

TEST REPORT

FCC Sub6 n77 Test for SM-S731B/DS
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2507-FC060

DATE OF ISSUE
July 15, 2025

Tested by
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TEST REPORT

REPORT NO.

HCT-RF-2507-FC060

DATE OF ISSUE

July 15, 2025

Additional Model

SM-S731B

Applicant

SAMSUNG Electronics Co., Ltd.

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

Product Name

Mobile Phone

Model Name

SM-S731B/DS

Date of Test

June 05, 2025 ~ July 11, 2025

FCC ID

A3LSMS731B

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

FCC Classification:

PCS Licensed Transmitter Held to Ear (PCE)

Test Standard Used

FCC Rule Part: § 27

Test Results

PASS

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	July 15, 2025	Initial Release

Notice

Content

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)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

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

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Model(s):	SM-S731B/DS
Additional Model(s)	SM-S731B
SCS(kHz):	30
Bandwidth(MHz):	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency: (3450 MHz - 3550 MHz)	3455.01 MHz – 3544.99 MHz (Sub6 n77(10 MHz)) 3457.50 MHz – 3542.50 MHz (Sub6 n77(15 MHz)) 3460.02 MHz – 3540.00 MHz (Sub6 n77(20 MHz)) 3465.00 MHz – 3534.99 MHz (Sub6 n77(30 MHz)) 3470.01 MHz – 3529.98 MHz (Sub6 n77(40 MHz)) 3475.02 MHz – 3525.00 MHz (Sub6 n77(50 MHz)) 3480.00 MHz – 3519.99 MHz (Sub6 n77(60 MHz)) 3485.01 MHz – 3514.98 MHz (Sub6 n77(70 MHz)) 3490.02 MHz – 3510.00 MHz (Sub6 n77(80 MHz)) 3495.00 MHz – 3504.99 MHz (Sub6 n77(90 MHz)) 3500.01 MHz (Sub6 n77(100 MHz))
Tx Frequency: (3700 MHz - 3980 MHz)	3705.00 MHz – 3975.00 MHz (Sub6 n77(10 MHz)) 3707.51 MHz – 3972.48 MHz (Sub6 n77(15 MHz)) 3710.01 MHz – 3969.99 MHz (Sub6 n77(20 MHz)) 3715.02 MHz – 3964.98 MHz (Sub6 n77(30 MHz)) 3720.00 MHz – 3960.00 MHz (Sub6 n77(40 MHz)) 3725.10 MHz – 3954.99 MHz (Sub6 n77(50 MHz)) 3730.02 MHz – 3949.98 MHz (Sub6 n77(60 MHz)) 3735.00 MHz – 3945.00 MHz (Sub6 n77(70 MHz)) 3740.01 MHz – 3939.99 MHz (Sub6 n77(80 MHz)) 3745.02 MHz – 3934.98 MHz (Sub6 n77(90 MHz)) 3745.02 MHz – 3934.98 MHz (Sub6 n77(90 MHz)) 3750.00 MHz – 3930.00 MHz (Sub6 n77(100 MHz))
Serial number:	Radiated : R3CY40QLD5P Conducted : R3CY40QL8CK
Antenna Information	Please refer to the Antenna Specification document.

1.1. MAXIMUM OUTPUT POWER

1. 3450 MHz - 3550 MHz

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n77 (10)	3455.01 – 3544.99	8M69G7D	PI/2 BPSK	0.359	25.55
		8M72G7D	QPSK	0.358	25.54
		8M68W7D	16QAM	0.289	24.61
		8M70W7D	64QAM	0.202	23.05
		8M71W7D	256QAM	0.131	21.17
Sub6 n77 (15)	3457.50 – 3542.50	13M0G7D	PI/2 BPSK	0.361	25.58
		13M0G7D	QPSK	0.356	25.51
		13M0W7D	16QAM	0.282	24.50
		13M0W7D	64QAM	0.197	22.95
		13M0W7D	256QAM	0.128	21.07
Sub6 n77 (20)	3460.02 – 3540.00	18M0G7D	PI/2 BPSK	0.363	25.60
		18M0G7D	QPSK	0.358	25.54
		18M0W7D	16QAM	0.288	24.59
		18M0W7D	64QAM	0.197	22.94
		18M0W7D	256QAM	0.130	21.15
Sub6 n77 (30)	3465.00 – 3534.99	26M9G7D	PI/2 BPSK	0.355	25.50
		26M9G7D	QPSK	0.352	25.46
		27M0W7D	16QAM	0.284	24.53
		27M0W7D	64QAM	0.197	22.94
		26M9W7D	256QAM	0.129	21.12
Sub6 n77 (40)	3470.01 – 3529.98	35M9G7D	PI/2 BPSK	0.355	25.50
		36M0G7D	QPSK	0.354	25.49
		35M9W7D	16QAM	0.280	24.47
		36M0W7D	64QAM	0.196	22.93
		35M9W7D	256QAM	0.129	21.11
Sub6 n77 (50)	3475.02 – 3525.00	46M1G7D	PI/2 BPSK	0.354	25.49
		46M1G7D	QPSK	0.353	25.48
		46M1W7D	16QAM	0.278	24.44
		46M0W7D	64QAM	0.196	22.92
		45M9W7D	256QAM	0.127	21.04
Sub6 n77 (60)	3480.00 – 3519.99	58M3G7D	PI/2 BPSK	0.370	25.68
		58M2G7D	QPSK	0.367	25.65
		58M4W7D	16QAM	0.288	24.59
		58M4W7D	64QAM	0.212	23.26
		58M4W7D	256QAM	0.133	21.25
Sub6 n77 (70)	3485.01 – 3514.98	64M9G7D	PI/2 BPSK	0.378	25.77
		64M9G7D	QPSK	0.376	25.75
		64M7W7D	16QAM	0.302	24.80
		65M0W7D	64QAM	0.207	23.17
		64M8W7D	256QAM	0.133	21.23
Sub6 n77 (80)	3490.02 – 3510.00	77M7G7D	PI/2 BPSK	0.374	25.73
		77M7G7D	QPSK	0.372	25.70
		77M6W7D	16QAM	0.298	24.74
		77M7W7D	64QAM	0.208	23.19
		77M8W7D	256QAM	0.133	21.23
Sub6 n77 (90)	3495.00 – 3504.99	87M2G7D	PI/2 BPSK	0.362	25.59
		87M4G7D	QPSK	0.361	25.58
		87M3W7D	16QAM	0.290	24.63
		87M2W7D	64QAM	0.205	23.11
		87M3W7D	256QAM	0.130	21.14
Sub6 n77 (100)	3500.01	96M7G7D	PI/2 BPSK	0.356	25.51
		96M9G7D	QPSK	0.352	25.46
		96M8W7D	16QAM	0.282	24.50
		96M9W7D	64QAM	0.195	22.91
		96M9W7D	256QAM	0.128	21.07

2. 3700 MHz - 3980 MHz

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
Sub6 n77 (10)	3705.00 – 3975.00	8M68G7D	PI/2 BPSK	0.215	23.32
		8M69G7D	QPSK	0.204	23.09
		8M70W7D	16QAM	0.168	22.25
		8M67W7D	64QAM	0.115	20.61
		8M70W7D	256QAM	0.075	18.75
Sub6 n77 (15)	3707.51 – 3972.48	13M0G7D	PI/2 BPSK	0.208	23.18
		13M0G7D	QPSK	0.201	23.04
		13M0W7D	16QAM	0.164	22.14
		13M0W7D	64QAM	0.114	20.58
		13M0W7D	256QAM	0.074	18.67
Sub6 n77 (20)	3710.01 – 3969.99	18M0G7D	PI/2 BPSK	0.210	23.23
		18M0G7D	QPSK	0.210	23.22
		18M0W7D	16QAM	0.169	22.27
		17M9W7D	64QAM	0.118	20.71
		18M0W7D	256QAM	0.075	18.76
Sub6 n77 (30)	3715.02 – 3964.98	27M0G7D	PI/2 BPSK	0.211	23.24
		27M0G7D	QPSK	0.210	23.22
		27M0W7D	16QAM	0.167	22.23
		26M9W7D	64QAM	0.120	20.79
		27M0W7D	256QAM	0.076	18.80
Sub6 n77 (40)	3720.00 – 3960.00	35M9G7D	PI/2 BPSK	0.220	23.42
		35M9G7D	QPSK	0.219	23.41
		35M9W7D	16QAM	0.175	22.44
		35M9W7D	64QAM	0.124	20.94
		36M0W7D	256QAM	0.079	19.00
Sub6 n77 (50)	3725.10 – 3954.99	46M0G7D	PI/2 BPSK	0.224	23.51
		46M0G7D	QPSK	0.224	23.50
		45M9W7D	16QAM	0.179	22.52
		45M9W7D	64QAM	0.129	21.10
		45M9W7D	256QAM	0.081	19.11
Sub6 n77 (60)	3730.02 – 3949.98	58M2G7D	PI/2 BPSK	0.240	23.81
		58M2G7D	QPSK	0.239	23.78
		58M1W7D	16QAM	0.192	22.83
		58M2W7D	64QAM	0.130	21.13
		58M2W7D	256QAM	0.084	19.26
Sub6 n77 (70)	3735.00 – 3945.00	64M8G7D	PI/2 BPSK	0.238	23.76
		64M9G7D	QPSK	0.237	23.75
		64M5W7D	16QAM	0.190	22.78
		64M7W7D	64QAM	0.133	21.23
		64M7W7D	256QAM	0.085	19.29
Sub6 n77 (80)	3740.01 – 3939.99	77M7G7D	PI/2 BPSK	0.218	23.39
		77M6G7D	QPSK	0.217	23.36
		77M4W7D	16QAM	0.174	22.40
		77M6W7D	64QAM	0.122	20.86
		77M5W7D	256QAM	0.076	18.79
Sub6 n77 (90)	3745.02 – 3934.98	87M3G7D	PI/2 BPSK	0.207	23.16
		87M2G7D	QPSK	0.207	23.15
		87M3W7D	16QAM	0.166	22.19
		87M1W7D	64QAM	0.116	20.65
		87M5W7D	256QAM	0.072	18.58
Sub6 n77 (100)	3750.00 – 3930.00	96M9G7D	PI/2 BPSK	0.213	23.29
		96M8G7D	QPSK	0.213	23.28
		97M0W7D	16QAM	0.173	22.38
		96M6W7D	64QAM	0.122	20.87
		97M1W7D	256QAM	0.075	18.74

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

Please refer to the [2G3G] Test Report.

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, Republic of Korea.

Detailed description of test facility was submitted to the Commission and accepted dated March 11, 2024 (Registration Number: KR0032).

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
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Radiated Power	- ANSI C63.26-2015 – Section 5.2.4.4 - KDB 971168 D01 v03r01 – Section 5.8
Radiated Spurious and Harmonic Emissions	- ANSI C63.26-2015 – Section 5.5.3 - KDB 971168 D01 v03r01 – Section 5.8

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.

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 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;

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

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.

Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW $\geq$ 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 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;

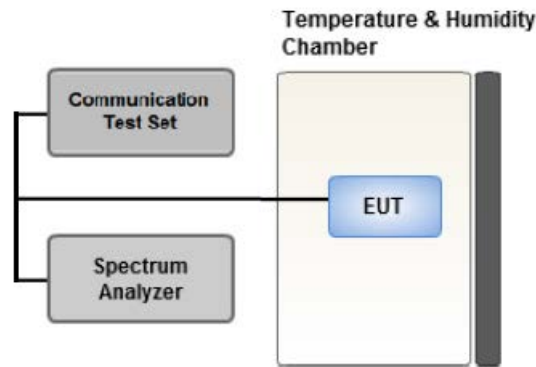
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

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)

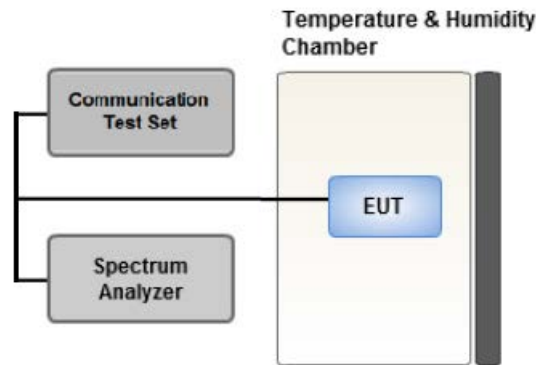
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW $\geq 3 \times$ RBW.

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.

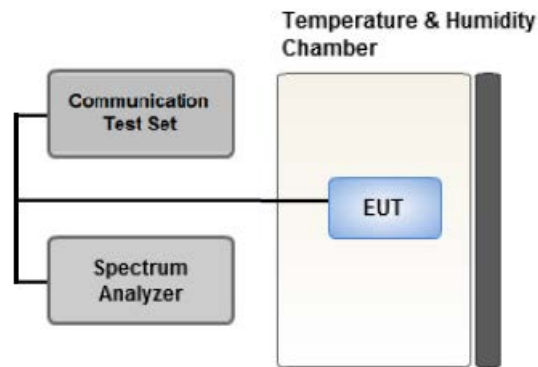
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

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 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

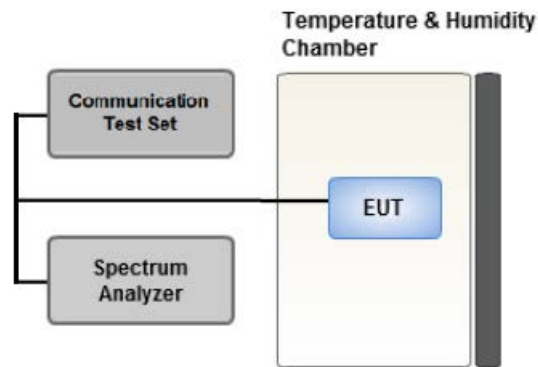
Test Overview

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 $\geq$ 3 MHz
3. Detector = Peak
4. Trace Mode = max hold
5. Sweep time = auto
6. Number of points in sweep $\geq$ 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 $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep Time > (Number of Points) (Symbol Period)
9. The trace was allowed to stabilize

Test Notes

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.

However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz.

In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For mobile operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

Measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater.

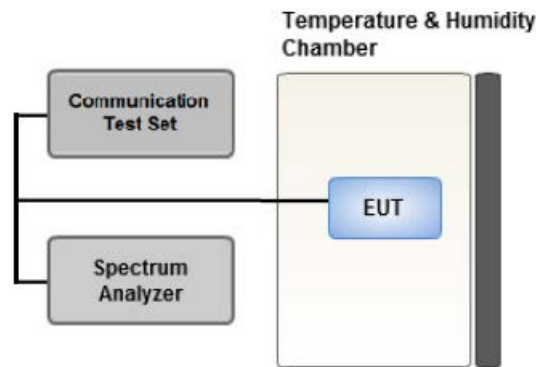
However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 kHz.

In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. .

Where $\text{Margin} < 1$ dB the emission level is either corrected by $10 \log(1 \text{ MHz} / \text{RB})$ 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: NSA, SA
Worst case: SA
Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
Worst case : Stand alone
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional significant emissions relative to the least restrictive limit were observed.
Therefore, only the worst case(stand-alone) results were reported.
- All power classes were tested, and the results were reported for the worst case PC2.
- 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 were investigated and the worst case bandwidth results are reported.(Worst case : 70 MHz(3450 MHz - 3550 MHz), 60 MHz(3700 MHz - 3980 MHz))
- SM-S731B/DS & additional models were tested and the worst case results are reported.
(Worst case : SM-S731B/DS)

[3450 MHz - 3550 MHz Worst case]

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

[3700 MHz - 3980 MHz Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Equivalent 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		Y

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
(Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
(Worst case: PI/2 BPSK)
- All modes of operation were investigated and the worst case configuration results are reported.
Mode: NSA, SA
Worst case: SA
- All power classes were tested, and the results were reported for the worst case PC2.
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
Please refer to the table below.
- SM-S731B/DS & additional models were tested and the worst case results are reported.
(Worst case : SM-S731B/DS)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth,	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Mid	Full RB	0
Peak-To-Average Ratio	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Mid	Full RB	0
Band Edge	PI/2 BPSK	10	Low	1	0
			High	1	23
		15	Low	1	0
			High	1	37
		20	Low	1	0
			High	1	50
		30	Low	1	0
			High	1	77
		40	Low	1	0
			High	1	105
		50	Low	1	0
			High	1	132
		60	Low	1	0
			High	1	161
		70	Low	1	0
			High	1	188
		80	Low	1	0
			High	1	216
		90	Low	1	0
			High	1	244
		100	Low	1	0
			High	1	272
		10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100	Low, Mid, High	1	1

4. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	03/10/2026	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	02/14/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/17/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/06/2027	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/05/2027	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/17/2027	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/08/2026	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/08/2026	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/08/2026	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/08/2026	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/19/2026	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/22/2025	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/04/2026	Annual
Chamber	SU-642	ESPEC	93008124	02/11/2026	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	03/21/2026	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/10/2026	Annual
Spectrum Analyzer (10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/04/2026	Annual
Signal & Spectrum Analyzer (2 Hz~67 GHz)	FSW67	REOHDE & SCHWARZ	101736	05/27/2026	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/14/2026	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/08/2026	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/14/2026	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/10/2025	Annual
SIGNAL GENERATOR (100 kHz ~ 40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/26/2025	Annual
Automation Software	FCC 2G/3G/4G Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC NR Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC LTE Radiated	HCT CO., LTD	-	-	-
Automation Software	FCC NR Radiated	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 ($\pm$ kHz)
Occupied Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

Parameter	Expanded Uncertainty ($\pm$ dB)
Block Edge	0.70 (Confidence level about 95 %, $k=2$)
Conducted Spurious Emissions	1.18 (Confidence level about 95 %, $k=2$)
Peak- to- Average Ratio	0.68 (Confidence level about 95 %, $k=2$)
Radiated Power	4.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.68 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.75 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.82 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, $k=2$)

6. SUMMARY OF TEST RESULTS

-. The decision rule applies 'simple acceptance'

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(n)(2), § 27.53(l)(2)	< -13 dBm	PASS
Conducted Output Power	§ 2.1046	N/A	Note1
Peak- to- Average Ratio	§ 27.50(k)(4), § 27.50(j)(4)	< 13 dB	PASS
Frequency stability / variation of ambient temperature	§ 2.1055, § 27.54	Emission must remain in band	PASS

Note:

1. Refer to the 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(k)(3), § 27.50(j)(3)	< 1 Watts max. EIRP	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1051, § 27.53(n)(2), § 27.53(l)(2)	< -13 dBm	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
20175	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)

QPSK Modulation

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

QAM Modulation

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

8. TEST DATA(3450 MHz - 3550 MHz)

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
3455.01	Sub6 n77/ 10 MHz [30 kHz]	PI/2 BPSK	-22.56	15.42	11.96	3.04	H	< 1.00	0.272	24.34	1	22
		QPSK	-22.59	15.39	11.96	3.04	H		0.270	24.31		
		16-QAM	-23.45	14.53	11.96	3.04	H		0.221	23.45		
		64-QAM	-25.12	12.86	11.96	3.04	H		0.151	21.78		
		256-QAM	-26.99	10.99	11.96	3.04	H		0.098	19.91		
3500.01		PI/2 BPSK	-21.90	16.42	12.04	3.04	H		0.348	25.42	1	12
		QPSK	-21.97	16.35	12.04	3.04	H		0.343	25.35		
		16-QAM	-22.95	15.37	12.04	3.04	H		0.274	24.37		
		64-QAM	-24.54	13.78	12.04	3.04	H		0.190	22.78		
		256-QAM	-26.36	11.96	12.04	3.04	H		0.125	20.96		
3544.99		PI/2 BPSK	-21.77	16.58	12.04	3.07	H		0.359	25.55	1	1
		QPSK	-21.78	16.57	12.04	3.07	H		0.358	25.54		
		16-QAM	-22.71	15.64	12.04	3.07	H		0.289	24.61		
		64-QAM	-24.27	14.08	12.04	3.07	H		0.202	23.05		
		256-QAM	-26.15	12.20	12.04	3.07	H		0.131	21.17		

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
3457.50	Sub6 n77/ 15 MHz [30 kHz]	PI/2 BPSK	-22.49	15.52	12.00	3.04	H	< 1.00	0.281	24.48	1	19
		QPSK	-22.52	15.49	12.00	3.04	H		0.279	24.45		
		16-QAM	-23.50	14.51	12.00	3.04	H		0.222	23.47		
		64-QAM	-24.97	13.04	12.00	3.04	H		0.158	22.00		
		256-QAM	-26.94	11.07	12.00	3.04	H		0.101	20.03		
3500.01		PI/2 BPSK	-21.88	16.44	12.04	3.04	H		0.350	25.44	1	19
		QPSK	-21.96	16.36	12.04	3.04	H		0.344	25.36		
		16-QAM	-22.91	15.41	12.04	3.04	H		0.276	24.41		
		64-QAM	-24.43	13.89	12.04	3.04	H		0.195	22.89		
		256-QAM	-26.38	11.94	12.04	3.04	H		0.124	20.94		
3542.50		PI/2 BPSK	-21.74	16.61	12.04	3.07	H		0.361	25.58	1	1
		QPSK	-21.81	16.54	12.04	3.07	H		0.356	25.51		
		16-QAM	-22.82	15.53	12.04	3.07	H		0.282	24.50		
		64-QAM	-24.37	13.98	12.04	3.07	H		0.197	22.95		
		256-QAM	-26.25	12.10	12.04	3.07	H		0.128	21.07		

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
3460.02	Sub6 n77/ 20 MHz [30 kHz]	PI/2 BPSK	-22.46	15.55	12.00	3.04	H	< 1.00	0.282	24.51	1	25
		QPSK	-22.56	15.45	12.00	3.04	H		0.276	24.41		
		16-QAM	-23.49	14.52	12.00	3.04	H		0.223	23.48		
		64-QAM	-25.13	12.88	12.00	3.04	H		0.153	21.84		
		256-QAM	-26.86	11.15	12.00	3.04	H		0.103	20.11		
3500.01		PI/2 BPSK	-21.97	16.35	12.04	3.04	H		0.343	25.35	1	25
		QPSK	-22.02	16.30	12.04	3.04	H		0.339	25.30		
		16-QAM	-23.00	15.32	12.04	3.04	H		0.270	24.32		
		64-QAM	-24.40	13.92	12.04	3.04	H		0.196	22.92		
		256-QAM	-26.39	11.93	12.04	3.04	H		0.124	20.93		
3540.00		PI/2 BPSK	-21.66	16.62	12.04	3.06	H		0.363	25.60	1	25
		QPSK	-21.72	16.56	12.04	3.06	H		0.358	25.54		
		16-QAM	-22.67	15.61	12.04	3.06	H		0.288	24.59		
		64-QAM	-24.32	13.96	12.04	3.06	H		0.197	22.94		
		256-QAM	-26.11	12.17	12.04	3.06	H		0.130	21.15		

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
3465.00		PI/2 BPSK	-22.54	15.46	12.02	3.02	H	< 1.00	0.279	24.46	1	76
		QPSK	-22.55	15.45	12.02	3.02	H		0.279	24.45		
		16-QAM	-23.57	14.43	12.02	3.02	H		0.220	23.43		
		64-QAM	-25.05	12.95	12.02	3.02	H		0.157	21.95		
		256-QAM	-27.07	10.93	12.02	3.02	H		0.098	19.93		
3500.01	Sub6 n77/ 30 MHz [30 kHz]	PI/2 BPSK	-22.00	16.32	12.04	3.04	H	< 1.00	0.340	25.32	1	39
		QPSK	-22.03	16.29	12.04	3.04	H		0.338	25.29		
		16-QAM	-22.98	15.34	12.04	3.04	H		0.272	24.34		
		64-QAM	-24.57	13.75	12.04	3.04	H		0.188	22.75		
		256-QAM	-26.41	11.91	12.04	3.04	H		0.123	20.91		
3534.99		PI/2 BPSK	-21.79	16.51	12.04	3.05	H	< 1.00	0.355	25.50	1	39
		QPSK	-21.83	16.47	12.04	3.05	H		0.352	25.46		
		16-QAM	-22.76	15.54	12.04	3.05	H		0.284	24.53		
		64-QAM	-24.35	13.95	12.04	3.05	H		0.197	22.94		
		256-QAM	-26.17	12.13	12.04	3.05	H		0.129	21.12		

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
3470.01	Sub6 n77/ 40 MHz [30 kHz]	PI/2 BPSK	-22.24	15.76	12.04	3.01	H	< 1.00	0.301	24.79	1	104
		QPSK	-22.25	15.75	12.04	3.01	H		0.301	24.78		
		16-QAM	-23.26	14.74	12.04	3.01	H		0.238	23.77		
		64-QAM	-24.78	13.22	12.04	3.01	H		0.168	22.25		
		256-QAM	-26.61	11.39	12.04	3.01	H		0.110	20.42		
3500.01		PI/2 BPSK	-21.97	16.35	12.04	3.04	H		0.343	25.35	1	53
		QPSK	-22.00	16.32	12.04	3.04	H		0.340	25.32		
		16-QAM	-23.08	15.24	12.04	3.04	H		0.265	24.24		
		64-QAM	-24.56	13.76	12.04	3.04	H		0.189	22.76		
		256-QAM	-26.44	11.88	12.04	3.04	H		0.122	20.88		
3529.98		PI/2 BPSK	-21.81	16.51	12.04	3.05	H	0.355	25.50	1	53	
		QPSK	-21.82	16.50	12.04	3.05	H	0.354	25.49			
		16-QAM	-22.84	15.48	12.04	3.05	H	0.280	24.47			
		64-QAM	-24.38	13.94	12.04	3.05	H	0.196	22.93			
		256-QAM	-26.20	12.12	12.04	3.05	H	0.129	21.11			

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
3475.02	Sub6 n77/ 50 MHz [30 kHz]	PI/2 BPSK	-21.93	16.09	12.04	3.02	H	< 1.00	0.324	25.11	1	131
		QPSK	-21.96	16.06	12.04	3.02	H		0.322	25.08		
		16-QAM	-22.93	15.09	12.04	3.02	H		0.258	24.11		
		64-QAM	-24.46	13.56	12.04	3.02	H		0.181	22.58		
		256-QAM	-26.31	11.71	12.04	3.02	H		0.118	20.73		
3500.01		PI/2 BPSK	-22.00	16.32	12.04	3.04	H		0.340	25.32	1	131
		QPSK	-22.01	16.31	12.04	3.04	H		0.340	25.31		
		16-QAM	-22.99	15.33	12.04	3.04	H		0.271	24.33		
		64-QAM	-24.52	13.80	12.04	3.04	H		0.191	22.80		
		256-QAM	-26.44	11.88	12.04	3.04	H		0.122	20.88		
3525.00		PI/2 BPSK	-21.91	16.49	12.04	3.04	H		0.354	25.49	1	131
		QPSK	-21.92	16.48	12.04	3.04	H		0.353	25.48		
		16-QAM	-22.96	15.44	12.04	3.04	H		0.278	24.44		
		64-QAM	-24.48	13.92	12.04	3.04	H		0.196	22.92		
		256-QAM	-26.36	12.04	12.04	3.04	H		0.127	21.04		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3480.00	Sub6 n77/ 60 MHz [30 kHz]	PI/2 BPSK	-22.02	16.01	12.04	3.02	H	< 1.00	0.318	25.03	1	160
		QPSK	-22.03	16.00	12.04	3.02	H		0.318	25.02		
		16-QAM	-23.12	14.91	12.04	3.02	H		0.247	23.93		
		64-QAM	-24.44	13.59	12.04	3.02	H		0.182	22.61		
		256-QAM	-26.42	11.61	12.04	3.02	H		0.116	20.63		
3500.01		PI/2 BPSK	-21.73	16.59	12.04	3.04	H		0.362	25.59	1	160
		QPSK	-21.76	16.56	12.04	3.04	H		0.360	25.56		
		16-QAM	-22.79	15.53	12.04	3.04	H		0.284	24.53		
		64-QAM	-24.16	14.16	12.04	3.04	H		0.207	23.16		
		256-QAM	-26.14	12.18	12.04	3.04	H		0.131	21.18		
3519.99		PI/2 BPSK	-21.81	16.68	12.04	3.04	H		0.370	25.68	1	160
		QPSK	-21.84	16.65	12.04	3.04	H		0.367	25.65		
		16-QAM	-22.90	15.59	12.04	3.04	H		0.288	24.59		
		64-QAM	-24.23	14.26	12.04	3.04	H		0.212	23.26		
		256-QAM	-26.24	12.25	12.04	3.04	H		0.133	21.25		

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
3485.01	Sub6 n77/ 70 MHz [30 kHz]	PI/2 BPSK	-22.00	16.10	12.04	3.03	H	< 1.00	0.324	25.11	1	187
		QPSK	-22.01	16.09	12.04	3.03	H		0.324	25.10		
		16-QAM	-22.89	15.21	12.04	3.03	H		0.264	24.22		
		64-QAM	-24.66	13.44	12.04	3.03	H		0.176	22.45		
		256-QAM	-26.43	11.67	12.04	3.03	H		0.117	20.68		
3500.01		PI/2 BPSK	-21.61	16.71	12.04	3.04	H		0.372	25.71	1	187
		QPSK	-21.62	16.70	12.04	3.04	H		0.372	25.70		
		16-QAM	-22.58	15.74	12.04	3.04	H		0.298	24.74		
		64-QAM	-24.15	14.17	12.04	3.04	H		0.207	23.17		
		256-QAM	-26.13	12.19	12.04	3.04	H		0.132	21.19		
3514.98		PI/2 BPSK	-21.75	16.77	12.04	3.04	H		0.378	25.77	1	187
		QPSK	-21.77	16.75	12.04	3.04	H		0.376	25.75		
		16-QAM	-22.72	15.80	12.04	3.04	H		0.302	24.80		
		64-QAM	-24.48	14.04	12.04	3.04	H		0.201	23.04		
		256-QAM	-26.29	12.23	12.04	3.04	H		0.133	21.23		

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
3490.02	Sub6 n77/ 80 MHz [30 kHz]	PI/2 BPSK	-21.74	16.43	12.04	3.04	H	< 1.00	0.349	25.43	1	215
		QPSK	-21.79	16.38	12.04	3.04	H		0.345	25.38		
		16-QAM	-22.74	15.43	12.04	3.04	H		0.277	24.43		
		64-QAM	-24.35	13.82	12.04	3.04	H		0.191	22.82		
		256-QAM	-26.27	11.90	12.04	3.04	H		0.123	20.90		
3500.01		PI/2 BPSK	-21.65	16.67	12.04	3.04	H		0.369	25.67	1	215
		QPSK	-21.66	16.66	12.04	3.04	H		0.368	25.66		
		16-QAM	-22.58	15.74	12.04	3.04	H		0.298	24.74		
		64-QAM	-24.21	14.11	12.04	3.04	H		0.205	23.11		
		256-QAM	-26.11	12.21	12.04	3.04	H		0.132	21.21		
3510.00		PI/2 BPSK	-21.83	16.74	12.04	3.05	H	0.374	25.73	1	215	
		QPSK	-21.86	16.71	12.04	3.05	H	0.372	25.70			
		16-QAM	-22.90	15.67	12.04	3.05	H	0.292	24.66			
		64-QAM	-24.37	14.20	12.04	3.05	H	0.208	23.19			
		256-QAM	-26.33	12.24	12.04	3.05	H	0.133	21.23			

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
3495.00	Sub6 n77/ 90 MHz [30 kHz]	PI/2 BPSK	-21.66	16.59	12.04	3.04	H	< 1.00	0.362	25.59	1	243
		QPSK	-21.67	16.58	12.04	3.04	H		0.361	25.58		
		16-QAM	-22.62	15.63	12.04	3.04	H		0.290	24.63		
		64-QAM	-24.20	14.05	12.04	3.04	H		0.202	23.05		
		256-QAM	-26.15	12.10	12.04	3.04	H		0.129	21.10		
3500.01		PI/2 BPSK	-21.79	16.53	12.04	3.04	H		0.357	25.53	1	243
		QPSK	-21.80	16.52	12.04	3.04	H		0.356	25.52		
		16-QAM	-22.74	15.58	12.04	3.04	H		0.287	24.58		
		64-QAM	-24.37	13.95	12.04	3.04	H		0.197	22.95		
		256-QAM	-26.18	12.14	12.04	3.04	H		0.130	21.14		
3504.99		PI/2 BPSK	-21.87	16.58	12.04	3.05	H		0.361	25.57	1	243
		QPSK	-21.90	16.55	12.04	3.05	H		0.358	25.54		
		16-QAM	-22.85	15.60	12.04	3.05	H		0.288	24.59		
		64-QAM	-24.33	14.12	12.04	3.05	H		0.205	23.11		
		256-QAM	-26.34	12.11	12.04	3.05	H		0.129	21.10		

