

FCC Sub6 REPORT

Certification

Applicant Name:

SAMSUNG Electronics Co., Ltd.

Date of Issue:

October 28, 2022

Location:

HCT CO., LTD.,
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Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

Address:

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Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Report No.: HCT-RF-2210-FC023

FCC ID:

A3LSMS911B

APPLICANT:

SAMSUNG Electronics Co., Ltd.

Model(s): SM-S911B/DS
Additional Model(s): SM-S911B
EUT Type: Mobile Phone
FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s): §27, §2

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C.853(a)

Main1 Antenna

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M49G7D	PI/2 BPSK	0.162	22.09
		4M51G7D	QPSK	0.158	21.98
		4M52W7D	16QAM	0.133	21.25
		4M53W7D	64QAM	0.082	19.15
		4M52W7D	256QAM	0.055	17.44
Sub6 n66 (10)	1715.0 – 1775.0	8M94G7D	PI/2 BPSK	0.169	22.29
		9M01G7D	QPSK	0.167	22.22
		9M01W7D	16QAM	0.134	21.27
		8M99W7D	64QAM	0.090	19.53
		8M97W7D	256QAM	0.058	17.61
Sub6 n66 (15)	1717.5 – 1772.5	13M4G7D	PI/2 BPSK	0.178	22.51
		13M5G7D	QPSK	0.177	22.49
		13M5W7D	16QAM	0.146	21.63
		13M5W7D	64QAM	0.092	19.66
		13M4W7D	256QAM	0.060	17.81
Sub6 n66 (20)	1720.0 – 1770.0	17M9G7D	PI/2 BPSK	0.182	22.60
		18M0G7D	QPSK	0.181	22.58
		17M9W7D	16QAM	0.145	21.61
		17M9W7D	64QAM	0.097	19.88
		17M9W7D	256QAM	0.061	17.87
Sub6 n66 (30)	1725.0 – 1765.0	28M6G7D	PI/2 BPSK	0.173	22.39
		28M6G7D	QPSK	0.172	22.36
		28M6W7D	16QAM	0.139	21.44
		28M6W7D	64QAM	0.090	19.56
		28M6W7D	256QAM	0.059	17.71
Sub6 n66 (40)	1730.0 – 1760.0	38M6G7D	PI/2 BPSK	0.178	22.51
		38M7G7D	QPSK	0.175	22.42
		38M6W7D	16QAM	0.141	21.49
		38M5W7D	64QAM	0.092	19.64
		38M6W7D	256QAM	0.060	17.79

Sub2 Antenna

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n66 (5)	1712.5 – 1777.5	4M51G7D	PI/2 BPSK	0.122	20.88
		4M49G7D	QPSK	0.122	20.85
		4M54W7D	16QAM	0.098	19.90
		4M49W7D	64QAM	0.068	18.31
		4M51W7D	256QAM	0.040	15.99
Sub6 n66 (10)	1715.0 – 1775.0	8M98G7D	PI/2 BPSK	0.124	20.94
		9M02G7D	QPSK	0.124	20.92
		8M95W7D	16QAM	0.101	20.04
		8M99W7D	64QAM	0.067	18.28
		8M98W7D	256QAM	0.042	16.24
Sub6 n66 (15)	1717.5 – 1772.5	13M5G7D	PI/2 BPSK	0.124	20.93
		13M5G7D	QPSK	0.123	20.91
		13M4W7D	16QAM	0.101	20.05
		13M4W7D	64QAM	0.068	18.30
		13M5W7D	256QAM	0.041	16.11
Sub6 n66 (20)	1720.0 – 1770.0	17M9G7D	PI/2 BPSK	0.129	21.09
		17M8G7D	QPSK	0.128	21.07
		17M9W7D	16QAM	0.105	20.20
		17M9W7D	64QAM	0.070	18.48
		17M9W7D	256QAM	0.042	16.28
Sub6 n66 (30)	1725.0 – 1765.0	28M5G7D	PI/2 BPSK	0.127	21.05
		28M5G7D	QPSK	0.126	21.00
		28M5W7D	16QAM	0.103	20.11
		28M6W7D	64QAM	0.070	18.45
		28M5W7D	256QAM	0.042	16.25
Sub6 n66 (40)	1730.0 – 1760.0	38M5G7D	PI/2 BPSK	0.132	21.21
		38M5G7D	QPSK	0.125	20.98
		38M6W7D	16QAM	0.101	20.05
		38M6W7D	64QAM	0.071	18.52
		38M5W7D	256QAM	0.044	16.48

Report No.: HCT-RF-2210-FC023

REVIEWED BY



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Engineer of Telecommunication Testing Center

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

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked *.

The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2210-FC023	October 28, 2022	- First Approval Report

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

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMS911B
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27, §2
EUT Type:	Mobile Phone
Model(s):	SM-S911B/DS
Additional Model(s):	SM-S911B
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 15, 20, 30, 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)) 1725.0 MHz – 1765.0 MHz (Sub6 n66(30 MHz)) 1730.0 MHz – 1760.0 MHz (Sub6 n66(40 MHz))
Date(s) of Tests:	September 02, 2022~ October 28, 2022
Serial number:	Radiated: R3CT706PCQM (Main1 Ant) R3CTA0CFGTY (Sub2 Ant) Conducted: R3CT706PHYK

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

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

It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160 MHz), Bluetooth, BT LE, NFC, AIT, 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 $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $> 2 \times$ 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;

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

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

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.

These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference

between the gain of the horn and an isotropic antenna are taken into consideration

4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

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

Test Settings

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

Test Note

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

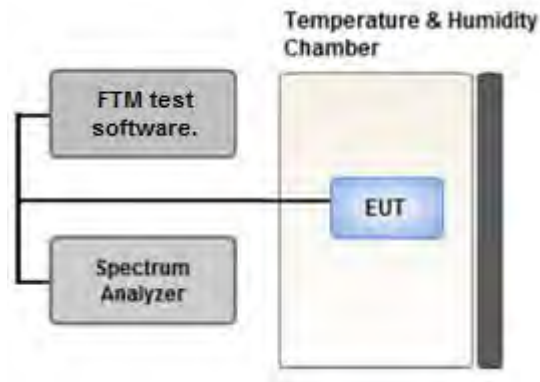
$$\text{Result}_{(\text{dBm})} = P_{g(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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

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

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

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① CCDF Procedure for PAPR

Test Settings

1. Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Set the measurement interval as follows:
 - .- for continuous transmissions, set to 1 ms,
 - .- or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

② Alternate Procedure for PAPR

Use one of the procedures presented in 5.2(ANSI C63.26-2015) to measure the total peak power and record as P_{Pk} .

Use one of the applicable procedures presented 5.2(ANSI C63.26-2015) to measure the total average power and record as P_{Avg} . Determine the P.A.R. from:

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

Test Settings(Peak Power)

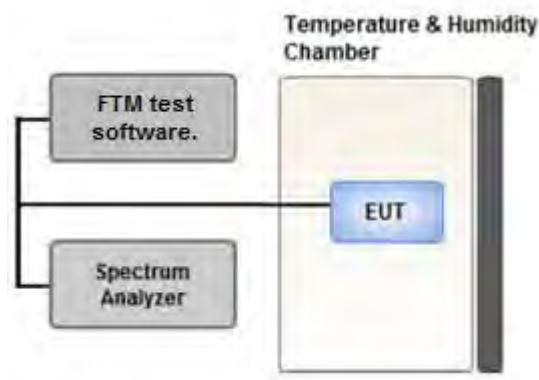
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW $\geq 3 \times$ RBW.

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

Test Settings(Average Power)

1. Set span to $2 \times$ to $3 \times$ the OBW.
2. Set RBW \geq OBW.
3. Set VBW $\geq 3 \times$ RBW.
4. Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
5. Sweep time:
Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ for single sweep (automation-compatible) measurement. The transmission period is the (on + off) time.
6. Detector = power averaging (rms).
7. Set sweep trigger to "free run."
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. (To accurately determine the average power over the on and off period of the transmitter, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.)
9. Use the peak marker function to determine the maximum amplitude level.
10. Add $[10 \log (1/\text{duty cycle})]$ to the measured maximum power level to compute the average power during continuous transmission. For example, add $[10 \log (1/0.25)] = 6 \text{ dB}$ 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.

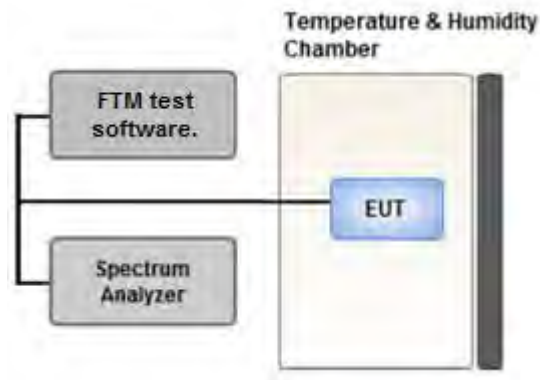
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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 $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic.

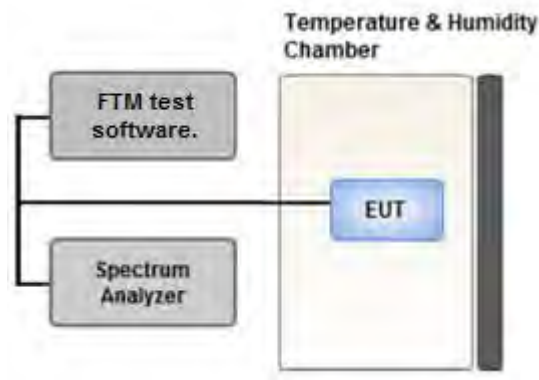
All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. RBW = 1 MHz
2. VBW \geq 3 MHz
3. Detector = RMS
4. Trace Mode = trace average
5. Sweep time = auto
6. Number of points in sweep $\geq 2 \times \text{Span} / \text{RBW}$

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 $\geq 2 \times \text{Span/RBW}$
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.

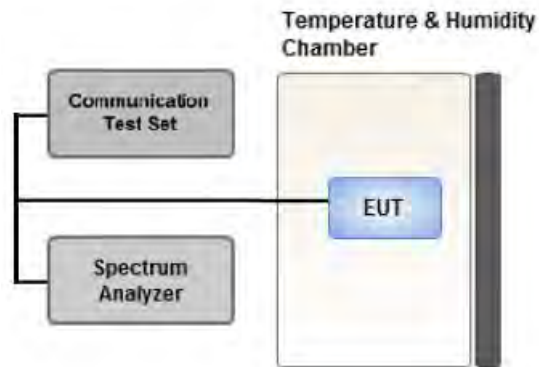
In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

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 $10 \log(1 \text{ MHz/ RB})$ 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 (Main 1 Antenna): SA,NSA

Worst case: NSA(5A-n66A)

Mode (Sub2 Antenna): NSA (anchor 2A-n66 combination only support)

Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)

Worst case : Stand alone

- 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 were investigated and the worst case configuration results are reported.

(Main1 Antenna Worst case: 5A-n66A(10 MHz))

(Sub2 Antenna Worst case: 2A-n66A(10 MHz))

- 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 were investigated and the worst case bandwidth results are reported.

(Main1 Antenna Worst case : 20 MHz)

(Sub2 Antenna Worst case : 40 MHz)

- SM-S911B/DS & additional models were tested and the worst case results are reported.

(Worst case : SM-S911B/DS)

[Main1 Antenna 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

[Sub2 Antenna Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Isotropic Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	See Section 9.1		Z
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See Section 9.2		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 (Main 1 Antenna): SA,NSA

Worst case: NSA(5A-n66A)

Mode (Sub2 Antenna): NSA (anchor 2A-n66 combination only support)

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

Please refer to the table below.

- SM-S911B/DS & additional models were tested and the worst case results are reported.

(Worst case : SM-S911B/DS)

[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, 30, 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
		30	Low	1	0
			High	1	159
		40	Low	1	0
			High	1	215
		5, 10, 15, 20, 30, 40	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15, 20, 30, 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	05/04/2023	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/29/2024	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	04/12/2023	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	06/04/2023	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/03/2023	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/22/2023	Biennial
High Pass Filter	WHKX10-900-1000-15000-40SS	Wainwright Instruments	15	05/18/2023	Annual
High Pass Filter	WHKX10-2700-3000-18000-40SS	Wainwright Instruments	145	05/18/2023	Annual
High Pass Filter	WHNX6-4740-6000-26500-40CC	Wainwright Instruments	11	05/18/2023	Annual
LOW NOISE AMP (100 MHz ~ 18 GHz)	CBLU1183540B-01	CERNEX	26822	05/18/2023	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/02/2022	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/11/2023	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	09/05/2023	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	03/11/2023	Annual
Chamber	SU-642	ESPEC	93008124	03/04/2023	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/19/2023	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	05/18/2023	Annual
Spectrum Analyzer(10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/25/2023	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/18/2023	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287700	05/19/2023	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/18/2023	Annual
SIGNAL GENERATOR (100 kHz~40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/05/2023	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/30/2023	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/27/2023	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

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

5. MEASUREMENT UNCERTAINTY

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

Parameter	Expanded Uncertainty (\pm dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	2.00 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.40 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.51 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.92 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.48 (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	<u>See Note1</u>
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

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

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

7.2 EIRP Sample Calculation

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

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

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

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW

GSM BW = 249 kHz

G = Phase Modulation

X = Cases not otherwise covered

W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W

GSM BW = 249 kHz

G = Phase Modulation

7 = Quantized/Digital Info

W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W

WCDMA BW = 4.17 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

PSK Modulation

Emission Designator = 4M48G7D

LTE BW = 4.48 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D

LTE BW = 4.48 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

8. TEST DATA(Main1 Antenna)

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	-18.87	14.49	9.60	2.00	V	< 1.00	0.162	22.09	1	12
		QPSK	-19.10	14.26	9.60	2.00	V		0.153	21.86		
		16-QAM	-19.92	13.44	9.60	2.00	V		0.127	21.04		
		64-QAM	-21.88	11.48	9.60	2.00	V		0.081	19.08		
		256-QAM	-23.72	9.64	9.60	2.00	V		0.053	17.24		
1745.0		PI/2 BPSK	-19.29	14.31	9.75	2.04	V		0.159	22.02	1	1
		QPSK	-19.33	14.27	9.75	2.04	V		0.158	21.98		
		16-QAM	-20.06	13.54	9.75	2.04	V		0.133	21.25		
		64-QAM	-22.16	11.44	9.75	2.04	V		0.082	19.15		
		256-QAM	-23.87	9.73	9.75	2.04	V		0.055	17.44		
1777.5		PI/2 BPSK	-19.90	13.64	9.90	2.08	V		0.140	21.46	1	12
		QPSK	-19.98	13.56	9.90	2.08	V		0.137	21.38		
		16-QAM	-20.80	12.74	9.90	2.08	V		0.114	20.56		
		64-QAM	-22.79	10.75	9.90	2.08	V		0.072	18.57		
		256-QAM	-24.55	8.99	9.90	2.08	V		0.048	16.81		

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	-19.02	14.34	9.60	2.00	V	< 1.00	0.156	21.94	1	26
		QPSK	-19.20	14.16	9.60	2.00	V		0.150	21.76		
		16-QAM	-19.91	13.45	9.60	2.00	V		0.127	21.05		
		64-QAM	-21.94	11.42	9.60	2.00	V		0.080	19.02		
		256-QAM	-23.77	9.59	9.60	2.00	V		0.052	17.19		
1745.0		PI/2 BPSK	-19.02	14.58	9.75	2.04	V		0.169	22.29	1	1
		QPSK	-19.09	14.51	9.75	2.04	V		0.167	22.22		
		16-QAM	-20.04	13.56	9.75	2.04	V		0.134	21.27		
		64-QAM	-21.78	11.82	9.75	2.04	V		0.090	19.53		
		256-QAM	-23.70	9.90	9.75	2.04	V		0.058	17.61		
1775.0		PI/2 BPSK	-19.79	13.75	9.90	2.08	V		0.144	21.57	1	1
		QPSK	-19.84	13.70	9.90	2.08	V		0.142	21.52		
		16-QAM	-20.65	12.89	9.90	2.08	V		0.118	20.71		
		64-QAM	-22.69	10.85	9.90	2.08	V		0.074	18.67		
		256-QAM	-24.51	9.03	9.90	2.08	V		0.048	16.85		

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	-18.88	14.48	9.60	2.00	V	< 1.00	0.161	22.08	1	39
		QPSK	-18.94	14.42	9.60	2.00	V		0.159	22.02		
		16-QAM	-19.85	13.51	9.60	2.00	V		0.129	21.11		
		64-QAM	-21.72	11.64	9.60	2.00	V		0.084	19.24		
		256-QAM	-23.59	9.77	9.60	2.00	V		0.055	17.37		
1745.0		PI/2 BPSK	-18.80	14.80	9.75	2.04	V		0.178	22.51	1	39
		QPSK	-18.82	14.78	9.75	2.04	V		0.177	22.49		
		16-QAM	-19.68	13.92	9.75	2.04	V		0.146	21.63		
		64-QAM	-21.65	11.95	9.75	2.04	V		0.092	19.66		
		256-QAM	-23.50	10.10	9.75	2.04	V		0.060	17.81		
1772.5	PI/2 BPSK	-19.20	14.34	9.90	2.08	V	0.164	22.16	1	39		
	QPSK	-19.29	14.25	9.90	2.08	V	0.161	22.07				
	16-QAM	-20.17	13.37	9.90	2.08	V	0.132	21.19				
	64-QAM	-21.98	11.56	9.90	2.08	V	0.087	19.38				
	256-QAM	-23.99	9.55	9.90	2.08	V	0.055	17.37				

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1720.0	Sub6 n66/ 20 MHz [15 kHz]	PI/2 BPSK	-18.83	14.67	9.60	2.00	V	< 1.00	0.169	22.27	1	53
		QPSK	-18.85	14.65	9.60	2.00	V		0.168	22.25		
		16-QAM	-19.79	13.71	9.60	2.00	V		0.135	21.31		
		64-QAM	-21.60	11.90	9.60	2.00	V		0.089	19.50		
		256-QAM	-23.55	9.95	9.60	2.00	V		0.057	17.55		
1745.0		PI/2 BPSK	-18.71	14.89	9.75	2.04	V		0.182	22.60	1	53
		QPSK	-18.73	14.87	9.75	2.04	V		0.181	22.58		
		16-QAM	-19.70	13.90	9.75	2.04	V		0.145	21.61		
		64-QAM	-21.43	12.17	9.75	2.04	V		0.097	19.88		
		256-QAM	-23.44	10.16	9.75	2.04	V		0.061	17.87		
1770.0		PI/2 BPSK	-19.20	14.44	9.90	2.09	V		0.168	22.25	1	53
		QPSK	-19.22	14.42	9.90	2.09	V		0.167	22.23		
		16-QAM	-20.07	13.57	9.90	2.09	V		0.137	21.38		
		64-QAM	-22.00	11.64	9.90	2.09	V		0.088	19.45		
		256-QAM	-24.00	9.64	9.90	2.09	V		0.056	17.45		

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	-18.80	14.76	9.60	2.01	V	< 1.00	0.172	22.35	1	80
		QPSK	-18.89	14.67	9.60	2.01	V		0.168	22.26		
		16-QAM	-19.80	13.76	9.60	2.01	V		0.136	21.35		
		64-QAM	-21.61	11.95	9.60	2.01	V		0.090	19.54		
		256-QAM	-23.46	10.10	9.60	2.01	V		0.059	17.69		
1745.0		PI/2 BPSK	-18.92	14.68	9.75	2.04	V		0.173	22.39	1	1
		QPSK	-18.95	14.65	9.75	2.04	V		0.172	22.36		
		16-QAM	-19.87	13.73	9.75	2.04	V		0.139	21.44		
		64-QAM	-21.75	11.85	9.75	2.04	V		0.090	19.56		
		256-QAM	-23.60	10.00	9.75	2.04	V		0.059	17.71		
1765.0		PI/2 BPSK	-19.35	14.13	9.90	2.09	V		0.156	21.94	1	1
		QPSK	-19.36	14.12	9.90	2.09	V		0.156	21.93		
		16-QAM	-20.21	13.27	9.90	2.09	V		0.128	21.08		
		64-QAM	-22.28	11.20	9.90	2.09	V		0.080	19.01		
		256-QAM	-23.94	9.54	9.90	2.09	V		0.054	17.35		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
1730.0	Sub6 n66/ 40 MHz [15 kHz]	PI/2 BPSK	-18.94	14.67	9.60	2.01	V	< 1.00	0.168	22.26	1	108
		QPSK	-18.95	14.66	9.60	2.01	V		0.168	22.25		
		16-QAM	-19.78	13.83	9.60	2.01	V		0.139	21.42		
		64-QAM	-21.74	11.87	9.60	2.01	V		0.088	19.46		
		256-QAM	-23.57	10.04	9.60	2.01	V		0.058	17.63		
1745.0		PI/2 BPSK	-18.80	14.80	9.75	2.04	V		0.178	22.51	1	1
		QPSK	-18.89	14.71	9.75	2.04	V		0.175	22.42		
		16-QAM	-19.82	13.78	9.75	2.04	V		0.141	21.49		
		64-QAM	-21.67	11.93	9.75	2.04	V		0.092	19.64		
		256-QAM	-23.52	10.08	9.75	2.04	V		0.060	17.79		
1760.0		PI/2 BPSK	-18.86	14.46	9.90	2.09	V		0.169	22.27	1	1
		QPSK	-18.88	14.44	9.90	2.09	V		0.168	22.25		
		16-QAM	-19.79	13.53	9.90	2.09	V		0.136	21.34		
		64-QAM	-21.66	11.66	9.90	2.09	V		0.089	19.47		
		256-QAM	-23.52	9.80	9.90	2.09	V		0.058	17.61		

8.2 RADIATED SPURIOUS EMISSIONS

■ NR Band:	N66
■ Anchor Band:	B5
■ Bandwidth:	20 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
344000 (1720.0)	3 440.00	-59.63	11.10	-60.58	2.97	H	-52.45	-13.00	1	53
	5 160.00	-60.79	11.00	-55.96	3.69	H	-48.65	-13.00		
	6 880.00	-62.95	10.80	-51.26	4.28	H	-44.74	-13.00		
	8 600.00	-58.98	10.40	-45.43	4.80	V	-39.83	-13.00		
	10 320.00	-63.89	11.10	-46.12	5.34	H	-40.36	-13.00		
349000 (1745.0)	3 490.00	-60.01	11.20	-61.45	3.00	V	-53.25	-13.00	1	53
	5 235.00	-60.98	11.10	-56.05	3.70	V	-48.65	-13.00		
	6 980.00	-63.78	10.90	-51.07	4.30	V	-44.47	-13.00		
	8 725.00	-61.88	10.30	-47.52	4.88	V	-42.10	-13.00		
	10 470.00	-63.60	11.30	-45.87	5.43	V	-40.00	-13.00		
354000 (1770.0)	3 540.00	-57.79	11.30	-59.59	3.02	V	-51.31	-13.00	1	53
	5 310.00	-61.54	11.40	-57.18	3.65	V	-49.43	-13.00		
	7 080.00	-63.00	10.70	-49.12	4.34	V	-42.76	-13.00		
	8 850.00	-62.01	10.50	-47.92	4.95	V	-42.37	-13.00		
	10 620.00	-63.13	11.20	-44.61	5.41	V	-38.82	-13.00		

■ ENDC-Mode : 5A(10 MHz)-n66A(20 MHz)

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
20525 (836.5)	1673.00	-60.55	9.52	-70.20	2.03	V	-62.71	-13.00
	2509.50	-62.00	10.28	-66.98	2.51	V	-59.21	-13.00
	3346.00	-61.78	11.28	-64.56	2.99	H	-56.27	-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	4.01
			QPSK			5.38
			16-QAM			6.30
			64-QAM			6.76
			256-QAM			6.89
	10 MHz		BPSK	50		4.34
			QPSK			5.54
			16-QAM			6.38
			64-QAM			6.57
			256-QAM			7.07
	15 MHz		BPSK	75		4.60
			QPSK			5.51
			16-QAM			6.25
			64-QAM			6.61
			256-QAM			6.84
	20 MHz		BPSK	100		4.08
			QPSK			5.80
			16-QAM			6.29
			64-QAM			6.56
			256-QAM			6.93
	30 MHz		BPSK	160		4.18
			QPSK			5.41
			16-QAM			6.22
			64-QAM			6.52
			256-QAM			6.85
	40 MHz		BPSK	216		3.86
			QPSK			5.32
			16-QAM			6.23
			64-QAM			6.51
			256-QAM			6.81

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 89 ~ 118.

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	4.4859
			QPSK			4.5090
			16-QAM			4.5171
			64-QAM			4.5307
			256-QAM			4.5220
	10 MHz		BPSK	50		8.9426
			QPSK			9.0049
			16-QAM			9.0131
			64-QAM			8.9929
			256-QAM			8.9726
	15 MHz		BPSK	75		13.443
			QPSK			13.465
			16-QAM			13.520
			64-QAM			13.449
			256-QAM			13.444
	20 MHz		BPSK	100		17.910
			QPSK			17.947
			16-QAM			17.923
			64-QAM			17.880
			256-QAM			17.893
	30 MHz		BPSK	160		28.553
			QPSK			28.624
			16-QAM			28.584
			64-QAM			28.634
			256-QAM			28.608
	40 MHz		BPSK	216		38.570
			QPSK			38.683
			16-QAM			38.587
			64-QAM			38.529
			256-QAM			38.565

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 59 ~ 88.

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	4.0733	30.200	-70.749	-40.549	-13.00
		1745.0	4.9148	30.200	-70.444	-40.244	
		1777.5	9.9811	30.815	-70.565	-39.750	
	10	1715.0	9.1530	30.815	-71.166	-40.351	
		1745.0	8.8385	30.815	-71.352	-40.537	
		1775.0	4.0025	30.200	-71.375	-41.175	
	15	1717.5	8.5723	30.815	-70.264	-39.449	
		1745.0	9.9551	30.815	-71.227	-40.412	
		1772.5	9.6770	30.815	-70.839	-40.024	
	20	1720.0	4.9253	30.200	-70.038	-39.838	
		1745.0	3.8051	30.200	-70.971	-40.771	
		1770.0	9.7208	30.815	-70.750	-39.935	
	30	1725.0	5.2104	30.815	-70.165	-39.350	
		1745.0	3.7957	30.200	-70.649	-40.449	
		1765.0	8.8784	30.815	-70.893	-40.078	
	40	1730.0	9.6989	30.815	-70.211	-39.396	
		1745.0	9.6825	30.200	-70.749	-40.549	
		1760.0	9.7278	30.815	-71.253	-40.438	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 155 ~ 190.
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 119 ~ 154.

