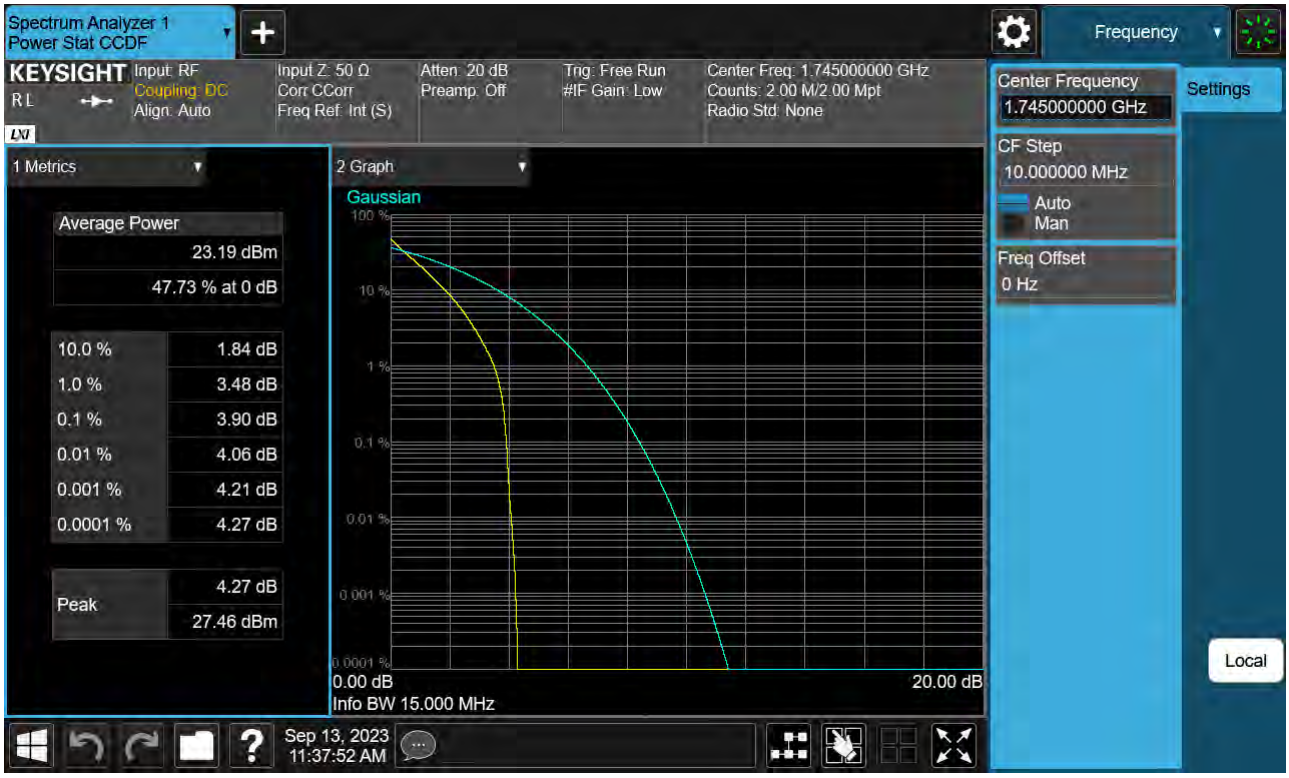
Sub6 n66. PAR Plot (10 M BW_Ch.349000_64QAM_ Full RB)



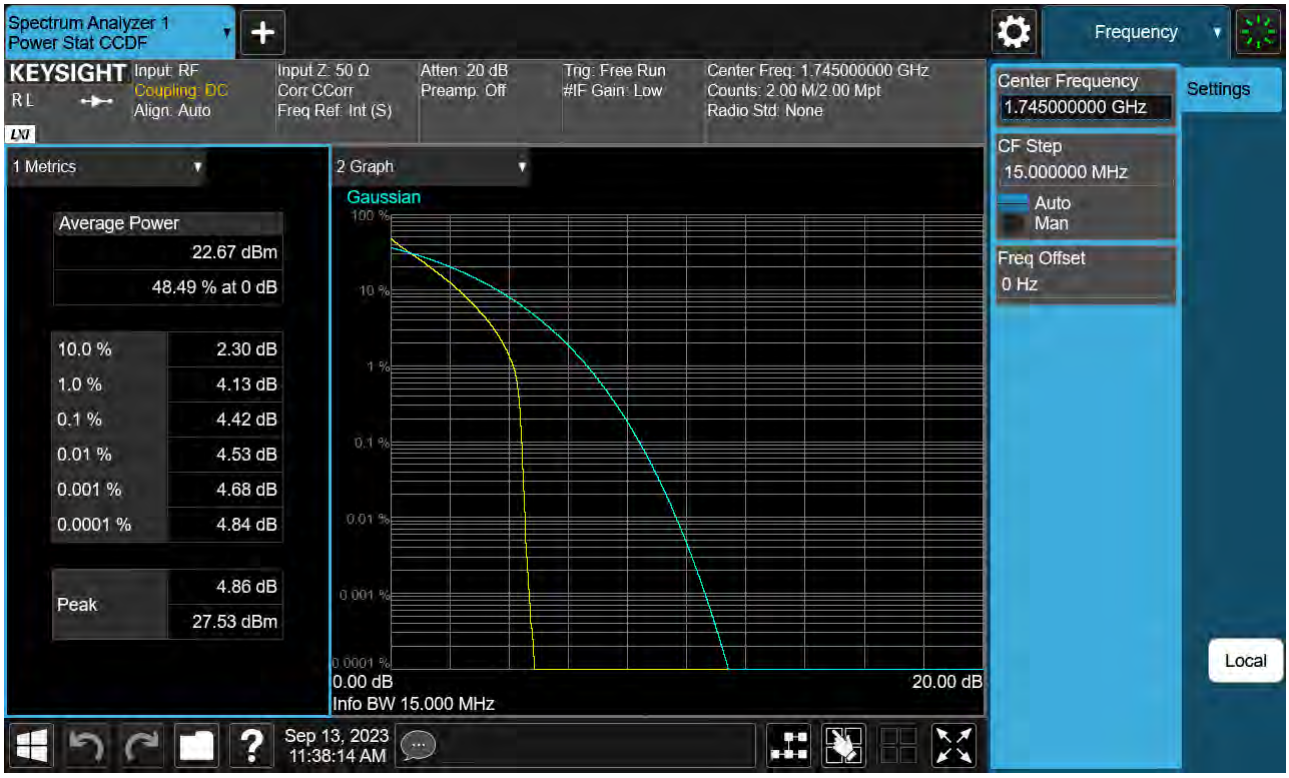
Sub6 n66. PAR Plot (10 M BW_Ch.349000_256QAM_ Full RB)



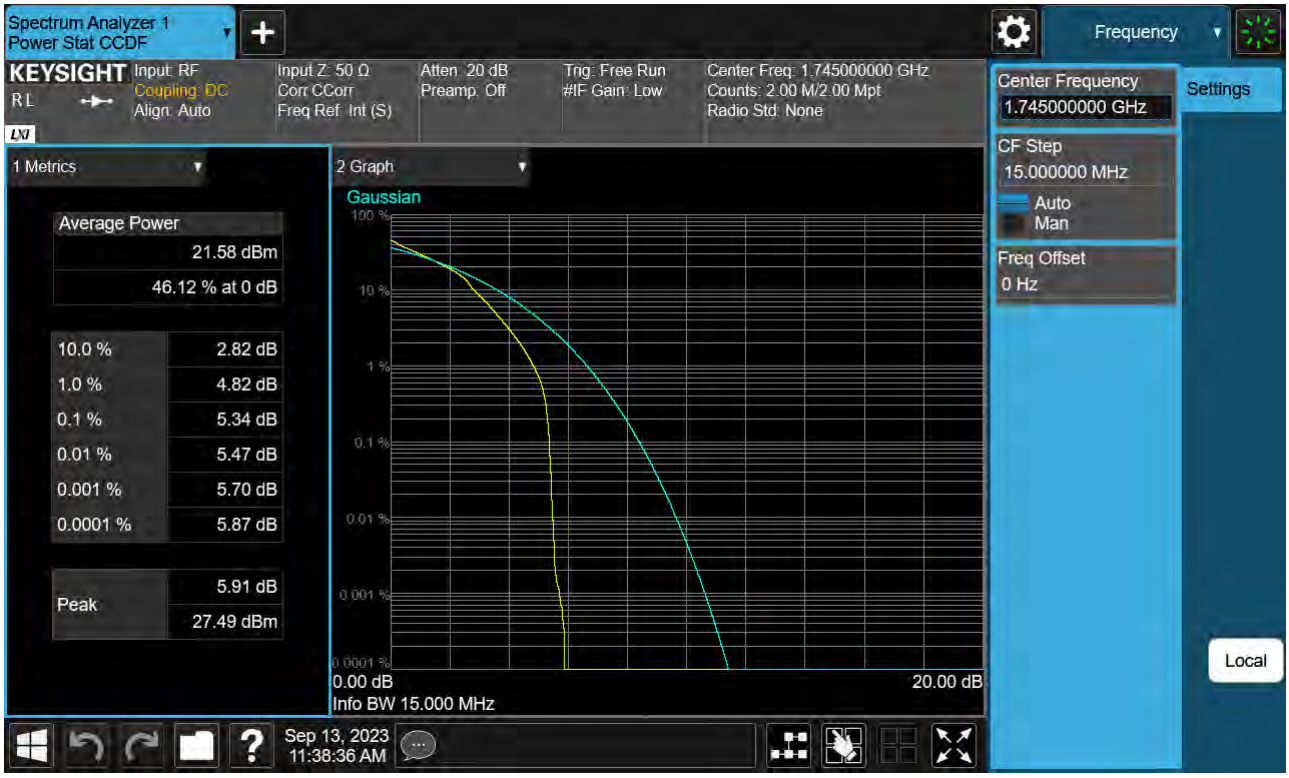
Sub6 n66. PAR Plot (15 M BW_Ch.349000_ BPSK_ Full RB)



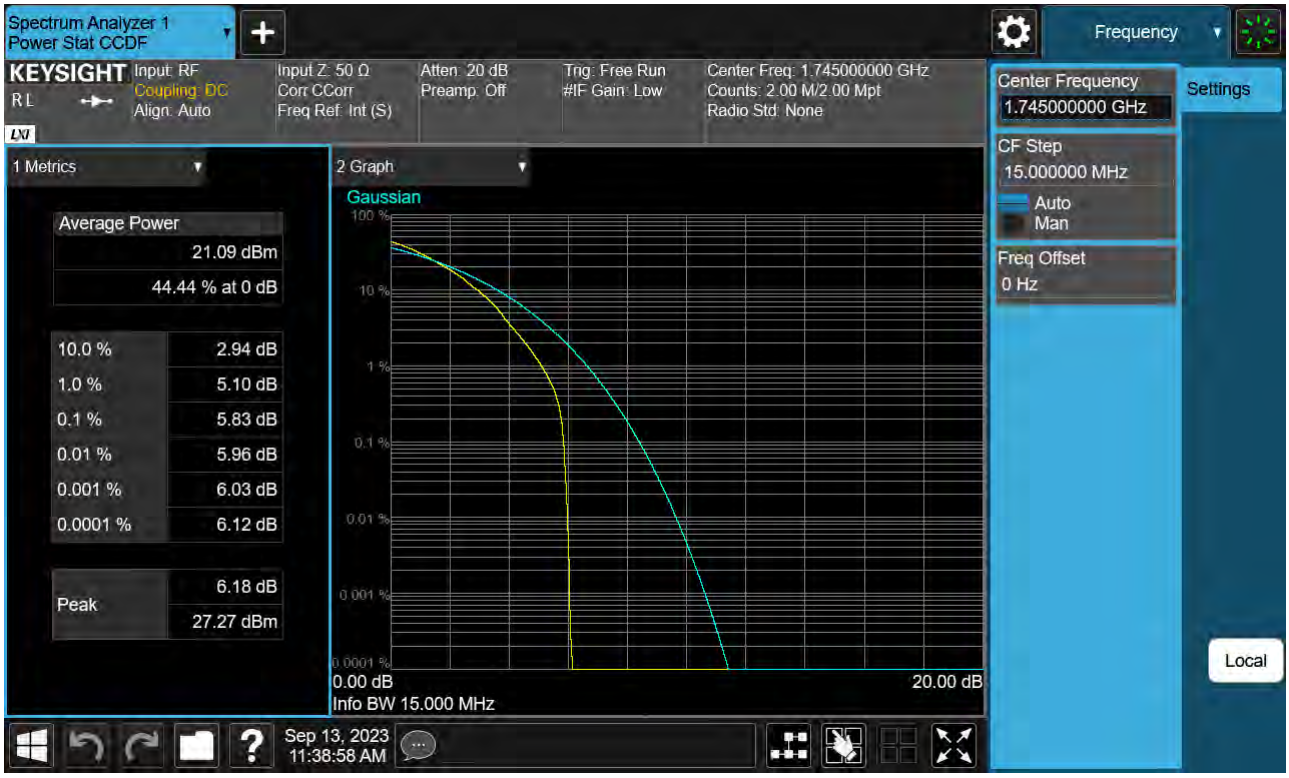
Sub6 n66. PAR Plot (15 M BW_Ch.349000_QPSK_ Full RB)