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
3500.01	Sub6 n77/ 100 MHz [30 kHz]	PI/2 BPSK	-21.81	16.51	12.04	3.04	H	< 1.00	0.356	25.51	1	271
		QPSK	-21.86	16.46	12.04	3.04	H		0.352	25.46		
		16-QAM	-22.82	15.50	12.04	3.04	H		0.282	24.50		
		64-QAM	-24.41	13.91	12.04	3.04	H		0.195	22.91		
		256-QAM	-26.25	12.07	12.04	3.04	H		0.128	21.07		

8.2 RADIATED SPURIOUS EMISSIONS

NR Band:	<u>N77(78)</u>
Bandwidth:	<u>70 MHz</u>
Modulation:	<u>PI/2 BPSK</u>
Distance:	<u>1 meters</u>
SCS:	<u>30 kHz</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
632334 (3485.01)	6 970.02	-63.01	11.16	-57.41	4.46	H	-50.71	-13.00	1	187
	10 455.03	-63.30	11.73	-52.97	5.57	H	-46.81	-13.00		
	13 940.04	-58.44	12.84	-48.00	6.51	H	-41.67	-13.00		
633334 (3500.01)	7 000.02	-62.78	11.13	-56.13	4.45	H	-49.45	-13.00	1	187
	10 500.03	-62.57	11.71	-51.32	5.64	H	-45.25	-13.00		
	14 000.04	-59.43	12.76	-49.85	6.55	H	-43.64	-13.00		
634332 (3514.98)	7 029.96	-63.28	11.04	-56.63	4.42	H	-50.01	-13.00	1	187
	10 544.94	-63.26	11.67	-52.31	5.63	H	-46.27	-13.00		
	14 059.92	-59.12	12.73	-49.95	6.48	H	-43.70	-13.00		

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)	Limit (dB)
Sub6 n77	10 MHz	3500.01	BPSK	Full RB	0	4.13	13.00
			QPSK			5.13	
			16-QAM			5.87	
			64-QAM			6.14	
			256-QAM			6.25	
	15 MHz		BPSK			4.05	
			QPSK			5.05	
			16-QAM			5.82	
			64-QAM			6.15	
			256-QAM			6.15	
	20 MHz		BPSK			4.17	
			QPSK			5.12	
			16-QAM			5.88	
			64-QAM			6.16	
			256-QAM			6.20	
	30 MHz		BPSK			4.47	
			QPSK			5.17	
			16-QAM			5.92	
			64-QAM			6.09	
			256-QAM			6.26	
	40 MHz		BPSK			4.30	
			QPSK			5.18	
			16-QAM			5.89	
			64-QAM			6.16	
			256-QAM			6.31	
	50 MHz		BPSK			4.69	
			QPSK			5.15	
			16-QAM			5.87	
			64-QAM			6.12	
			256-QAM			6.23	

	60 MHz		BPSK			5.61	
			QPSK			5.63	
			16-QAM			6.13	
			64-QAM			6.27	
			256-QAM			6.44	
	70 MHz		BPSK			4.27	
			QPSK			5.23	
			16-QAM			5.95	
			64-QAM			6.12	
			256-QAM			6.36	
	80 MHz		BPSK			4.40	
			QPSK			5.19	
			16-QAM			5.91	
			64-QAM			6.10	
			256-QAM			6.38	
	90 MHz		BPSK			4.31	
			QPSK			5.21	
			16-QAM			5.89	
			64-QAM			6.11	
			256-QAM			6.25	
	100 MHz		BPSK			4.34	
			QPSK			5.17	
			16-QAM			5.96	
			64-QAM			6.15	
			256-QAM			6.36	

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 87 ~ 141.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n77	10 MHz	3500.01	BPSK	Full RB	0	8.6915
			QPSK			8.7205
			16-QAM			8.6753
			64-QAM			8.6967
			256-QAM			8.7111
	15 MHz		BPSK			12.976
			QPSK			12.960
			16-QAM			12.954
			64-QAM			12.947
			256-QAM			12.995
	20 MHz		BPSK			17.977
			QPSK			18.002
			16-QAM			17.964
			64-QAM			17.969
			256-QAM			17.965
	30 MHz		BPSK			26.942
			QPSK			26.945
			16-QAM			27.020
			64-QAM			26.990
			256-QAM			26.896
	40 MHz		BPSK			35.857
			QPSK			35.963
			16-QAM			35.941
			64-QAM			35.995
			256-QAM			35.944
	50 MHz		BPSK			46.118
			QPSK			46.047
			16-QAM			46.065
			64-QAM			46.044
			256-QAM			45.935

	60 MHz		BPSK			58.289
			QPSK			58.192
			16-QAM			58.424
			64-QAM			58.421
			256-QAM			58.421
	70 MHz		BPSK			64.943
			QPSK			64.881
			16-QAM			64.692
			64-QAM			65.037
			256-QAM			64.824
	80 MHz		BPSK			77.658
			QPSK			77.712
			16-QAM			77.622
			64-QAM			77.645
			256-QAM			77.786
	90 MHz		BPSK			87.195
			QPSK			87.365
			16-QAM			87.315
			64-QAM			87.232
			256-QAM			87.297
	100 MHz		BPSK			96.667
			QPSK			96.871
			16-QAM			96.813
			64-QAM			96.883
			256-QAM			96.890

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 142 ~ 196.

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 n77	10	3455.010	9.1226	30.315	-62.121	-31.806	-13.00
		3500.010	9.3918	30.315	-63.532	-33.217	
		3544.980	8.8535	30.315	-63.554	-33.239	
	15	3457.500	8.8335	30.315	-62.743	-32.428	
		3500.010	4.9751	29.722	-63.755	-34.033	
		3542.490	5.5035	30.315	-62.830	-32.515	
	20	3460.020	8.0259	30.315	-61.258	-30.943	
		3500.010	9.1825	30.315	-62.781	-32.466	
		3540.000	8.5643	30.315	-63.439	-33.124	
	30	3465.000	8.2453	30.315	-63.385	-33.070	
		3500.010	5.9821	30.315	-63.056	-32.741	
		3534.990	9.4616	30.315	-62.889	-32.574	
	40	3470.010	9.7109	30.315	-62.338	-32.023	
		3500.010	8.2852	30.315	-62.451	-32.136	
		3529.980	9.9701	30.315	-63.561	-33.246	
	50	3475.020	8.3649	30.315	-63.042	-32.727	
		3500.010	7.1187	30.315	-63.107	-32.792	
		3525.000	4.9153	36.712	-63.255	-26.543	
	60	3480.000	8.8435	30.315	-63.742	-33.427	
		3500.010	8.0359	30.315	-63.038	-32.723	
		3519.990	3.1905	29.722	-63.005	-33.283	
	70	3485.010	9.1825	30.315	-61.840	-31.525	
		3500.010	4.9652	30.315	-62.787	-32.472	
		3514.980	4.9751	30.315	-63.203	-32.888	
	80	3490.020	8.5544	30.315	-63.405	-33.090	
		3500.010	9.0927	30.315	-62.992	-32.677	
		3510.000	6.0220	30.315	-63.241	-32.926	
	90	3495.000	9.9402	30.315	-62.240	-31.925	
		3500.010	9.7208	30.315	-62.408	-32.093	
		3504.990	6.0419	30.315	-62.998	-32.683	
	100	3500.010	6.0519	30.315	-63.420	-33.105	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 197 ~ 258.
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	27.012
1 – 5	29.722
5 – 10	30.315
10 – 15	30.840
15 – 20	31.213
Above 20	31.855

8.6 BAND EDGE

1. Plots of the EUT's Band Edge are shown Page 259 ~ 390.
2. Duty Cycle factor already applied on the factor.
 - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
 - Result(dBm) = Reading + Factor
 - Duty Cycle Factor(dB) = 6.990

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 10 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3455.010	100 %	+20(Ref)	3455 009 995	0.0	0.000 000	0.000
	100 %	-30	3455 009 995	-0.6	0.000 000	0.000
	100 %	-20	3455 009 993	-2.3	0.000 000	-0.001
	100 %	-10	3455 009 992	-3.3	0.000 000	-0.001
	100 %	0	3455 009 991	-4.6	0.000 000	-0.001
	100 %	+10	3455 009 992	-2.9	0.000 000	-0.001
	100 %	+30	3455 009 992	-2.9	0.000 000	-0.001
	100 %	+40	3455 009 989	-6.7	0.000 000	-0.002
	100 %	+50	3455 009 992	-2.9	0.000 000	-0.001
	Batt. Endpoint	+20	3455 009 995	-0.3	0.000 000	0.000
3544.980	100 %	+20(Ref)	3544 979 996	0.0	0.000 000	0.000
	100 %	-30	3544 979 988	-7.8	0.000 000	-0.002
	100 %	-20	3544 979 984	-11.6	0.000 000	-0.003
	100 %	-10	3544 979 994	-2.0	0.000 000	-0.001
	100 %	0	3544 979 991	-4.6	0.000 000	-0.001
	100 %	+10	3544 979 988	-8.1	0.000 000	-0.002
	100 %	+30	3544 979 996	0.4	0.000 000	0.000
	100 %	+40	3544 979 991	-4.9	0.000 000	-0.001
	100 %	+50	3544 979 993	-2.8	0.000 000	-0.001
	Batt. Endpoint	+20	3544 979 991	-4.8	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. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3457.500	100 %	+20(Ref)	3457 499 996	0.0	0.000 000	0.000
	100 %	-30	3457 499 992	-4.3	0.000 000	-0.001
	100 %	-20	3457 499 992	-3.8	0.000 000	-0.001
	100 %	-10	3457 499 991	-4.9	0.000 000	-0.001
	100 %	0	3457 499 990	-5.6	0.000 000	-0.002
	100 %	+10	3457 499 990	-6.2	0.000 000	-0.002
	100 %	+30	3457 499 991	-5.2	0.000 000	-0.002
	100 %	+40	3457 499 988	-7.6	0.000 000	-0.002
	100 %	+50	3457 499 990	-5.7	0.000 000	-0.002
	Batt. Endpoint	+20	3457 499 993	-3.0	0.000 000	-0.001
3542.490	100 %	+20(Ref)	3542 489 998	0.0	0.000 000	0.000
	100 %	-30	3542 489 993	-4.6	0.000 000	-0.001
	100 %	-20	3542 489 996	-2.1	0.000 000	-0.001
	100 %	-10	3542 489 996	-1.5	0.000 000	0.000
	100 %	0	3542 489 995	-2.3	0.000 000	-0.001
	100 %	+10	3542 489 995	-3.0	0.000 000	-0.001
	100 %	+30	3542 489 996	-2.0	0.000 000	-0.001
	100 %	+40	3542 489 994	-3.7	0.000 000	-0.001
	100 %	+50	3542 489 992	-5.5	0.000 000	-0.002
	Batt. Endpoint	+20	3542 489 994	-4.3	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. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3460.020	100 %	+20(Ref)	3460 019 995	0.0	0.000 000	0.000
	100 %	-30	3460 019 990	-5.3	0.000 000	-0.002
	100 %	-20	3460 019 988	-6.8	0.000 000	-0.002
	100 %	-10	3460 019 990	-5.7	0.000 000	-0.002
	100 %	0	3460 019 988	-7.0	0.000 000	-0.002
	100 %	+10	3460 019 991	-4.2	0.000 000	-0.001
	100 %	+30	3460 019 989	-5.8	0.000 000	-0.002
	100 %	+40	3460 019 990	-5.6	0.000 000	-0.002
	100 %	+50	3460 019 988	-7.3	0.000 000	-0.002
	Batt. Endpoint	+20	3460 019 991	-3.9	0.000 000	-0.001
3540.000	100 %	+20(Ref)	3539 999 997	0.0	0.000 000	0.000
	100 %	-30	3539 999 996	-0.8	0.000 000	0.000
	100 %	-20	3539 999 994	-2.1	0.000 000	-0.001
	100 %	-10	3539 999 992	-4.3	0.000 000	-0.001
	100 %	0	3539 999 993	-3.7	0.000 000	-0.001
	100 %	+10	3539 999 996	-0.8	0.000 000	0.000
	100 %	+30	3539 999 993	-3.1	0.000 000	-0.001
	100 %	+40	3539 999 989	-7.5	0.000 000	-0.002
	100 %	+50	3539 999 992	-4.5	0.000 000	-0.001
	Batt. Endpoint	+20	3539 999 990	-6.6	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	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3465.000	100 %	+20(Ref)	3465 000 000	0.0	0.000 000	0.000
	100 %	-30	3464 999 995	-4.4	0.000 000	-0.001
	100 %	-20	3465 000 000	-0.4	0.000 000	0.000
	100 %	-10	3464 999 996	-3.9	0.000 000	-0.001
	100 %	0	3464 999 998	-1.6	0.000 000	0.000
	100 %	+10	3464 999 998	-1.9	0.000 000	-0.001
	100 %	+30	3464 999 996	-3.9	0.000 000	-0.001
	100 %	+40	3464 999 996	-3.9	0.000 000	-0.001
	100 %	+50	3464 999 996	-4.3	0.000 000	-0.001
	Batt. Endpoint	+20	3464 999 997	-3.1	0.000 000	-0.001
3534.990	100 %	+20(Ref)	3534 990 000	0.0	0.000 000	0.000
	100 %	-30	3534 989 998	-1.2	0.000 000	0.000
	100 %	-20	3534 990 000	0.3	0.000 000	0.000
	100 %	-10	3534 990 000	0.5	0.000 000	0.000
	100 %	0	3534 989 999	-0.3	0.000 000	0.000
	100 %	+10	3534 989 997	-2.7	0.000 000	-0.001
	100 %	+30	3534 989 998	-1.6	0.000 000	0.000
	100 %	+40	3534 989 998	-1.7	0.000 000	0.000
	100 %	+50	3534 989 996	-3.6	0.000 000	-0.001
	Batt. Endpoint	+20	3534 990 000	0.3	0.000 000	0.000

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

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3470.010	100 %	+20(Ref)	3470 009 992	0.0	0.000 000	0.000
	100 %	-30	3470 009 985	-7.0	0.000 000	-0.002
	100 %	-20	3470 009 984	-7.4	0.000 000	-0.002
	100 %	-10	3470 009 987	-4.9	0.000 000	-0.001
	100 %	0	3470 009 988	-3.3	0.000 000	-0.001
	100 %	+10	3470 009 987	-4.8	0.000 000	-0.001
	100 %	+30	3470 009 983	-8.7	0.000 000	-0.003
	100 %	+40	3470 009 985	-6.2	0.000 000	-0.002
	100 %	+50	3470 009 982	-9.3	0.000 000	-0.003
	Batt. Endpoint	+20	3470 009 982	-9.3	0.000 000	-0.003
3529.980	100 %	+20(Ref)	3529 979 999	0.0	0.000 000	0.000
	100 %	-30	3529 979 991	-7.7	0.000 000	-0.002
	100 %	-20	3529 979 995	-3.3	0.000 000	-0.001
	100 %	-10	3529 979 995	-3.8	0.000 000	-0.001
	100 %	0	3529 979 995	-3.2	0.000 000	-0.001
	100 %	+10	3529 979 999	0.7	0.000 000	0.000
	100 %	+30	3529 979 996	-3.1	0.000 000	-0.001
	100 %	+40	3529 979 991	-7.5	0.000 000	-0.002
	100 %	+50	3529 979 994	-4.3	0.000 000	-0.001
	Batt. Endpoint	+20	3529 979 991	-7.9	0.000 000	-0.002

- ▣ BandWidth: 50 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3475.020	100 %	+20(Ref)	3475 019 994	0.0	0.000 000	0.000
	100 %	-30	3475 019 993	-0.8	0.000 000	0.000
	100 %	-20	3475 019 993	-0.1	0.000 000	0.000
	100 %	-10	3475 019 989	-4.6	0.000 000	-0.001
	100 %	0	3475 019 986	-7.6	0.000 000	-0.002
	100 %	+10	3475 019 995	1.3	0.000 000	0.000
	100 %	+30	3475 019 984	-9.2	0.000 000	-0.003
	100 %	+40	3475 019 993	-0.6	0.000 000	0.000
	100 %	+50	3475 019 987	-6.6	0.000 000	-0.002
	Batt. Endpoint	+20	3475 019 991	-2.4	0.000 000	-0.001
3525.000	100 %	+20(Ref)	3524 999 997	0.0	0.000 000	0.000
	100 %	-30	3524 999 988	-9.1	0.000 000	-0.003
	100 %	-20	3524 999 987	-9.1	0.000 000	-0.003
	100 %	-10	3524 999 988	-8.8	0.000 000	-0.003
	100 %	0	3524 999 993	-3.2	0.000 000	-0.001
	100 %	+10	3524 999 989	-7.8	0.000 000	-0.002
	100 %	+30	3524 999 993	-4.1	0.000 000	-0.001
	100 %	+40	3524 999 991	-5.6	0.000 000	-0.002
	100 %	+50	3524 999 994	-2.3	0.000 000	-0.001
	Batt. Endpoint	+20	3524 999 989	-7.3	0.000 000	-0.002

- ▣ BandWidth: 60 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3480.000	100 %	+20(Ref)	3479 999 997	0.0	0.000 000	0.000
	100 %	-30	3479 999 995	-2.3	0.000 000	-0.001
	100 %	-20	3479 999 988	-9.0	0.000 000	-0.003
	100 %	-10	3479 999 988	-9.3	0.000 000	-0.003
	100 %	0	3479 999 994	-3.2	0.000 000	-0.001
	100 %	+10	3479 999 994	-3.3	0.000 000	-0.001
	100 %	+30	3479 999 994	-3.0	0.000 000	-0.001
	100 %	+40	3479 999 994	-3.9	0.000 000	-0.001
	100 %	+50	3479 999 992	-5.2	0.000 000	-0.001
	Batt. Endpoint	+20	3479 999 997	0.0	0.000 000	0.000
3519.990	100 %	+20(Ref)	3519 989 987	0.0	0.000 000	0.000
	100 %	-30	3519 989 985	-2.1	0.000 000	-0.001
	100 %	-20	3519 989 979	-8.5	0.000 000	-0.002
	100 %	-10	3519 989 983	-4.1	0.000 000	-0.001
	100 %	0	3519 989 985	-2.8	0.000 000	-0.001
	100 %	+10	3519 989 986	-1.7	0.000 000	0.000
	100 %	+30	3519 989 981	-6.0	0.000 000	-0.002
	100 %	+40	3519 989 985	-2.1	0.000 000	-0.001
	100 %	+50	3519 989 990	2.7	0.000 000	0.001
	Batt. Endpoint	+20	3519 989 985	-2.7	0.000 000	-0.001

- ▣ BandWidth: 70 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3485.010	100 %	+20(Ref)	3485 010 000	0.0	0.000 000	0.000
	100 %	-30	3485 009 997	-3.1	0.000 000	-0.001
	100 %	-20	3485 009 998	-1.3	0.000 000	0.000
	100 %	-10	3485 009 999	-0.7	0.000 000	0.000
	100 %	0	3485 009 998	-1.8	0.000 000	-0.001
	100 %	+10	3485 009 994	-6.1	0.000 000	-0.002
	100 %	+30	3485 010 003	3.4	0.000 000	0.001
	100 %	+40	3485 009 995	-4.7	0.000 000	-0.001
	100 %	+50	3485 009 997	-3.1	0.000 000	-0.001
	Batt. Endpoint	+20	3485 009 997	-3.0	0.000 000	-0.001
3514.980	100 %	+20(Ref)	3514 980 004	0.0	0.000 000	0.000
	100 %	-30	3514 980 003	-1.7	0.000 000	0.000
	100 %	-20	3514 980 009	4.7	0.000 000	0.001
	100 %	-10	3514 980 009	4.7	0.000 000	0.001
	100 %	0	3514 980 009	4.9	0.000 000	0.001
	100 %	+10	3514 980 014	9.3	0.000 000	0.003
	100 %	+30	3514 980 005	1.0	0.000 000	0.000
	100 %	+40	3514 980 005	1.0	0.000 000	0.000
	100 %	+50	3514 980 010	5.6	0.000 000	0.002
	Batt. Endpoint	+20	3514 980 010	5.4	0.000 000	0.002

- ▣ BandWidth: 80 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3490.020	100 %	+20(Ref)	3490 020 004	0.0	0.000 000	0.000
	100 %	-30	3490 020 003	-1.6	0.000 000	0.000
	100 %	-20	3490 020 013	8.4	0.000 000	0.002
	100 %	-10	3490 020 009	4.4	0.000 000	0.001
	100 %	0	3490 020 009	4.3	0.000 000	0.001
	100 %	+10	3490 020 000	-4.1	0.000 000	-0.001
	100 %	+30	3490 020 006	1.9	0.000 000	0.001
	100 %	+40	3490 020 007	2.2	0.000 000	0.001
	100 %	+50	3490 020 007	2.2	0.000 000	0.001
	Batt. Endpoint	+20	3490 020 005	0.5	0.000 000	0.000
3510.000	100 %	+20(Ref)	3509 999 994	0.0	0.000 000	0.000
	100 %	-30	3509 999 992	-1.7	0.000 000	0.000
	100 %	-20	3509 999 998	4.2	0.000 000	0.001
	100 %	-10	3509 999 990	-3.7	0.000 000	-0.001
	100 %	0	3509 999 994	0.3	0.000 000	0.000
	100 %	+10	3509 999 993	-0.8	0.000 000	0.000
	100 %	+30	3509 999 994	-0.6	0.000 000	0.000
	100 %	+40	3509 999 991	-2.8	0.000 000	-0.001
	100 %	+50	3509 999 993	-0.8	0.000 000	0.000
	Batt. Endpoint	+20	3509 999 995	0.7	0.000 000	0.000

- ▣ BandWidth: 90 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3495.000	100 %	+20(Ref)	3494 999 992	0.0	0.000 000	0.000
	100 %	-30	3494 999 984	-7.6	0.000 000	-0.002
	100 %	-20	3494 999 982	-10.2	0.000 000	-0.003
	100 %	-10	3494 999 981	-11.2	0.000 000	-0.003
	100 %	0	3494 999 986	-5.4	0.000 000	-0.002
	100 %	+10	3494 999 987	-5.1	0.000 000	-0.001
	100 %	+30	3494 999 981	-11.4	0.000 000	-0.003
	100 %	+40	3494 999 987	-4.6	0.000 000	-0.001
	100 %	+50	3494 999 990	-1.6	0.000 000	0.000
	Batt. Endpoint	+20	3494 999 988	-3.5	0.000 000	-0.001
3504.990	100 %	+20(Ref)	3504 989 997	0.0	0.000 000	0.000
	100 %	-30	3504 989 987	-10.7	0.000 000	-0.003
	100 %	-20	3504 989 992	-5.6	0.000 000	-0.002
	100 %	-10	3504 989 993	-4.1	0.000 000	-0.001
	100 %	0	3504 989 996	-1.8	0.000 000	-0.001
	100 %	+10	3504 989 993	-4.6	0.000 000	-0.001
	100 %	+30	3504 989 993	-4.0	0.000 000	-0.001
	100 %	+40	3504 989 992	-5.4	0.000 000	-0.002
	100 %	+50	3504 989 990	-7.1	0.000 000	-0.002
	Batt. Endpoint	+20	3504 989 990	-7.2	0.000 000	-0.002

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

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3500.010	100 %	+20(Ref)	3500 010 000	0.0	0.000 000	0.000
	100 %	-30	3500 009 990	-10.0	0.000 000	-0.003
	100 %	-20	3500 009 990	-10.0	0.000 000	-0.003
	100 %	-10	3500 009 998	-2.4	0.000 000	-0.001
	100 %	0	3500 009 999	-1.2	0.000 000	0.000
	100 %	+10	3500 009 996	-4.0	0.000 000	-0.001
	100 %	+30	3500 009 990	-10.0	0.000 000	-0.003
	100 %	+40	3500 009 995	-5.0	0.000 000	-0.001
	100 %	+50	3500 009 999	-0.6	0.000 000	0.000
	Batt. Endpoint	+20	3500 009 992	-7.6	0.000 000	-0.002

9. TEST DATA (3700 MHz - 3980 MHz)

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
3705.00	Sub6 n77/ 10 MHz [30 kHz]	PI/2 BPSK	-24.88	13.71	12.08	3.08	H	< 1.00	0.187	22.71	1	22
		QPSK	-24.89	13.70	12.08	3.08	H		0.186	22.70		
		16-QAM	-25.83	12.76	12.08	3.08	H		0.150	21.76		
		64-QAM	-27.48	11.11	12.08	3.08	H		0.103	20.11		
		256-QAM	-29.27	9.32	12.08	3.08	H		0.068	18.32		
3840.00		PI/2 BPSK	-25.01	14.94	11.58	3.20	H		0.215	23.32	1	12
		QPSK	-25.24	14.71	11.58	3.20	H		0.204	23.09		
		16-QAM	-26.08	13.87	11.58	3.20	H		0.168	22.25		
		64-QAM	-27.72	12.23	11.58	3.20	H		0.115	20.61		
		256-QAM	-29.58	10.37	11.58	3.20	H		0.075	18.75		
3975.00		PI/2 BPSK	-25.80	14.11	11.70	3.25	H		0.180	22.56	1	12
		QPSK	-25.85	14.06	11.70	3.25	H		0.178	22.51		
		16-QAM	-26.83	13.08	11.70	3.25	H		0.142	21.53		
		64-QAM	-28.49	11.42	11.70	3.25	H		0.097	19.87		
		256-QAM	-30.36	9.55	11.70	3.25	H		0.063	18.00		

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
3707.51	Sub6 n77/ 15 MHz [30 kHz]	PI/2 BPSK	-24.48	14.02	12.08	3.08	H	< 1.00	0.200	23.02	1	36
		QPSK	-24.55	13.95	12.08	3.08	H		0.197	22.95		
		16-QAM	-25.36	13.14	12.08	3.08	H		0.164	22.14		
		64-QAM	-27.06	11.44	12.08	3.08	H		0.111	20.44		
		256-QAM	-29.08	9.42	12.08	3.08	H		0.070	18.42		
3840.00		PI/2 BPSK	-25.15	14.80	11.58	3.20	H		0.208	23.18	1	19
		QPSK	-25.29	14.66	11.58	3.20	H		0.201	23.04		
		16-QAM	-26.32	13.63	11.58	3.20	H		0.159	22.01		
		64-QAM	-27.75	12.20	11.58	3.20	H		0.114	20.58		
		256-QAM	-29.66	10.29	11.58	3.20	H		0.074	18.67		
3972.48		PI/2 BPSK	-25.83	14.03	11.69	3.25	H		0.177	22.47	1	36
		QPSK	-25.84	14.02	11.69	3.25	H		0.176	22.46		
		16-QAM	-26.86	13.00	11.69	3.25	H		0.139	21.44		
		64-QAM	-28.25	11.61	11.69	3.25	H		0.101	20.05		
		256-QAM	-30.35	9.51	11.69	3.25	H		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
3710.01	Sub6 n77/ 20 MHz [30 kHz]	PI/2 BPSK	-24.34	14.16	12.08	3.08	H	< 1.00	0.207	23.16	1	49
		QPSK	-24.35	14.15	12.08	3.08	H		0.207	23.15		
		16-QAM	-25.27	13.23	12.08	3.08	H		0.167	22.23		
		64-QAM	-26.85	11.65	12.08	3.08	H		0.116	20.65		
		256-QAM	-28.88	9.62	12.08	3.08	H		0.073	18.62		
3840.00		PI/2 BPSK	-25.10	14.85	11.58	3.20	H		0.210	23.23	1	1
		QPSK	-25.11	14.84	11.58	3.20	H		0.210	23.22		
		16-QAM	-26.06	13.89	11.58	3.20	H		0.169	22.27		
		64-QAM	-27.62	12.33	11.58	3.20	H		0.118	20.71		
		256-QAM	-29.57	10.38	11.58	3.20	H		0.075	18.76		
3969.99		PI/2 BPSK	-25.79	14.07	11.69	3.25	H		0.178	22.51	1	25
		QPSK	-25.85	14.01	11.69	3.25	H		0.176	22.45		
		16-QAM	-26.79	13.07	11.69	3.25	H		0.142	21.51		
		64-QAM	-28.40	11.46	11.69	3.25	H		0.098	19.90		
		256-QAM	-30.33	9.53	11.69	3.25	H		0.063	17.97		

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
3715.02	Sub6 n77/ 30 MHz [30 kHz]	PI/2 BPSK	-24.42	14.15	12.08	3.11	H	< 1.00	0.205	23.12	1	39
		QPSK	-24.53	14.04	12.08	3.11	H		0.200	23.01		
		16-QAM	-25.50	13.07	12.08	3.11	H		0.160	22.04		
		64-QAM	-26.96	11.61	12.08	3.11	H		0.114	20.58		
		256-QAM	-28.90	9.67	12.08	3.11	H		0.073	18.64		
3840.00		PI/2 BPSK	-25.09	14.86	11.58	3.20	H		0.211	23.24	1	1
		QPSK	-25.11	14.84	11.58	3.20	H		0.210	23.22		
		16-QAM	-26.10	13.85	11.58	3.20	H		0.167	22.23		
		64-QAM	-27.54	12.41	11.58	3.20	H		0.120	20.79		
		256-QAM	-29.53	10.42	11.58	3.20	H		0.076	18.80		
3964.98		PI/2 BPSK	-25.94	13.99	11.67	3.24	H	0.175	22.42	1	76	
		QPSK	-25.95	13.98	11.67	3.24	H	0.174	22.41			
		16-QAM	-26.97	12.96	11.67	3.24	H	0.138	21.39			
		64-QAM	-28.46	11.47	11.67	3.24	H	0.098	19.90			
		256-QAM	-30.39	9.54	11.67	3.24	H	0.063	17.97			

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
3720.00	Sub6 n77/ 40 MHz [30 kHz]	PI/2 BPSK	-24.46	14.17	12.07	3.13	H	< 1.00	0.205	23.11	1	53
		QPSK	-24.50	14.13	12.07	3.13	H		0.203	23.07		
		16-QAM	-25.50	13.13	12.07	3.13	H		0.161	22.07		
		64-QAM	-26.91	11.72	12.07	3.13	H		0.116	20.66		
		256-QAM	-28.91	9.72	12.07	3.13	H		0.073	18.66		
3840.00		PI/2 BPSK	-24.91	15.04	11.58	3.20	H		0.220	23.42	1	1
		QPSK	-24.92	15.03	11.58	3.20	H		0.219	23.41		
		16-QAM	-25.89	14.06	11.58	3.20	H		0.175	22.44		
		64-QAM	-27.39	12.56	11.58	3.20	H		0.124	20.94		
		256-QAM	-29.33	10.62	11.58	3.20	H		0.079	19.00		
3960.00		PI/2 BPSK	-25.87	14.13	11.65	3.24	H		0.179	22.54	1	53
		QPSK	-25.89	14.11	11.65	3.24	H		0.179	22.52		
		16-QAM	-26.97	13.03	11.65	3.24	H		0.139	21.44		
		64-QAM	-28.39	11.61	11.65	3.24	H		0.100	20.02		
		256-QAM	-30.32	9.68	11.65	3.24	H		0.064	18.09		

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
3725.10	Sub6 n77/ 50 MHz [30 kHz]	PI/2 BPSK	-24.49	14.27	12.06	3.15	H	< 1.00	0.208	23.18	1	66
		QPSK	-24.62	14.14	12.06	3.15	H		0.202	23.05		
		16-QAM	-25.61	13.15	12.06	3.15	H		0.161	22.06		
		64-QAM	-27.02	11.74	12.06	3.15	H		0.116	20.65		
		256-QAM	-28.97	9.79	12.06	3.15	H		0.074	18.70		
3840.00		PI/2 BPSK	-24.82	15.13	11.58	3.20	H		0.224	23.51	1	1
		QPSK	-24.83	15.12	11.58	3.20	H		0.224	23.50		
		16-QAM	-25.81	14.14	11.58	3.20	H		0.179	22.52		
		64-QAM	-27.23	12.72	11.58	3.20	H		0.129	21.10		
		256-QAM	-29.22	10.73	11.58	3.20	H		0.081	19.11		
3954.99		PI/2 BPSK	-25.91	14.12	11.63	3.23	H		0.179	22.52	1	131
		QPSK	-25.95	14.08	11.63	3.23	H		0.177	22.48		
		16-QAM	-26.93	13.10	11.63	3.23	H		0.141	21.50		
		64-QAM	-28.39	11.64	11.63	3.23	H		0.101	20.04		
		256-QAM	-30.37	9.66	11.63	3.23	H		0.064	18.06		