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. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1712.5	100 %	+20(Ref)	1712 499 995	0.0	0.000 000	0.000
	100 %	-30	1712 499 990	-4.5	0.000 000	-0.003
	100 %	-20	1712 499 990	-4.2	0.000 000	-0.002
	100 %	-10	1712 499 991	-3.2	0.000 000	-0.002
	100 %	0	1712 499 993	-2.0	0.000 000	-0.001
	100 %	+10	1712 499 990	-4.4	0.000 000	-0.003
	100 %	+30	1712 499 993	-1.7	0.000 000	-0.001
	100 %	+40	1712 499 992	-2.3	0.000 000	-0.001
	100 %	+50	1712 499 993	-2.0	0.000 000	-0.001
	Batt. Endpoint	+20	1712 499 994	-0.3	0.000 000	0.000
1777.5	100 %	+20(Ref)	1777 500 003	0.0	0.000 000	0.000
	100 %	-30	1777 500 005	1.6	0.000 000	0.001
	100 %	-20	1777 500 006	2.2	0.000 000	0.001
	100 %	-10	1777 500 005	1.5	0.000 000	0.001
	100 %	0	1777 500 002	-1.8	0.000 000	-0.001
	100 %	+10	1777 500 004	0.5	0.000 000	0.000
	100 %	+30	1777 500 004	0.6	0.000 000	0.000
	100 %	+40	1777 500 007	3.6	0.000 000	0.002
	100 %	+50	1777 500 003	-1.0	0.000 000	-0.001
	Batt. Endpoint	+20	1777 500 003	-0.8	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. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1715.0	100 %	+20(Ref)	1714 999 994	0.0	0.000 000	0.000
	100 %	-30	1714 999 992	-1.7	0.000 000	-0.001
	100 %	-20	1714 999 990	-4.0	0.000 000	-0.002
	100 %	-10	1714 999 986	-7.9	0.000 000	-0.005
	100 %	0	1714 999 990	-3.4	0.000 000	-0.002
	100 %	+10	1714 999 991	-2.6	0.000 000	-0.002
	100 %	+30	1714 999 991	-2.3	0.000 000	-0.001
	100 %	+40	1714 999 993	-1.0	0.000 000	-0.001
	100 %	+50	1714 999 991	-2.6	0.000 000	-0.002
	Batt. Endpoint	+20	1714 999 990	-3.1	0.000 000	-0.002
1775.0	100 %	+20(Ref)	1774 999 997	0.0	0.000 000	0.000
	100 %	-30	1774 999 990	-6.6	0.000 000	-0.004
	100 %	-20	1774 999 994	-2.7	0.000 000	-0.002
	100 %	-10	1774 999 993	-4.1	0.000 000	-0.002
	100 %	0	1774 999 993	-3.2	0.000 000	-0.002
	100 %	+10	1774 999 994	-2.8	0.000 000	-0.002
	100 %	+30	1774 999 992	-4.2	0.000 000	-0.002
	100 %	+40	1774 999 992	-4.4	0.000 000	-0.002
	100 %	+50	1774 999 993	-3.2	0.000 000	-0.002
	Batt. Endpoint	+20	1774 999 994	-2.7	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. Frequency (MHz)	Voltage (%)	Temp. (°C)	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 500 007	3.6	0.000 000	0.002
	100 %	-20	1717 500 005	2.3	0.000 000	0.001
	100 %	-10	1717 500 004	0.6	0.000 000	0.000
	100 %	0	1717 500 004	1.2	0.000 000	0.001
	100 %	+10	1717 500 006	2.5	0.000 000	0.001
	100 %	+30	1717 500 004	0.8	0.000 000	0.000
	100 %	+40	1717 500 001	-1.8	0.000 000	-0.001
	100 %	+50	1717 500 004	0.8	0.000 000	0.000
	Batt. Endpoint	+20	1717 500 002	-1.3	0.000 000	-0.001
1772.5	100 %	+20(Ref)	1772 499 996	0.0	0.000 000	0.000
	100 %	-30	1772 499 992	-4.7	0.000 000	-0.003
	100 %	-20	1772 499 994	-2.2	0.000 000	-0.001
	100 %	-10	1772 499 994	-2.3	0.000 000	-0.001
	100 %	0	1772 499 991	-5.2	0.000 000	-0.003
	100 %	+10	1772 499 991	-5.5	0.000 000	-0.003
	100 %	+30	1772 499 986	-10.7	-0.000 001	-0.006
	100 %	+40	1772 499 998	1.8	0.000 000	0.001
	100 %	+50	1772 499 993	-3.4	0.000 000	-0.002
	Batt. Endpoint	+20	1772 499 990	-6.5	0.000 000	-0.004

☐ BandWidth: 20 MHz
☐ Voltage(100 %): 3.880 VDC
☐ Batt. Endpoint: 3.300 VDC
☐ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	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 999 994	-3.1	0.000 000	-0.002
	100 %	-20	1719 999 994	-3.4	0.000 000	-0.002
	100 %	-10	1719 999 995	-2.5	0.000 000	-0.001
	100 %	0	1719 999 994	-3.6	0.000 000	-0.002
	100 %	+10	1719 999 994	-3.9	0.000 000	-0.002
	100 %	+30	1719 999 994	-3.0	0.000 000	-0.002
	100 %	+40	1719 999 996	-1.6	0.000 000	-0.001
	100 %	+50	1719 999 995	-2.7	0.000 000	-0.002
	Batt. Endpoint	+20	1719 999 993	-4.6	0.000 000	-0.003
1770.0	100 %	+20(Ref)	1770 000 002	0.0	0.000 000	0.000
	100 %	-30	1770 000 003	1.5	0.000 000	0.001
	100 %	-20	1770 000 004	2.7	0.000 000	0.001
	100 %	-10	1770 000 002	0.5	0.000 000	0.000
	100 %	0	1770 000 000	-1.6	0.000 000	-0.001
	100 %	+10	1770 000 003	1.4	0.000 000	0.001
	100 %	+30	1770 000 003	1.6	0.000 000	0.001
	100 %	+40	1770 000 003	1.8	0.000 000	0.001
	100 %	+50	1770 000 003	1.8	0.000 000	0.001
	Batt. Endpoint	+20	1770 000 003	1.3	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. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1725.0	100 %	+20(Ref)	1725 000 006	0.0	0.000 000	0.000
	100 %	-30	1725 000 013	7.4	0.000 000	0.004
	100 %	-20	1725 000 014	7.8	0.000 000	0.005
	100 %	-10	1725 000 009	3.4	0.000 000	0.002
	100 %	0	1725 000 010	4.4	0.000 000	0.003
	100 %	+10	1725 000 012	6.4	0.000 000	0.004
	100 %	+30	1725 000 012	5.7	0.000 000	0.003
	100 %	+40	1725 000 013	7.3	0.000 000	0.004
	100 %	+50	1725 000 013	7.0	0.000 000	0.004
	Batt. Endpoint	+20	1725 000 011	5.3	0.000 000	0.003
1765.0	100 %	+20(Ref)	1765 000 001	0.0	0.000 000	0.000
	100 %	-30	1765 000 003	1.7	0.000 000	0.001
	100 %	-20	1765 000 006	4.7	0.000 000	0.003
	100 %	-10	1765 000 004	2.2	0.000 000	0.001
	100 %	0	1765 000 004	3.0	0.000 000	0.002
	100 %	+10	1765 000 007	6.1	0.000 000	0.003
	100 %	+30	1765 000 002	1.0	0.000 000	0.001
	100 %	+40	1765 000 006	4.3	0.000 000	0.002
	100 %	+50	1765 000 006	4.3	0.000 000	0.002
	Batt. Endpoint	+20	1765 000 003	1.7	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. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1730.0	100 %	+20(Ref)	1730 000 009	0.0	0.000 000	0.000
	100 %	-30	1730 000 017	7.6	0.000 000	0.004
	100 %	-20	1730 000 013	4.5	0.000 000	0.003
	100 %	-10	1730 000 013	4.6	0.000 000	0.003
	100 %	0	1730 000 014	5.6	0.000 000	0.003
	100 %	+10	1730 000 015	5.9	0.000 000	0.003
	100 %	+30	1730 000 015	5.9	0.000 000	0.003
	100 %	+40	1730 000 016	7.5	0.000 000	0.004
	100 %	+50	1730 000 018	9.1	0.000 001	0.005
	Batt. Endpoint	+20	1730 000 015	6.1	0.000 000	0.004
1760.0	100 %	+20(Ref)	1760 000 004	0.0	0.000 000	0.000
	100 %	-30	1760 000 005	1.0	0.000 000	0.001
	100 %	-20	1760 000 005	0.7	0.000 000	0.000
	100 %	-10	1760 000 007	3.2	0.000 000	0.002
	100 %	0	1760 000 008	4.0	0.000 000	0.002
	100 %	+10	1760 000 010	6.2	0.000 000	0.004
	100 %	+30	1760 000 012	7.8	0.000 000	0.004
	100 %	+40	1760 000 014	9.7	0.000 001	0.005
	100 %	+50	1760 000 008	4.4	0.000 000	0.002
	Batt. Endpoint	+20	1760 000 009	4.8	0.000 000	0.003

9. TEST DATA(Sub2 Antenna)

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	-20.08	13.28	9.60	2.00	V	< 1.00	0.122	20.88	1	12
		QPSK	-20.11	13.25	9.60	2.00	V		0.122	20.85		
		16-QAM	-21.06	12.30	9.60	2.00	V		0.098	19.90		
		64-QAM	-22.72	10.64	9.60	2.00	V		0.067	18.24		
		256-QAM	-24.97	8.39	9.60	2.00	V		0.040	15.99		
1745.0		PI/2 BPSK	-20.71	12.89	9.75	2.04	V		0.115	20.60	1	1
		QPSK	-20.72	12.88	9.75	2.04	V		0.115	20.59		
		16-QAM	-21.67	11.93	9.75	2.04	V		0.092	19.64		
		64-QAM	-23.00	10.60	9.75	2.04	V		0.068	18.31		
		256-QAM	-25.49	8.11	9.75	2.04	V		0.038	15.82		
1777.5		PI/2 BPSK	-21.95	11.59	9.90	2.08	V		0.087	19.41	1	12
		QPSK	-21.97	11.57	9.90	2.08	V		0.087	19.39		
		16-QAM	-22.98	10.56	9.90	2.08	V		0.069	18.38		
		64-QAM	-24.61	8.93	9.90	2.08	V		0.047	16.75		
		256-QAM	-26.85	6.69	9.90	2.08	V		0.028	14.51		

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	-20.02	13.34	9.60	2.00	V	< 1.00	0.124	20.94	1	26
		QPSK	-20.04	13.32	9.60	2.00	V		0.124	20.92		
		16-QAM	-20.92	12.44	9.60	2.00	V		0.101	20.04		
		64-QAM	-22.68	10.68	9.60	2.00	V		0.067	18.28		
		256-QAM	-24.72	8.64	9.60	2.00	V		0.042	16.24		
1745.0		PI/2 BPSK	-21.23	12.37	9.75	2.04	V		0.102	20.08	1	1
		QPSK	-21.26	12.34	9.75	2.04	V		0.101	20.05		
		16-QAM	-22.20	11.40	9.75	2.04	V		0.081	19.11		
		64-QAM	-23.80	9.80	9.75	2.04	V		0.056	17.51		
		256-QAM	-26.03	7.57	9.75	2.04	V		0.034	15.28		
1775.0	PI/2 BPSK	-21.67	11.87	9.90	2.08	V	0.093	19.69	1	1		
	QPSK	-21.68	11.86	9.90	2.08	V	0.093	19.68				
	16-QAM	-22.59	10.95	9.90	2.08	V	0.075	18.77				
	64-QAM	-24.30	9.24	9.90	2.08	V	0.051	17.06				
	256-QAM	-26.50	7.04	9.90	2.08	V	0.031	14.86				

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
1717.5	Sub6 n66/ 15 MHz [15 kHz]	PI/2 BPSK	-20.03	13.33	9.60	2.00	V	< 1.00	0.124	20.93	1	39
		QPSK	-20.05	13.31	9.60	2.00	V		0.123	20.91		
		16-QAM	-20.91	12.45	9.60	2.00	V		0.101	20.05		
		64-QAM	-22.66	10.70	9.60	2.00	V		0.068	18.30		
		256-QAM	-24.85	8.51	9.60	2.00	V		0.041	16.11		
1745.0		PI/2 BPSK	-20.62	12.98	9.75	2.04	V		0.117	20.69	1	1
		QPSK	-20.63	12.97	9.75	2.04	V		0.117	20.68		
		16-QAM	-21.60	12.00	9.75	2.04	V		0.094	19.71		
		64-QAM	-23.30	10.30	9.75	2.04	V		0.063	18.01		
		256-QAM	-25.52	8.08	9.75	2.04	V		0.038	15.79		
1772.5		PI/2 BPSK	-21.44	12.10	9.90	2.08	V		0.098	19.92	1	1
		QPSK	-21.50	12.04	9.90	2.08	V		0.097	19.86		
		16-QAM	-22.44	11.10	9.90	2.08	V		0.078	18.92		
		64-QAM	-24.05	9.49	9.90	2.08	V		0.054	17.31		
		256-QAM	-26.30	7.24	9.90	2.08	V		0.032	15.06		

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	-20.01	13.49	9.60	2.00	V	< 1.00	0.129	21.09	1	53
		QPSK	-20.03	13.47	9.60	2.00	V		0.128	21.07		
		16-QAM	-20.90	12.60	9.60	2.00	V		0.105	20.20		
		64-QAM	-22.62	10.88	9.60	2.00	V		0.070	18.48		
		256-QAM	-24.82	8.68	9.60	2.00	V		0.042	16.28		
1745.0		PI/2 BPSK	-20.38	13.22	9.75	2.04	V		0.124	20.93	1	1
		QPSK	-20.39	13.21	9.75	2.04	V		0.124	20.92		
		16-QAM	-21.30	12.30	9.75	2.04	V		0.100	20.01		
		64-QAM	-23.00	10.60	9.75	2.04	V		0.068	18.31		
		256-QAM	-25.17	8.43	9.75	2.04	V		0.041	16.14		
1770.0	PI/2 BPSK	-21.51	12.13	9.90	2.09	V	0.099	19.94	1	53		
	QPSK	-21.63	12.01	9.90	2.09	V	0.096	19.82				
	16-QAM	-22.55	11.09	9.90	2.09	V	0.078	18.90				
	64-QAM	-24.12	9.52	9.90	2.09	V	0.054	17.33				
	256-QAM	-26.44	7.20	9.90	2.09	V	0.032	15.01				

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	-20.10	13.46	9.60	2.01	V	< 1.00	0.127	21.05	1	80
		QPSK	-20.15	13.41	9.60	2.01	V		0.126	21.00		
		16-QAM	-21.04	12.52	9.60	2.01	V		0.103	20.11		
		64-QAM	-22.70	10.86	9.60	2.01	V		0.070	18.45		
		256-QAM	-24.90	8.66	9.60	2.01	V		0.042	16.25		
1745.0		PI/2 BPSK	-20.30	13.30	9.75	2.04	V		0.126	21.01	1	1
		QPSK	-20.32	13.28	9.75	2.04	V		0.126	20.99		
		16-QAM	-21.22	12.38	9.75	2.04	V		0.102	20.09		
		64-QAM	-22.91	10.69	9.75	2.04	V		0.069	18.40		
		256-QAM	-25.09	8.51	9.75	2.04	V		0.042	16.22		
1765.0		PI/2 BPSK	-20.81	12.67	9.90	2.09	V		0.112	20.48	1	1
		QPSK	-20.84	12.64	9.90	2.09	V		0.111	20.45		
		16-QAM	-21.77	11.71	9.90	2.09	V		0.090	19.52		
		64-QAM	-23.51	9.97	9.90	2.09	V		0.060	17.78		
		256-QAM	-25.63	7.85	9.90	2.09	V		0.037	15.66		

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	-19.99	13.62	9.60	2.01	V	< 1.00	0.132	21.21	1	1
		QPSK	-20.37	13.24	9.60	2.01	V		0.121	20.83		
		16-QAM	-21.15	12.46	9.60	2.01	V		0.101	20.05		
		64-QAM	-22.68	10.93	9.60	2.01	V		0.071	18.52		
		256-QAM	-24.72	8.89	9.60	2.01	V		0.044	16.48		
1745.0		PI/2 BPSK	-20.23	13.37	9.75	2.04	V		0.128	21.08	1	1
		QPSK	-20.33	13.27	9.75	2.04	V		0.125	20.98		
		16-QAM	-21.28	12.32	9.75	2.04	V		0.101	20.03		
		64-QAM	-22.91	10.69	9.75	2.04	V		0.069	18.40		
		256-QAM	-25.06	8.54	9.75	2.04	V		0.042	16.25		
1760.0	PI/2 BPSK	-20.55	12.77	9.90	2.09	V	0.114	20.58	1	1		
	QPSK	-20.60	12.72	9.90	2.09	V	0.113	20.53				
	16-QAM	-21.50	11.82	9.90	2.09	V	0.092	19.63				
	64-QAM	-23.10	10.22	9.90	2.09	V	0.064	18.03				
	256-QAM	-25.35	7.97	9.90	2.09	V	0.038	15.78				

9.2 RADIATED SPURIOUS EMISSIONS

■ NR Band:	<u>N66</u>
■ LTE Band(Anchor):	<u>B2</u>
■ Bandwidth:	<u>40 MHz</u>
■ Modulation:	<u>PI/2 BPSK</u>
■ Distance:	<u>3 meters</u>
■ SCS:	<u>15 kHz</u>

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	-60.82	11.20	-62.54	2.95	V	-54.29	-13.00	1	1
	5 190.00	-60.81	11.00	-55.80	3.70	V	-48.50	-13.00		
	6 920.00	-63.74	10.90	-51.67	4.33	V	-45.10	-13.00		
	8 650.00	-61.79	10.40	-48.44	4.89	V	-42.93	-13.00		
	10 380.00	-62.96	11.20	-45.22	5.40	V	-39.42	-13.00		
349000 (1745.0)	3 490.00	-60.66	11.20	-62.10	3.00	H	-53.90	-13.00	1	1
	5 235.00	-60.46	11.10	-55.53	3.70	H	-48.13	-13.00		
	6 980.00	-63.98	10.90	-51.27	4.30	V	-44.67	-13.00		
	8 725.00	-61.26	10.30	-46.90	4.88	H	-41.48	-13.00		
	10 470.00	-62.63	11.30	-44.90	5.43	H	-39.03	-13.00		
352000 (1760.0)	3 520.00	-59.33	11.30	-61.93	2.97	H	-53.60	-13.00	1	1
	5 280.00	-62.27	11.30	-57.11	3.75	V	-49.56	-13.00		
	7 040.00	-64.35	10.90	-50.65	4.34	V	-44.09	-13.00		
	8 800.00	-60.12	10.50	-46.27	4.89	V	-40.66	-13.00		
	10 560.00	-63.08	11.20	-45.75	5.45	H	-40.00	-13.00		

■ ENDC-Mode : 2A(10 MHz)-n66A(10 MHz)

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
18900 (1880)	3760.00	-61.11	11.64	-61.34	3.16	V	-52.86	-13.00
	5640.00	-62.27	12.00	-56.09	3.93	V	-48.02	-13.00
	7520.00	-62.24	11.54	-47.79	4.51	V	-40.76	-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	3.99
			QPSK			5.26
			16-QAM			6.43
			64-QAM			6.70
			256-QAM			6.42
	10 MHz		BPSK	50		4.07
			QPSK			5.35
			16-QAM			6.10
			64-QAM			6.38
			256-QAM			6.95
	15 MHz		BPSK	75		3.93
			QPSK			5.24
			16-QAM			6.14
			64-QAM			6.41
			256-QAM			6.56
	20 MHz		BPSK	100		4.15
			QPSK			5.39
			16-QAM			6.25
			64-QAM			6.50
			256-QAM			6.77
	30 MHz		BPSK	160		3.82
			QPSK			5.24
			16-QAM			6.13
			64-QAM			6.40
			256-QAM			6.61
	40 MHz		BPSK	216		4.43
			QPSK			5.07
			16-QAM			6.05
			64-QAM			6.36
			256-QAM			6.57

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 222 ~251.

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	4.5079
			QPSK			4.4860
			16-QAM			4.5404
			64-QAM			4.4891
			256-QAM			4.5104
	10 MHz		BPSK	50		8.9821
			QPSK			9.0178
			16-QAM			8.9510
			64-QAM			8.9861
			256-QAM			8.9770
	15 MHz		BPSK	75		13.466
			QPSK			13.452
			16-QAM			13.397
			64-QAM			13.385
			256-QAM			13.518
	20 MHz		BPSK	100		17.889
			QPSK			17.840
			16-QAM			17.876
			64-QAM			17.897
			256-QAM			17.850
	30 MHz		BPSK	160		28.485
			QPSK			28.534
			16-QAM			28.518
			64-QAM			28.568
			256-QAM			28.529
	40 MHz		BPSK	216		38.456
			QPSK			38.459
			16-QAM			38.572
			64-QAM			38.577
			256-QAM			38.459

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 192 ~ 221.

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	8.0474	30.815	-70.824	-40.009	-13.00
		1745.0	9.9661	30.815	-71.176	-40.361	
		1777.5	6.0374	30.815	-70.440	-39.625	
	10	1715.0	4.0459	30.200	-70.664	-40.464	
		1745.0	9.9606	30.815	-70.739	-39.924	
		1775.0	3.8081	30.200	-70.418	-40.218	
	15	1717.5	8.2877	30.815	-70.623	-39.808	
		1745.0	8.2832	30.815	-70.533	-39.718	
		1772.5	8.5713	30.815	-70.865	-40.050	
	20	1720.0	4.0195	30.200	-70.446	-40.246	
		1745.0	3.7782	30.200	-70.841	-40.641	
		1770.0	3.8066	30.200	-70.316	-40.116	
	30	1725.0	4.9602	30.200	-69.888	-39.688	
		1745.0	8.8624	30.815	-69.902	-39.087	
		1765.0	4.0848	30.200	-71.113	-40.913	
	40	1730.0	4.0788	30.200	-70.181	-39.981	
		1745.0	4.0374	30.815	-70.060	-39.245	
		1760.0	4.9183	30.200	-70.489	-40.289	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 288 ~ 323.
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 252 ~ 287.

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. Frequency (MHz)	Voltage (%)	Temp. (°C)	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 499 995	-2.6	0.000 000	-0.002
	100 %	-20	1712 499 995	-2.2	0.000 000	-0.001
	100 %	-10	1712 499 994	-3.3	0.000 000	-0.002
	100 %	0	1712 499 996	-1.7	0.000 000	-0.001
	100 %	+10	1712 499 997	-0.4	0.000 000	0.000
	100 %	+30	1712 499 997	-0.4	0.000 000	0.000
	100 %	+40	1712 499 996	-1.8	0.000 000	-0.001
	100 %	+50	1712 499 995	-2.5	0.000 000	-0.001
	Batt. Endpoint	+20	1712 499 997	0.0	0.000 000	0.000
1777.5	100 %	+20(Ref)	1777 500 000	0.0	0.000 000	0.000
	100 %	-30	1777 499 998	-1.3	0.000 000	-0.001
	100 %	-20	1777 499 997	-3.0	0.000 000	-0.002
	100 %	-10	1777 499 996	-3.3	0.000 000	-0.002
	100 %	0	1777 499 997	-2.2	0.000 000	-0.001
	100 %	+10	1777 499 998	-1.6	0.000 000	-0.001
	100 %	+30	1777 499 998	-1.6	0.000 000	-0.001
	100 %	+40	1777 499 997	-2.8	0.000 000	-0.002
	100 %	+50	1777 500 000	0.2	0.000 000	0.000
	Batt. Endpoint	+20	1777 500 001	1.0	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. Frequency (MHz)	Voltage (%)	Temp. (°C)	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 999 992	-2.8	0.000 000	-0.002
	100 %	-20	1714 999 993	-1.7	0.000 000	-0.001
	100 %	-10	1714 999 992	-3.3	0.000 000	-0.002
	100 %	0	1714 999 991	-4.3	0.000 000	-0.002
	100 %	+10	1714 999 991	-4.3	0.000 000	-0.002
	100 %	+30	1714 999 991	-4.2	0.000 000	-0.002
	100 %	+40	1714 999 994	-1.4	0.000 000	-0.001
	100 %	+50	1714 999 991	-4.0	0.000 000	-0.002
	Batt. Endpoint	+20	1714 999 990	-5.3	0.000 000	-0.003
1775.0	100 %	+20(Ref)	1774 999 995	0.0	0.000 000	0.000
	100 %	-30	1774 999 990	-5.0	0.000 000	-0.003
	100 %	-20	1774 999 991	-4.5	0.000 000	-0.003
	100 %	-10	1774 999 990	-5.4	0.000 000	-0.003
	100 %	0	1774 999 990	-5.2	0.000 000	-0.003
	100 %	+10	1774 999 990	-5.2	0.000 000	-0.003
	100 %	+30	1774 999 989	-5.9	0.000 000	-0.003
	100 %	+40	1774 999 989	-5.9	0.000 000	-0.003
	100 %	+50	1774 999 989	-6.7	0.000 000	-0.004
	Batt. Endpoint	+20	1774 999 990	-5.4	0.000 000	-0.003

- ▣ BandWidth: 15 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1717.5	100 %	+20(Ref)	1717 500 002	0.0	0.000 000	0.000
	100 %	-30	1717 500 000	-1.7	0.000 000	-0.001
	100 %	-20	1717 500 001	-0.5	0.000 000	0.000
	100 %	-10	1717 500 000	-1.8	0.000 000	-0.001
	100 %	0	1717 500 000	-1.8	0.000 000	-0.001
	100 %	+10	1717 500 003	1.4	0.000 000	0.001
	100 %	+30	1717 500 003	0.7	0.000 000	0.000
	100 %	+40	1717 500 003	1.4	0.000 000	0.001
	100 %	+50	1717 500 003	1.4	0.000 000	0.001
	Batt. Endpoint	+20	1717 500 004	2.3	0.000 000	0.001
1772.5	100 %	+20(Ref)	1772 499 998	0.0	0.000 000	0.000
	100 %	-30	1772 499 992	-6.4	0.000 000	-0.004
	100 %	-20	1772 499 996	-2.2	0.000 000	-0.001
	100 %	-10	1772 500 000	1.9	0.000 000	0.001
	100 %	0	1772 500 000	1.9	0.000 000	0.001
	100 %	+10	1772 499 993	-4.8	0.000 000	-0.003
	100 %	+30	1772 499 992	-6.4	0.000 000	-0.004
	100 %	+40	1772 499 996	-2.2	0.000 000	-0.001
	100 %	+50	1772 499 993	-4.8	0.000 000	-0.003
	Batt. Endpoint	+20	1772 499 993	-4.8	0.000 000	-0.003

- ▣ BandWidth: 20 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1720.0	100 %	+20(Ref)	1720 000 000	0.0	0.000 000	0.000
	100 %	-30	1720 000 001	1.0	0.000 000	0.001
	100 %	-20	1719 999 999	-0.4	0.000 000	0.000
	100 %	-10	1719 999 999	-0.8	0.000 000	0.000
	100 %	0	1719 999 998	-1.2	0.000 000	-0.001
	100 %	+10	1719 999 998	-1.2	0.000 000	-0.001
	100 %	+30	1719 999 997	-2.1	0.000 000	-0.001
	100 %	+40	1719 999 998	-1.9	0.000 000	-0.001
	100 %	+50	1720 000 000	0.7	0.000 000	0.000
	Batt. Endpoint	+20	1719 999 999	-0.6	0.000 000	0.000
1770.0	100 %	+20(Ref)	1770 000 004	0.0	0.000 000	0.000
	100 %	-30	1770 000 004	0.4	0.000 000	0.000
	100 %	-20	1770 000 004	0.4	0.000 000	0.000
	100 %	-10	1770 000 006	2.3	0.000 000	0.001
	100 %	0	1770 000 005	1.2	0.000 000	0.001
	100 %	+10	1770 000 007	3.8	0.000 000	0.002
	100 %	+30	1770 000 007	3.8	0.000 000	0.002
	100 %	+40	1770 000 004	0.6	0.000 000	0.000
	100 %	+50	1770 000 004	0.1	0.000 000	0.000
	Batt. Endpoint	+20	1770 000 006	2.7	0.000 000	0.002

- ☐ BandWidth: 30 MHz
☐ Voltage(100 %): 3.880 VDC
☐ Batt. Endpoint: 3.300 VDC
☐ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	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 000 014	6.9	0.000 000	0.004
	100 %	-20	1725 000 017	10.0	0.000 001	0.006
	100 %	-10	1725 000 017	10.0	0.000 001	0.006
	100 %	0	1725 000 013	6.5	0.000 000	0.004
	100 %	+10	1725 000 011	4.6	0.000 000	0.003
	100 %	+30	1725 000 011	4.6	0.000 000	0.003
	100 %	+40	1725 000 013	6.5	0.000 000	0.004
	100 %	+50	1725 000 012	5.4	0.000 000	0.003
	Batt. Endpoint	+20	1725 000 012	5.4	0.000 000	0.003
1765.0	100 %	+20(Ref)	1765 000 006	0.0	0.000 000	0.000
	100 %	-30	1765 000 010	3.3	0.000 000	0.002
	100 %	-20	1765 000 013	6.4	0.000 000	0.004
	100 %	-10	1765 000 013	6.4	0.000 000	0.004
	100 %	0	1765 000 011	5.1	0.000 000	0.003
	100 %	+10	1765 000 012	6.0	0.000 000	0.003
	100 %	+30	1765 000 012	6.0	0.000 000	0.003
	100 %	+40	1765 000 010	3.8	0.000 000	0.002
	100 %	+50	1765 000 009	2.8	0.000 000	0.002
	Batt. Endpoint	+20	1765 000 010	3.5	0.000 000	0.002

- ▣ BandWidth: 40 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
1730.0	100 %	+20(Ref)	1730 000 002	0.0	0.000 000	0.000
	100 %	-30	1730 000 007	5.6	0.000 000	0.003
	100 %	-20	1730 000 005	2.9	0.000 000	0.002
	100 %	-10	1730 000 005	2.9	0.000 000	0.002
	100 %	0	1730 000 006	3.9	0.000 000	0.002
	100 %	+10	1730 000 004	2.1	0.000 000	0.001
	100 %	+30	1730 000 004	2.1	0.000 000	0.001
	100 %	+40	1730 000 006	4.5	0.000 000	0.003
	100 %	+50	1730 000 005	3.0	0.000 000	0.002
	Batt. Endpoint	+20	1730 000 005	3.0	0.000 000	0.002
1760.0	100 %	+20(Ref)	1760 000 006	0.0	0.000 000	0.000
	100 %	-30	1760 000 012	6.3	0.000 000	0.004
	100 %	-20	1760 000 011	5.8	0.000 000	0.003
	100 %	-10	1760 000 011	5.8	0.000 000	0.003
	100 %	0	1760 000 013	6.9	0.000 000	0.004
	100 %	+10	1760 000 014	8.3	0.000 000	0.005
	100 %	+30	1760 000 014	8.3	0.000 000	0.005
	100 %	+40	1760 000 010	4.8	0.000 000	0.003
	100 %	+50	1760 000 009	3.7	0.000 000	0.002
	Batt. Endpoint	+20	1760 000 009	3.7	0.000 000	0.002

10. TEST PLOTS(Main1 Antenna)

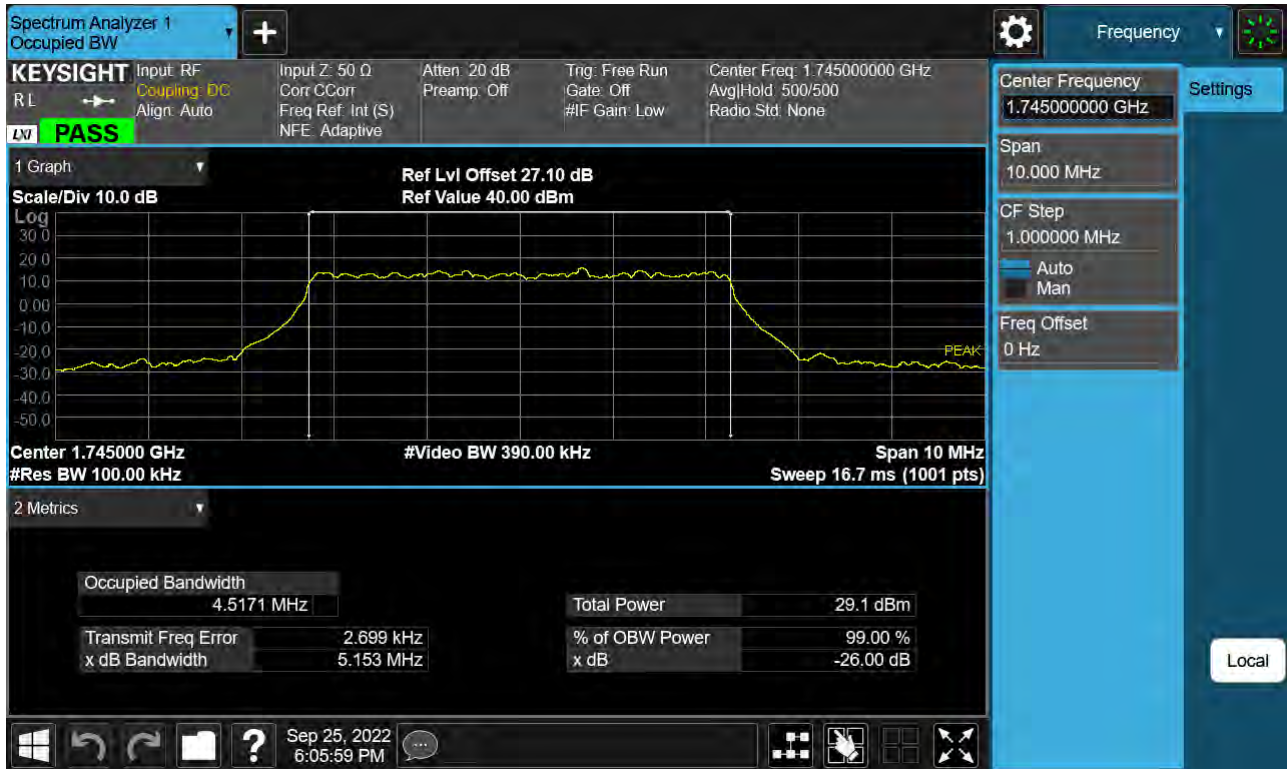
Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 BPSK Full RB)