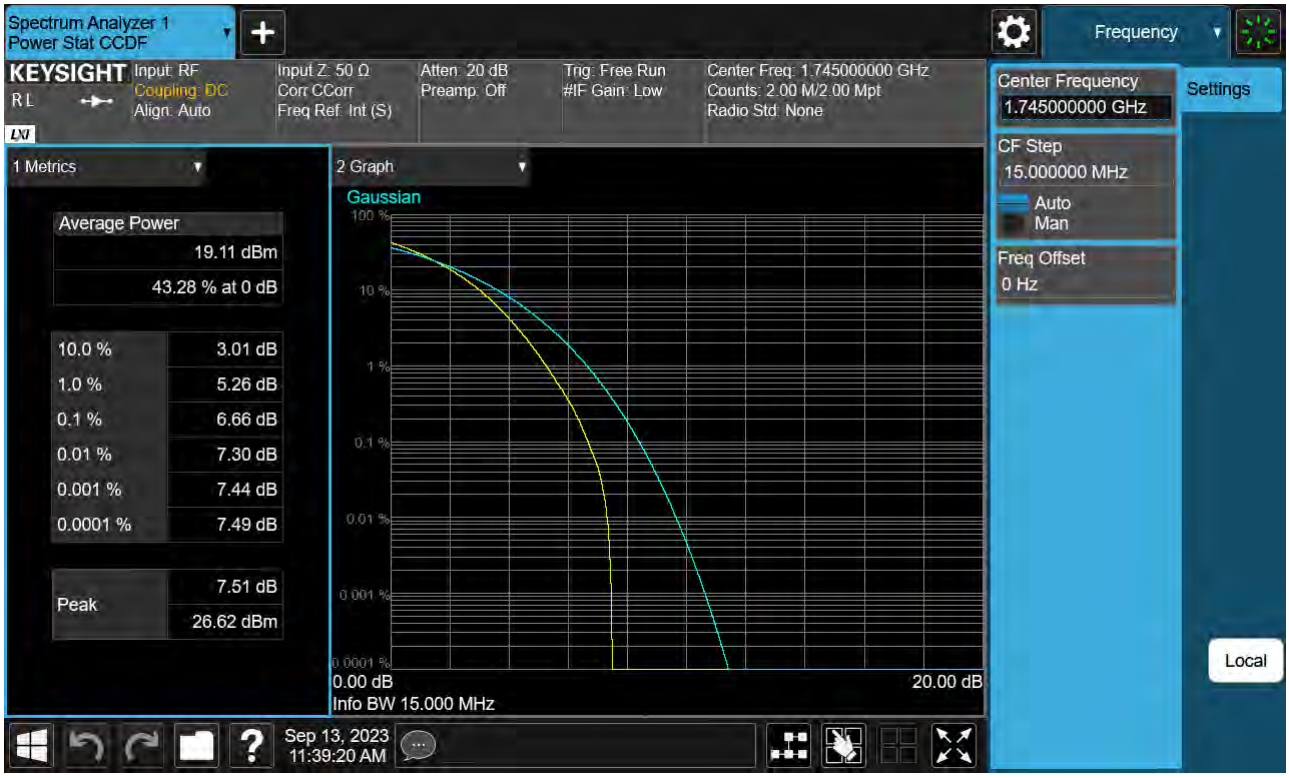
Sub6 n66. PAR Plot (15 M BW_Ch.349000_16QAM_ Full RB)



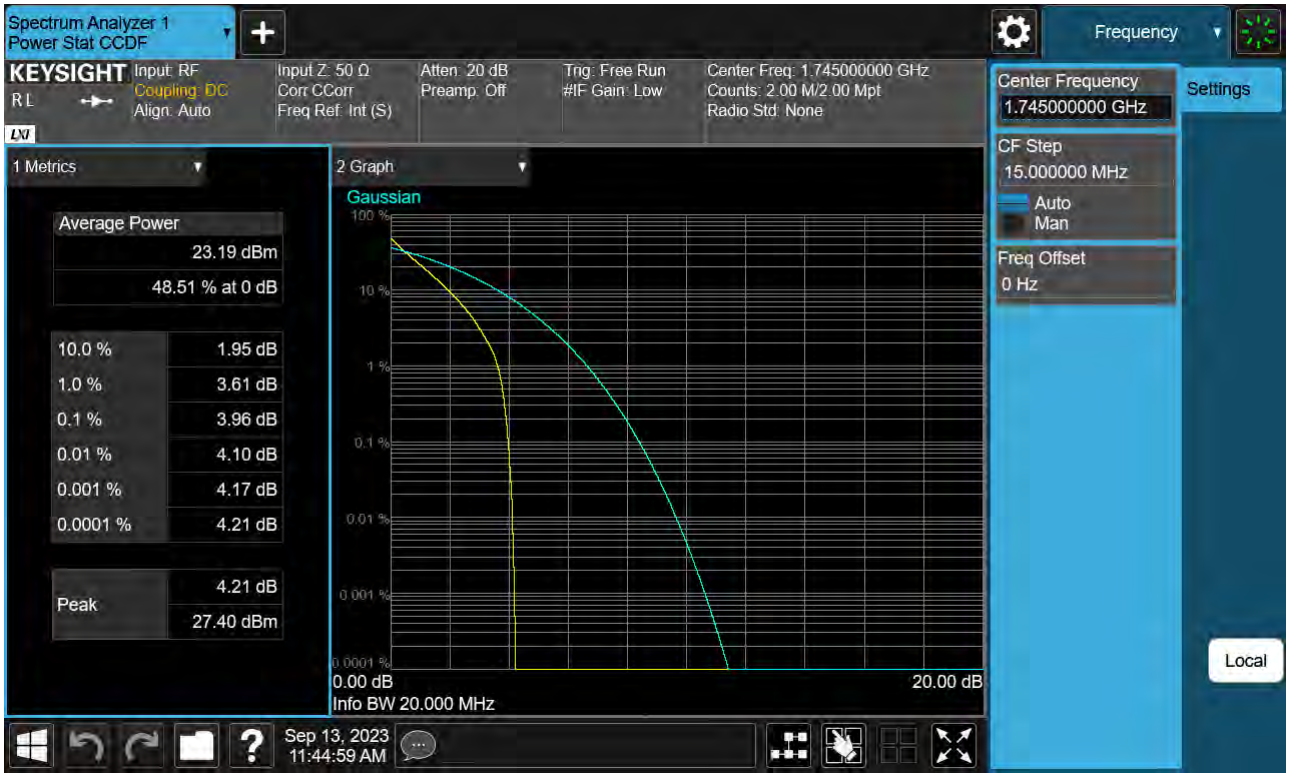
Sub6 n66. PAR Plot (15 M BW_Ch.349000_64QAM_ Full RB)



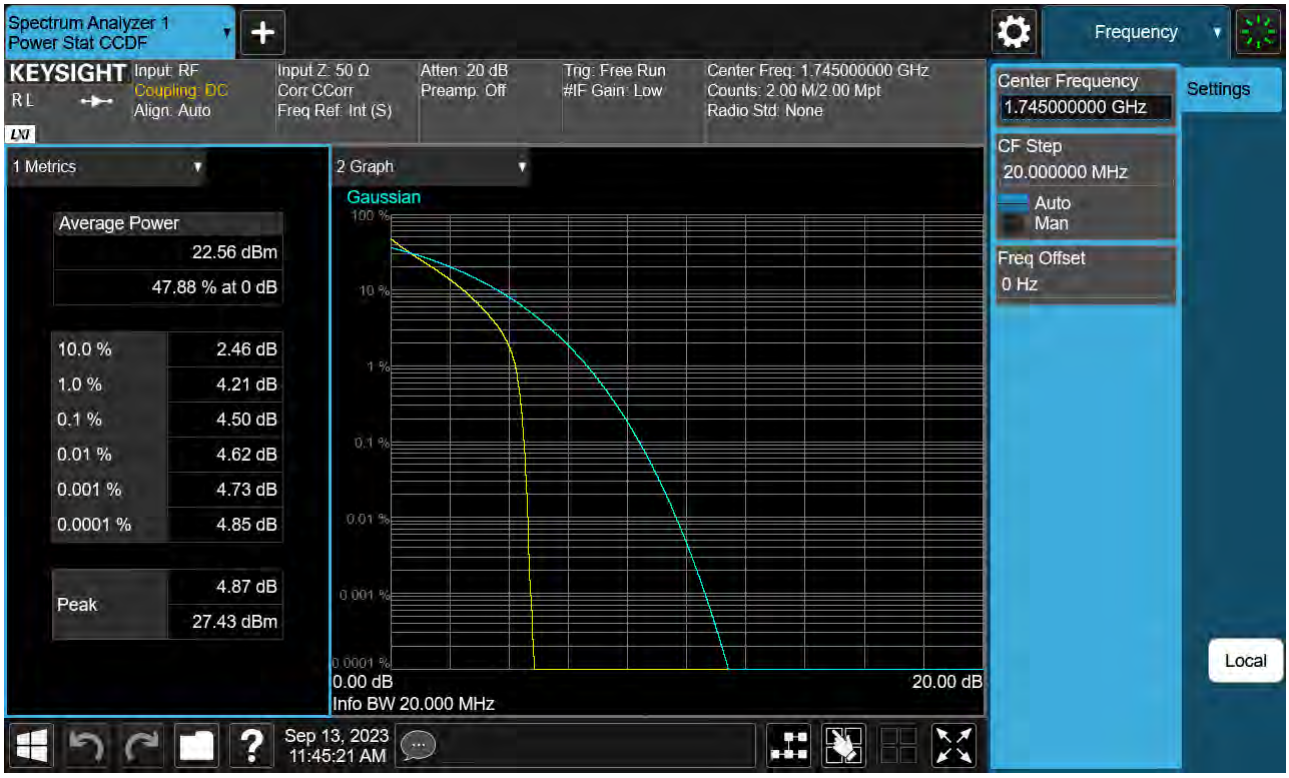
Sub6 n66. PAR Plot (15 M BW_Ch.349000_256QAM_ Full RB)



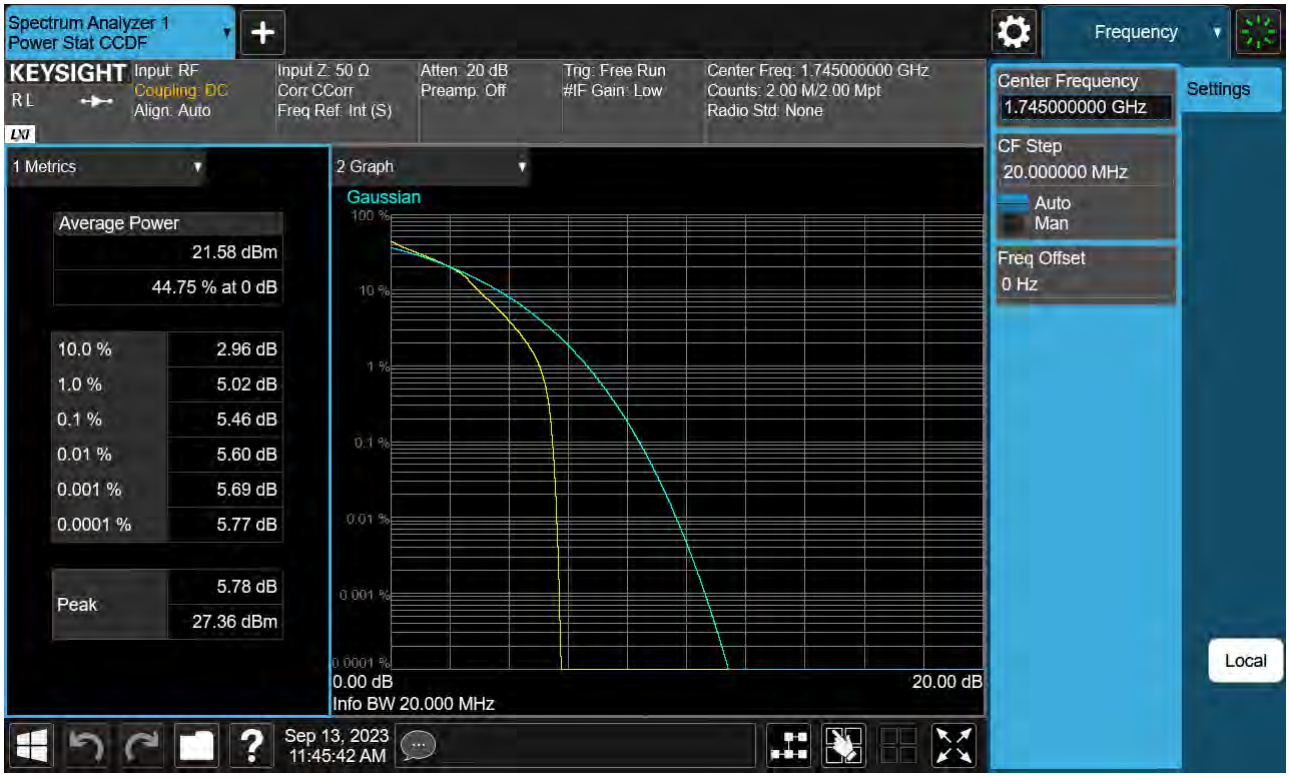
Sub6 n66. PAR Plot (20 M BW_Ch.349000_ BPSK_ Full RB)



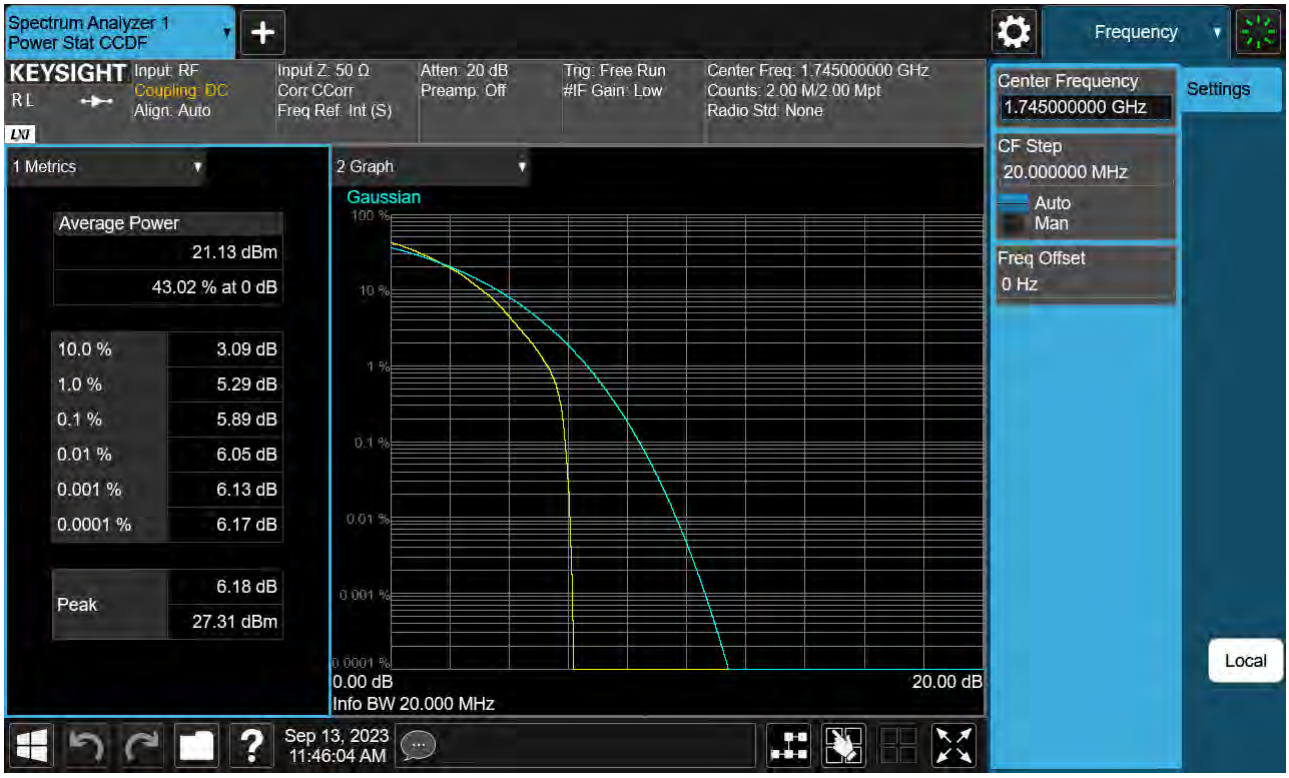
Sub6 n66. PAR Plot (20 M BW_Ch.349000_QPSK_ Full RB)