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
3730.02	Sub6 n77/ 60 MHz [30 kHz]	PI/2 BPSK	-24.29	14.61	12.04	3.17	H	< 1.00	0.223	23.48	1	160
		QPSK	-24.30	14.60	12.04	3.17	H		0.222	23.47		
		16-QAM	-25.21	13.69	12.04	3.17	H		0.180	22.56		
		64-QAM	-26.79	12.11	12.04	3.17	H		0.125	20.98		
		256-QAM	-28.81	10.09	12.04	3.17	H		0.079	18.96		
3840.00		PI/2 BPSK	-24.52	15.43	11.58	3.20	H		0.240	23.81	1	1
		QPSK	-24.55	15.40	11.58	3.20	H		0.239	23.78		
		16-QAM	-25.50	14.45	11.58	3.20	H		0.192	22.83		
		64-QAM	-27.20	12.75	11.58	3.20	H		0.130	21.13		
		256-QAM	-29.07	10.88	11.58	3.20	H		0.084	19.26		
3949.98		PI/2 BPSK	-25.73	14.32	11.61	3.22	H		0.187	22.71	1	160
		QPSK	-25.77	14.28	11.61	3.22	H		0.185	22.67		
		16-QAM	-26.67	13.38	11.61	3.22	H		0.150	21.77		
		64-QAM	-28.41	11.64	11.61	3.22	H		0.101	20.03		
		256-QAM	-30.23	9.82	11.61	3.22	H		0.066	18.21		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3735.00	Sub6 n77/ 70 MHz [30 kHz]	PI/2 BPSK	-24.17	14.85	12.02	3.18	H	< 1.00	0.234	23.69	1	187
		QPSK	-24.18	14.84	12.02	3.18	H		0.233	23.68		
		16-QAM	-25.10	13.92	12.02	3.18	H		0.189	22.76		
		64-QAM	-26.63	12.39	12.02	3.18	H		0.133	21.23		
		256-QAM	-28.61	10.41	12.02	3.18	H		0.084	19.25		
3840.00		PI/2 BPSK	-24.57	15.38	11.58	3.20	H		0.238	23.76	1	1
		QPSK	-24.58	15.37	11.58	3.20	H		0.237	23.75		
		16-QAM	-25.55	14.40	11.58	3.20	H		0.190	22.78		
		64-QAM	-27.10	12.85	11.58	3.20	H		0.133	21.23		
		256-QAM	-29.04	10.91	11.58	3.20	H		0.085	19.29		
3945.00		PI/2 BPSK	-25.75	14.28	11.60	3.23	H		0.184	22.65	1	187
		QPSK	-25.76	14.27	11.60	3.23	H		0.184	22.64		
		16-QAM	-26.83	13.20	11.60	3.23	H		0.144	21.57		
		64-QAM	-28.36	11.67	11.60	3.23	H		0.101	20.04		
		256-QAM	-30.47	9.56	11.60	3.23	H		0.062	17.93		

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol	Limit	EIRP		RB	
								W	W	dBm	Size	Offset
3740.01	Sub6 n77/ 80 MHz [30 kHz]	PI/2 BPSK	-24.57	14.58	12.00	3.19	H	< 1.00	0.218	23.39	1	215
		QPSK	-24.60	14.55	12.00	3.19	H		0.217	23.36		
		16-QAM	-25.56	13.59	12.00	3.19	H		0.174	22.40		
		64-QAM	-27.10	12.05	12.00	3.19	H		0.122	20.86		
		256-QAM	-29.17	9.98	12.00	3.19	H		0.076	18.79		
3840.00		PI/2 BPSK	-25.16	14.79	11.58	3.20	H		0.207	23.17	1	1
		QPSK	-25.19	14.76	11.58	3.20	H		0.206	23.14		
		16-QAM	-26.09	13.86	11.58	3.20	H		0.167	22.24		
		64-QAM	-27.64	12.31	11.58	3.20	H		0.117	20.69		
		256-QAM	-29.82	10.13	11.58	3.20	H		0.071	18.51		
3939.99		PI/2 BPSK	-25.70	14.30	11.58	3.23	H	0.184	22.65	1	215	
		QPSK	-25.71	14.29	11.58	3.23	H	0.184	22.64			
		16-QAM	-26.61	13.39	11.58	3.23	H	0.149	21.74			
		64-QAM	-28.31	11.69	11.58	3.23	H	0.101	20.04			
		256-QAM	-30.33	9.67	11.58	3.23	H	0.063	18.02			

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
3745.02	Sub6 n77/ 90 MHz [30 kHz]	PI/2 BPSK	-24.81	14.36	11.97	3.18	H	< 1.00	0.207	23.15	1	122
		QPSK	-24.90	14.27	11.97	3.18	H		0.202	23.06		
		16-QAM	-25.77	13.40	11.97	3.18	H		0.166	22.19		
		64-QAM	-27.41	11.76	11.97	3.18	H		0.114	20.55		
		256-QAM	-29.40	9.77	11.97	3.18	H		0.072	18.56		
3840.00		PI/2 BPSK	-25.17	14.78	11.58	3.20	H		0.207	23.16	1	1
		QPSK	-25.18	14.77	11.58	3.20	H		0.207	23.15		
		16-QAM	-26.15	13.80	11.58	3.20	H		0.165	22.18		
		64-QAM	-27.68	12.27	11.58	3.20	H		0.116	20.65		
		256-QAM	-29.75	10.20	11.58	3.20	H		0.072	18.58		
3934.98		PI/2 BPSK	-25.62	14.33	11.56	3.24	H		0.184	22.65	1	243
		QPSK	-25.64	14.31	11.56	3.24	H		0.183	22.63		
		16-QAM	-26.59	13.36	11.56	3.24	H		0.147	21.68		
		64-QAM	-28.20	11.75	11.56	3.24	H		0.102	20.07		
		256-QAM	-30.28	9.67	11.56	3.24	H		0.063	17.99		

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
3750.00	Sub6 n77/ 100 MHz [30 kHz]	PI/2 BPSK	-24.68	14.51	11.95	3.17	H	< 1.00	0.213	23.29	1	136
		QPSK	-24.69	14.50	11.95	3.17	H		0.213	23.28		
		16-QAM	-25.59	13.60	11.95	3.17	H		0.173	22.38		
		64-QAM	-27.10	12.09	11.95	3.17	H		0.122	20.87		
		256-QAM	-29.23	9.96	11.95	3.17	H		0.075	18.74		
3840.00		PI/2 BPSK	-25.15	14.80	11.58	3.20	H		0.208	23.18	1	1
		QPSK	-25.19	14.76	11.58	3.20	H		0.206	23.14		
		16-QAM	-26.09	13.86	11.58	3.20	H		0.167	22.24		
		64-QAM	-27.54	12.41	11.58	3.20	H		0.120	20.79		
		256-QAM	-29.69	10.26	11.58	3.20	H		0.073	18.64		
3930.00		PI/2 BPSK	-25.54	14.36	11.54	3.26	H		0.184	22.64	1	271
		QPSK	-25.55	14.35	11.54	3.26	H		0.183	22.63		
		16-QAM	-26.55	13.35	11.54	3.26	H		0.146	21.63		
		64-QAM	-28.06	11.84	11.54	3.26	H		0.103	20.12		
		256-QAM	-30.22	9.68	11.54	3.26	H		0.063	17.96		

9.2 RADIATED SPURIOUS EMISSIONS

■ NR Band:	<u>N77(78)</u>
■ Bandwidth:	<u>60 MHz</u>
■ Modulation:	<u>PI/2 BPSK</u>
■ Distance:	<u>1 meters</u>
■ SCS:	<u>30 kHz</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)	RB	
									Size	Offset
648668 (3730.02)	7 460.04	-60.35	11.37	-52.62	4.61	H	-45.86	-13.00	1	160
	11 190.06	-58.54	12.10	-47.67	5.87	H	-41.44	-13.00		
	14 920.08	-55.20	14.04	-49.55	6.71	H	-42.22	-13.00		
656000 (3840.00)	7 680.00	-59.80	11.47	-52.49	4.70	H	-45.72	-13.00	1	1
	11 520.00	-59.37	12.34	-48.06	5.87	V	-41.59	-13.00		
	15 360.00	-58.64	15.37	-52.06	6.88	H	-43.57	-13.00		
663332 (3949.98)	7 899.96	-60.84	11.04	-53.44	4.75	H	-47.15	-13.00	1	160
	11 849.94	-61.47	12.59	-51.71	6.00	H	-45.12	-13.00		
	15 799.92	-62.00	16.07	-53.60	6.97	H	-44.50	-13.00		

9.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)	Limit (dB)
Sub6 n77	10 MHz	3840.00	BPSK	Full RB	0	4.06	13.00
			QPSK			5.20	
			16-QAM			5.75	
			64-QAM			6.06	
			256-QAM			6.13	
	15 MHz		BPSK			3.94	
			QPSK			5.14	
			16-QAM			5.67	
			64-QAM			5.94	
			256-QAM			6.18	
	20 MHz		BPSK			4.25	
			QPSK			5.16	
			16-QAM			5.75	
			64-QAM			6.00	
			256-QAM			6.16	
	30 MHz		BPSK			4.11	
			QPSK			5.16	
			16-QAM			5.74	
			64-QAM			6.00	
			256-QAM			6.14	
	40 MHz		BPSK			5.30	
			QPSK			5.49	
			16-QAM			5.83	
			64-QAM			6.04	
			256-QAM			6.24	
	50 MHz		BPSK			4.07	
			QPSK			5.18	
			16-QAM			5.77	
			64-QAM			5.96	
			256-QAM			6.22	

	60 MHz		BPSK			4.10	
			QPSK			5.18	
			16-QAM			5.75	
			64-QAM			5.95	
			256-QAM			6.25	
	70 MHz		BPSK			4.31	
			QPSK			5.20	
			16-QAM			5.69	
			64-QAM			5.96	
			256-QAM			6.16	
	80 MHz		BPSK			4.65	
			QPSK			5.23	
			16-QAM			5.78	
			64-QAM			5.95	
			256-QAM			6.21	
	90 MHz		BPSK			4.45	
			QPSK			5.19	
			16-QAM			5.78	
			64-QAM			5.95	
			256-QAM			6.23	
	100 MHz		BPSK			4.24	
			QPSK			5.17	
			16-QAM			5.72	
			64-QAM			5.98	
			256-QAM			6.16	

Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 392 ~ 446.

9.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n77	10 MHz	3840.00	BPSK	Full RB	0	8.6797
			QPSK			8.6868
			16-QAM			8.6947
			64-QAM			8.6734
			256-QAM			8.6972
	15 MHz		BPSK			12.950
			QPSK			12.986
			16-QAM			12.953
			64-QAM			12.975
			256-QAM			13.023
	20 MHz		BPSK			17.973
			QPSK			17.993
			16-QAM			17.966
			64-QAM			17.924
			256-QAM			17.947
	30 MHz		BPSK			27.024
			QPSK			26.983
			16-QAM			26.947
			64-QAM			26.928
			256-QAM			26.957
	40 MHz		BPSK			35.895
			QPSK			35.941
			16-QAM			35.908
			64-QAM			35.863
			256-QAM			35.955
	50 MHz		BPSK			45.991
			QPSK			45.947
			16-QAM			45.920
			64-QAM			45.921
			256-QAM			45.924

	60 MHz		BPSK			58.191
			QPSK			58.217
			16-QAM			58.142
			64-QAM			58.189
			256-QAM			58.173
	70 MHz		BPSK			64.754
			QPSK			64.863
			16-QAM			64.486
			64-QAM			64.675
			256-QAM			64.741
	80 MHz		BPSK			77.667
			QPSK			77.566
			16-QAM			77.410
			64-QAM			77.570
			256-QAM			77.458
	90 MHz		BPSK			87.282
			QPSK			87.214
			16-QAM			87.279
			64-QAM			87.133
			256-QAM			87.460
	100 MHz		BPSK			96.915
			QPSK			96.810
			16-QAM			97.021
			64-QAM			96.588
			256-QAM			97.142

Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 447 ~ 501.

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 n77	10	3705.000	9.9701	30.315	-62.836	-32.521	-13.00
		3840.000	4.9851	29.722	-63.438	-33.716	
		3975.000	8.7936	30.315	-63.196	-32.881	
	15	3707.520	8.2453	30.315	-63.325	-33.010	
		3840.000	8.8834	30.315	-63.565	-33.250	
		3972.480	4.9851	29.722	-63.392	-33.670	
	20	3710.010	8.8435	30.315	-62.938	-32.623	
		3840.000	6.0220	30.315	-63.242	-32.927	
		3969.990	7.1785	30.315	-63.560	-33.245	
	30	3715.020	8.8933	30.315	-63.800	-33.485	
		3840.000	5.1845	30.315	-63.037	-32.722	
		3964.980	9.0828	30.315	-63.002	-32.687	
	40	3720.000	4.9352	29.722	-62.744	-33.022	
		3840.000	8.8834	30.315	-63.860	-33.545	
		3960.000	5.2742	30.315	-63.698	-33.383	
	50	3725.010	9.6411	30.315	-63.032	-32.717	
		3840.000	9.6909	30.315	-62.288	-31.973	
		3954.990	8.6640	30.315	-62.759	-32.444	
	60	3730.020	9.1625	30.315	-63.526	-33.211	
		3840.000	8.2951	30.315	-63.041	-32.726	
		3949.980	8.5145	30.315	-63.216	-32.901	
	70	3735.000	9.9502	30.315	-63.450	-33.135	
		3840.000	4.2972	29.722	-61.448	-31.726	
		3945.000	8.8634	30.315	-63.338	-33.023	
	80	3740.010	7.7368	30.315	-63.486	-33.171	
		3840.000	4.2972	29.722	-61.769	-32.047	
		3939.990	4.3969	29.722	-60.944	-31.222	
	90	3745.020	8.2154	30.315	-61.655	-31.340	
		3840.000	4.2872	29.722	-59.406	-29.684	
		3934.980	4.3869	29.722	-59.922	-30.200	
	100	3750.000	5.9821	30.315	-63.712	-33.397	
		3840.000	4.2872	29.722	-59.400	-29.678	
		3930.000	4.3769	29.722	-58.242	-28.520	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 502 ~ 567.
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	27.012
1 – 5	29.722
5 – 10	30.315
10 – 15	30.840
15 – 20	31.213
Above 20	31.855

9.6 BAND EDGE

1. Plots of the EUT's Band Edge are shown Page 568 ~ 699.
2. Duty Cycle factor already applied on the factor.
 - Factor(dB) = Duty Cycle factor + Cable Loss + Ext. Attenuator + Power Splitter
 - Result(dBm) = Reading + Factor
 - Duty Cycle Factor(dB) = 6.990

9.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

- ▣ BandWidth: 10 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3705.000	100 %	+20(Ref)	3704 999 998	0.0	0.000 000	0.000
	100 %	-30	3704 999 998	0.5	0.000 000	0.000
	100 %	-20	3704 999 995	-2.6	0.000 000	-0.001
	100 %	-10	3704 999 998	0.0	0.000 000	0.000
	100 %	0	3704 999 998	0.0	0.000 000	0.000
	100 %	+10	3704 999 998	-0.1	0.000 000	0.000
	100 %	+30	3704 999 996	-1.6	0.000 000	0.000
	100 %	+40	3704 999 999	0.7	0.000 000	0.000
	100 %	+50	3704 999 995	-2.9	0.000 000	-0.001
	Batt. Endpoint	+20	3704 999 999	1.5	0.000 000	0.000
3975.000	100 %	+20(Ref)	3975 000 003	0.0	0.000 000	0.000
	100 %	-30	3975 000 004	1.5	0.000 000	0.000
	100 %	-20	3975 000 006	2.7	0.000 000	0.001
	100 %	-10	3975 000 006	3.6	0.000 000	0.001
	100 %	0	3975 000 002	-0.6	0.000 000	0.000
	100 %	+10	3975 000 001	-2.2	0.000 000	-0.001
	100 %	+30	3975 000 002	-1.1	0.000 000	0.000
	100 %	+40	3974 999 996	-7.0	0.000 000	-0.002
	100 %	+50	3974 999 999	-4.1	0.000 000	-0.001
	Batt. Endpoint	+20	3975 000 002	-1.3	0.000 000	0.000

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

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3707.520	100 %	+20(Ref)	3707 519 997	0.0	0.000 000	0.000
	100 %	-30	3707 519 995	-2.4	0.000 000	-0.001
	100 %	-20	3707 519 993	-3.9	0.000 000	-0.001
	100 %	-10	3707 519 994	-2.8	0.000 000	-0.001
	100 %	0	3707 519 996	-1.0	0.000 000	0.000
	100 %	+10	3707 519 993	-4.5	0.000 000	-0.001
	100 %	+30	3707 519 993	-4.0	0.000 000	-0.001
	100 %	+40	3707 519 995	-1.7	0.000 000	0.000
	100 %	+50	3707 519 992	-4.6	0.000 000	-0.001
	Batt. Endpoint	+20	3707 519 995	-2.4	0.000 000	-0.001
3972.480	100 %	+20(Ref)	3972 479 992	0.0	0.000 000	0.000
	100 %	-30	3972 479 984	-7.5	0.000 000	-0.002
	100 %	-20	3972 479 987	-4.3	0.000 000	-0.001
	100 %	-10	3972 479 982	-9.4	0.000 000	-0.002
	100 %	0	3972 479 987	-5.1	0.000 000	-0.001
	100 %	+10	3972 479 982	-10.1	0.000 000	-0.003
	100 %	+30	3972 479 985	-6.6	0.000 000	-0.002
	100 %	+40	3972 479 985	-7.2	0.000 000	-0.002
	100 %	+50	3972 479 988	-4.0	0.000 000	-0.001
	Batt. Endpoint	+20	3972 479 986	-5.6	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. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3710.010	100 %	+20(Ref)	3710 009 995	0.0	0.000 000	0.000
	100 %	-30	3710 009 990	-4.3	0.000 000	-0.001
	100 %	-20	3710 009 992	-3.0	0.000 000	-0.001
	100 %	-10	3710 009 992	-3.0	0.000 000	-0.001
	100 %	0	3710 009 993	-1.8	0.000 000	0.000
	100 %	+10	3710 009 990	-4.3	0.000 000	-0.001
	100 %	+30	3710 009 992	-2.6	0.000 000	-0.001
	100 %	+40	3710 009 994	-1.0	0.000 000	0.000
	100 %	+50	3710 009 993	-2.2	0.000 000	-0.001
	Batt. Endpoint	+20	3710 009 992	-2.8	0.000 000	-0.001
3969.990	100 %	+20(Ref)	3969 989 995	0.0	0.000 000	0.000
	100 %	-30	3969 989 996	1.6	0.000 000	0.000
	100 %	-20	3969 989 996	1.4	0.000 000	0.000
	100 %	-10	3969 989 995	0.6	0.000 000	0.000
	100 %	0	3969 989 989	-5.5	0.000 000	-0.001
	100 %	+10	3969 989 985	-9.6	0.000 000	-0.002
	100 %	+30	3969 989 990	-4.8	0.000 000	-0.001
	100 %	+40	3969 989 994	-0.9	0.000 000	0.000
	100 %	+50	3969 989 986	-8.2	0.000 000	-0.002
	Batt. Endpoint	+20	3969 989 989	-5.8	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	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3715.020	100 %	+20(Ref)	3715 019 991	0.0	0.000 000	0.000
	100 %	-30	3715 019 982	-9.0	0.000 000	-0.002
	100 %	-20	3715 019 982	-8.9	0.000 000	-0.002
	100 %	-10	3715 019 982	-9.3	0.000 000	-0.002
	100 %	0	3715 019 989	-2.8	0.000 000	-0.001
	100 %	+10	3715 019 982	-9.3	0.000 000	-0.003
	100 %	+30	3715 019 985	-6.4	0.000 000	-0.002
	100 %	+40	3715 019 984	-7.7	0.000 000	-0.002
	100 %	+50	3715 019 981	-10.5	0.000 000	-0.003
	Batt. Endpoint	+20	3715 019 984	-7.8	0.000 000	-0.002
3964.980	100 %	+20(Ref)	3964 979 994	0.0	0.000 000	0.000
	100 %	-30	3964 979 988	-5.4	0.000 000	-0.001
	100 %	-20	3964 979 991	-3.1	0.000 000	-0.001
	100 %	-10	3964 979 988	-5.8	0.000 000	-0.001
	100 %	0	3964 979 982	-11.3	0.000 000	-0.003
	100 %	+10	3964 979 981	-12.6	0.000 000	-0.003
	100 %	+30	3964 979 985	-8.3	0.000 000	-0.002
	100 %	+40	3964 979 984	-9.3	0.000 000	-0.002
	100 %	+50	3964 979 988	-6.2	0.000 000	-0.002
	Batt. Endpoint	+20	3964 979 993	-0.3	0.000 000	0.000

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

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3720.000	100 %	+20(Ref)	3719 999 989	0.0	0.000 000	0.000
	100 %	-30	3719 999 984	-4.7	0.000 000	-0.001
	100 %	-20	3719 999 982	-7.5	0.000 000	-0.002
	100 %	-10	3719 999 982	-7.4	0.000 000	-0.002
	100 %	0	3719 999 979	-10.1	0.000 000	-0.003
	100 %	+10	3719 999 983	-6.4	0.000 000	-0.002
	100 %	+30	3719 999 984	-5.2	0.000 000	-0.001
	100 %	+40	3719 999 979	-10.6	0.000 000	-0.003
	100 %	+50	3719 999 977	-12.5	0.000 000	-0.003
	Batt. Endpoint	+20	3719 999 980	-8.8	0.000 000	-0.002
3960.000	100 %	+20(Ref)	3959 999 995	0.0	0.000 000	0.000
	100 %	-30	3959 999 989	-6.7	0.000 000	-0.002
	100 %	-20	3959 999 988	-6.9	0.000 000	-0.002
	100 %	-10	3959 999 989	-6.3	0.000 000	-0.002
	100 %	0	3959 999 988	-7.4	0.000 000	-0.002
	100 %	+10	3959 999 991	-3.8	0.000 000	-0.001
	100 %	+30	3959 999 983	-12.5	0.000 000	-0.003
	100 %	+40	3959 999 990	-5.1	0.000 000	-0.001
	100 %	+50	3959 999 992	-3.1	0.000 000	-0.001
	Batt. Endpoint	+20	3959 999 987	-7.9	0.000 000	-0.002

- ▣ BandWidth: 50 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3725.010	100 %	+20(Ref)	3725 009 996	0.0	0.000 000	0.000
	100 %	-30	3725 009 984	-11.7	0.000 000	-0.003
	100 %	-20	3725 009 992	-3.8	0.000 000	-0.001
	100 %	-10	3725 009 988	-7.1	0.000 000	-0.002
	100 %	0	3725 009 991	-4.6	0.000 000	-0.001
	100 %	+10	3725 009 990	-5.8	0.000 000	-0.002
	100 %	+30	3725 009 990	-5.0	0.000 000	-0.001
	100 %	+40	3725 009 990	-5.3	0.000 000	-0.001
	100 %	+50	3725 009 993	-2.7	0.000 000	-0.001
	Batt. Endpoint	+20	3725 010 000	4.2	0.000 000	0.001
3954.990	100 %	+20(Ref)	3954 989 990	0.0	0.000 000	0.000
	100 %	-30	3954 989 987	-2.3	0.000 000	-0.001
	100 %	-20	3954 989 983	-6.8	0.000 000	-0.002
	100 %	-10	3954 989 983	-7.0	0.000 000	-0.002
	100 %	0	3954 989 990	-0.1	0.000 000	0.000
	100 %	+10	3954 989 989	-0.7	0.000 000	0.000
	100 %	+30	3954 989 980	-9.3	0.000 000	-0.002
	100 %	+40	3954 989 982	-8.0	0.000 000	-0.002
	100 %	+50	3954 989 990	-0.1	0.000 000	0.000
	Batt. Endpoint	+20	3954 989 983	-6.6	0.000 000	-0.002

- ▣ BandWidth: 60 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3730.020	100 %	+20(Ref)	3730 019 999	0.0	0.000 000	0.000
	100 %	-30	3730 019 999	0.7	0.000 000	0.000
	100 %	-20	3730 019 995	-4.0	0.000 000	-0.001
	100 %	-10	3730 019 997	-1.8	0.000 000	0.000
	100 %	0	3730 019 996	-3.1	0.000 000	-0.001
	100 %	+10	3730 019 998	-0.4	0.000 000	0.000
	100 %	+30	3730 020 000	1.0	0.000 000	0.000
	100 %	+40	3730 019 997	-1.3	0.000 000	0.000
	100 %	+50	3730 019 997	-1.6	0.000 000	0.000
	Batt. Endpoint	+20	3730 019 997	-1.4	0.000 000	0.000
3949.980	100 %	+20(Ref)	3949 979 987	0.0	0.000 000	0.000
	100 %	-30	3949 979 977	-10.0	0.000 000	-0.003
	100 %	-20	3949 979 975	-11.4	0.000 000	-0.003
	100 %	-10	3949 979 989	2.6	0.000 000	0.001
	100 %	0	3949 979 972	-14.9	0.000 000	-0.004
	100 %	+10	3949 979 985	-1.3	0.000 000	0.000
	100 %	+30	3949 979 983	-3.4	0.000 000	-0.001
	100 %	+40	3949 979 980	-7.0	0.000 000	-0.002
	100 %	+50	3949 979 976	-10.4	0.000 000	-0.003
	Batt. Endpoint	+20	3949 979 979	-7.6	0.000 000	-0.002

- ▣ BandWidth: 70 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3735.000	100 %	+20(Ref)	3734 999 998	0.0	0.000 000	0.000
	100 %	-30	3734 999 995	-2.8	0.000 000	-0.001
	100 %	-20	3734 999 995	-3.2	0.000 000	-0.001
	100 %	-10	3734 999 994	-4.0	0.000 000	-0.001
	100 %	0	3734 999 991	-7.3	0.000 000	-0.002
	100 %	+10	3734 999 992	-6.3	0.000 000	-0.002
	100 %	+30	3734 999 993	-4.8	0.000 000	-0.001
	100 %	+40	3734 999 994	-4.5	0.000 000	-0.001
	100 %	+50	3734 999 991	-7.2	0.000 000	-0.002
	Batt. Endpoint	+20	3734 999 984	-13.7	0.000 000	-0.004
3945.000	100 %	+20(Ref)	3944 999 995	0.0	0.000 000	0.000
	100 %	-30	3944 999 985	-9.8	0.000 000	-0.002
	100 %	-20	3944 999 991	-4.4	0.000 000	-0.001
	100 %	-10	3944 999 991	-4.6	0.000 000	-0.001
	100 %	0	3944 999 991	-4.6	0.000 000	-0.001
	100 %	+10	3944 999 993	-2.4	0.000 000	-0.001
	100 %	+30	3944 999 990	-5.1	0.000 000	-0.001
	100 %	+40	3944 999 991	-4.0	0.000 000	-0.001
	100 %	+50	3944 999 992	-3.3	0.000 000	-0.001
	Batt. Endpoint	+20	3944 999 995	-0.2	0.000 000	0.000

- ▣ BandWidth: 80 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3740.010	100 %	+20(Ref)	3740 009 992	0.0	0.000 000	0.000
	100 %	-30	3740 009 988	-4.8	0.000 000	-0.001
	100 %	-20	3740 009 988	-4.6	0.000 000	-0.001
	100 %	-10	3740 009 991	-1.8	0.000 000	0.000
	100 %	0	3740 009 987	-5.0	0.000 000	-0.001
	100 %	+10	3740 009 991	-1.5	0.000 000	0.000
	100 %	+30	3740 009 990	-2.7	0.000 000	-0.001
	100 %	+40	3740 009 989	-3.4	0.000 000	-0.001
	100 %	+50	3740 009 987	-5.5	0.000 000	-0.001
	Batt. Endpoint	+20	3740 009 988	-4.9	0.000 000	-0.001
3939.990	100 %	+20(Ref)	3939 989 998	0.0	0.000 000	0.000
	100 %	-30	3939 990 001	3.4	0.000 000	0.001
	100 %	-20	3939 989 995	-2.8	0.000 000	-0.001
	100 %	-10	3939 989 994	-3.2	0.000 000	-0.001
	100 %	0	3939 990 001	3.3	0.000 000	0.001
	100 %	+10	3939 989 994	-3.1	0.000 000	-0.001
	100 %	+30	3939 990 001	3.5	0.000 000	0.001
	100 %	+40	3939 989 993	-4.4	0.000 000	-0.001
	100 %	+50	3939 989 997	-0.4	0.000 000	0.000
	Batt. Endpoint	+20	3939 990 000	1.9	0.000 000	0.000

- ▣ BandWidth: 90 MHz
- ▣ Voltage(100 %): 3.880 VDC
- ▣ Batt. Endpoint: 3.300 VDC
- ▣ LIMIT: Emission must remain in band

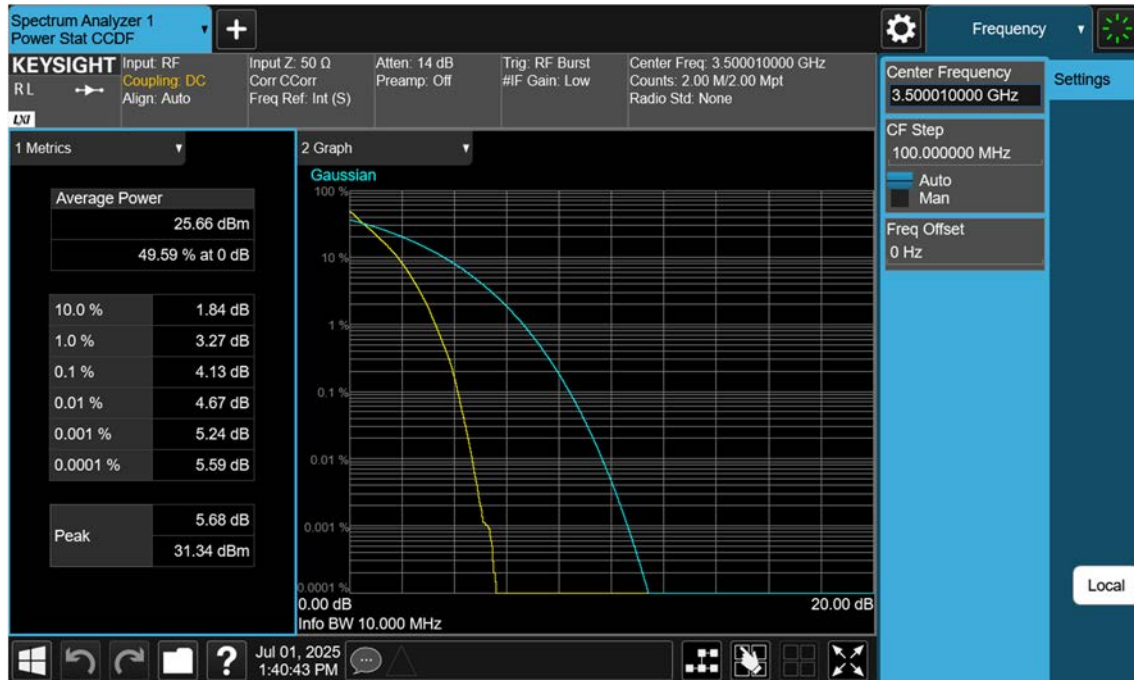
Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3745.020	100 %	+20(Ref)	3745 019 995	0.0	0.000 000	0.000
	100 %	-30	3745 019 987	-8.6	0.000 000	-0.002
	100 %	-20	3745 019 987	-8.6	0.000 000	-0.002
	100 %	-10	3745 019 982	-12.8	0.000 000	-0.003
	100 %	0	3745 019 988	-7.6	0.000 000	-0.002
	100 %	+10	3745 019 982	-13.2	0.000 000	-0.004
	100 %	+30	3745 019 985	-9.7	0.000 000	-0.003
	100 %	+40	3745 019 986	-9.2	0.000 000	-0.002
	100 %	+50	3745 019 985	-10.6	0.000 000	-0.003
	Batt. Endpoint	+20	3745 019 992	-3.4	0.000 000	-0.001
3934.980	100 %	+20(Ref)	3934 980 001	0.0	0.000 000	0.000
	100 %	-30	3934 980 003	1.6	0.000 000	0.000
	100 %	-20	3934 980 003	2.2	0.000 000	0.001
	100 %	-10	3934 979 999	-1.7	0.000 000	0.000
	100 %	0	3934 980 006	5.3	0.000 000	0.001
	100 %	+10	3934 980 006	5.3	0.000 000	0.001
	100 %	+30	3934 979 998	-2.5	0.000 000	-0.001
	100 %	+40	3934 980 002	0.7	0.000 000	0.000
	100 %	+50	3934 979 998	-2.6	0.000 000	-0.001
	Batt. Endpoint	+20	3934 979 999	-2.4	0.000 000	-0.001