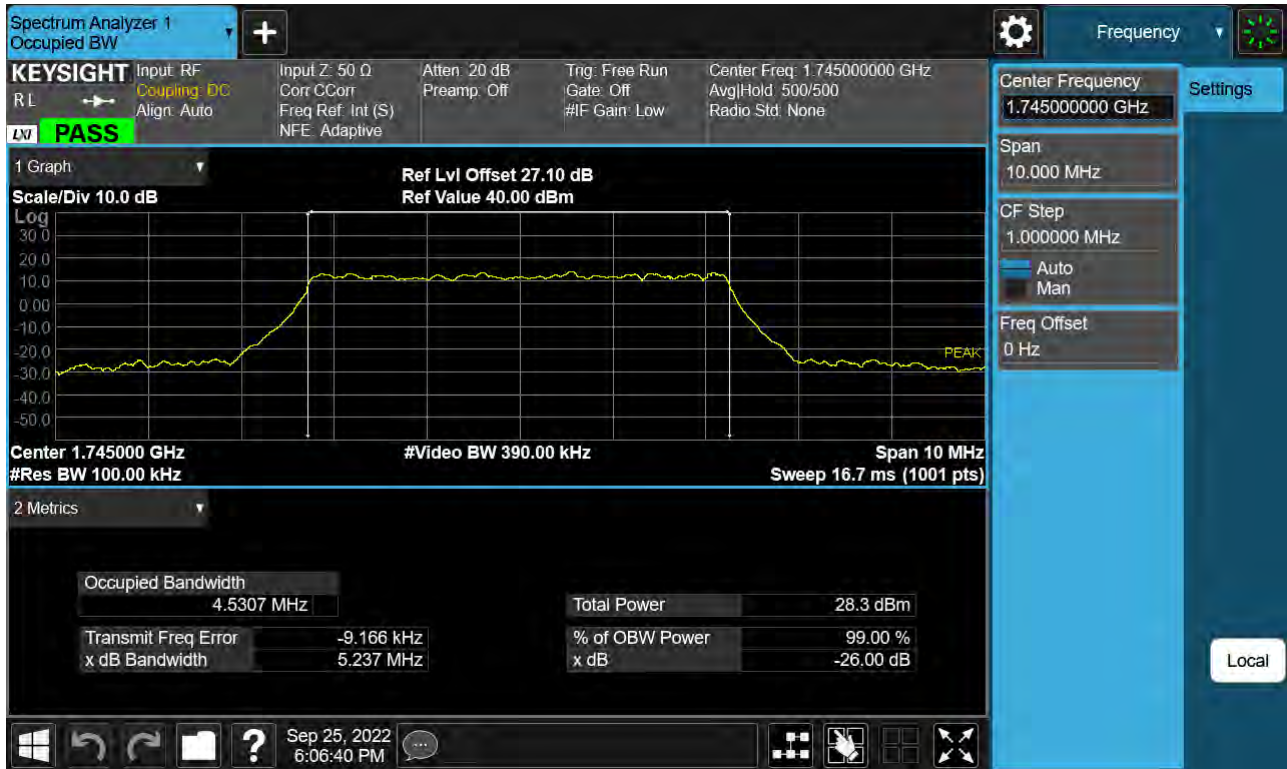
Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 QPSK Full RB)



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



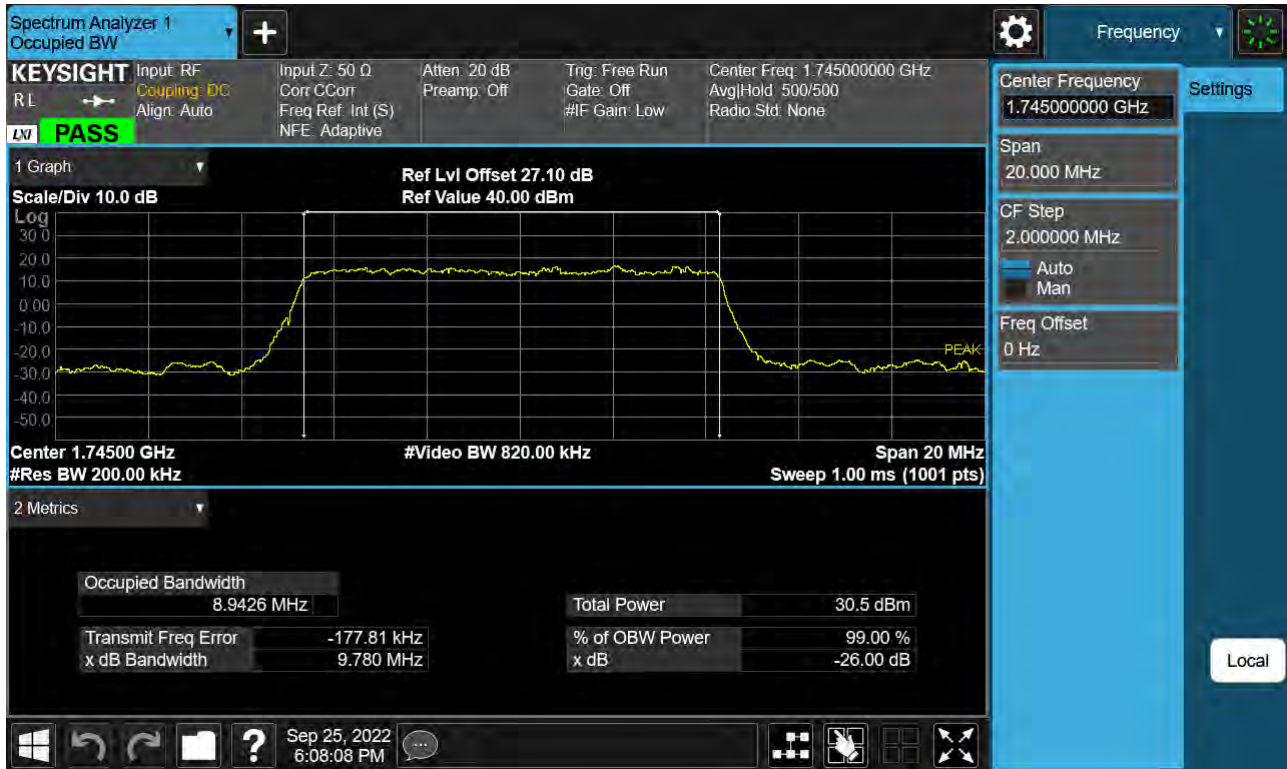
Sub6 n66. Occupied Bandwidth Plot (5 M BW Ch.349000 64QAM Full RB)



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



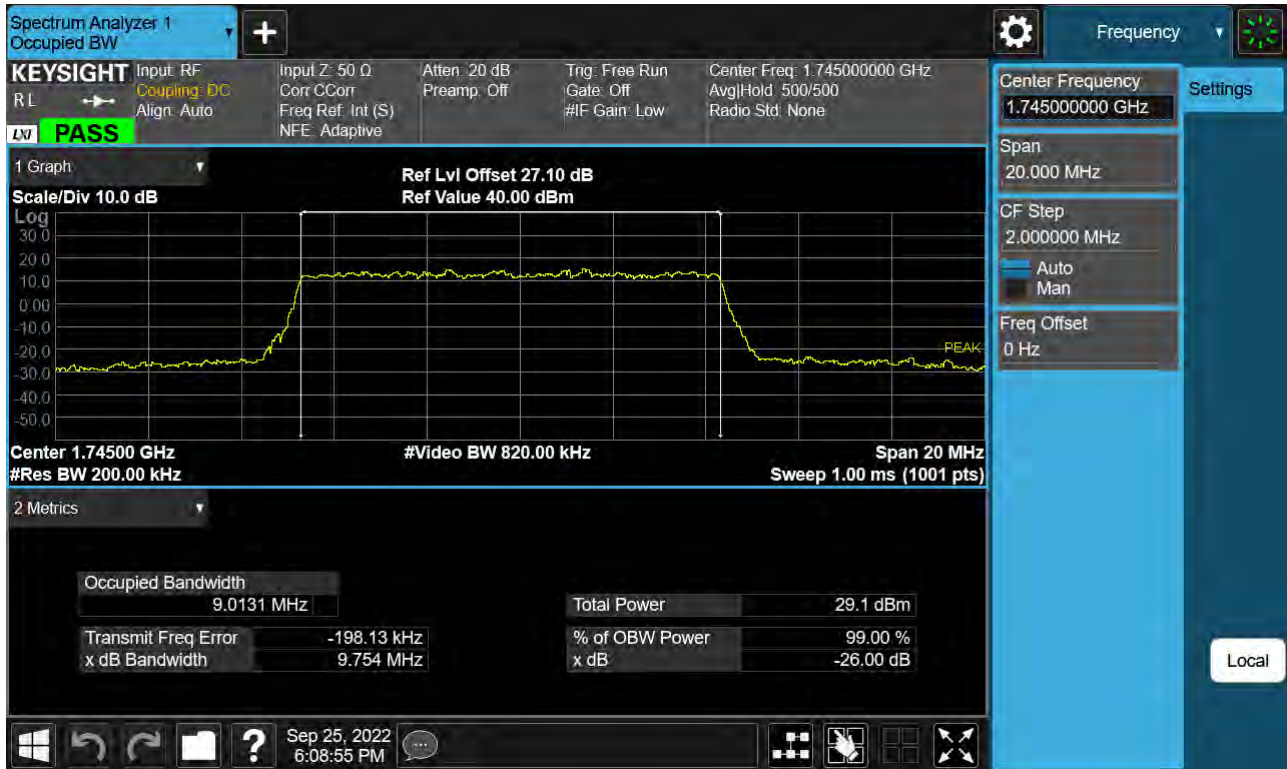
Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 BPSK Full RB)



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



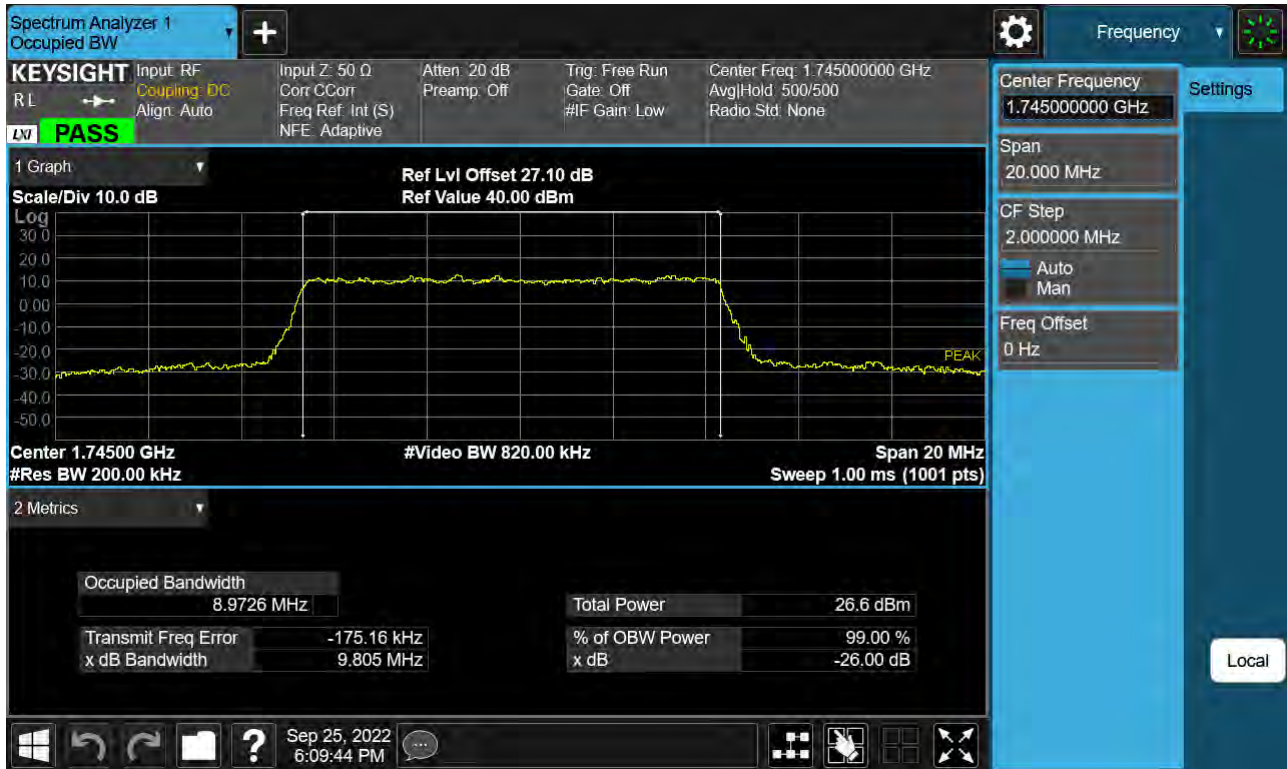
Sub6 n66. Occupied Bandwidth Plot (10 M BW Ch.349000 16QAM Full RB)



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)



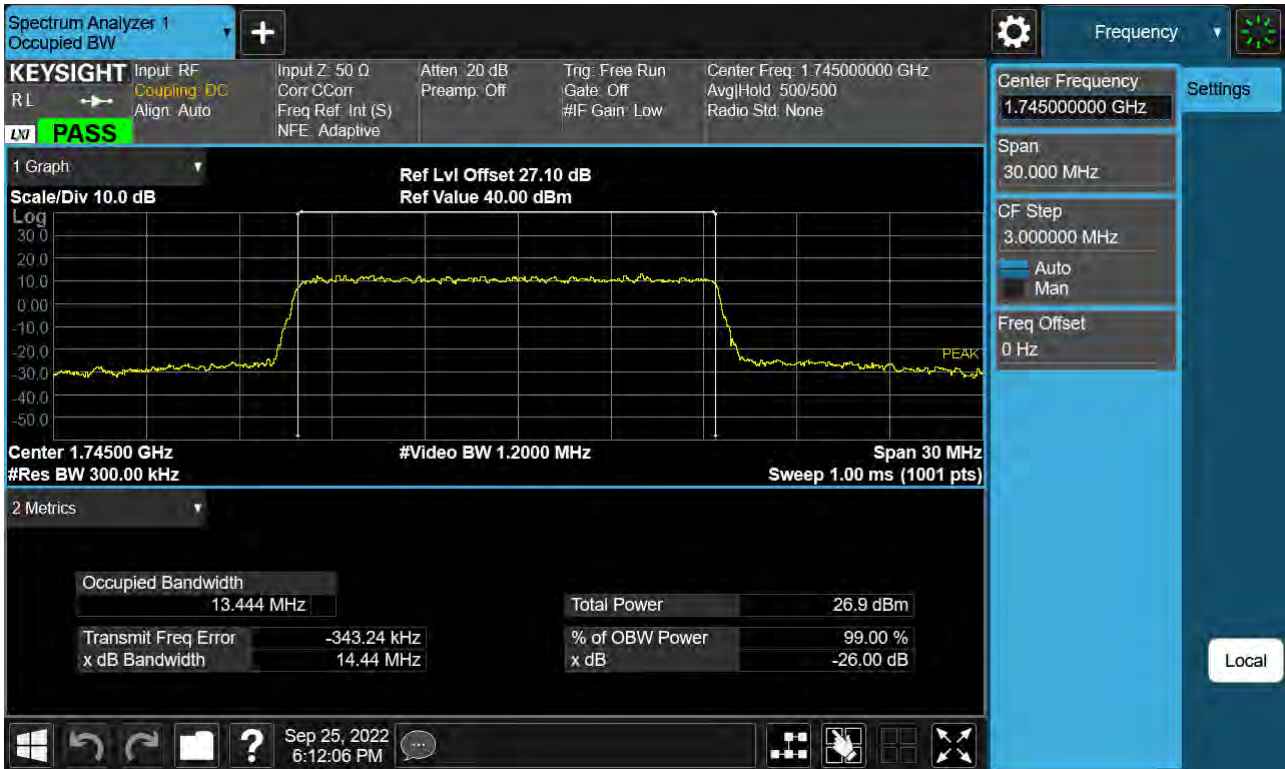
Sub6 n66. Occupied Bandwidth Plot (15 M BW Ch.349000 16QAM Full RB)



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 Bandwidth 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)



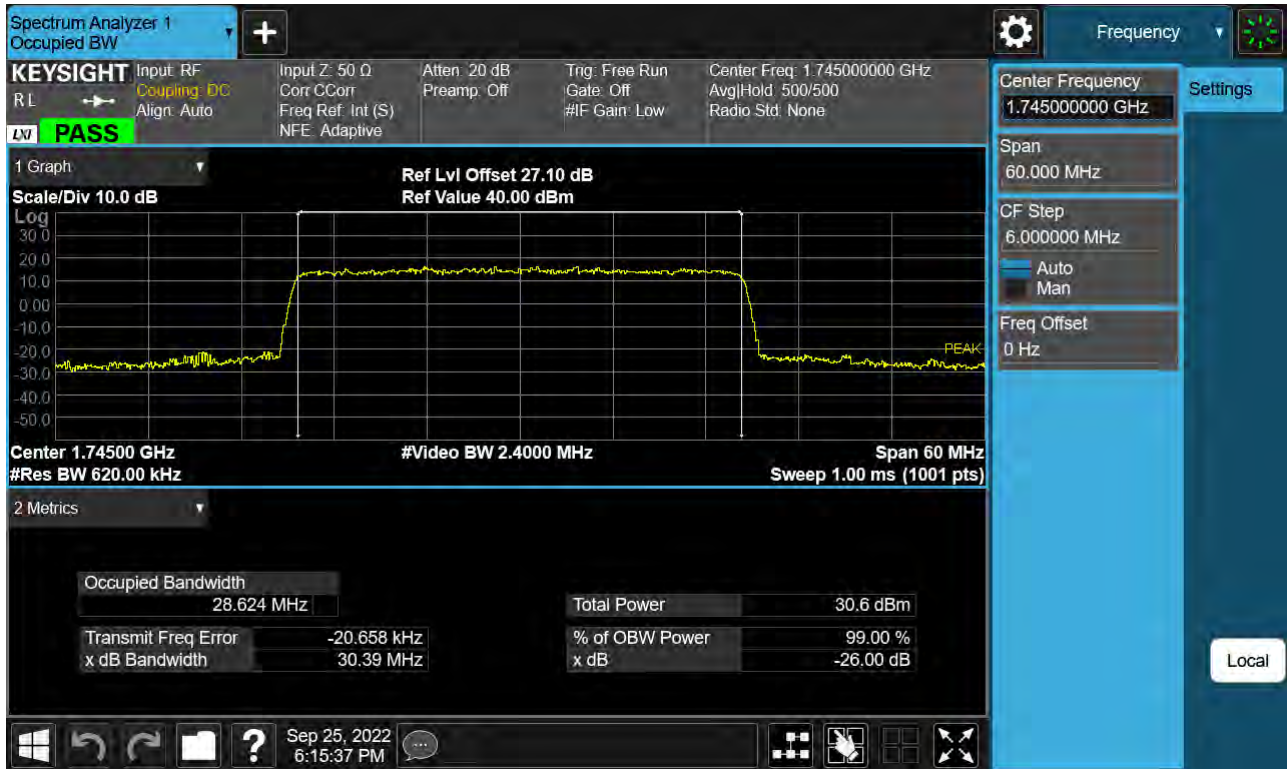
Sub6 n66. Occupied Bandwidth Plot (20 M BW Ch.349000 256QAM Full RB)



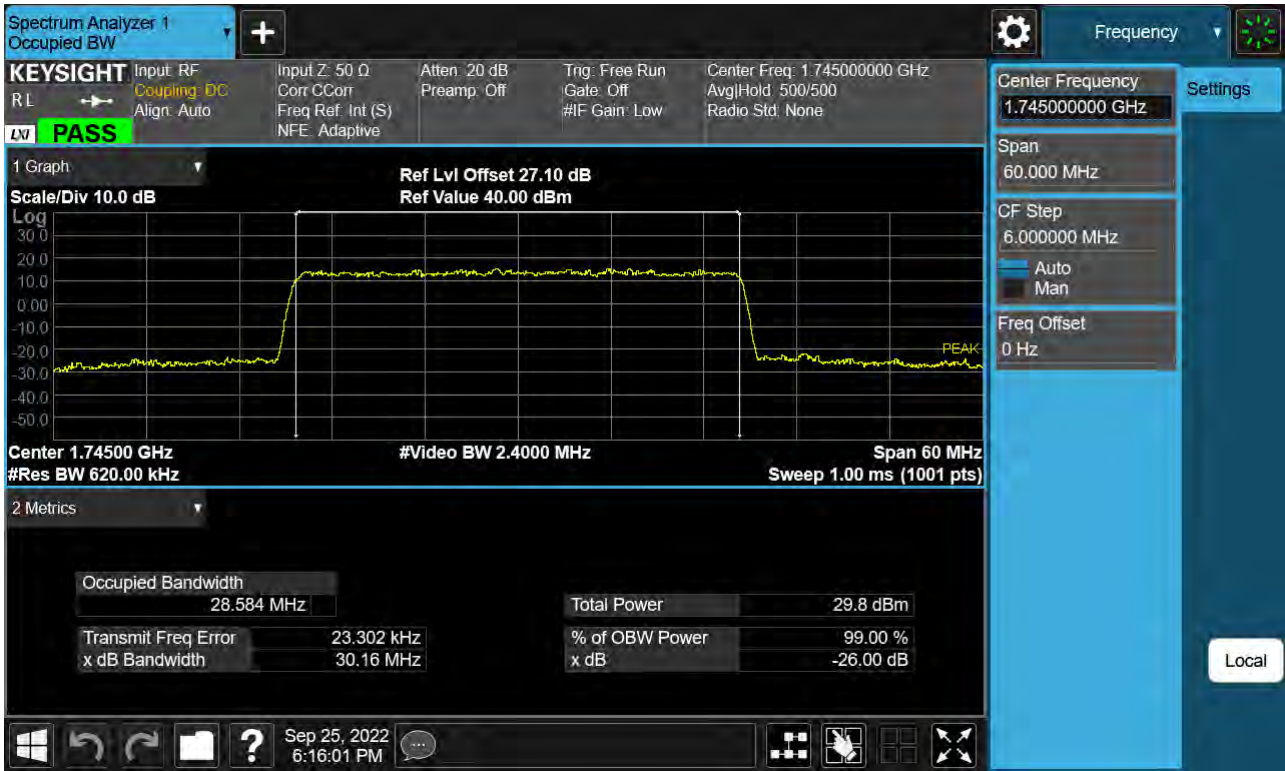
Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 BPSK Full RB)



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



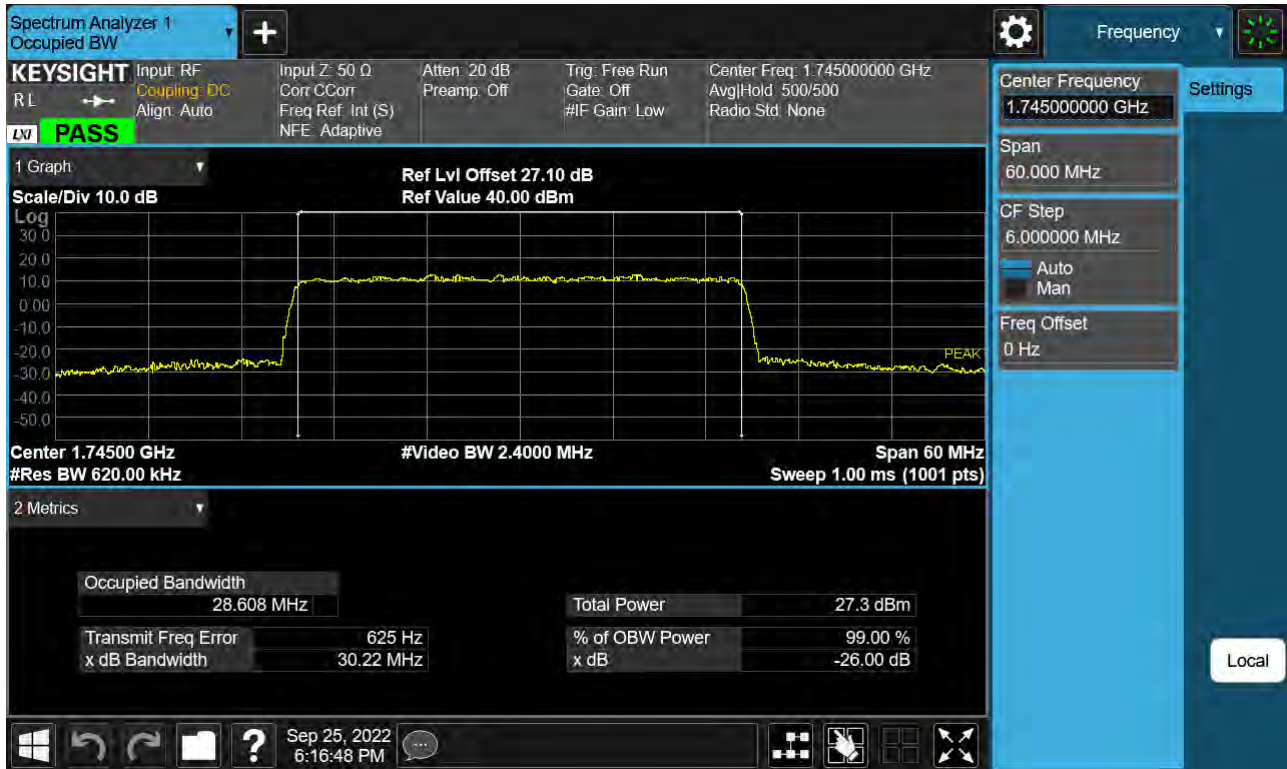
Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 16QAM Full RB)



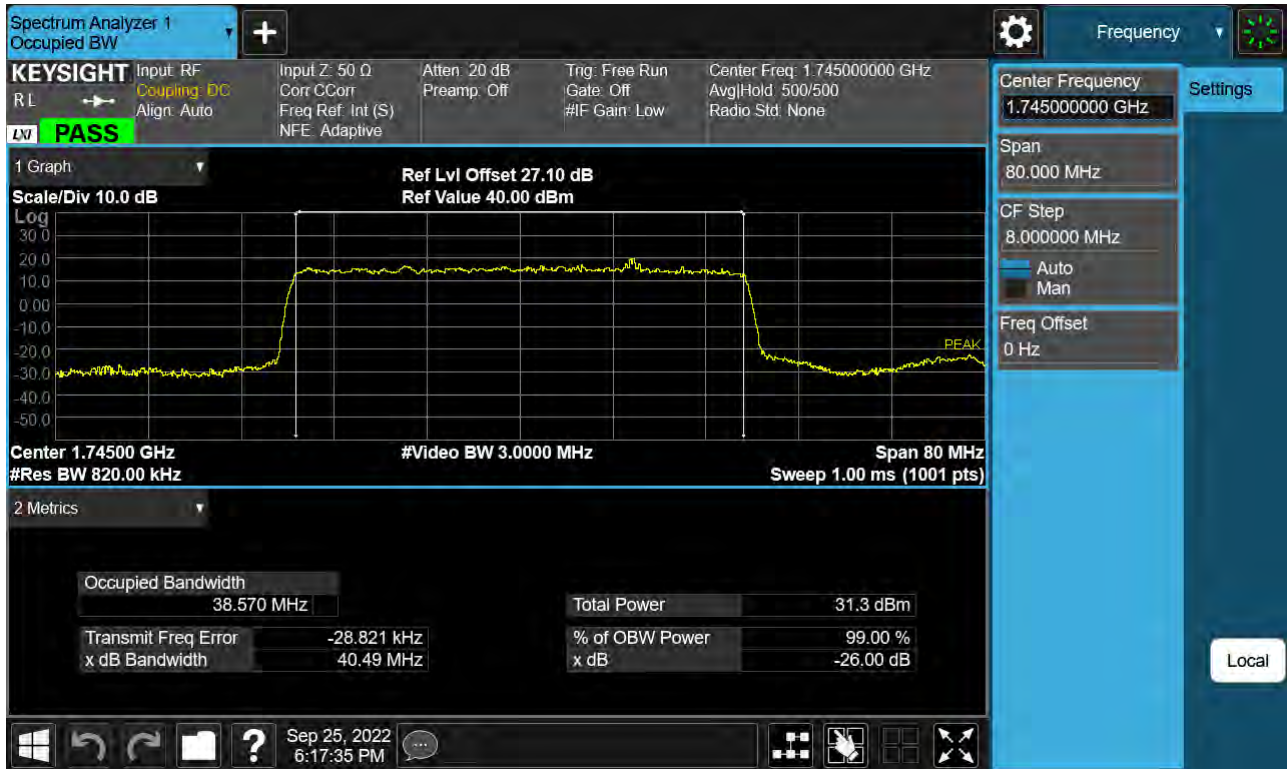
Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 64QAM Full RB)