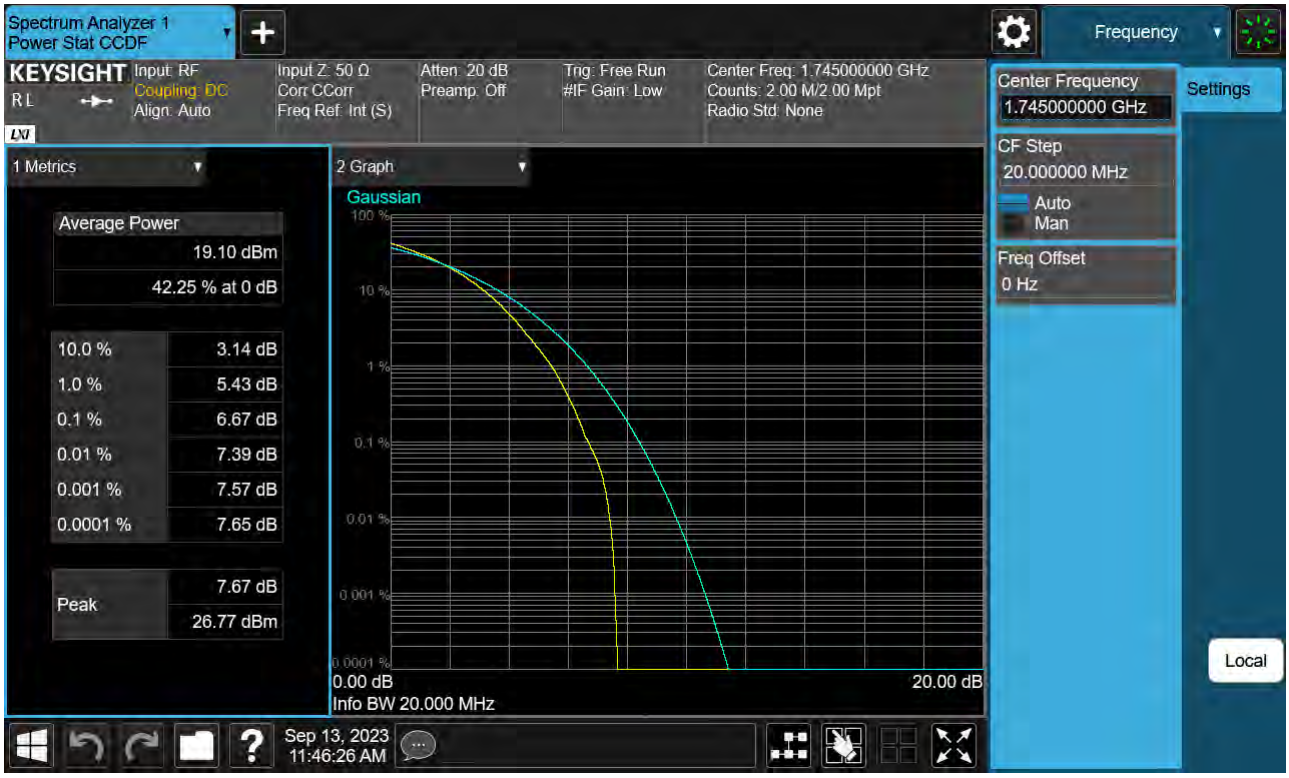
Sub6 n66. PAR Plot (20 M BW_Ch.349000_16QAM_ Full RB)



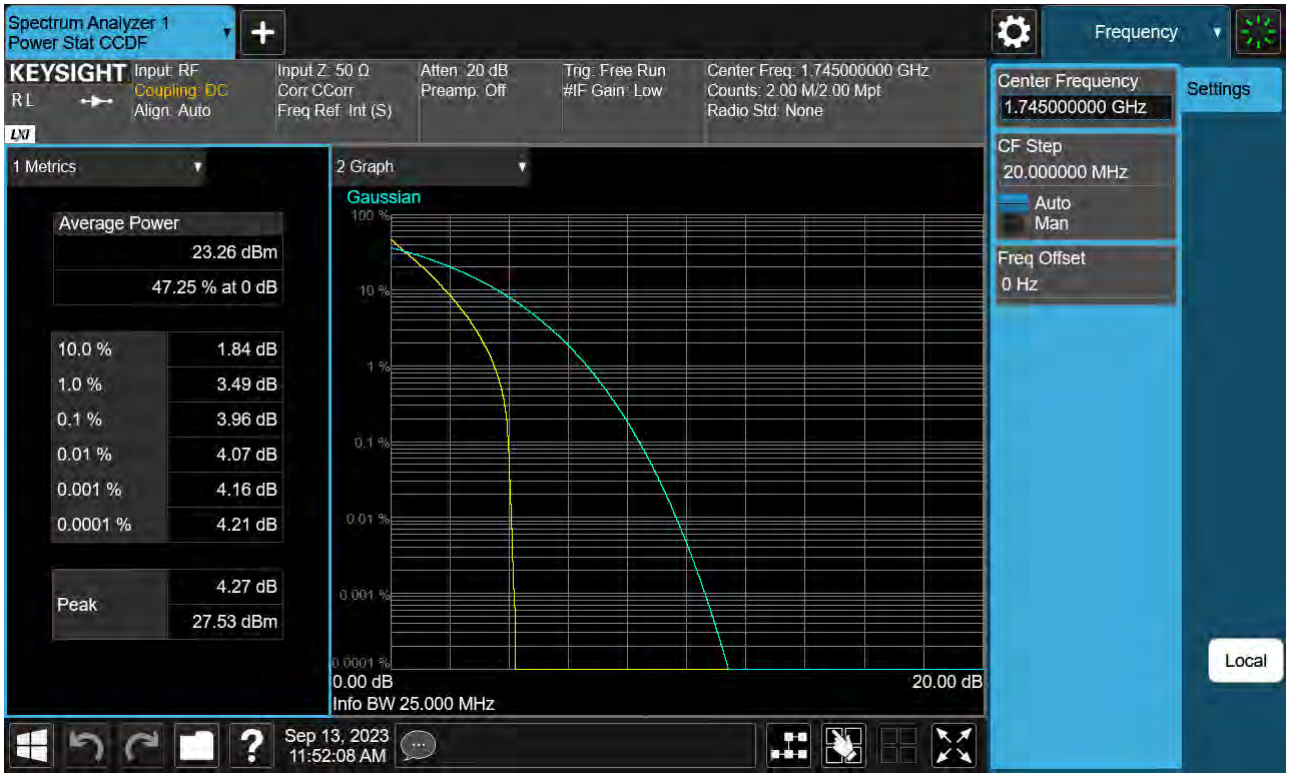
Sub6 n66. PAR Plot (20 M BW_Ch.349000_64QAM_ Full RB)



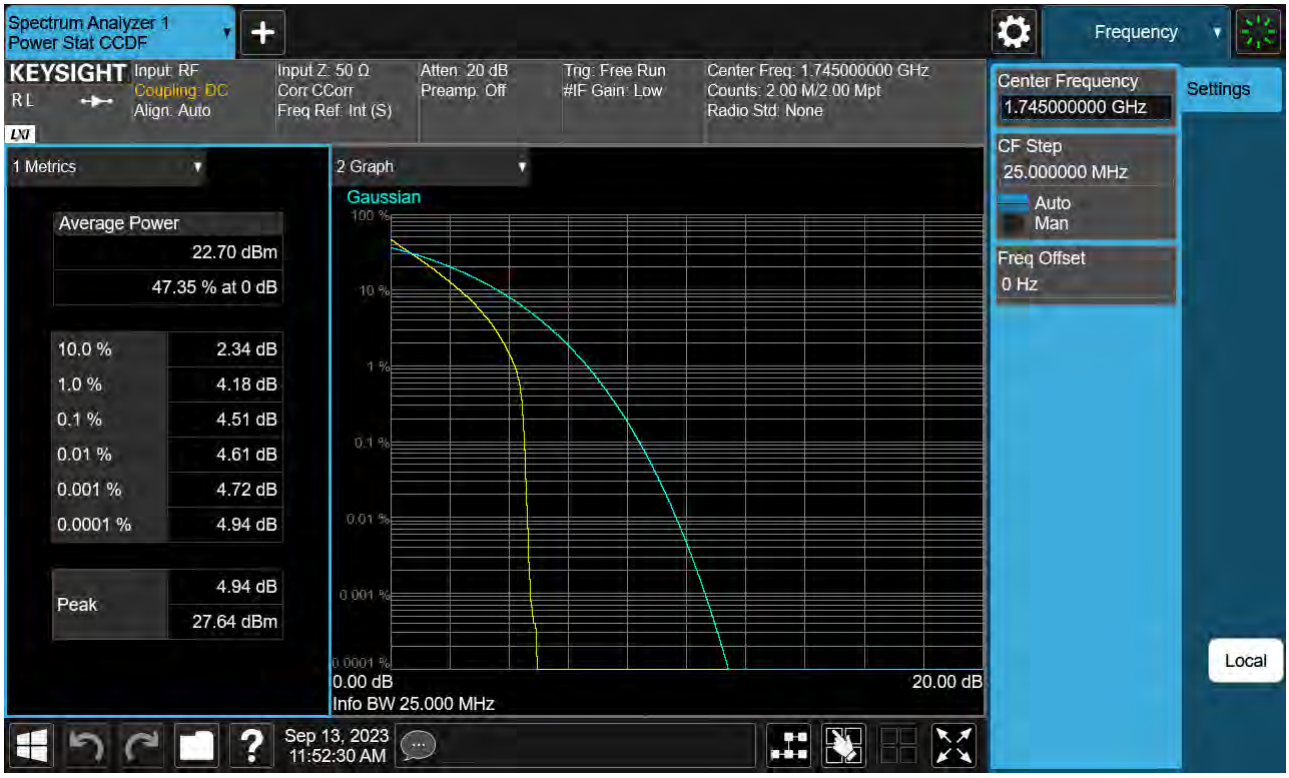
Sub6 n66. PAR Plot (20 M BW_Ch.349000_256QAM_ Full RB)



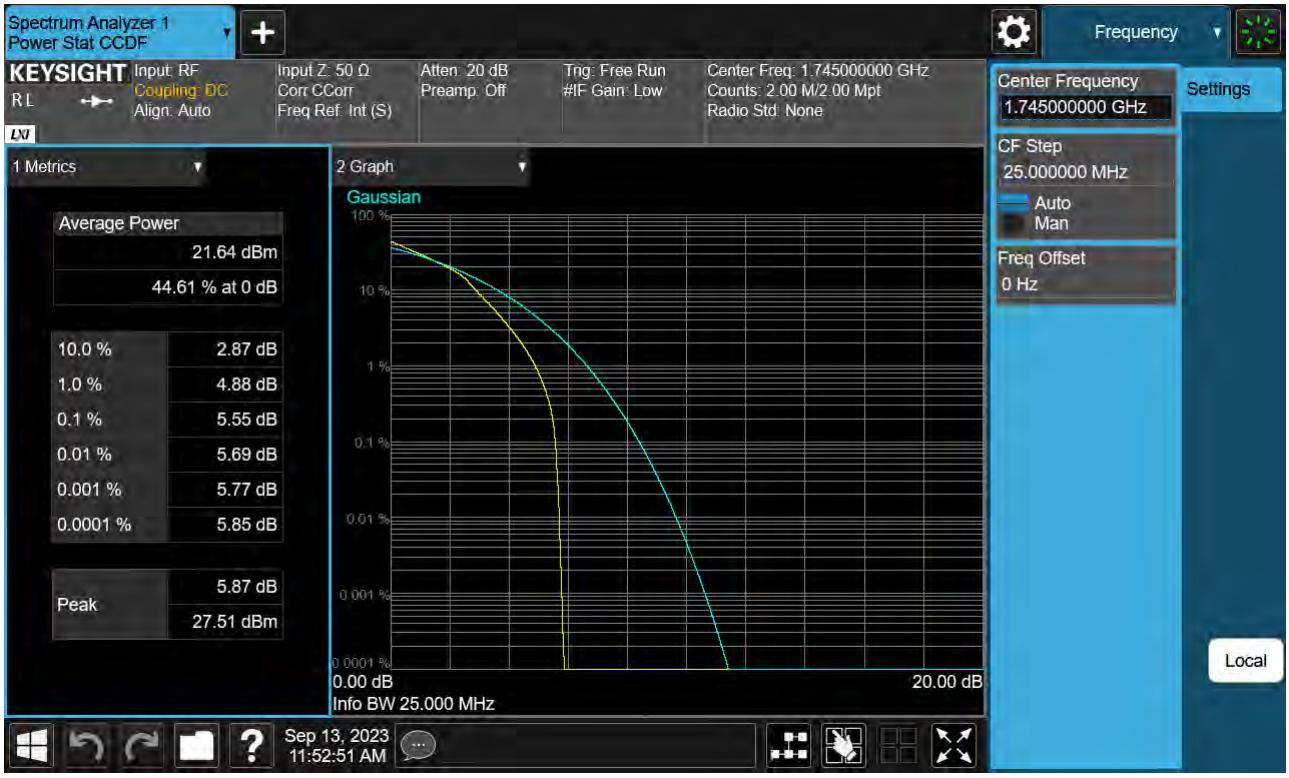
Sub6 n66. PAR Plot (25 M BW_Ch.349000_ BPSK_ Full RB)