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

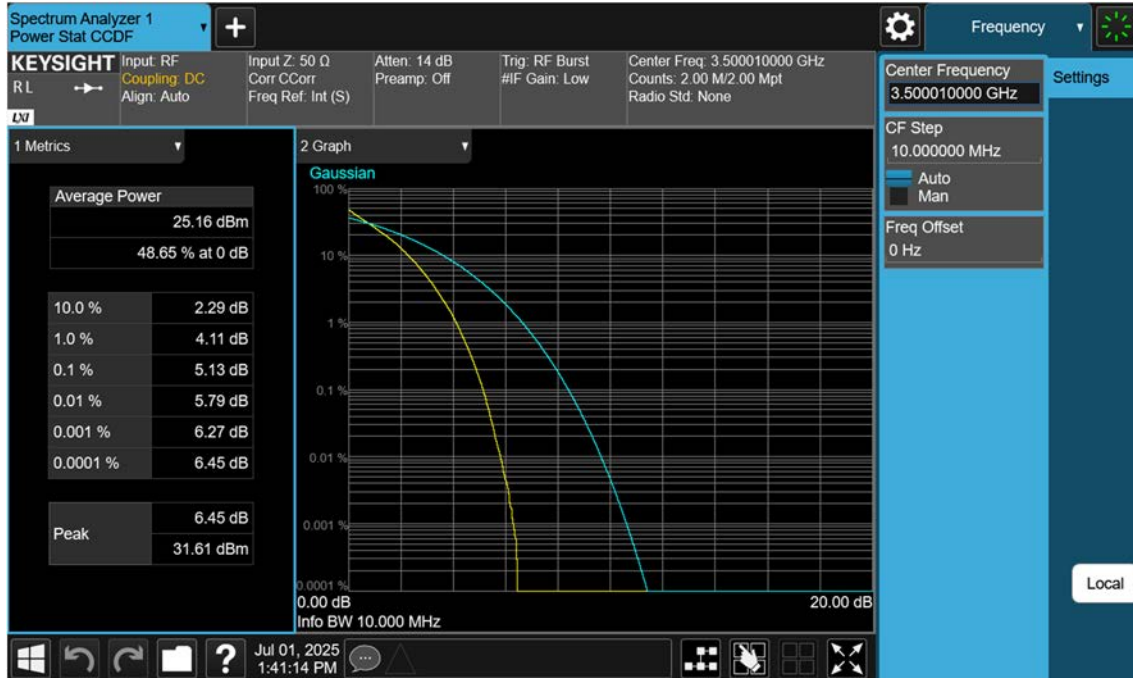
Test. Frequency	Voltage	Temp.	Frequency	Frequency	Deviation	ppm
(MHz)	(%)	(°C)	(Hz)	Error (Hz)	(%)	
3750.000	100 %	+20(Ref)	3749 999 993	0.0	0.000 000	0.000
	100 %	-30	3749 999 990	-2.8	0.000 000	-0.001
	100 %	-20	3749 999 988	-4.3	0.000 000	-0.001
	100 %	-10	3749 999 986	-7.1	0.000 000	-0.002
	100 %	0	3749 999 986	-6.3	0.000 000	-0.002
	100 %	+10	3749 999 988	-4.1	0.000 000	-0.001
	100 %	+30	3749 999 987	-5.4	0.000 000	-0.001
	100 %	+40	3749 999 987	-5.4	0.000 000	-0.001
	100 %	+50	3749 999 988	-4.5	0.000 000	-0.001
	Batt. Endpoint	+20	3749 999 983	-10.1	0.000 000	-0.003
3930.000	100 %	+20(Ref)	3930 000 003	0.0	0.000 000	0.000
	100 %	-30	3930 000 000	-3.0	0.000 000	-0.001
	100 %	-20	3930 000 002	-1.0	0.000 000	0.000
	100 %	-10	3930 000 004	0.9	0.000 000	0.000
	100 %	0	3930 000 006	2.6	0.000 000	0.001
	100 %	+10	3930 000 006	3.0	0.000 000	0.001
	100 %	+30	3930 000 003	-0.3	0.000 000	0.000
	100 %	+40	3930 000 007	3.1	0.000 000	0.001
	100 %	+50	3930 000 004	0.7	0.000 000	0.000
	Batt. Endpoint	+20	3930 000 004	0.1	0.000 000	0.000

10. TEST PLOTS(3450 MHz - 3550 MHz)

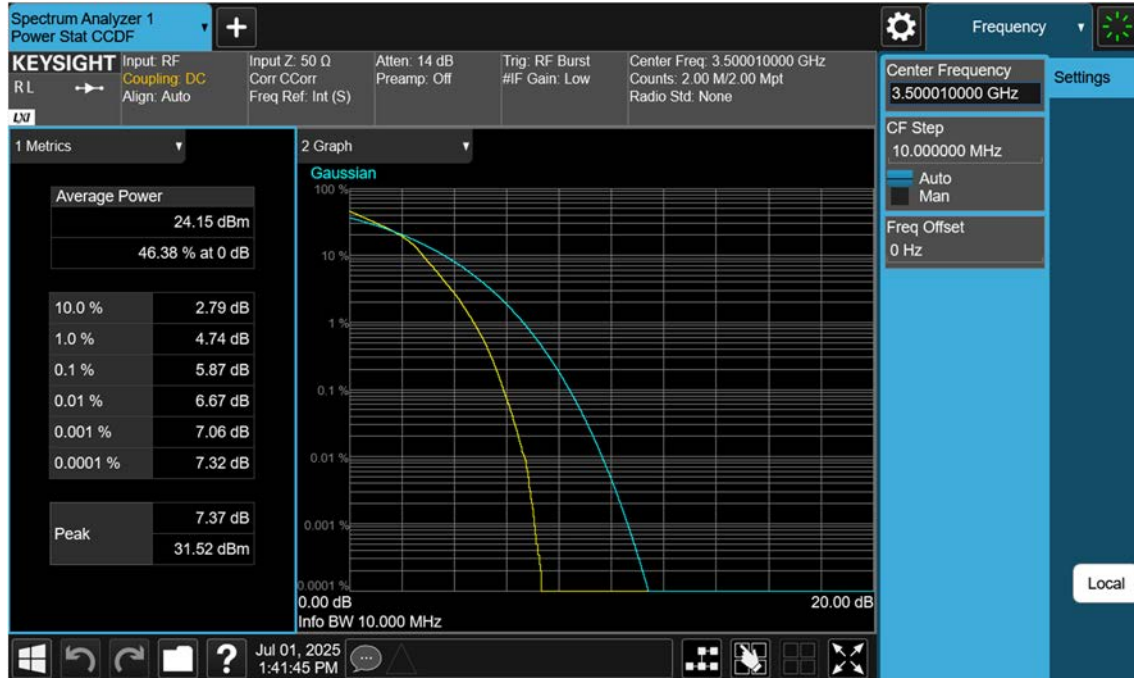
n77(3450~3550 MHz)_10 M_PAR_Mid_BPSK_FullRB



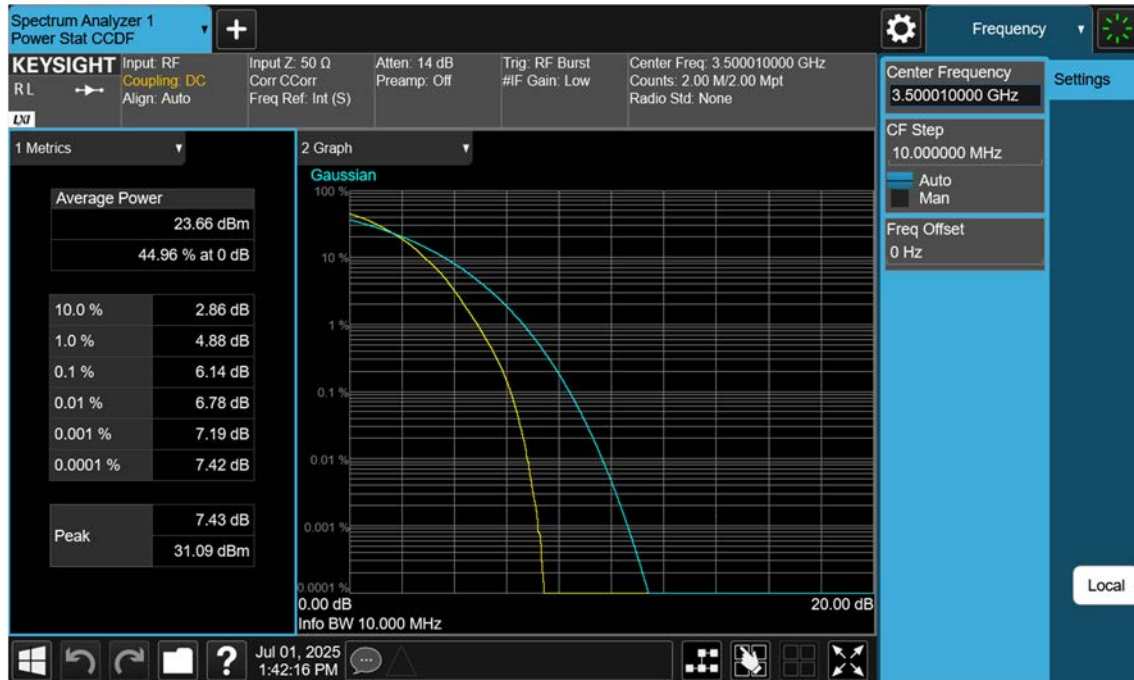
n77(3450~3550 MHz)_10 M_PAR_Mid_QPSK_FullRB



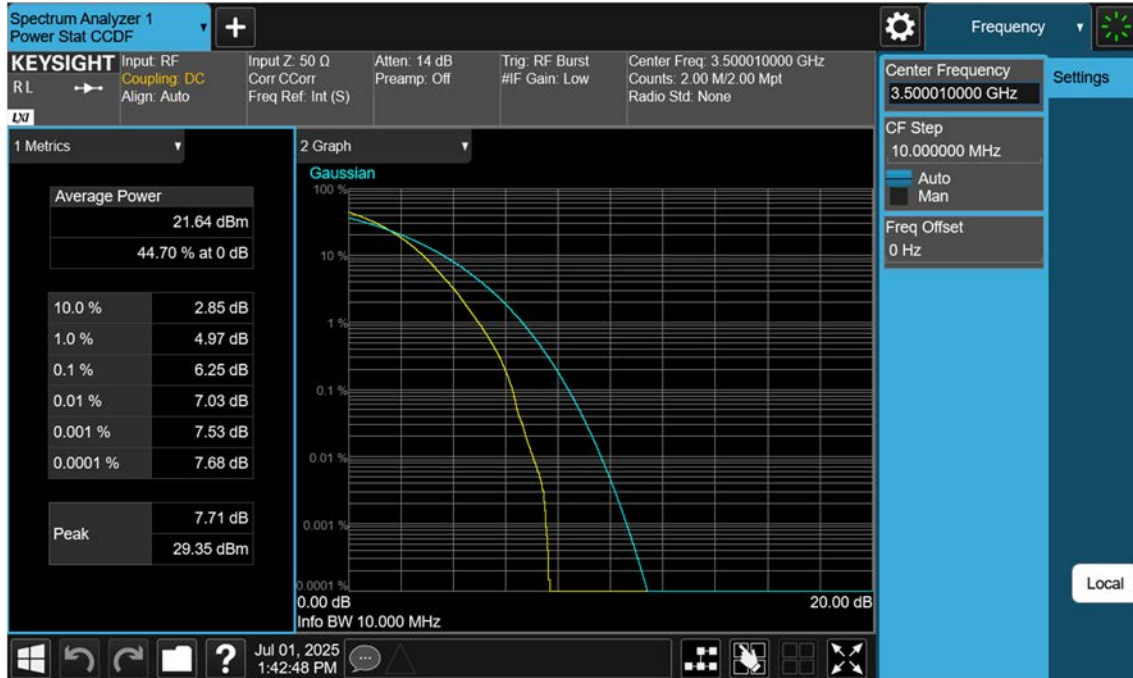
n77(3450~3550 MHz)_10 M_PAR_Mid_16QAM_FullRB



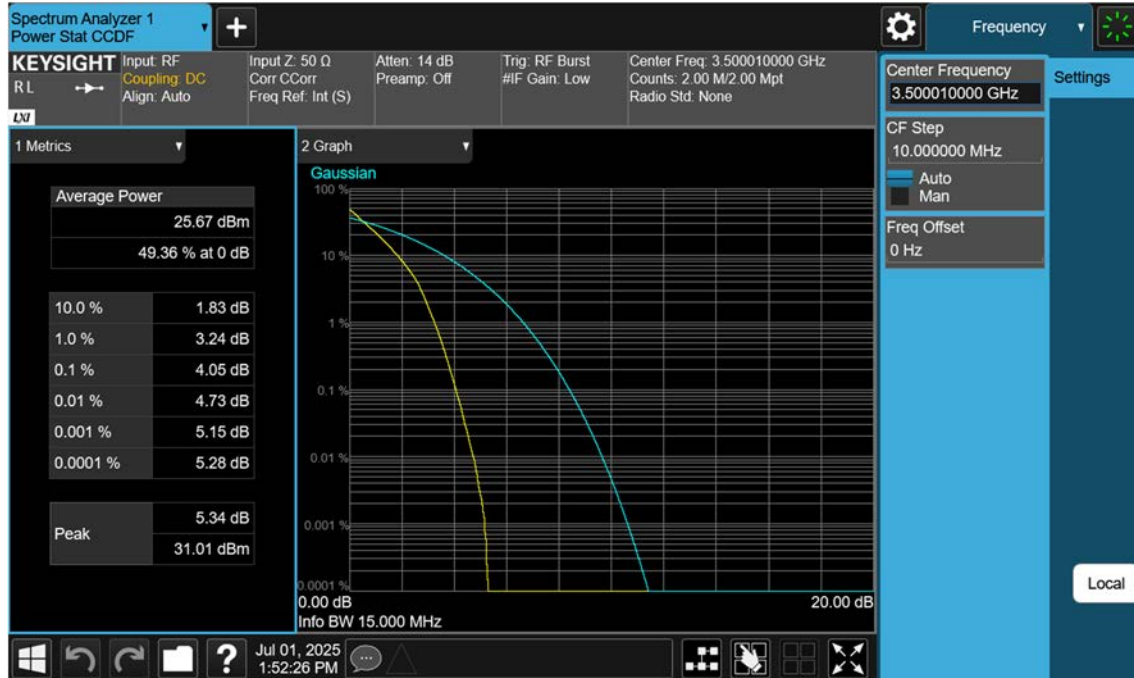
n77(3450~3550 MHz)_10 M_PAR_Mid_64QAM_FullRB



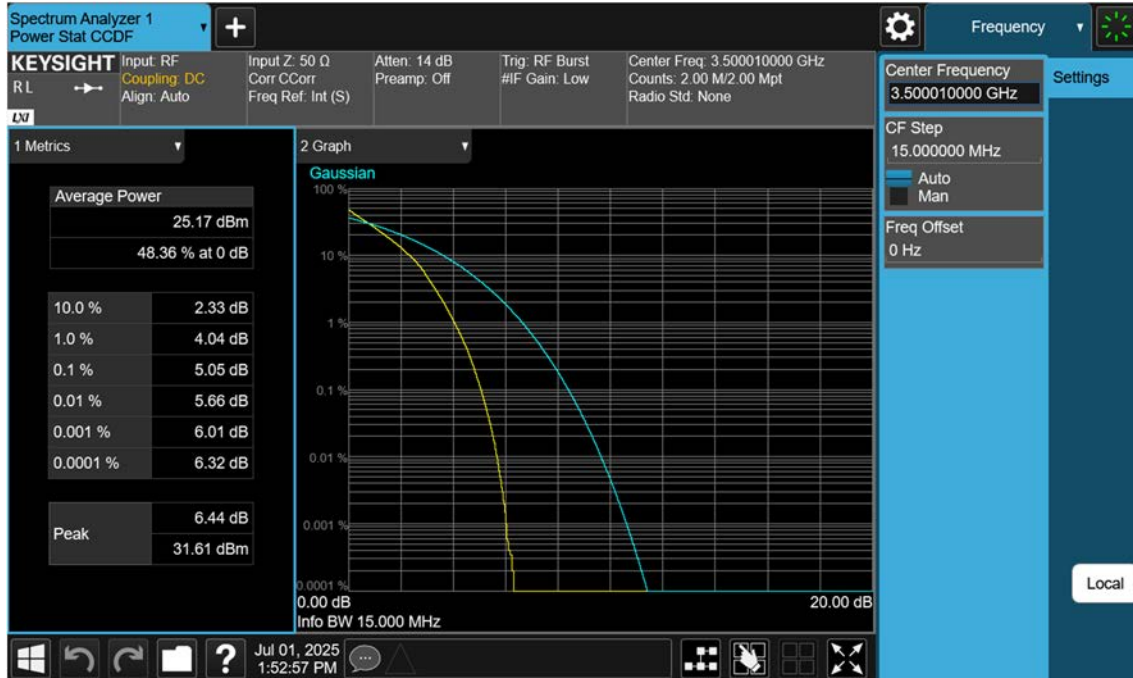
n77(3450~3550 MHz)_10 M_PAR_Mid_256QAM_FullRB



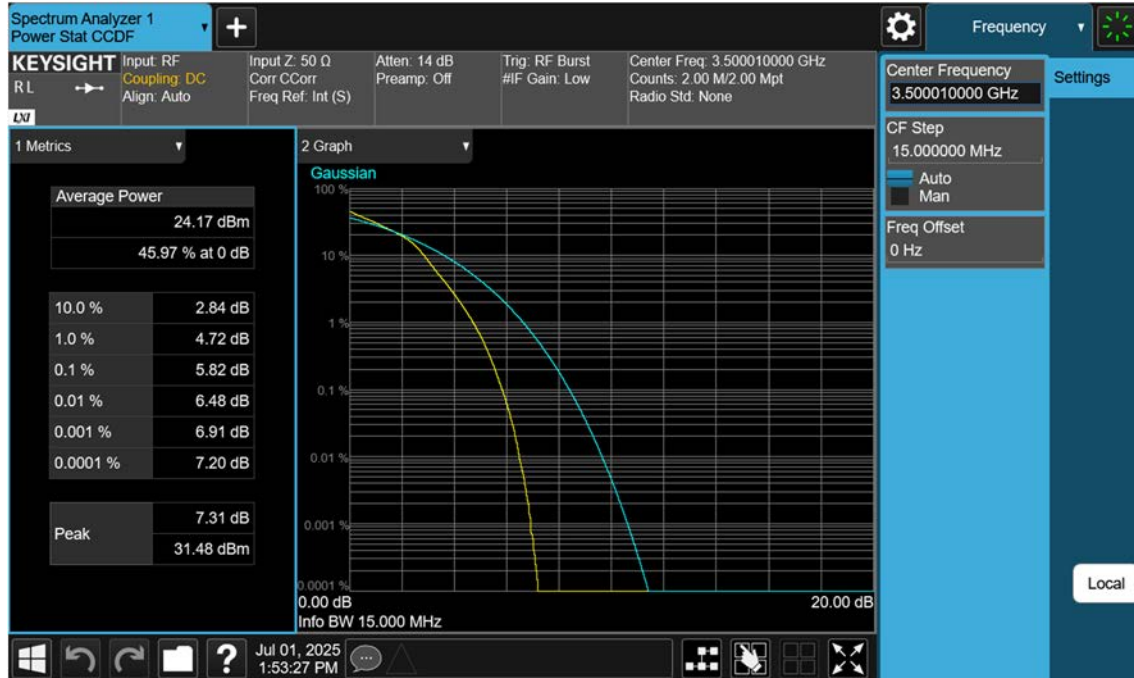
n77(3450~3550 MHz)_15 M_PAR_Mid_BPSK_FullRB



n77(3450~3550 MHz)_15 M_PAR_Mid_QPSK_FullRB



n77(3450~3550 MHz)_15 M_PAR_Mid_16QAM_FullRB



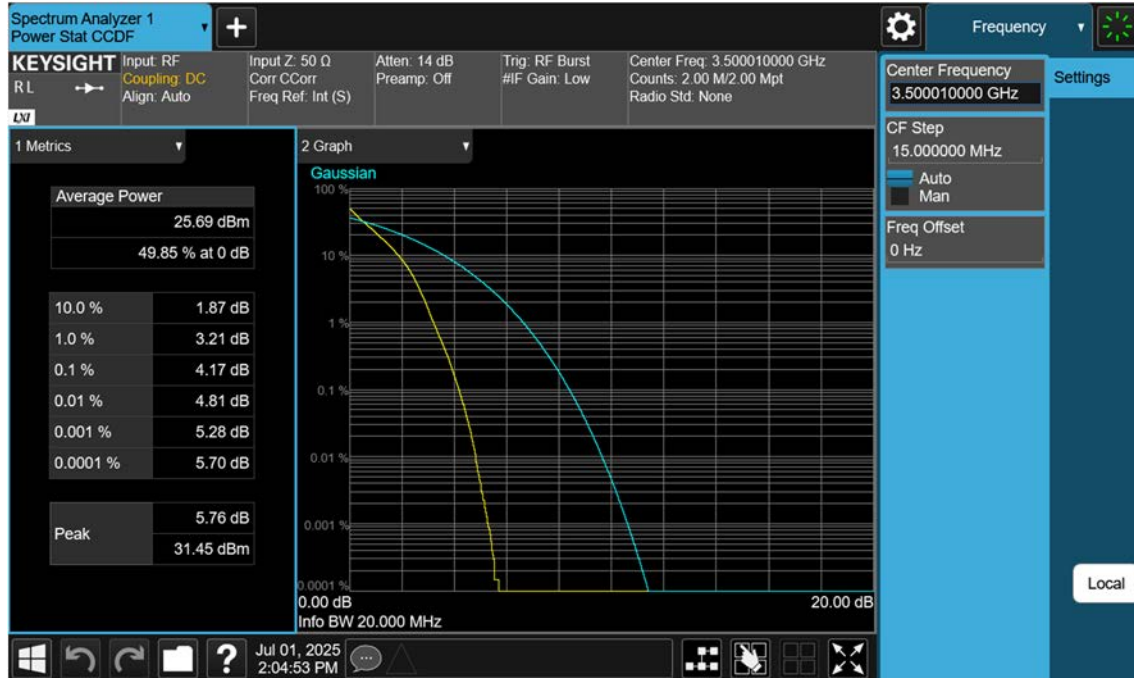
n77(3450~3550 MHz)_15 M_PAR_Mid_64QAM_FullRB



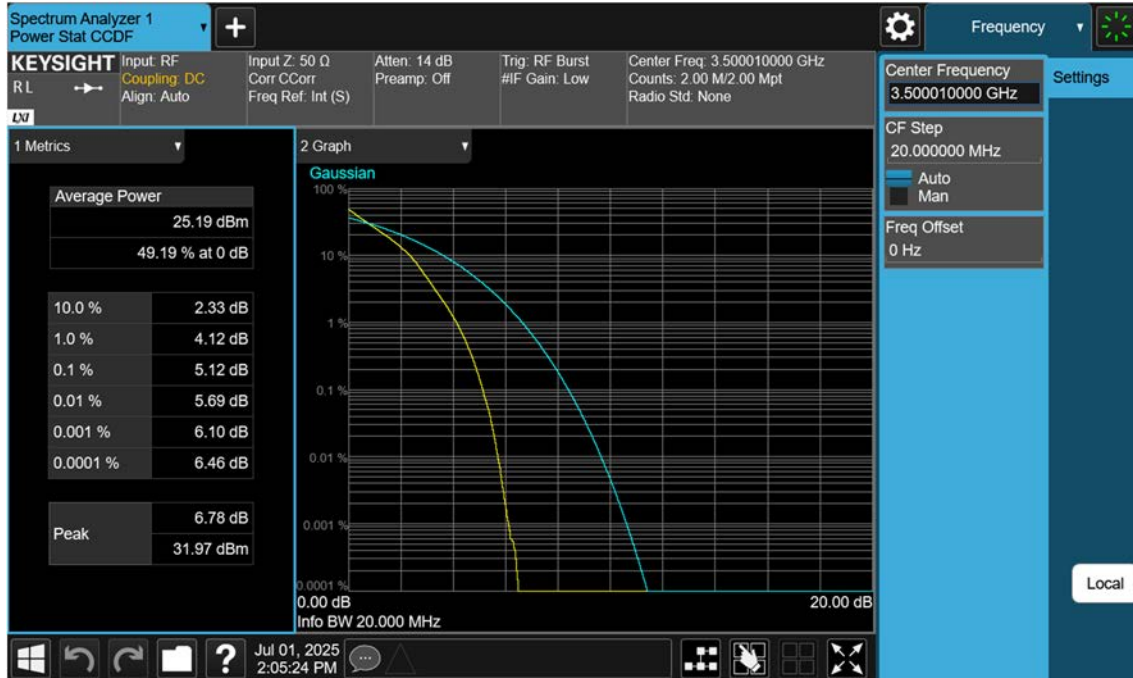
n77(3450~3550 MHz)_15 M_PAR_Mid_256QAM_FullRB



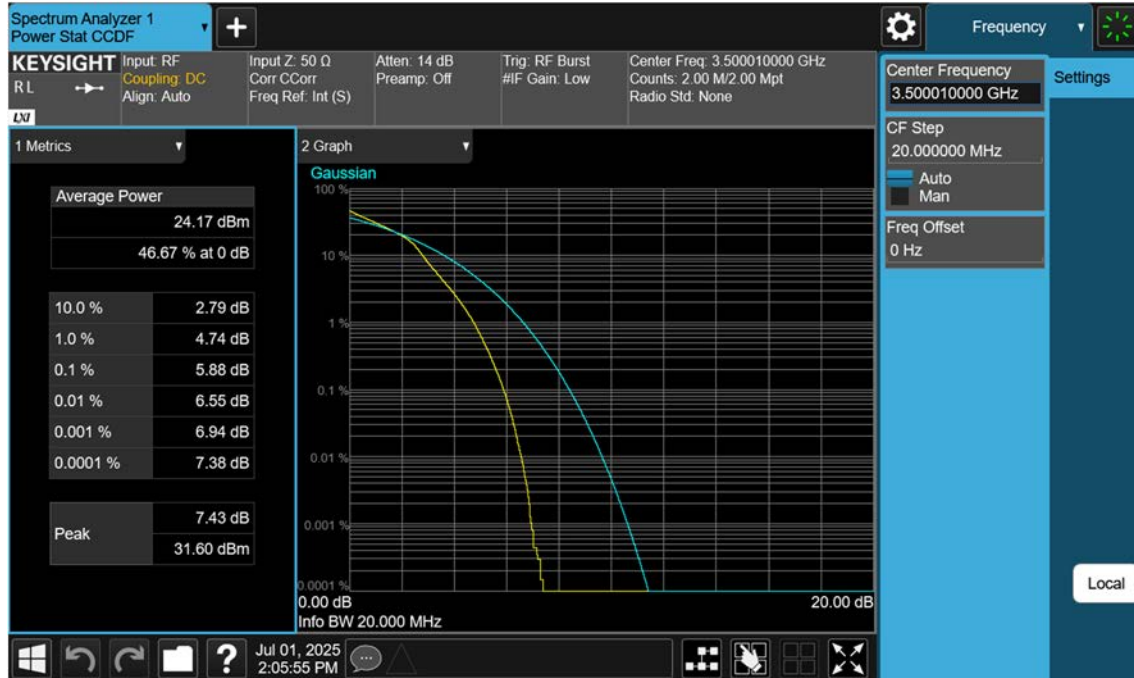
n77(3450~3550 MHz)_20 M_PAR_Mid_BPSK_FullRB



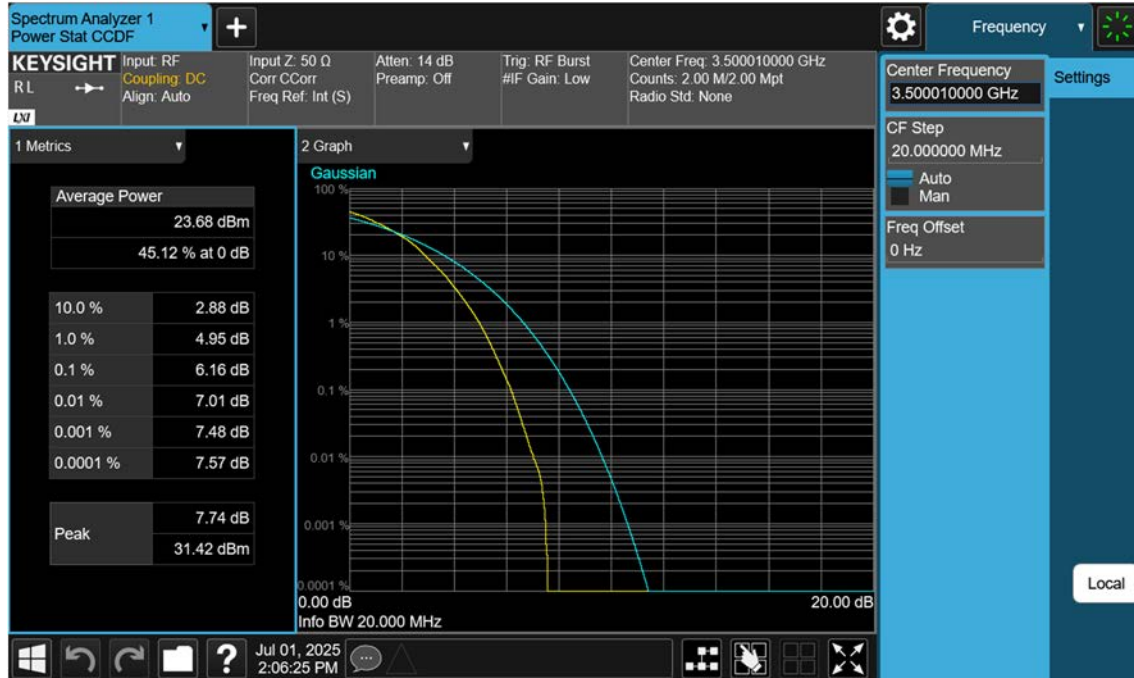
n77(3450~3550 MHz)_20 M_PAR_Mid_QPSK_FullRB



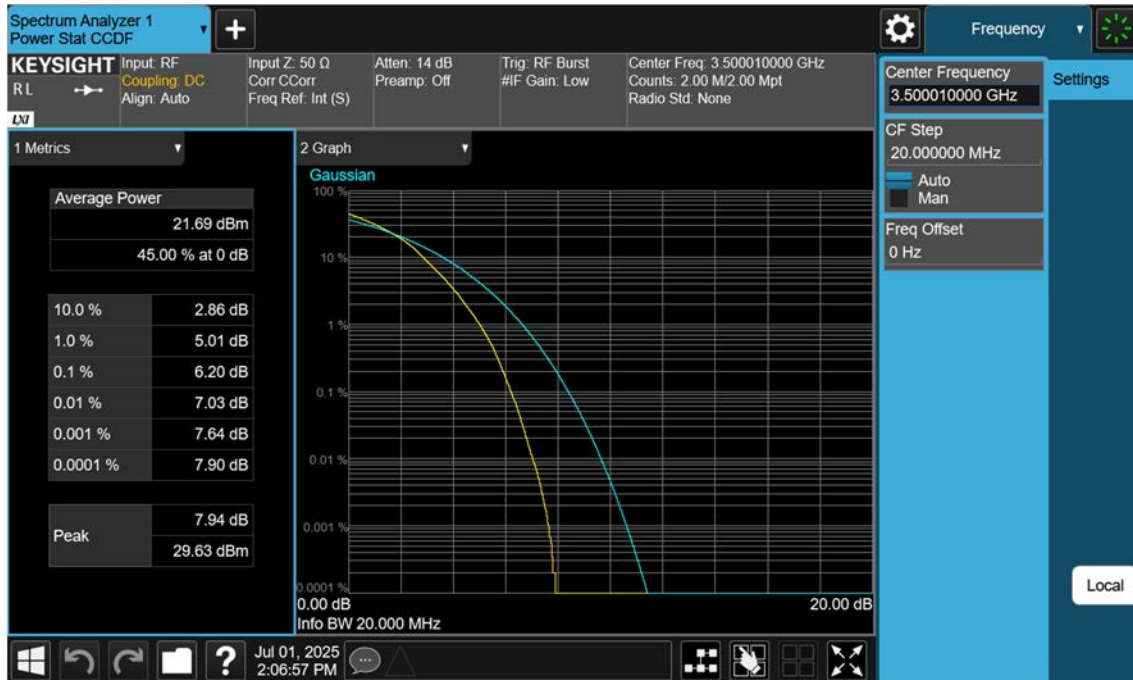
n77(3450~3550 MHz)_20 M_PAR_Mid_16QAM_FullRB