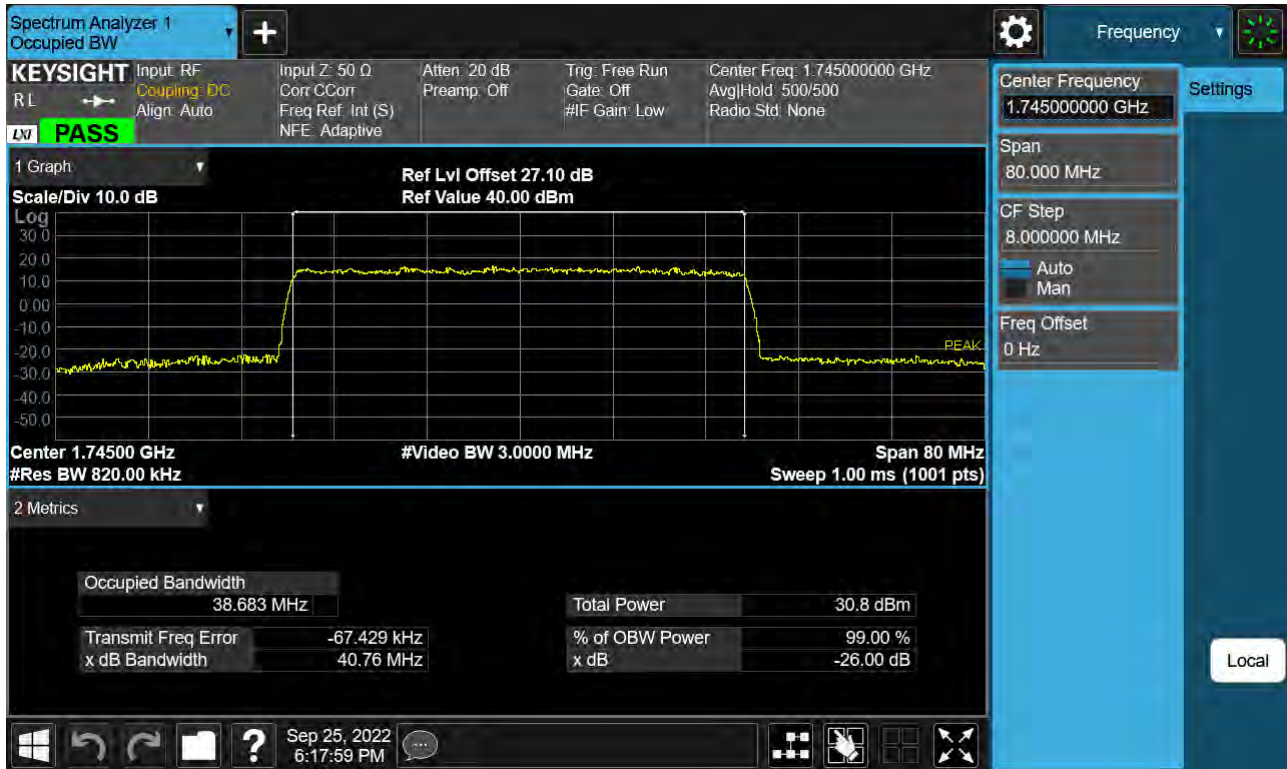
Sub6 n66. Occupied Bandwidth Plot (30 M BW Ch.349000 256QAM Full RB)



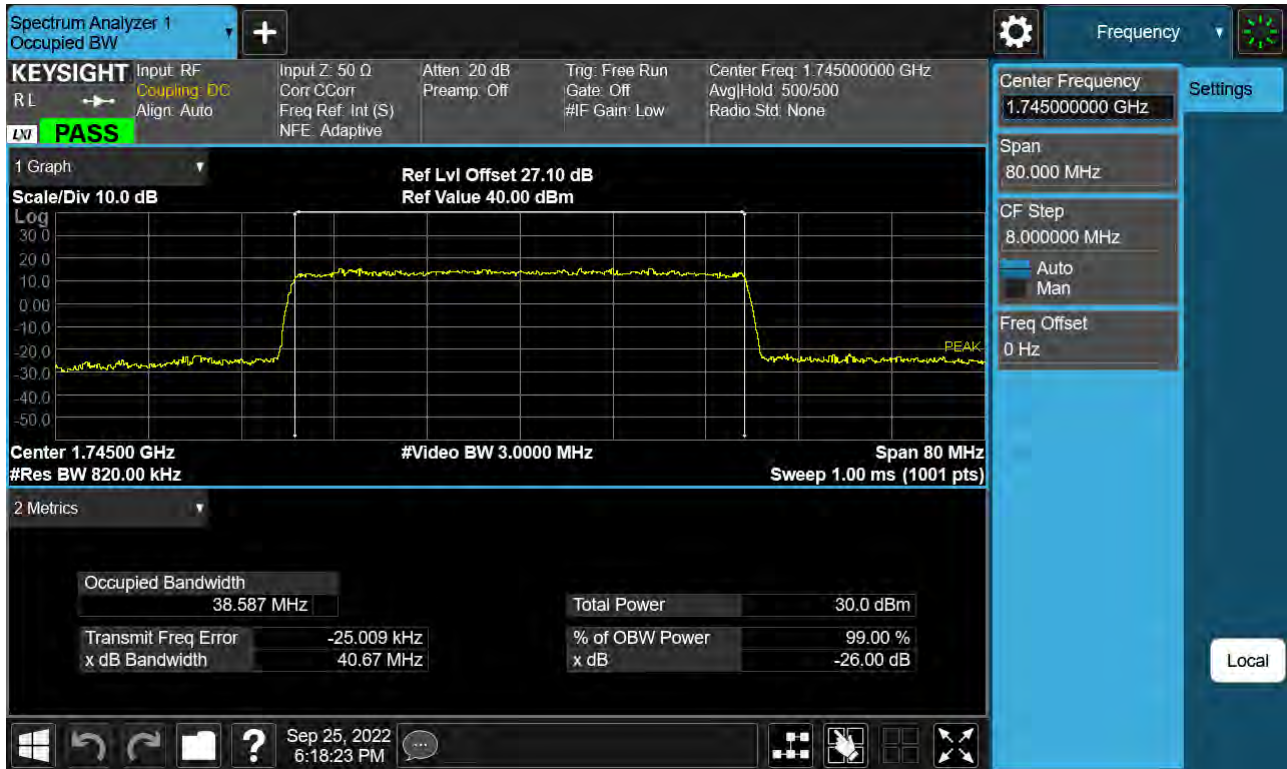
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 BPSK Full RB)



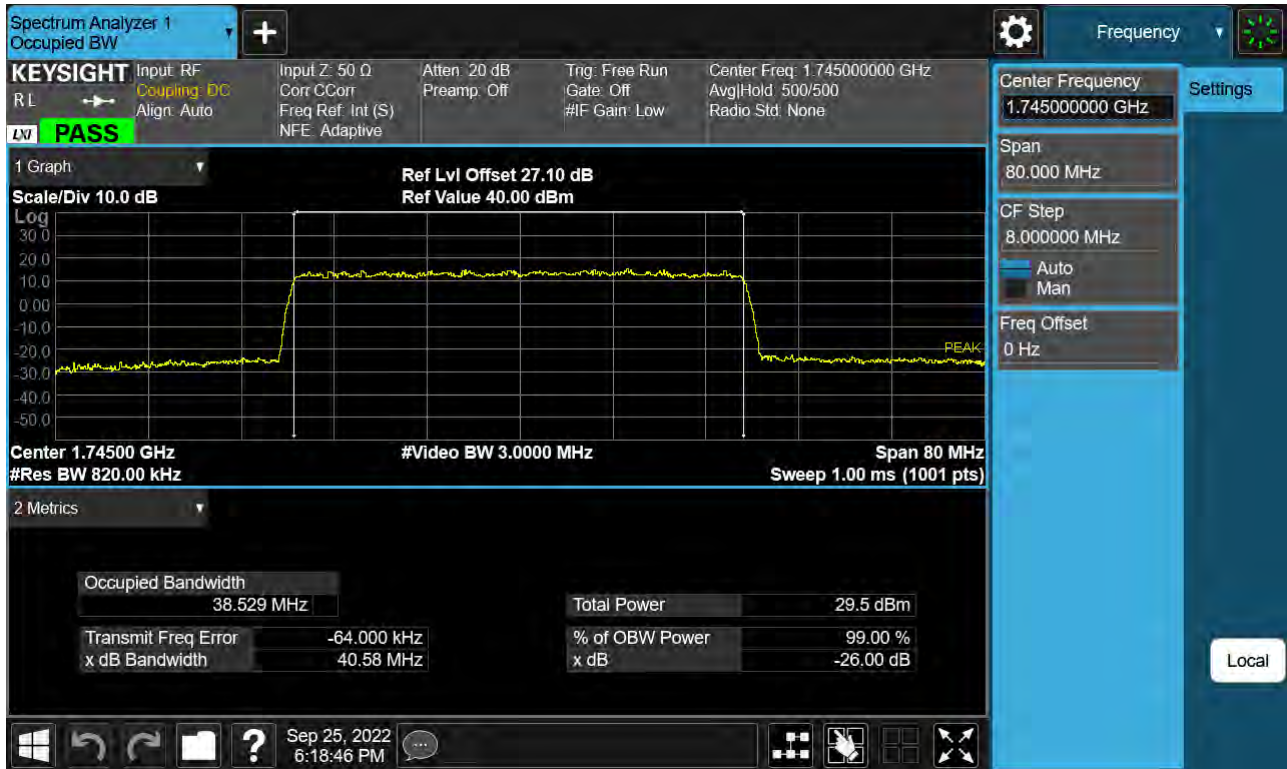
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 QPSK Full RB)



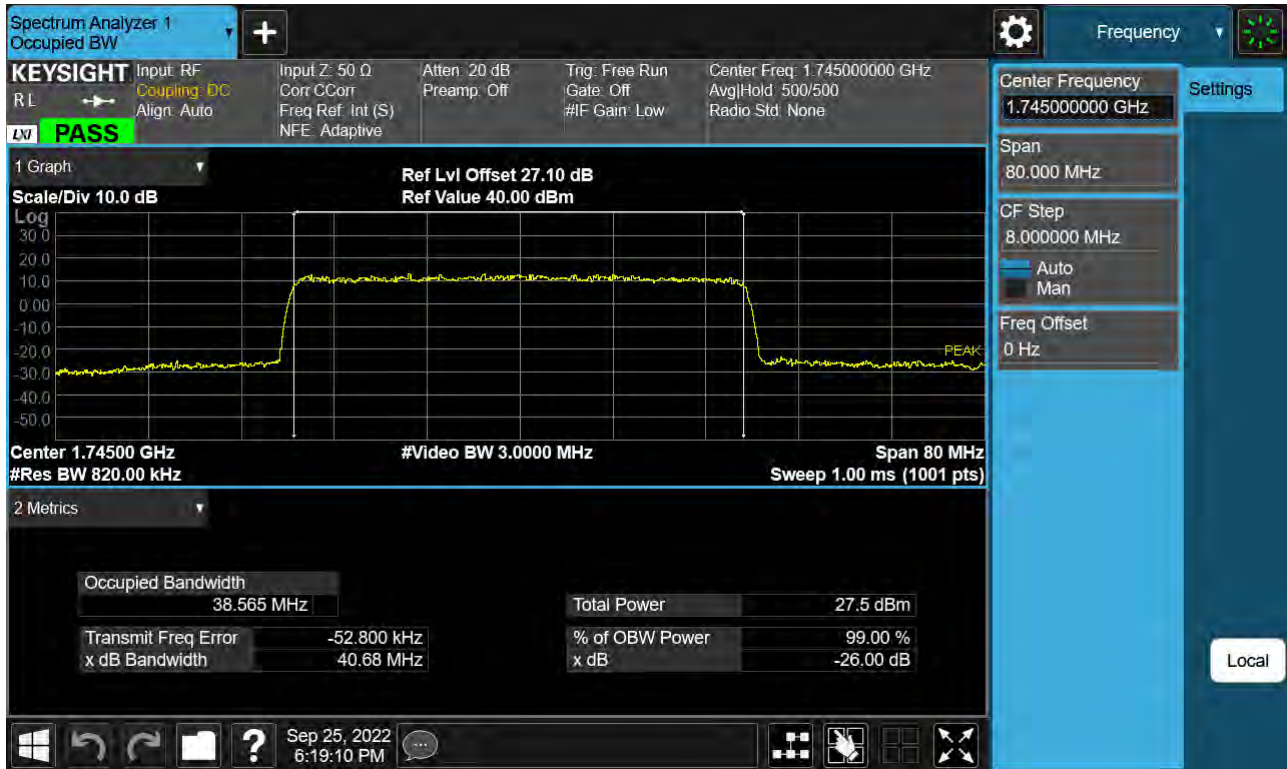
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 16QAM Full RB)



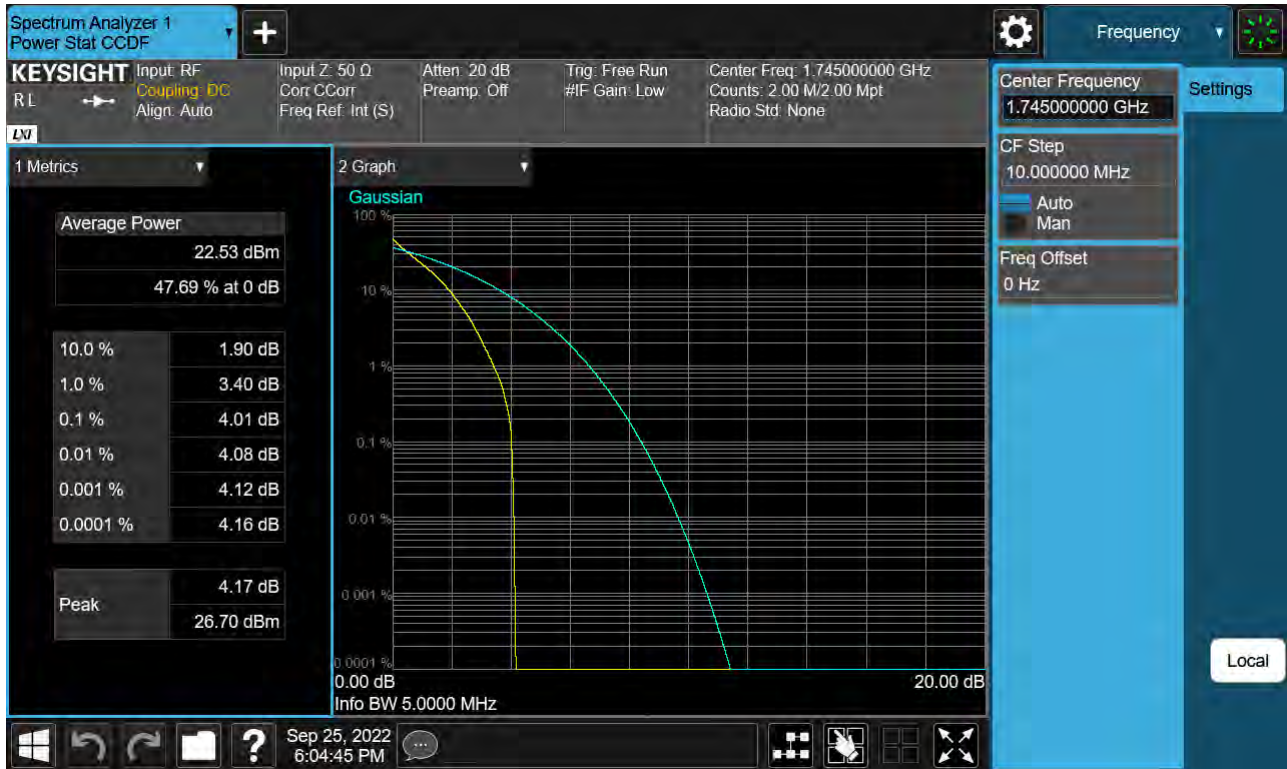
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 64QAM Full RB)



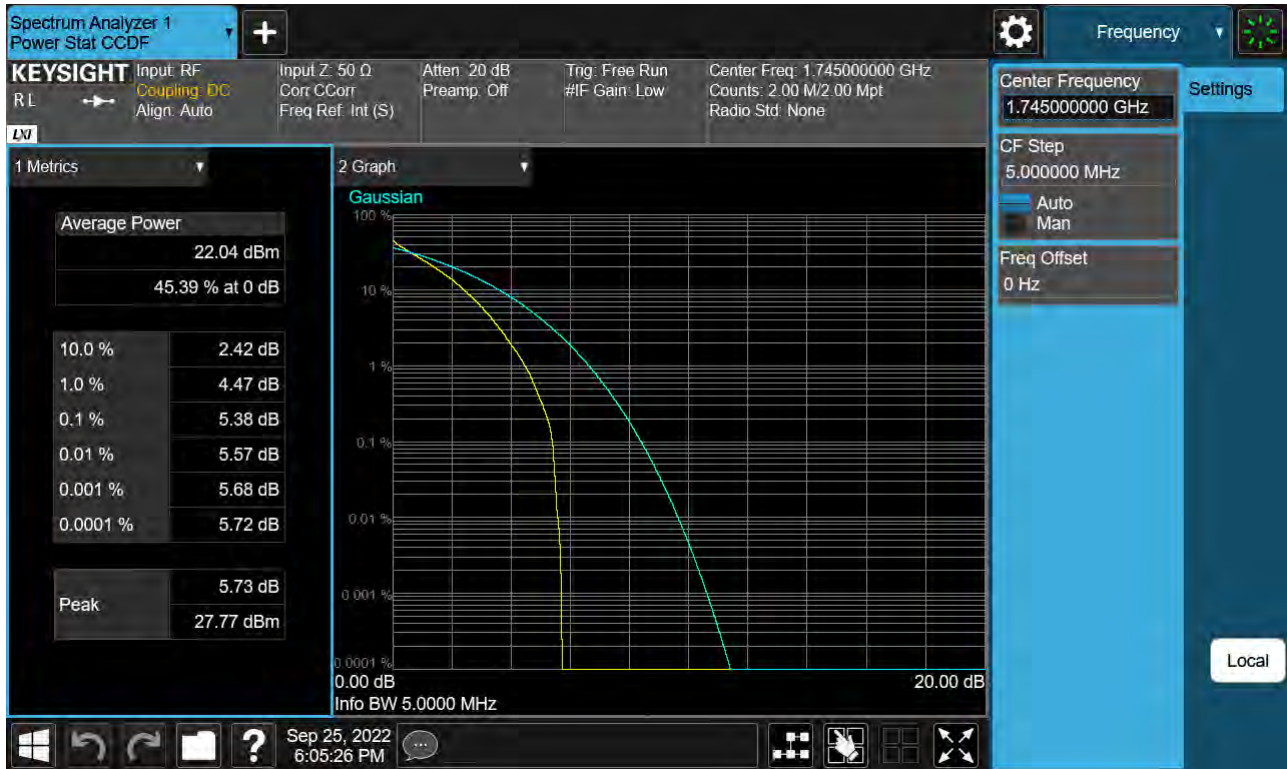
Sub6 n66. Occupied Bandwidth Plot (40 M BW Ch.349000 256QAM Full RB)



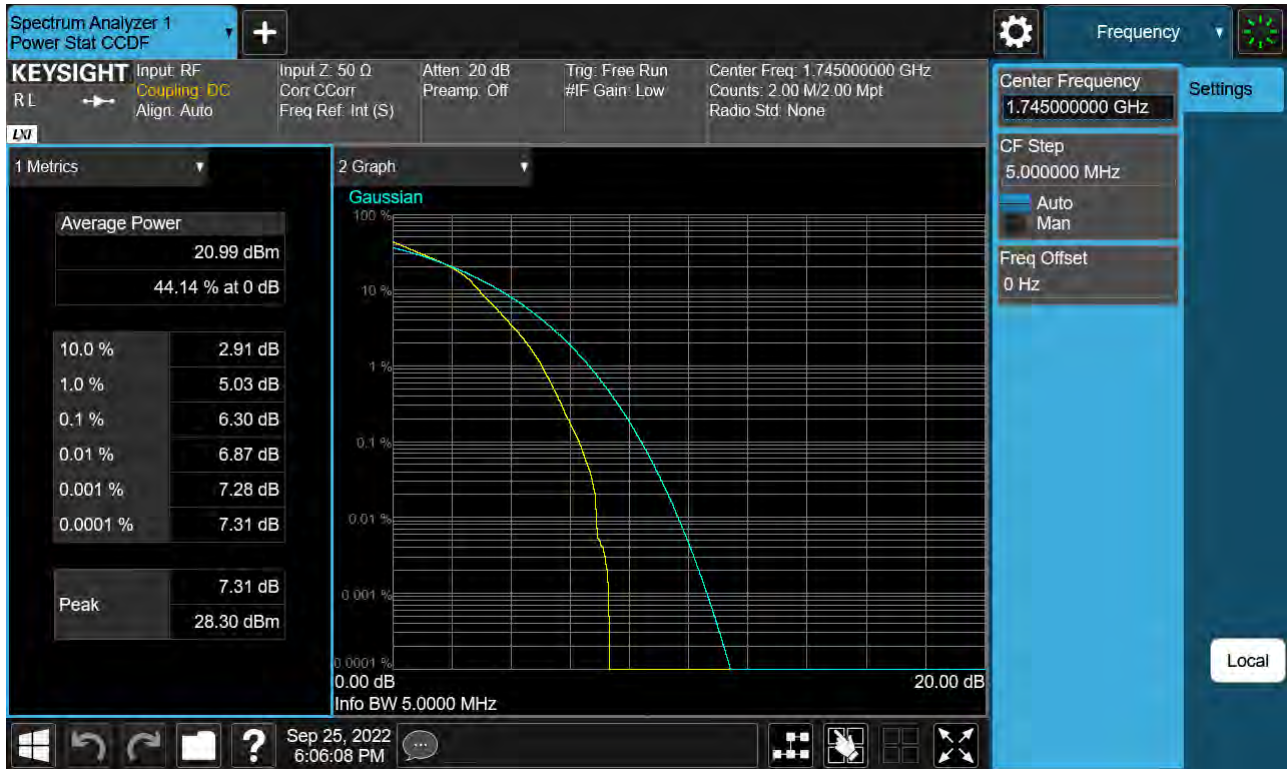
Sub6 n66. PAR Plot (5 M BW_Ch.349000_ BPSK_ Full RB)



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



Sub6 n66. PAR Plot (5 M BW_Ch.349000_16QAM_Full RB)



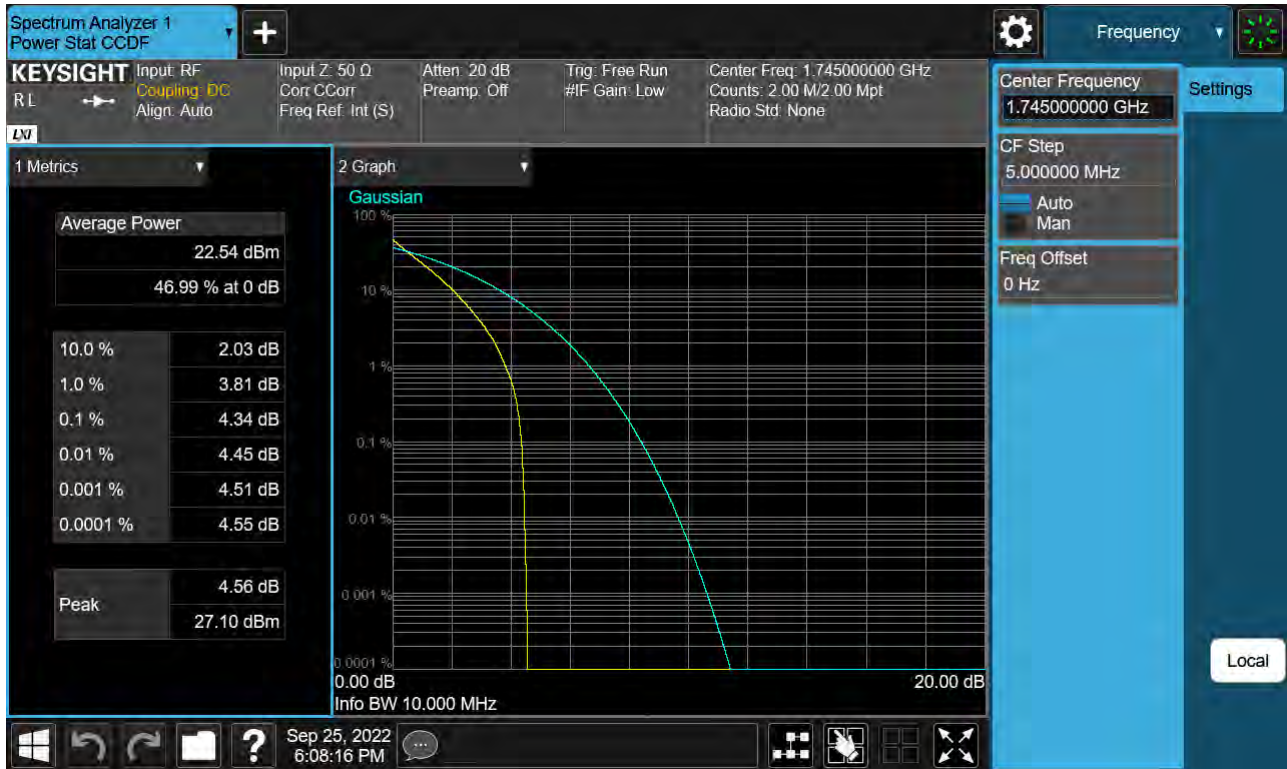
Sub6 n66. PAR Plot (5 M BW_Ch.349000_64QAM_Full RB)



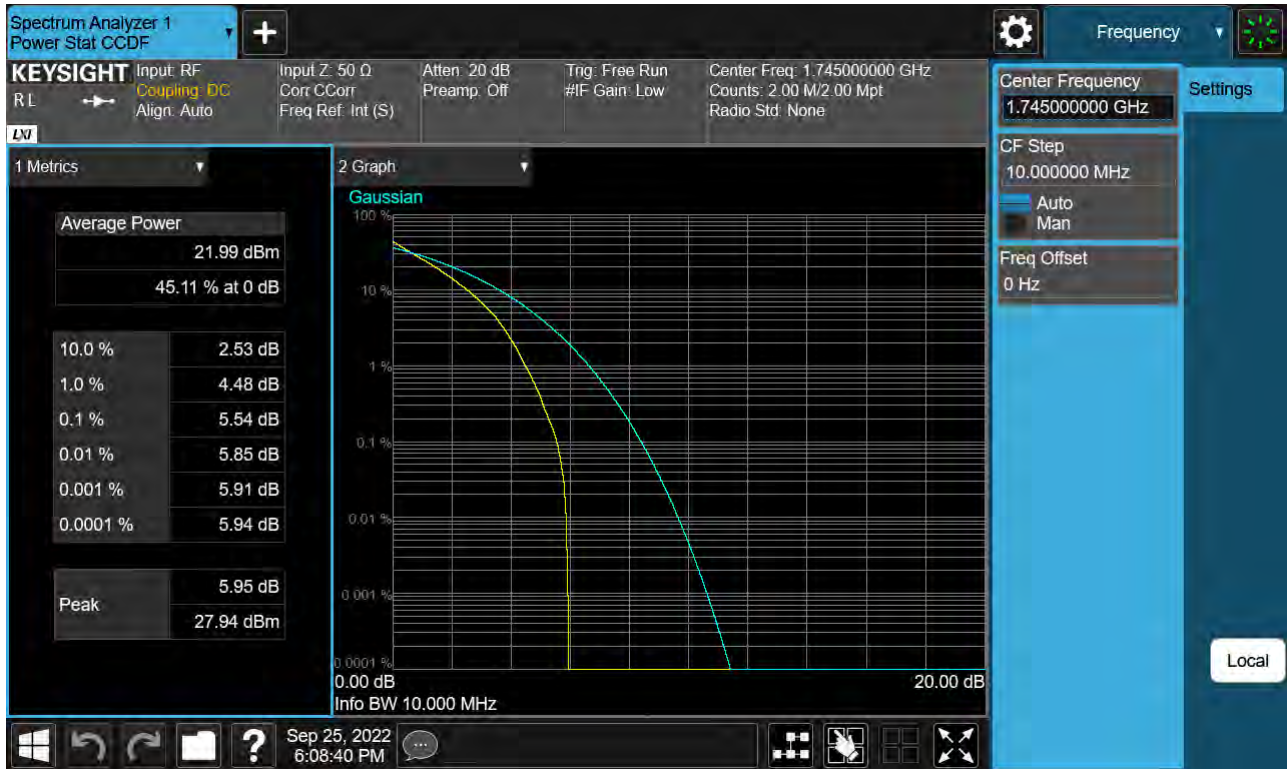
Sub6 n66. PAR Plot (5 M BW_Ch.349000_256QAM_Full RB)