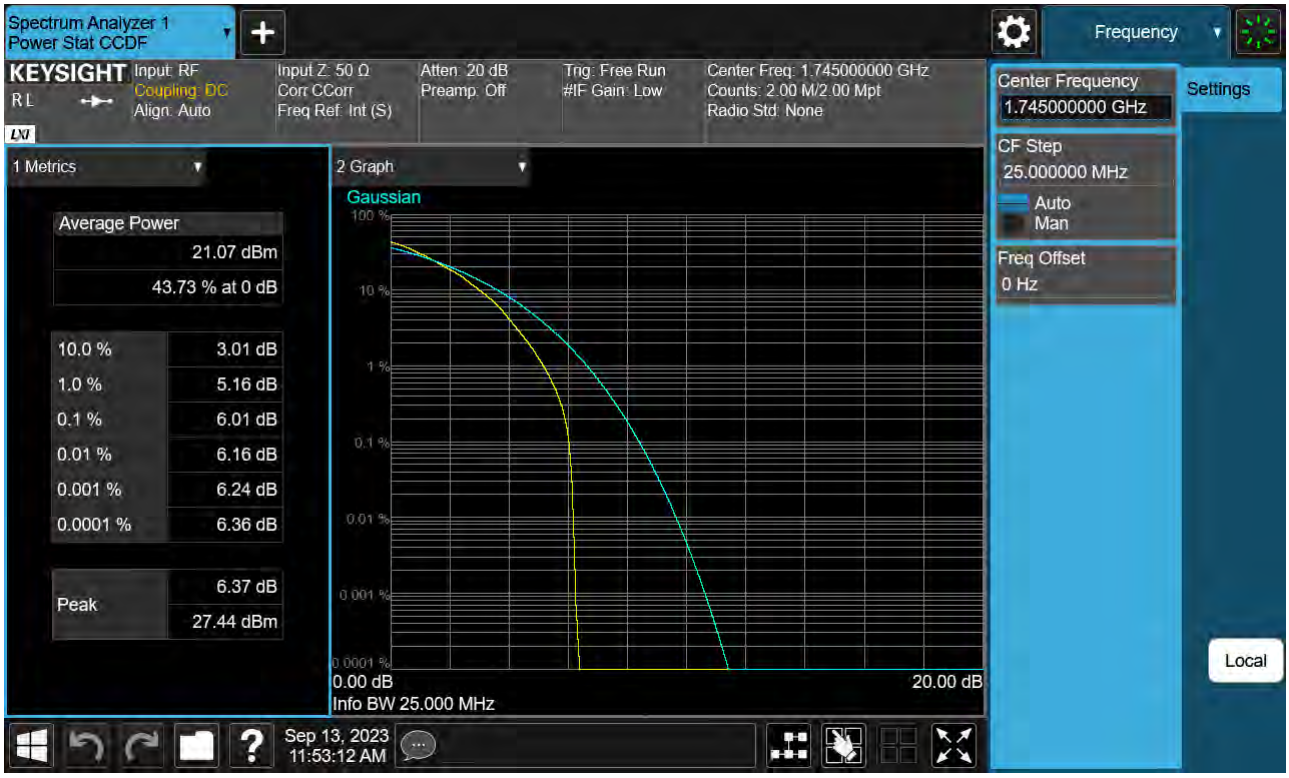
Sub6 n66. PAR Plot (25 M BW_Ch.349000_QPSK_ Full RB)



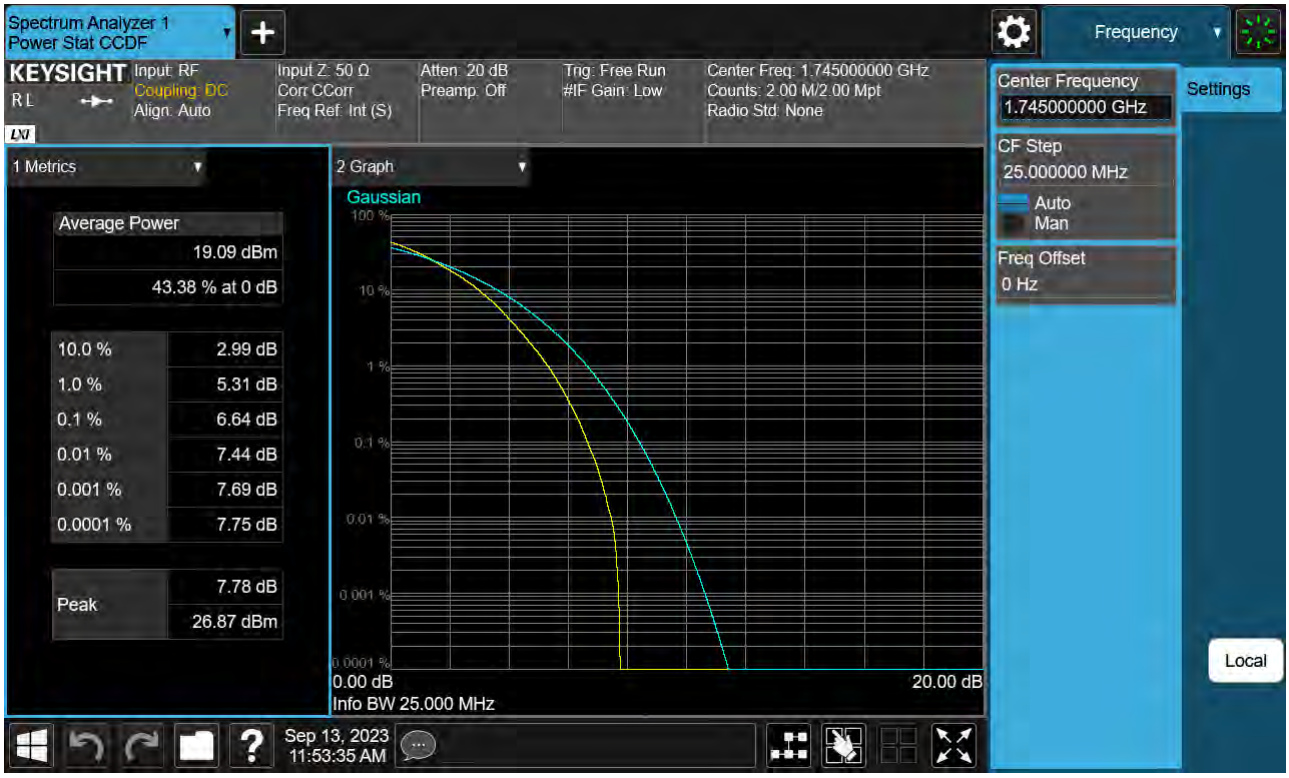
Sub6 n66. PAR Plot (25 M BW_Ch.349000_16QAM_ Full RB)



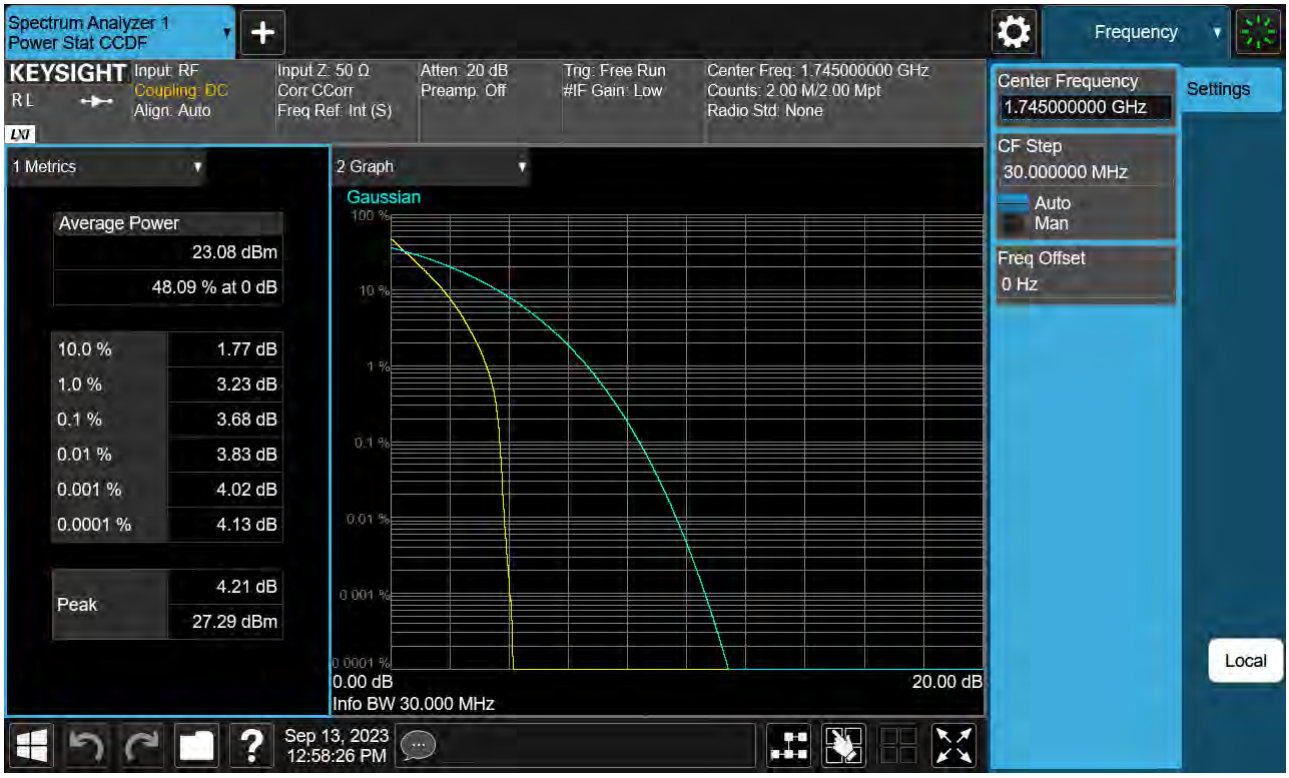
Sub6 n66. PAR Plot (25 M BW_Ch.349000_64QAM_ Full RB)



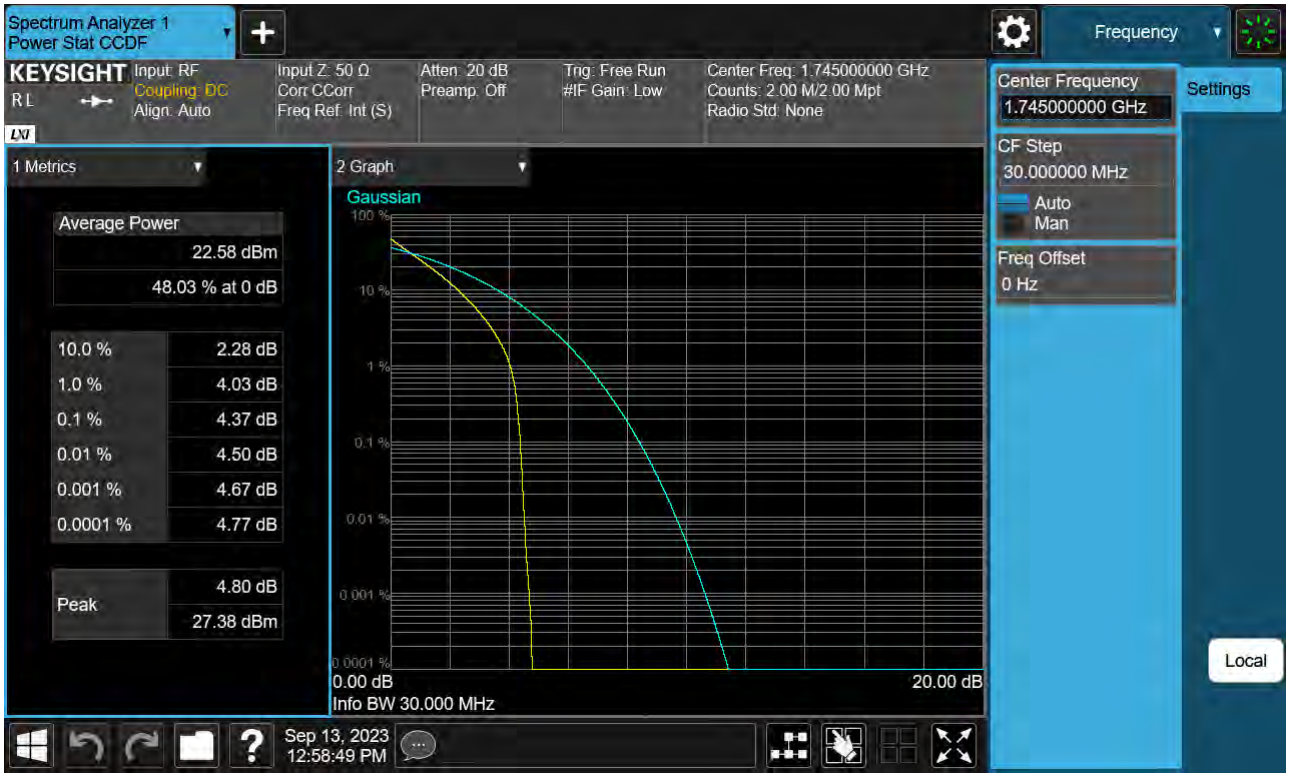
Sub6 n66. PAR Plot (25 M BW_Ch.349000_256QAM_ Full RB)



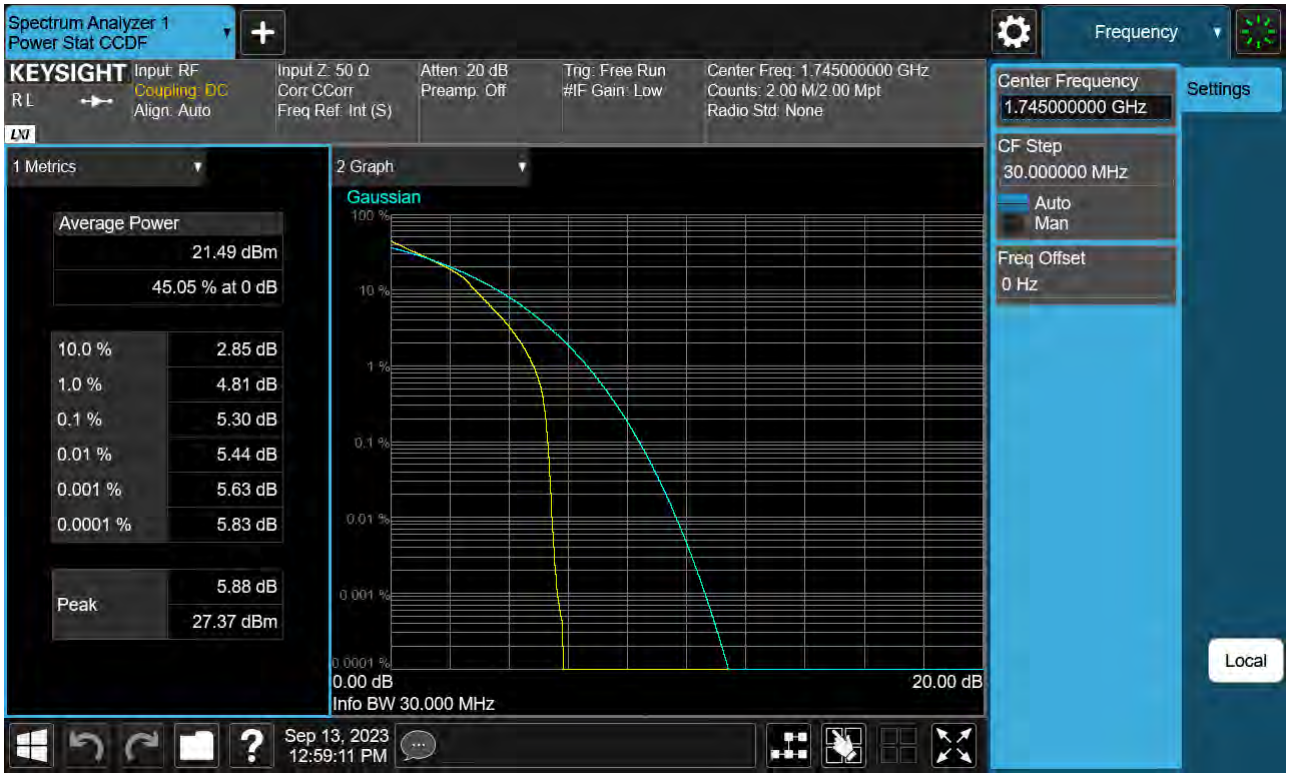
Sub6 n66. PAR Plot (30 M BW_Ch.349000_ BPSK_ Full RB)