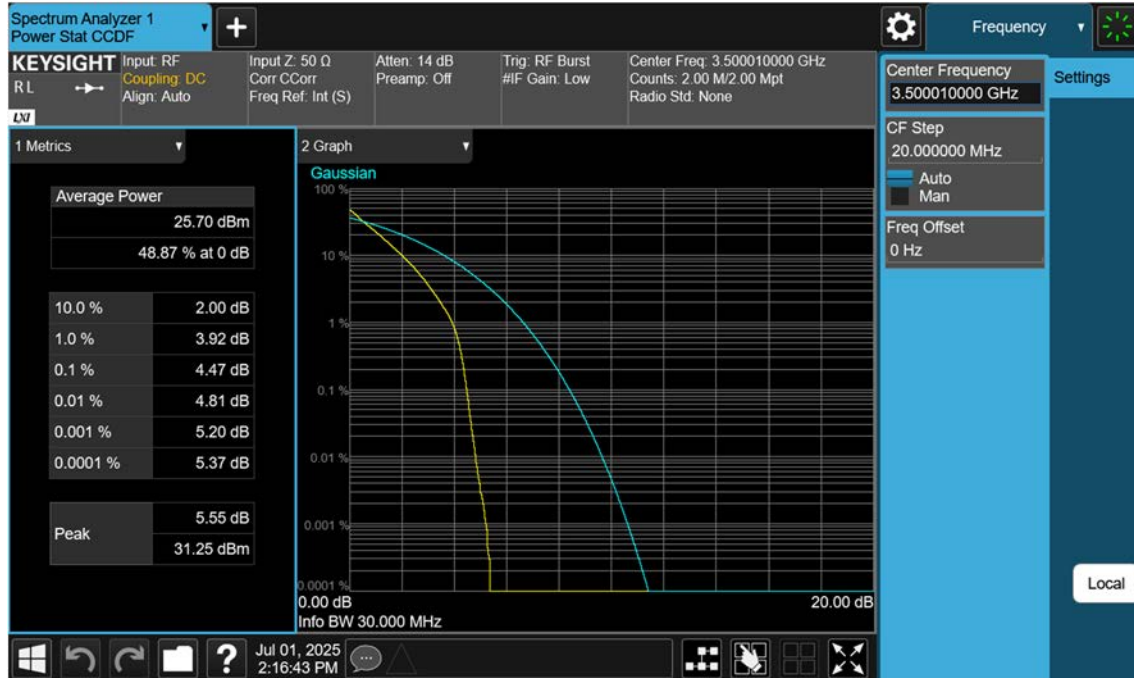
n77(3450~3550 MHz)_20 M_PAR_Mid_64QAM_FullRB



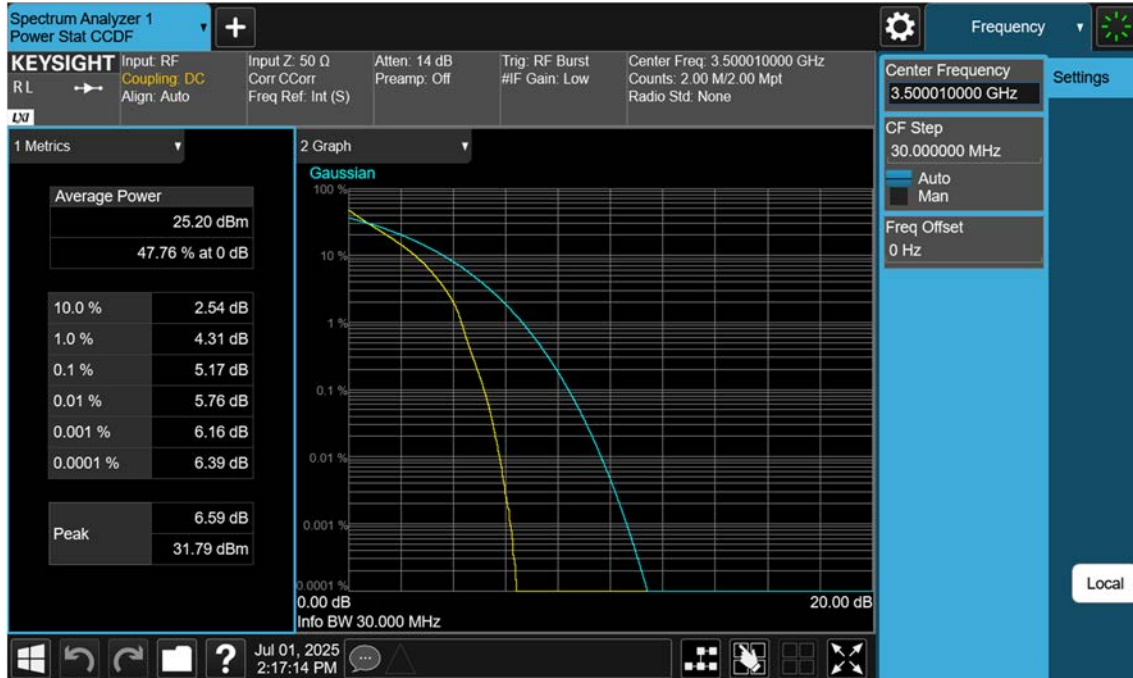
n77(3450~3550 MHz)_20 M_PAR_Mid_256QAM_FullRB



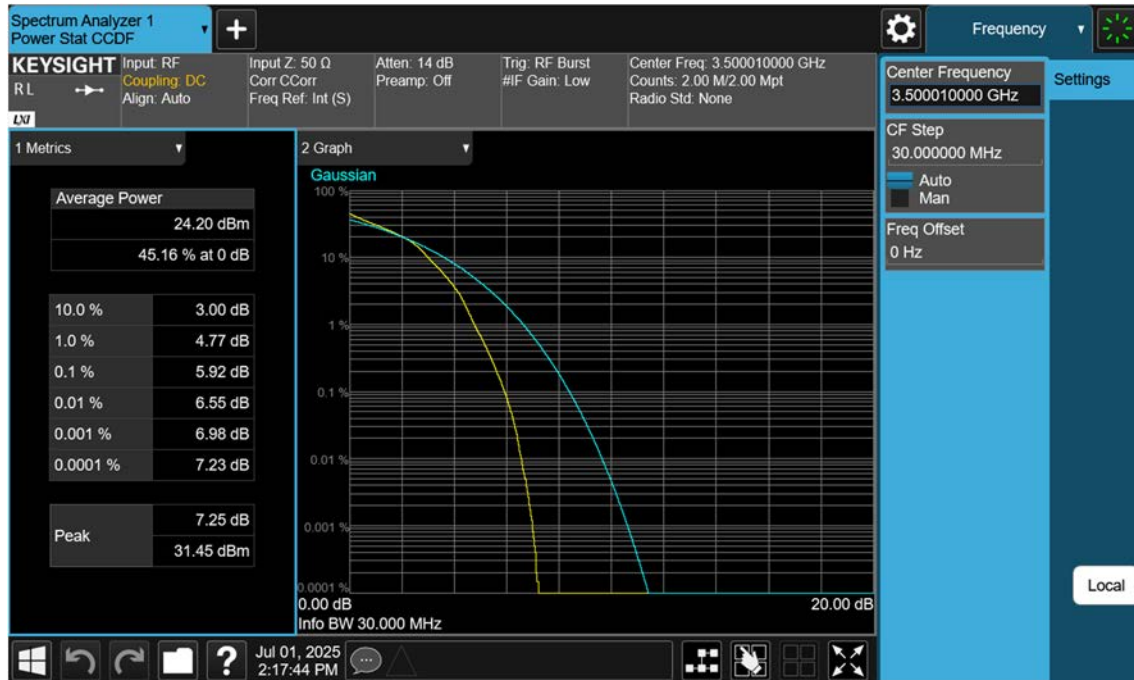
n77(3450~3550 MHz)_30 M_PAR_Mid_BPSK_FullRB



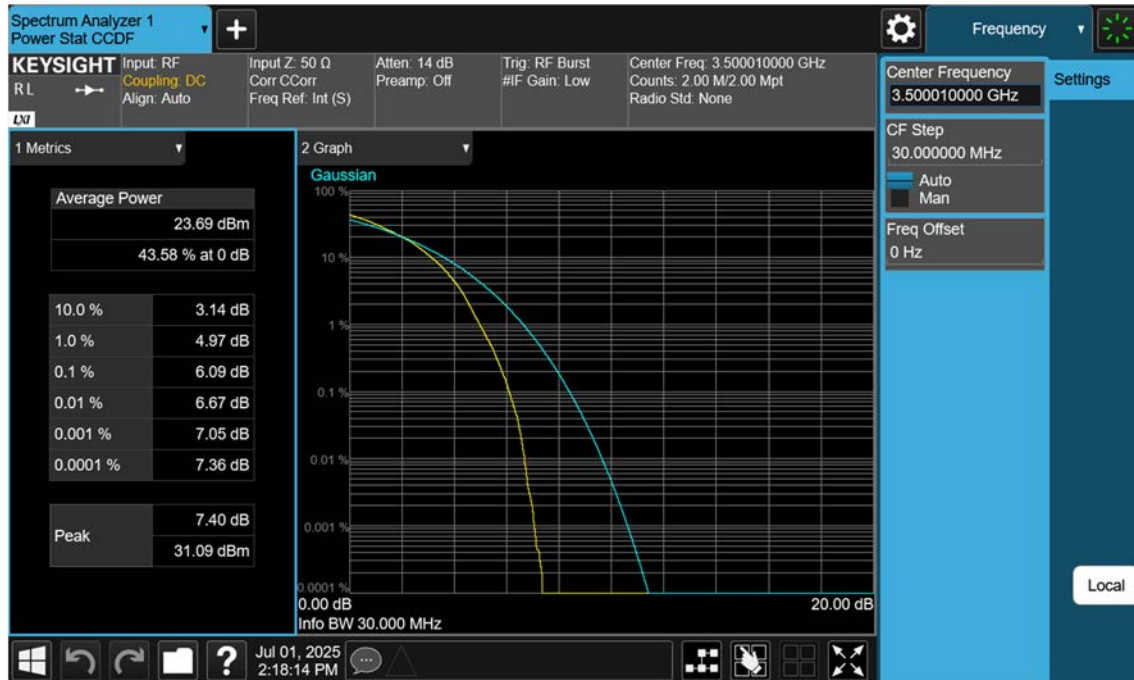
n77(3450~3550 MHz)_30 M_PAR_Mid_QPSK_FullRB



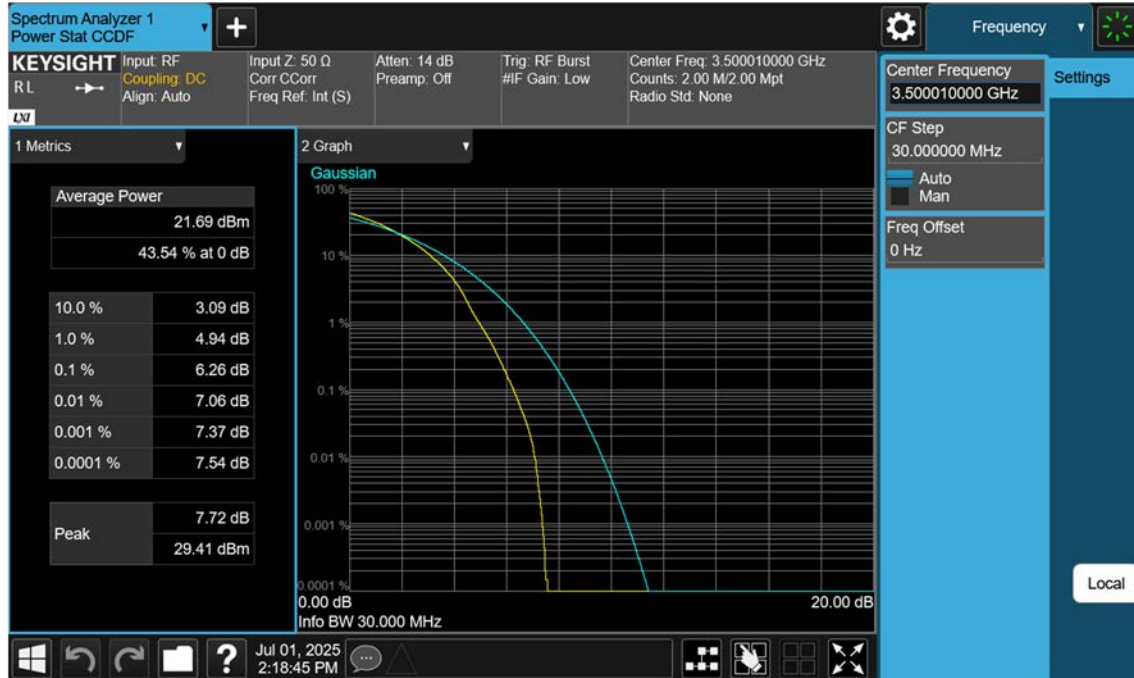
n77(3450~3550 MHz)_30 M_PAR_Mid_16QAM_FullRB



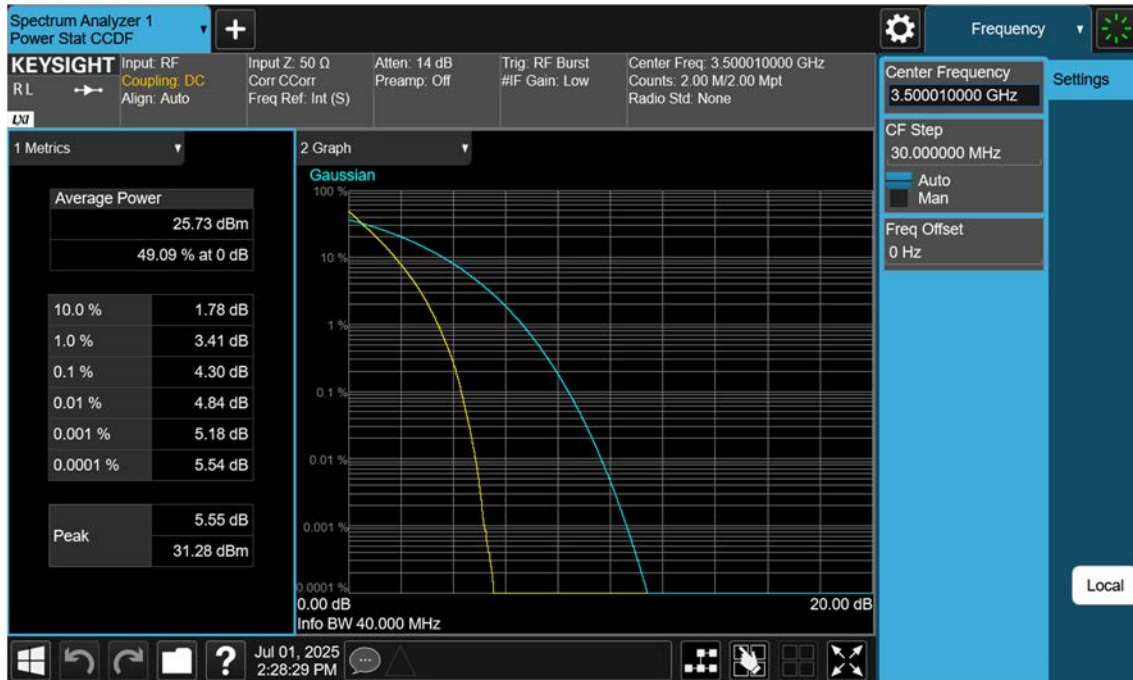
n77(3450~3550 MHz)_30 M_PAR_Mid_64QAM_FullRB



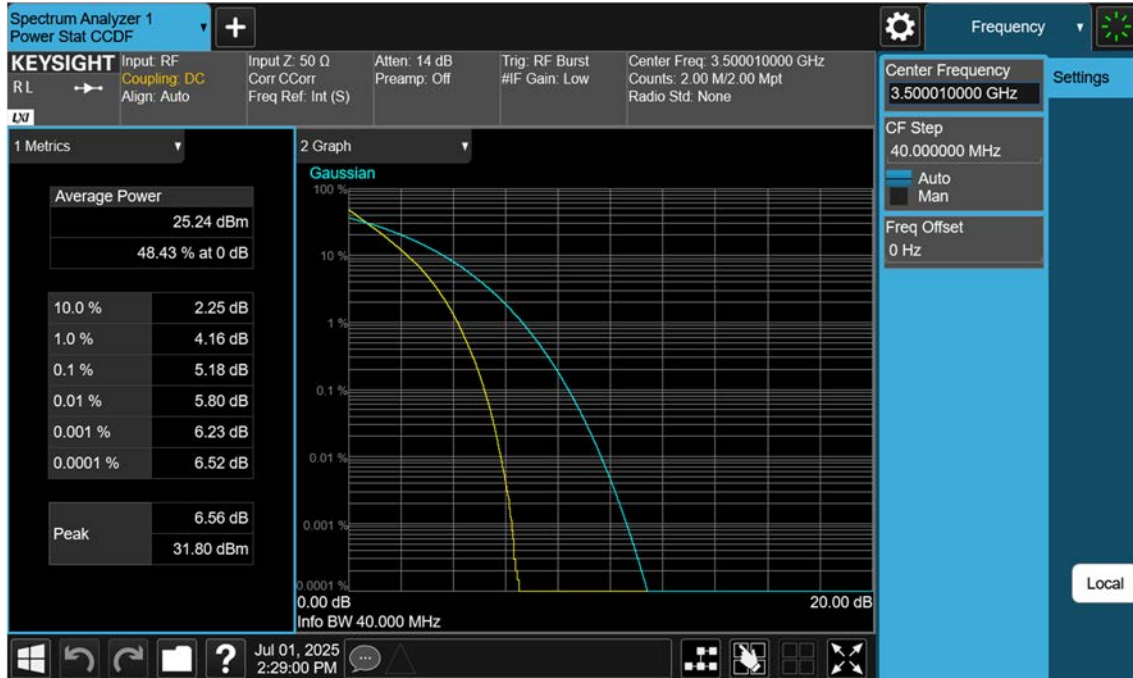
n77(3450~3550 MHz)_30 M_PAR_Mid_256QAM_FullRB



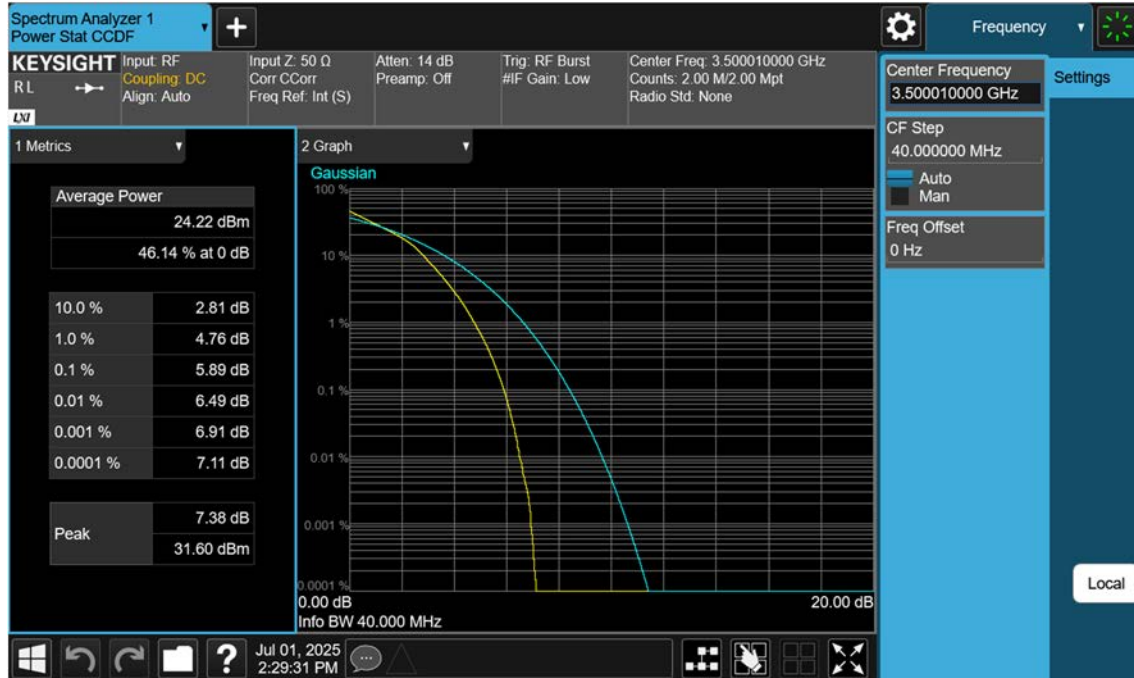
n77(3450~3550 MHz)_40 M_PAR_Mid_BPSK_FullRB



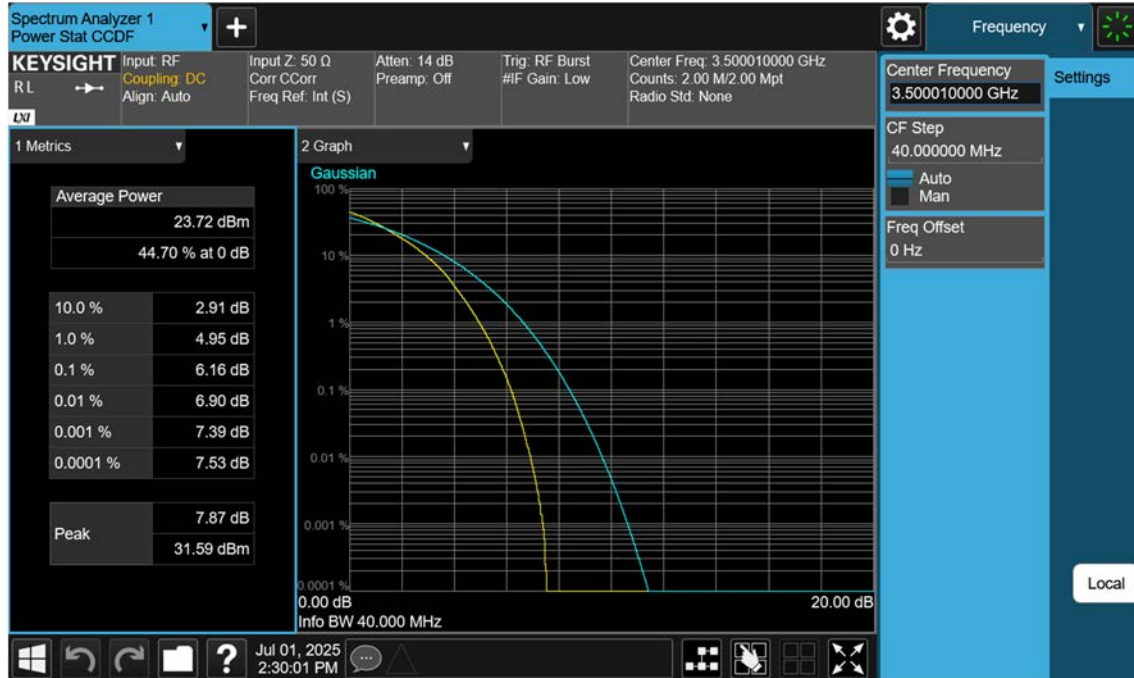
n77(3450~3550 MHz)_40 M_PAR_Mid_QPSK_FullRB



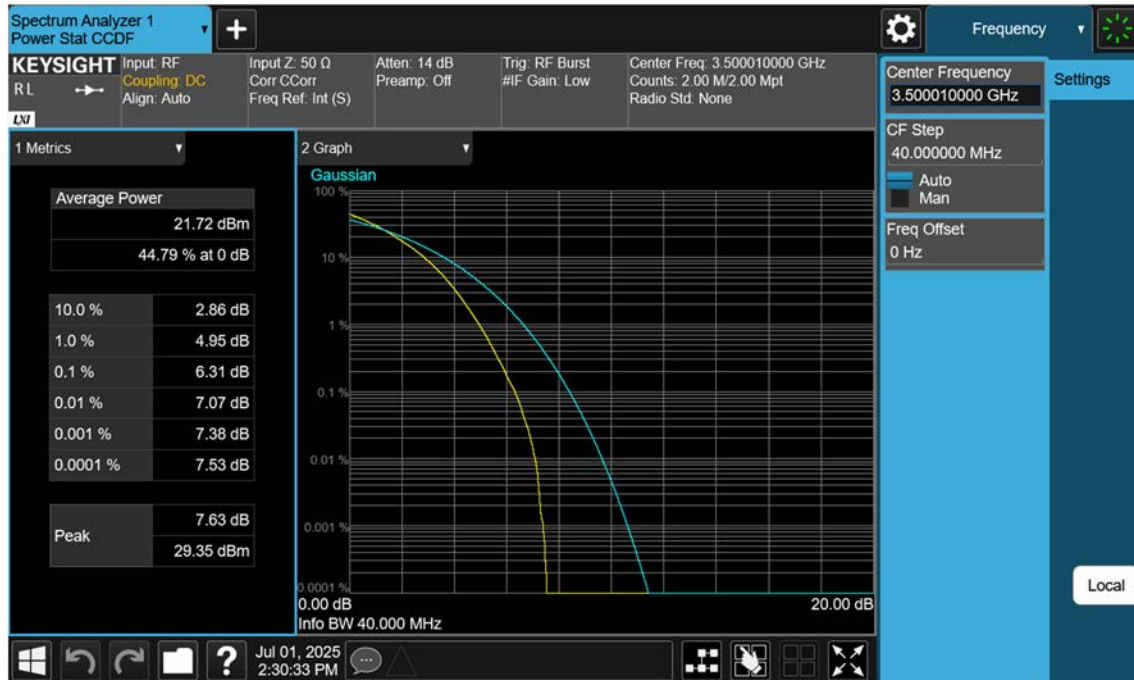
n77(3450~3550 MHz)_40 M_PAR_Mid_16QAM_FullRB



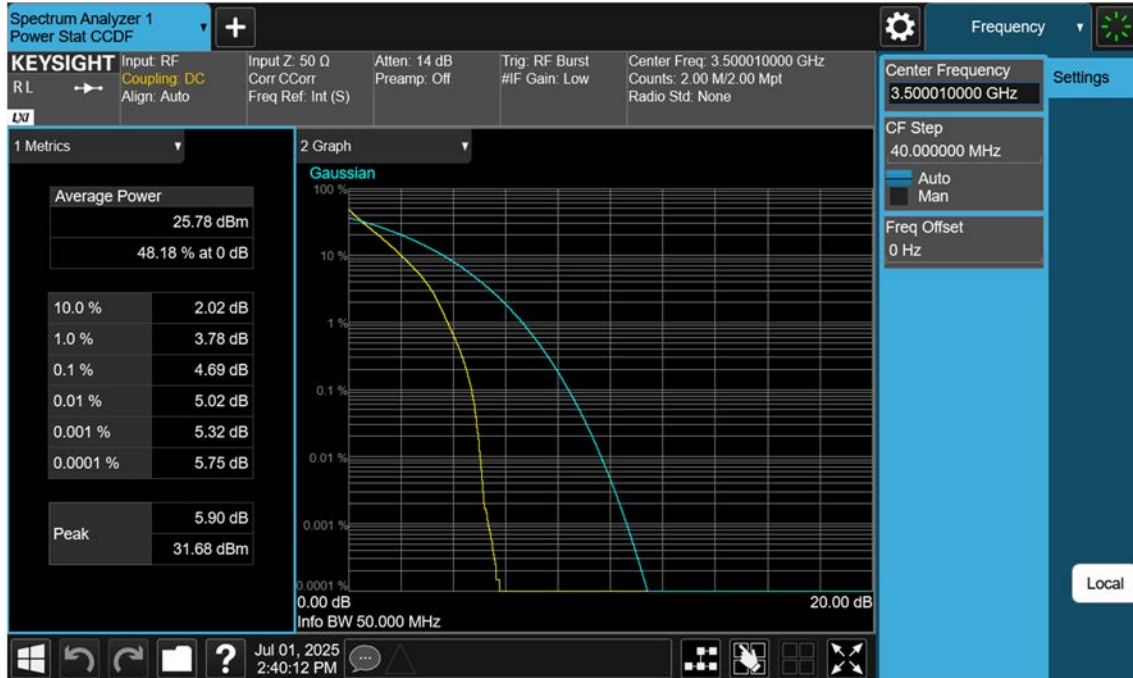
n77(3450~3550 MHz)_40 M_PAR_Mid_64QAM_FullRB



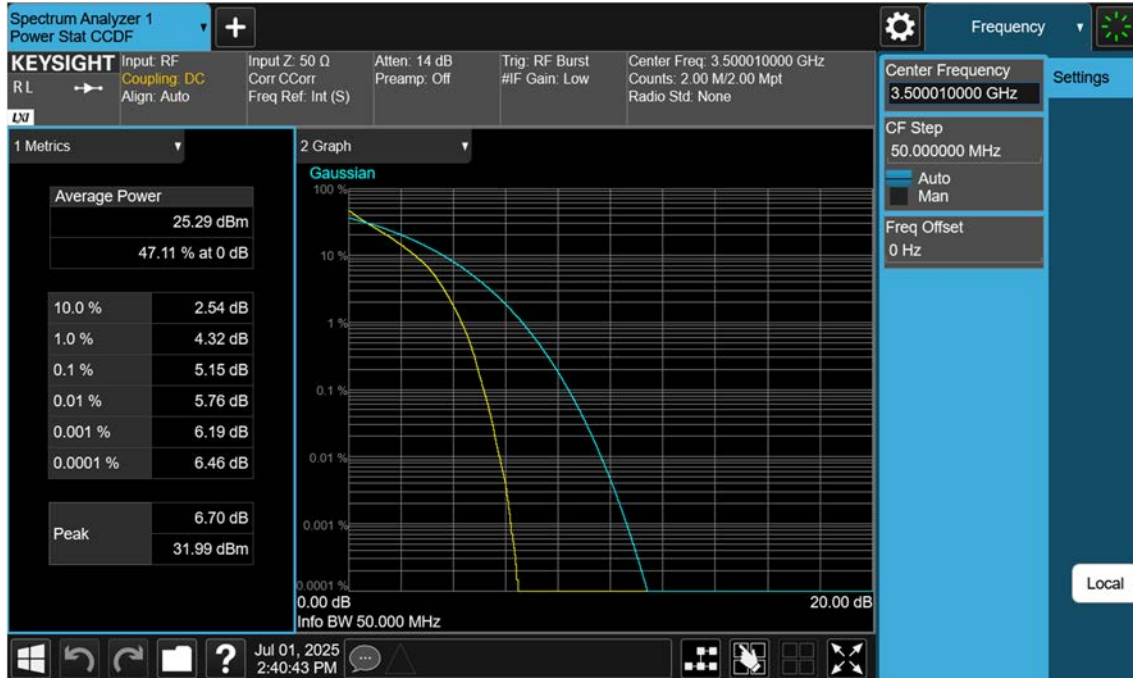
n77(3450~3550 MHz)_40 M_PAR_Mid_256QAM_FullRB