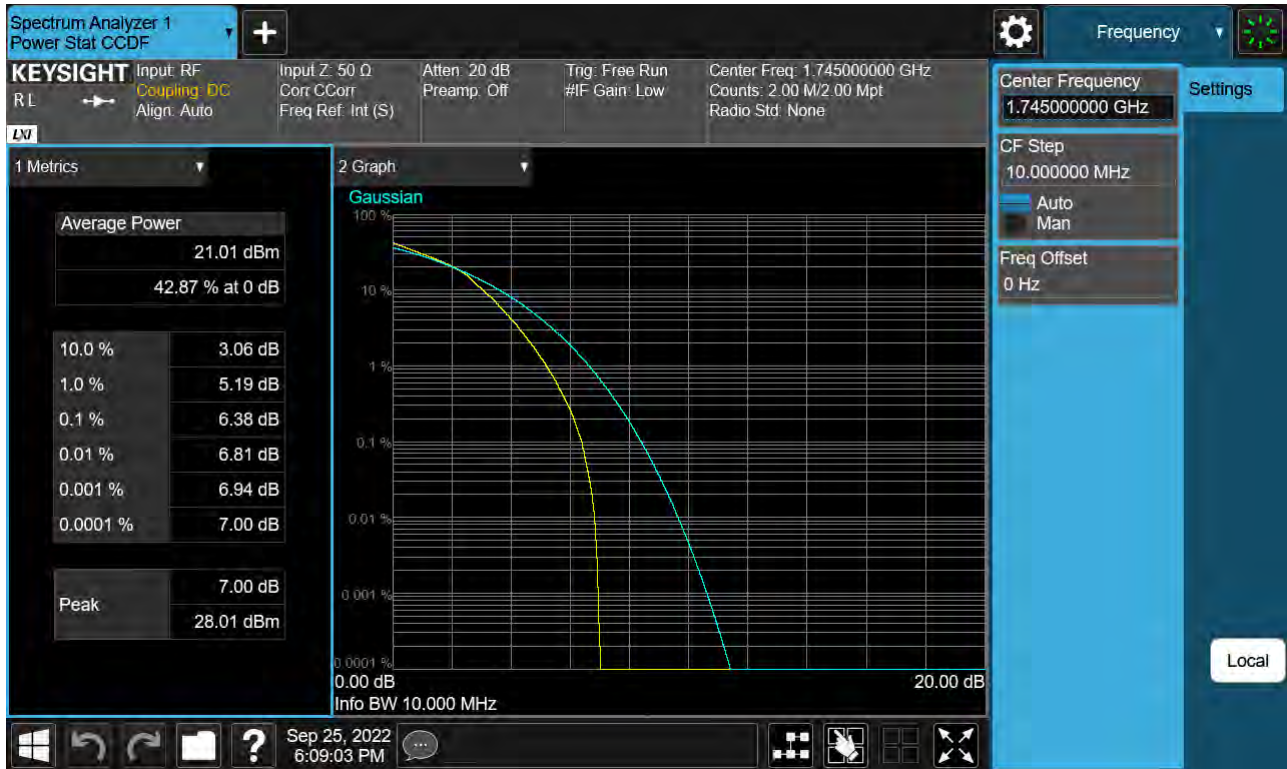
Sub6 n66. PAR Plot (10 M BW_Ch.349000_ BPSK_ Full RB)



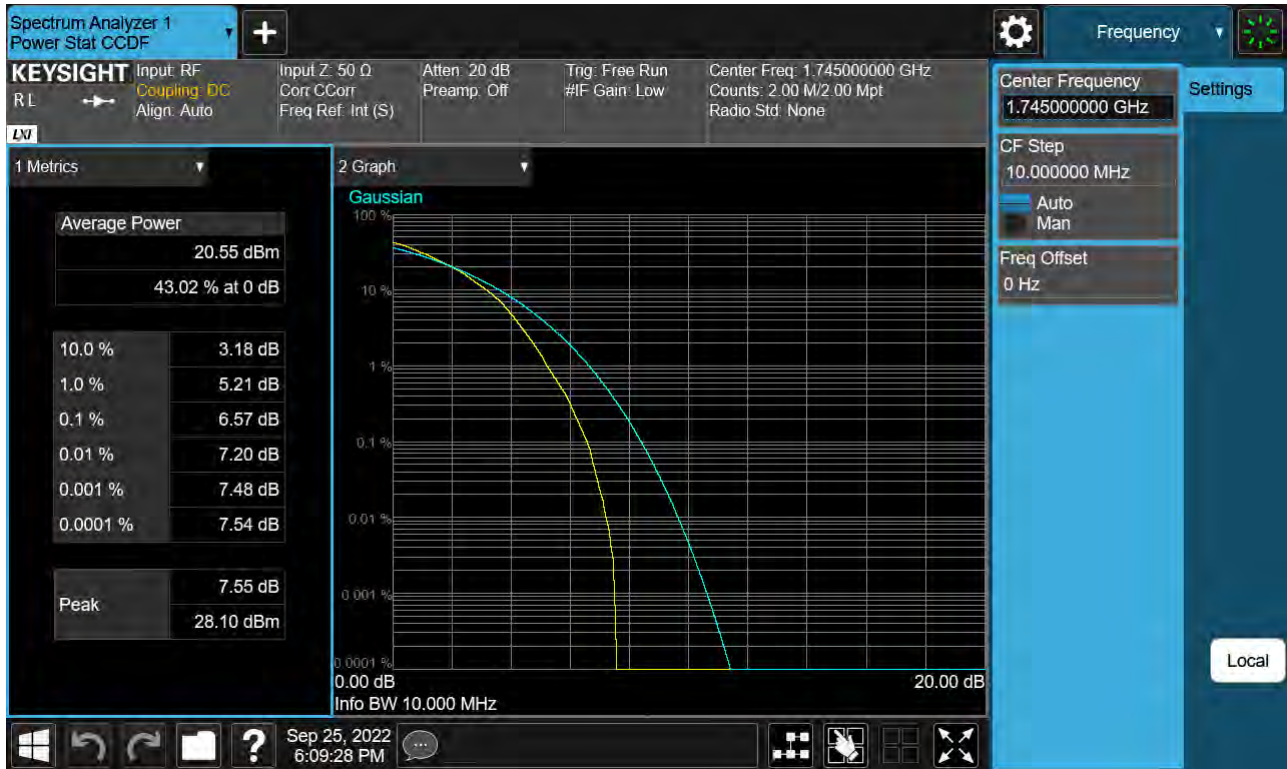
Sub6 n66. PAR Plot (10 M BW_Ch.349000_QPSK_Full RB)



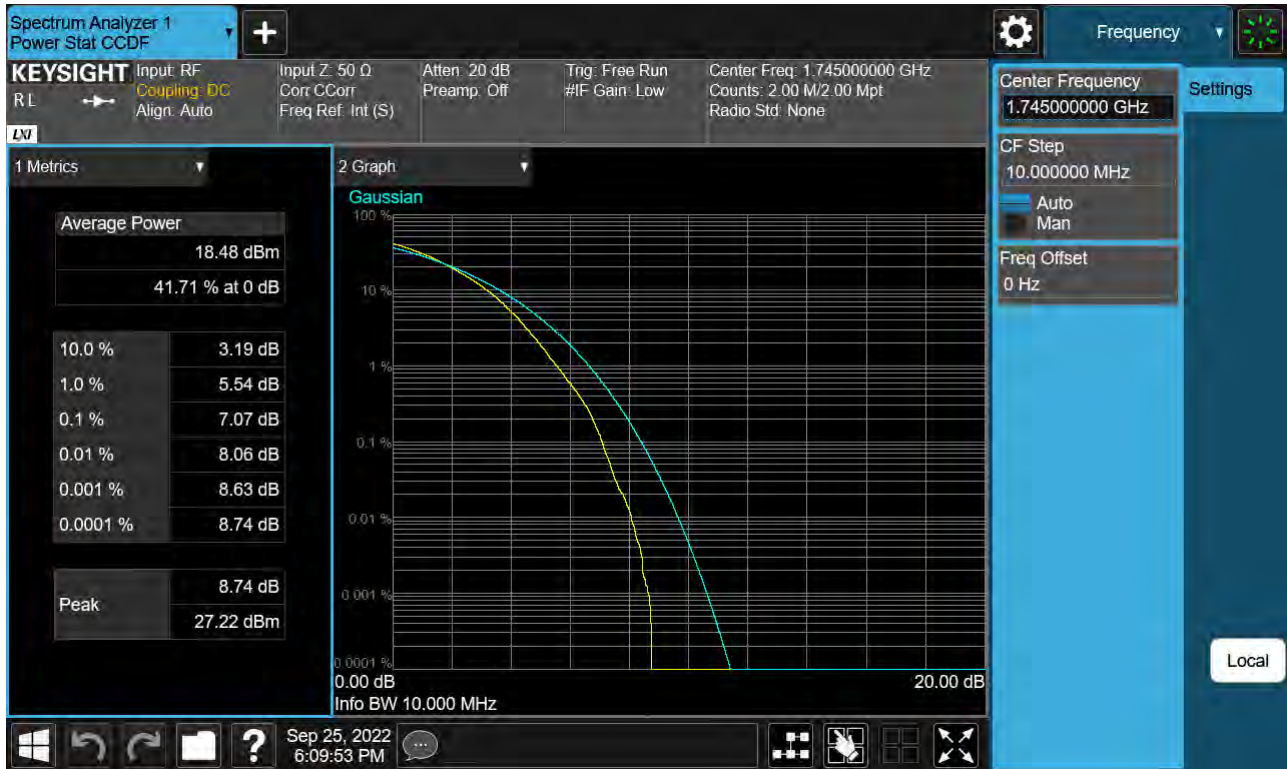
Sub6 n66. PAR Plot (10 M BW_Ch.349000_16QAM_Full RB)



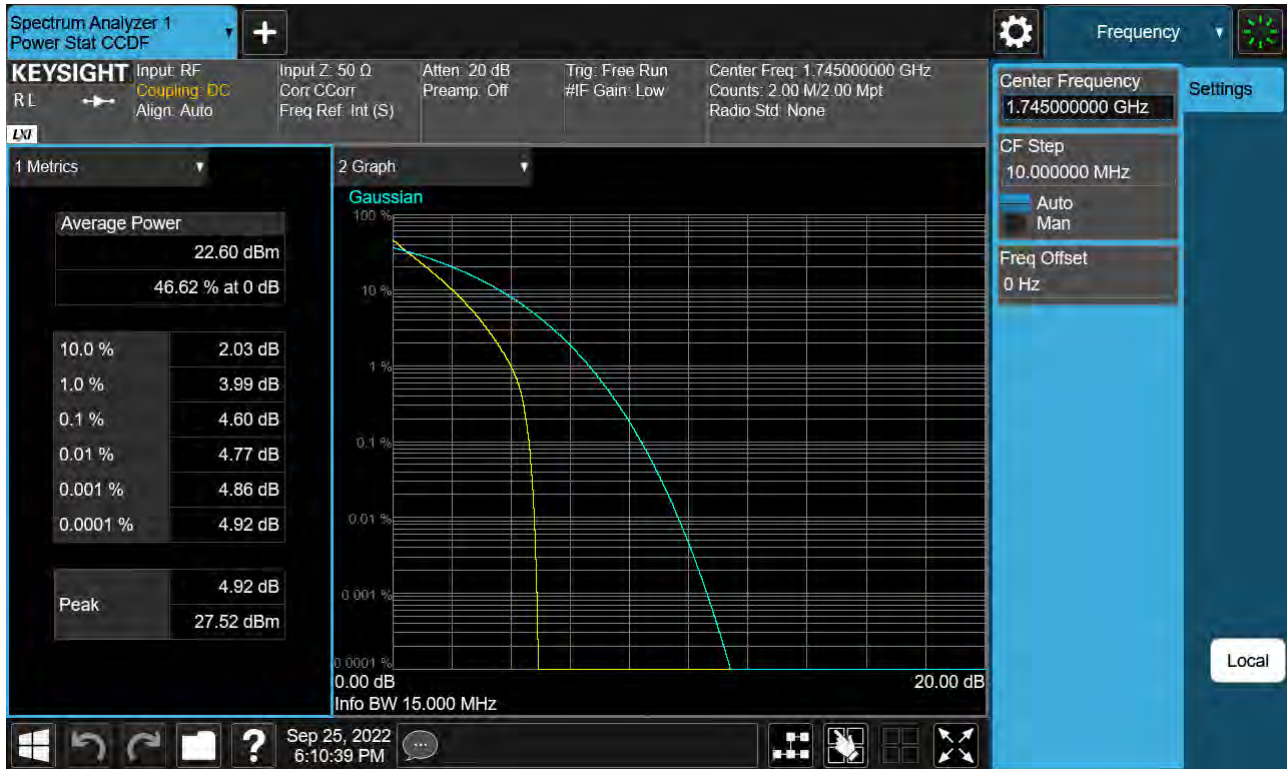
Sub6 n66. PAR Plot (10 M BW_Ch.349000_64QAM_Full RB)



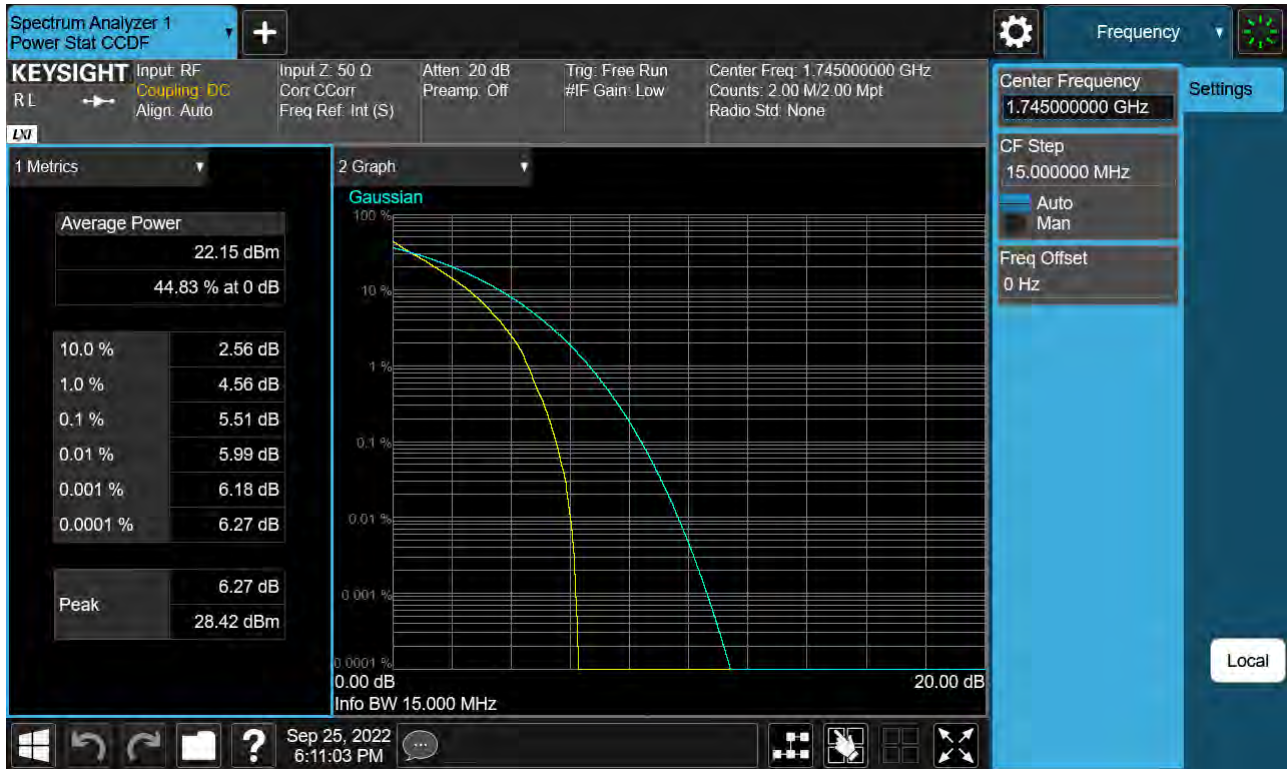
Sub6 n66. PAR Plot (10 M BW_Ch.349000_256QAM_Full RB)



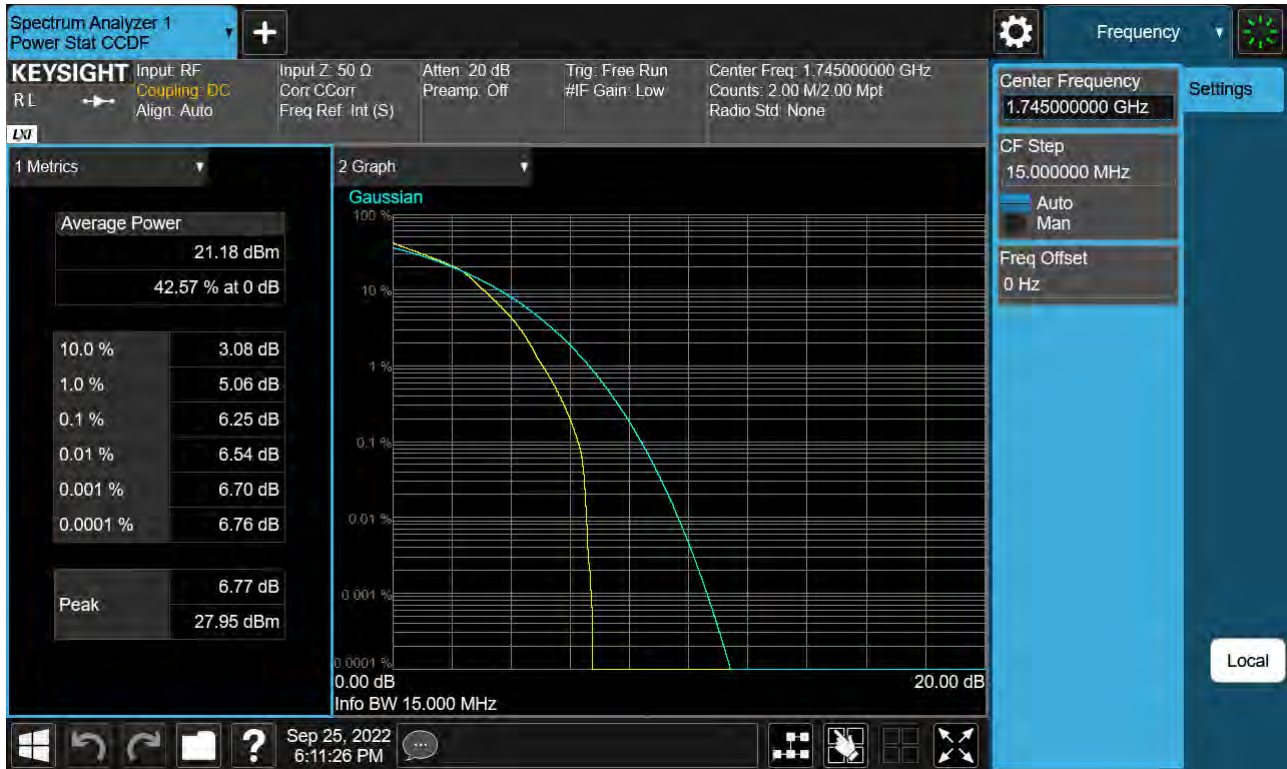
Sub6 n66. PAR Plot (15 M BW_Ch.349000_ BPSK_ Full RB)



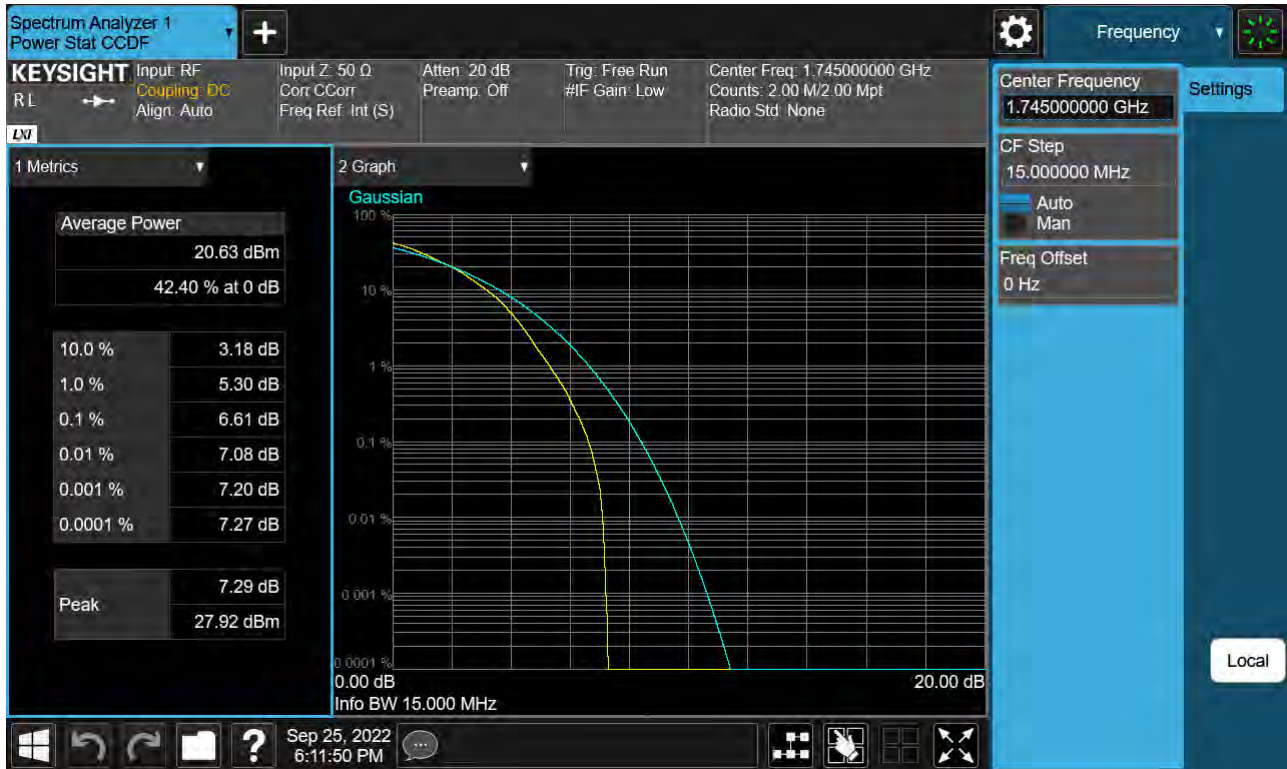
Sub6 n66. PAR Plot (15 M BW_Ch.349000_QPSK_Full RB)



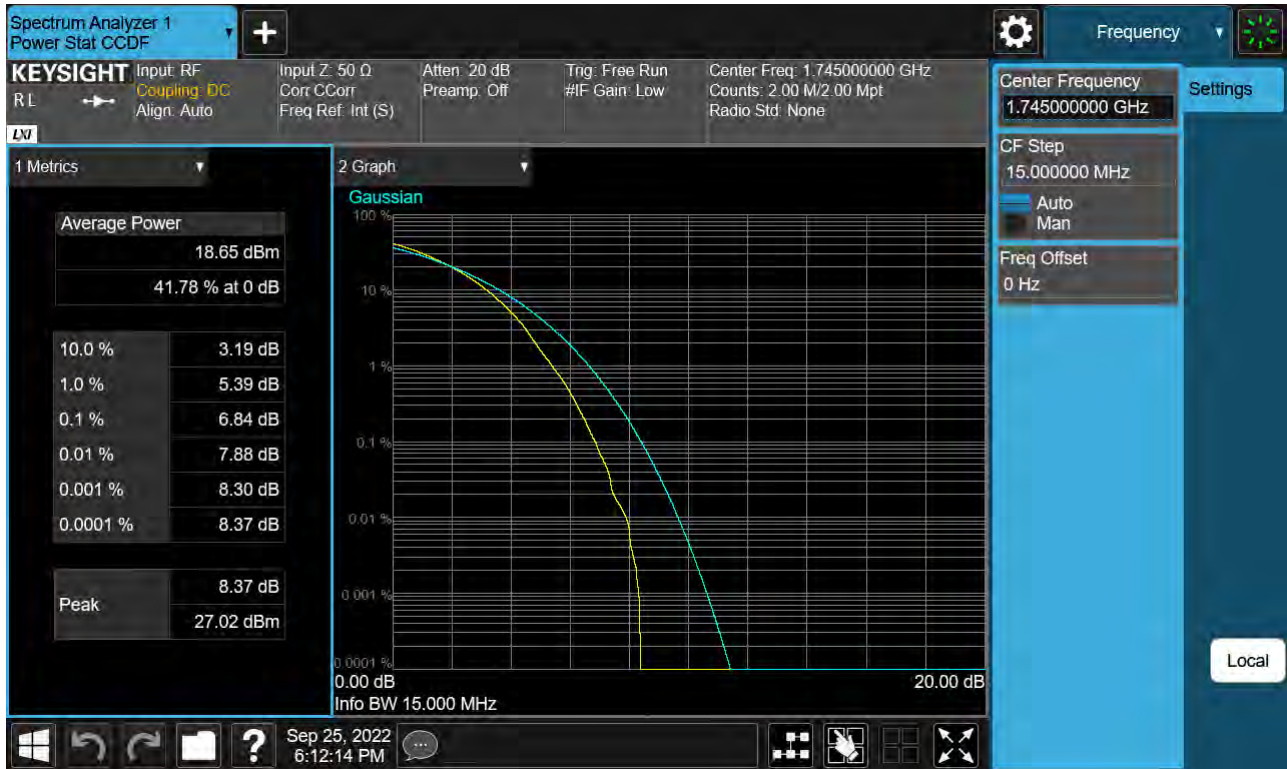
Sub6 n66. PAR Plot (15 M BW_Ch.349000_16QAM_Full RB)



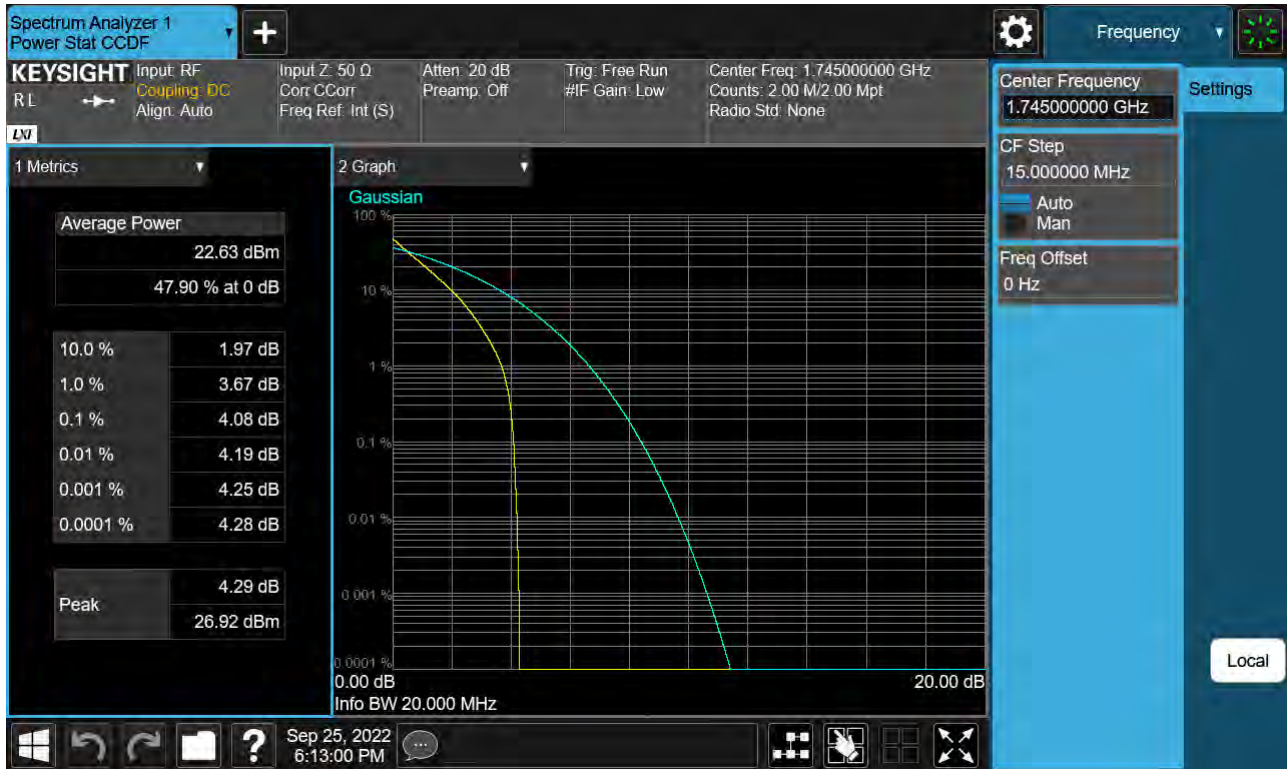
Sub6 n66. PAR Plot (15 M BW_Ch.349000_64QAM_Full RB)



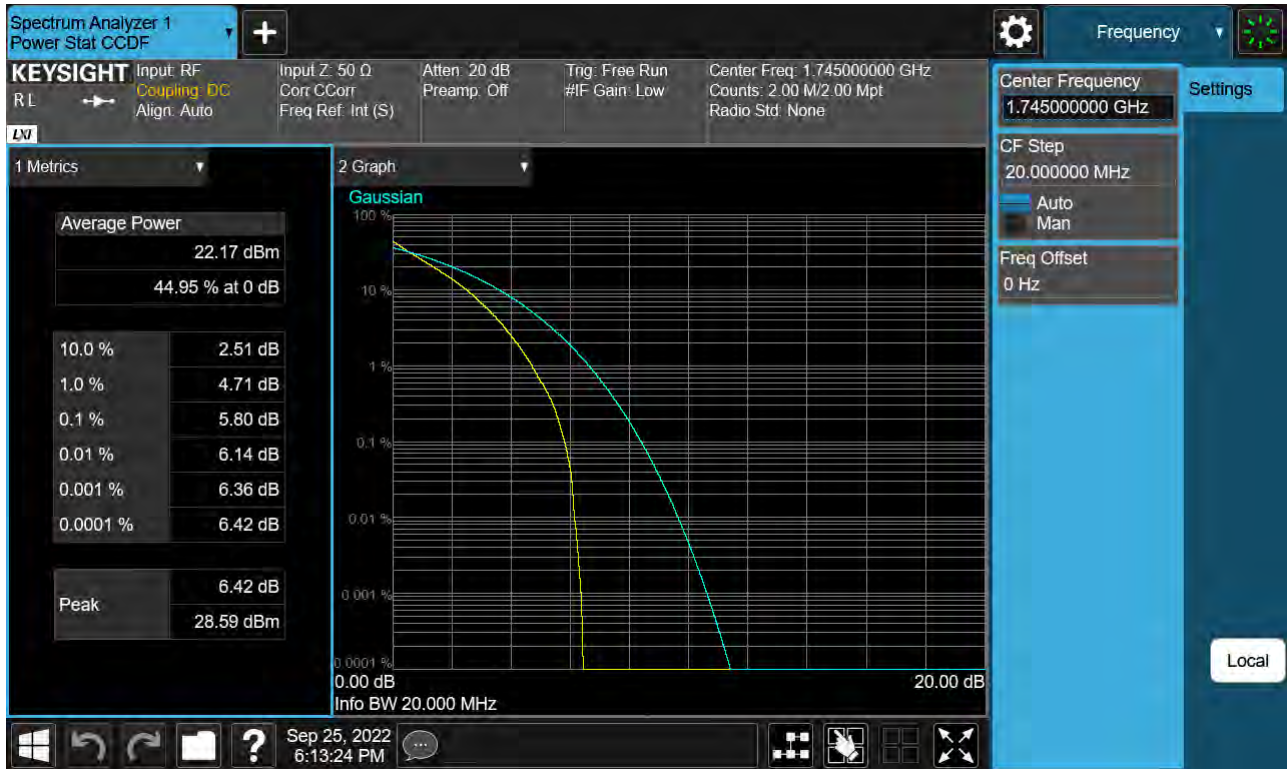
Sub6 n66. PAR Plot (15 M BW_Ch.349000_256QAM_Full RB)