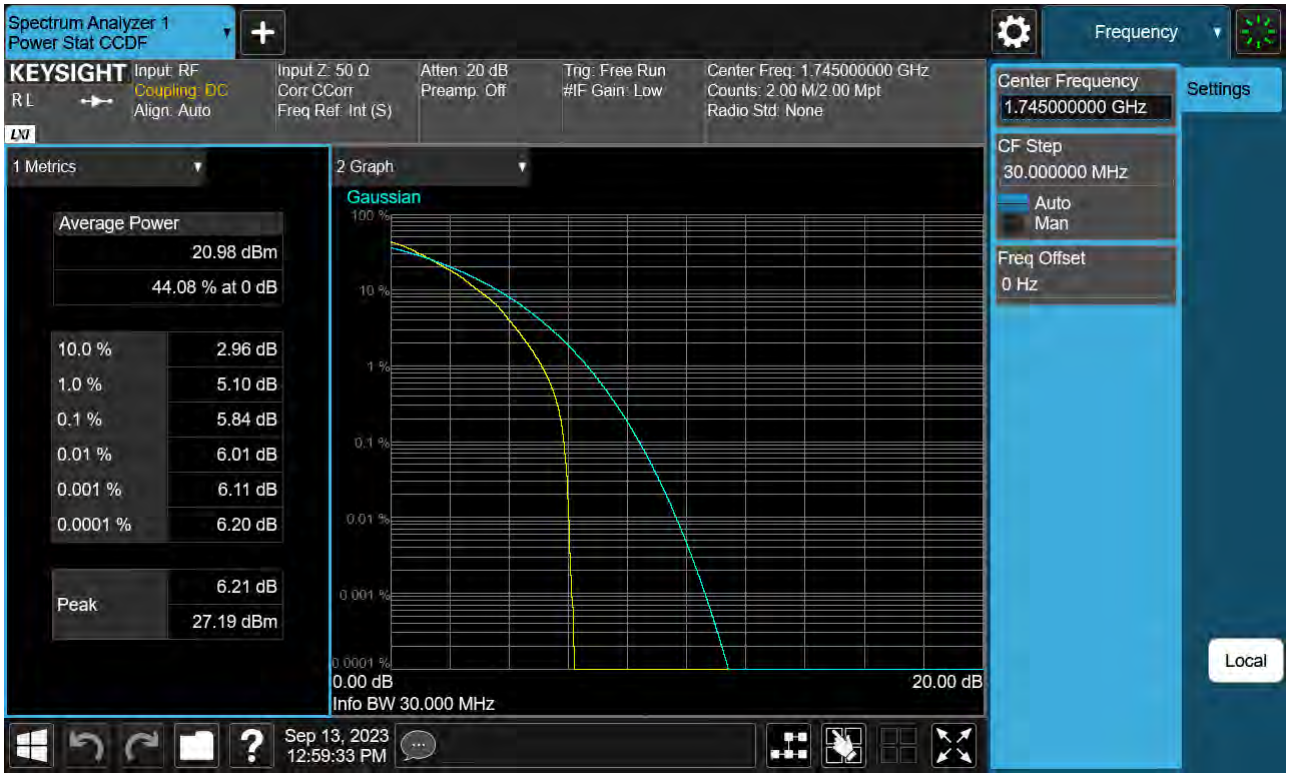
Sub6 n66. PAR Plot (30 M BW_Ch.349000_QPSK_ Full RB)



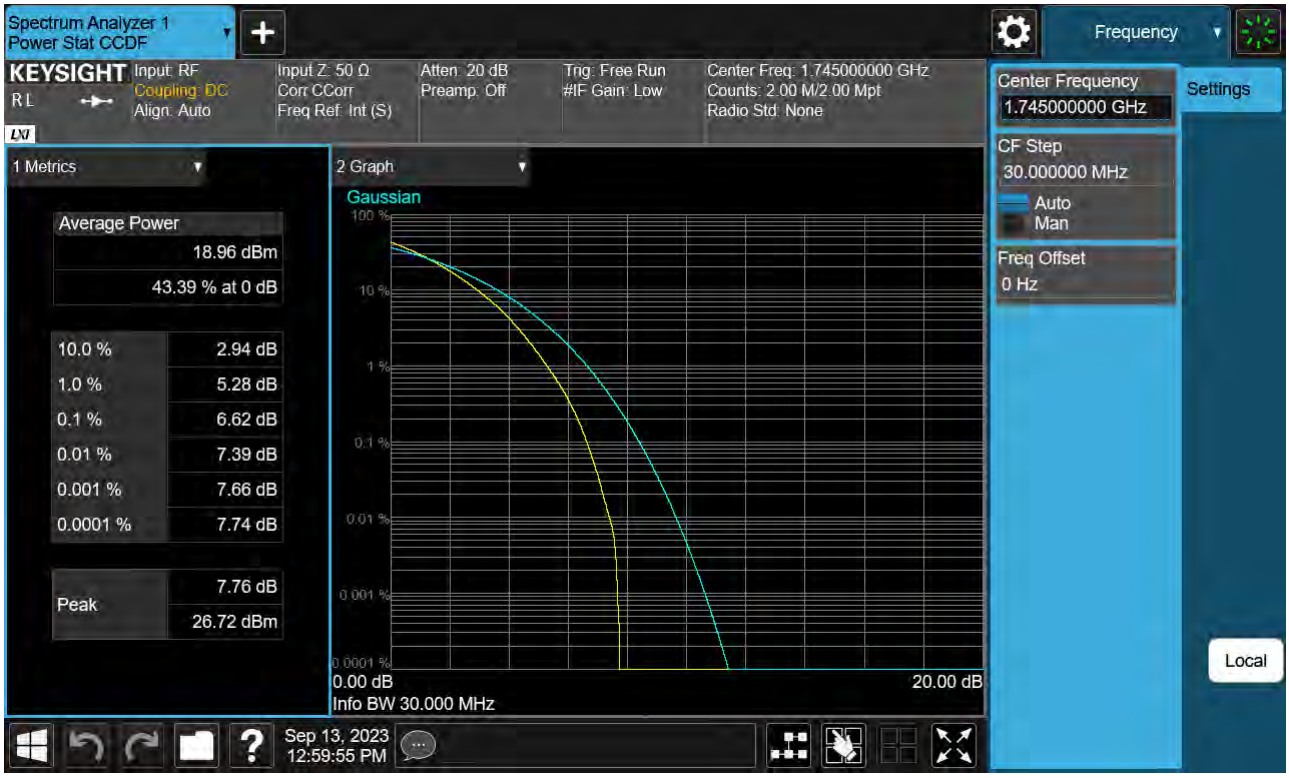
Sub6 n66. PAR Plot (30 M BW_Ch.349000_16QAM_ Full RB)



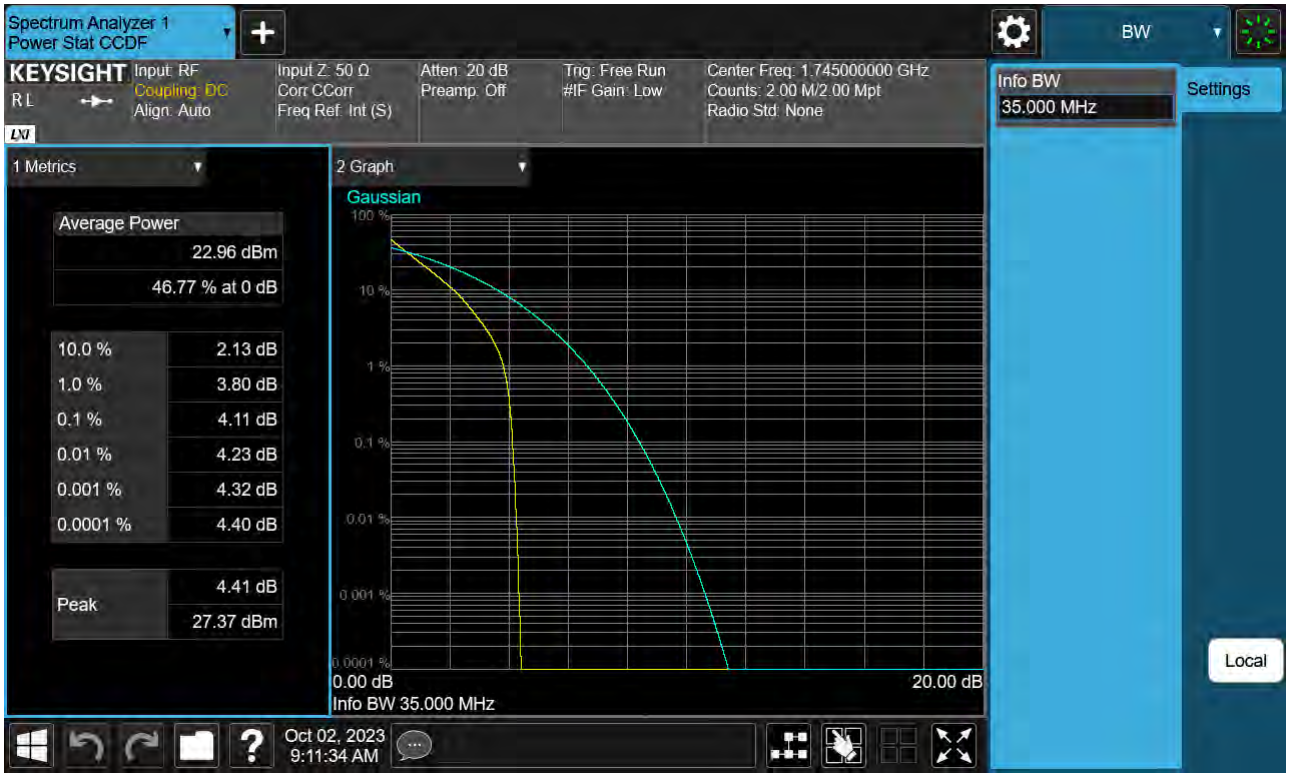
Sub6 n66. PAR Plot (30 M BW_Ch.349000_64QAM_ Full RB)



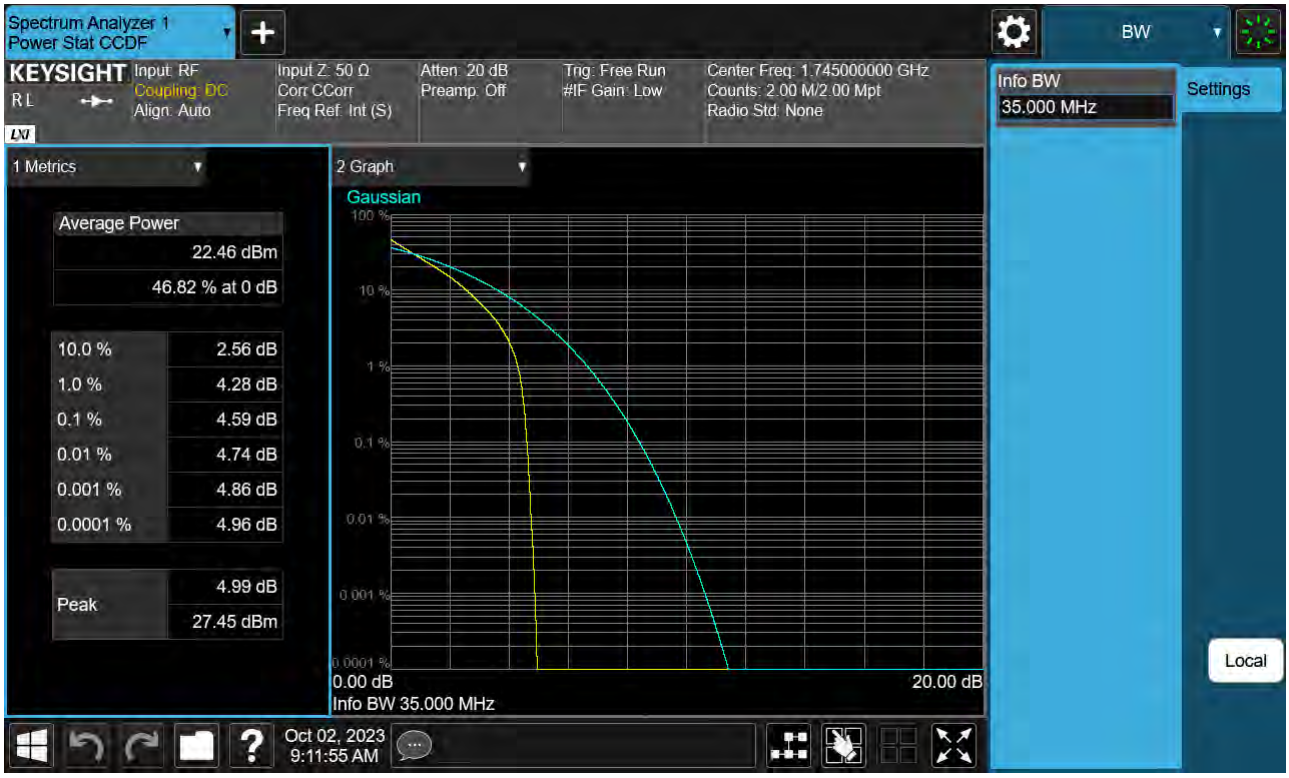
Sub6 n66. PAR Plot (30 M BW_Ch.349000_256QAM_ Full RB)