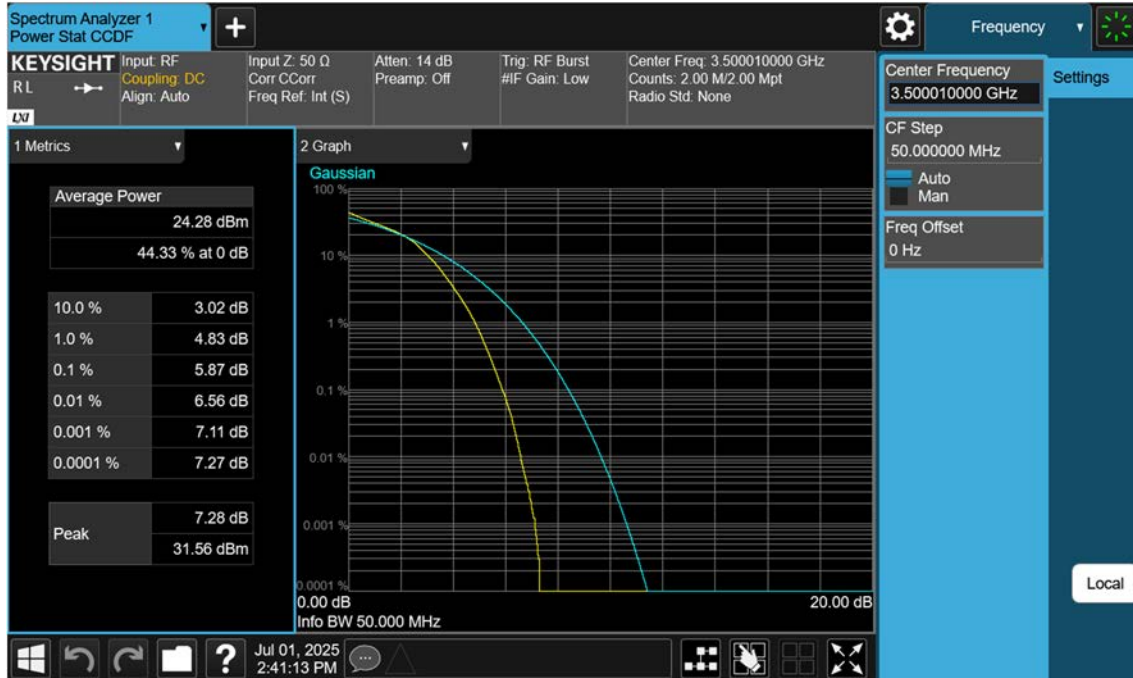
n77(3450~3550 MHz)_50 M_PAR_Mid_BPSK_FullRB



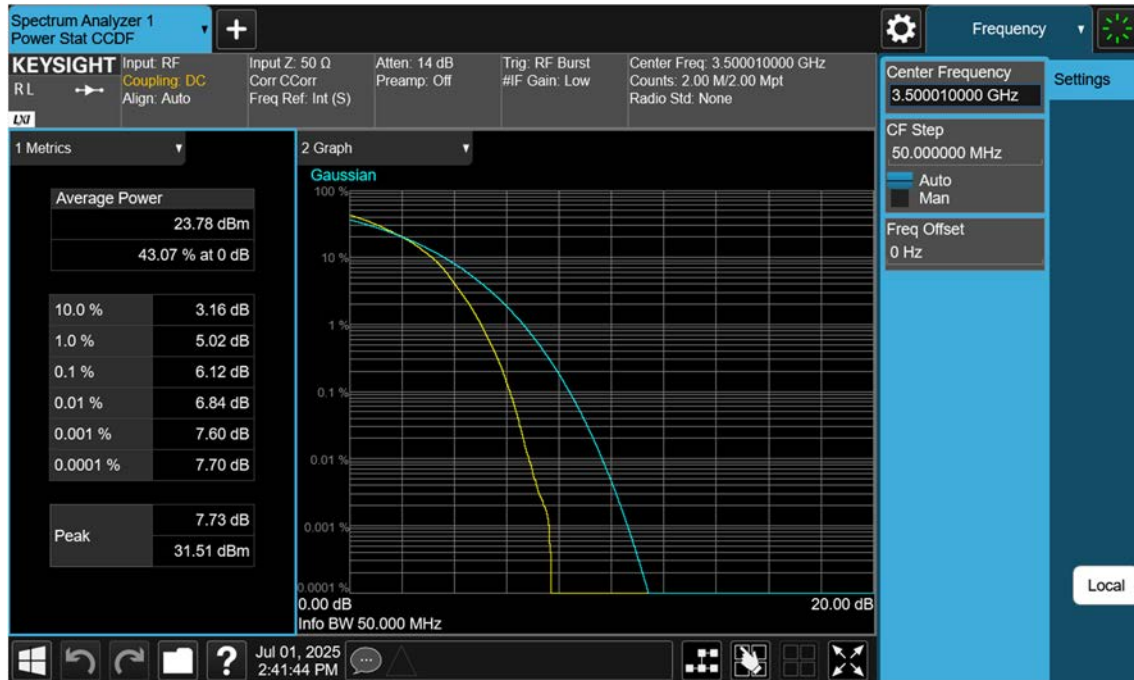
n77(3450~3550 MHz)_50 M_PAR_Mid_QPSK_FullRB



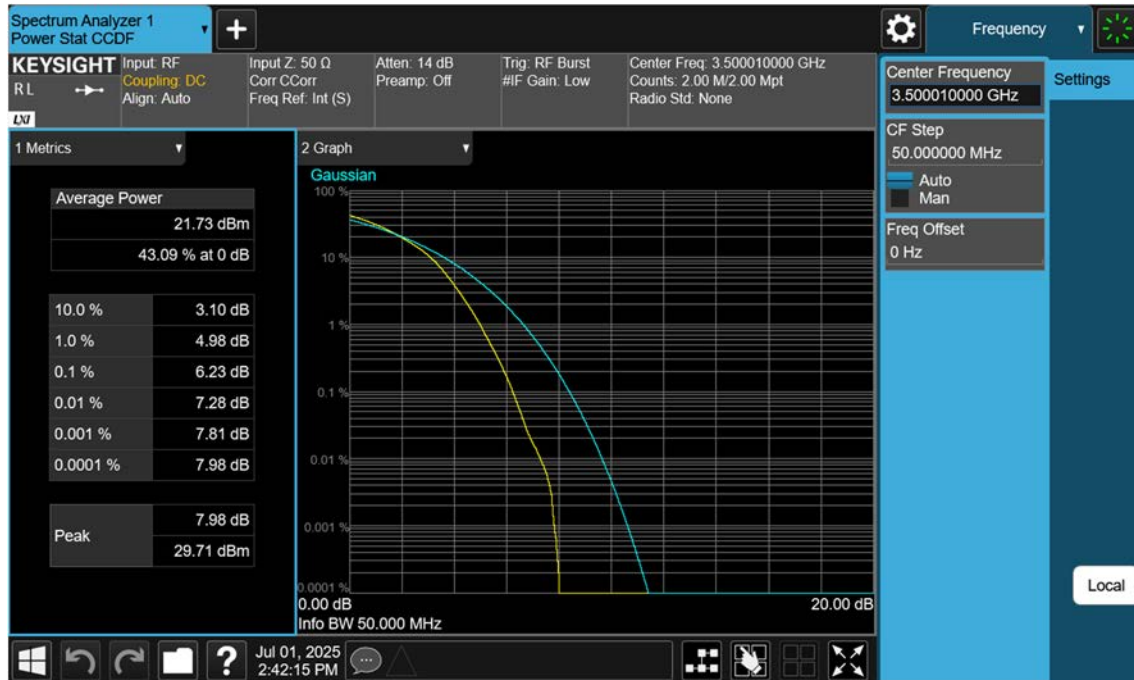
n77(3450~3550 MHz)_50 M_PAR_Mid_16QAM_FullRB



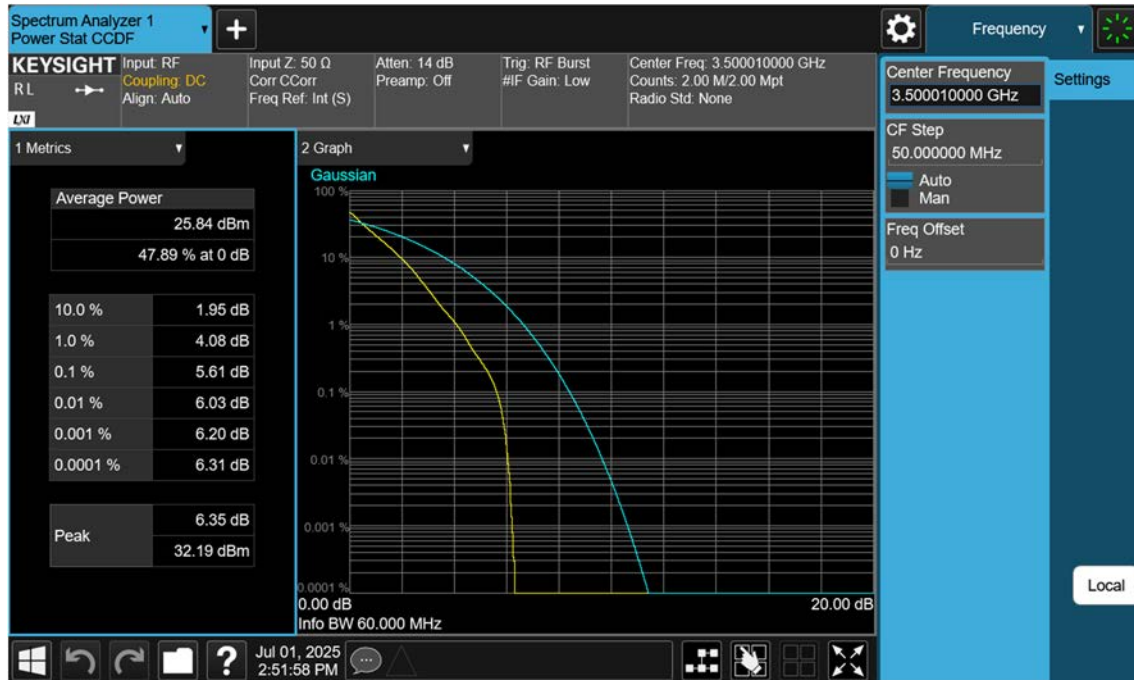
n77(3450~3550 MHz)_50 M_PAR_Mid_64QAM_FullRB



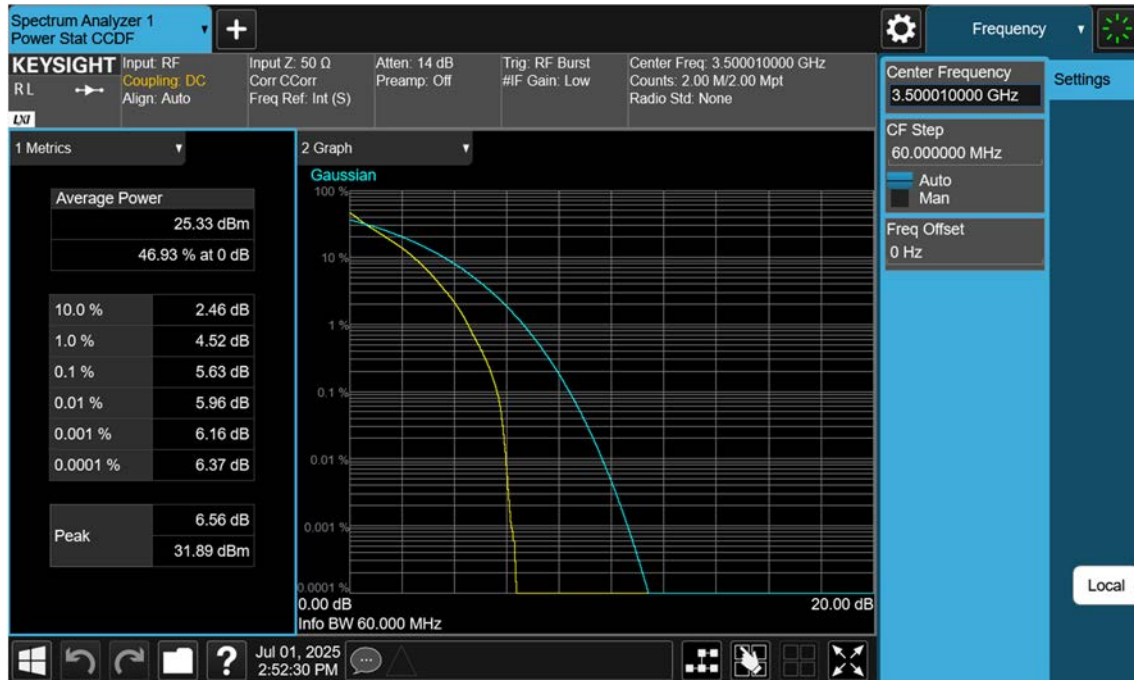
n77(3450~3550 MHz)_50 M_PAR_Mid_256QAM_FullRB



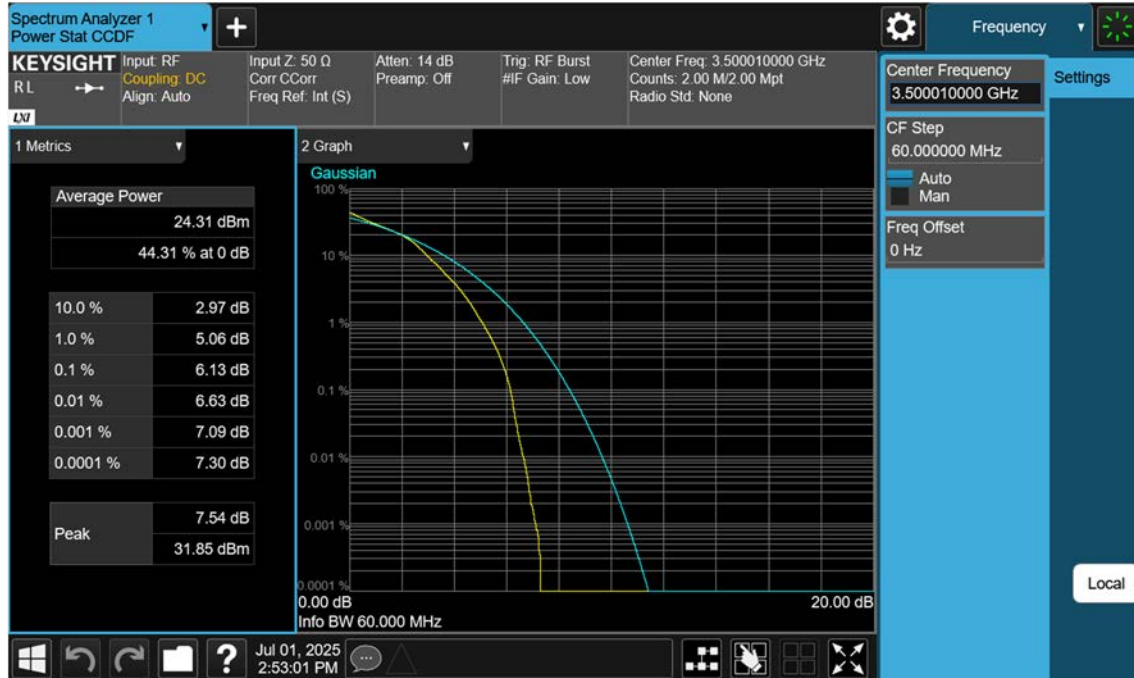
n77(3450~3550 MHz)_60 M_PAR_Mid_BPSK_FullRB



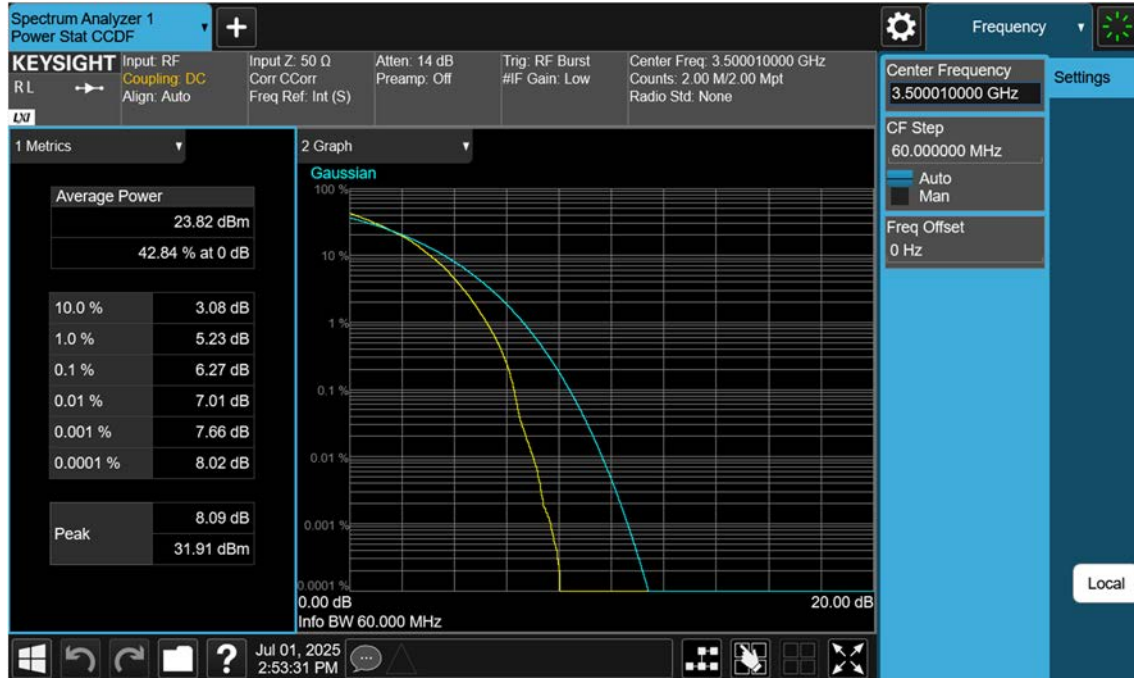
n77(3450~3550 MHz)_60 M_PAR_Mid_QPSK_FullRB



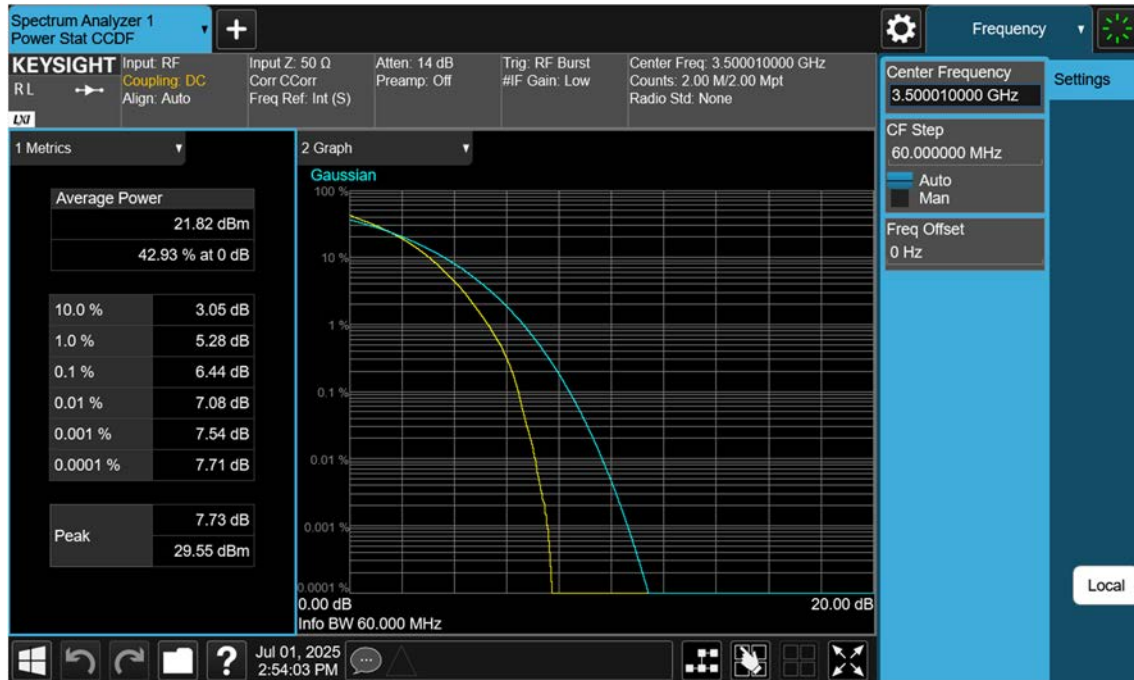
n77(3450~3550 MHz)_60 M_PAR_Mid_16QAM_FullRB



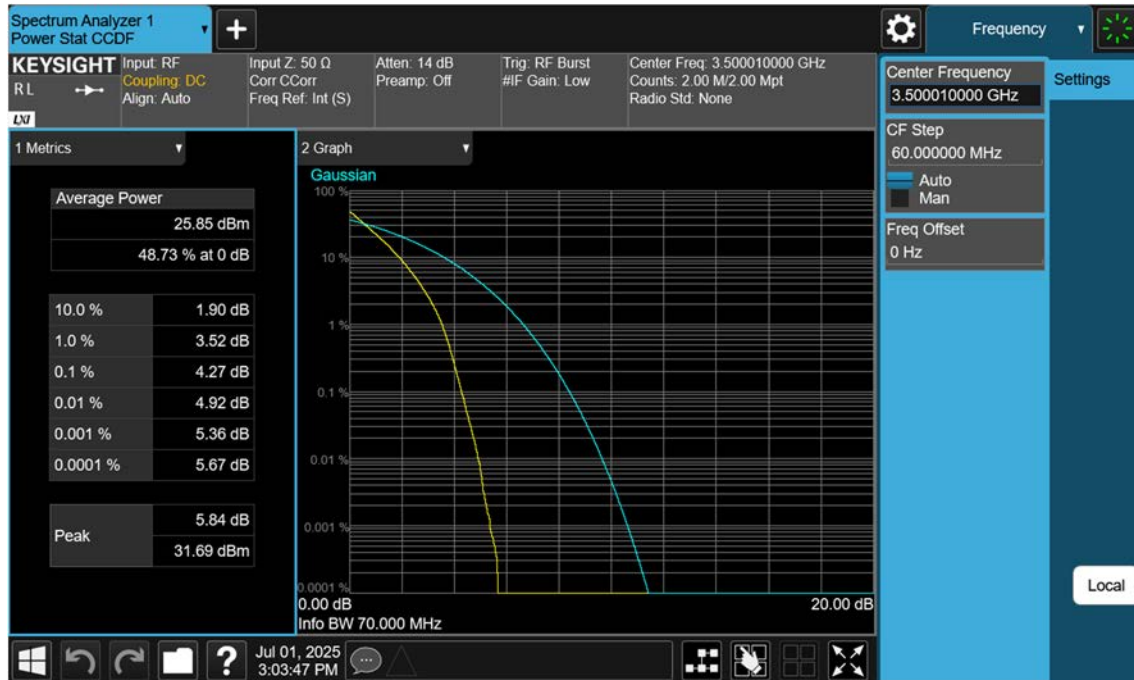
n77(3450~3550 MHz)_60 M_PAR_Mid_64QAM_FullRB



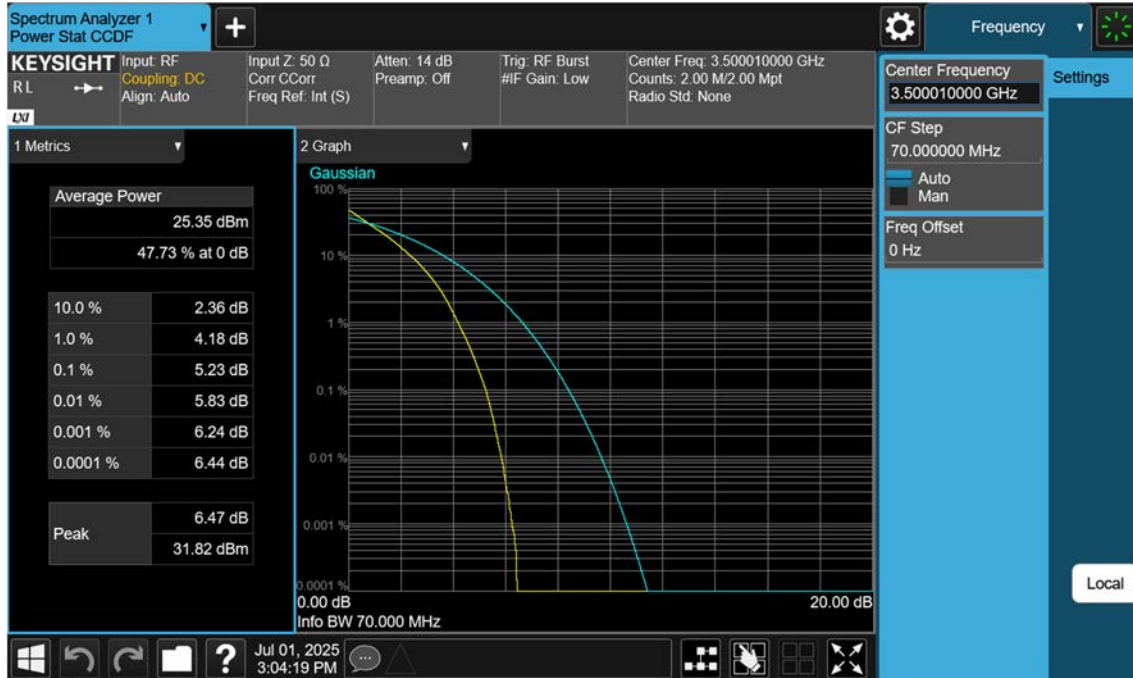
n77(3450~3550 MHz)_60 M_PAR_Mid_256QAM_FullRB



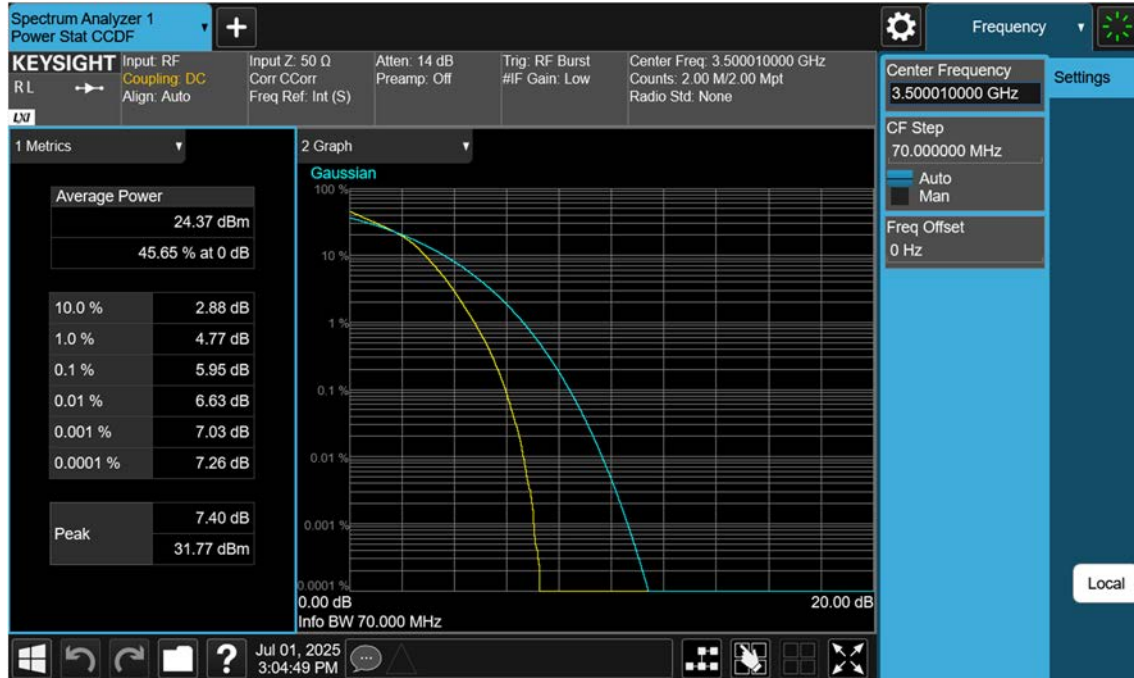
n77(3450~3550 MHz)_70 M_PAR_Mid_BPSK_FullRB



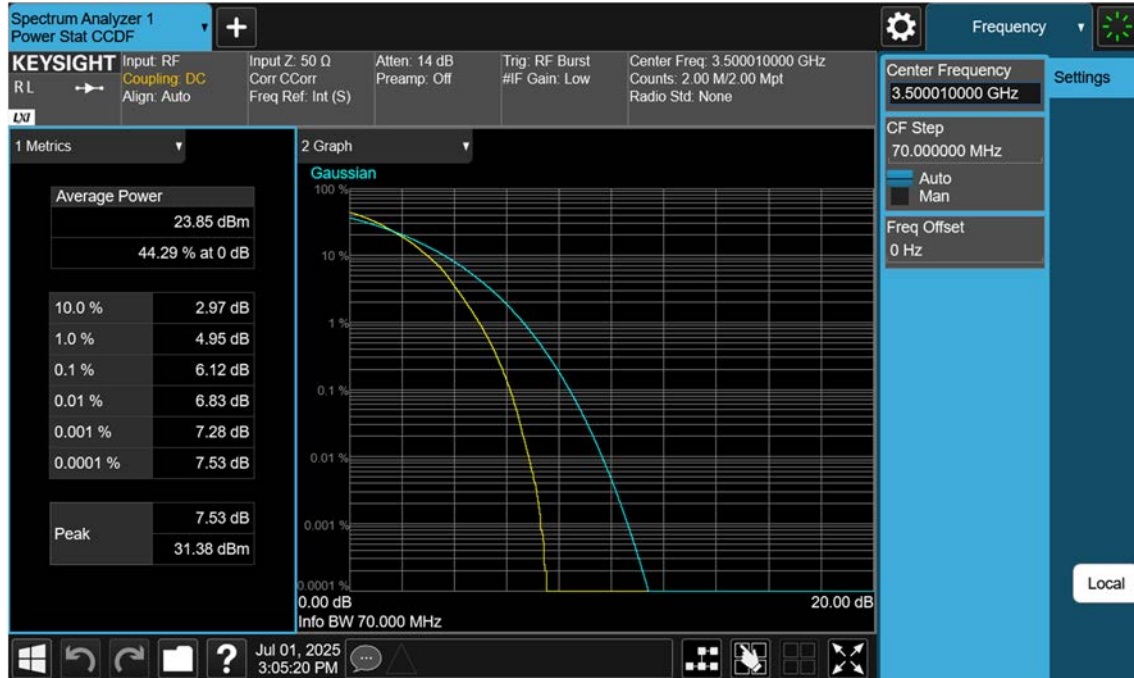
n77(3450~3550 MHz)_70 M_PAR_Mid_QPSK_FullRB



n77(3450~3550 MHz)_70 M_PAR_Mid_16QAM_FullRB



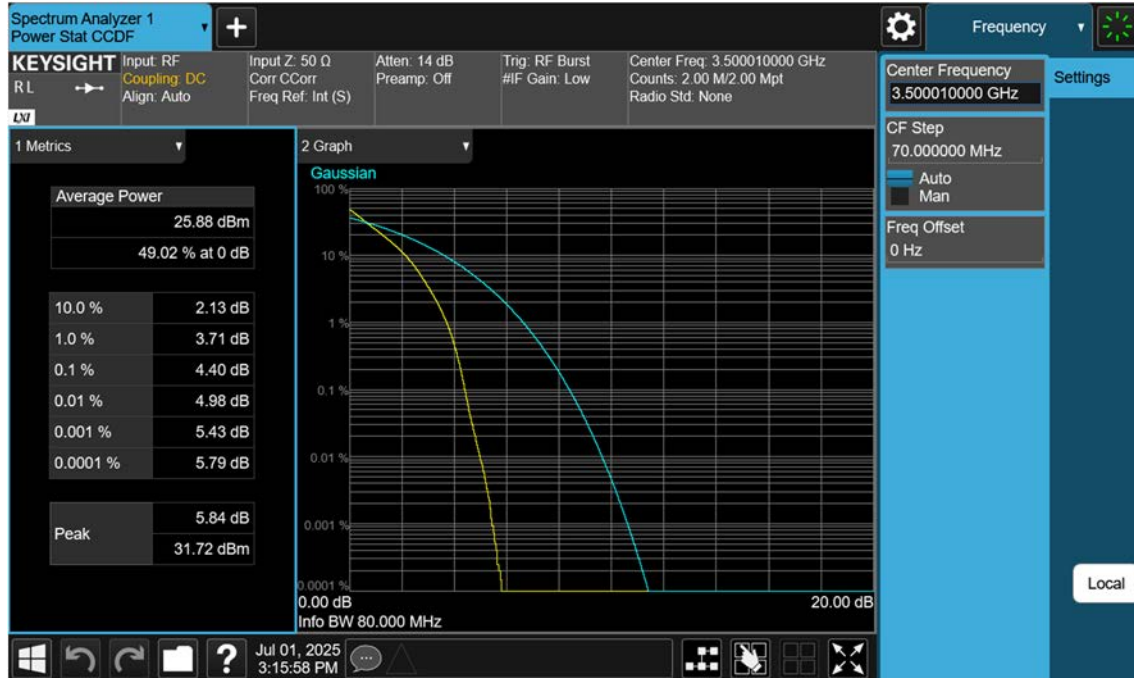
n77(3450~3550 MHz)_70 M_PAR_Mid_64QAM_FullRB