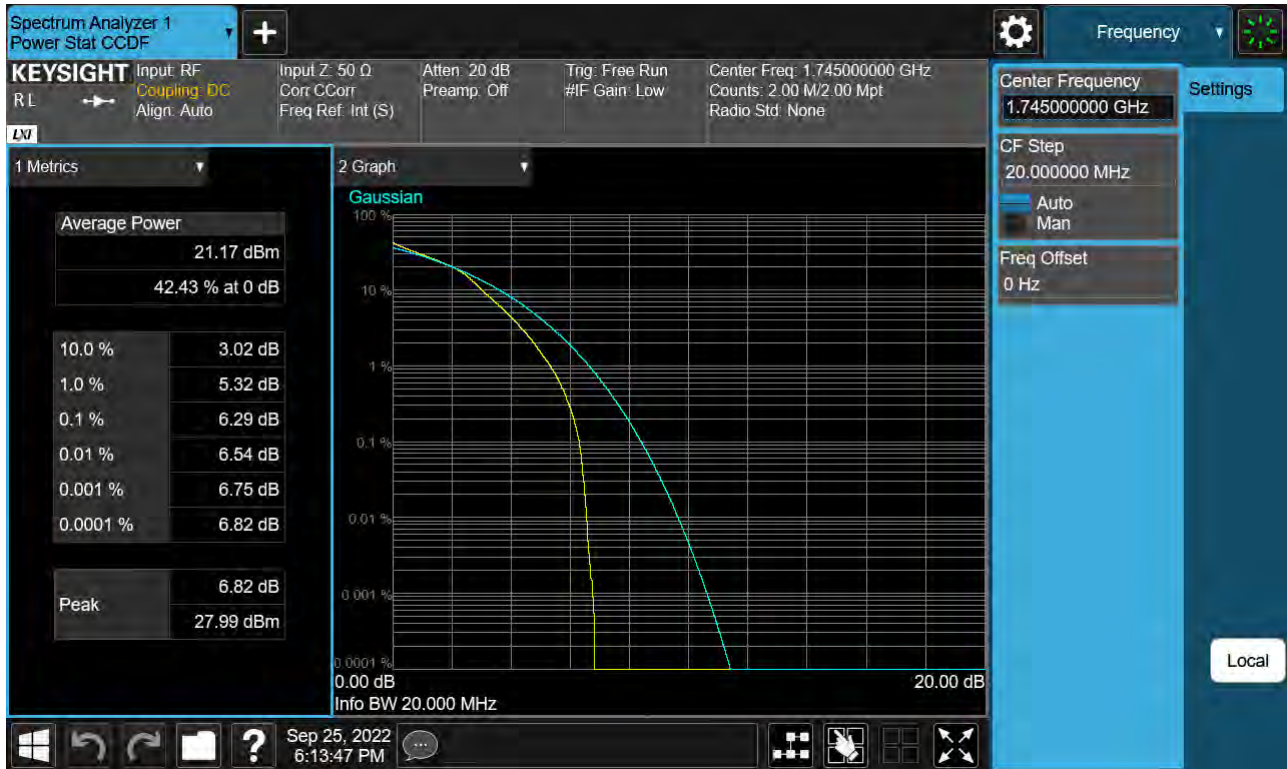
Sub6 n66. PAR Plot (20 M BW_Ch.349000_ BPSK_ Full RB)



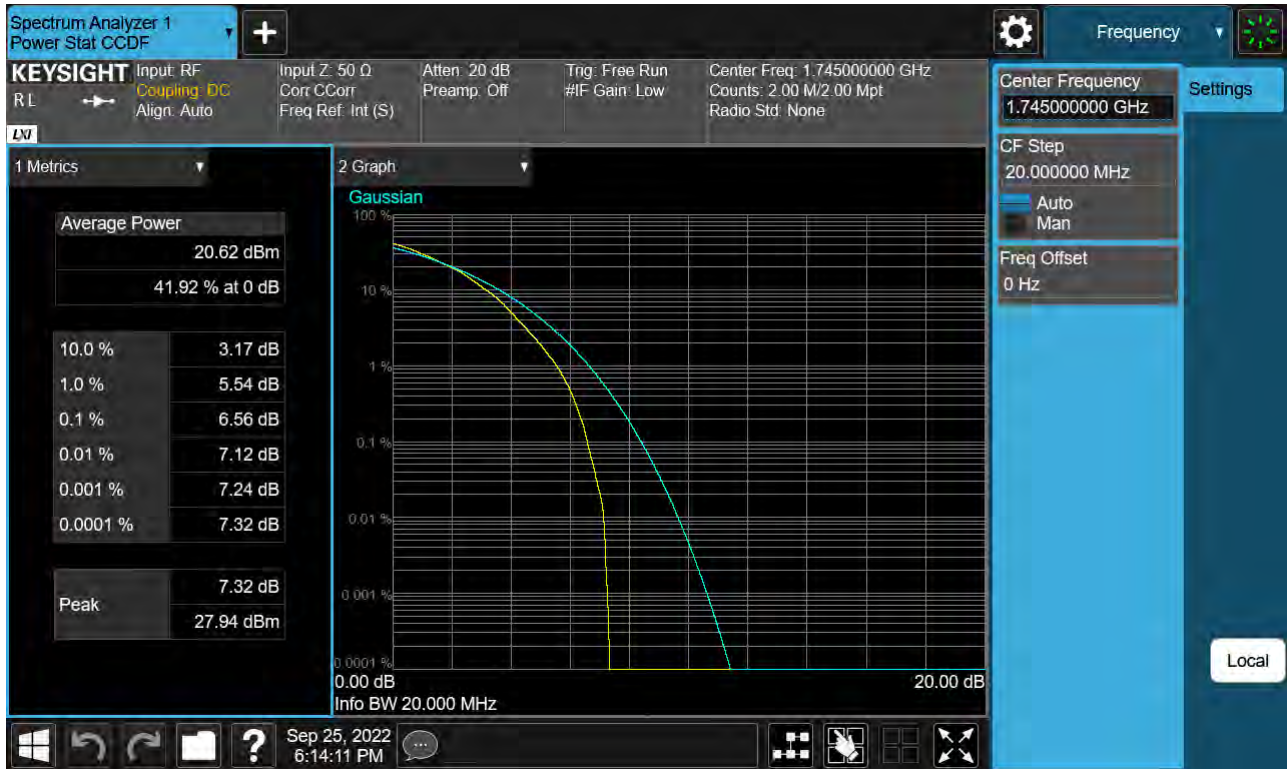
Sub6 n66. PAR Plot (20 M BW_Ch.349000_QPSK_Full RB)



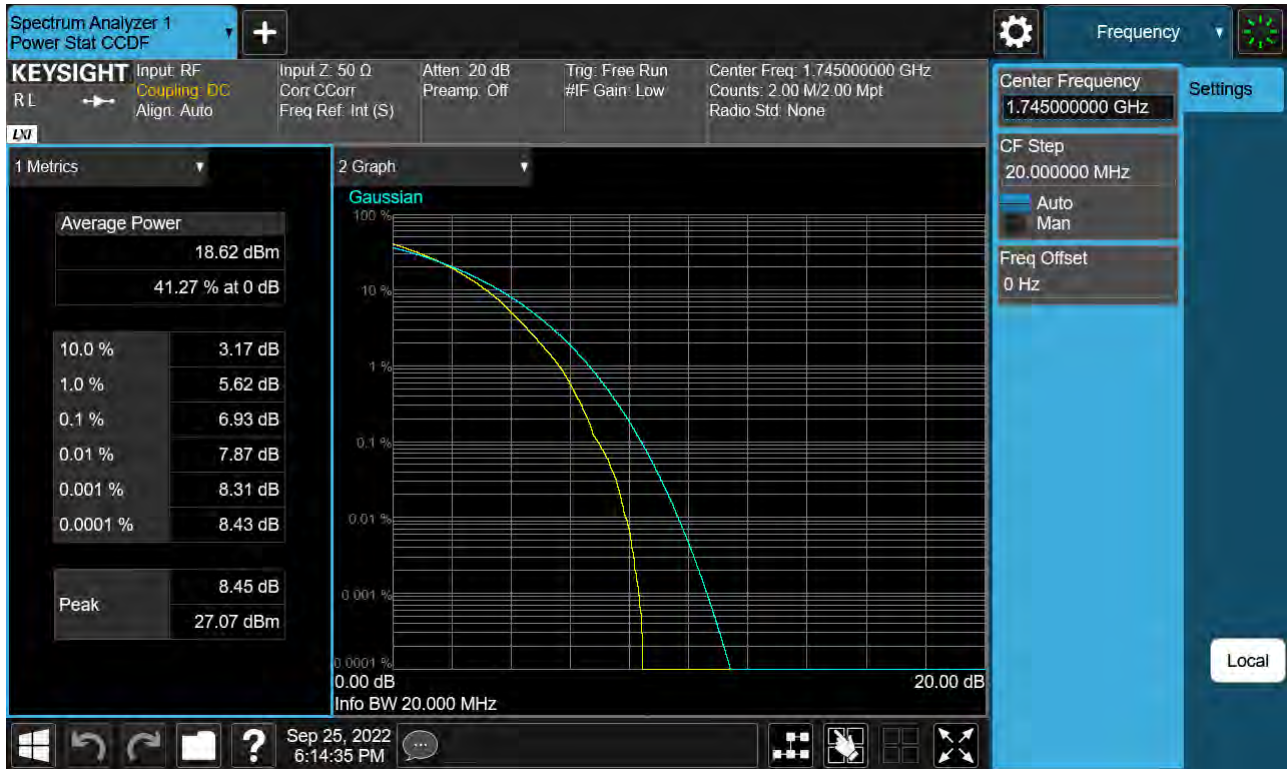
Sub6 n66. PAR Plot (20 M BW_Ch.349000_16QAM_Full RB)



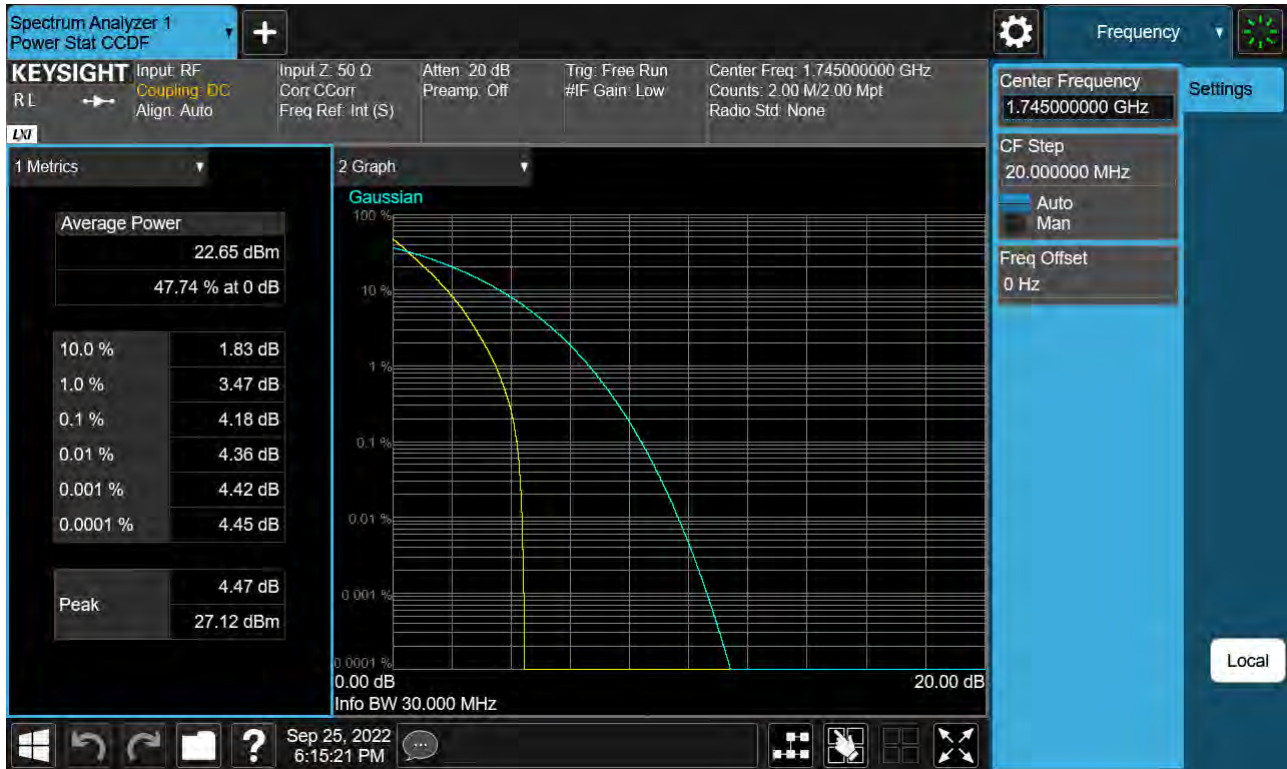
Sub6 n66. PAR Plot (20 M BW_Ch.349000_64QAM_Full RB)



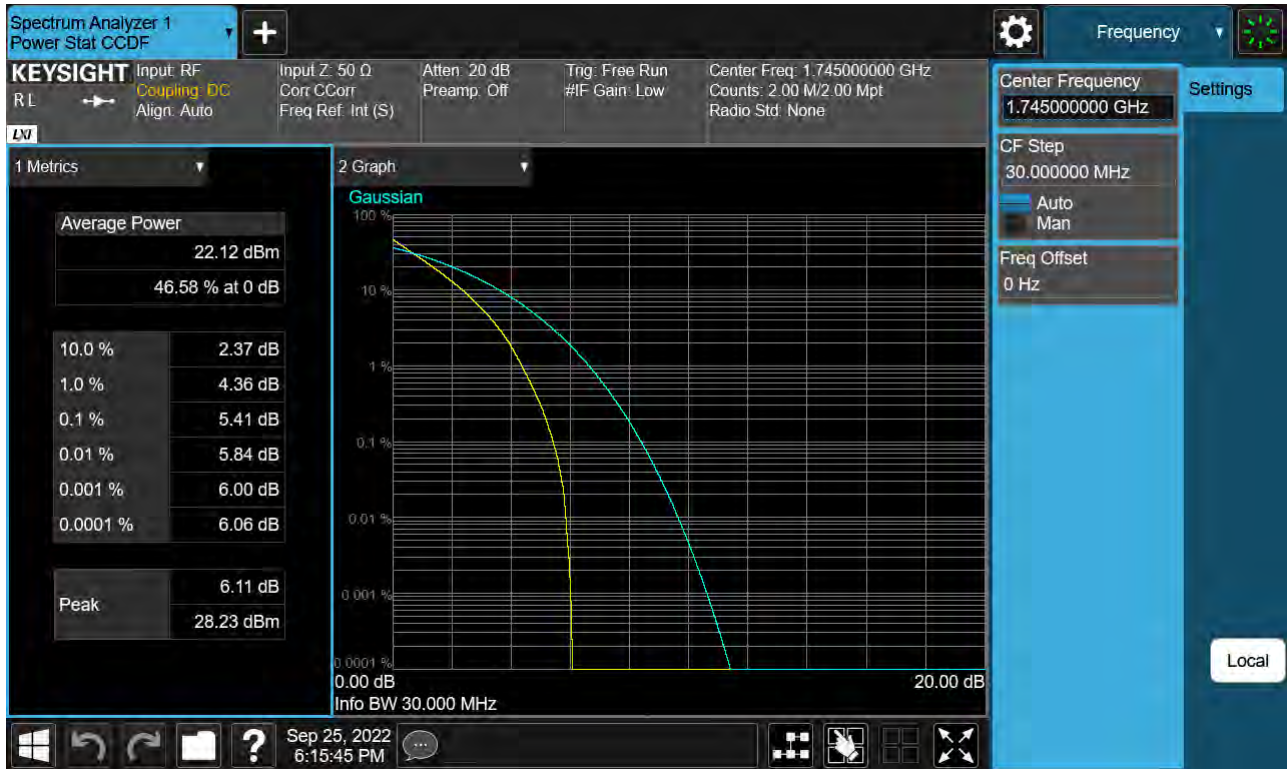
Sub6 n66. PAR Plot (20 M BW_Ch.349000_256QAM_Full RB)



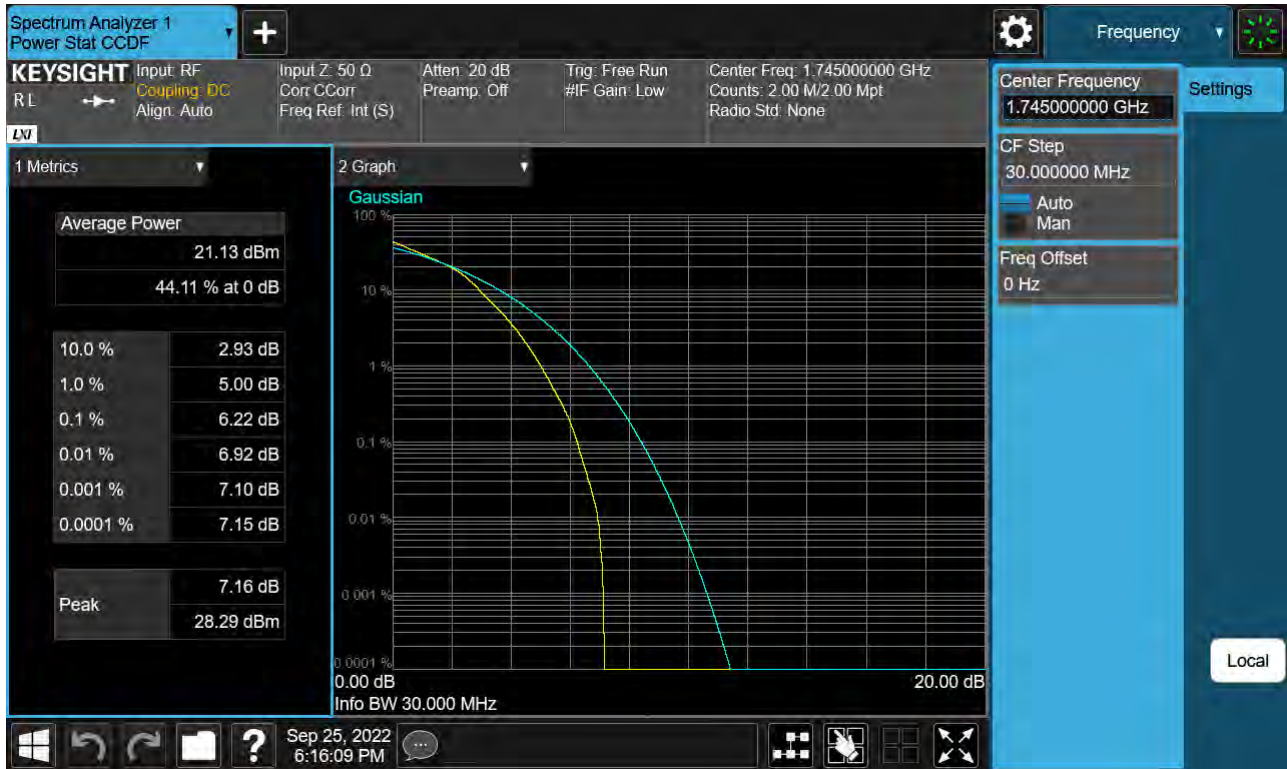
Sub6 n66. PAR Plot (30 M BW_Ch.349000_ BPSK_ Full RB)



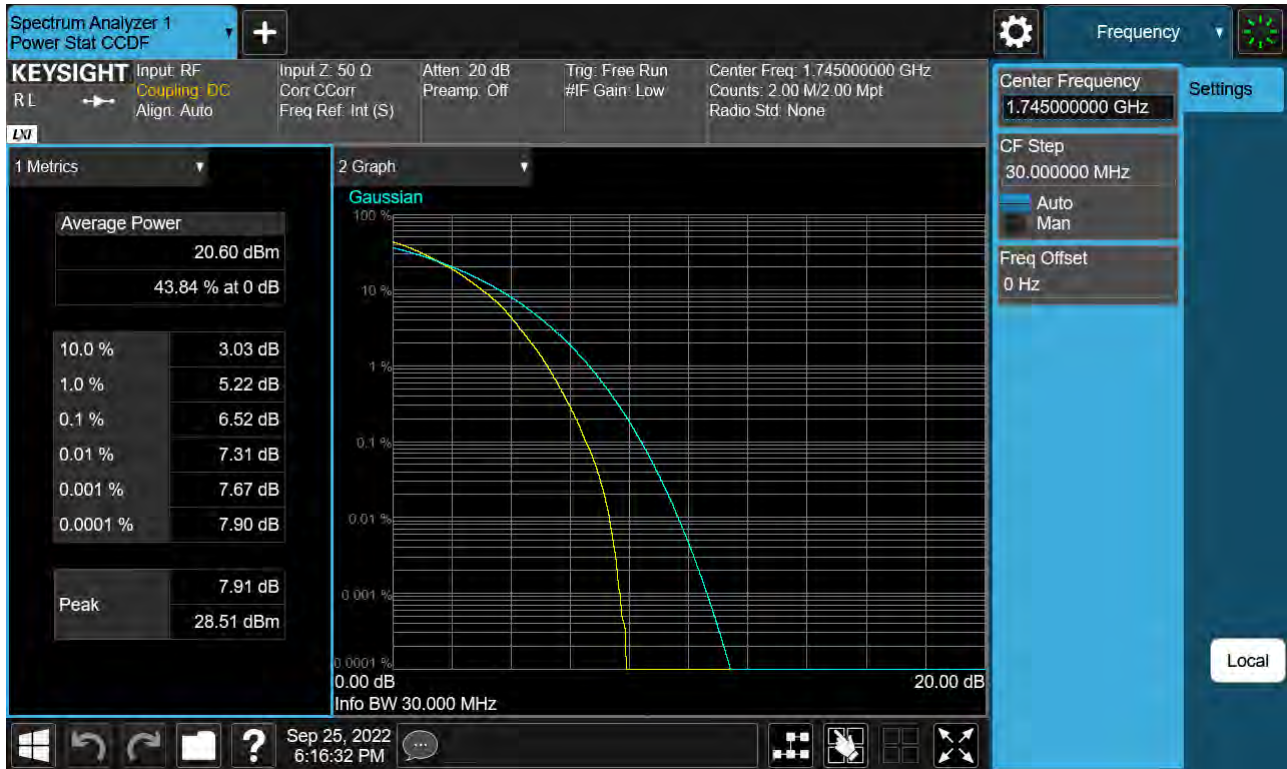
Sub6 n66. PAR Plot (30 M BW_Ch.349000_QPSK_Full RB)



Sub6 n66. PAR Plot (30 M BW_Ch.349000_16QAM_Full RB)



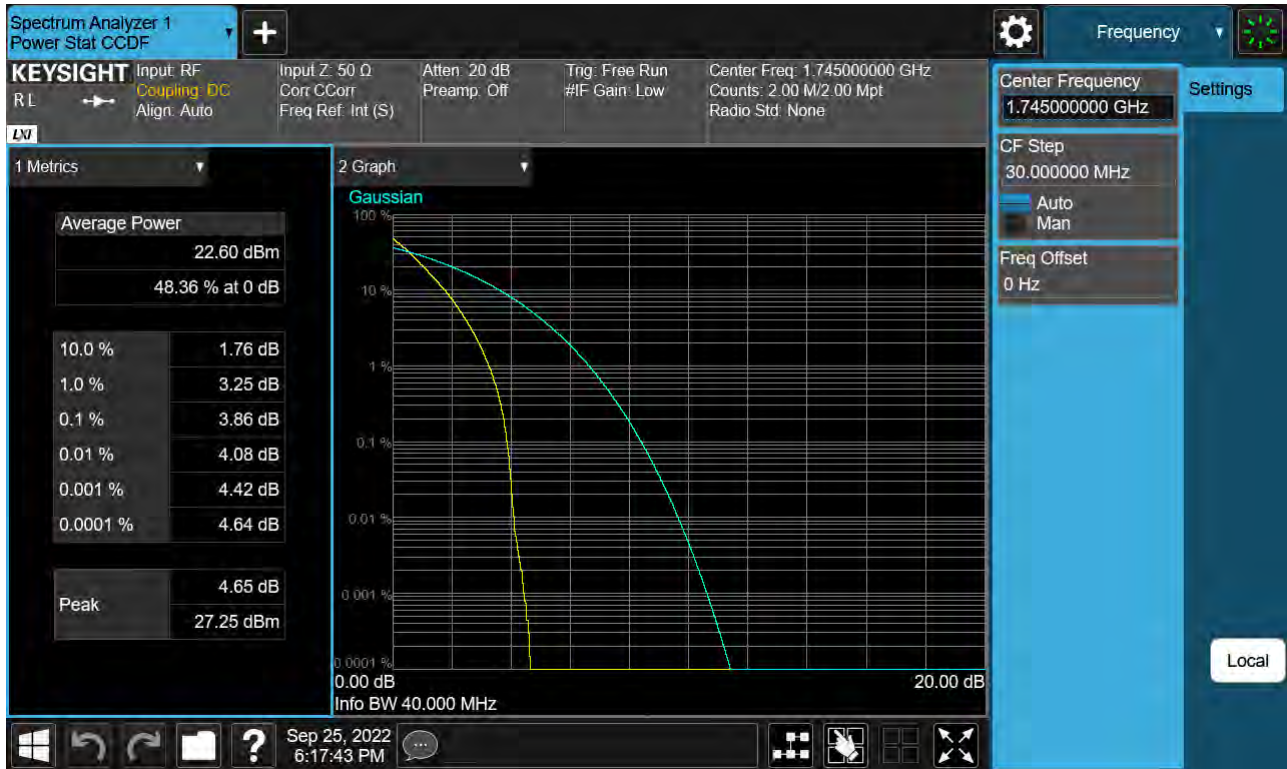
Sub6 n66. PAR Plot (30 M BW_Ch.349000_64QAM_Full RB)



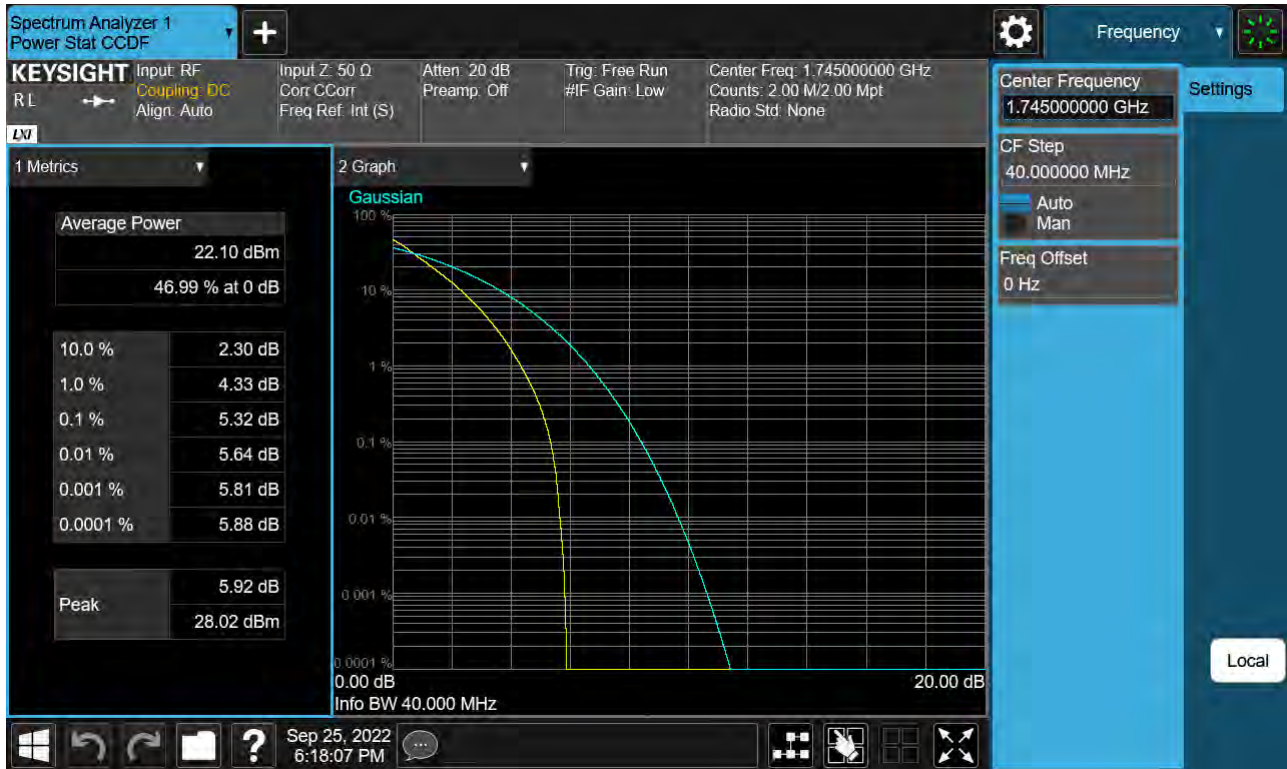
Sub6 n66. PAR Plot (30 M BW_Ch.349000_256QAM_Full RB)