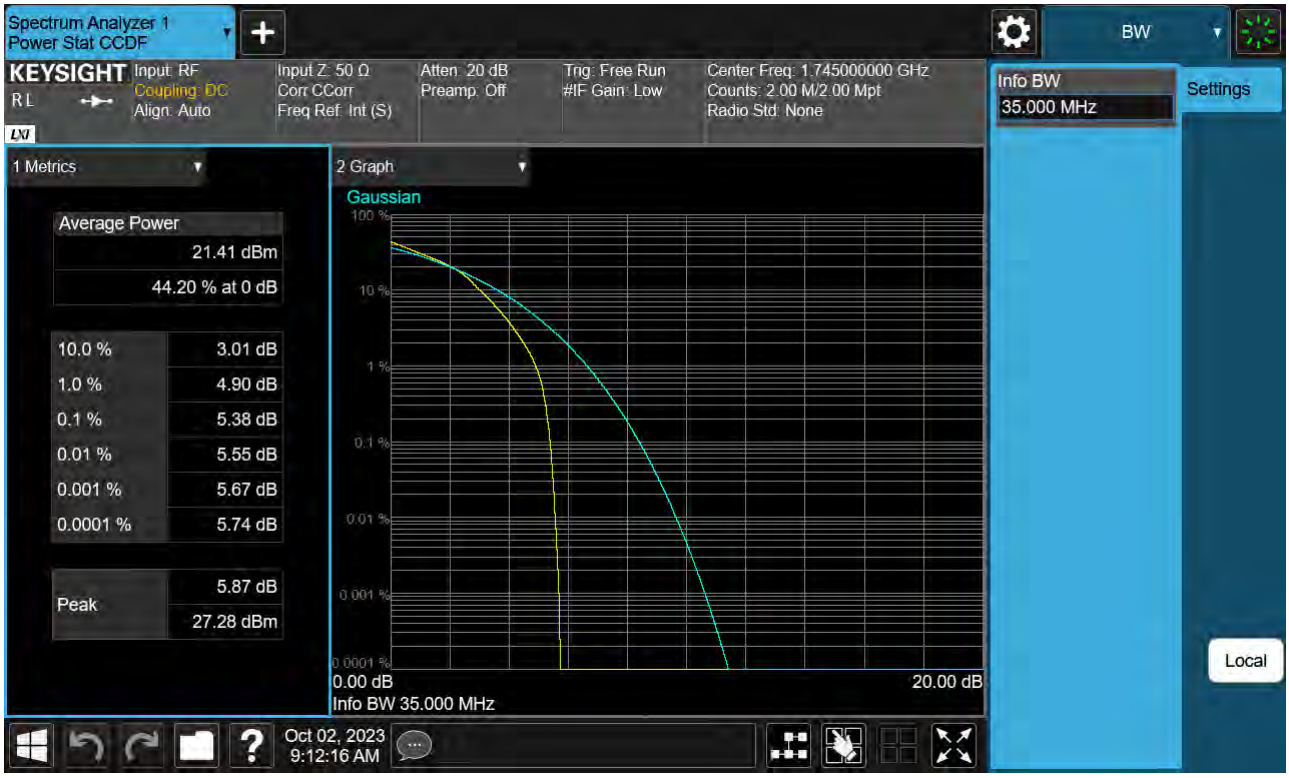
Sub6 n66. PAR Plot (35 M BW_Ch.349000_ BPSK_ Full RB)



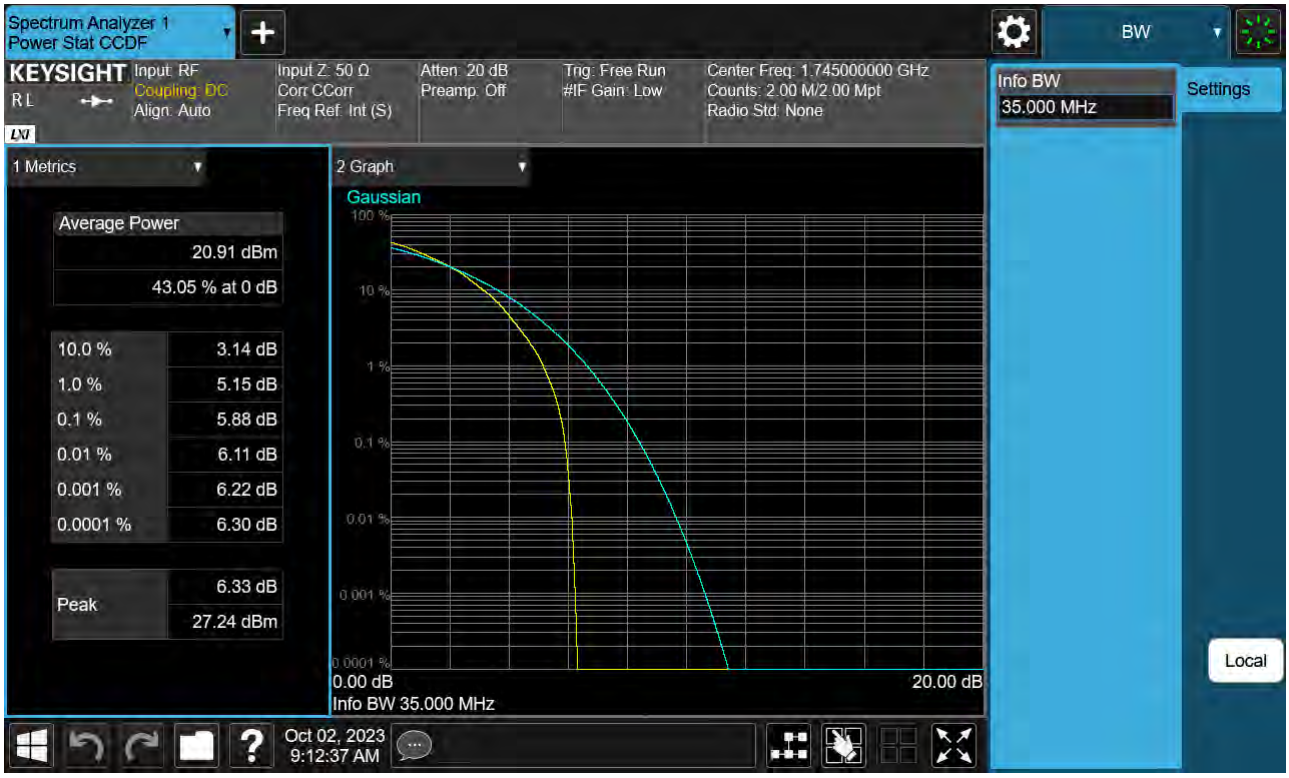
Sub6 n66. PAR Plot (35 M BW_Ch.349000_QPSK_ Full RB)



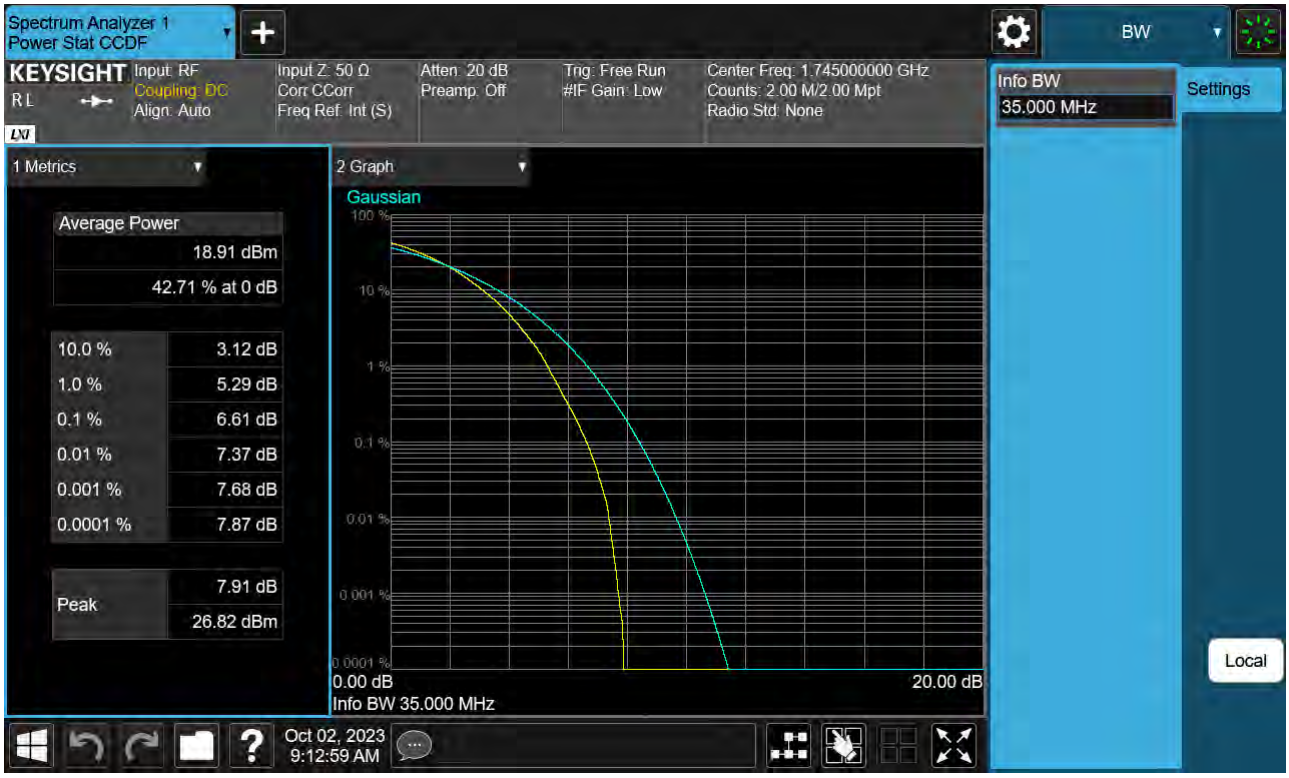
Sub6 n66. PAR Plot (35 M BW_Ch.349000_16QAM_ Full RB)



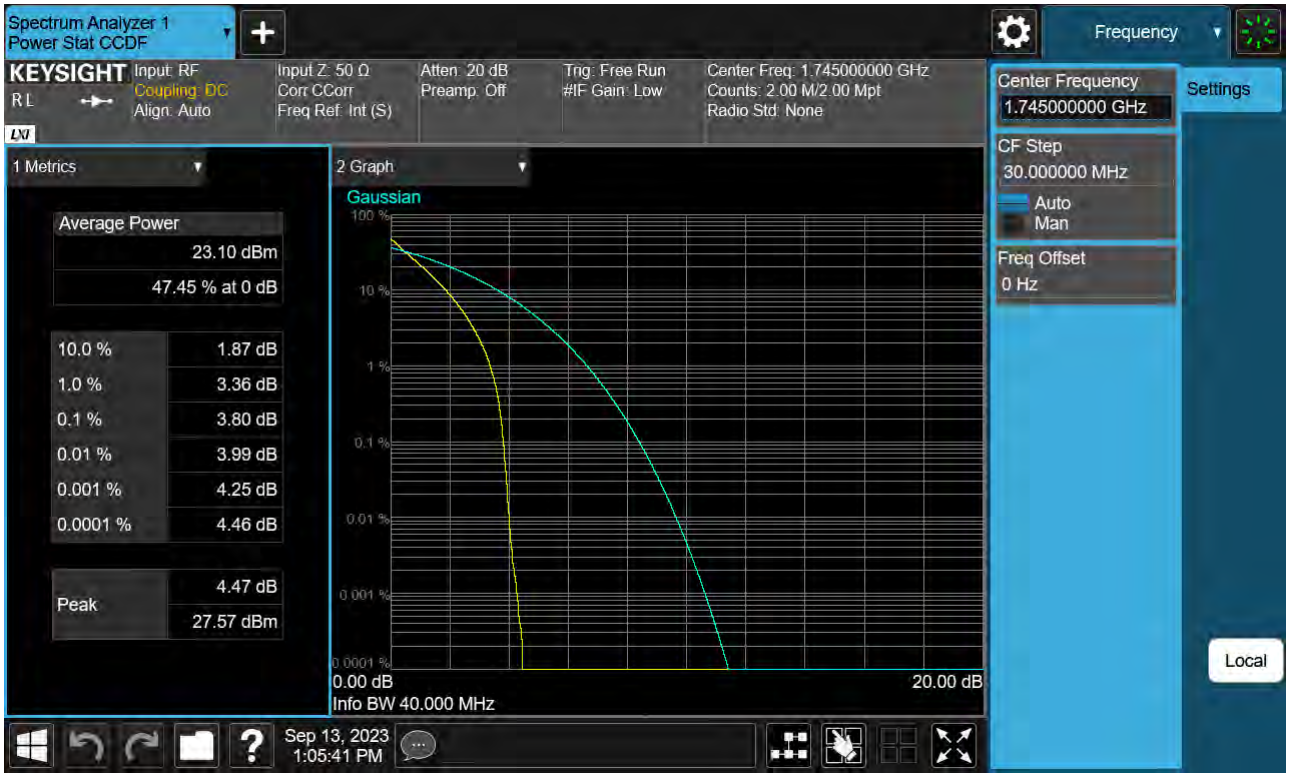
Sub6 n66. PAR Plot (35 M BW_Ch.349000_64QAM_ Full RB)



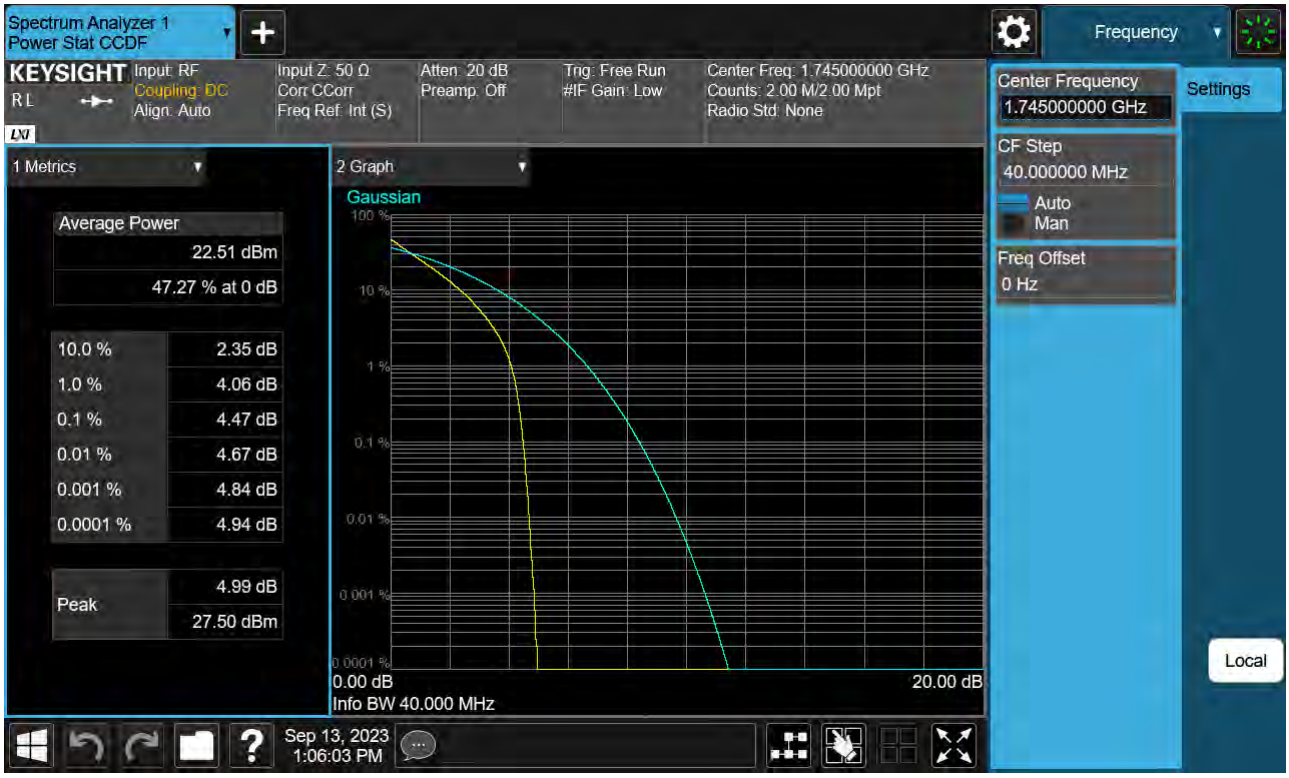
Sub6 n66. PAR Plot (35 M BW_Ch.349000_256QAM_ Full RB)