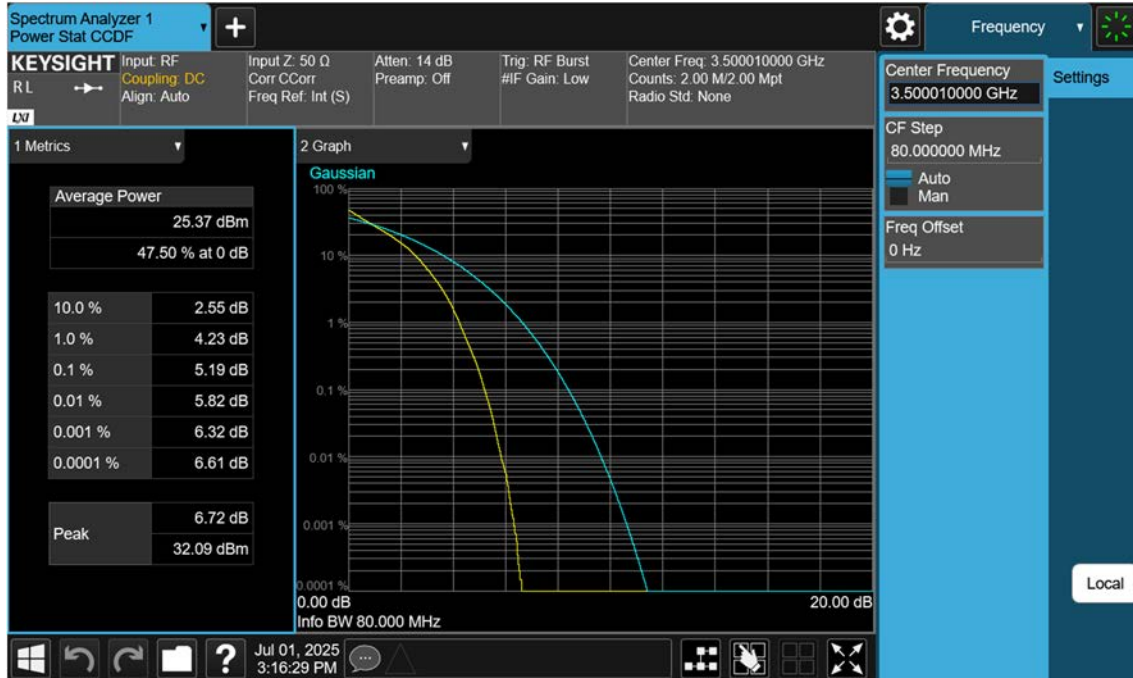
n77(3450~3550 MHz)_70 M_PAR_Mid_256QAM_FullRB



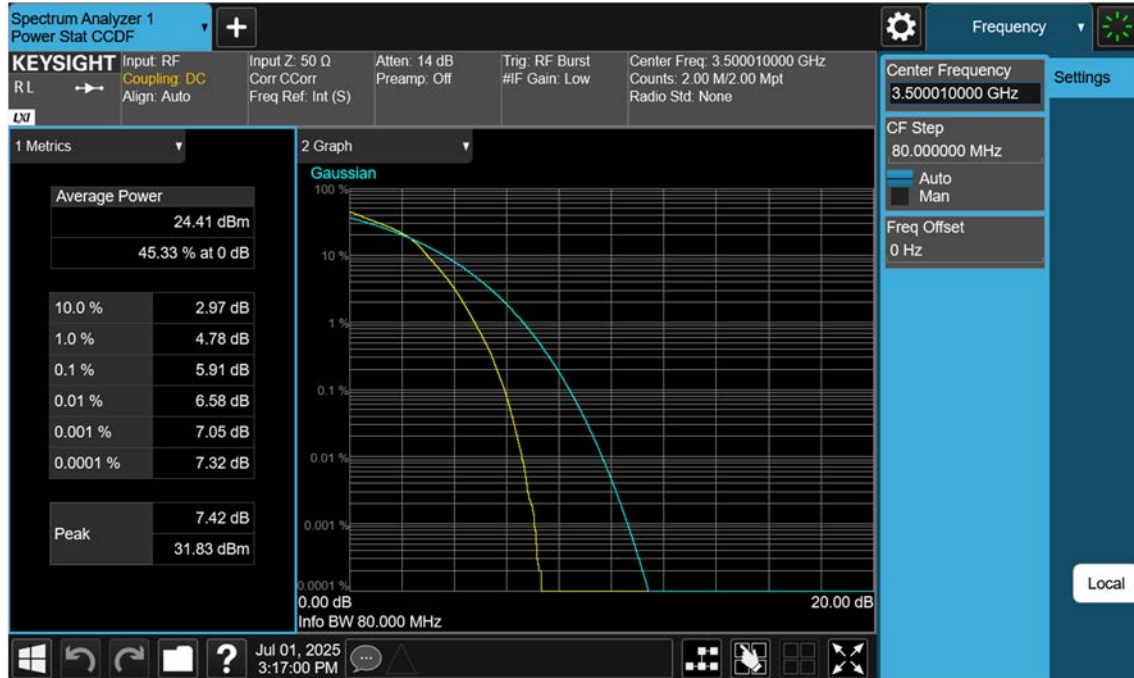
n77(3450~3550 MHz)_80 M_PAR_Mid_BPSK_FullRB



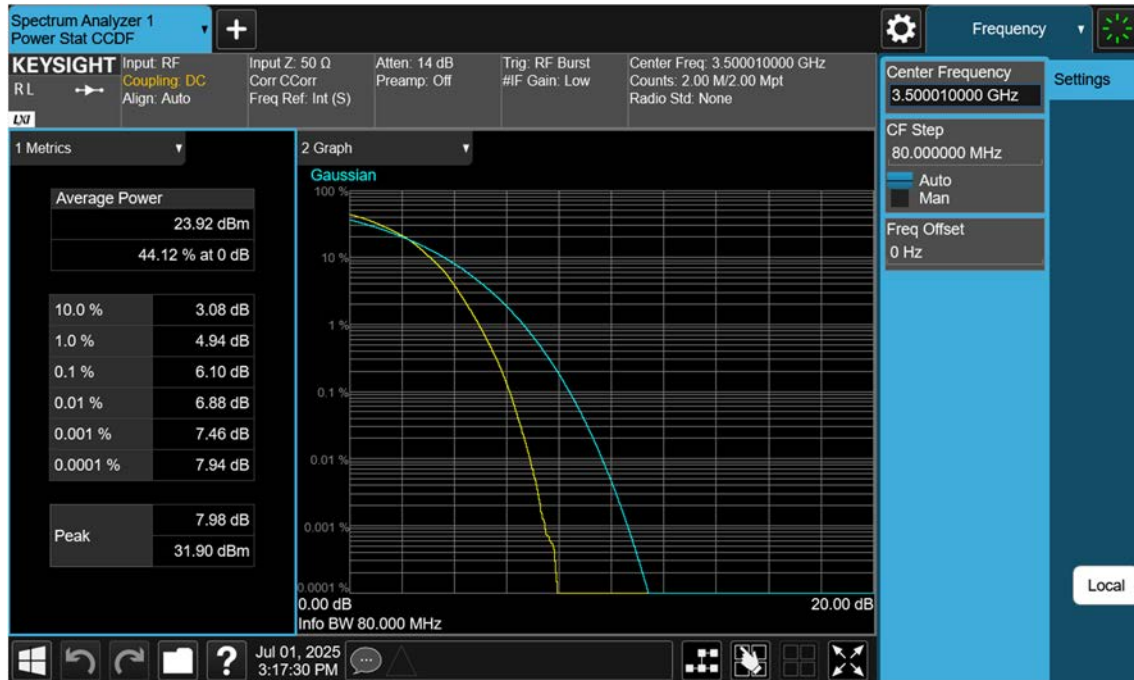
n77(3450~3550 MHz)_80 M_PAR_Mid_QPSK_FullRB



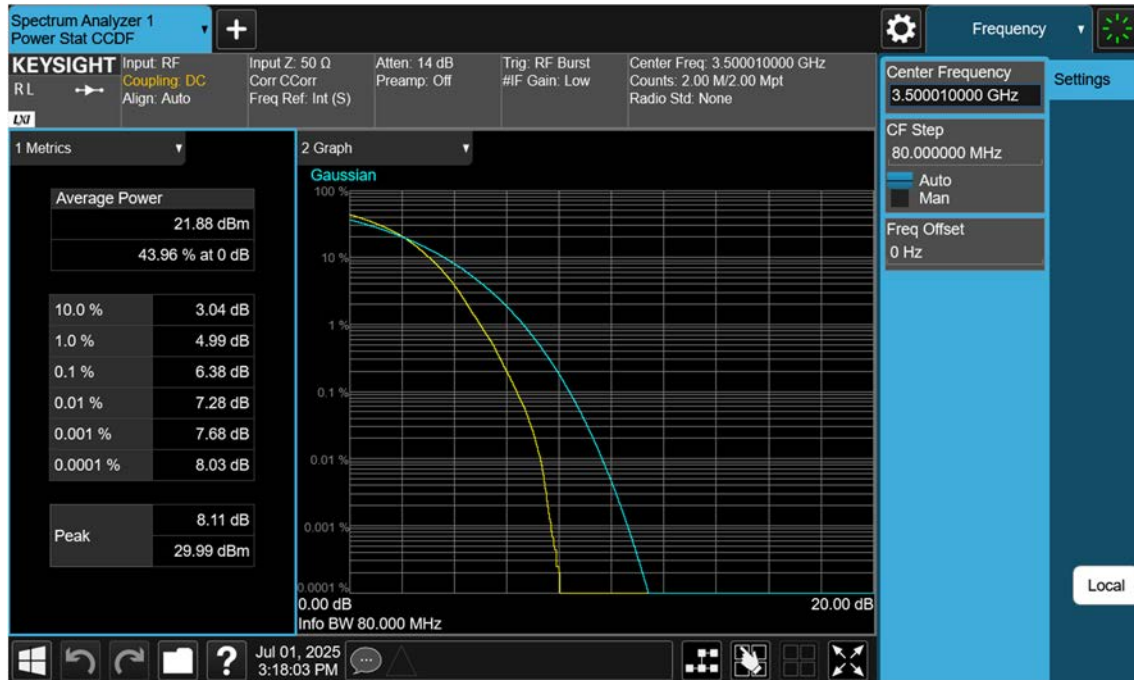
n77(3450~3550 MHz)_80 M_PAR_Mid_16QAM_FullRB



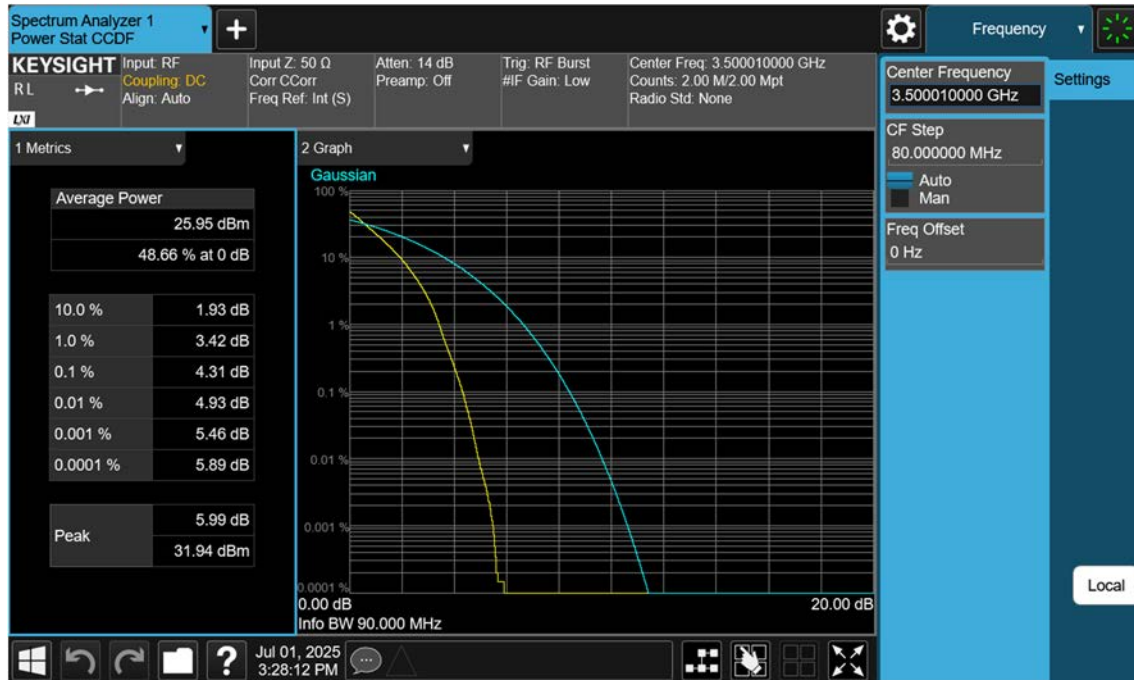
n77(3450~3550 MHz)_80 M_PAR_Mid_64QAM_FullRB



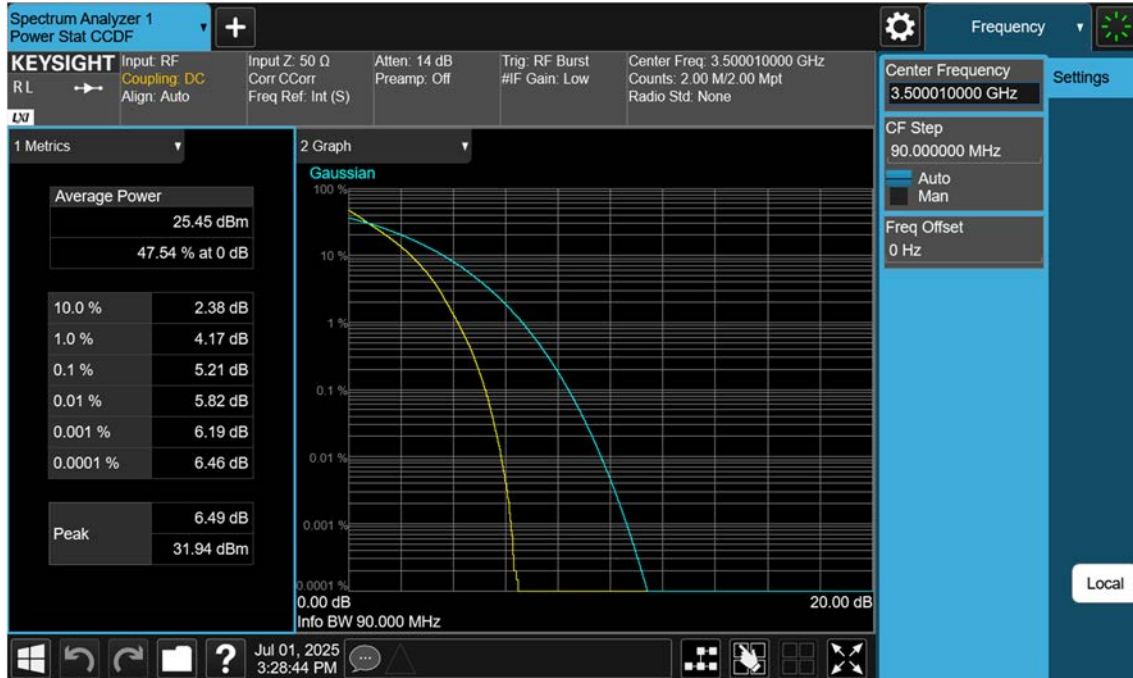
n77(3450~3550 MHz)_80 M_PAR_Mid_256QAM_FullRB



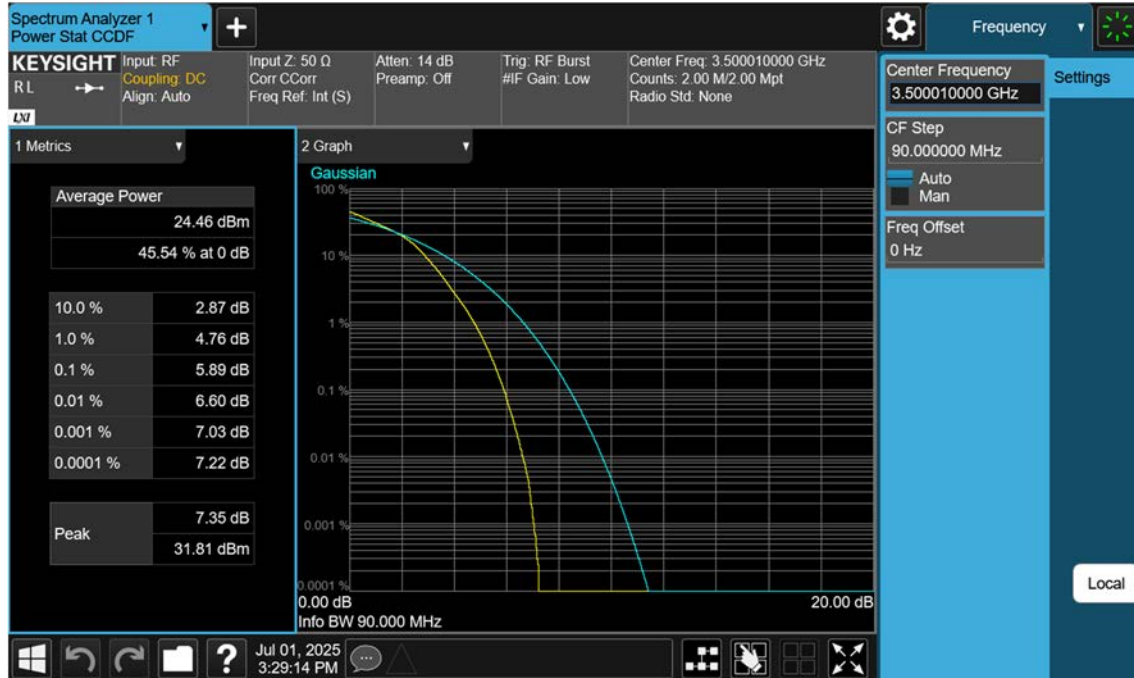
n77(3450~3550 MHz)_90 M_PAR_Mid_BPSK_FullRB



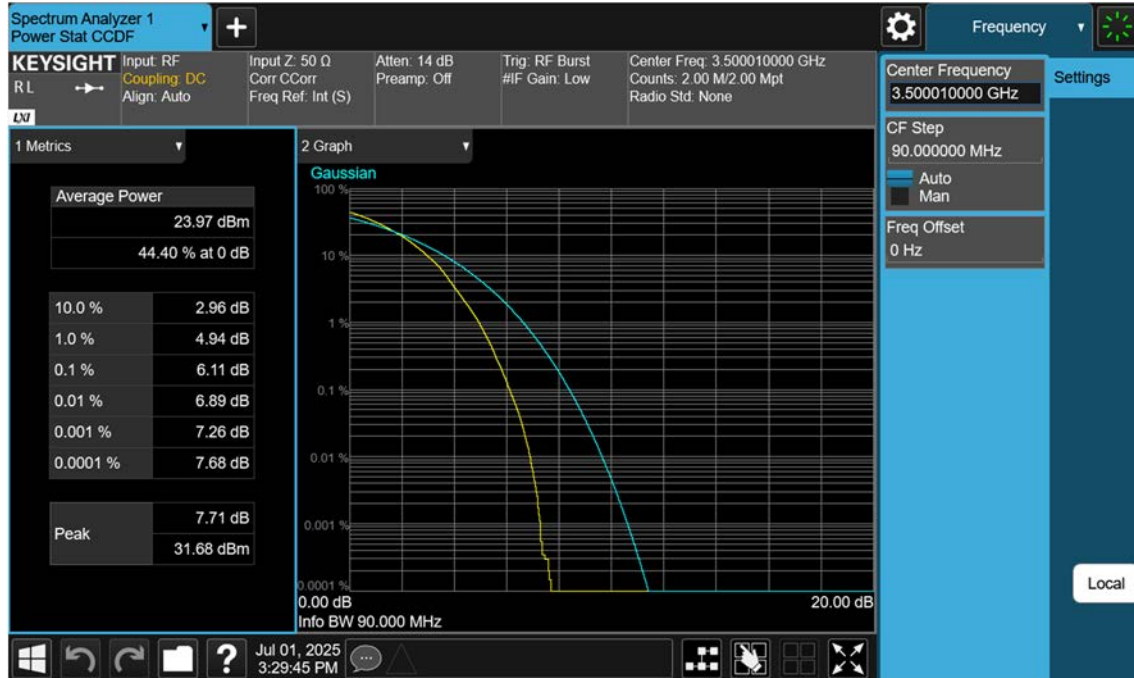
n77(3450~3550 MHz)_90 M_PAR_Mid_QPSK_FullRB



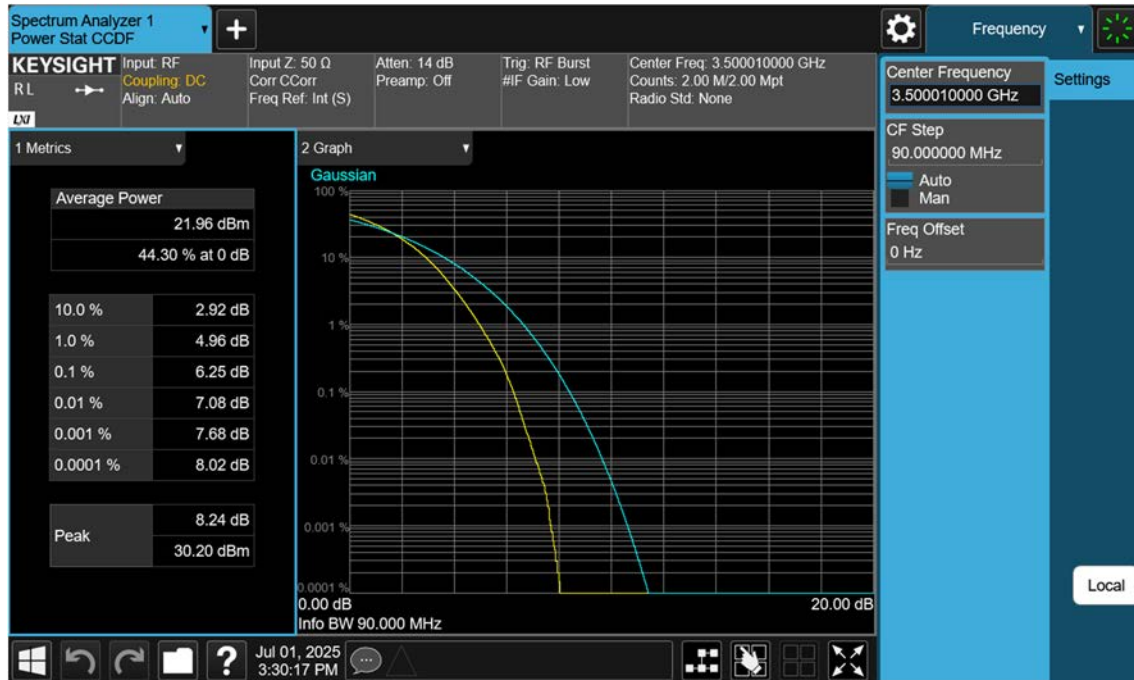
n77(3450~3550 MHz)_90 M_PAR_Mid_16QAM_FullRB



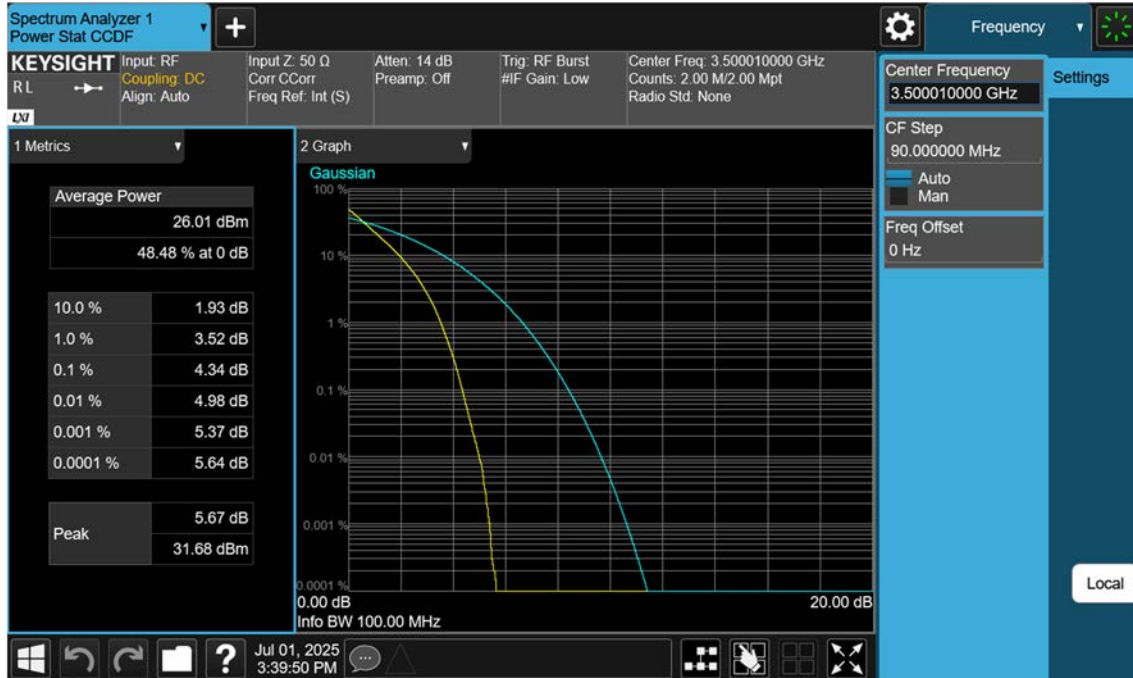
n77(3450~3550 MHz)_90 M_PAR_Mid_64QAM_FullRB



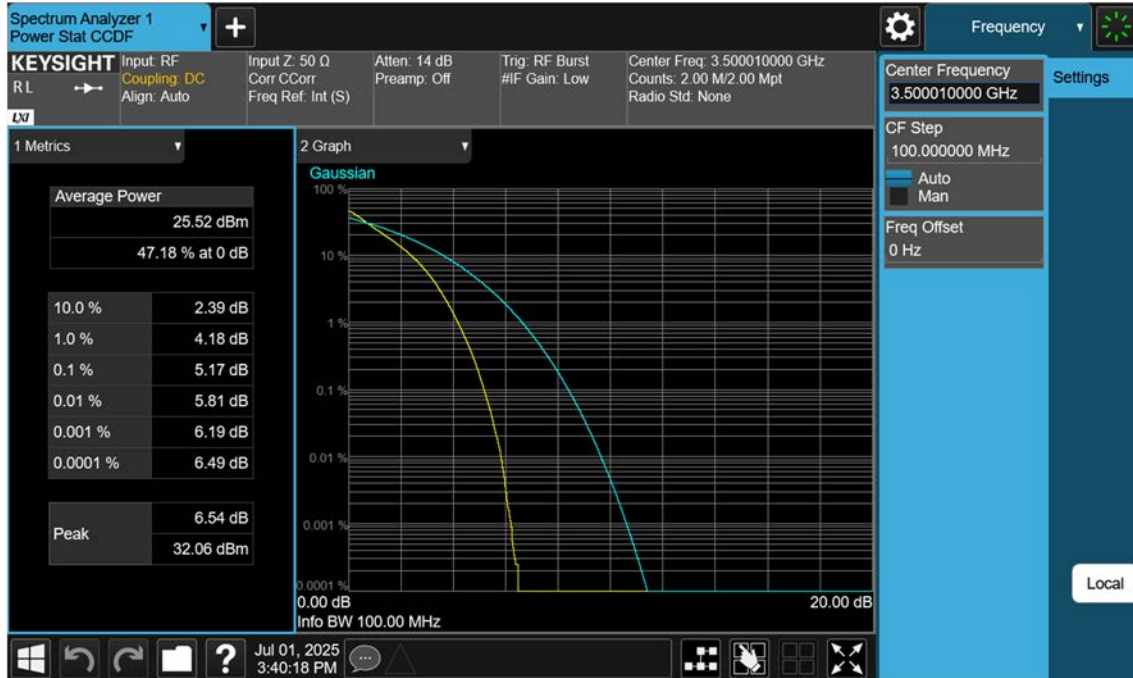
n77(3450~3550 MHz)_90 M_PAR_Mid_256QAM_FullRB



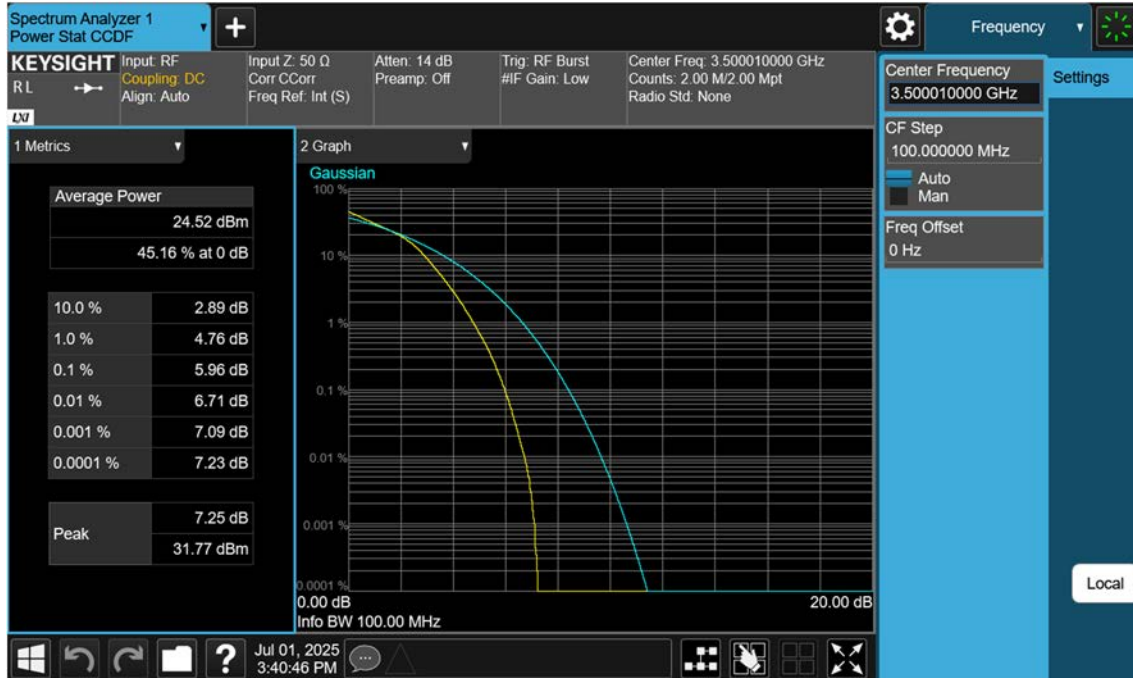
n77(3450~3550 MHz)_100 M_PAR_Mid_BPSK_FullRB