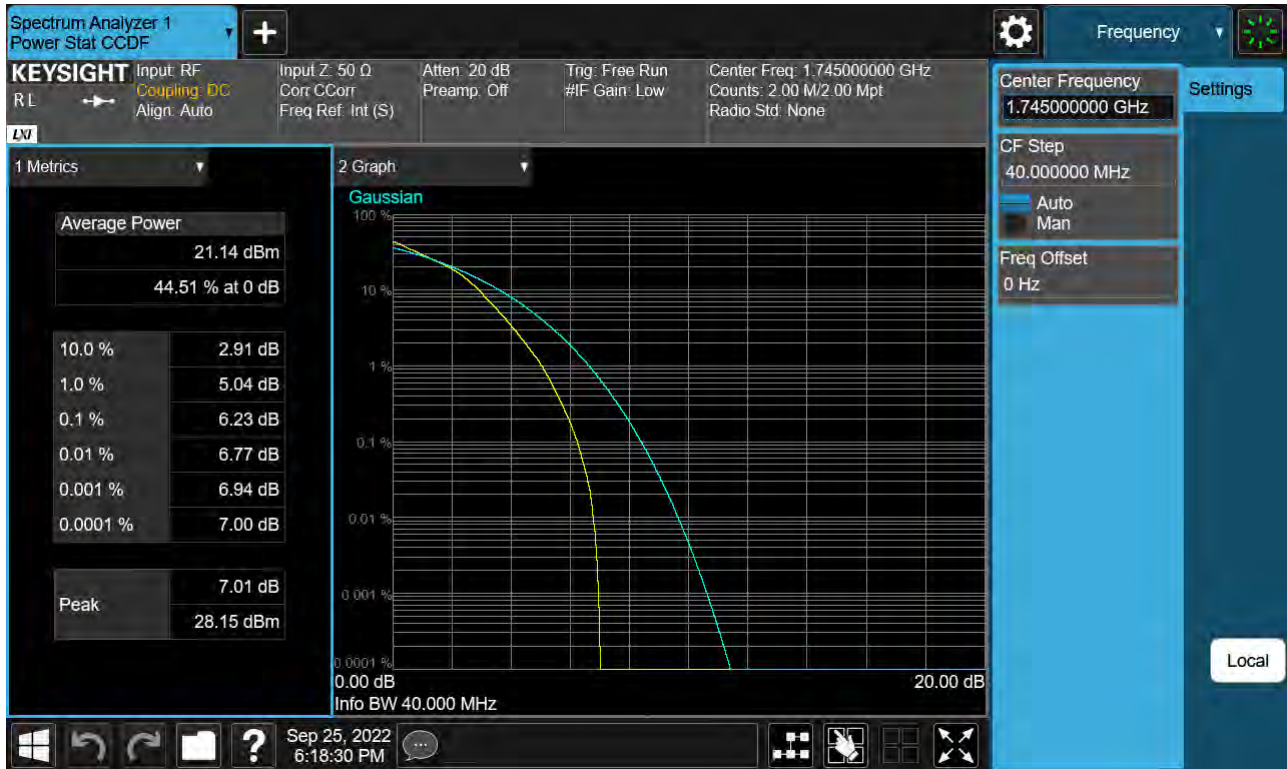
Sub6 n66. PAR Plot (40 M BW_Ch.349000_ BPSK_ Full RB)



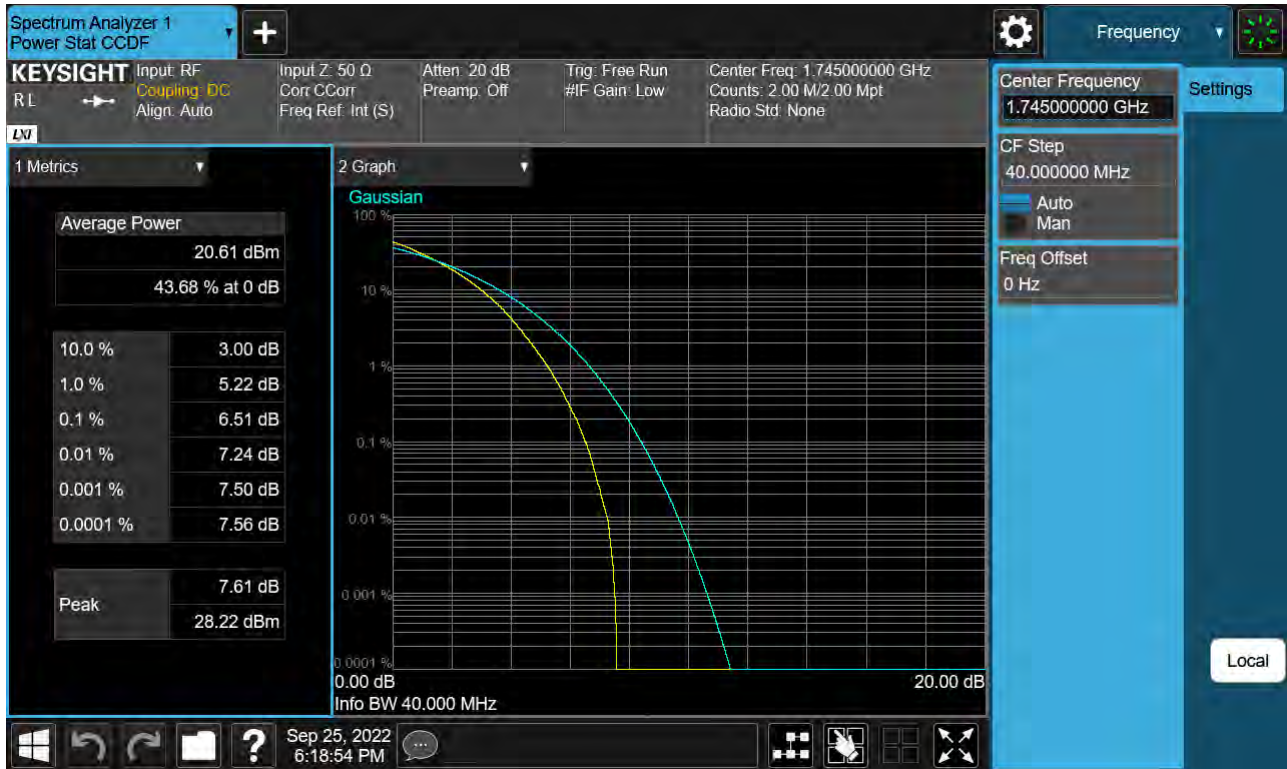
Sub6 n66. PAR Plot (40 M BW_Ch.349000_QPSK_Full RB)



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)



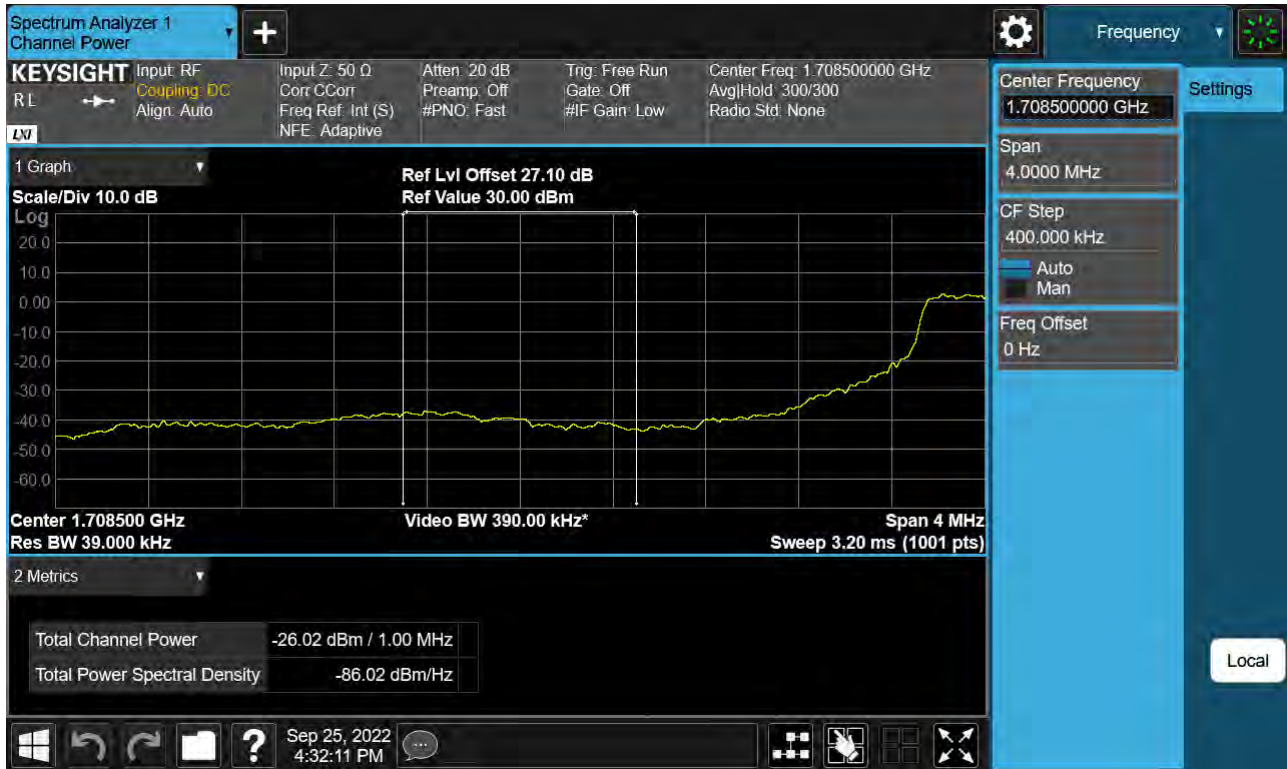
Sub6 n66. Lower Band Edge Plot (5 M BW Ch.342500 BPSK RB 1, Offset 0) -1



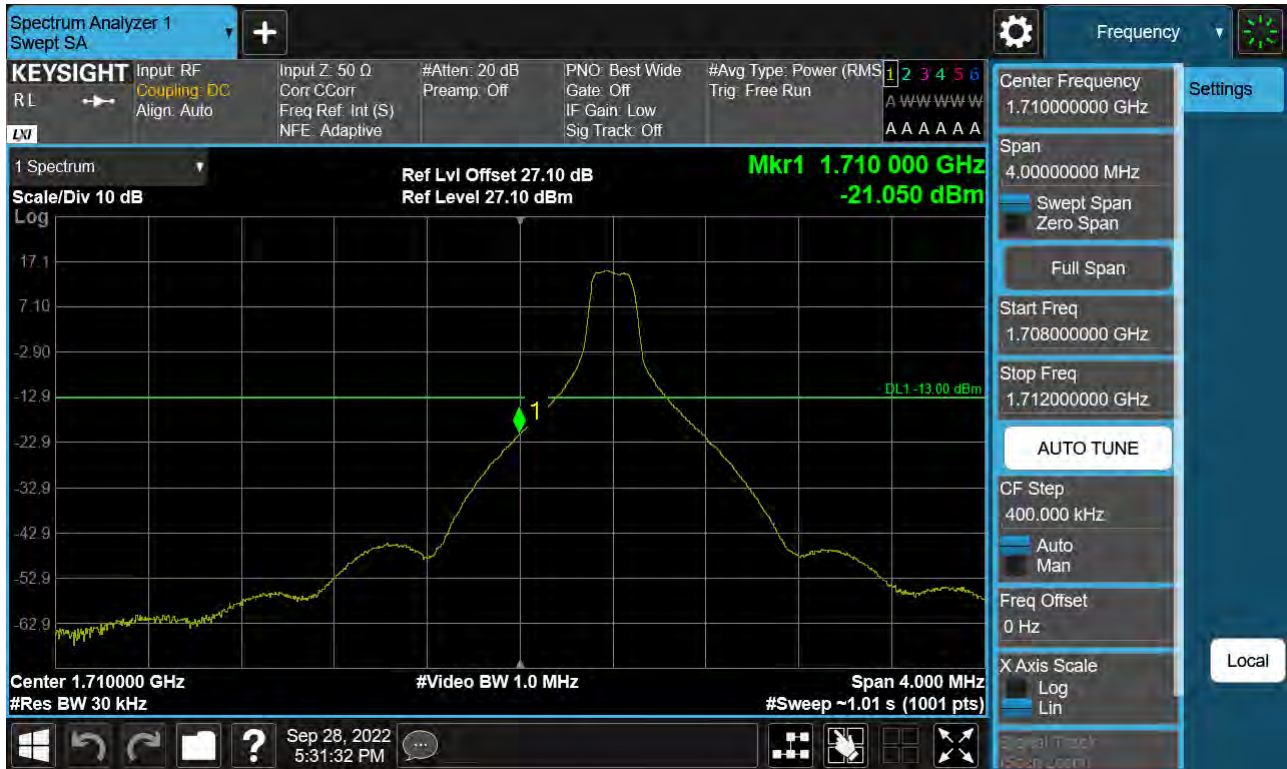
Sub6 n66. Lower Band Edge Plot (5 M BW Ch.342500 BPSK Full RB) -2



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



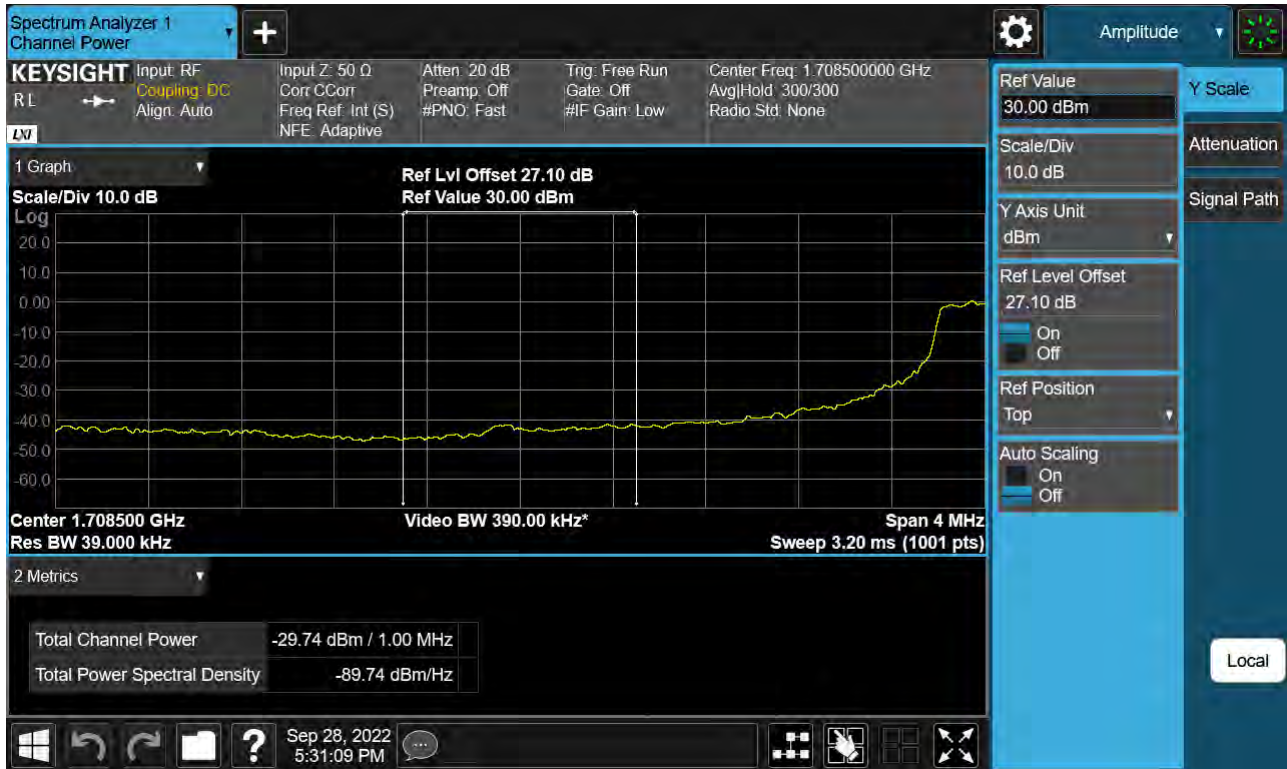
Sub6 n66. Lower Band Edge Plot (10 M BW Ch.343000 BPSK RB 1, Offset 0) -1



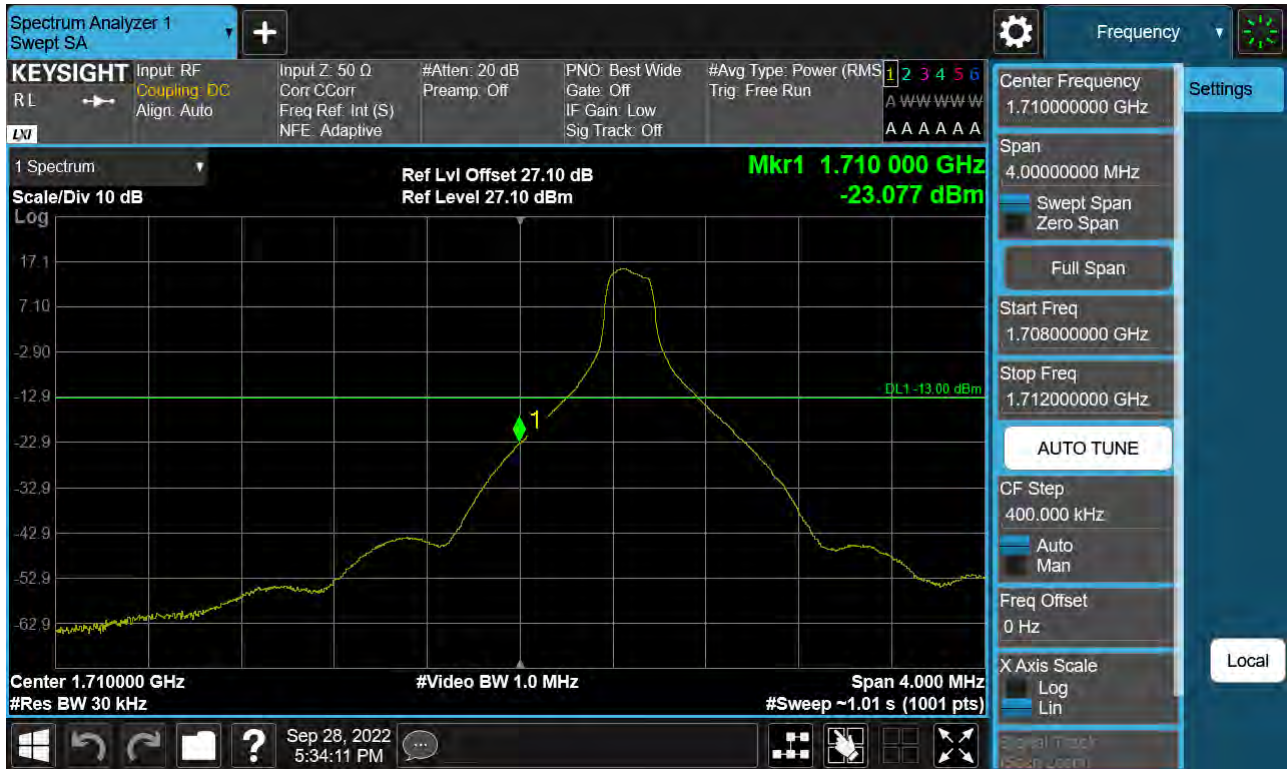
Sub6 n66. Lower Band Edge Plot (10 M BW Ch.343000 BPSK Full RB) -2



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



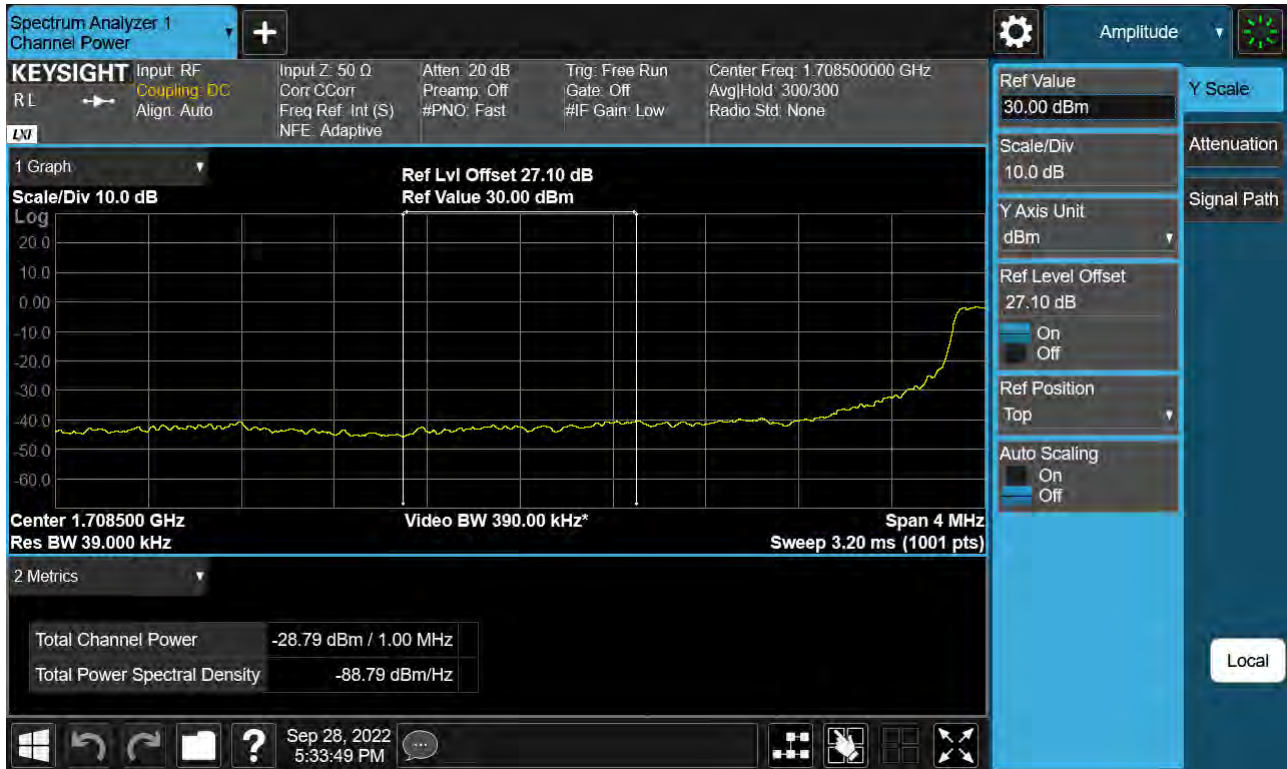
Sub6 n66. Lower Band Edge Plot (15 M BW Ch.343500 BPSK RB 1, Offset 0) -1



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



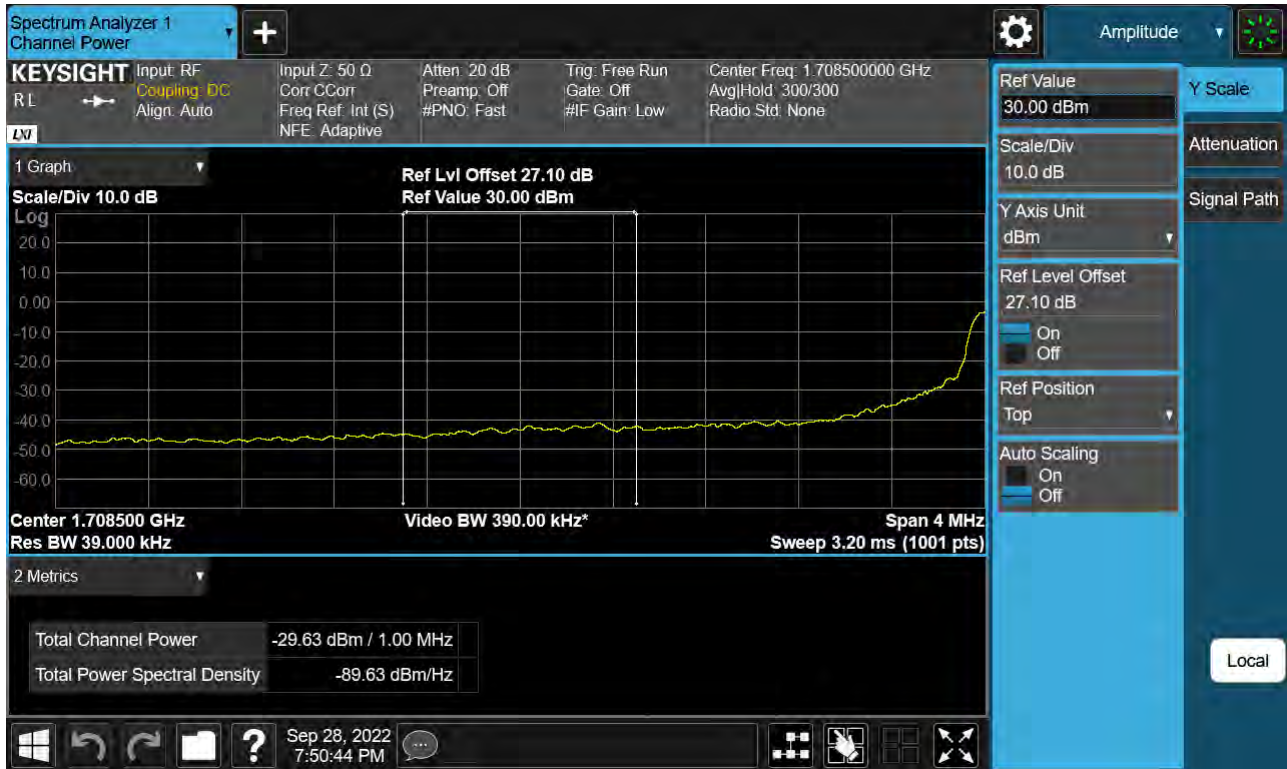
Sub6 n66. Lower Band Edge Plot (20 M BW Ch.344000 BPSK RB 1, Offset 0) -1



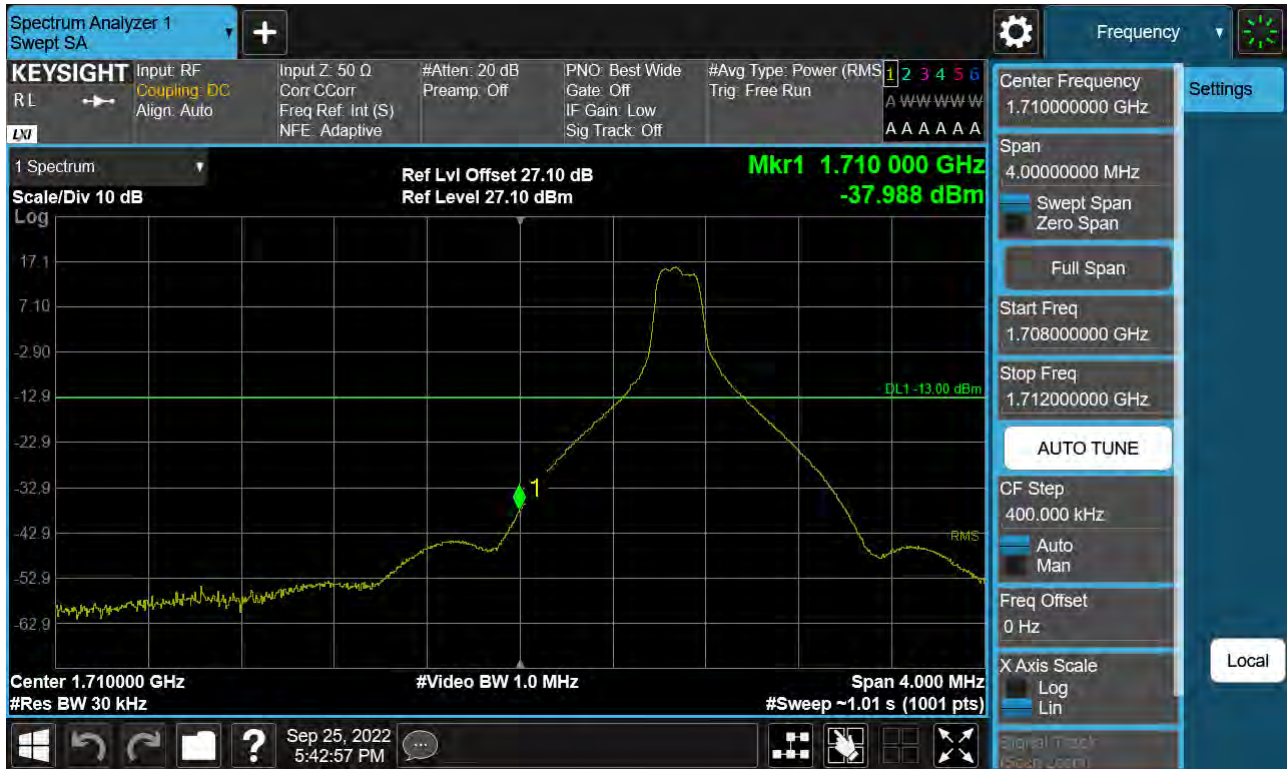
Sub6 n66. Lower Band Edge Plot (20 M BW Ch.344000 BPSK Full RB) -2