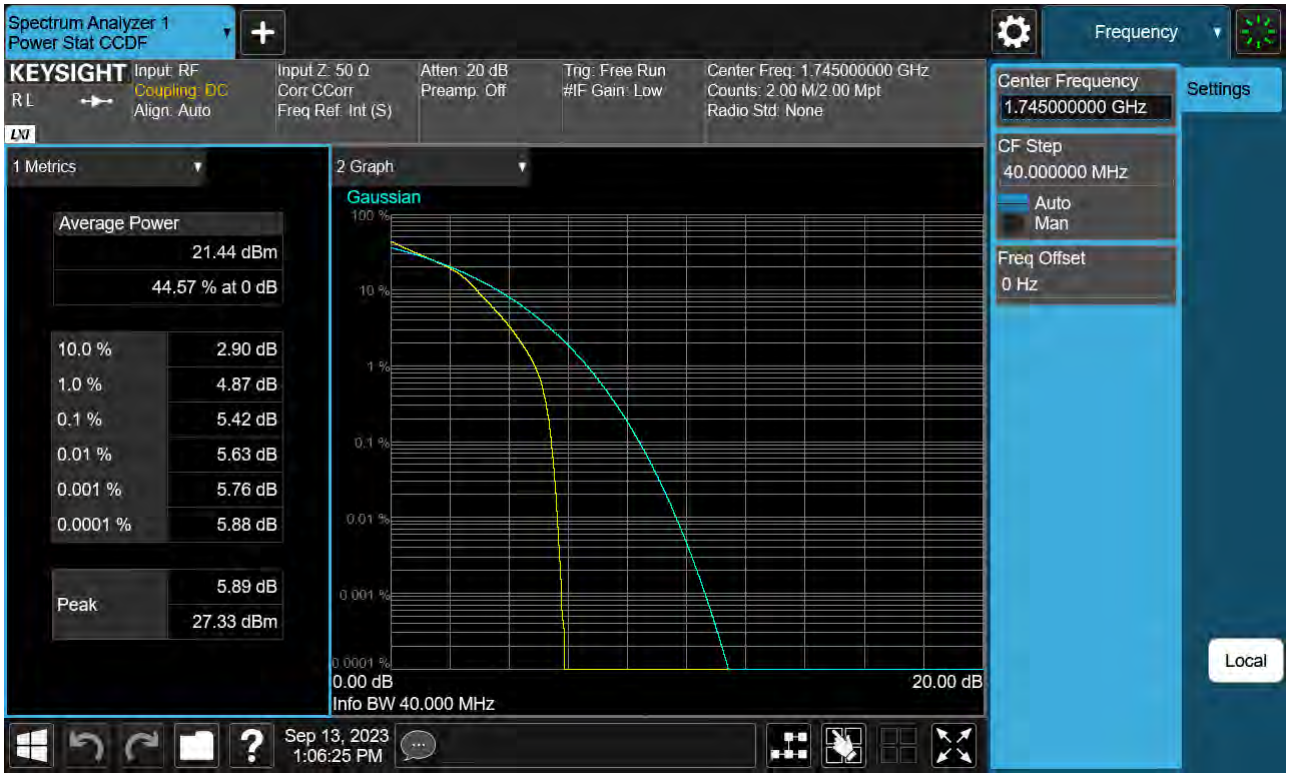
Sub6 n66. PAR Plot (40 M BW_Ch.349000_ BPSK_ Full RB)



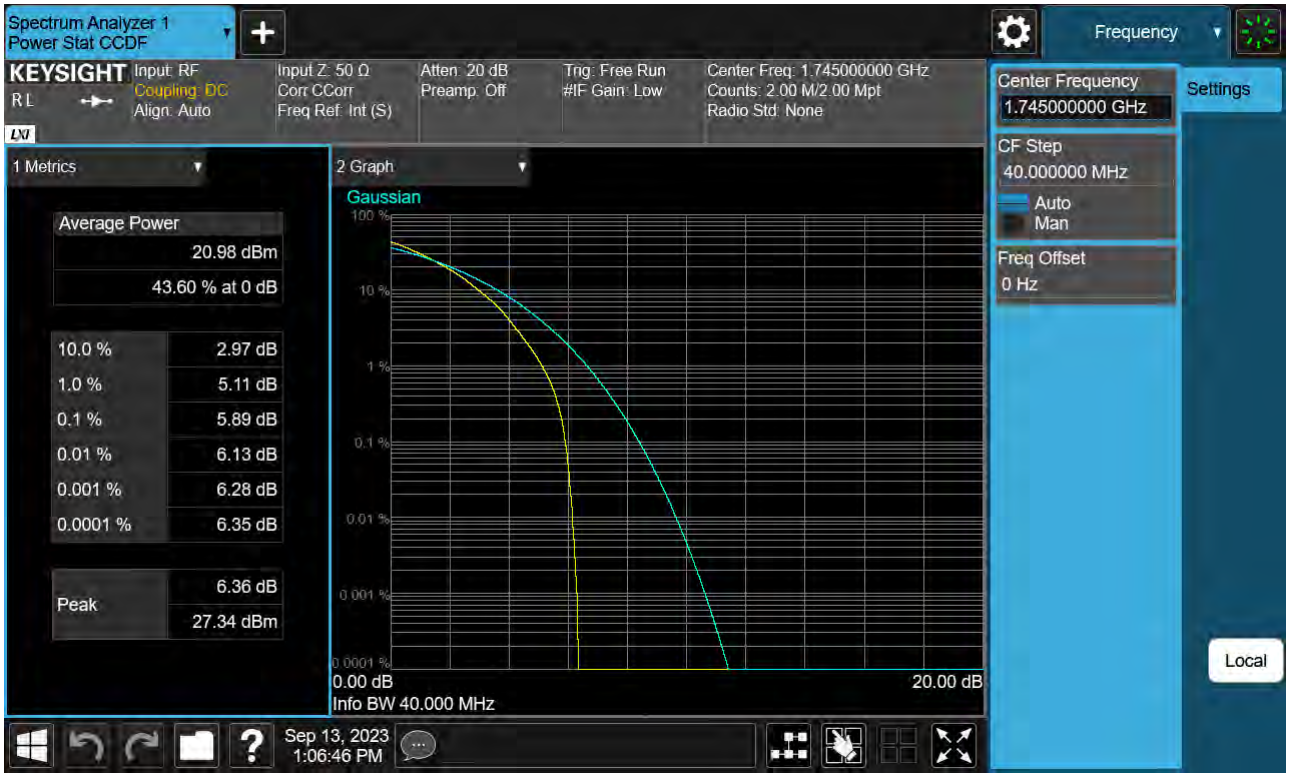
Sub6 n66. PAR Plot (40 M BW_Ch.349000_QPSK_ Full RB)



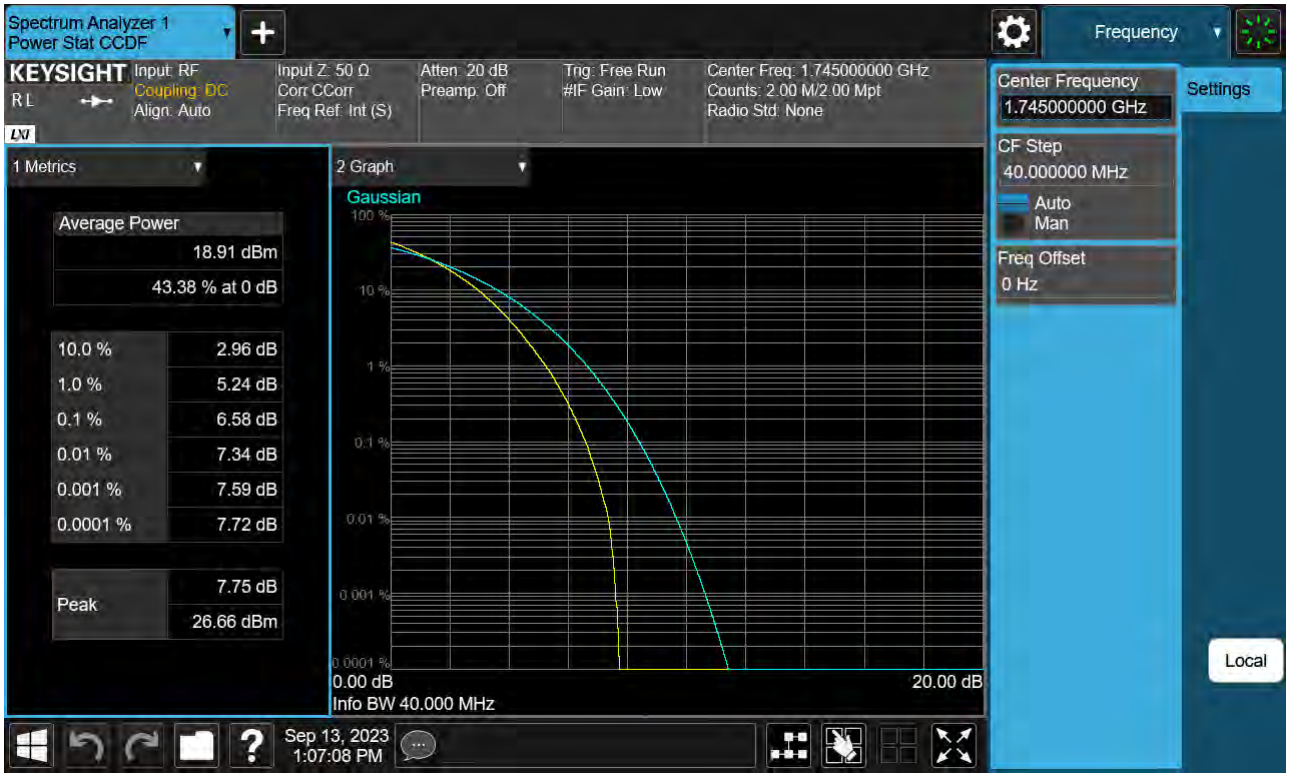
Sub6 n66. PAR Plot (40 M BW_Ch.349000_16QAM_ Full RB)



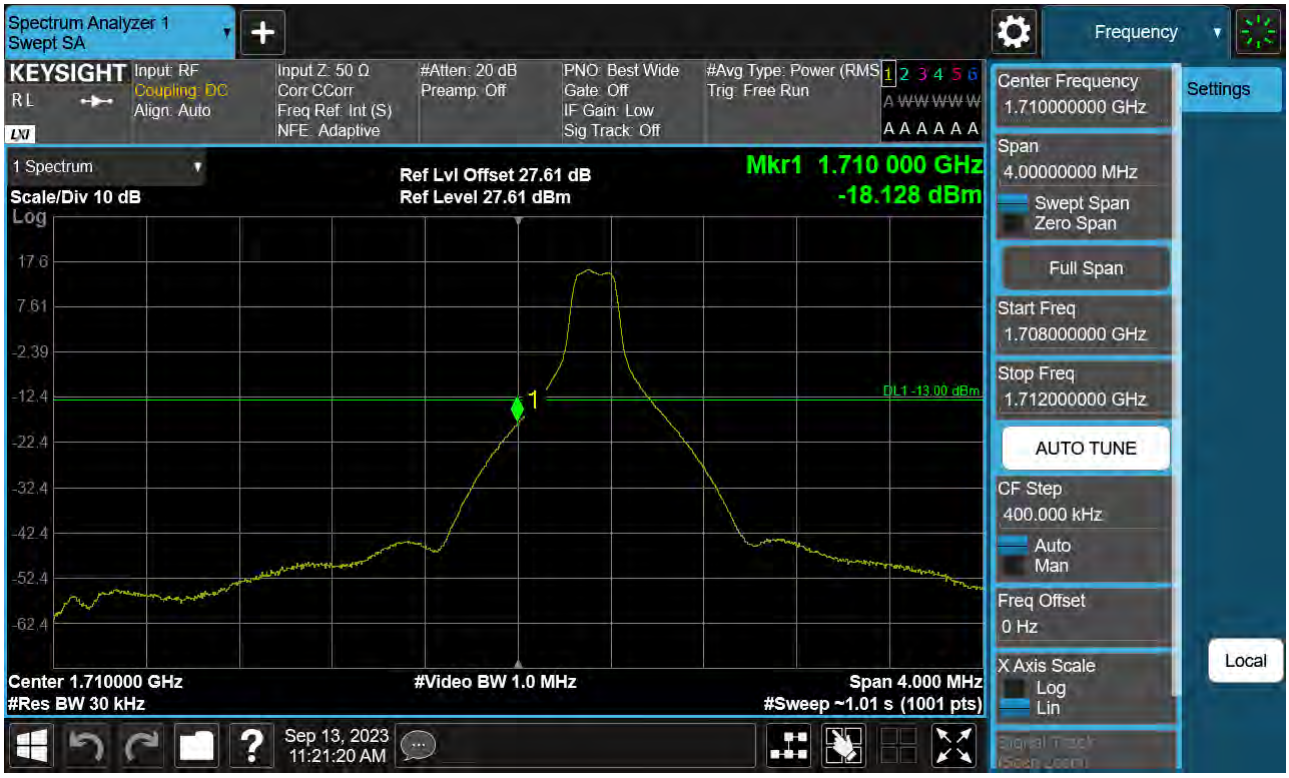
Sub6 n66. PAR Plot (40 M BW_Ch.349000_64QAM_ Full RB)



Sub6 n66. PAR Plot (40 M BW_Ch.349000_256QAM_ Full RB)