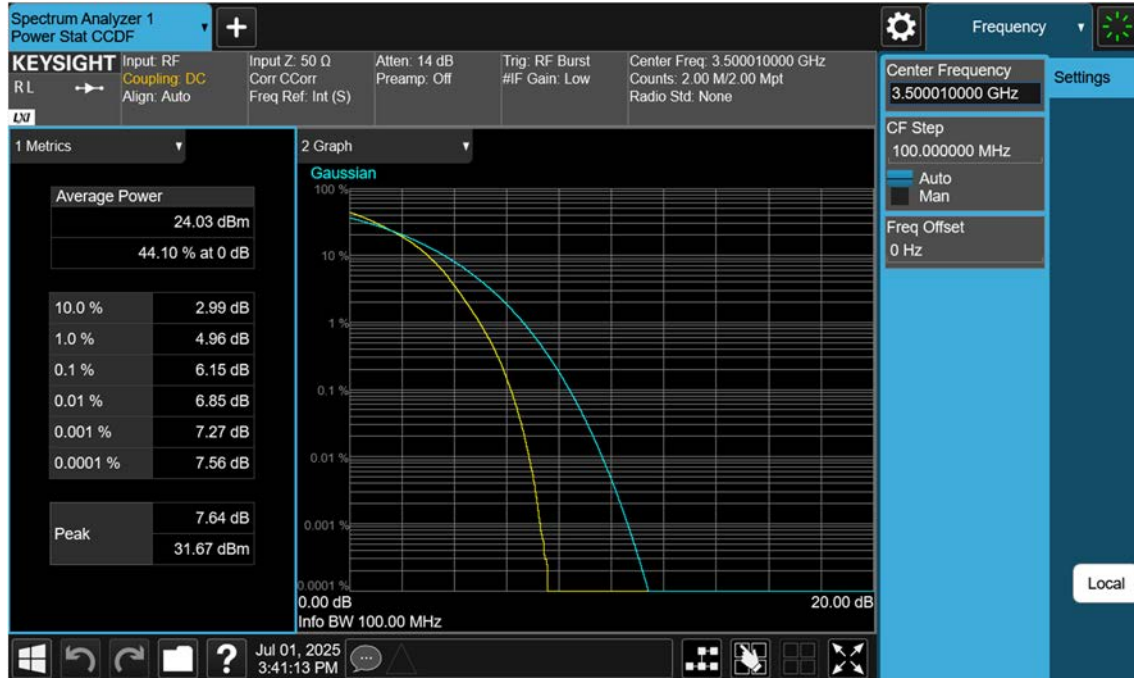
n77(3450~3550 MHz)_100 M_PAR_Mid_QPSK_FullIRB



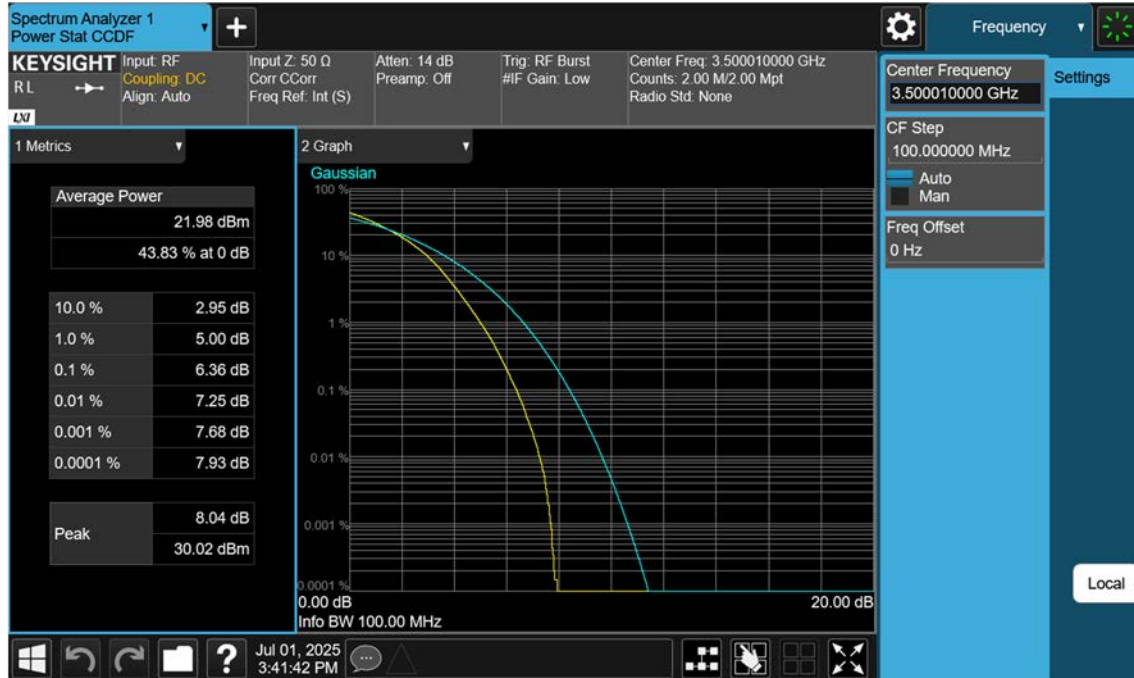
n77(3450~3550 MHz)_100 M_PAR_Mid_16QAM_FullRB



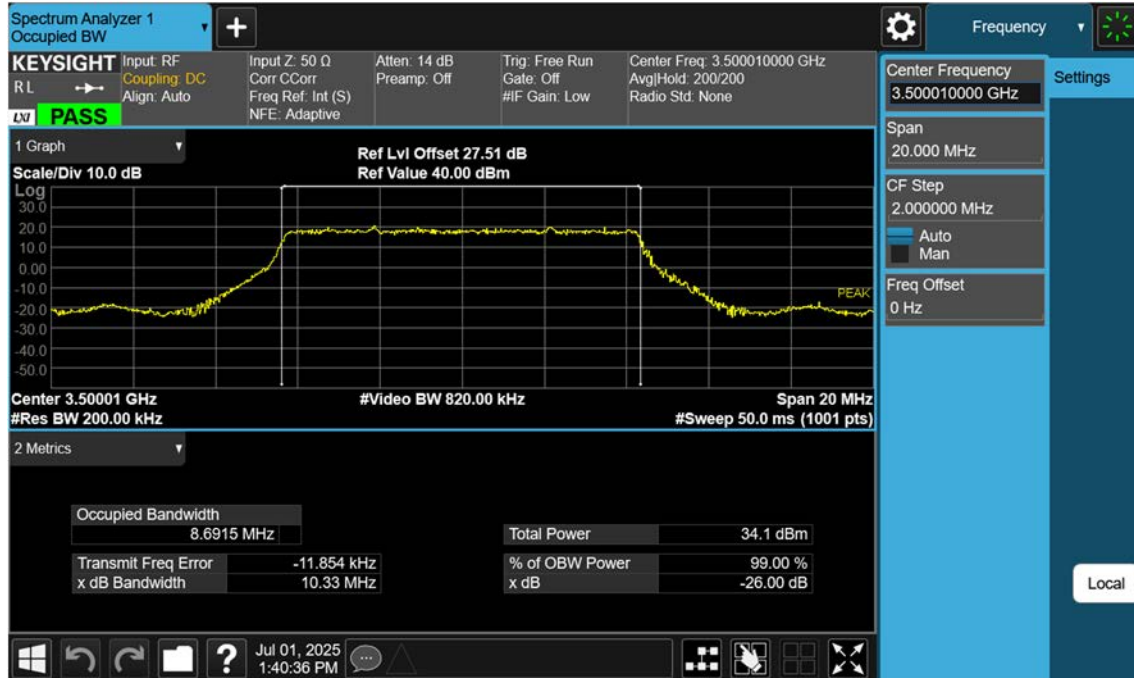
n77(3450~3550 MHz)_100 M_PAR_Mid_64QAM_FullRB



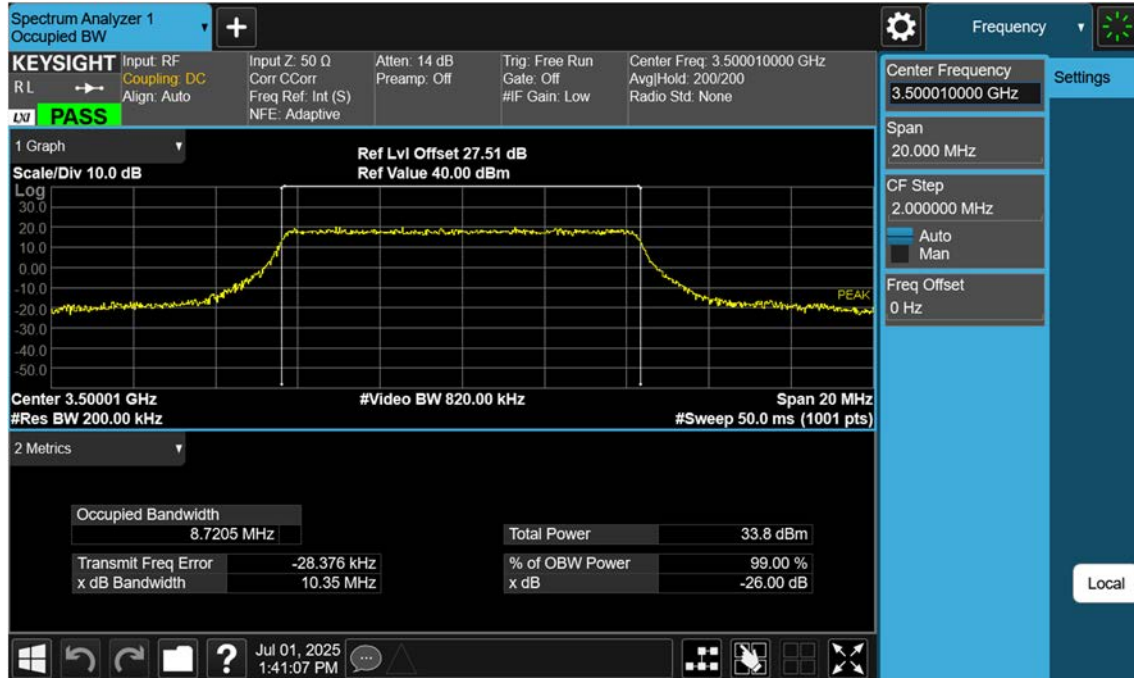
n77(3450~3550 MHz)_100 M_PAR_Mid_256QAM_FullRB



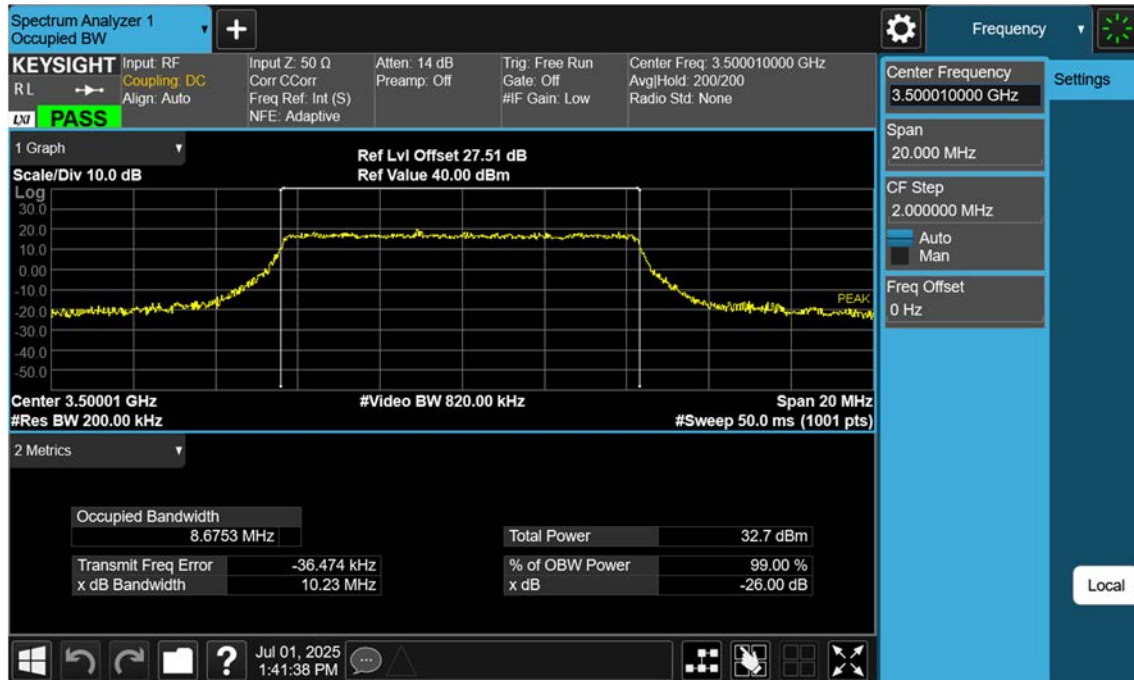
n77(3450~3550 MHz)_10 M_OBW_Mid_BPSK_FullRB



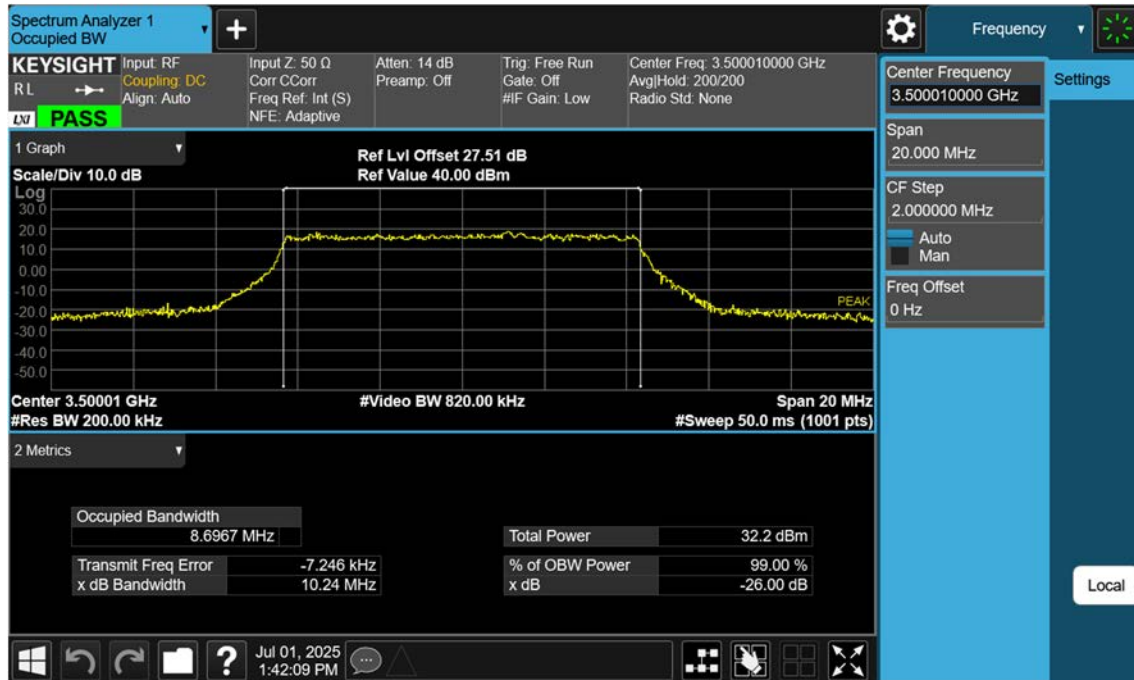
n77(3450~3550 MHz)_10 M_OBW_Mid_QPSK_FullRB



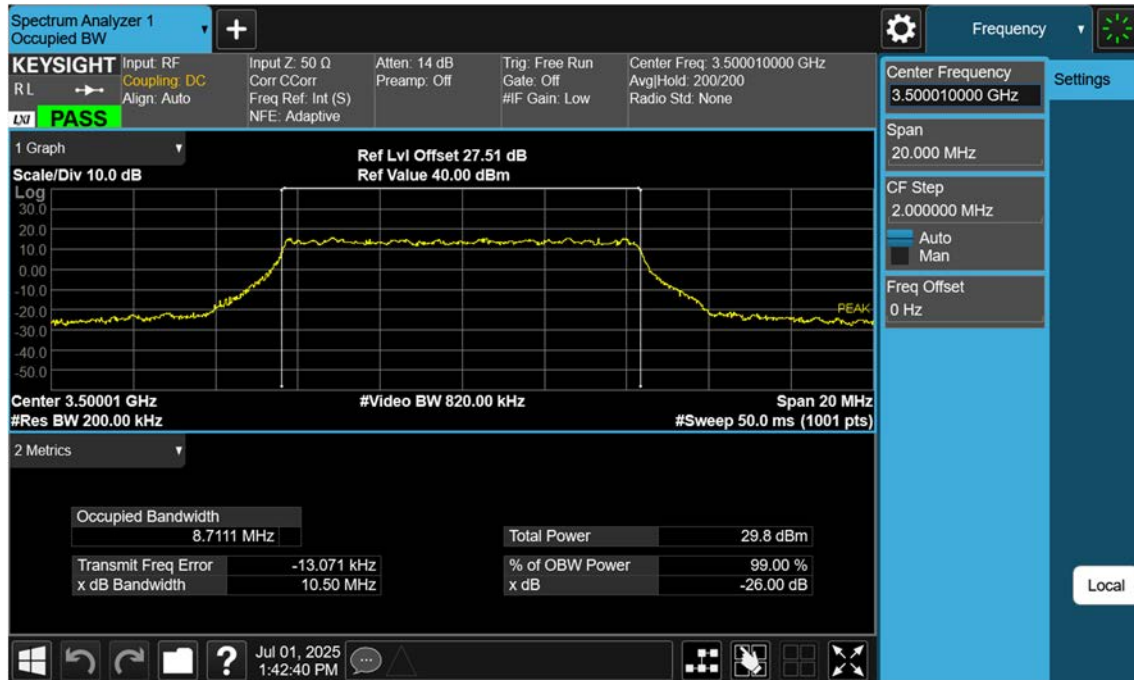
n77(3450~3550 MHz)_10 M_OBW_Mid_16QAM_FullRB



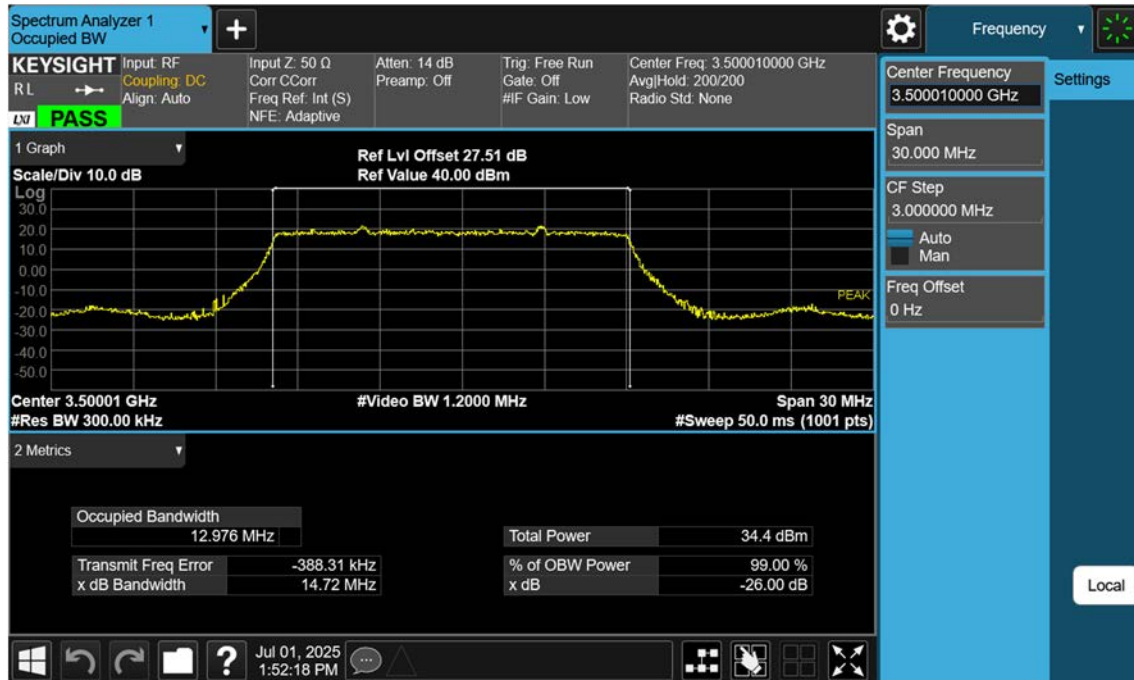
n77(3450~3550 MHz)_10 M_OBW_Mid_64QAM_FullRB



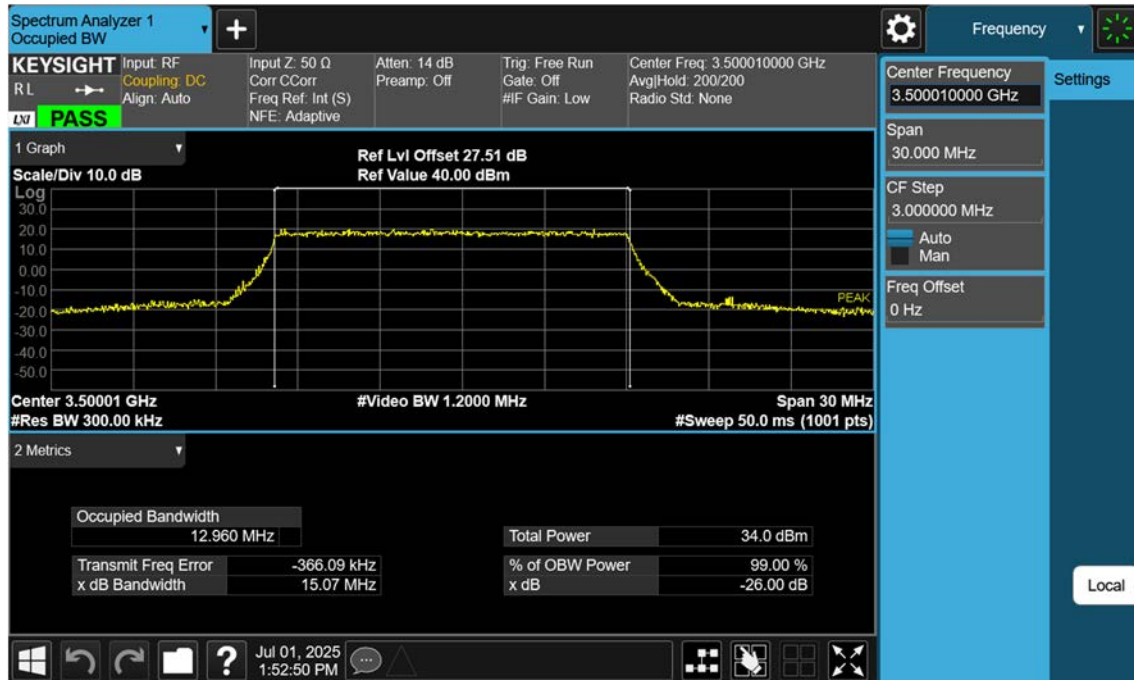
n77(3450~3550 MHz)_10 M_OBW_Mid_256QAM_FullRB



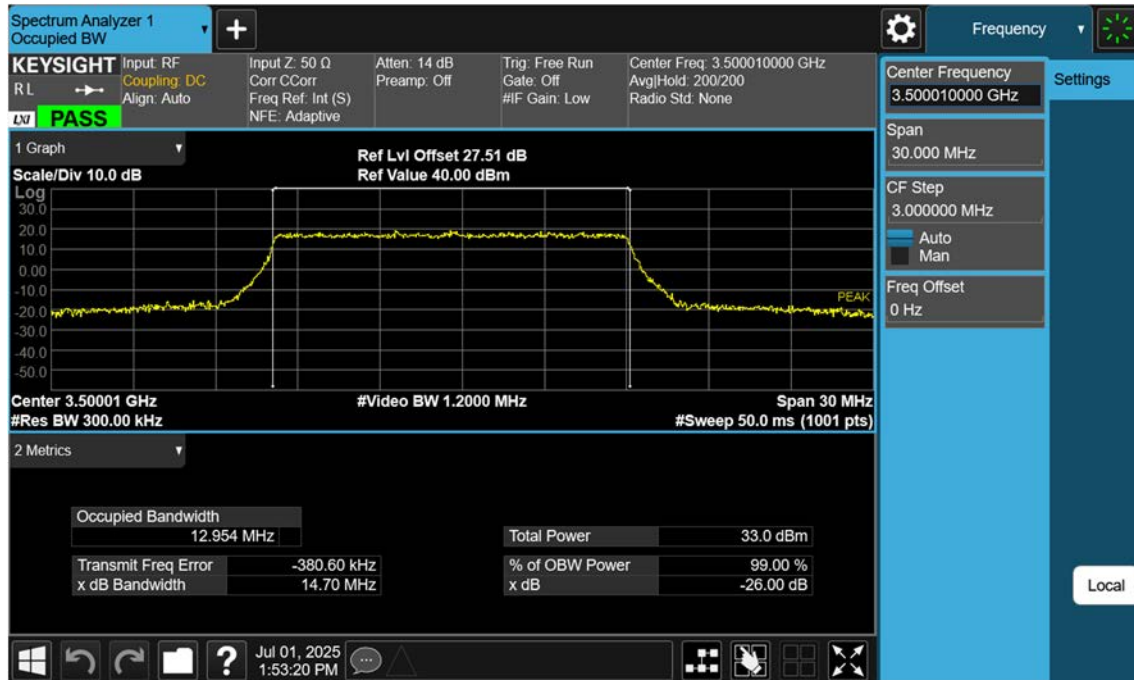
n77(3450~3550 MHz)_15 M_OBW_Mid_BPSK_FullRB



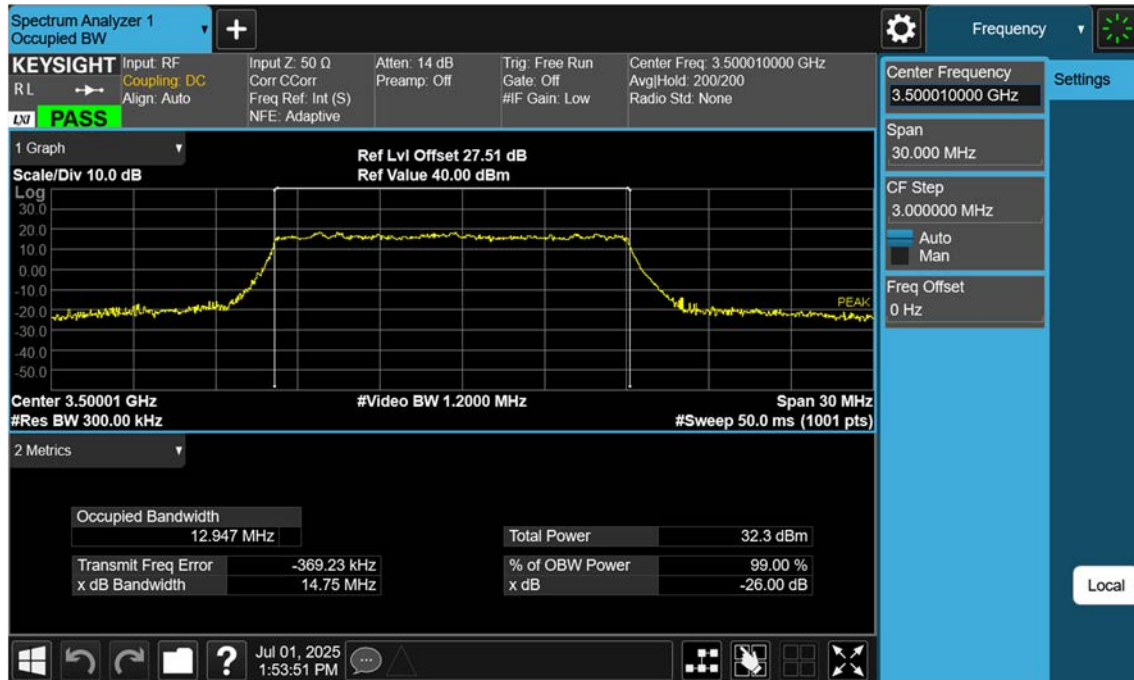
n77(3450~3550 MHz)_15 M_OBW_Mid_QPSK_FullRB



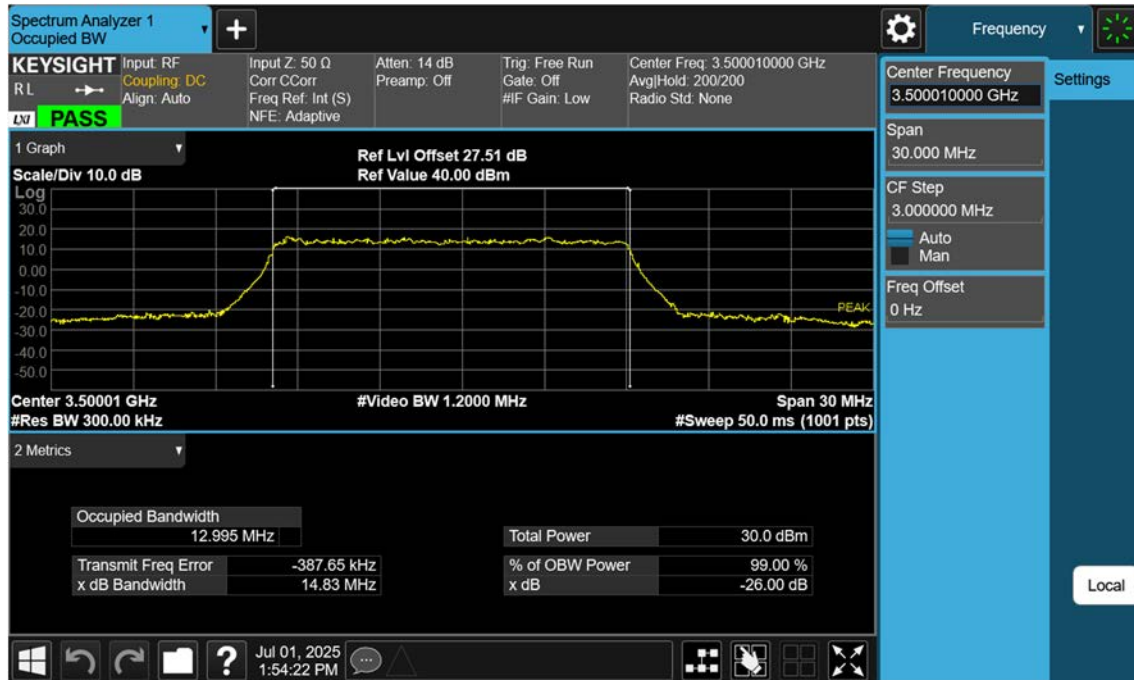
n77(3450~3550 MHz)_15 M_OBW_Mid_16QAM_FullRB



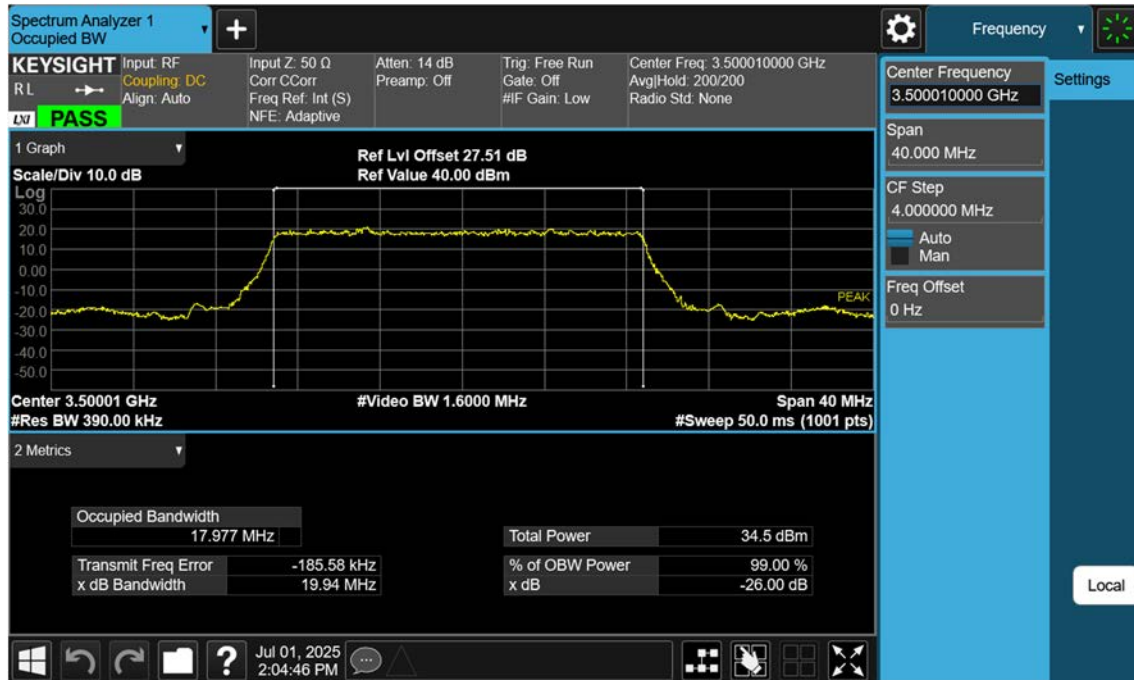
n77(3450~3550 MHz)_15 M_OBW_Mid_64QAM_FullRB



n77(3450~3550 MHz)_15 M_OBW_Mid_256QAM_FullRB



n77(3450~3550 MHz)_20 M_OBW_Mid_BPSK_FullRB



n77(3450~3550 MHz)_20 M_OBW_Mid_QPSK_FullRB