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



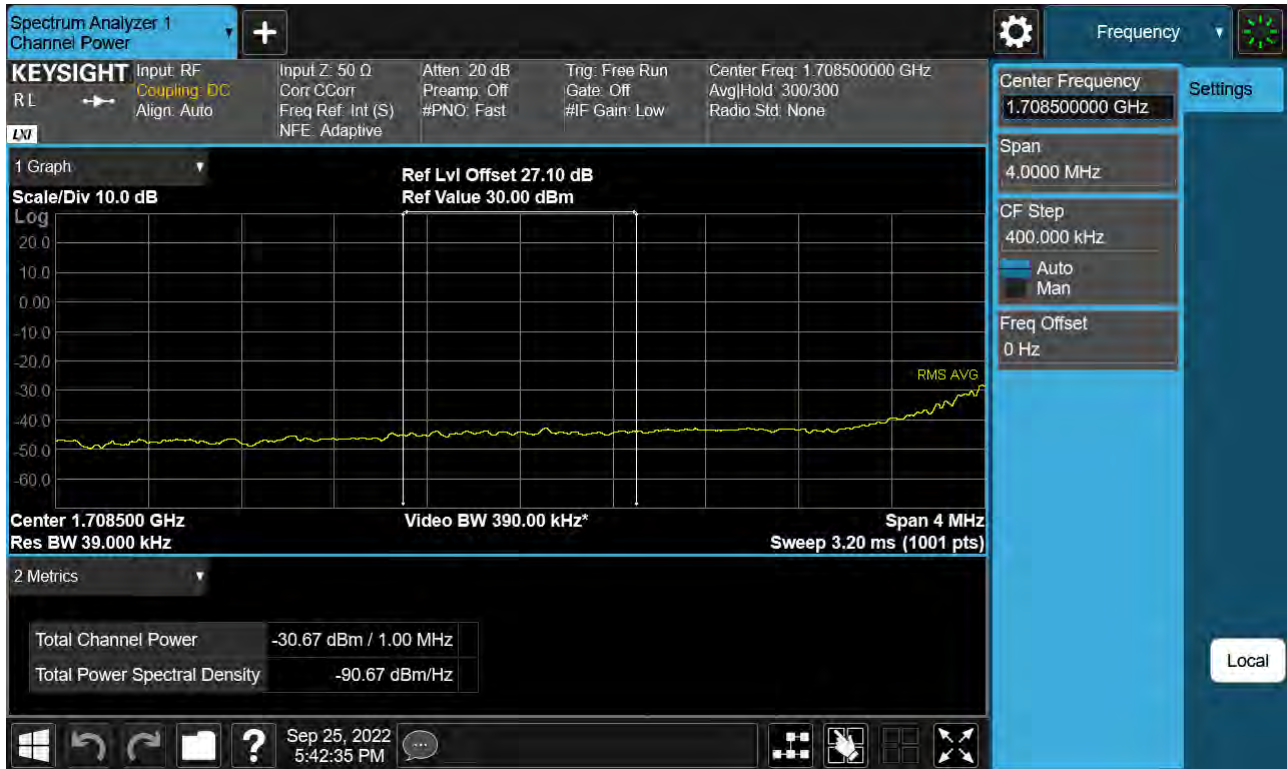
Sub6 n66. Lower Band Edge Plot (30 M BW Ch.345000 BPSK RB 1, Offset 0) -1



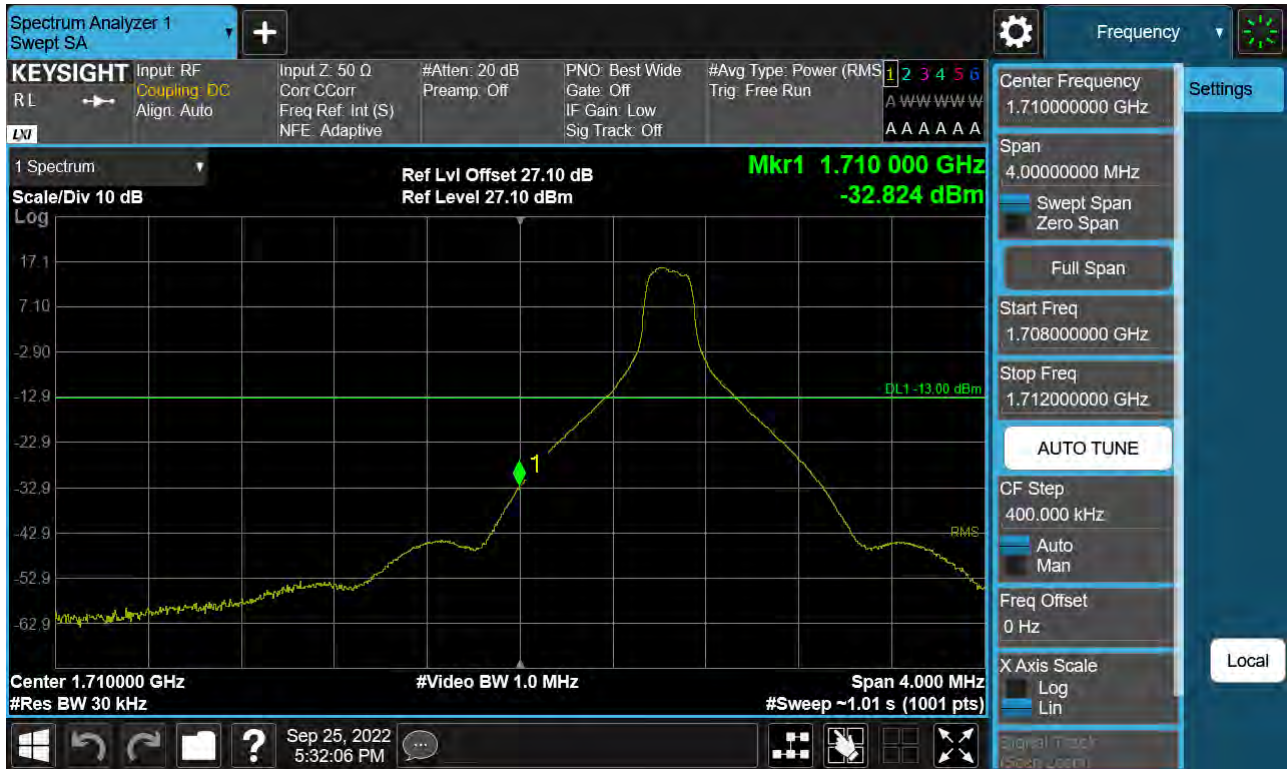
Sub6 n66. Lower Band Edge Plot (30 M BW Ch.345000 BPSK Full RB) -2



Sub6 n66. Lower Extended Band Edge Plot (30 M BW Ch.345000 BPSK_ Full RB) -3



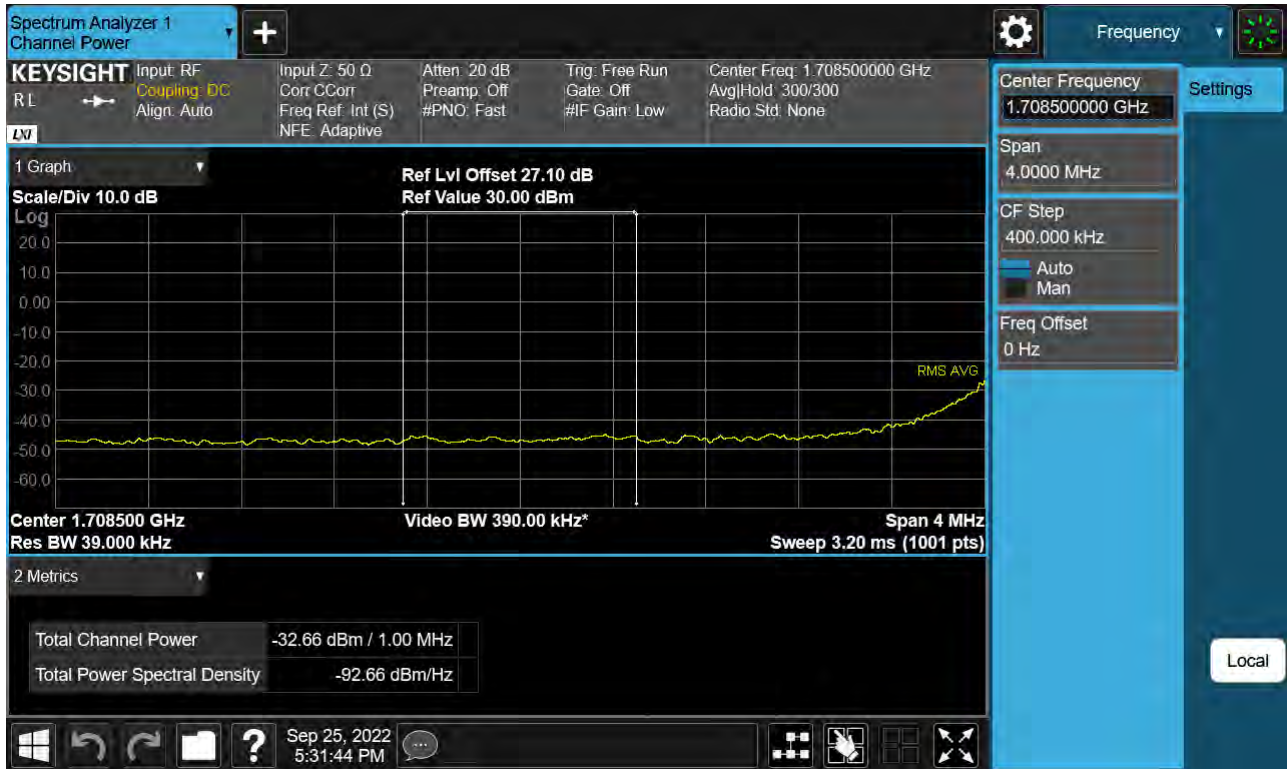
Sub6 n66. Lower Band Edge Plot (40 M BW Ch.346000 BPSK RB 1, Offset 0) -1



Sub6 n66. Lower Band Edge Plot (40 M BW Ch.346000 BPSK Full RB) -2



Sub6 n66. Lower Extended Band Edge Plot (40 M BW Ch.346000 BPSK_ Full RB) -3



Sub6 n66. Upper Band Edge Plot (5 M BW Ch.355500 BPSK_RB1_Offset 24) -1



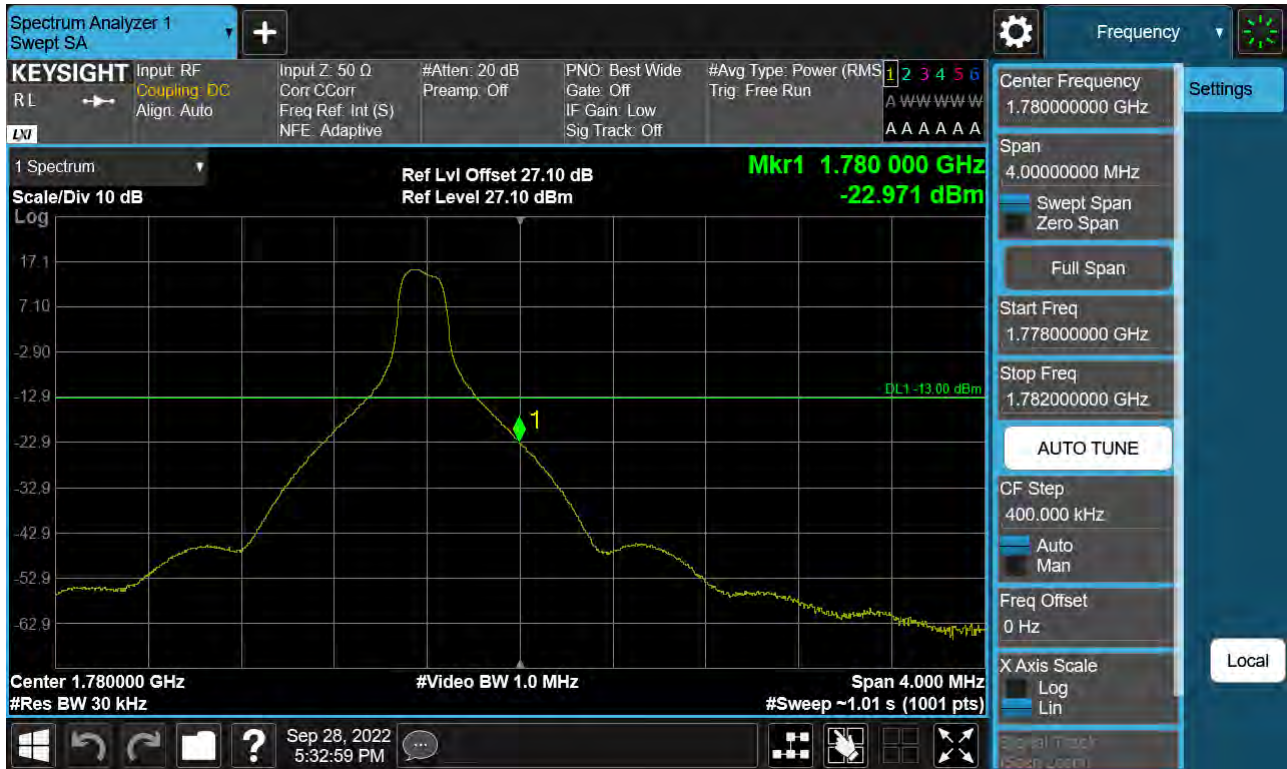
Sub6 n66. Upper Band Edge Plot (5 M BW Ch.355500 BPSK_ Full RB) -2



Sub6 n66. Upper Extended Band Edge Plot (5 M BW Ch.355500 BPSK_ Full RB) -3



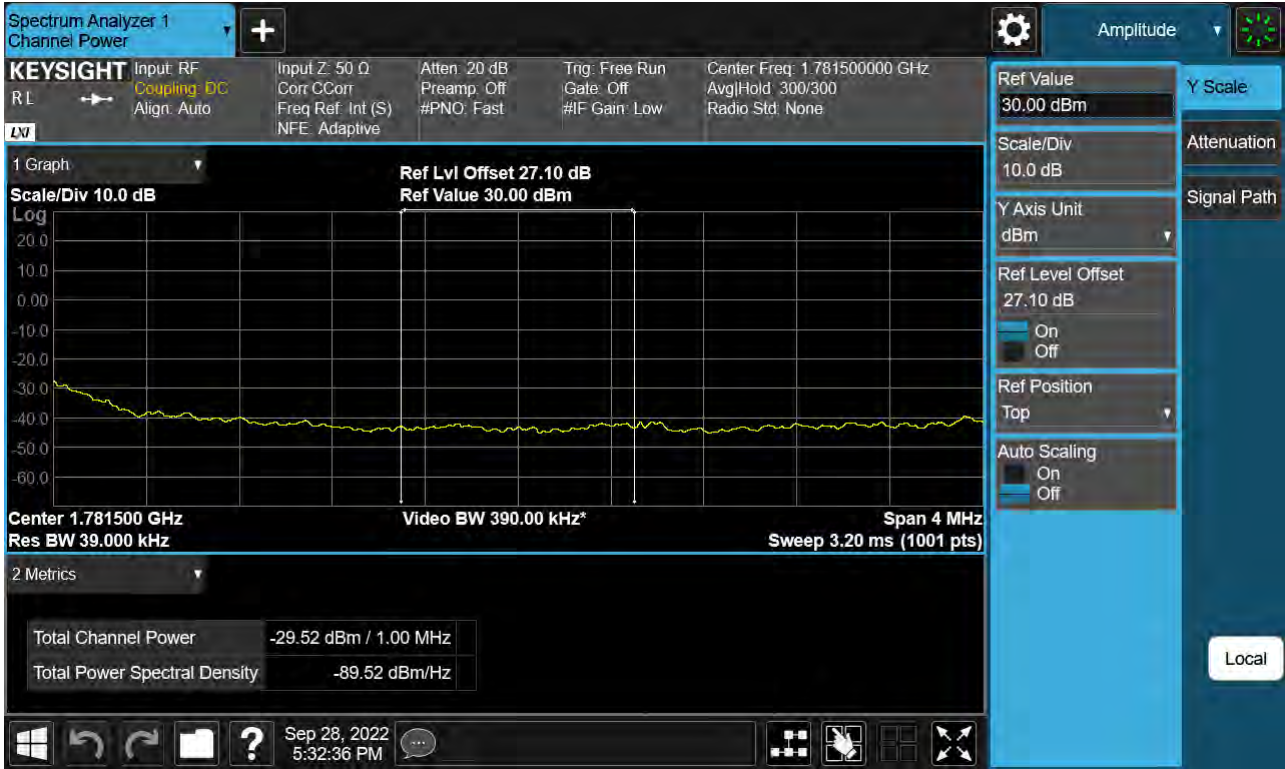
Sub6 n66. Upper Band Edge Plot (10 M BW Ch.355000 BPSK_RB1_Offset 51) -1



Sub6 n66. Upper Band Edge Plot (10 M BW Ch.355000 BPSK_ Full RB) -2



Sub6 n66. Upper Extended Band Edge Plot (10 M BW Ch.355000 BPSK_ Full RB) -3



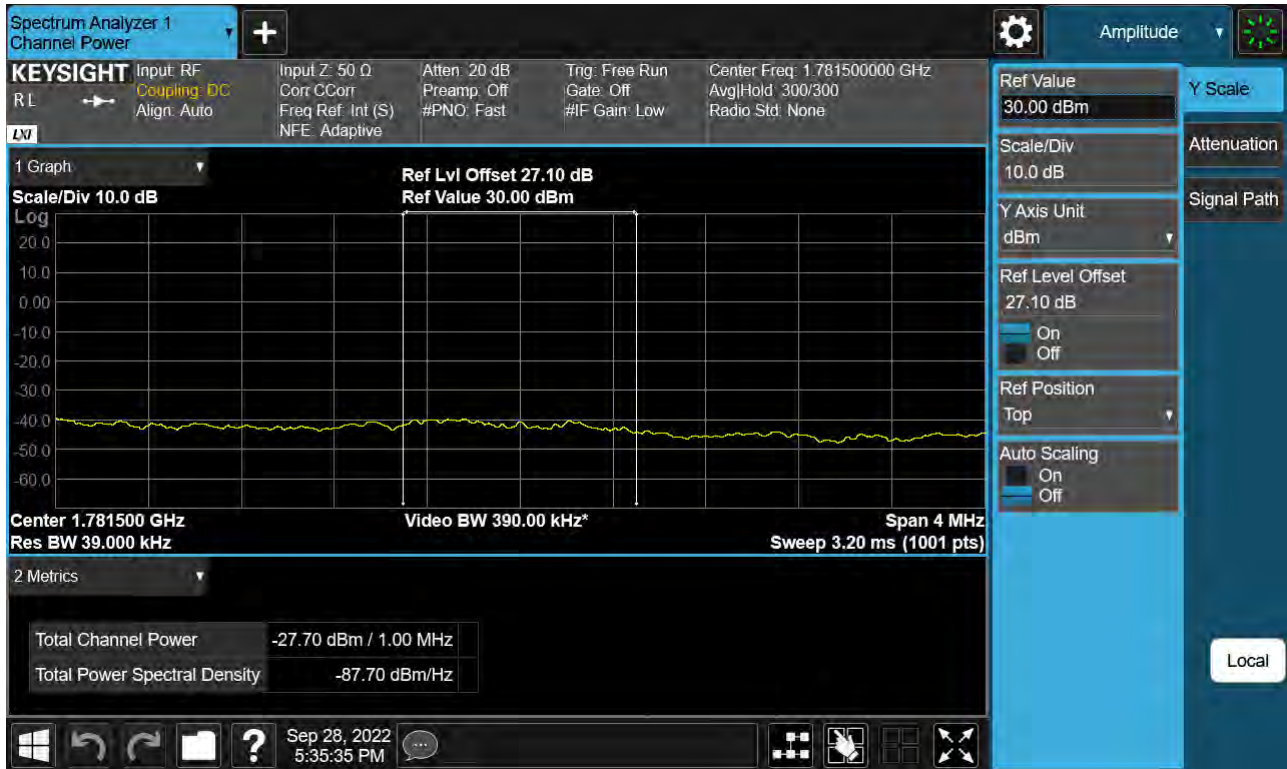
Sub6 n66. Upper Band Edge Plot (15 M BW Ch.354500 BPSK_RB1_Offset 78) -1



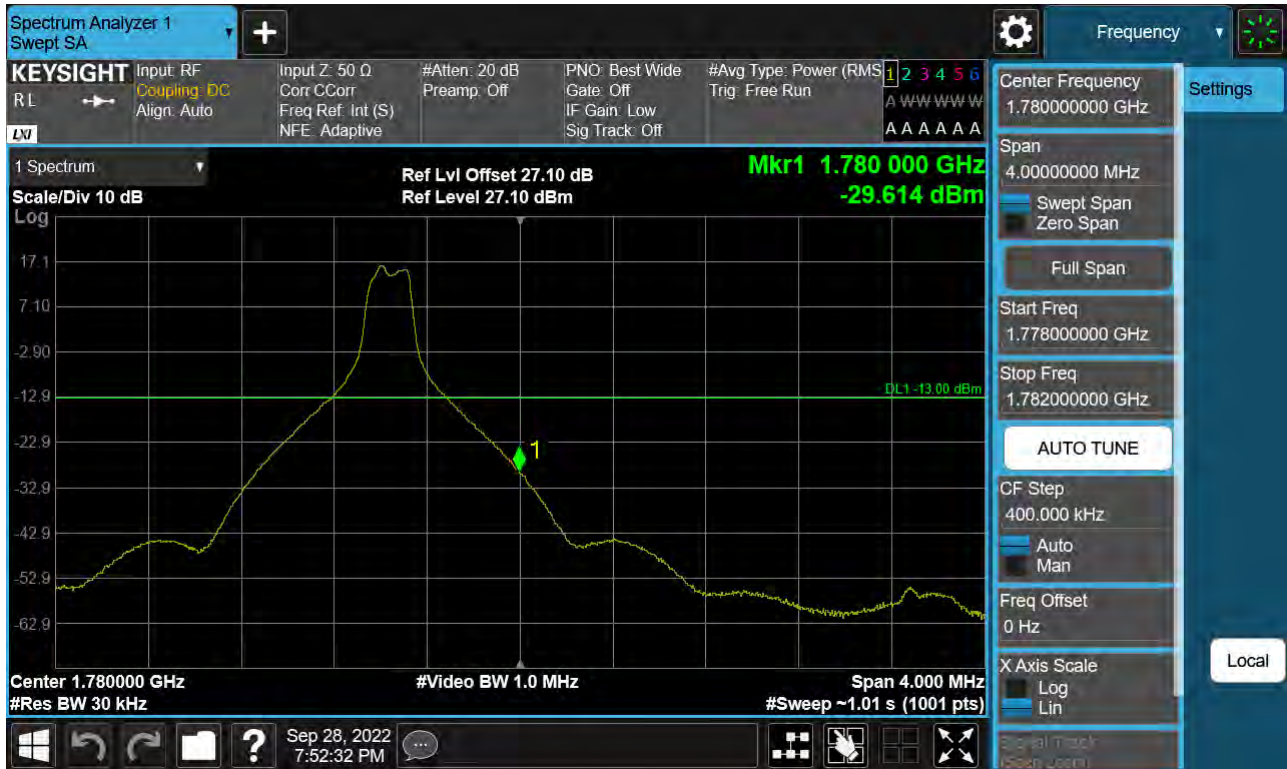
Sub6 n66. Upper Band Edge Plot (15 M BW Ch.354500 BPSK_ Full RB) -2



Sub6 n66. Upper Extended Band Edge Plot (15 M BW Ch.354500 BPSK_ Full RB) -3



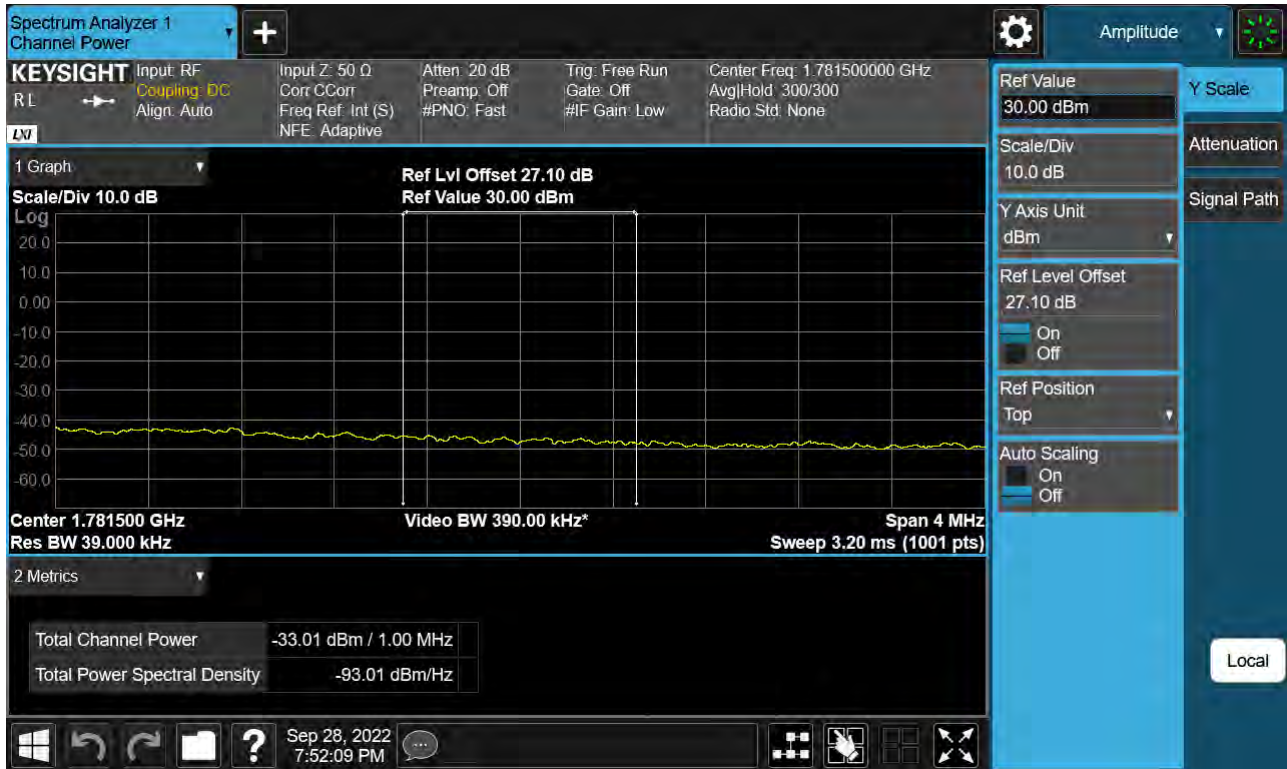
Sub6 n66. Upper Band Edge Plot (20 M BW Ch.354000 BPSK_RB1_Offset 105) -1



Sub6 n66. Upper Band Edge Plot (20 M BW Ch.354000 BPSK_ Full RB) -2



Sub6 n66. Upper Extended Band Edge Plot (20 M BW Ch.354000 BPSK_ Full RB) -3



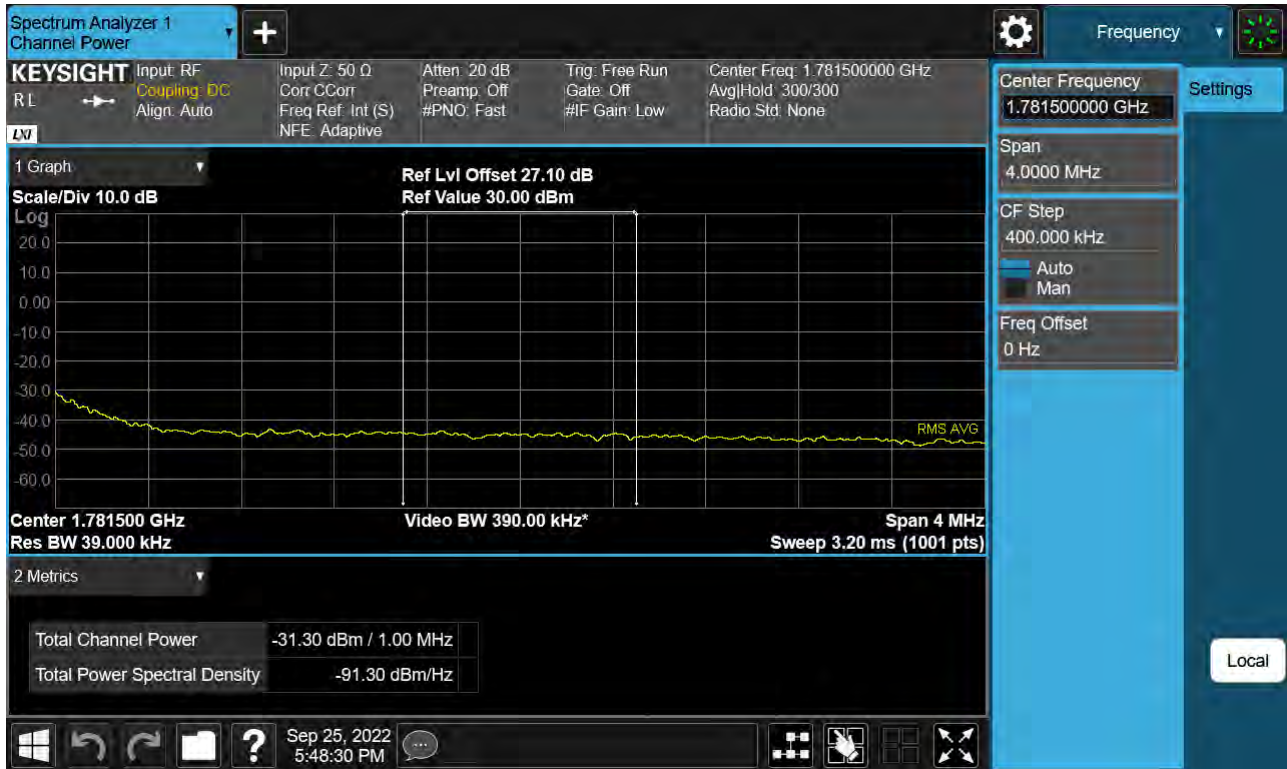
Sub6 n66. Upper Band Edge Plot (30 M BW Ch.353000 BPSK_RB1_Offset 105) -1



Sub6 n66. Upper Band Edge Plot (30 M BW Ch.353000 BPSK_ Full RB) -2



Sub6 n66. Upper Extended Band Edge Plot (30 M BW Ch.353000 BPSK_ Full RB) -3



Sub6 n66. Upper Band Edge Plot (40 M BW Ch.352000 BPSK_RB1_Offset 105) -1



Sub6 n66. Upper Band Edge Plot (40 M BW Ch.352000 BPSK_ Full RB) -2