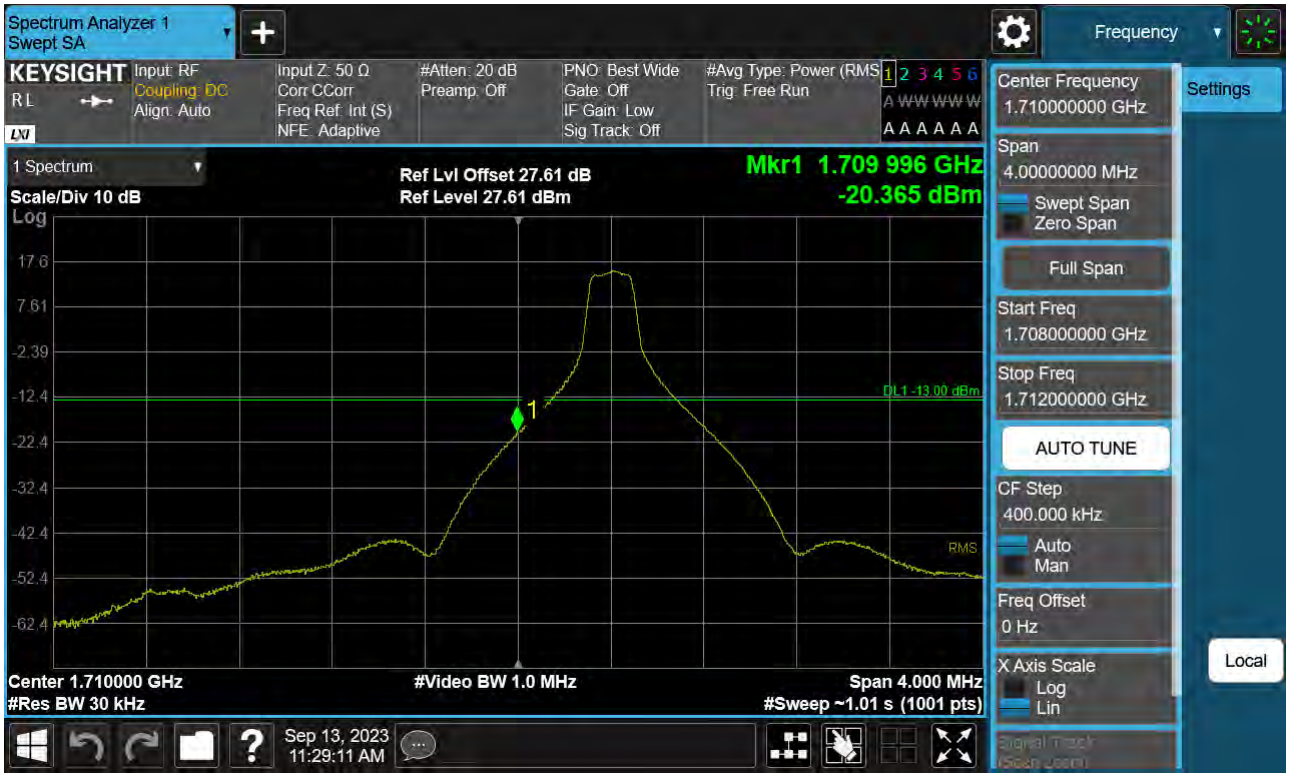
Sub6 n66. Lower Band Edge Plot (5 M BW Ch.342500 BPSK RB 1, Offset 0) -1



Sub6 n66. Lower Band Edge Plot (5 M BW Ch.342500 BPSK Full RB) -2

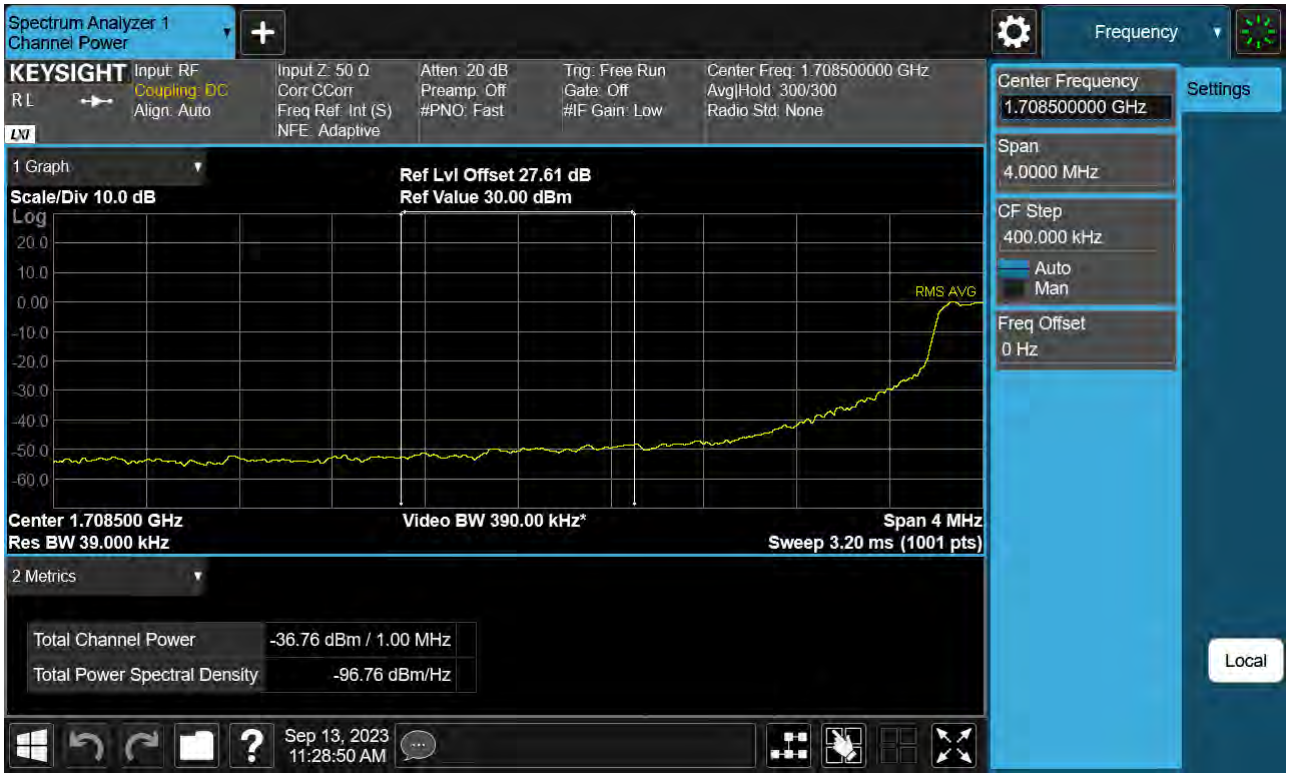
Sub6 n66. Lower Extended Band Edge Plot (5 M BW Ch.342500 BPSK_ Full RB) -3

Sub6 n66. Lower Band Edge Plot (10 M BW Ch.343000 BPSK RB 1, Offset 0) -1



Sub6 n66. Lower Band Edge Plot (10 M BW Ch.343000 BPSK Full RB) -2

Sub6 n66. Lower Extended Band Edge Plot (10 M BW Ch.343000 BPSK_ Full RB) -3

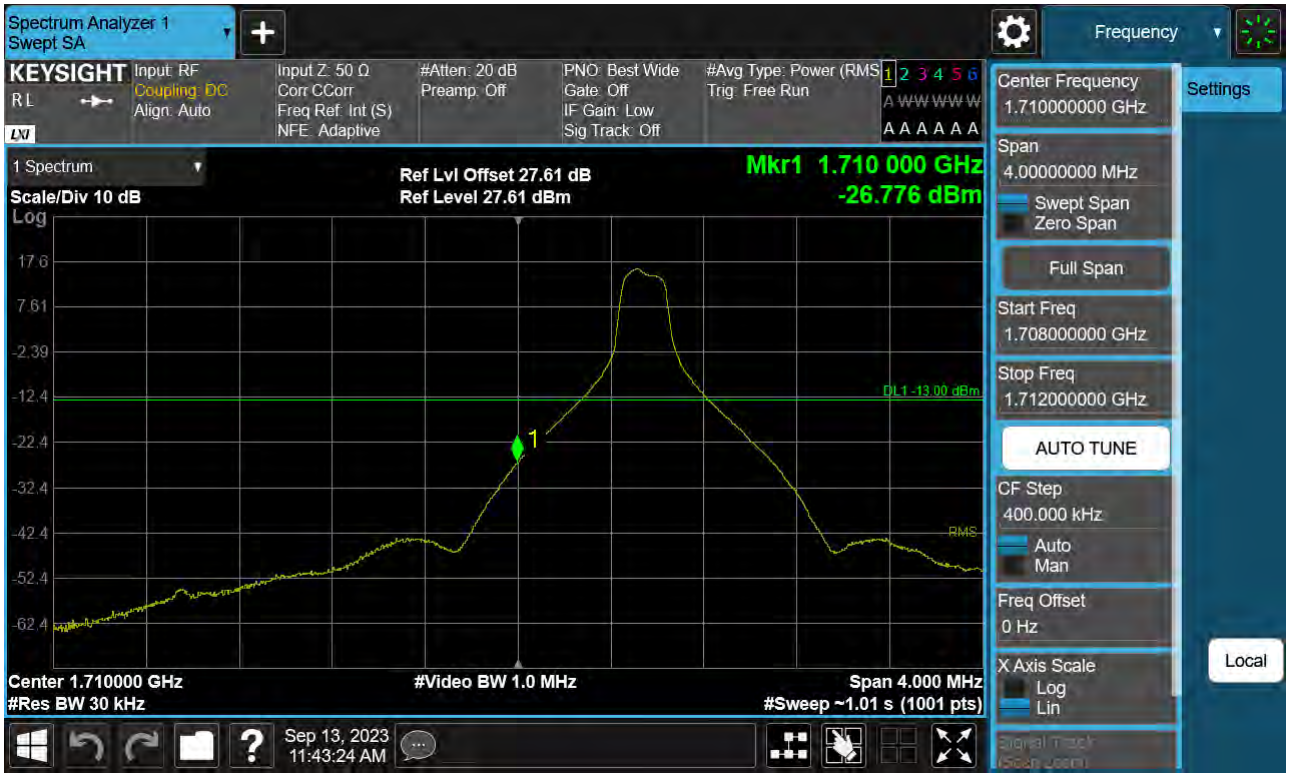


Sub6 n66. Lower Band Edge Plot (15 M BW Ch.343500 BPSK RB 1, Offset 0) -1

Sub6 n66. Lower Band Edge Plot (15 M BW Ch.343500 BPSK Full RB) -2

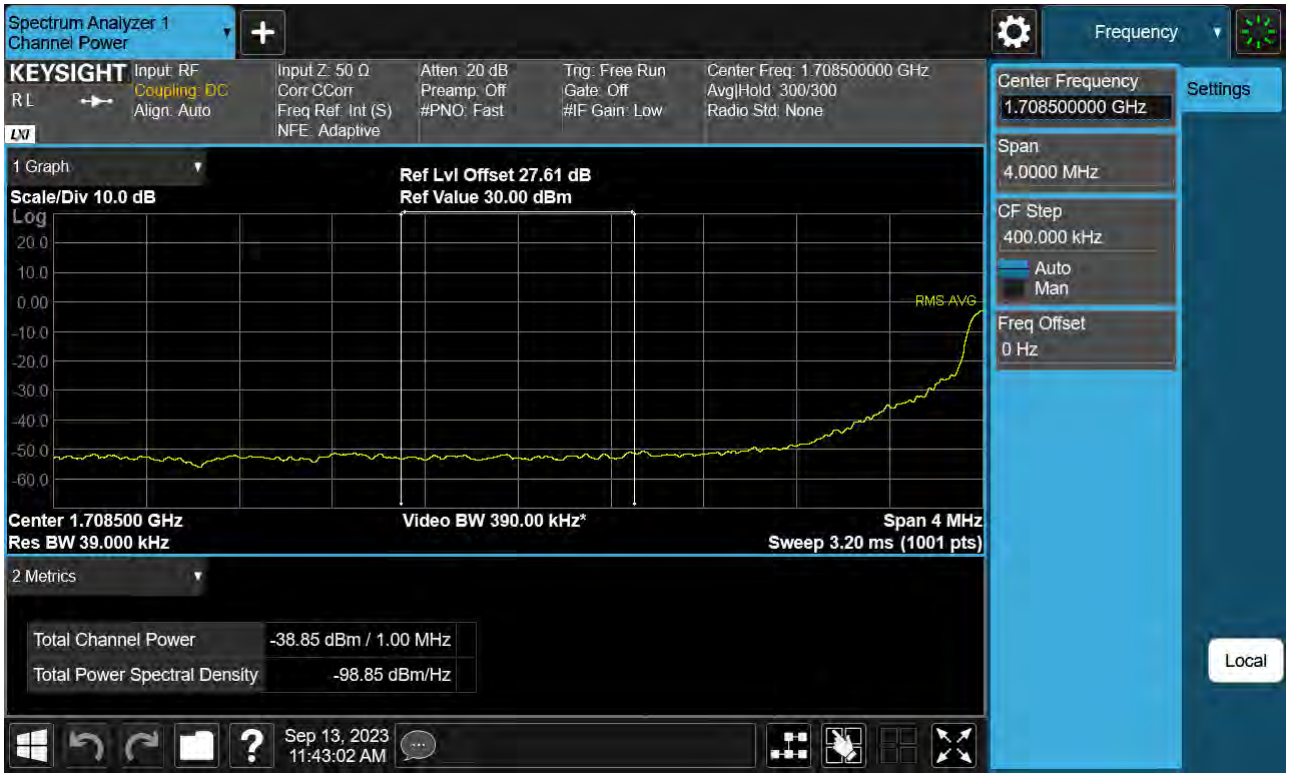
Sub6 n66. Lower Extended Band Edge Plot (15 M BW Ch.343500 BPSK_ Full RB) -3

Sub6 n66. Lower Band Edge Plot (20 M BW Ch.344000 BPSK RB 1, Offset 0) -1



Sub6 n66. Lower Band Edge Plot (20 M BW Ch.344000 BPSK Full RB) -2

Sub6 n66. Lower Extended Band Edge Plot (20 M BW Ch.344000 BPSK_ Full RB) -3



Sub6 n66. Lower Band Edge Plot (25 M BW Ch.344500 BPSK RB 1, Offset 0) -1

Sub6 n66. Lower Band Edge Plot (25 M BW Ch.344500 BPSK Full RB) -2

Sub6 n66. Lower Extended Band Edge Plot (25 M BW Ch.344500 BPSK_ Full RB) -3

Sub6 n66. Lower Band Edge Plot (30 M BW Ch.345000 BPSK RB 1, Offset 0) -1